PERCEPTIONS REGARDING THE MOTIVATIONS OF UNDERGRADUATE STUDENTS TO PURSUE A DEGREE IN CULINARY NUTRITION

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CHAPTER ONE: INTRODUCTION

Introduction

This research study focused on the perceptions regarding the motivations of undergraduate students majoring in culinary nutrition. Chapter one provides an overview of the foundational information relevant to this study. The sections of this chapter include the rationale, purpose, research questions, study design, significance, and limitations. This chapter concludes with a list of key ideas and key terms relevant to this study.

Rationale

American consumers have demonstrated a clear interest in healthy, delicious food options. The National Restaurant Association (2016) identified "natural ingredients/minimally processed foods" and "healthful kids' meals" as two of the top 20 food trends for 2016. Artifacts of this movement have permeated American culture, from Michelle Obama's *Let's Move!* and *Chefs Move to Schools* (2015) campaigns to a body of cookbooks, cooking shows, grocery stores and restaurants fully devoted to serving food that is equally nutritious and appetizing. Despite growing interest, there is still a marked disconnect between nutrition knowledge and culinary competence (Condrasky & Hegler, 2010).

Interestingly, in the professional world, registered dietitians and professional chefs are separate professions that might interact closely, but are considered two realms of expertise. According to the Academy of Nutrition and Dietetics (AND, 2015), registered dietitians (RDs), also known as registered dietitian nutritionists (RDNs) are food and nutrition experts who promote healthy living and may work in hospitals, schools, public health clinics, sports nutrition, the food industry, universities, research, or private practice. In contrast, professional chefs manage daily food preparation at various foodservice operations such as restaurants, hotels,

catering, or private households. Responsibilities include planning menus, developing recipes, supervising and coordinating activities of staff, and maintaining inventory (U.S. Bureau of Labor Statistics, 2014).

Though these two professions have differing expertise, responsibilities, and education requirements, the emergence of culinary nutrition is gaining ground among food professionals. Condrasky and Hegler (2010) defined culinary nutrition as the "application of nutrition principles combined with food science knowledge and displayed through a mastery of culinary skills" (p. 1). This emerging profession integrates two disparate career paths: that of the registered dietitian and the professional chef.

Academic preparation programs that integrate these disciplines are limited, despite the fact that professional dietetic educational programs actually started in culinary schools in the nineteenth century (Chambers, 1978). Currently, there are only two institutions in the United States that offer a combined degree in nutrition and culinary arts. In these programs, students are prepared to pursue their credentials as registered dietitians. These programs are: Saint Louis University in St. Louis, MO, and Johnson & Wales University at their Denver, Colorado and Providence, Rhode Island campuses (Johnson & Wales University, 2015; Saint Louis University, 2015).

The discipline-specific motivations of students are important to understand for policy making and programming at colleges and universities. Schools may utilize this information to assess incoming students' motivational profiles, design recruitment statements to communicate which types of motivation are known to characterize successful students, and promote certain motivations for students that do not naturally have them (Breen & Lindsay, 2002). Previous research has focused on factors that motivated traditional dietetics students to pursue the career

path of a registered dietitian. The results include a range of factors, including a personal interest in nutrition, a desire to help others and work with people, a personal struggle with weight management or diet-related condition, and having a friend or family member with a diet-related condition (Atkins & Gingras, 2009; Brady, Mahe, MacLellan & Gingras, 2012; Chuang et al., 2009; Holsipple, 1994; Hughes & Desbrow, 2005; Kobel, 1997; Lordly & MacLellan, 2012; Markley & Huyck, 1992; Rodenstein, 1990; Stone et al., 1981). However, no studies have examined what motivates undergraduate students to pursue a degree in culinary nutrition.

Therefore, for this research study, the object of study was the perceptions regarding the motivations of undergraduate students to pursue a degree in culinary nutrition. The social cognitive career theory (SCCT) was used to explain students' motivations. SCCT is a relatively new explanation of students' interests, decision making processes, and levels of success (Lent, Brown, & Hackett, 1994). Rooted in Bandura's social cognitive theory (1986), SCCT encompasses both cognitive variables and physical variables (Lent, Brown, & Hackett, 2002), and is a valuable tool in framing student motivations. The SCCT has been applied to the field of dietetics or closely related fields in a limited number of studies (Chuang, Walker, & Caine-Bish, 2009; Stevenson, 2016). By understanding what motivates students to pursue the combined degree in nutrition and culinary arts, colleges and universities may use this knowledge to recruit, retain, and support students in their degree programs and thereby further the professional field of culinary nutrition.

Purpose Statement

The purpose of this study was to investigate the perceptions regarding the motivations of undergraduate students to pursue a degree in culinary nutrition at Saint Louis University and Johnson & Wales University. Framed by the SCCT, motivations are defined as the cognitive and

physical variables that influence individuals to pursue a specific career path (Lent, Brown, & Hackett, 1994); culinary nutrition is defined as the integration of nutrition principles and culinary skills (Condrasky & Hegler, 2010).

Research Questions

The research questions underlying this purpose were: What motivates undergraduate students to pursue a degree in culinary nutrition? What experiences have students had that affected their decisions to pursue a degree in culinary nutrition? What are the career goals of students studying culinary nutrition?

Research Design

This study employed a basic qualitative research design, which allowed the researcher to investigate students' perceptions of their own motivations to pursue this niche sector of dietetics. The researcher collected data using focus groups at the two institutions that offer a degree in culinary nutrition. A semi-structured question protocol guided the focus group process. Given the lack of prior research on this sector of dietetics students and the specificity of the degree, a basic qualitative design was a compatible method for investigating what motivates undergraduate students to pursue a degree in culinary nutrition (Leedy & Ormrod, 2005).

Significance of the Study

A qualitative study of undergraduate student motivations to pursue a degree in culinary nutrition is important for several reasons, including recruitment to colleges and universities, furthering of the profession, and the deficit of existing research in this area. First, understanding the motivations of current students to pursue this niche degree can be used in recruitment efforts for future students. Schools may utilize this information to capitalize on incoming students' motivational profiles, design recruitment statements to communicate which types of motivation

are known to characterize successful students, and promote certain motivations for students that do not naturally have them (Breen & Lindsay, 2002).

Second, the project workforce shortage of RDs justifies the need for further research and support of the dietetics profession. Food and nutrition management is the fastest-growing employment sector of dietetics second to clinical dietetics (Hooker, Williams, Papneja, Sen, & Hogan, 2012). Given that food and nutrition managers are more likely to work in hands-on food settings (i.e. school cafeteria or hospital cafeteria) compared to RDs in clinical or community settings, this trend is relevant to the career outlook of the participants in this study.

Finally, previous research has explored the factors that motivate traditional dietetics students to pursue the career path of a registered dietitian. These studies provide a base from which to work. However, no studies have examined what motivates undergraduate students to pursue a degree in culinary nutrition.

Limitations

The significance of this research is limited by the fact that there are only two institutions that offer a degree program in culinary nutrition; therefore, the usefulness of the results may be limited to those programs at this point in time. However, if additional colleges or universities are interested in starting a degree program in this area, the results may inform the development of certain aspects of the program such as the curriculum and recruitment activities.

Another limitation is that the method included just one focus group with the participants, compared to similar research that has employed multiple, individual in-depth interviews with each participant (Atkins & Gingras, 2009; Brady et al., 2012; Lordly & MacLellan, 2012). Therefore, the depth of the information extracted from the one-time focus group interview may be less than that of the multiple, individual in-depth interviews.

A third limitation was that the participants were not all be interviewed by the same researcher. Therefore, the interaction between the interviewer and respondent may have differed among the focus groups (Merriam & Tisdell, 2016). The data extracted from the focus groups may have be affected as a result. In order to minimize this limitation, a semi-structured interview guide was used by each interviewer instead of an open-ended interview (Merriam & Tisdell, 2016).

Theoretical Framework

The social cognitive career theory (SCCT) is a relatively new explanation of students' interests, decision making processes, and levels of success (Lent, Brown, & Hackett, 1994). Rooted in Bandura's social cognitive theory (1986), SCCT encompasses both cognitive variables and physical variables (Lent, Brown, & Hackett, 2002) and is a valuable tool in framing student motivations. It will be used as the theoretical framework of this study given its previous application in a wide array of disciplines including nutrition and dietetics, hospitality management, human development and family studies, food science and technology, engineering, medicine, nursing, and psychology (Bierer, Prayson, & Dannefer; 2014; Border, 2015; Chuang, Walker, & Caine-Bish, 2009; Lent et al., 2003; Price, 2011; Stevenson, 2016; Wright, Perrone-McGovern, Boo, & White, 2014).

Glossary of Terms

Academy of Nutrition and Dietetics: The Academy of Nutrition and Dietetics (AND, 2016) is the professional organization of food and nutrition professionals. The Academy has over 75,000 members including registered dietitians, dietetic technicians, registered, and other dietetics professionals that hold related degrees.

Accreditation Council for Education in Nutrition and Dietetics: The Accreditation Council for Education in Nutrition and Dietetics (ACEND, 2016) is the accrediting agency for academic programs preparing students for careers as registered dietitians. ACEND is recognized by the United States Department of Education as a Title IV gatekeeper, meaning it affirms that ACEND is the authority on determining the quality of dietetics programs.

Commission on Dietetic Registration: The Commission on Dietetic Registration (CDR, 2015) is the credentialing agency for dietetics professionals. CDR holds independent authority on matters such as standards, fees, finances, and administration.

Registered Dietitian: Registered dietitians (RDs), synonymous with registered dietitian nutritionists (RDNs) are food and nutrition experts who promote healthy living and may work in hospitals, schools, public health clinics, sports nutrition, the food industry, universities, research. For the purpose of this study, the term registered dietitians (RDs) will be used instead of registered dietitian nutritionists (AND, 2015).

Culinary nutrition: Culinary nutrition is defined by Condrasky and Hegler (2010) as "the application of nutrition principles combined with food science knowledge and displayed through a mastery of culinary skills." This emerging profession integrates two historically disparate career paths: that of the registered dietitian and that of the professional chef.

Motivations: Framed by the SCCT, motivations are the cognitive and physical variables that influence individuals to pursue a specific career path (Lent, Brown, & Hackett, 1994).

Chapter Summary

Given mounting consumer interest in healthy, delicious food options, the niche discipline of culinary nutrition is emerging from within traditional dietetics programs. Academic programs in culinary nutrition are limited, and no studies have examined the motivations of students to

pursue this niche discipline. Previous research has focused on what motivates traditional dietetic students to pursue a career path as a registered dietitian (Atkins & Gingras, 2009; Brady et al., 2012; Kobel, 1997; Lordly & MacLellan, 2012; Holsipple, 1994; Hughes & Desbrow, 2005), though no studies have specifically examined what motivates students to pursue culinary nutrition. Therefore, this basic qualitative study described the perceptions regarding the motivations of undergraduate students to pursue a degree in culinary nutrition, and utilize the SCCT to frame the relevant cognitive and physical variables.

CHAPTER TWO: REVIEW OF LITERATURE

Introduction

This chapter is a review of the literature that is foundational to this study. Several themes emerged as the literature was reviewed. This chapter is organized by these themes, which include the discipline of nutrition and dietetics, the emerging discipline of culinary nutrition, and what motivates students in these disciplines to pursue a specific career path. Each theme will be examined and reviewed, beginning with the discipline of nutrition and dietetics.

The Discipline of Nutrition and Dietetics

Registered dietitians (RDs), synonymous with registered dietitian nutritionists (RDNs), are food and nutrition experts that promote health and help patients manage disease through diet (Academy of Nutrition and Dietetics, 2015; Bureau of Labor Statistics, 2015). For the purpose of this research study, the term RDs will be used throughout. This section will report on the work environment, career outlook, and academic programs that train RDs.

Work Environment

The work of RDs is typically categorized as clinical, community, or management, the latter of which includes both clinical and food service management. Typical work environments include hospitals, long-term care settings, health care clinics, school or hospital cafeterias, and government agencies. In 2014, 30% of RDs were employed by hospitals, 14% by government agencies, 10% by nursing and residential care facilities, 10% by outpatient care centers, and 5% by accommodation and food services (Bureau of Labor Statistics, 2015).

RDs are credentialed through the Commission on Dietetic Registration (CDR), which holds authority in matters related to standards, fees, and finance (2015). They may also hold additional certifications in specialized practice areas, such as pediatric, renal, sports dietetics,

nutrition support, or diabetes education (Academy of Nutrition and Dietetics, 2015). Though not all RDs currently hold a master's degree, CDR has recently moved to change the entry-level registration eligibility from a bachelor's degree to a graduate degree beginning in 2024 (2016).

Career Outlook

According to the Bureau of Labor Statistics, the job outlook for RDs from 2014 to 2024 is expected to grow 16%, which is categorized as much faster than average (2015). A recent study on the supply and demand of dietetics professionals projected a workforce shortage by 2020 in that 75% of the demand will be met by the projected supply. Key factors affecting the demand are a growing aging population, healthcare reform laws, growth in the food industry, and the prevalence of certain conditions such as obesity and diabetes. The demand is expected to vary among the various sectors of dietetics; clinical is expected to grow by 42%, long-term care by 36%, food and nutrition management by 35%, community nutrition by 34%, consultation and business by 28%, and education and research by 24% (Hooker et al., 2012).

Especially relevant to the purpose of this study is the projected growth of food and nutrition management as the fastest-growing sector other than clinical dietetics. Drivers of this trend include: faster-than-average growth in food service sales, an increasing awareness of the importance of diet in overall health, and an increase in persons eligible for dietetics services (Hooker et al., 2012). Given that food and nutrition managers are more likely to work in hands-on food settings (i.e. school cafeteria or hospital cafeteria) compared to RDs in clinical or community settings, this trend is relevant to the career outlook of the participants in this study.

Academic Programs

In order to become a RD, students must complete a Didactic Program in Dietetics (DPD) at an accredited college or university, complete a dietetic internship, and pass a national

examination (Academy of Nutrition & Dietetics, 2016). Relevant organizations to this process are the Accreditation Council of Education in Nutrition and Dietetics (ACEND), the accrediting agency for academic programs preparing students to be RDs, and the Commission on Dietetic Registration (CDR), the credentialing agency for dietetics professionals that holds authority on matters such as standards, fees, finances, and administration (ACEND, 2016 & CDR, 2015). Typical coursework in dietetics programs includes foundational biology, chemistry, and microbiology, food and nutrition sciences, food service systems management, business, economics, computer science, sociology, communication, and culinary arts (Academy of Nutrition and Dietetics, 2015).

Noting the growing demand for managers skilled in healthful and attracted meals, some programs have elevated or introduced healthy cooking classes to their curricula. Bettinger, Smith, and Brina-Herres modeled a culinary course for their dietetics students after a spa cuisine course taught by the Culinary Institute of America. Graduates from this course reported a sense of increased confidence and marketability, especially in the food service management sector of dietetics (1996).

The Emerging Discipline of Culinary Nutrition

Culinary nutrition is defined as the "application of nutrition principles combined with food science knowledge and displayed through a master of culinary skills" (Condrasky & Hegler, 2010, p. 6). The need for the integration of nutrition and culinary arts at the consumer level is substantiated by several compounding factors: Rising rates of overweight, obesity, and diet-related disease; poor dietary patterns; increasing prevalence of meals eaten away from home; declining food preparation skills. Condrasky and Hegler (2010) argued, "Nutrition and culinary arts, which have two seemingly separate identities, are now needed as one entity working

together for a common cause of outreach during this national health crisis" (p. 2). The themes that emerged from the relevant literature on culinary nutrition included culinary nutrition outreach programs, culinary nutrition as its own discipline, and the future of culinary nutrition.

Culinary Nutrition Outreach Programs

Thus far, culinary nutrition has primarily manifested as outreach initiatives aimed to provide both culinary and nutrition education to the public. Nationally recognized programs of this nature include Chefs Move to Schools, Cooking Matters, and Cooking with a Chef (Chefs Move to Schools, 2015; Condrasky, 2006; Share our Strength; 2016). Notably, most culinary nutrition programs aim to bring together two different experts: the registered dietitian and the professional chef. For example, Cooking Matters is a six-week program co-taught by one culinary instructor and one nutrition instructor (Condrasky, 2006). Similarly, Cooking with a Chef is a six-week program co-taught by an RD and a chef (Share our Strength, 2016).

Outcomes of these outreach programs have included a variety positive changes. One study found participants had improved self-efficacy and were more likely to shop with a grocery list, thaw frozen foods appropriately, read a nutrition label, and eat within two hours of waking (Condrasky, 2006; Condrasky, Griffin, Catalano, & Clark, 2010). Another study of a Cookshop Program for elementary school-aged children found participants had improved knowledge, food preferences, and cooking self-efficacy (Liquori, Koch, Contento, Castle, 1998).

Culinary Nutrition as its Own Discipline

Though most culinary nutrition outreach programs have sought the separate expertise of RDs and chefs, these two seemingly separate professions are beginning to merge into one discipline. For those pursuing culinary nutrition, this marks a reversal of the separation that some RDs have made between themselves and hands-on food preparation (Holsipple, 1994).

The avenue of culinary nutrition was first framed by DeAngelis, Blenkiron, and Vieira as a way of providing alternative career options for RDs (2001). Since then, two institutions in the United States have begun to offer a combined degree in nutrition and culinary arts where students may pursue credentials as RDs and chef: Saint Louis University in St. Louis, Missouri, and Johnson & Wales University at the Denver, Colorado and Providence, Rhode Island campuses (Saint Louis University, 2016a; Johnson & Wales University, 2016).

The Future of Culinary Nutrition

Beyond outreach programs, future applications of culinary nutrition may include restaurants, corporate wellness programs, public health programs, supermarket outreach programs, school lunch programs, church wellness programs, hospital outreach programs, and culinary school programs (Condrasky & Hegler, 2010). The future of culinary nutrition will, in part, be guided by the career aspirations of the graduates of culinary nutrition programs at Saint Louis University or Johnson & Wales University. Potential career opportunities for these graduates include traditional settings such as hospitals, schools, and public health settings, as well as unique opportunities as a food scientist, research and development chef, athletic franchise dietitian, food product developer, or spa chef (Daugherty, 2015; Johnson & Wales University, 2015; Saint Louis University, 2016b).

Lastly, the future of culinary nutrition may be influenced by leading food trends. Two of the top 20 food trends identified by the National Restaurant Association were "natural ingredients/minimally processed food" and "healthful kids' meals." Related trends were "locally grown produce," "sustainable seafood," and "ancient grains" (2016). Thus, as food preferences and trends continue to evolve, so too will the future of culinary nutrition.

Motivations of Nutrition and Dietetics Students

Though there is abundant research on factors that motivate students at a college or university (Marsiglia, Walczyk, Buboltz, Griffith-Ross, 2007; Nakayama, Nakanishi, Nagahama, & Nakajima, 2015; Rossi, 2010) there is little systematic research on the differences between students in varying disciplines. Breen and Lindsay (2002) identified varying motivations among eight academic disciplines and classified them as knowledge, study, or self-identity goals. In a similar study, Dahlgren and Pramling (1985) found differences among the motivations of engineering, business administration, and medical students. Various student development theorists have touched on motivation, as well, such as Chickering, Perry, Kolb, and Scholssberg (Evans, Forney, Guido, Patton, & Renn, 2010). The purpose of this section is to report on the research that has been conducted on the motivations of students and young professionals to pursue a career in nutrition and dietetics. The themes that emerged from this research were: Factors that motivate nutrition and dietetics students, characteristics of nutrition and dietetics students, and applications to education.

Factors that Motivate Nutrition and Dietetics Students

Research on student motivations to pursue a career in nutrition and dietetics is somewhat limited; both quantitative and qualitative studies have been conducted in the United States, Canada, and Australia, and have included undergraduate students at every grade level, as well as dietetic interns. The seminal research on this topic was conducted by Stone, Vaden, and Vaden (1981) in a survey of 395 practicing RDs less than 30 years of age. This study established that one of the most important influences on career choice for RDs was their abilities and interests, and that young professionals in the field tended to have a strong sense of pride in the profession.

The second work considered seminal knowledge is the dissertation by Holsipple (1994) that examined the motivations of students to major in nutrition and dietetics. Holsipple identified several themes to describe the relevant life experiences of these students, such as personal experience with a diet-related illness or the desire to help others. These themes, along with the themes that emerged in the relevant research since these seminal studies, include: personal interest, abilities, job enjoyment, desire to help others, desire to work with people, family or personal health condition, pivotal or meaningful life experiences, dietetics education, exposure to RDs, social network, and specific career aspirations. Factors that did not affect participants' motivation in the existing literature will also be reported.

Personal interest. A personal interest in food and nutrition was one of the strongest motivations for pursuing a career in nutrition and dietetics (Brady, Mahe, MacLellan, & Gingras, 2009; Chuang, Walker, and Caine-Bish, 2009; Hughes & Desbrow, 2005; Kobel, 1997; Stone et al., 1981). Kobel (1997) found that 96% of participants indicated an interest in nutrition as quite or very important when choosing a career. In one study, this was described as a long-term "passion for nutrition" (Hughes & Desbrow, 2005, p. 108). Though one set of findings specifically identified an interest in both cooking and nutrition (Brady et al., 2012), this contradicted previous findings that identified an interest in nutrition (Kobel, 1997; Stone et al., 1981), but not cooking (Holsipple, 1994). An interest in nutrition secondary to involvement in sports was also identified as significant in one study (Brady et al., 2012).

Abilities. In addition to a personal interest in nutrition, Stone et al. (1981) identified participants' own abilities as one of the most important influences on their career choice. Rodenstein (1990, p. 1288) later confirmed this finding in a descriptive study of 600 dietetics students by identifying participants own "special abilities" as what attracted 70% of participants

to the field. No other studies identified participants' abilities as a motivating factor for choosing dietetics.

Job enjoyment. Closely related to personal interest and abilities was a desire to pursue an enjoyable career; the profession of dietetics was viewed as a way to combine an interest with a job (Brady et al., 2012; Hughes & Desbrow, 2005; Kobel, 1997). Kobel (1997) found that 94% of participants indicated job enjoyment as quite or very important. One study described this theme as congruence, or that the participants felt their career choice fit with their pre-existing interests. In this study, a participant stated (Brady et al., 2012):

> I guess I always wanted my career to be part of my identity, so I chose the path I did so that I could be proud of it and share it with people because it fit with who I already was, because it relates to what has always been important to me—health and helping people through my career. (p. 119)

Desire to help others. The desire to help others was a theme in several studies. Kobel (1997) found that 89% of participants indicated the opportunity to help others was quite or very important; Markley and Huyck (1992) found 95.2% of participants were highly influenced by the opportunity to help others; Hughes & Desbrow (2005) described participants' view of dietetics as an opportunity to combine a personal interest in nutrition with helping others to improve their health. Similarly, Holsipple (1994) described a major sentiment of nutrition as a part of a person's well-being, and that students desired to help others improve their lives through food. One participant commented, "I guess the well-being of somebody relies on nutrition; you are what you eat and I just want to help people to live to the best of their ability…nutrition is a big part of health" (p. 51). Notably, one study recognized that the desire to help others was not significant, and that this finding diverged from previous research (Brady et al., 2012).

Desire to work with people. Related to the theme of helping others, a desire to work directly with people emerged as a distinct theme in certain studies. Kobel (1997) found that 88%

of participants indicated working with people was quite or very important. This theme was later confirmed by Hughes and Desbrow (2005) and Lordly and MacLellan (2012). One participant described, "I volunteer at the breakfast program…It's rewarding….[It] made me really grateful for the life I do have…the experiences…the opportunities…reinforced that I want to work with and help people" (Lordly & MacLellan, 2012, p. 11).

Family or personal health condition. Experience with a personal illness or witnessing a family member with an illness was described in various studies as a motivation for pursuing dietetics. Specific health conditions named were eating disorders, body image issues, overweight, obesity, and diabetes. These conditions were either experienced by the participants themselves or by friends and family members close to them (Brady et al., 2012; Holsipple, 1994; Hughes & Desbrow, 2005, Lordly & MacLellan, 2012). More specifically, Hughes and Desbrow (2005) found that 30% of participants were motivated by personal experiences with obesity, eating disorders, or both, while Holsipple (1994) found that 80% of participants reported family or friends with diet-related illnesses.

Holsipple (1994) identified a prominent theme of personal body weight control. In her study, the majority struggled with weight management: 25% were underweight, 33% were overweight, and 33% had experienced weight fluctuations. One participant described her experience as:

> I was always a little overweight…I was never really obese but I was like healthy and then when I got into the social thing, I saw people were really a little smaller than I was…when I was 15 or 16 I lose a lot of weight. People were like shocked—I lost almost 30 pounds…I would eat like one quarter of a muffin, one-half piece of fish, one bite of a piece of pizza. It was drastic; it was really bad. I was obsessed. (p. 75)

Pivotal or meaningful life experiences. Pivotal or meaningful life experiences may also influence students' decisions to pursue dietetics. Lordly and MacLellan (2012) identified

influential events before entering college, such as work or volunteer experiences, and influential events during college that affirmed the choice of major, such as coursework, getting an internship, or participating on school committees. For example, one participant stated, "I worked at a grocery store…I worked in a lot of departments and just always being around food and trying all sorts of different foods and especially seeing what other people bought, that kind of [piqued] my interest in nutrition" (p. 10).

Other examples of pivotal and meaningful experiences were eating healthy for a sport and cooking or baking with a mother or grandmother (Brady et al., 2012). Holsipple (1994) identified cooking at home as a prevalent theme among participants that entered college as nutrition majors, but found that those that entered college undeclared and switched their majors to nutrition had a minimal interest in nutrition. The experience of helping friends or family manage a diet-related illness was pivotal for some participants, while others questioned their commitment to the profession after visiting a hospital, learning about the amount of paperwork, and hearing about the low pay grade (1994).

Dietetics education. Participants' experiences during their dietetics education emerged as a separate theme. Substantial evidence supports that many students choose dietetics during or after college. This decision was made either during college by switching majors or after college by making a career change and returning to school (Brady et al., 2012; Holsipple, 1994; Kobel, 1997; Lordly & MacLellan, 2012; Markley & Huyck, 1992).

The subtheme of professional socialization emerged from certain studies, wherein students adopted the values, ideas, and beliefs of the profession they wished to join. The effect of this on dietetics students was somewhat of a loss of relationship with self and an identity shift based on nutrition knowledge and discourses. This was especially prominent for students

competing for a dietetic internship after completing their undergraduate degree (Atkins & Gingras, 2009; Lordly & MacLellan, 2012).

Exposure to RDs. Exposure to RDs in the field had varied effects among participants. In two studies, a previous encounter with an RD did not emerge as a significant theme (Brady et al., 2012; Kobel, 1997). In most studies, however, exposure to RDs had an overall positive effect on career choice (Holsipple, 1994; Lordly & MacLellan, 2012; Markley & Huyck, 1992). One study identified the influence of a RD as significant in the career choice of 30.3% of participants and suggested RDs in the field to be one of the best marketing tools for recruitment (Markley & Huyck, 1992).

Exposure to RDs seemed to occur both as patients (Hughes & Desbrow, 2005) and as students in college-level nutrition courses presumably taught by RDs (Holsipple, 1994; Hughes & Desbrow, 2005; Lordly & MacLellan, 2012; Markley & Huyck, 1992). Holsipple (1994) described how the influence of a RD as a professor in a nutrition elective was especially influential for those that entered college undeclared and eventually switched their major to nutrition. On participant stated, "…she was the best mentor…she was able to show me how to have a professional life and a personal life and make it all work" (Lordly & MacLellan, 2012, p. 11). In another study, when asked which factor had the most influence on their decision to pursue dietetics, 15.8% participants indicated a course in nutrition, and 12.6% indicated a dietitian (Markley & Huyck, 1992).

Social network. Other than RDs, certain individuals had a significant effect on participants' career decisions; this theme emerged in several studies in that becoming a dietitian seemed to fit with what participants' families and social networks expected of them. Markley and Huyck (1992) found that a friend or relative other than a parent was a significant influence

on 31% of the participants, while other studies found persons both inside and outside the home to be influential, including teachers, advisors, fitness instructors, coaches, and relatives (Brady et al., 2012; Holsipple, 1994; Lordly & MacLellan, 2012).

For example, having health-conscious, active parents emerged as a prominent sub-theme in one study. One participant stated (Lordly & MacLellan, 2012):

> There was always that element. They were always really active and they tried to eat well, so I guess, thinking back, you don't realize that they are kind of socializing you to kind of be the same way, so I think that had a big influence on me, just watching them, you know. They weren't always just sitting on the couch watching TV. (p. 10)

Some participants felt their choice to pursue dietetics was influenced by parental expectations for their career. One participant described how her family discouraged her initial aim of becoming a chef, but encouraging her aim of becoming an RD because it was a "white collar" profession (Brady et al., 2012). A sub-theme of the expectation to attend college emerged in another study; one participant stated (Lordly & MacLellan, 2012):

> Ever since I was young, my parents wanted me to be a doctor or, like, something close to that, so I think that might be the main reason why I decided to go into nutrition and dietetics. I'm not really interested in medicine…I wanted to be as close as possible to what I was interested in, but at the same time please my parents. (p. 10)

Holsipple (1994) described this theme as views on dietetics, noting that participants' parents were generally supportive, friends were less supportive and criticized the choice for being wimpy, and society was perceived having a mix of positive and negative views towards the profession. The influence of sex role socialization was discussed at length. Holsipple (1994) noted that socialization as females and a traditional upbringing seemed to significantly influence participants' choice of a helping profession, and that dietetics falls into this category based on how participants envisioned their future careers.

However, Kobel's (1997) findings diverged from this theme in that the influence of participants' mothers, friends, and teachers had a neutral or limited effect on their decision to pursue dietetics; 80% of participants rated guidance counselors as having a low or neutral influence on their decision. As a result, one of this study's overall conclusions was that no one person emerged as having a significant impact on the participants' career choice.

Career aspirations. Specific career aspirations emerged among participants in the relevant studies in terms of how they envisioned their professional lives. Though many participants in the relevant studies had little knowledge of the profession itself, most identified a desire to pursue a career in science, biology, health care, or human health (Brady et al., 2012; Holsipple, 1994; Hughes & Desbrow, 2005; Lordly & MacLellan, 2012). Some participants identified a specific disinterest in areas such as math and nursing (Brady et al., 2012; Holsipple, 1994).

In terms of work values, the majority of participants in Holsipple's (1994) study identified "interesting work" and "secure future" as quite important; 50% of participants said "advancement potential" was quite important; 40% said "good salary" and "opportunity of service to society" were quite important. Of all the factors, "social prestige" was not important. Markley and Huyck (1992) described the specific areas of interest among dietetics students. Of those surveyed, 70.5% were interested in health, disease, and health care; 42.7% in teaching and health promotion; 40.7% in sports and fitness; 35.6% in counseling and behavior change; 35.4% in food and cooking; 37.5% in private practice consulting.

One study found that participants did not have high expectations regarding their ability to secure a job after completing their education. Chuang et al. (2009) theorized this was due to the amount of dietetics programs in the region of their study, which fostered a sense of competition

in the job market. No other studies reported participants' expectations regarding the ability to secure employment.

Factors of Lesser Importance

Equally important to understanding what motivates dietetics students is knowing what does not motivate students in this discipline. Numerous studies have failed to identify a long-term interest in the discipline of dietetics as a motivating factor for most students (Brady et al., 2012; Holsipple, 1994; Hughes & Desbrow, 2005, 2012; Lordly & MacLellan, 2012). High-paying job opportunities and flexibility were motivating factors for the dietetics students in one study (Chuang et al., 2009), though these job aspects were rated of lesser importance in another study (Kobel, 1997). The prospect of social prestige was not important to most participants in the relative literature (Holsipple, 1994). Lastly, an interest in cooking, the influence RDs, friends, or family, and the desire to help people were important to some participants, but not others (Brady et al., 2012; Holsipple, 1994; Hughes & Desbrow, 2005; Kobel, 1997; Lordly & MacLellan, 2012; Markley & Huyck, 1992).

Characteristics of Nutrition and Dietetics Students

Certain characteristics of nutrition and dietetics students were reported in the relevant literature. These included demographics, such as gender, ethnicity, and age, as well as commitment to dietetics, variety of career interests, and how dietetics students make decisions. These characteristics will be reported in the following section.

Demographics

Gender. The most recent dietetics supply and demand study reported that 96% of the current workforce is female (Hooker et al., 2012). This trend was reflected in the relevant literature on what motivates dietetics students; the percentage of female participants ranged from

83.3% to 100% (Brady et al., 2012; Hughes & Desbrow, 2005; Kobel, 1997; Lordly & MacLellan, 2012). Due to the overwhelming prevalence of females, both as dietetics students and RDs, one study used a feminist form of inductive thematic analysis (Lordly & MacLellan, 2012) and one identified a cluster of themes related to feminine issues, including: mothers, caring, the women's movement, the body and weight control, and food (Holsipple, 1994).

Ethnicity. Only two studies reported on the ethnicity of their participants. Both indicated the vast majority were white or Caucasian, ranging from 80.5% to 89.3%. Asian, African-American, Hispanic, and Native American populations were represented in both studies and ranged from 0.7% to 13.9% of the participants (Holsipple, 1994; Kobel, 1997). These findings are consistent with the widely recognized lack of diversity among RDs (Kobel, 1997; Salomon, 2009).

Age. In addition to gender and age, the findings of the relevant literature show that the majority of dietetics students are in their late teens to mid-twenties (Holsipple, 1994; Hughes & Desbrow, 2005; Kobel, 1997). There is, however, a significant number of more mature-aged students; Kobel identified 12.8% of respondents as 31 years old or older (1997). These findings are consistent with the wider body of research that indicates the majority of students pursue a degree in dietetics immediately following high school, though a notable percentage are returning as a second career (Hughes & Desbrow, 2005, Markley & Huyck, 1992).

Commitment to Dietetics

Commitment to the field of dietetics emerged as a theme among participants in the relevant literature. Stone et al. (1981) described this theme as a strong pride in and identification with the profession of dietetics. Similarly, Hughes and Desbrow (2005) described a strong commitment to dietetics among their participants; when asked about their plans if they were not

given a place in an undergraduate dietetics program, most were not able to articulate a "plan b" and instead reported they would try again after further study or work experience. Holsipple (1994) described this as a gut feeling, and substantiated this theme by describing her participants' excitement for their future career aspirations. Holsipple also identified very little career exploration among participants, which could be interpreted both as commitment to dietetics and lack of self-efficacy in exploring alternatives.

Variety of Career Interests

A variety of career interests within the discipline of dietetics emerged as a theme. Although participants were not able to identify the variety of specific jobs they would qualify for, most identified clinical, private practice, or mixed practice settings as potential work settings. Some expected to work in a clinical setting as a first place of employment, while others expected to work in research. There was generally a low awareness of public health nutrition and food service management positions (Holsipple, 1994; Hughes & Desbrow, 2005).

Though participants did not necessarily articulate specific jobs, they were able to identify competencies of RDs and types of work they would be doing. In one study, participants identified 20 different competencies RDs would need to be successful, including interpersonal skills, organizational skills, specialized nutrition knowledge, education and counseling abilities, and empathy (Hughes & Desbrow, 2005). In another study, participants identified the areas of dietetics in which they were most interested: 70.5% identified an interest in health, disease, and health care; 42.7% in teaching and health promotion; 40.7% in sports and fitness; 35.6% in counseling and behavior change; 35.4% in food and cooking; 37.5% in private practice consulting (Markley & Huyck, 1992).

Comparatively, Hooker et al. (2012) projected different rates of growth in the various sectors of dietetics practice. Clinical in-patient and out-patient services were expected to grow by 42% by 2020; clinical long-term care by 36%; food and nutrition management by 35%; community nutrition by 34%; consultation and business by 28%; and education and research by 24%. Given that food service or management was not identified as a career interest among participants in the relevant literature, the expected growth of food and nutrition management as the fastest-growing non-clinical practice area is especially notable.

How Nutrition and Dietetics Students Make Decisions

The fact that many students switch their majors to nutrition while in college or return to college to pursue dietetics as a second career is well-supported (Brady et al., 2012; Holsipple, 1994; Kobel, 1997; Lordly & MacLellan, 2012; Markley & Huyck, 1992). The manner in which dietetics students make decisions is also relevant. Three studies reported on this aspect of decision-making (Atkins & Gingras, 2009; Brady et al., 2012; Holsipple, 1994).

The work of Atkins & Gingras (2009) and Brady et al. (2012) centered on the concept of professional socialization, wherein dietetics students adopt the knowledge, beliefs, and attitudes they perceive as valuable among RDs. While Atkins & Gingras (2009) described professional socialization as resulting in somewhat of a loss of personal identity, Brady et al. (2012) focused more on how peer, educator, and preceptor relationships provided a positive support system. One participant stated (Brady et al., 2012):

> I have always been really close with all of my teachers…They really helped me through my whole program and just dealing with the fact that I was away from home and whatnot…If you needed to talk and you weren't sure what area you were kind of leaning towards, I guess they were there to always help you work it out. Some of my teachers are some of my close friends. (p. 120)

While the former studies focused on recent alumni from dietetics program and therefore described how young professionals made decisions, the work of Holsipple (1994) reported at length on how the participants decided to major in nutrition and dietetics. Only two of the 36 participants reported engaging in any form of career exploration, and no participants reported working with a career counselor. Two dominant styles of decision-making emerged, which Holsipple described as: "That's what I wanted" and "That's not me either". The first, "That's what I wanted", was characterized by a focus on one career path and little deviation from that path. Participants that practiced this decision-making pattern knew they wanted to study nutrition and dietetics before entering college and did not give significant thought to any other career path. This pattern also emerged from the work or Brady et al. (2012) in the identification of a pivotal experience during high school that influenced the decision to pursue dietetics. Holsipple (1994) paralleled this mindset with Eisenhart's (1985) data showing that students make career decisions by considering a small number of alternatives, gathering limited information supplied by their own immediate experiences, and evaluating any alternatives using minimal criteria. One participant exhibiting this decision-making style stated:

> I was always a chubby kid and then developed diabetes at age eleven…I knew that I wanted to work with food and, in high school, thought about going to college and trying to become a dietitian…I want to help diabetics…I want to counsel diabetics with eating disorders, obesity. (Holsipple, 1994, p. 58)

In contrast, the second decision-making style, "That's not me either", was characterized by considering and changing majors until settling on the right fit. Brady et al. (2012) identified that although a pivotal experience often influenced participants' decision to pursue dietetics, this experience occurred more often when they were already enrolled in a different program or had even graduated from a different program as opposed to the decision they made in high school. One participant stated:

> I also chose dietetics because I thought about what I didn't want to do: Knew I didn't want to do psychology…knew I didn't want history; didn't want engineering; knew what I wasn't going to do. Nutrition filled a need, what I wanted to do and gave me the opportunity…I could see myself in a lot of positions; nutrition is a good place to start. (Holsipple, 1994, p. 60)

Similarly, Lordly and MacLellan (2012) described their participants' career choice as occurring by default. One participant described dietetics as something they "fell into" (p. 9) instead of majoring in a different health-related discipline. One participant stated:

> Ever since I was young, my parents wanted me to be a doctor or, like, something close to that, so I think that might be the main reason why I decided to go into nutrition and dietetics. I'm not really interested in medicine…I wanted to be as close as possible to what I was interested in, but at the same time please my parents. (Lordly & MacLellan, 2012, p. 10)

Or, many participants switched to nutrition after entering college in different health-related disciplines, such as medicine or dentistry. Again, the finding that a significant percentage of students decide to pursue dietetics during or after college is consistent with the related research (Brady et al., 2012; Holsipple, 1994; Kobel, 1997; Lordly & MacLellan, 2012; Markley & Huyck, 1992). In order to prevent students from entering dietetics by happenstance and to improve the image of dietetics as a valued profession, Lordly and MacLellan (2012) and Chuang et al. (2012) suggested emphasizing the diversity of jobs and roles available to RDs.

Applications to Education

The researchers in the relevant literature spent considerable time discussing practical applications of their findings to the field of dietetics education. One study in the related discipline of food safety made a concerted effort to outline a workforce shortage in the field, identified North Dakota State University (the institution sponsoring the research) as the only university to offer an undergraduate degree in food safety and described the lack of awareness among the study's participants regarding food safety curricular offerings and potential careers.

Thus, the study substantiated the need for substantial further research to inform recruitment and provided a baseline for further recruitment strategies (Wachenheim & Beauchamp, 2013). A second study provided hypothetical scenarios of how and where students could be recruited and even offered vignettes of suggested dialogue to guide interactions with students (Stevenson, 2016).

Translating the results into useful applications is at the center of evidence-based practice, which is especially valued in health-related disciplines. Though evidence-based practice is often associated with quantitative work, the relevant research on what motivates nutrition and dietetics students includes both qualitative and quantitative methods; as a result, the themes that emerged are an interpretation of both the empirical and theoretical findings (O'Reilly & Kiyimba, 2015). The themes that emerged in terms of using the knowledge of what motivates nutrition and dietetics students were recruitment, broadening students' understanding of the field, considering the influence of dietetics education, and caring for students with diet-related problems.

Recruitment

Recruitment of nutrition and dietetics students was a commonly discussed theme among the relevant studies. Given the projected workforce shortage of RDs (Hooker et al., 2012), recruitment was the strongest theme that emerged. Subthemes that surfaced included phase-appropriate recruitment, using specific motivators and interests to attract students, and recruitment of minority groups.

Phase-appropriate recruitment. Several studies supported that, although some students decide to pursue dietetics during high school, many students switch to nutrition during college or return to college as a second career (Holsipple, 1994; Rodenstein, 1990; Stone et al., 1981). Therefore, discussion on recruitment efforts was focused towards high school students, current

college students, and individuals returning to college to pursue dietetics. Markley and Huyck noted, "Successful recruitment requires knowledge about when students are most likely to become interested in dietetics" (1992, p. 936); Rodenstein recommended, "Begin active recruitment during high school and continue through college" (1990, p. 1288). Given the significant number of students that chose to pursue dietetics during each phase, tailoring recruitment strategies to each group was generally recognized as a best practice.

High school students. Discussion varied on the most important considerations for recruiting high school students. There was a general consensus on the need to educate the students themselves, high school guidance counselors, and parents. Educating students by exposing them to a RD was suggested, either by speaking to high school classes or arranging meetings for groups such as Girl Scouts and religious organizations (Holsipple, 1994; Stone et al., 1981). In order to ensure that the expectations of students interested in nutrition were realistic, one study encouraged paying special attention to this pre-enrollment stage to ensure applicants' career aspirations were consistent with the reality of being a RD (Hughes & Desbrow, 2005).

Stone et al. (1981) noted that high school students were more affected by high school teachers, high school counselors, and career days than those who chose dietetics later on in their college careers. Coupled with the finding in another study that only 15% of participants reported the assistance of a high school guidance counselor in considering dietetics, Markley and Huyck (1992) suggested the creation of workshops for high school counselors on the profession. Lastly, noting the influence of mothers or parents on career selection (Markley & Huyck, 1992), Stone et al. (1981) even suggested providing guidance programs for parents.

College students. Responding to the fact that many students decide to switch their major to pursue dietetics, several studies discussed recruitment during college, especially of freshmen and sophomores (Kobel, 1997). Holsipple (1994, p. 101) advocated, "…a large percentage of the recruiting efforts of the dietetic program directors should take place right on their own college campuses". She gave specific suggestions of improving the awareness of the dietetics program on-campus, such as organizing a nutrition counseling center staffed by upperclassmen nutrition majors, assigning students a project to design specialty meals on-campus alongside cafeteria staff, and publicizing National Nutrition Month (Holsipple, 1994).

Several studies suggested using an elective course in nutrition as a recruitment tool for on-campus students. A nutrition course was ranked as the number one factor influencing the choice to pursue dietetics among 32.9% of participants in one study (Markley & Huyck, 1992). Another study specifically recommended assigning an experienced and dynamic instructor for this role in order to serve as a role model for potential students (Holsipple, 1994).

Returning students. Students returning to college to pursue dietetics as a second career represent a critical pool of applicants (Markley & Huyck, 1992). Kobel (1997) hypothesized that although monetary awards and career advancement were not rated as important to students overall, second-career students may place greater value on these aspects. Strategies should also be designed to help these students meet the prerequisites and general education courses (Markley & Huyck, 1992).

Using motivators and interests. Overall, given that a personal interest in nutrition, the connection between nutrition and human health, and the desire to help others were among the strongest motivations to pursue dietetics, researchers discussed the need to attract students using these interests (Kobel, 1997; Markley & Huyck, 1992). Conversely, given that certain factors

such as monetary rewards and food service management opportunities were not motivating factors, researchers posed the question as to whether or not promoting these aspects of the profession would attract or deter students (Markley & Huyck, 1992). Studies suggested tailoring materials such as college catalogs and articles in magazines or newspapers to stress the aspects of dietetics that are most interesting to students (Holsipple, 1994; Markley & Huyck, 1992).

Recruitment of minorities. Given the widely recognized lack of diversity among RDs, both in terms of ethnicity and gender, several researchers identified the need for further study into the motivations of male and non-white dietetics students (Holsipple, 1994; Kobel, 1997; Salomon, 2009; Stone et al., 1981). Rodenstein (1900) offered a list of ideas for minority recruitment and retention, such as establishing mentor programs, developing career awareness programs, and involving members of minority groups.

Given the conflicting findings that career-specific motivations may or may not vary by race (Kobel, 1997; Markley & Huyck, 1992), further research on the motivations of specific groups is warranted. Kobel (1997) stated, "Further research exploring opinions of various ethnic and/or racial groups about dietetics should receive specific emphasis" (p. 257).

Broadening Students' Understanding of Dietetics

Participants in the relevant studies had some knowledge of dietetics, but limited understanding of the potential career opportunities for RDs. Hughes and Desbrow (2005) concluded that dietitians are accurately viewed as nutrition content specialists that work with the public to promote health through diet, and that dietetics students must have certain competencies in order to be successful. Participants were able to identify more than 20 competencies of RDs, such as high-level communication, interpersonal skills, self-directedness, and organization.

However, participants still had narrow views about the diversity of careers available to RDs. In a related study, Wachenheim & Beauchamp (2013) surveyed students in a college-level microeconomics course to determine their perceptions of the university's food safety programs. Similar to the lack of awareness about dietetics, participants had "considerable ignorance" (p. 36) regarding the field of food safety and potential career opportunities.

While the most common career expectation among participants in the relevant studies was to work in a clinical or private practice, there was limited awareness of careers in the food industry, food service management, and public health sector. Thus, researchers suggested career counseling for students prior to and during their dietetics education regarding the career prospects available to them. Career counseling could also serve to check unrealistic expectations, such as the limited number of careers in sports dietetics (Holsipple, 1994; Hughes & Desbrow, 2005; Markley & Huyck, 1992).

Responding to the interest in consultation and private practice, researchers also suggested focusing on the nontraditional roles dietitians may hold. An interest in private practice may indicate a desire to mix family and work commitments, which could also be touched on in recruitment efforts. As a more practical measure, one study suggested the use of a "short, upbeat video" (p. 101) during nutrition courses to highlight the diversity of job opportunities available to RDs (Holsipple, 1994; Hughes & Desbrow, 2005; Markley & Huyck, 1992).

Considering the Influence of Dietetics Education

The influence of certain aspects of dietetics education emerged as a theme, including the influence of the curriculum, faculty and preceptors, and departmental culture. Brady et al. (2012) noted how dietetics students "occupy a vulnerable position as learners and emerging professionals" and that they will "place a high value on educators' relational qualities that

provide psychological and emotional support" (p. 121). Similarly, Atkins and Gingras (2009) reported the significant influence of the curriculum on professional socialization, or how participants were adopting the mindsets and interests that they deemed to be desirable. Suggestions to enhance the dietetics curriculum included the integration of field experiences, invited speakers, and mentoring programs; these measures may initiate contact with both recent graduates and mature professionals and may serve to provide students with realistic career expectations (Chuang et al., 2009).

Noting the influence of faculty members and preceptors, Chuang et al. (2009) suggested nutrition and dietetics faculty stay up-to-date on relevant career information such as employer expectations, compensation packages, regional needs, and economic challenges and opportunities. Relationships with faculty emerged as a generally positive aspect of dietetics education, though relationships with preceptors were both positive and negative. One participant described her positive relationship with a preceptor (Brady et al., 2012):

> There was another preceptor that was just so good with her staff and her staff just thought she was fair and great, but it was not like she was lenient. She followed all the rules and did such a great job, but in terms of management, I thought, 'That's exactly who I want to emulate.' (p. 120).

Lastly, Lordly and MacLellan (2012) identified a diverging theme between two of their data collection sites. From this, they concluded that departmental culture influenced the students' experience; at one site, for example, there was a strong sense of the competition for dietetic internship positions. Another manifestation of departmental culture was the expectation that students participate in nutrition-related volunteer activities. Chuang et al. (2009) stated, "Volunteering during undergraduate work in nutrition and dietetics is almost expected…" (p. 25). Though no studies identified specific measures to take regarding departmental culture, educational programs were simply encouraged to consider the impact of their culture on

students' experience and professional socialization (Brady et al., 2012; Lordly & MacLellan, 2012).

Caring for Students with Diet-Related Problems

In response to the number of participants that reported their own experience with eating disorders or weight problems (Atkins & Gingras, 2009; Holsipple, 1994), Hughes and Desbrow (2005) raised several difficult questions for dietetics educators to consider:

> What are the risks to the individual student and/or the public associated with training students with prior (and possibly unresolved) eating disorders? Does experience of this disorder compromise competencies or does it enhance the empathy and insight about caring for these patient types? Equally important are deliberations about the potentially discriminatory nature of considerations about prior illness as a basis for student selection. The public perception of dietitians appears to be that of a fit, healthy and professional woman. What is the effect of recruiting as students, individuals who do not fit this stereotype because of prior or current disorders or illness? (p. 109)

Similarly, Holsipple (1994) discussed weight problems and body image as a prominent theme among the majority of her participants. She proposed an association between body image issues and the lack of understanding of the women's movement, which espouses acceptance of one's body. However, though Holsipple did suggest that body concerns may influence women to pursue dietetics, she did not discuss how this might affect their dietetics education.

Chapter Summary

In summary, the need for nutrition services is increasing rapidly due to an aging population, healthcare reform laws, growth in the food industry, and the prevalence of diet-related illnesses. RDs are uniquely positioned as food and nutrition experts that provide nutrition services in clinical, community, and food service settings. Though the need for RDs in all sectors of dietetics is increasing, food and nutrition management is expected to grow by 35% by 2024, making it the fastest-growing sector other than clinical dietetics (Academy of Nutrition and Dietetics, 2015; Hooker et al., 2012).

Culinary nutrition is emerging as a niche discipline that integrates nutrition knowledge and culinary competence. The need for culinary nutrition outreach programs at the consumer level is substantiated by several compounding factors: rising rates of overweight, obesity, and diet-related disease; poor dietary patterns; increasing prevalence of meals eaten away from home; and declining food preparation skills (Condrasky & Hegler, 2010). Existing culinary nutrition outreach programs typically draw on the separate expertise of a RD and a professional chef (Condrasky, 2006; Share our Strength, 2016). However, culinary nutrition is emerging as a niche discipline that integrates the expertise of RDs and professional chefs.

Currently, two institutions in the United States offer a degree in culinary nutrition: Saint Louis University in St. Louis, Missouri, and Johnson & Wales University at their Denver, Colorado and Providence, Rhode Island campuses (Saint Louis University, 2016a; Johnson & Wales University, 2016). The future of culinary nutrition is expected to expand beyond existing outreach programs, respond to dynamic consumer trends, and be led by graduates of culinary nutrition programs (Condrasky & Hegler, 2010; Daugherty, 2015).

In order to further the professions of both traditional dietetics and culinary nutrition, research is needed to describe what motivates students to pursue these career paths. Current research has investigated the motivations of students and young professionals to pursue a career in nutrition and dietetics. From these studies, the factors that most significantly impacted students' decisions were: personal interest, abilities, job enjoyment, desire to help others, desire to work with people, family or personal health condition, pivotal or meaningful life experiences, dietetics education, exposure to RDs, social network, and specific career aspirations (Atkins & Gingras, 2009; Brady et al., 20120; Chuang et al., 2009; Holsipple, 1994; Hughes & Desbrow,

2005; Kobel, 1997; Lordly & MacLellan, 2012; Markley & Huyck, 1992; Rodenstein, 1990; Stone et al., 1981).

Participants in the relevant studies tended to be primarily female, white, and in their late teens to mid-twenties. They exhibited a high degree of commitment to the field of dietetics; many decided to pursue dietetics during college or after college as a second career. Though participants described a variety of career interests, they were not able to articulate the diversity of jobs available to them; there was generally a low awareness of public health nutrition and food service management positions. Suggested applications to practice centered on recruitment methods, broadening students' understanding of dietetics, considering the influence of dietetics education, and caring for students with diet-related problems (Atkins & Gingras, 2009; Brady et al., 2012; Chuang et al., 2009; Holsipple, 1994; Hughes & Desbrow, 2005; Kobel, 1997; Lordly & MacLellan, 2012; Markley & Huyck, 1992; Rodenstein, 1990; Stone et al., 1981).

Though several studies have investigated the motivations of undergraduate students to pursue dietetics, no studies have investigated the motivations of students to study culinary nutrition. Given consumer trends and behaviors, the health crisis of the United States, and the projected workforce shortage of RDs in all sectors of dietetics, research on the motivations of students to pursue a degree in culinary nutrition is warranted. This research may be used to inform recruitment strategies and broaden students' understanding of dietetics in order to further both traditional dietetics and culinary nutrition.

CHAPTER THREE: METHODOLOGY

Introduction

This chapter provides an outline of the methodology of this study. The first section of this chapter focuses on a statement of the purpose and the research questions. Following that is a description of the theoretical framework, which outlines the researcher's interconnected ontological, epistemological, and axiological positions, and introduces the Social Cognitive Career Theory (SCCT) as it will be applied to this study (Lent, Brown, & Hackett, 1994). The remaining sections of this chapter include the research design, site and program description, population, instrumentation, data collection, and data analysis. An overall summary of the methodology concludes this chapter.

Purpose Statement

The purpose of this study was to investigate the perceptions regarding the motivations of undergraduate students to pursue a degree in culinary nutrition at Saint Louis University and Johnson & Wales University. Framed by the SCCT, motivations were defined as the cognitive and physical variables that influence individuals to pursue a specific career path (Lent, Brown, & Hackett, 1994); culinary nutrition was defined as the integration of nutrition principles and culinary skills (Condrasky & Hegler, 2010).

Research Questions

The research questions underlying this purpose were: What motivates undergraduate students to pursue a degree in culinary nutrition? What experiences have students had that affected their decisions to pursue a degree in culinary nutrition? What are the career aspirations of students studying culinary nutrition?

Methodology

Theoretical Framework

Given the qualitative nature of this study, a best practice is to first acknowledge the researcher's interconnected ontological, epistemological, axiological, and methodological position as it makes up the overall theoretical framework (O'Reilly & Kiyimba, 2015). Therefore, the researcher's ontological position was that of relativism, which holds that reality is based on one's interpretation of objects or experiences (O'Reilly & Kiyimba, 2015; Smith, 1983), while the epistemological position was that of empiricism, which holds that knowledge is acquired by interpreting personal observations, experiences, and senses (Bernard, 2011). These positions could also be described as interpretivist in nature, wherein one's knowledge and social reality are rooted in one's interpretations of personal experiences (Ormston et al., 2014).

As it relates to the subjects of this study, the researcher's perspective was that students chose to pursue culinary nutrition based on their personal experiences and what they believed to be true about the degree; students were able to articulate their beliefs because of their own relevant experiences. This perspective largely influenced how the questions were phrased in the interview guide, for example: What experiences have you had that affirmed your decision to pursue the combined degree in nutrition and culinary arts?

The axiological position held was largely informed by the researcher's experience in this specific degree program as a student from 2006 to 2010 at Saint Louis University. I sought out the degree in culinary nutrition when I was a junior in high school. Knowing this was the career I wanted to pursue, Saint Louis University was the only school I applied to and I did not once consider changing my major. My decision to pursue culinary nutrition as a career stemmed from

a personal interest in the connection between nutritious food and my physical and mental well-being, a love of cooking, and a desire to have a career that I would enjoy.

After earning the combined nutrition and culinary arts degree at both the undergraduate and graduate levels, I returned to Saint Louis University as an instructor in the Department of Nutrition and Dietetics in 2013. Given my current role, all of the participants from Saint Louis University in this study were also my students at the time. I considered this to be an asset related to my ability to conduct an effective focus group with these students in that I understood the context of their experiences in the program thus far and could ask meaningful probing questions. Therefore, the theoretical framework for this study was strongly impacted by my axiological position.

Social Cognitive Career Theory. The theoretical framework of this study included a specific theory that was used both to design the research instrument and analyze the results. The SCCT is based on Bandura's social cognitive theory (1986) and has been used by the research community to frame how students become interested in a career, make relevant decisions, and achieve academic and career success (Lent, Brown, & Hackett, 1994). The theory integrates cognitive variables of self-efficacy, outcome expectations, and goals, with other aspects of one's self such as gender, ethnicity, social network, and barriers (Lent, Brown, & Hackett, 2000).

The SCCT has been applied to describe students' motivations in a variety of disciplines, including nutrition and dietetics, hospitality management, human development and family studies, food science and technology, engineering, medicine, nursing, and psychology (Bierer, Prayson, & Dannefer; 2014; Border, 2015; Chuang, Walker, & Caine-Bish, 2009; Lent et al., 2003; Price, 2011; Stevenson, 2016; Wright, Perrone-McGovern, Boo, & White, 2014). In one study, Chuang and colleagues found differences in the SCCT variables among students majoring

in hospitality management, human development and family studies, and nutrition and dietetics. For instance, students majoring in hospitality management were more committed to their career choice compared to students in the other two majors. The researchers hypothesized this was due to the fact that many hospitality management students are already employed in the field in some way, thus attributing the high level of career commitment among these students to their current work experiences (2009). In another study, Stevenson described how the SCCT can inform development of recruitment materials for the profession of food science and technology by identifying the aspects of the discipline that are most related to potential students' self-efficacy beliefs (2016). In a third study, Border applied the SCCT to describe how demographics, education, career influences, perceived value of the dietetic technician, registered (DTR) credential, and preferred job settings influenced students' intention to take the DTR exam (2015). Thus, despite the fact that the SCCT is a relatively new theory of describing career development, it has been used across a variety of disciplines in the past few decades, including at least three studies specific to students pursuing a degree in nutrition and dietetics.

Research Design

The researcher employed a basic qualitative research design, which was an appropriate method when a researcher aims to investigate how participants interpret their personal experiences, attribute meaning to those experiences, and devise their own worlds (Merriam & Tisdell, 2016). Given the purpose of this study to investigate participants' perceptions regarding their motivations to pursue a degree in culinary nutrition, a basic qualitative design allowed the researcher to investigate subjects' perceptions, perspectives, and understanding of their own motivations to pursue this niche sector of dietetics.

Study Procedures. The procedures of a basic qualitative study should not be pre-determined, but should be both consistent with the discipline and aligned with the theoretical framework underlying the study (Merriam & Tisdell, 2015). The procedures for this study were:

1. Recruitment: Participants were recruited via email; see Appendix A for the recruitment statement. The content of the recruitment statement was sent via email by the researcher to all students that met the inclusion criteria.
2. Schedule focus groups: Focus groups were scheduled at a neutral location at a time that was convenient for the participants.
3. Obtain consent: Verbal consent was obtained of each participant before beginning the focus group. See Appendix A for the recruitment statement that also served to request verbal consent.
4. Conduct focus groups: The interviews were recorded with an audio recording device. Each interview was scheduled to last no more than 90 minutes.
5. Transcribe data: The researcher transcribed the data into a Word file.
6. Data analysis: The focus groups from the two institutions were analyzed using the constant comparative method.
7. Write manuscript: The researcher composed a manuscript to be submitted to a relevant journal for publication.
8. Share results: The researcher will share the results of the study with the sites.

Quality Measures. O'Reilly and Kiyimba (2015) framed three different arguments that addressed the quality of qualitative research studies. The first argument was that of quantitative adaptation, or that certain markers of quality in quantitative studies can be translated to qualitative studies. The second was that qualitative studies should have a universal set of quality

markers. The third was that each qualitative method should have its own quality standards given the heterogeneity of qualitative approaches, and the fourth was that no criteria are needed at all. Given that the researcher is considered a novice and is not yet an expert in any particular method, the approach of adapting quantitative quality markers to qualitative work was used.

O'Reilly and Kiyimba (2015) suggested ways the quality markers of validity, reliability, and generalizability, which are typically discussed among quantitative researchers, may be applied to qualitative work. Their suggestions were applied to the procedures of this study.

Validity. Validity is the extent to which an instrument measures what it is intended to measure (Leedy & Ormrod, 2005). In qualitative work, validity rests on the trustworthiness and credibility of the researcher as the researcher is able to draw out genuine thoughts, feelings, and opinions from the respondent. Trustworthiness is established in part by the ability of the researcher to provide a nonjudgmental and open atmosphere for the participants to share their experiences (Leedy & Ormrod, 2005; O'Reilly & Kiyimba, 2015). To facilitate this type of atmosphere, the researcher schedule the focus groups at a neutral location, read the recruitment statement in full to provide all relevant details, and began the focus group by making neutral small talk.

Validity can also be established by member checking, which invites participants to corroborate the research findings (O'Reilly & Kiyimba, 2015). In this study, the researcher shared the preliminary results with the participants and invited any feedback or modifications. The feedback was then be used to adjust the research findings in order to more accurately portray participants' experiences.

Lastly, validity of a qualitative study can be enhanced through the process of triangulation. Triangulation can be established in four ways, including the use of multiple data

collection methods, multiple sources of data, multiple investigators, or multiple theories to interpret findings (Denzin, 1978). In this study, triangulation was established through use of multiple sources of data, or the perceptions of students at two different institutions and at two different levels in the program. Also, triangulation was established by having two different individuals conduct the focus groups. This also fostered reflexivity in that dialogue between the two investigators stimulated revealing insights about their beliefs, values, and perceptions.

Reliability. Reliability refers to how consistently an instrument produces a result when the object of study is unchanged (Leedy & Ormrod, 2005). In qualitative work, reliability is inherently linked to the trustworthiness of the researcher, and relates to the consistent production of relevant findings. Reliability may be established in a qualitative study by being transparent with study methods so that readers may understand the steps taken to produce the study findings (O'Reilly & Kiyimba, 2015). Therefore, in this study, the researcher thoroughly described the procedures and data analysis methods used to reach the study's findings.

Generalizability. Generalizability refers to the extent to which a study's findings can be applied to the general population (O'Reilly & Kiyimba, 2015). In qualitative work, generalizability is translated as the ability to make connections across studies to establish the relevancy of the research (Freeman et al., 2007). In this study, therefore, generalizability was established by applying the findings to those of the relevant literature.

Site and Program Description

Two institutions in the United States offer a degree in culinary nutrition in which students may pursue their credentials as registered dietitians: Saint Louis University in St. Louis, Missouri, and Johnson & Wales University at their Denver, Colorado and Providence, Rhode Island campuses (Saint Louis University, 2016a; Johnson & Wales University, 2016). In this

study, the sites included Saint Louis University and Johnson & Wales University in Denver, Colorado.

Saint Louis University. Saint Louis University is private, Jesuit institution located in St. Louis, Missouri. At the time of data collection, the student body was composed of 8,248 undergraduate and 4,666 graduate students, 7,605 of which were female and 5,309 were male. Of the undergraduate students, 71% were white, 9% were Asian, 7% were African American, 6% were Hispanic or Latino, 5% were multiracial, and 2% were unspecified (Saint Louis University, 2016c). The Department of Nutrition and Dietetics offers a Bachelor of Science in Nutrition and Dietetics with an emphasis in either Culinary Arts or Food Innovation and Entrepreneurship. Both programs prepare students to become a RD and are accredited through ACEND (Saint Louis University, 2016a).

Johnson & Wales University. Johnson & Wales University is a private, nonprofit institution with campuses in Providence, Rhode Island, Miami, Florida, Denver, Colorado, and Charlotte, North Carolina. At the time of data collection, the student body at the Denver, Colorado campus was composed of 1,356 undergraduate and 32 graduate students. Of those, 54% were white, 2% were Asian, 1% were African American, 19% were Hispanic or Latino, 8% were multiracial, less than 1% were American Indian or Alaska Native, 1% were nonresident aliens, less than 1% were native Hawaiian or Pacific Islander, and less than 1% were unspecified (Johnson & Wales University, 2015). The Providence and Denver locations offer the Bachelor of Science in Culinary Nutrition, which is described as a "unique, first-of-its-kind degree program…brings together culinary arts, nutrition, and food science…" (2016). Two tracks of study are offered: Clinical/Dietetics and Culinary Food Science/Product Research and

Development. Both programs are also accredited through ACEND (Johnson & Wales University, 2016).

Population

The population of this study consisted of 23 undergraduate students pursuing a combined degree in nutrition and culinary arts at Saint Louis University or Johnson & Wales University. Participants were in the junior or senior level of the program, and were of any gender and ethnicity. Thus, triangulation was established in part through use of multiple sources of data, or the perceptions of students at two different institutions and at two different levels in the program (Denzin, 1978). The following sections describe the inclusion and exclusion criteria, benefits and alternatives, risks, and intervention plan. These parameters were in place in order to define, protect, and accurately inform the population that was recruited to participate in this study.

Inclusion and Exclusion Criteria. Inclusion criteria to participate in this study included: 18 years of age or older, enrollment as a verifiable undergraduate student at Saint Louis University, Johnson & Wales in Denver, or Johnson & Wales in Providence, as well as a declared major of nutrition and dietetics with an emphasis in culinary arts (Saint Louis University) or culinary nutrition (Johnson & Wales University). Participants were excluded from the study if they were less than 18 years old, were not able to be verified as a student at Saint Louis University or Johnson & Wales University, or were declared as a major other than nutrition and dietetics with an emphasis in culinary arts (Saint Louis University) or culinary nutrition (Johnson & Wales University). Having a double major did not exclude a student from participating in this study.

Benefits and Alternatives. There were no direct benefits to research participants. Society may have benefited as educators gained a deeper understanding of what motivates

students to pursue a combined degree in nutrition and culinary arts. The alternative to participating in this study was non-participation.

Risks. There were minimal risks to the students by participating in this study. The primary risks were perceived pressure to participate in the study given that the researcher was also the students' instructor, and breach of confidentiality. In order to minimize the risk of perceived pressure to participate in the study, the researcher assured students (both during recruitment and when obtaining verbal consent) that there was no direct benefit to them to participate in the study, that they were under no obligation to participate, and that their grades were not affected in any way. In order to minimize the risk of breach of confidentiality, the researcher will de-identified and securely stored the data.

Intervention Plan. In the event of a distressed subject, the researcher will contact the student health and counseling center at the respective institution. The contact information for each center is: Saint Louis University Counseling Center at 314-977-8255 in Wuller Hall, 2nd Floor; Johnson & Wales University in Denver Health & Counseling Services at 303-256-9448 in Centennial Hall, Suite 213; Johnson & Wales University in Providence Counseling, Health & Wellness at 401-598-1016 in Wales Hall, 2nd Floor (Downcity location) or The Friedman Center, 2nd Floor (Harborside location).

Instrumentation

The instrument for this study was a semi-structured focus group question protocol; see Appendix C for the protocol. The interview guide included a section to record the number of participants, date, length of focus group, and location. There were 14 questions in total which aimed to capture both physical and cognitive variables influencing participants' decision to pursue culinary nutrition (Lent, Brown & Hackett, 2002). Sample questions from the interview

guide included: What experiences have you had that made you want to pursue a degree in nutrition and culinary arts? What personality traits do you have that you think are advantageous to earning a degree in nutrition and culinary arts? What are your goals after earning a degree in nutrition and culinary arts? The interview guide closed with an open-ended question: Is there anything else that we didn't already talk about that you would like to share? The interview guide also contained a section for comments where the researcher documented relevant notes.

Data Collection

The method of data collection was semi-structured, focus groups of six to eight participants per group. Focus groups were chosen over in-depth interviews in that the solicited information was not considered highly sensitive, and that the participants were likely to know one another very well, which allowed for the generation of rich conversations (O'Reilly & Kiyimba, 2015). The focus groups were semi-structured in order to allow conversation among the participants, as well as the opportunity for the researcher to ask follow-up questions. Given that the researcher is a graduate of the culinary nutrition program at Saint Louis University, the axiological position in this study was rooted in personal experiences and perceptions. Therefore, the semi-structured focus group enabled the researcher to honor this axiological position and connection to the students.

The researcher aimed to conduct two focus groups at each site: Saint Louis University and Johnson & Wales in Denver, Colorado. A colleague at Johnson & Wales University conducted the focus groups using the same interview protocol. Each focus group consisted of six to eight participants. If more than eight participants volunteer to participate in each focus group,

the researcher randomly selected eight participants by blindly drawing names. All focus groups were audio recorded.

Data Analysis

Transcription. The audio recordings were first transcribed by the researcher into a word document. Hammersley identified nine critical decisions to make regarding transcription (2010). Those questions, and the accompanying decisions for this study, are listed below.

1) *Researchers must make a decision regarding how much of the data to transcribe*. Only the questions and responses to the questions were transcribed; the reading of the recruitment, process of verbal consent, and informal chatter before and after the focus group were not transcribed.
2) *Researchers must make a decision regarding how to represent the recorded talk, including intonation, pitch, pace and dialect.* The intonation, pitch, pace and dialect were not included; only the spoken words of the participants were transcribed from the recorded talk.
3) *Researchers should give some indication of who is being addressed in the talk.* The transcription indicated when the conversation was among the participants instead of directed towards the researcher.
4) *Researchers need to decide whether to include paralinguistic features such as laughter, sneezing and coughing.* Laughter was the only paralinguistic feature that was included; sneezing and coughing were irrelevant and were not included.
5) *Researchers need to make choices whether to include pauses in the transcription and whether they should be timed.* Pauses were not included in the transcript. The transcript included a timestamp every 120 seconds.

6) *Researchers should make decisions regarding whether to include gestures and fine motor movements.* Gestures and fine motor movements were not included given that the focus groups were audio recorded, not video recorded.

7) *Researchers should think about how to lay out the talk on the page, including decisions about representing overlapping or interruptive talk.* The talk was represented in relation to each question and follow-up question from the interview guide. Each person's response or interjection was indicated with a new line.

8) *Researchers should decide how to represent the speaker and addressee of the talk, using numbers, names or roles.* The transcript indicated when the conversation was among the participants instead of directed towards the researcher. Conversation among participants was represented by text indented one-half inch.

9) *Researchers need to consider how they represent their transcripts in dissemination by deciding where to open and close a particular extract.* The talk was represented in relation to each question and follow-up question from the interview guide.

Analysis. Merriam and Tisdell (2015) recommended approaching the analysis of qualitative data by first thinking about the overall purpose of the study and underlying epistemological framework, coding data by identifying patterns and insights, stepping back to examine larger themes, reexamining the codes to ensure they accurately represent the larger theme, and developing categories using the constant comparative method. Analysis of the transcripts in this study followed this basic guidance. The researcher used the process of open coding to capture any word or phrase that illustrated a discrete answer to the research question of: What motivates undergraduate students to pursue a degree in culinary nutrition? What

experiences have students had that affected their decision to pursue a degree in culinary nutrition? What are the career goals of students studying culinary nutrition?

Then, the researcher used the constant comparative method of simultaneously coding and analyzing the data (Leedy & Ormrod, 2005). The four stages that makeup the constant comparative method are: "(1) comparing incidents applicable to each category, (2) integrating categories and their properties, (3) delimiting the theory, and (4) writing the theory" (Glaser, 2008). Codes were identified as they corresponded to each research question, and were merged into categories when the researcher compared and contrastd them to other categories. A codebook was developed to illustrate the themes and sub-themes. The codebook also allowed the researcher to insert illustrative quotes that captured the essence of each category.

Chapter Summary

The theoretical framework underpinning the methodology of this study was characterized as a relativist, empirical approach wherein reality was based on participants' interpretations of their own lived experiences. As it applies to the purpose of this study, students chose to pursue culinary nutrition given their personal experiences, beliefs, and outcome expectations; the students in this study were able to articulate their beliefs in a focus group discussion with their peers. The researcher in this study was influenced by personal experience as a culinary nutrition student from 2006 to 2010, as well as their role current role as an instructor at Saint Louis University. The SCCT by Lent, Brown, and Hackett (1994) was also integral to this study's theoretical framework and was applied to frame the cognitive, social, and physical characteristics influencing students to pursue a degree in culinary nutrition.

This study employed a basic qualitative research design to answer the questions: What motivates undergraduate students to pursue a degree in culinary nutrition? What experiences

have students had that affected their decision to pursue a degree in culinary nutrition? What are the career aspirations of students studying culinary nutrition? The study procedures included: Recruitment of undergraduate students studying culinary nutrition; scheduling, conducting, and transcribing the focus groups; analyzing the transcripts using the constant comparative method; publishing and sharing the findings.

The researcher conducting this study was advised by a committee of Saint Louis University faculty members. The committee guided the preparation and completion of the study. Quality measures of validity, reliability and generalizability were applied to ensure the highest possible standards for carrying out the study's purpose.

CHAPTER FOUR: RESULTS

Introduction

This chapter provides the results of this study. The first section includes a summary of the participants in terms of the total number, grade level, and gender. The remaining sections describe the themes and subthemes that emerged from the focus groups. An overall summary of the results concludes this chapter.

Participants

Three focus groups were conducted in total: Two at Saint Louis University and one at Johnson & Wales University. Each focus group lasted between 60 and 90 minutes. A total of 23 participants contributed to the focus groups. Of those, 34.5% were seniors and 65.5% were juniors. Thirty-nine percent were males and 61% were females. The participants did not provide any additional comments upon member checking.

Major Themes

As detailed in chapter three, the constant comparative method was used to analyze the focus groups (Glaser, 2008). The major themes that emerged were past experiences, interests and desires, affirming experiences, challenges, advantageous personality traits, disadvantageous personality traits, career aspirations, career and lifestyle expectations, and decision-making. These themes emerged in response to the research questions underlying this study: What motivates undergraduate students to pursue a degree in culinary nutrition? What experiences have students had that affected their decision to pursue a degree in culinary nutrition? What are the career goals of students studying culinary nutrition? The following sections include a description of each major theme and its subthemes, and are summarized in Table 1.

Table 1: Emergent themes and subthemes of perceptions regarding the motivations of undergraduate students to pursue a degree in culinary nutrition.

Theme	Subtheme	SLU	JWU
Past Experiences	Experience with weight loss or gain	X	
	Experience with a diet-related disease	X	X
	Cooking with family during childhood	X	
	Lack of cooking knowledge from childhood	X	
	Gardening or farming during childhood	X	
	Food-related work experience	X	X
	Participation in a sport	X	X
	Exposure to nutrition or culinary arts in a high school course	X	X
	Exposure to nutrition in a college course		X
Interests and Desires	Personal interest in food and nutrition	X	X
	Lack of nutrition knowledge in the general public	X	
	Lack of culinary knowledge among nutrition professionals	X	
	Desire for culinary skills as a RD	X	
	Potential to make a difference	X	X
	Desire for student to earn a bachelor's degree	X	X
Affirming Experiences	Growing passion	X	
	Sense of purpose and achievement	X	
	Exposure to a breadth of career options	X	X
	Respect from food professionals	X	
	Kinship with peers	X	X
Challenges	Coursework	X	X
	Time management	X	X
	Financial burden	X	X
	Scheduling courses	X	
	Personal life		X
	Need for artistic skills	X	X
	Expressing the importance of the combined degree to others	X	
	Language barrier		X
	Returning to school as an adult learner		X
Personality traits: Advantageous	Passion	X	X
	Creativity		X
	Self-confidence	X	
	Self-motivation	X	
	Curiosity		X
	Type A		X
	Type B		X

Theme	Subtheme	SLU	JWU
Personality traits: Disadvantageous	Overly independent	X	X
	Hesitance	X	X
	Apathy	X	
	Procrastination	X	X
	Introversion	X	
	Overly detail-oriented		X
Career aspirations	Help others appreciate healthy food	X	X
	Make a difference	X	X
	Work abroad	X	X
	Child nutrition	X	X
	Education setting	X	X
	Public health	X	X
	Entrepreneurial	X	X
	Policy	X	
	Not or "maybe" clinical	X	X
	Don't know	X	X
Career and lifestyle expectations	Happiness	X	X
	Constant change and learning opportunities	X	X
	Flexibility and part-time work opportunities	X	
	Conservative pay	X	
	Stability	X	X
	Benefits	X	
Decision-making	Sought out culinary nutrition	X	
	First chose dietetics, then added culinary arts	X	
	First chose culinary arts, then added dietetics	X	X
	Transferred from a different major	X	
	Returned to college to pursue a second career	X	X

Past Experiences

The past experiences that motivated students were those that took place prior to attending college, committing to the degree program, or returning to college to pursue culinary nutrition. Nine discrete experiences were identified and makeup the subthemes for this section. They include: Experience with weight loss or gain; experience with a diet-related disease; cooking with family during childhood; lack of cooking knowledge from childhood; gardening or farming

during childhood; food-related work experience; participation in a sport; exposure to nutrition or culinary arts in a high school course; exposure to nutrition in a college course.

Experience with weight loss or gain. Personal experience with weight loss or gain was one of the most widely discussed past experiences among the participants at Saint Louis University. This was not identified as a motivation from any of the participants at Johnson & Wales University. These experiences were characterized by intentional diet and lifestyle changes that resulted in weight loss. Oftentimes these recollections were coupled with a desire to help others achieve a healthy weight. For example, one participant reported:

> Sophomore to junior year of high school I gained a lot of weight and then my senior year I lost like 70 something lbs. And I like how that made me feel. I lost the weight. I felt more confident. I could do more and I wanted to help other people do that.

Others described observations of their family members' struggles with weight management. One participant described how everyone in her family is morbidly obese and that it has become "just normal in my family and I just didn't want to be part of that." Another participant agreed: "Everybody in my family is overweight or obese, probably class one or two." Thus, personal experiences with weight loss or gain, or observations familial weight norms, was a motivating factor for participants at Saint Louis University, but not Johnson & Wales University, to pursue culinary nutrition.

Experience with a diet-related disease. Relatedly, personal experience with a diet-related disease was a motivating factor among participants at both Saint Louis University and Johnson & Wales University. Participants described how a disease impacted themselves, their family members, or their friends, and how they observed the role of nutrition in the management of the disease. Some participants described their appreciation for the importance of nutrition in disease management. For example, one participant reported, "It's amazing how, I just remember

being jealous of my cousin counting carbs in middle school and I was always obsessed with food labels and it took me a long time before I realized it was an actual profession." Another described, "I found out I had PCOS [polycystic ovarian syndrome] when I was eight and that's really young. I just felt like nutrition has always been part of my life."

However, others described a lack of attention to nutrition in the management of certain diseases. For instance, one participant reflected on her personal experience as a survivor of thyroid cancer: "I found in my journey through thyroid cancer and the treatment that there isn't really a lot of concentration for patients to learn about the nutritional side." Similarly, another participant reported caring for her father's struggle with kidney disease:

> I noticed that there's not a lot of medical food—the food that patients receive is not really that good and doesn't have a lot of flavor and always has this bad rep that nutritious foods are terrible. It pushed me more to just be in this degree in that way.

Experience with a diet-related disease was reported among participants at both study sites. The diseases discussed included diabetes, polycystic ovarian syndrome, thyroid cancer, and kidney disease. Reflections were either related to the identification of the importance of nutrition, or the lack of concern for nutrition in disease management.

Cooking with family during childhood. The experience of cooking with family during childhood was expressed as a motivation by participants at Saint Louis University, but not Johnson & Wales University. One participant described, "I always had an interest in cooking growing up." Another participant agreed: "I also got to cook all the time at home and I guess I just started looking into nutrition for college…"

Other participants described specific traditions with family members. For instance, one reported, "I'd help my dad on the weekends making like, pancakes for breakfast." Another

described, “On Saturdays we would make bread with him [father] and we’d practice like, counting four cups of flour…when my mom went out of town we would make pizza with him.” Cooking with family was always associated with positive feelings towards food. One participant specifically related her family’s traditions to “having that positive experience with food.” Therefore, the experience of cooking with one’s family encouraged some participants at Saint Louis University to pursue culinary nutrition as a career given their positive associations towards food and subsequent interest in culinary arts as a career path.

Lack of cooking knowledge from childhood. On the other hand, a lack of cooking during childhood was identified as a motivation by one participant Saint Louis University. This participant described, “It almost interested me more because I had never really known how to cook that much.” Therefore, though positive experiences of cooking during childhood were discussed among participants more frequently, the lack of this experience and knowledge did motivate one participant to pursue culinary nutrition in order to gain those skills.

Gardening or farming during childhood. Similar to positive associations with cooking during childhood, gardening or farming with one’s family was associated with an interest in food. This emerged as a subtheme from the interviews with Saint Louis University participants, but not Johnson & Wales University participants. One participant described, “I always loved nutrition ‘cause I grew up on a farm and it kinda came full circle.” Another reported a “…positive experience always growing up with like, the social setting around food and everything. My grandmothers always kept like, a large garden. Always planning the next meal when you’ve just eaten too much.” One participant connected the positive experience of gardening to a desire to share an appreciation for vegetables with others and “…how delicious they can be.” Thus, similar to cooking with one’s family, positive memories of cooking or

gardening during childhood were a motivation for some participants at Saint Louis University to pursue culinary nutrition.

Food-related work experience. Participants at both Saint Louis University and Johnson & Wales University identified food-related experiences as a motivation to pursue culinary nutrition. These experiences were consistently reported in a positive manner. One participant recalled memories of working at a farmers' market as a teenager:

> I remember there was like, a stand next to us that had like, fresh noodles and they were like, green, and I was like—why would noodles be green? And then my boss knew about all these vegetables that I had never heard about before. And I went home and told my mom I was all excited and she was like—maybe you should look into food 'cause you really seem to like nutrition.

Another participant described their experience of working in a restaurant: "That was my first job. I haven't left the industry since…stuck with it and seems like a good deal." Therefore, positive food-related work experiences motivated participants at both study sites to seek out a food-related career.

Participation in a sport. Next, participation in sports was identified as a motivation among students at both Saint Louis University and Johnson & Wales University. One participant described how the influence of fellow athletes influenced the decision to pursue culinary nutrition: "I found nutrition because I played sports my first two years and it just seemed that everybody who played sports was going into fields associated with sports." Another participant recalled the experience of working with an athletic trainer following a track injury and how nutrition was brought to her attention for the first time: "I was fascinated because I hadn't thought about how nutrition was related to activity." Participation in a sport, either due to peer influence or exposure to nutrition during recovery from an injury, was identified as a motivation among participants at both sites.

Exposure to nutrition or culinary arts in a high school course. Lastly, exposure to nutrition or culinary arts in a course, either in high school or college, was also a motivation to pursue culinary nutrition. Participants at both study sites were drawn to culinary nutrition based on their experiences in a high school course. One participant recalled:

> I took cooking classes in high school and was like, "Yeah, I'll go do that." Then, I realized pretty quick that being a line cook kinda sucks and I did not want to do that. And then I kinda realized that I kinda liked the science part of food more…

Another participant reported exposure to nutrition for the first time during an advanced placement environmental science course: "It was the first time I had ever been introduced to that subject and I was like—wow, this is perfect for me." A third participant was drawn to culinary arts through exposure to a home economics class: "I felt really comfortable in the kitchen." Though students were not necessarily exposed to the niche discipline of culinary nutrition in high school, they did gain exposure to either nutrition or culinary arts through their coursework in cooking, home economics, of environmental science.

Exposure to nutrition in a college course. Exposure to nutrition in a college course was a motivating factor for students to pursue culinary nutrition at Johnson & Wales University, but not Saint Louis University. One participant recalled:

> I came to this school for baking and pastry I had no intention of going to nutrition. I was a carnivore. I loved McDonald's and everything greasy. I never really cared for nutrition. I worked out…I never really cared about it. I came here, I took a nutrition class and the exercise phys class and both of those made me realize just how fascinating the body is. It just really opened my eyes to something I'd really never thought about before and I thought, and still do, that it's something I could make a career out of.

Similarly, another participant recalled how he went to Johnson & Wales University to become a chef and had "never really given much through to nutrition." Upon taking the nutrition course, this student "…discovered just how interesting it was." Thus, exposure to nutrition was a

motivating factor at one study site, and served to spark the interest of those that were previously uninterested in the topic.

Interests and Desires

Students' personal interests and desires also influenced their decision to pursue culinary nutrition. This theme was supported by personal values, observations, and aspirations. Seven discrete interests and desires were identified and makeup the subthemes for this section. They include: personal interest in food and nutrition; lack of nutrition knowledge in the general public; lack of culinary knowledge among nutrition professionals; desire for culinary skills as a RD; potential to make a difference; and desire to earn a bachelor's degree.

Personal interest in food and nutrition. A personal interest in food and nutrition was identified as a motivation at both study sites. Participants described this as an interest in food, the effects of various diets, or the science of food. One student reported, "I love food. I like to talk about food. I'm good at talking about it. I remember being like—how cool would it be to go to school for something you're actually excited about?" Another student asked rhetorically, "I love food so why don't I just pick this major?" A third commented on an "interest in science" and how "food works in the body…" Thus, a personal interest in food and nutrition motivated participants at both study sites to study culinary nutrition.

Lack of nutrition knowledge in the general public. Others connected their draw to culinary nutrition with observations regarding the lack of nutrition knowledge among the general public. This emerged as a subtheme from the interviews at Saint Louis University, but not Johnson & Wales University. One participant commented, "It's amazing to see what people are eating and they don't even know…" Another participant described his experiences of traveling

abroad and witnessing inadequate nutrition, which then prompted his interest in eventually working abroad: "Seeing the impact like, outside of the country and seeing the food…made me more like, passionate to pursue it." Therefore, observations about the lack of nutrition knowledge, and therefore the need for nutrition education, motivated some participants at one study site to pursue culinary nutrition as their profession.

Lack of culinary knowledge among nutrition professionals. At Saint Louis University, some participants were motivated to pursue culinary nutrition by their observations about the lack of culinary knowledge among nutrition professionals. This subtheme emerged from reflections about experiences shadowing a RD or meeting with a RD as a patient. One participant recalled:

> When I was shadowing dietitians I asked what their favorite thing to cook was. And they said they cook or that they don't know how to cook. I remember being really dissatisfied with like, how are you telling people what to eat every day and you can't make anything? I thought to myself: That's such an irony that you sit here and lecture people about what they should eat every day and you sit here and you can't make any of it. I think you should have to bridge the gap.

Another participant who was a patient of a RD reported dissatisfaction with the lack of practical healthy cooking advice: "I never ate any vegetables and she never tried making me eat vegetables…she didn't really cook…you can't have nutrition without having a culinary background." Similarly, another participant that was seeing a RD for weight loss commented, "I got really frustrated with her and she wasn't teaching me so I had to go look it up online." Lastly, one participant reflected on the disconnect between the medical field and nutrition profession: "It's kinda like, crazy how nutrition and the medical field are considered two health fields. They don't like, interact at all; they don't really see it as one." Thus, participants at one study site were motivated by their observations about the lack of culinary knowledge among

nutrition or healthcare professionals, which was consistently expressed with the expectation that nutrition professionals should have that knowledge in order to properly educate their clients or patients.

Desire for culinary skills as a RD. Relatedly, participants at Saint Louis University expressed their desire to possess culinary skills as a RD. This was consistently expressed as a value that nutrition knowledge and culinary skills should go hand in hand. One participant commented, "I can't really imagine learning about nutrition and not learning how to execute it." Another asked rhetorically, "How can you tell your clients to eat broccoli or make smoothies if you don't even know how to make it?"

Two participants reported their recollections of specifically choosing culinary nutrition over the traditional nutrition and dietetics track. One commented, "It just attracted me more…looking at the curriculum and seeing it wasn't like, one or two culinary classes throughout the four years. Every semester I was…getting something new and getting those skills on top of our other education." The second participant agreed:

> When I came to SLU…sat me in an office and they were like, "We have all these tracks. You have to choose one." I was like, I guess that makes sense because if I'm gonna tell people what to eat I should learn how to cook.

Therefore, the desire for culinary skills as a RD was a motivating factor for some participants at one study site. Participants expressed a strong value that effective RDs should have a culinary background. The opportunity to learn culinary skills on top of their nutrition degree was also a motivating factor for some participants to pursue the specific track in culinary nutrition over the traditional dietetics track.

Potential to make a difference. Next, participants at both sites identified the potential to make a difference as one of their motivations to pursue culinary nutrition. Some participants

reflected on how nutrition impacts everyone on a daily basis, while others identified the need for nutrition given the prevalence of certain health conditions. For instance, one student reflected, "I think it's cool to talk to people about something they're affected by every day and they're thinking about every day." Another commented, "I just think it's an awesome job where you can really make a difference in the world, especially with everything that's going on with obesity. I think with our job we can really makes a difference." Lastly, a third participant commented on the power of nutrition in disease prevention: "Now that I'm taking MNT [medical nutrition therapy], I know so many things that can be prevented just by eating the right things." The potential to make a difference, either on an individualized basis or by influencing disease epidemics, motivated students at both Saint Louis University and Johnson & Wales University to pursue a career in culinary nutrition.

Desire for student to earn a bachelor's degree. Lastly, students at both sites identified the desire to earn a bachelor's degree or a "four-year college degree" as a motivating factor. One participant recalled, "I wanted to go into culinary and my parents wanted me to get a four-year college degree, so SLU had this program and it just worked." A student at Johnson & Wales University commented, "I came here just for my associate's and when I got done I decided to keep going." A third participant reported her parents telling her culinary school "wasn't a real thing" and decided to study at Saint Louis University because it offered a bachelor's degree that included culinary arts. Therefore, the desire to earn a bachelor's degree was either the student's own desire or that of their parents; the four-year culinary nutrition degree was seen as a way to both study culinary arts and earn a bachelor's degree.

Affirming Experiences

Whereas the themes of past experiences, interests, and desires emerged primarily from recollections prior to attending college or committing to a culinary nutrition program, the theme of affirming experiences emerged from accounts during college. These accounts were characterized by participants' feeling that they had made the right decision with their degree choice. Six discrete experiences were identified and makeup the subthemes for this section. They include: Growing passion; sense of purpose and achievement; exposure to a breadth of career options; respect from other professionals; kinship with peers.

Growing passion. A growing passion for the field was identified as an affirming experience by participants at Saint Louis University. One student commented, "I feel like I stumbled upon this major and then I fell in love with it more and more. I didn't know I'd have so much passion for this." Another described it as, "I keep falling in love with it." A third participant recalled, "It was crazy—when I had my first nutrition class I was like, oh my gosh, I want to pay attention to this teacher, not stare at the ceiling." Therefore, a growing passion for culinary nutrition emerged as a subtheme at one study site and was supported by reflections of how participants' appreciation for the field has amplified over time.

Sense of purpose and achievement. In addition to a growing passion for culinary nutrition, a sense of purpose and achievement emerged as an affirming experience by participants at Saint Louis University. This subtheme emerged from references to using one's skills to help others, or simply from an appreciation for the skills they had gained. For instance, one participant described her experience volunteering at a non-profit organization that teaches nutrition and gardening to nutrition: "That was my first experience in doing something with nutrition—in doing something that I actually like—that helped me to…reassure that it's the right

path for me." Another participant described the feeling of gratification of being able to adapt a recipe to help a friend:

> My friend had this family recipe that like used lard and she asked me what else she could use besides lard and we should be able to teach them a technique, it makes me really happy with the degree that people are already coming to me and asking.

Other participants reflected on how their own skills have developed. One reported that the most affirming experience she has had was, "being able to go into my kitchen or go into a grocery store and know what I want to combine and make beautiful meals for myself." Another reflected, "It's also been really cool seeing how much I've done and the things I can do…I wouldn't have expected in high school that I'd be making something for a project or coming up with recipes." Therefore, a sense of purpose and achievement was an affirming experience that those participants had chosen the right program.

Exposure to a breadth of career options. Next, exposure to a breadth of career options was an affirming experience for participants at both study sites. This was expressed as an eye-opening experience, and was often couple with excitement for the number of opportunities as a professional. Reflecting on the different career options introduced through the curriculum, one participant commented, "I think it's kind of inspired, helped my passion, helped reaffirm my choice." Another reflected, "I think the program has really opened my eyes to all the ways you can be involved in the food system." A third participant commented, "I have a few options…I could get into endocrine research…or move to an island and open up a taco stand and just float away." The exposure to and appreciation for the number and variety of career options was an affirming experience for participants at both study sites.

Respect from other professionals. A sense of respect earned from other professionals was an affirming experience for some participants at Saint Louis University. This subtheme was characterized by reflections about respect gained from other dietitians, healthcare professionals,

or future employers. One participant described her past conversations with other dietitians: "Every dietitian I've talked to who has asked me about my classes or whatever think it's like, so cool, and really like, a benefit." Another participant described her summer job experience of preparing meals at a special needs camp. She described, "I was like, you know I'm just a student, and they were like, yeah go ahead, we have trust in you."

Two participants talked about how they, as future employees, offer a "two for one" set of skills. For instance, one participant described the experience of working for a healthcare company that was in the middle of the hiring process for a professional chef: "They were like, this would be a great job for you 'cause you could be both, and there are not that many people who could be…the food expert as well as the nutrition expert." Thus, the sense of respect from other professionals participants felt at one study site was an affirming experience that they had chosen a meaningful degree program.

Kinship with peers. Lastly, the sense of kinship with peers was a subtheme of affirming experiences by at both study sites. Participants described their peers as "family" or nicknamed themselves as "culi-girls." One student reported, "My biggest motivators are these people right here, which is like, cheesy, but…I would not have made it through my classes without this group." Another described, "It's a great bonding experience to be in the kitchen for nine others together. One hour you can be snippy and then two hours later you're laughing." A sense of kinship with peers emerged as a motivating and gratifying aspect of the program, and was often coupled with a sense that their peers had helped them to be successful academically.

Challenges

The theme of challenges emerged from discussions about what has made the pursuit of a degree in culinary nutrition particularly difficult. Ten discrete challenges were identified and

makeup the subthemes for this section. They include: coursework; time management; financial burden; scheduling courses; personal life; need for creativity; lack of cooking skills from childhood; expressing the importance of the combined degree to others; language barrier; and returning to school as an adult learner.

Coursework. Difficult and time-consuming coursework was the most widely discussed challenge at both study sites. Participants mentioned specific courses including general chemistry, organic chemistry, biochemistry, and biology. The chemistry courses in particular were described as "the most grueling thing I have ever done in my life," "miserable," and "a struggle." One participant reported part of the difficulty was due to the fact that "I only need to know like, 5% of what we're learning but this class is taking up 70% of my time." Another participant recalled almost changing majors: "My second semester freshman year I like, pretty seriously considered changing because the science was miserable…" Thus, challenging coursework, particularly the sciences, emerged as a widely discussed challenge to earning a degree in culinary nutrition at both Saint Louis University and Johnson & Wales University.

Time management. Relatedly, time management was also widely discussed as a major challenge at both study sites. Participants commented on the length of labs for their culinary classes. For instance, one participant recalled, "The culinary classes were tough too 'cause they're just so long, and you're in the class so long and then you're tired." Another participant outlined a weekly schedule:

> We have so many labs. We have core classes from 9:00 to 5:00 two days a week and then all of our other classes are Monday, Wednesday, Friday, and those go to 4:30 or 3:00, and then you go home and have dinner. And then you go to meeting after meeting, and then you go to the library. You have to manage yourself. It's unbelievable.

Other participants discussed the difficulty of holding a job on top of their course schedules. For instance, one participant asked rhetorically, "Do I eat tonight, or do I sleep for

dinner, and do I keep this job that makes me stay up until two hours before class?" Therefore, time management emerged as a subtheme at both study sites in regards to not only the amount of time spent in classes and labs, but also the additional time demands such as outside jobs, eating, and sleeping.

Financial burden. The financial burden of earning a degree was discussed as a challenge at both Saint Louis University and Johnson & Wales University. For instance, one participant remarked, "College is expensive, thus requires a job or multiple." Another commented, "I'm gonna be in debt for a very long time, not that I don't appreciate our program and the culinary aspect on top of it." A third participant discussed her decision to pursue culinary nutrition at Saint Louis University over a less expensive program at a different university:

> SLU is a love-hate relationship. I'm very grateful for my education at SLU but to pay…40,000 a year to come here…Mizzou has a program, they have a coordinated program actually that might not include the culinary. You know, cost-to-benefit factor is a really big factor when choosing SLU…

Thus, financing a college degree was discussed as a challenge at both study sites. This challenge was tied either to the need to retain employment during college, or the amount of student debt being incurred. Some participants acknowledged their decision to studying at a more expensive institution given its culinary nutrition program.

Scheduling courses. One participant at Saint Louis University identified scheduling courses as a challenge while earning his degree. He recalled, "I think for me, just the actual course schedule…they had to change it to make it work for me 'cause I had to have a biology minor, so like, I don't know, like this semester a lot of my classes overlap so I have to miss one

and go to one late." The difficulty of scheduling courses was not identified as a challenge by participants at Johnson & Wales University.

Personal life. Participants at Johnson & Wales University discussed issues in their personal lives as a barrier to earning a degree in culinary nutrition. For instance, one participant referred to difficult times with her family and how "…that took a toll on me and a lot of my studying, so that kinda made me lose my motivation to be in the program." Another participant discussed the challenge of focusing on school while caring for an ill grandparent: "…just focusing on passing was the biggest obstacle when you have so much going on outside." Lastly, a third participant discussed her own illness as a challenge: "…it was tough, some of my instructors say to me, 'You missed one class in all the time you've been through treatment.' I said, 'That's right, I was back in class five days after my surgery.'" Thus, the participants at one study site identified events in their personal lives as a challenge in terms of how they affected their motivation, ability to focus, attendance, or the resistance of instructors to excuse an absence.

Need for artistic skills. Next, the need for artistic skills emerged as a challenge for the participants at both study sites. One student remarked, "It's an art form of cooking. I think it takes creativity, a thing I lack." Others reflected on how their cooking skills were minimally developed prior to coming to college. For instance, one participant commented, "It was a tough, tough progression…I was struggling because [I] went from boxes like Betty Crocker, and it was hard for me to really understand what baking really meant." Another reflected on being exposed to certain cuisines for the first time as a challenge: "Not being as knowledgeable about all the different types of foods that like, challenged me creatively…My family has cooked certain types of food but like, I don't know Korean cuisine or like, vegan cuisine." Therefore, the need for

artistic skills in order to be successful in the program emerged as a challenge at both study sites, and was often coupled with feelings that their culinary skills were underdeveloped during childhood.

Expressing the importance of the combined degree to others. At Saint Louis University, some participants identified the difficulty of expressing the importance of the combined degree to others. For instance, one participant marked, "It's also really hard to get the point across to clinical students…like the significance of the culinary degree." Others commented on how the degree is seen as easy. For instance, one participant described, "I think people look at a nutrition degree, or especially a nutrition and culinary arts degree, like, oh it's an easy breezy major to choose." Conveying the importance of culinary nutrition, or feeling like their program was viewed as easy, was a challenge felt by participants at one study site.

Language barrier. One participant at Johnson & Wales University identified her language barrier as a challenge. She described, "English is not my first language so I struggled sometimes with communicating…with essays and like, my homework, I would just have to review it a couple times." This did not emerge as a challenge for participants at Saint Louis University.

Returning to school as an adult learner. Lastly, one participant at Johnson & Wales University felt that returning to school as an adult learner was a particular challenge for her. She commented, "When I came back to school it had been a long time…it was just a real challenge probably the oldest person in the classes—even older than the chefs." This did not emerge as a challenge for participants at Saint Louis University.

Advantageous Personality Traits

The theme of advantageous personality traits emerged from discussions regarding what traits had helped participants to be successful in the program. Seven discrete personality traits were identified and makeup the subthemes for this section. They include: Passion; creativity; self-confidence; self-motivation; curiosity; type A; type B.

Passion. Participants at both study sites identified passion as an advantageous personality trait to earning a degree in culinary nutrition. One participant remarked, "Passion would be the number one 'cause it takes up so much time. You have to love it or…you're gonna be miserable 'cause it takes up so much time for your life." Another described the need for passion when advocating for a cause in the food industry: "If you want to do something in the industry or advocate something you really need to…gain a bigger passion for food…I think if we didn't have that we wouldn't be here." Participants at both Saint Louis University & Johnson & Wales University identified passion as a necessary trait to not only be successful in the program, but also to have an impactful career.

Creativity. One participant at Johnson & Wales University described the role of creativity as an advantageous personality trait in both culinary and nutrition classes. Regarding culinary classes, he provided the example of "being able to come up with a new dish…and three completely different sides…how do you create something new?" Regarding nutrition classes, he provided the example of "working with a patient and figuring out what things would work with the patient, or when I'm taking an MNT [medical nutrition therapy] test and maybe I think of something that's maybe not in the book." Creativity was not identified as an advantageous personality trait by participants at Saint Louis University.

Self-confidence. Self-confidence was identified as an advantageous personality trait by one participant at Saint Louis University. She remarked, "For me the kitchen has taught me to trust my own intuition. I know what I've learned and I know what I need to learn." This was not identified as an advantageous personality trait by participants at Johnson & Wales University.

Self-motivation. Next, the personality trait of being self-motivated as described as advantageous by participants at Saint Louis University. One participant likened this to being an "independent learner". Another described, "One time I spent like, five days making tamales and I just wanted to make them awesome…just being able to completely dive into that and being able to focus on one thing at a time can be really beneficial." Self-motivation was identified as an advantageous personality trait at one study site and was tied to being an independent learner or being able to stay focused on a challenge.

Curiosity. One participant at Johnson & Wales University identified curiosity as beneficial trait. He associated curiosity with the number of career options open to culinary nutrition professionals: "I always want to learn something new and there's so many different avenues…if you're not afraid of options…you'd be successful in this particular major." Curiosity was not identified as an advantageous personality trait by participants at Saint Louis University.

Type A. Lastly, both type A and type B personalities were discussed as having certain advantages by the participants at Johnson & Wales University. One participant described, "I'm super type A, very organized, very detail oriented. As soon as I get a syllabus I make a copy on my calendar what's due when." This participant connected having a type A personality to successfully managing assignments and exams in her classes.

Type B. One participant in the same focus group responded to the comment about being type A with a different perspective. He remarked, "I actually am the complete opposite…type B. It really has a benefit because it really allows me to step back and enjoy things…I'm the kind of guy to wait till the last minute for everything. That balance is important." Thus, whereas one participant at Johnson & Wales University felt that her type A personality was advantageous, another felt that his type B personality had certain advantages.

Disadvantageous Personality Traits

Participants also identified personality traits that were disadvantageous to earning a degree in culinary nutrition. Seven discrete personality traits were identified and makeup the subthemes for this section. They include: Extreme independence; hesitance; apathy; procrastination; introversion; excessive attention to detail.

Extreme independence. Extreme independence was identified as a disadvantageous personality trait at both study sites. One participant reflected on their tendency to work independently and how when "I'm working in a team it can be a problem…Being in the kitchen has helped me realize and try to get better and make me try to be a good teammate." Another participant described the "pecking order" of the culinary classes and how, as a result, "One of my obstacles was learning to ask for help." Thus, a tendency to be overly independent was identified as a disadvantageous personality trait and was often coupled with reflections about learning to ask for help and working as a team with other classmates.

Hesitance. Next, participants at both study sites also identified hesitance as a disadvantageous personality trait. This trait was compared to the positive trait of being self-confident. Participants described hesitance as not trusting their own tuition, second guessing themselves or lacking confidence. One participant described her hesitance in a nutrition class as,

"…putting something down and thinking I'm completely wrong, worrying way too much and getting stuck on it, and then the rest of it not doing as well because you have to rush." Another participant provided an example of hesitance in a culinary class:

> I made this really good sauce one day…didn't even put it on my dish because I didn't think it was good enough. And then my partner, he was like, "This is bomb," and like, the chef had like, made a comment on how the dish was kind of bland. I should have just put the sauce on the dish. But I didn't have confidence.

Thus, hesitance was identified as a disadvantageous personality trait at both study sites. Participants provided examples of how hesitance affected them in both nutrition and culinary classes. This trait was often contrasted with the positive trait of having self-confidence.

Apathy. Participants at Saint Louis University identified apathy as a disadvantageous personality trait. Similar to the trait of hesitance, this was discussed in the context of both nutrition and culinary classes. Specific to culinary classes, one participant stated, "If you're lazy in the kitchen it doesn't work. You're just useless." Another participant contrasted apathy with a commitment to the field: "I think we just care a lot about what we're doing, more than just it's a degree. This is just so much of my life…You just can't be apathetic about it." Thus, apathy in both nutrition and culinary classes was identified as a disadvantageous personality trait at one study site.

Procrastination. Procrastination was identified as a disadvantageous personality trait at both Saint Louis University and Johnson & Wales University. Participants described this as "motivating myself outside of school to get work done" or within the context of balancing schoolwork with other responsibilities. This trait was discussed as being particularly detrimental due to the demanding course load of the culinary nutrition program.

Introversion. Related to the course load of the culinary nutrition program, one participant at Saint Louis University identified being introverted as a disadvantage. She

reflected, “I obviously can be very introverted for any of those people who know me. Sometimes just having those eight hour labs and then classes afterwards—all that time and being around all that energy can be exhausting.” Thus, introversion was identified as a disadvantageous personality trait at one study site.

Excessive attention to detail. Lastly, an excessive attention to detail was identified as a disadvantage by participants at Johnson & Wales University. This trait was described as “focusing too much on the small details,” “getting things to be exactly perfect,” or “being an over-thinker”. Participants felt this was a disadvantage in that they tended to get “bogged down” or in a position where “you will never finish that project”. Therefore, an excessive attention to detail was identified as a disadvantageous personality trait at one study site, and was often coupled with descriptions of being unable to complete one’s work in a timely manner.

Career Aspirations

The theme of career aspirations emerged from discussions about what type of work participants would like to do with their culinary nutrition degree. Three general aims and six specific aims were identified and makeup the subthemes for this section. The general aims include: help others appreciate healthy food; make a difference; and work abroad. The specific aims include: child nutrition; education setting; public health; entrepreneurial; policy; not or “maybe” clinical; and don’t know.

Help others appreciate food. The career aspiration of helping others appreciate food was identified by participants at both Saint Louis University and Johnson & Wales University. This was described as helping others “realize the pleasure of food,” or encouraging “the same love and passion that I have.” Multiple participants mentioned their perception that many people are adverse to healthy food, and that they want to show they how healthy food can also taste

good. For example, one participant commented, "…we just have these mindsets where we regret everything that we eat…I'd like to do something more on the culinary route making food people hate taste really good." Thus, helping others appreciate food was identified as a career aspiration by participants at both study sites, and was often coupled with reflections on how participants want to change people's understanding that food can be both healthy and delicious.

Make a difference. The second general career aspiration of making a difference was identified by participants at Saint Louis University and Johnson & Wales University. For instance, one participant described this as:

> I want to feel like I'm making a difference doing something that means something to me, something that people appreciate that I can take pride in…regardless of the 25 paths I outlined earlier, I think that whatever I land in it'll be a good one.

Another participant described how "…my ambitions are large and at the end of it I'll hopefully be able to impact one person." The desire to make a difference was identified by participants at both study sites. This was expressed as a general desire to make an impact by helping others and was not coupled with a specific career aim.

Work abroad. The third and final general career aspiration of working abroad was identified by participants at both study sites. This was described as "global travel" or "global spanning." One participant identified how witnessing malnutrition abroad not only prompted him to study nutrition, but also work abroad in his future career. Thus, the aspiration of working abroad was expressed by participants at Saint Louis University and Johnson & Wales University, and was coupled with a desire to fight malnutrition by a participant at one study site.

Child nutrition. Next, the first specific career aspiration that was discussed by participants at both study sites was that of child nutrition. This subtheme included references to

"school nutrition," "pediatric nutrition," or working with "the next generation of kids". Participants discussed this aim alongside a desire to educate others, either to "teach making healthy food" by "teaching classes to like, the parents of school kids," or "working with students in school gardens". The desire to work in child nutrition emerged from discussions at both study sites, and was often coupled with a desire to educate others.

Education setting. Relatedly, participants at both Saint Louis University and Johnson & Wales University expressed a desire to work in an education setting. This subtheme overlapped with that of child nutrition, but also included a desire to work in higher education. One participant commented, "I can also see myself going into higher education." Another participant expressed her desire to earn a doctorate in biochemistry and eventually research endocrine disorders. Thus, the desire to work in an education setting was expressed by participants at both study sites and included school-aged education as well as higher education.

Public health. Next, participants at both study sites also identified a desire to work in a public health setting. For instance, one participant commented, "I want to work with more public health and like, food access, and definitely people who are like, lower income and have a hard time getting healthy food." Another participant described a desire to work in "community outreach" and "give back to the community". Therefore, a desire to work in a public health setting was identified as an aim by participants at both study sites and was coupled with a desire to help others in the community.

Entrepreneurial. The desire to start one's own business was described as entrepreneurial and was expressed by participants at both study sites. For instance, one participant described her dream of "having a food forest combined with a pay-what-you-can café." Another participant described the possibility of opening up a taco stand on an island. The

subtheme of entrepreneurial captured the students' aspirations of one day creating their own businesses and was expressed by those at both Saint Louis University and Johnson & Wales University.

Policy. One participant at Saint Louis University expressed a desire to work in policy. She provided the example of the National School Lunch Program (NSLP) and the desire to work in an area that would "impact so many people without even having to counsel them". The desire to work in policy was not identified by participants at Johnson & Wales University.

Not or "maybe" clinical. The subtheme of not working in clinical nutrition, or maybe working in this sector short-term, was expressed by participants at both study sites. For instance, one participant described her strong aversion to clinical dietetics: "I can tell you what I don't want. I know that I don't want to be clinical." Another participant expressed her conflicted feelings of working in this sector:

> I like to do clinical things but I also don't like wearing collared shirts, um, so there's a problem…I do like the clinical experience. I'd like to get the clinical experience and then eventually meld that with some sort of whole food approach.

Thus, the subtheme of not or "maybe" working in clinical dietetics emerged from participants' complete aversion to this sector, or from their desire to only work in clinical dietetics short-term.

Don't know. Lastly, participants at both study sites expressed that they didn't yet know what they wanted to do with their degree. For instance, one participant responded, "I'm not 100% sure what I want to do when I'm done." Another participant commented how "everything can change" and "you can't really have this set idea". Students at both Saint Louis University and Johnson & Wales University stated they didn't yet know what they wanted to do with their

degree, either due to uncertainty or to an understanding that personal aspirations and life events may change one's career goal.

Career and Lifestyle Expectations

In contrast to the specific career aims discussed in the previous section, the theme of career and lifestyle expectations emerged from discussions of participants' hopes for quality aspects of their future lives. Six discrete career and lifestyle expectations were identified and makeup the subthemes for this section. They include: happiness; constant change and learning opportunities; flexibility and part-time work opportunities; conservative pay; stability; and benefits.

Happiness. The first career and lifestyle expectation identified by participants at both study sites was that of happiness. For instance, one participant commented, "I think just lifestyle is just going to be—this is really corny—just like, happy 'cause I really like doing what we're going to do and it's just such a blessing to be doing this…" Another participant expressed their career to be "…something I get to wake up in the morning and go do this and, and it's not, 'Ugh, I gotta go to work'. I'm enjoying what I'm doing even if I'm working." This subtheme was also characterized as a desire to "have fun" or "enjoy what I'm doing". Therefore, the career and lifestyle expectation of happiness was expressed by participants at both study sites and was characterized by enjoying one's work and having fun.

Constant change and learning opportunities. Next, participants at both study sites also expressed the expectation of constant change and learning opportunities throughout their careers. This was described as "hectic", "ever-changing", "always moving and on the go", "continuously challenging" or "continuously different". For instance, one participant commented, "There's always going to be like, a new trend on the market or a new fruit people haven't thought about."

Other participants expressed how they tend to get bored easily and need constant change. For example, one participant described, "I get bored with jobs really easily. I leave after like, two years and continuously grow at different jobs." Another participant reflected, "If I'm not learning I get like, extremely bored." Thus, having constant change and learning opportunities was a career and lifestyle expectation expressed by participants at both study sites and was often coupled with a desire to avoid boredom.

Flexibility and part-time work opportunities. Next, participants at Saint Louis University expressed the expectation of having flexibility and part-time work opportunities within their career. One participant described how she wants to stop working to have children and then return to work when they start school. She commented, "I think with dietetics, if you're keeping up with the news it's easy to pick back up, which is cool." Another participant described her desire to make her own schedule:

> I expect to make somewhat of my own schedule where I work for myself or work for two or three different places. Like, two days a week here and two days a week here…even if the hours are no longer than like, a nine to five, I expect that…it would make me happy.

Participants at one study site had the expectation of flexibility and part-time work opportunities within their future careers. This was characterized by the expectation of pausing and resuming one's career with ease or holding multiple part-time jobs. No participants at Johnson & Wales University expressed this as a career or lifestyle expectation.

Conservative pay. Conservative pay was expected by participants at Saint Louis University. One participant commented, "I'm not expecting anything fabulous, like, I'm not expecting to have like, six figures." Others explained how they did not enter the field of culinary nutrition in order to be wealthy. For instance, one participant stated, "You don't do culinary or dietetics for the money." Another stated, "I didn't get in the field for the money." Therefore,

conservative pay was expressed as a career and lifestyle expectation by participants at one study site and was coupled with their explanation that they don't associate careers in culinary nutrition with high pay.

Stability. The expectation of stability was expressed by participants at both study sites. This subtheme was characterized by both employment and financial stability. For instance, one participant described, "I'd like to be at a place where I can be for a long time and kind of climb the ladder." Another participant described the need for "something substantial to support myself" in order to pay off student loans. Thus, employment and financial stability was a career and lifestyle expectation of participants at both Saint Louis University and Johnson & Wales University.

Benefits. Finally, participants at Saint Louis University identified benefits as an expectation of their future careers. No specific employment benefits were mentioned. Rather, participants referred to a desire for benefits in general. One participant described how her dad was self-employed and her mom had to hold a job with benefits. As a result, "…in the back of my mind I had to find a job like that." Benefits were not identified as a career and lifestyle expectation by participants at Johnson & Wales University.

Decision-Making

Lastly, the theme of decision-making emerged from participants' accounts of how they decided to pursue a degree in culinary nutrition. Five discrete paths were identified and makeup the subthemes for this section. They include: sought out culinary nutrition in high school; first chose dietetics, then added culinary arts; first chose culinary arts, then added dietetics; transferred from a different major; and returned to college to pursue a second career.

Sought out culinary nutrition in high school. Only one participant at Saint Louis University sought out the culinary nutrition program while in high school. This participant described her memory of being "interested in both [nutrition and culinary arts] at the same time." While investigating colleges, she "sort of found this. And then, since I loved to cook it went together for me. It was just really natural to do it." No participants at Johnson & Wales University described their decision-making path in this way.

First chose dietetics, then added culinary arts. Next, multiple participants at Saint Louis University described their decision to first study dietetics and then later joined the culinary track. One participant recalled, "I always wanted to do dietetics. I didn't really know about culinary." Another participant agreed: "Nutrition also came first for me and culinary was just like, a bonus." A third participant described how she visited the department for an orientation, learned about the culinary track, and decided "…maybe the culinary [track] would be good to learn about food." Lastly, one participant described being accidentally placed into a culinary class and deciding to finish the course. She commented, "And then I stayed forever." Thus, some participants at Saint Louis University, but not Johnson & Wales University, chose to study culinary nutrition by first pursuing dietetics and then later on joining the culinary track.

First chose culinary arts, then added dietetics. In contrast, participants at both study sites described their decision to study culinary arts, then later added dietetics. This was often the case for those that were exposed to the program through a nutrition course. One participant explained:

> I came to this school for baking and pastry I had no intention of going to nutrition. I was a carnivore. I loved McDonald's and everything greasy. I never really cared for nutrition. I worked out…I never really cared about it. I came here, I took a nutrition class and the exercise phys class and both of those made me realize just how fascinating the body is. It just really opened my eyes to something I'd really never thought about before and I thought, and still do, that it's something I could make a career out of.

Another participant commented, "I think coming to this [culinary nutrition] program, I was pretty nervous. I remember being very nervous 'cause I wanted to do culinary and that was pretty much it." Lastly, one participant described completing his associate's degree in culinary arts and then continuing his education to earn a bachelor's of science. Thus, participants at both study sites reported a decision-making path of first pursuing culinary arts, then later adding dietetics; this was due to the participants' exposure to culinary nutrition through a nutrition course or through the decision to earn a bachelor's degree.

Transferred from a different major. Next, some participants at Saint Louis University switched to culinary nutrition from a different major. One participant started as a biology major and then decided, "…this isn't working." After finding the culinary nutrition program on the university's website, she recounted thinking, "Oh, this looks awesome. I want to make food and learn how to make food." Another participant had planned to study marketing and then go to culinary school upon graduation before finding the program in culinary nutrition. Therefore, participants at one study site had already committed to the university, but switched to culinary nutrition from a different major.

Returned to college to pursue a second career. Lastly, participants at both Saint Louis University and Johnson & Wales University reported returning to college to pursue culinary nutrition as a second career. Participants switched from a variety of previous careers, including the marines, massage therapy, and finance. One participant described being unsatisfied in his previous career and now studying a topic he is interested in: "I'm lucky to have found that so early and I'm here to be doing something I'm actually excited to be doing." Another participant described how, prior to returning to school, she spent "…a large chunk of a career, um, doing well and successful but I always hated what I was doing…" Lastly, one participant described her

decision to return to college as a "kind of culmination of that midlife crisis" after spending 30 years in her previous career. Returning to college to pursue culinary nutrition as a second career was the path of participants at both study sites and was consistently coupled with feelings of discontent in their first career.

Chapter Summary

A total of 23 students participated in the focus groups at Saint Louis University and Johnson & Wales University. The participants were a mix of juniors and seniors, and male and female students. Based on the focus group interviews, nine major themes were identified, including past experiences, interests and desires, affirming experiences, challenges, advantageous personality traits, disadvantageous personality traits, career aspirations, career and lifestyle expectations, and decision-making. Each major theme was supported by subthemes, which emerged from participant discussions at one or both study sites.

The research questions regarding what motivates undergraduate students to pursue a degree in culinary nutrition and what experiences they have had that affected their decision was best supported by the following major themes: Interests and desires; past experiences; affirming experiences; challenges; advantageous personality traits; disadvantageous personality traits; decision-making. Participants identified specific interests and desires, including a personal interest in food in nutrition, lack of nutrition knowledge in the general public, lack of culinary knowledge among nutrition professionals, the desire for culinary skills as a RD, the potential to make a difference, and the desire to earn a bachelor's degree.

Past experiences that affected their decision to pursue culinary nutrition included experience with weight loss or gain or a diet-related disease, cooking with one's family during childhood or lack of cooking knowledge from childhood, gardening or farming during childhood,

a food related work experience, participation in a sport, and exposure to nutrition in either a high school or college course. The affirming experiences participants identified were those that occurred during their pursuit of a culinary nutrition degree, and included a growing passion, a sense of purpose and achievement, exposure to a breadth of career options, respect from food professionals, and kinship with peers. Participants also faced significant challenges to earning the degree, such as coursework, time management, scheduling, financial burden, balancing their personal lives, the need for artistic skills, expressing the importance of the combined degree to others, a language barrier, and returning to school as an adult learner.

Advantageous and disadvantageous personality traits were also discussed. Advantageous personality traits were characterized as those that had helped them to be successful in the program. Participants identified advantageous traits as passion, creativity, self-confidence, self-motivation, curiosity, a type A personality, and a type B personality. In contrast, disadvantageous personality traits were those that hindered their pursuit of the degree. Those traits included being overly independent, hesitance, apathy, procrastination, introversion, and being overly detail-oriented.

The theme of decision-making emerged from descriptions of how students decided to pursue a degree in culinary nutrition. The decision-making paths included seeking out culinary nutrition in high school, first choosing dietetics and later adding culinary arts, first choosing culinary arts and later adding dietetics, transferring from a different major, and returning to college to pursue a second career.

Lastly, the research question regarding the career goals of students studying culinary nutrition was best supported by the themes of career aspirations and career and lifestyle expectations. Participants identified both general and specific career aspirations, including a

desire to help others appreciate healthy food, make a difference, or work abroad, as well as employment within the sectors of child nutrition, education, public health, entrepreneurship, policy, or anything but clinical dietetics. Also, participants identified career and lifestyle expectations, which were characterized by the quality aspects of their future lives. These included happiness, constant change and learning opportunities, flexibility and part-time work opportunities, conservative pay, stability, and benefits.

In summary, nine major themes emerged from the focus group interviews. The major themes were supported by responses from both Saint Louis University and Johnson & Wales University. Each subtheme was supported by comments from one or both study sites. The major themes and subthemes are illustrated in Table 1.

CHAPTER FIVE: DISCUSSION

Introduction

This chapter provides a discussion on the results of this study and the relevant literature. The first section is a discussion on the comparisons to past research and between the two study sites, including differences in decision-making, motivations, and career aspirations. The second section of explanations provides the researcher's thoughts as to why the differences between the two study sites emerged. The third section includes applications to practice, namely recruitment of students to university programs, retention and graduation of students, and preparation for future careers in the field. The fourth section provides an application of the theoretical framework, and the last section is a discussion on the future research needed to further investigate this topic. A summary of the discussion points concludes this chapter.

Comparisons to Past Research and Between Study Sites

Of the two study sites, notable differences emerged in terms of participants' decision-making, motivations to pursue culinary nutrition, and career aspirations. The subthemes that emerged from both study sites are notably stronger in power, especially when supported by the existing research. An interpretation of the relevant similarities and differences follows, which may in turn influence the applications to practice.

Decision-Making

Between the two study sites, only one participant sought out the combined discipline of culinary nutrition in high school. This points to a clear need to heighten awareness of this niche program among high school students. This will be discussed in the later section regarding recruitment to university programs.

More importantly, the decision-making path of first choosing dietetics, then adding culinary arts emerged solely from the participants at Saint Louis University, whereas the path of first choosing culinary arts, then adding dietetics emerged almost entirely from participants at Johnson & Wales University. This is likely due to differences in program offerings at the two institutions. Saint Louis University offers both a traditional bachelor's of science in nutrition and dietetics and a bachelor's of science in nutrition and dietetics with a culinary option (Saint Louis University, 2016a). The majority of their students, therefore, were drawn to the university for its traditional nutrition program and then later decided to enter the culinary nutrition degree program. In contrast, Johnson & Wales University offers both a bachelor's of science in culinary arts and a bachelor's of science in dietetics and applied nutrition (Johnson & Wales University, 2016). However, none of the students in their culinary nutrition program had first committed to the university on the traditional nutrition track. Thus, Saint Louis University draws students with its traditional nutrition and dietetics program, whereas Johnson & Wales University draws students with its traditional culinary arts program. This implies the importance of each university in adequately exposing their students to the culinary nutrition program, as they may be unaware of this offering prior to committing to the institution.

Another relevant difference in decision-making was that participants at Saint Louis University, but not Johnson & Wales University, switched to culinary nutrition from a different major. This is likely due to differences in the breadth of options at each institution. Whereas Johnson & Wales University (2015) houses three colleges and offers just under 20 degree options, Saint Louis University (2016c) houses 11 schools or colleges and offers just under 200 degree options.

Lastly, participants at both Saint Louis University and Johnson & Wales University reported returning to college to pursue culinary nutrition as a second career. This finding further validates prior research indicating a notable percentage of students that return to study dietetics as a second career (Hughes & Desbrow, 2005, Markley & Huyck, 1992). This finding is also relevant to recruitment efforts when targeting various pools of potential applicants.

Motivations

Next, the motivations to pursue culinary nutrition differed somewhat between the two sites. Relevant distinctions occurred between students' past experiences, as well as their interests and desires. Similar to differences in decision-making, the subthemes that emerged at both study sites are stronger in power than those that emerged at just one study site.

Past experiences. Participants at both sites reported past experiences that prompted their interest in culinary nutrition, including experience with a diet-related disease, food-related work experience, participation in a sport, and exposure to nutrition or culinary arts in a high school course. These past experiences were consistent with prior research, and are therefore especially strong (Brady et al., 2012; Holsipple, 1994; Hughes & Desbrow, 2005, Lordly & MacLellan, 2012).

Past experiences of Saint Louis University students, but not Johnson & Wales University students, included personal weight loss or gain, cooking with family during childhood or a lack of cooking knowledge from childhood, and gardening or farming during childhood. Whereas the former experiences were documented in previous research (Brady et al., 2012; Holsipple, 1994; Hughes & Desbrow, 2005, Lordly & MacLellan, 2012), the latter experience of gardening or

farming during childhood was not. Thus, this marks a new contribution to the understanding of what may motivate students to pursue culinary nutrition.

In contrast, exposure to nutrition through a college course was reported by Johnson & Wales University students, but not Saint Louis University students. This motivation to enter the field was previously established by Lordly and MacLellan (2012). Given the differences in decision-making paths of students at each institution, this distinction is consistent with the finding that many Johnson & Wales University students entered culinary nutrition by first choosing culinary arts, and then later adding dietetics upon exposure to the field in a college-level course.

Interests and desires. Next, participants' interests and desires differed somewhat between the two study sites. Students at both Saint Louis University and Johnson & Wales University reported a personal interest in food and nutrition and the potential to make a difference as motivating factors, both of which further validate prior research and indicate these as especially strong subthemes (Brady et al., 2012; Chuang, Walker, and Caine-Bish, 2009; Hughes & Desbrow, 2005; Kobel, 1997; Markely & Huyck, 1992; Stone et al., 1981). One subtheme that was not identified in the prior literature, but that was identified by participants at both study sites, was a desire for the student to earn a bachelor's degree or a "four-year college degree." Given that culinary professionals may secure employment with an associate's degree or substantial work experience (Henry, 2014), this motivation is most relevant for potential students that are strongly interested in culinary arts, but still wish to earn a bachelor's degree.

Lastly, three interests and desires emerged at Saint Louis University, but not Johnson & Wales University. These included a lack of nutrition knowledge in the general public, a lack of culinary knowledge among nutrition professionals, and a desire for culinary skills as a RD.

These factors characterize the skills, or ideal skills, of RDs. Thus, given that most participants at this study site were attracted first to nutrition and dietetics, it makes sense that these participants would vocalize desires specific to RDs. Furthermore, these interests and desires did not emerge in the literature review, and thereby contribute new findings to the body of research.

Career Aspirations

The career aspirations of participants were almost identical at Saint Louis University and Johnson & Wales University, indicating the strength of these subthemes. Participants at both sites discussed the general aspirations of helping others appreciate healthy food, making a difference, and working abroad. This finding indicates that culinary nutrition may be considered a helping profession, or may attract students that wish to improve the lives of others. In this case, culinary nutrition students were drawn to the field in order to help others appreciate and be able to prepare food that is both healthy and nutritious. This finding also validates prior research that identified a desire to help others and work with people as a motivation for entering the field of nutrition and dietetics (Holsipple, 1994; Hughes & Desbrow, 2005; Kobel, 1997; Lordly & MacLellan, 2012; Markley & Huyck, 1992).

In addition, participants at both study sites identified similar specific career aspirations. Participants expressed the desire to work in child nutrition, education, public health, or as an entrepreneur. What's more, participants at both sites indicated they do not want to work in clinical dietetics, or that they only want to do so for a short time. This is a notable deviation from the present body of research on traditional nutrition and dietetics students that indicates clinical dietetics as an expected work setting (Holsipple, 1994; Hughes & Desbrow, 2005). However, given that RDs are qualified to work in a variety of settings (Bureau of Labor

Statistics, 2015), it is clear that culinary nutrition students are drawn to the field for its opportunities to work in sectors other than clinical dietetics.

Explanations

The researcher believes the differences that emerged between the two study sites are due to institutional and programmatic differences of the two institutions. Though both institutions offer an integrated nutrition and culinary arts degree, the institutions themselves have significant differences, and seem to attract students in different ways. Saint Louis University started with a nutrition and dietetics program, and later added a culinary element to create a combined degree. In contrast, Johnson & Wales University started with a culinary arts program, and later added a nutrition element. The findings of this study support that Saint Louis University primarily attracts students with its nutrition and dietetics degree, whereas Johnson & Wales University primarily attracts students with its culinary arts degree.

This difference could theoretically affect the career aspirations of students at each institution, as well. Those at Saint Louis University may be drawn to more traditional RD careers, whereas those at Johnson & Wales University may be drawn to more traditional chef roles. This potential difference is an area for future research.

Applications to Practice

Colleges and universities may use the discipline-specific motivations of students when developing effective programs and policies. This information may be used to evaluate incoming students, inform the development of recruitment materials, or promote certain traits in current students (Breen & Lindsay, 2002). While previous research has focused on factors that motivated traditional dietetics students to pursue the career path of a RD, and have therefore

been applied to traditional nutrition and dietetics academic programs, no prior studies have examined the motivations of students to pursue culinary nutrition. Thus, the findings of this study are most appropriately applied to support culinary nutrition academic programs, either at the two institutions that currently offer degrees in culinary nutrition, or those that wish to develop a culinary nutrition program in the future. The following sections provide a discussion of the recruitment to university programs, retention and graduation of students in culinary nutrition, and preparation for future careers.

Recruitment to University Programs

In order to further the discipline of culinary nutrition, colleges and universities need effective recruitment strategies. Recruitment should be phase-appropriate, or formed to each pool of applicants. It should also highlight the relevant interests and desires of potential applicants, and should strategically capitalize on past experiences that may spark an interest in culinary nutrition.

Phase-appropriate recruitment. Phase-appropriate recruitment refers to the adaptation of recruitment strategies to various pools of potential students. This is recognized as a best practice in general recruitment efforts, especially given that previous research shows students are likely to become interest in dietetics at various phases (Markley & Huyck, 1992 & Rodenstein, 1990). Thus, given the distinct decision-making paths that emerged from the results of this study, colleges and universities may target five different applicant pools. These include: High school students, traditional nutrition and dietetics students, traditional culinary arts students, students enrolled in a different major, and students returning to college to pursue a second career.

High school students. Past research suggested the need to educate students themselves, high school guidance counselors, and parents (Holsipple, 1994; Stone et al., 1981). Given that

only one participant at Saint Louis University sought out the culinary nutrition program while in high school, there is a very low awareness of culinary nutrition among high school students as a potential field of study. Therefore, substantial attention should be given to increasing awareness of culinary nutrition among this population.

Traditional nutrition and dietetics students. In addition, students that have committed to a traditional nutrition and dietetics program offer a second pool of potential applicants. The existence of this pool is supported by the decision-making path of participants that first chose nutrition and dietetics, and then added culinary arts. Traditional nutrition and dietetics students are a potential pool of applicants at any institution where students may choose between a traditional bachelor's of science in nutrition and dietetics and a bachelor's of science in culinary nutrition.

Interestingly, though both types of degrees were offered at both study sites, this did not emerge as a decision-making path at Johnson & Wales University. In other words, no students at Johnson & Wales University reported first choosing nutrition and dietetics, and then adding culinary arts. Therefore, this is an untapped pool of potential applicants at one of the study sites.

Traditional culinary arts students. Next, students that have committed to a traditional culinary arts program offer a third pool of potential applicants. The existence of this pool is supported by the decision-making path of participants that first chose culinary arts, and then added nutrition and dietetics. This emerged as a decision-making path at Johnson & Wales University, but not Saint Louis University, due to the fact that the latter does not offer a traditional bachelor's of science in culinary arts. Therefore, traditional culinary arts students should only be included as a potential pool of applicants at institutions that offer both a bachelor's of science in culinary arts and a bachelor's of science in culinary nutrition. Students

at other traditional culinary programs within the institution's geographical region may also be considered within this pool of potential applicants.

Students enrolled in a different major. Past research reported a significant number of students that decided to switch their major to pursue dietetics (Holsipple, 1994; Kobel, 1997). This was confirmed by the decision-making path that emerged in this study of transferring from a different major to pursue culinary nutrition. It is noted that recruitment of students from different majors does not directly support university-wide recruiting efforts in that total enrollment numbers would be unaffected. What's more, if not executed tactfully, this strategy may in fact lead to increased competition and resentment among competing programs or departments.

However, if a student is unhappy in their current major, switching to a major that is a better fit for the individual would support persistence, and therefore the university's overall graduation rate. What's more, though recruitment of students enrolled in a different major does not support university-wide enrollment numbers, it would still support recruitment of individuals to the profession of culinary nutrition.

Students returning to college to pursue a second career. The fifth and final potential pool of applicants are students returning to college to pursue a second career. The existence of this pool is supported by the decision-making path of participants in this study that returned to college to study culinary nutrition. Past research supports that this population represents a critical pool of applications (Kobel, 1997; Markley & Huyck, 1992).

Using interests and desires. Effective recruitment strategies should also utilize the interests and desires of potential students. Two specific interests and desires emerged from this

study that validate previous research. These include a personal interest in nutrition and the desire to make a difference by helping others (Kobel, 1997; Markley & Huyck, 1992).

However, four specific interests and desires emerged from this study that were not reported in previous research. The lack of culinary knowledge among nutrition professionals and the desire for culinary skills as a RD represent new findings. It is logical that these interests and desires had not been previously reported given their linkage between nutrition and culinary arts. Therefore, these two interests and desires are unique to the niche discipline of culinary nutrition.

In addition, the lack of nutrition knowledge in the general public was not reported in previous research. This represents a new contribution to the existing research, but does not appear to be characteristic of culinary nutrition alone. It may, however, correspond to the desire to make a difference by helping others. In other words, potential applicants may be motivated to pursue culinary nutrition (or nutrition alone) upon recognizing how little the general public knows about nutrition and that they, as future nutrition professionals, can fill that gap.

The fourth finding that represents a new contribution to the existing research is the desire to earn a bachelor's degree. This was either the student's own desire or that of their parents; the four-year culinary nutrition degree was seen as a way to both study culinary arts and earn a bachelor's degree. In recruitment efforts, this opportunity should be emphasized at institutions where students have the option to earn either an associate's degree in culinary arts or a bachelor's degree in culinary nutrition, such as Johnson & Wales University (2015), or at an institution that is the only school in a geographical region to offer a culinary nutrition degree, such as Saint Louis University (2016a).

Colleges and universities may tailor their recruitment efforts to highlight the known interests and desires of potential students. This information may be used to populate website content, social media contributions, signage, physical brochures, or college catalogs. It may also be communicated to potential students by high school counselors, recruitment specialists, or faculty and staff that support recruitment efforts.

Capitalizing on past experiences. Lastly, in addition to using known interests and desires, effective recruitment strategies should capitalize on past experiences that may motivate students to pursue culinary nutrition. The majority of past experiences that emerged from this study had been reported by past research. These include: experience with weight loss or gain; experience with a diet-related disease; cooking with family during childhood; food-related work experience; participation in a sport; exposure to nutrition or culinary arts in a high school course; and exposure to nutrition in a college course (Brady et al., 2012; Holsipple, 1994; Hughes & Desbrow, 2005, Lordly & MacLellan, 2012). Therefore, the findings of this study further validate past research that these past experiences may motivate students to pursue either culinary nutrition or a traditional career in nutrition and dietetics.

Two past experiences emerged from this study that represent new contributions to the research. The first is in fact the absence of an experience, or the lack of cooking knowledge from childhood. It is notable that whereas some participants were motivated to pursue culinary nutrition given their experience of cooking during childhood, others were motivated by the fact that they had not yet learned those skills, yet apparently recognized their importance.

The second new contribution is the experience of gardening or farming during childhood. It is possible that this is due to the fact that sustainability, home gardening, and an appreciation for locally grown foods has gained significant popularity in the past few years (Grunert, Hieke,

& Wills, 2014), students are now associating these interests with nutrition, culinary arts, or both. Therefore, this represents an underutilized past experience or interest that may be used to attract students to the field of culinary nutrition.

In terms of how past experiences may be used to recruit students, each finding represents a unique recruitment opportunity. For instance, given that some participants became interested in the field through a high school or college course, the classroom setting may be an effective place to educate students on the field of culinary nutrition. This may be achieved by providing relevant information to the instructors of those courses, including a section on culinary nutrition in new versions of textbooks or offering to serve as a guest lecturer.

Or, given that some participants became interested in the field through participation in a sport, one recruitment strategy may be to target high school and college athletes. This may be achieved by providing relevant information to the coach or athletic trainer, connecting teams with culinary nutrition professionals for individualized counseling, or offering to serve as a guest speaker.

A third and final example is the experience of a diet-related disease. Some participants in this study described exposure to the dietetics profession through the management of a diet-related disease, though this was often coupled with feelings of frustration that the practical application of preparing one's food was not thoroughly addressed. Therefore, existing RDs that have a culinary nutrition background may be powerful role models for potential students in demonstrating the interconnectedness of nutrition and culinary arts in disease management.

Retention and Graduation of Culinary Nutrition Students

In addition to informing recruitment efforts, the results of this study may be used to support retention and graduation of students in culinary nutrition programs. The retention rate from first to second year for first-time students pursuing a bachelor's degree at Johnson & Wales University, Denver and Saint Louis University is 75% and 90%, respectively. The graduation rate of full-time, first-time students who completed their degrees within the expected timeframe is 52% and 71%, respectively (Integrated Postsecondary Education System [IPEDS], 2016a; IPEDS, 2016b).

The retention and graduate rates of students in the culinary nutrition program at each institution are not known. However, there is likely room to improve the retention and graduation of students at both Saint Louis University and Johnson & Wales University, as well as any colleges or universities that wish to develop a culinary nutrition program in the future. The findings of this study that may be used to support retention and graduation are: Affirming experiences, challenges, and advantageous and disadvantageous personality traits.

Affirming experiences. Affirming experiences were characterized by participants' feelings that they had made the right decision with their degree choice. These included: Growing passion; sense of purpose and achievement; exposure to a breadth of career options; respect from food professionals; kinship with peers. In order to support retention and graduation of culinary nutrition students, colleges and universities may promote or highlight these experiences among their existing students.

For instance, the subtheme of kinship with peers was supported by participant comments expressing appreciation for their cohort in terms of the social bond and academic support. A

strong sense of kinship with peers likely emerged among culinary nutrition students given the small program sizes and the length of traditional culinary labs, resulting in a high level of peer interaction. Therefore, colleges and universities may use this affirming experience to support student retention and graduation by fostering teamwork, communication skills, and peer-to-peer learning. Institutions may also be encouraged to be conscious of students that do not seem to be connecting with other students, and to facilitate their interaction with peers, if possible.

Another example of how colleges and universities may support retention and graduation of culinary nutrition students is by furthering their sense of purpose and achievement. This subtheme was support by participant comments expressing satisfaction with their abilities to adapt recipes, prepare healthy meals, and help others. Thus, colleges and universities may foster this sense of purpose and achievement by assigning students hands-on projects, connecting them with work and volunteer opportunities in the community, or requiring service learning.

A third and final strategy is ensuring students' exposure to a breadth of career options. This subtheme emerged from participant expressions of awe and excitement regarding the types of employment available to them with a niche culinary nutrition degree. Colleges and universities may capitalize on this by ensuring their students are aware of the types of careers available to them. This may be achieved by connecting existing students with alumni of the program, organizing field trips to potential employers (such as a gluten-free bakery), or coordinating a panel of professionals working in the field.

Challenges. Participants identified specific challenges to pursuing a culinary nutrition degree, which would logically hinder student retention and graduation. These included: coursework; time management; scheduling courses; financial burden; personal life; need for artistic skills; expressing the importance of the combined degree to others; language barrier; and

returning to school as an adult learner. Colleges and universities may support student retention and graduation by being aware of these challenges and making efforts to minimize them or help students overcome them.

For instance, the difficulty of courses, particularly chemistry and biology, was widely discussed as a challenge at both study sites. These are required core courses, and therefore will likely continue to be a challenge for students in the future. However, colleges and universities may support students through these courses by organizing study groups, connecting students with tutors, or instituting a one-credit hour section for students that is separate from the traditional large class size of the core sciences. These are strategies that have been established in existing research (Lyon & Lagowski, 2008). In addition, institutions may wish to strategically map the curriculum for culinary nutrition students so that the most difficult courses are distributed as evenly as possible. They may also use the strategy of scheduling a fun, lightweight culinary nutrition course during the same semester as the chemistry and biology courses in order to motivate students to stay in their chosen major.

In addition, time management emerged as a challenge at both study sites. This is likely due to the length of traditional culinary labs which may span up to eight hours for one three-credit hour lab. Though this is a challenge that all college students must manage, college and universities may support culinary nutrition students by educating them on time management techniques and working with faculty members to avoid unnecessary clusters of exams or large assignments. Or, the challenge of time management may simply be viewed as preparation for a career in which graduates will need to balance many time demands.

Advantageous and disadvantageous personality traits. Finally, certain personality traits may be advantageous or disadvantageous towards earning a degree in culinary nutrition.

The traits identified as advantageous were: passion, creativity, self-confidence, self-motivation, curiosity, type A, and type B. The traits identified as disadvantageous were: overly independent, hesitance, apathy, procrastination, introversion, and overly detail oriented. These data are most likely relevant for student advisors and mentors. Advisors and mentors may encourage the traits identified as advantageous and discourage the traits identified as disadvantageous. An effective method of doing so may be to have students reflect on the traits they personally find to be advantageous or disadvantageous, coupled with counseling on how to maximize or minimize each trait. This type of student support should be individualized, especially given that a trait that is advantageous for one student may not be so for another; this dynamic was illustrated by the findings of this study in which some students felt a type A personality helped them succeed, whereas others felt a type B personality helped them succeed.

Preparing for Future Careers in Culinary Nutrition

Lastly, the findings of this study may be used to frame the career possibilities for culinary nutrition professionals. Given the newness of this niche discipline, this is a valid and relevant discussion that may help to broaden students' understandings of their opportunities, assist college and universities in their career counseling efforts, and inform potential employers. This discussion is informed by the career aspirations and career and lifestyle expectations that emerged as major themes.

Career aspirations. Three broad career aspirations emerged, including the desire to help others appreciate healthy food, make a difference, and work abroad. The desire to make a difference was reported in previous research (Holsipple, 1994), though the desire to help others appreciate healthy food and work abroad emerged as new findings. Notably, the desire to help others appreciate healthy food seemed to be unique to culinary nutrition students given that it

was supported by comments about making food that is both healthy and delicious. Some participants even compared themselves to traditional nutrition and dietetics students and touted their knowledge of both disciplines as superior to mere nutrition knowledge. Thus, this is a career aspiration that culinary nutrition students take pride in and see as unique. When evaluating potential careers, culinary nutrition students will likely seek out those that allow them to use their knowledge of both nutrition and culinary arts.

In addition, specific career aspirations emerged, such as the desire to work in child nutrition, an education setting, a public health or policy setting, or as an entrepreneur. Interestingly, these findings contrasted somewhat with the potential career opportunities described on the websites of the two study sites. Johnson & Wales University (2016) suggested:

> Devise appropriate wellness education programs for a community, worksite, or public health environment. Become a chef for a restaurant, professional sports team, spa, school or healthcare facility, or start your own private chef business—one whose focus is on healthy food, nutrition, and preparation techniques.

Saint Louis University (2016b) did not define career opportunities specific to culinary nutrition students, but instead described future careers for RDs in general as "hospitals or other health care facilities, as well as food and nutrition-related businesses and industries. You may also work in a school, hospital, or commercial kitchen, catering, or in nutrition and culinary services". Thus, whereas the two programs suggested future employment in a restaurant, spa, or with a professional sports team, no participants in this study expressed a desire to work in these sectors.

Though it is important for these programs to be attuned to the actual career aspirations of their existing students, it is possible that future culinary nutrition students will have a desire to work in other sectors. Alternatively, it also possible that the existing students that participated in

this study were simply unaware of these potential employers. Therefore, it is important that colleges and universities educate their students on the employment opportunities available to them, but also stay attuned to their students' actual career aspirations.

Career and lifestyle expectations. Similar to existing research, participants in this study identified expectations within their future careers of: Happiness, constant change and learning opportunities, flexibility and part-time work, stability, and benefits. Social prestige did not emerge as an expectation either in existing research or in this study (Holsipple, 1994). Thus, the findings of this study validate the existing research regarding career and lifestyle expectations, but do not provide any new contributions.

The career and lifestyle expectations may be most useful for future employers. For instance, employers may be interested to know that young culinary nutrition professionals value flexibility and stability, but do not expect high pay or social prestige. Employers may attract culinary nutrition professionals by emphasizing ongoing learning opportunities, part-time work opportunities, stability, and benefits.

Application of the Theoretical Framework: Social Cognitive Career Theory (SCCT)

The theoretical framework of this study included the SCCT, a relatively new theory used to frame how students become interested in a career, make relevant decisions, and achieve academic and career success (Lent, Brown, & Hackett, 1994). The nine major themes that emerged from the findings of this study are related to specific cognitive and physical barriers defined by the SCCT. The themes of past experiences and affirming experiences correlate to the cognitive variable of learning experiences. The theme of interests and desires are associated with two different cognitive variables: interests and outcome expectations. Next, the theme of

challenges relates most closely to self-efficacy expectations, while the themes of advantageous and disadvantageous personality traits relate to the physical variable of personal inputs. Regarding future employment, the theme of career aspiration correlates with the output of goals, while the theme of career and lifestyle expectations correlates with both goals and outcome expectations. Lastly, the theme of decision-making supports the output related to actions. These associations are illustrated in Table 2.

Table 2: Emergent themes and their association with variables and outputs of the SCCT.

Major theme	Associated SCCT Variables and Outputs
Past Experiences	Learning Experiences, Background
Interests and Desires	Interests, Outcome Expectations
Affirming Experiences	Learning Experiences
Challenges	Self-efficacy expectations
Personality Traits: Advantageous	Personal Inputs
Personality Traits: Disadvantageous	Personal Inputs
Career Aspirations	Goals
Career and Lifestyle Expectations	Goals, Outcome Expectations
Decision-making	Actions

Therefore, the findings of this study further validate the use of the SCCT to describe how students become interested in a career, make decisions, and achieve success. Relationships between the emergent themes of this study were associated with one or more of the SCCT variables and outputs. Thus, the SCCT may be used in future research regarding student perceptions of their motivations to pursue culinary nutrition.

Future Research

Ample opportunities for future research existing regarding the motivations of students to pursue a degree in culinary nutrition. Given the qualitative nature of this study, a survey-based or mixed-methods follow-up study may serve to provide quantitative information regarding the prevalence and strength of various motivations, and may also be used for additional comparisons between the two study sites. Creswell (2015) described this as an exploratory mixed methods design in which qualitative data are collected first, and then a survey is created based on the results of the qualitative data.

Future research may also investigate any additional education pursued by culinary nutrition graduates, such as a dietetic internship or graduate degree. This would be especially relevant given the very recent change that RDs must hold a master's degree for entry-level positions, though the master's degree may be in any subject (Commission on Dietetic Registration, 2016). Therefore, a relevant study may investigate the percentage of culinary nutrition students that pursue additional education, as well as the type and title of any future degrees earned.

Regarding the careers of culinary nutrition students, future research may explore the actual employment settings of students that have graduated with a culinary nutrition degree. These findings could be compared to the career aspirations expressed by existing students in this study. They could also broaden students' understanding of the careers they are qualified for and inform college and universities in their career counseling efforts. Also, future studies may explore actual quality aspects of employment, such as opportunities for part-time work and ongoing learning. These findings could then be compared to the career and lifestyle expectations that emerged from participants in this study.

Chapter Summary

Of the two study sites, notable differences emerged regarding participants' decision-making, motivations to pursue culinary nutrition, and career aspirations. These differences are likely due to institutional and programmatic characteristics of the two study sites, and should be considered when developing recruitment and retention strategies. Recruitment of culinary nutrition students should be phase-appropriate, and should target five potential applicant pools: High school students, traditional nutrition and dietetics students, traditional culinary arts students, students enrolled in a different major at the institution, and students returning to college to pursue a second career. In order to be effective, recruitment strategies should use the interests and desires of potential students and capitalize on past experiences that may trigger an interest in the field.

What's more, the findings of this study may be used to support retention and graduation of existing students in culinary nutrition programs. Institutions may do so by cultivating affirming experiences and supporting students through common challenges. Advisors and mentors may adapt their counseling efforts based on traits that culinary nutrition students identified as advantageous or disadvantageous.

Lastly, the findings of this study may be used to prepare for future careers in culinary nutrition. Institutions may do so by broadening students' understanding of their employment opportunities, informing career counseling efforts, and working with potential employers to connect students based on their unique skillsets.

APPENDIX A

SAINT LOUIS UNIVERSITY
Johnson & Wales at Denver and Johnson & Wales at Providence

Recruitment Statement for Research Participation

1. Whitney Linsenmeyer, MS RD LD of Saint Louis University, Department of Nutrition and Dietetics, and Jamie Daugherty, MS RD LD of Johnson & Wales at Denver, College of Culinary Arts are inviting you to participate in this research study.

2. The title of this study is Motivating Factors of Undergraduate Dietetics Students to Earn a Combined Degree in Nutrition and Culinary Arts. The purpose of this study is to describe the factors that motivate undergraduate students to pursue a combined degree in nutrition and culinary arts.

3. Your participation in this study will involve a 90-minute focus group. The focus group will be audio recorded. Sample questions that may be asked of you are: What attracted you to the field of nutrition and culinary arts? What obstacles have you faced to earning a degree in nutrition and culinary arts? What are your goals after earning a degree in nutrition and culinary arts?

4. The risks to you as a participant are minimal. These include perceived pressure to participate in the study and breach of confidentiality given that your peers will be participating in the focus group and will hear your responses. You may choose not to answer any question that makes you feel uncomfortable.

5. The results of this study may be published in scientific research journals or presented at professional conferences. However, your name and identity will not be revealed and your record will remain confidential. The researchers will de-identify the data by using pseudonyms and store all the data, including the audio recordings, under a password-protected network at Saint Louis University.

6. Participation in this study will not benefit you directly. Your participation may benefit others by adding to our understanding about what motivates students to pursue a combined degree in nutrition and culinary arts.

7. You can choose not to participate. If you decide not to participate, there will not be a penalty to you or loss of any benefits to which you are otherwise entitled. You may withdraw from this study at any time.

8. If you have questions about this research study, you can call Whitney Linsenmeyer 314-977-8523 or Jamie Daugherty at 303-256-9405. If you have questions about your rights as a research participant, you can call the Saint Louis University Institutional Review Board at 314-977-7744 and reference IRB # 26531.

APPENDIX B

---------- Forwarded message ----------
From: **Jamie B. Daugherty** <Jamie.Daugherty@jwu.edu>
Date: Wed, Feb 3, 2016 at 3:57 PM
Subject: Fw: Research Review for Motivating Factors of Undergraduate Dietetics Students to Earn a Combined Degree in Nutrition and Culinary Arts
To: "bommer26@gmail.com" <bommer26@gmail.com>

From: George J. Rezendes
Sent: Wednesday, February 3, 2016 2:52 PM
To: Jamie B. Daugherty
Subject: RE: Research Review for Motivating Factors of Undergraduate Dietetics Students to Earn a Combined Degree in Nutrition and Culinary Arts

Jamie,

Hello I have heard back from the other committee members and with the additional information you provided the committee has approved your research proposal. You will need to update your consent document to reflect the correction to the storage of confidential information as you identified in our follow-up information. Please provide me with an updated copy. The proposal is approved as you submitted. If you wish to make any modification to your research project they must be submitted to the research review committee for approval prior to making any changes. Again I apologize for the error on my part in not reviewing the changes sooner and getting back to you more promptly. Thank-you so much for following up. I wish you best of luck with your project. If I can be of any assistance don't hesitate to contact me. Have a great day.
Regards

George

George J. Rezendes, Ph. D.
Director of Institutional Research

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Fax: 401-598-2880
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"The mediocre teacher tells. The good teacher explains. The superior teacher demonstrates. The great teacher inspires."
William Arthur Ward,
writer

APPENDIX C

SAINT LOUIS UNIVERSITY
Johnson & Wales University at Denver, Johnson & Wales University at Providence

Focus Group Summary

Number of Participants:	
Date:	
Length of Interview:	
Location:	

Interview Guide

Question	*Comments*
What attracted you to the field of nutrition and culinary arts?	
What experiences have you had that made you want to pursue a degree in nutrition and culinary arts?	
What obstacles have you faced to earning a degree in nutrition and culinary arts?	
What experiences have you had that have altered your decision to pursue a degree in nutrition and culinary arts—either experiences that made you affirm your choice, or experiences that made you consider changing your choice?	
What did you expect from this program before enrolling?	
How does your experience in the program so far match up with what you expected?	
What motivates you to continue your degree?	
What personality traits do you have that you think are advantageous to earning a degree in nutrition and culinary arts?	
What has surprised you about the program so far?	
What personality traits do you have that you feel like are drawbacks to earning a degree in nutrition and culinary arts?	
What are your goals after earning a degree in nutrition and culinary arts?	
What type of career do you expect to have with a degree in nutrition and culinary arts?	
What type of lifestyle do you expect to have with a degree in nutrition and culinary arts?	
Is there anything else that we didn't already talk about that you would like to share?	

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VITA AUCTORIS

Whitney Linsenmeyer is a Registered Dietitian and an Instructor in the Department of Nutrition and Dietetics at Saint Louis University. Also at Saint Louis University, she earned her Bachelors of Science in Nutrition and Dietetics with an Emphasis in Culinary Arts in 2010, and her Masters of Science in Nutrition and Culinary Entrepreneurship in 2012. She has published research related to a variety of topics in both nutrition and higher education, including dairy preferences in school-aged students, the school food environment, and the impact of the civil unrest in Ferguson, Missouri on the Saint Louis University campus.