Exploring how nutrition & dietetic students make meaning of their educational experiences and the impact it has on their leadership development

by

Sarah Elizabeth Murray

B.S., Missouri State University, 2003
M.S., Illinois State University, 2005

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Adult Learning and Leadership
College of Education

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2022

Abstract

Leadership development for the nutrition and dietetics profession has been widely discussed as an important need to propel the profession forward. Leadership skills and competencies are included in the standardized curriculum for nutrition and dietetic students; however, little guidance exists on how to foster leadership development. Self-authorship is a development theory that is used to describe how an individual makes meaning of their own experiences, establishes an identity, and responds to others through internal influences rather than external factors. Self-authorship provides a unique framework in which to view the development of leadership behaviors. Using a constructivist grounded theory approach, this qualitative study explored how students describe and make meaning of their educational experiences and the contributing factors to their leadership development. Seventeen participants who graduated with a Bachelor of Science degree in nutrition and dietetics from a public Mid-western university were interviewed. Program artifacts from the research site were also collected for data analysis. Leadership development of the participants was explored through the lens of developmental theory. Four themes emerged that participants identified as required building blocks for leadership development: knowledge, observation, emulation, and self-efficacy. Most of the participants were confident in their abilities and preparedness to serve as a leader in the profession; however, they lacked a leadership identity creating a barrier to serve at this point in their professional journey.

Keywords: dietetics education, constructivism, leadership, leadership identity

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Dr. Jeffrey T. Zacharakis

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Dedication

When I was in high school, they told me I was not 'college material'. I am still not sure what that means, but what I do know is that it does not matter what they said. I am dedicating this work to my children, Jeremiah and Ava. You get to decide what your dreams are and how you are going to achieve them.

You can do hard things.

Chapter 1 - Introduction

Leadership skills are stated by nutrition and dietetic education programs as a desirable attribute in their students but how educators foster leadership development among students beyond demonstrating leadership behaviors is unknown (Frein et al., 2006). The need for leadership development is important for the advancement of any discipline, and the field of nutrition and dietetics is no exception. Therefore, a necessary part of any curriculum that intends to prepare students for professional practice is leadership skills training (Arendt & Gregoire, 2005; Frein et al., 2006; Gregoire & Arendt, 2004; Miner et al., 2014; Sochacki, 2016). The research; however, is narrow when assessing how to encourage the development of strong leadership skills among registered dietitian nutritionists (RDNs). Limited research has been done on dietetics leadership as well as the development of leadership skills specifically among nutrition and dietetic students (Arendt & Gregoire, 2005; Frein et al., 2006; Sochacki, 2016). Educating individuals about leadership skills is not enough to facilitate pre-professional leadership development (Drago-Severson & Blum-DeStefano, 2014; Hunter & Lewis, 2010; Posner, 2009), which suggests that the individual development and coaching is also required. The self-authorship theory, introduced by Robert Kegan (1982, 1994) and further developed by Marcia Baxter Magolda (1998), provides a framework for ways in which an adult constructs knowledge, negotiates professional relationships, and develops an identity. Self-authorship theoretical framework provides a broad view for this research and not a guiding lens in which to view the results. Developmental theory is not evident in the standardized curriculum in nutrition and dietetics education and has not been widely used as a framework to study leadership among registered dietitian nutritionists.

Background

The nutrition and dietetics profession is over 100 years old and derives from professions such as nursing, home economics, and food service. While dietitians have a wide range of expertise that includes medical nutrition therapy, food service management, advocacy, and nutrition education, the majority of RDNs work in a clinical setting as part of a healthcare team (Commission on Dietetic Registration (CDR), n.d.-b; Stein, 2014).

Dietetics is the practice of applying nutrition science as it relates to the prevention and treatment of disease (Klemm, 2021). Registered dietitian nutritionists are food and nutrition experts who translate nutrition science into practical applications for healthy living (The Academy Quality Management Committee, 2018). As a member of the healthcare team, an RDN possesses a wide range of skills including medical nutrition therapy, food and nutrition metabolism, food service management, government policy related to food access and nutrition care. This diverse skill set allows RDNs to work in various settings such as hospitals, clinics, schools, community and/or government agencies, long-term care facilities, the food industry, fitness centers, private practice, research, and universities (The Academy Quality Management Committee, 2018).

Educational requirements for RDNs include a minimum of a bachelor's degree from an accredited university or college approved by the Accreditation Council for Education in Nutrition and Dietetics (ACEND), as well as the completion of supervised practice program, also known as a dietetic internship. The undergraduate curriculum is based on core knowledge requirements for entry-level RDNs. Supervised practice programs may offer graduate credit or be combined with a graduate degree program and will often be six to 12 months in length. A key difference between undergraduate education standards versus graduate education in nutrition and

dietetics curriculum is knowledge versus competency-based requirements. Standards for both undergraduate and supervised practice programs include leadership skill development. The 2022 standards recently issued by ACEND include a leadership domain, which focuses on career management, team memberships, and communication. Other managerial skills are included in the curriculum and often presented in the food service management context. Historically leadership skills were presented in the curriculum primarily through the lens of food service management (Patten, 2016; Sneed & Gregoire, 1998); however, dietitians work in vast arenas. Thus, learning to lead in a variety of contexts is warranted. Evidence of leadership skills remain in the nutrition and dietetics curriculum; however, there is an opportunity to determine how students' leadership development is fostered beyond knowledge and skills.

After successfully completing a supervised practice program, individuals must pass a national credentialing examination administered by the Commission on Dietetic Registration (CDR) (ACEND, n.d.-c). The Future Council on Dietetics practice recommended that an RDN have a graduate degree for entry level practice (Academy of Nutrition and Dietetics (AND), 2012). The nutrition and dietetics profession is professionalizing and will require a minimum of a graduate degree beginning in the year 2024 in order to practice as an entry level RDN (ACEND, n.d.-d). Once established as an RDN, individuals are required to maintain those credentials by obtaining 75 continuing education credits during a five-year cycle (CDR, n.d.-b). Registered dietitian nutritionists serve as the expert in nutrition science on a healthcare team, directors of community and academic based programs, and legislation advocates; dietitians are required to make decisions that impact the future of the profession as well as public health and patient outcomes. Thus, the professionalization of dietetics is necessary to serve in these various leadership capacities. For RDNs, these leadership responsibilities are not highly valued among

other allied health professions or perceived by healthcare executives to be competent in leadership and management skills (Hermosura, 2018), and therefore need further development.

Hermosura (2018) noted that dietitians are not highly regarded as competent leaders and that there is a gap in education and implementation of leadership skills. Likewise, Gregoire and Arendt (2004) underscored that "research is needed to determine strategies for preparing dietitians to be effective leaders and assume leadership positions" (p. 398). In particular, they emphasized, "identifying ways to help dietitians better reflect on their leadership experiences in order to enhance their learning and leadership abilities" (Gregoire & Arendt, 2004, p. 401). Because leadership development is identified as an important competency among nutrition and dietetic professionals, it is therefore, a necessary component of the nutrition and dietetics curriculum to prepare students for professional practice (Arendt & Gregoire, 2005; Frein et al., 2006; Gregoire & Arendt, 2004; Miner et al., 2014; Sochacki, 2016).

Leadership development at the educational level needs addressing. The research is narrow when assessing how to encourage the development of strong leadership skills among nutrition and dietetic students. Even with the inclusion of leadership skills within the nutrition and dietetics curriculum there is a gap in leadership development (Arendt & Gregoire, 2005; Frein et al., 2006; Sochacki, 2016). The nutrition and dietetics education focuses on knowledge and competency-based assessment. How leadership is encouraged beyond knowledge and competency requirements are unknown.

Using a developmental theory lens may provide insight in how to foster leadership development among nutrition and dietetic students. The self-authorship development theory proposes that development occurs when individuals come to a crossroads where external forces conflict with internal voice (Baxter Magolda, 1998, 2008). Self-authoring individuals can

separate themselves from others, reflect on their role within relationships, establish authority within relationships, and manage differences (Boes et al., 2010). Self-authorship is a constructive development approach that has been used to explore leadership development. Therefore, it provides a broad view to explore nutrition and dietetic students' leadership development in this study by understanding *how* students develop as leaders.

The research conducted on leadership development among RDNs is limited to descriptive survey and assessing personality traits and effective leadership approaches rather than how one develops as a leader (Gregoire & Arendt, 2004). Development theory provides a framework to understand how one develops as an individual and has not been widely used as a theoretical framework to study leadership development among nutrition and dietetic students. Hunter et al. (2011), used constructive development theory to determine *how* RDNs develop as leaders; however, this study focused on leadership development among those already serving in leadership capacities. Therefore, it is unknown if this same developmental theory can apply to nutrition and dietetic students who have fewer experiences in leadership.

Problem Statement

Further research is needed to determine best practices for leadership development among nutrition and dietetic students. Hunter (2009) recommends that encouragement towards leadership should begin in a nutrition and dietetics academic program to recruit prospective leaders in the field. The current curriculum identifies leadership knowledge and competency requirements to include but does not provide program directors and faculty with specific modalities on how to foster leadership development among students. While the Academy of Nutrition and Dietetics (AND) has recognized the need for leadership development among RDNs, facilitation of this development at the undergraduate education level needs further

addressing (Hermosura, 2018; Hunter, 2009). It is suggested that fostering one's development

and capacity for leadership could potentially have a greater impact on the profession than putting

an emphasis on leadership development later in one's career (Drago-Severson & Blum-

DeStefano, 2014; Hermosura, 2018; Hunter, 2009; Hunter et al., 2011).

Purpose of the Research

The purpose of this study is to explore the educational experiences and leadership

development of nutrition and dietetic students who have completed their bachelor of science

degree and have entered a dietetic internship graduate program. Participants' experiences are

explored through a broad view of development theory to understand *how* one develops as a

leader.

Research Questions

There are two overarching research questions, each with sub-questions guiding this study:

1. How do nutrition and dietetic students describe their leadership development after

   graduating with a Bachelor of Science degree and have entered into a dietetic internship

   graduate program?

   a. Research sub-question 1.1. How did the nutrition and dietetics curriculum

      contribute to students' leadership development?

   b. Research sub-question 1.2. How did the experiences within the nutrition and

      dietetics undergraduate program contribute to leadership development?

   c. Research sub-question 1.3. What skills do nutrition and dietetic students possess

      that they contribute to leadership development?

2. In what ways do the educational experiences of Bachelor of Science degree nutrition and

   dietetic students shape their leadership identity?

a. Research sub-question 2.1. How do nutrition and dietetic students understand what leadership is?

b. Research sub-question 2.2. How do nutrition and dietetic students identify as leaders?

Significance of this Study

The AND recognizes the importance of leadership development to improve the nutrition and dietetics profession (AND, 2020); this is further supported by ACEND's addition of the leadership domain in the 2022 education standards. Several researchers have identified the lack of leadership skills within the nutrition and dietetics profession and discuss the need for further leadership development among RDNs (Gregoire & Arendt, 2004; Hermosura, 2018; Hunter et al., 2011). Previously, research on leadership development focused on personality traits and leadership effectiveness among RDNs, which has mainly been conducted through quantitative research (Gregoire & Arendt, 2004). This research study will move beyond leadership traits and styles to explore *how* students' leadership development through a constructivist approach using qualitative research methods. Developmental theory, specifically self-authorship, has been used to explore leadership development among students (Creamer & Laughlin, 2005; Komives et al., 2006), but using this theory to understand leadership among nutrition and dietetic students is limited. Exploring how students interpret their leadership experiences and how their education has contributed to their leadership development can provide another dimension of leadership development and contribute to the knowledge of how RDNs develop as leaders.

Population

The population for this study were those individuals who graduated with a nutrition and dietetics Bachelor of Science degree from a public university in Midwest, U.S.A, which served

as the primary site of this research study. Students who graduated within the last three years and who entered into a dietetic internship graduate program were solicited to participate in this study. Selecting individuals who graduated within this time frame provided proximity to the undergraduate degree where participants could reflect on their experiences. Additionally, this time-frame ensured that all participants were educated under the same 2017 accreditation standards, thus, completing similar learning activities associated with the accredited curriculum.

Research Methodology

The majority of research conducted on nutrition and dietetics leadership, has used quantitative methodology and has limited scope within qualitative research. There is limited research that explores how nutrition and dietetic students' experiences shape their professional growth as leaders in relation to their meaning making capacity. Using grounded theory, this research will provide additional insight into a leadership development theory for students in nutrition and dietetics.

Grounded theory is often used for those subjects with limited research as it allows for researchers to use their data to develop, modify, or further explain a theory (Bhattacharya, 2017; Glasser & Strauss, 1967). Barney Glasser and Anselm Strauss (1967) originally proposed a version with a positivistic lens that was reflective of the quantitative-dominated research scene at the time of its conception with roots in sociology. Theory, they claimed, could be discovered and illustrated by examples from the data. This systematic methodological approach has practical application in providing perspective that is used to predict and explain behavior (Glasser & Strauss, 1967). Grounded theory offers a conceptual understanding of the collected data and provides tools for synthesizing and analyzing data thus allowing the researcher to focus on analysis for theory development (Charmaz, 2017; Glasser & Strauss, 1967).

The methodological framework informing this study will look beyond the original grounded theory methodology and use Kathy Charmaz's (2014) more contemporary concept of constructivist grounded theory. The constructivist grounded theory addresses criticisms of earlier versions as it highlights flexibility and resists the more mechanical applications of the method; it acknowledges the researcher's subjectivity and calls for reflexivity about the research process (Charmaz, 2017). Selection of participants, data collection, and data analysis will reflect this unique type of grounded theory. Data collection methods included interviews, artifact review, and analytic memo-writing. Data analysis will consist of constant comparative analysis as outlined by Kathy Charmaz's (2014) constructivist grounded theory approach.

Theoretical Framework

Constructivism is evident in many varieties of qualitative research, including grounded theory; therefore, establishing the epistemological perspective in which this research is developed is essential. It influences how the research is conducted and ensures appropriate interpretation (Crotty, 1998). Constructivism assumes that knowledge is created through interactions of the knower and the known where the subject of inquiry and the object of inquiry merge to make meaning (Preissle & Grant, 2014). Constructionism takes the standpoint that objective views of the world are derived from individual perspectives; that "meaning is not discovered but constructed" (Crotty, 1998, p. 42). Participants construct meaning of their experiences based on their social and historical contexts (Merriam & Tisdell, 2016). While constructionism takes the viewpoint that individuals do not discover their own meaning but constructs their knowledge based on their interactions with the world around them, focusing on the collective whole of society's process of meaning making; constructivism points to the unique experience of individuals and values each individual's meaning making processes (Crotty, 1998).

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A constructivist approach is used for this research, as it is asking participants to describe or understand their unique experiences as individuals rather than trying to understand nutrition and dietetic students' leadership experience as a collective or the societal influence on leadership experience as a whole. A constructivist viewpoint will be used in this research to explore how participants make meaning of their own experiences that may contribute to leadership development, rather than continuing to research the curriculum's influence on leadership development among nutrition and dietetic students collectively.

Constructivist Leadership Development through Self-Authorship

The self-authorship development theory is rooted in the philosophies of constructivism where meaning is constructed from an individual standpoint. Based on the early works of Piaget and Kegan, self-authorship theory is a holistic approach to one's capacity for meaning making of their experiences (Boes et al., 2010). Self-authorship theory characterizes an individuals' development in meaning making structures in the epistemological, intrapersonal, and interpersonal dimensions, which are the three components of self-authorship (Baxter Magolda, 2008; Hodge et al., 2009). Baxter Magolda (1998) studied the concept of self-authorship in young adults, particularly college students, to determine how to cultivate environments that lend to the development of self-authorship and other factors that contribute to an individual's development. Self-authorship was used previously to explore how individuals choose careers and therefore, can also provide a framework in how individuals lead within those career fields (Creamer, 2010).

Taking a constructivist viewpoint will provide insight in understanding individuals' perceptions of contributing factors to their leadership development beyond the knowledge and skills required by the accreditation agency. Self-authorship theory provides a theoretical

foundation for this study but is not the guiding lens for viewing the results of the data analysis. The purpose of using self-authorship as a broad theoretical perspective is to understand how students' construct meaning from their experiences to develop as leaders and build a leadership identity (Creamer & Laughlin, 2005). It "provides a way of understanding the process that people use to make meaning of experiences" (Creamer & Laughlin, 2005, p. 16) making it a unique development theory in which to explore leadership development at the educational level of the nutrition and dietetics profession.

Limitations of the Study

There are three primary limitations noted in this study that center around methods used in qualitative inquiry, specifically in selecting participants, conducting interviews, and data analysis. When researching leadership development among RDNs using qualitative research, careful selection of participants was important to ensure that they have the knowledge and experience about the research topic (deMarrais, 2014; Hutchinson, 2014) but that they do not feel an obligation to the researcher as a former instructor to participate in the study. Additionally, nutrition and dietetic students may not be forthcoming with information about their education and its contributions to leadership if they feel it will inhibit their progression in the profession in any way. Participant inclusion considerations included: (a) Will participants share their experiences in a truthful way or in a way they assume will make a great contribution to the research? (b) Will they feel a sense of intimidation if they perceive their leadership experiences as limited or they do not wish to serve in leadership capacities? And (c) will those who participate be genuine in their response without interpretation of offending the researcher?

Grounded theory requires a diverse background of participants in order to construct a theory that is applicable in generalizing how undergraduate students make meaning of their

leadership experiences. Using a convenience sample limited this study as the sample was lacking diversity. This study included 17 participants with 82% of participants being female and 88% identifying as white/Caucasian. This lack of diversity is consistent with what is noted by the Commission on Dietetic Registration that states approximately 84% of credentialed dietetic professionals are female and 71% are white (CDR, n.d.-a). Lack of diversity is also evident at the research site where approximately 83% of students in the nutrition and dietetics program are female and 86% are white/Caucasian. Thus, the student population reflects this lack of diversity as well, which limits the variety of perspectives in which theory can emerge. The results of this study related to leadership development may not be applicable to how individuals of other cultures, people of color, or other genders develop as leaders in the broader context of nutrition and dietetics education.

Limitations associated with interviews include question structure, the researcher's theoretical and disciplinary perspective, and the researcher's positionality related to the participants. Interview questions must be open-ended enough for the participant to provide an in-depth representation of their experiences. This allows the researcher to ensure that participants are making meaning of their experiences that truly represent that of the participant rather than that of the researcher. A barrier identified by deMarrais (2014) is that the "interviewer asks leading questions based on his or her own theories, beliefs, and assumptions" (p. 67). Additionally, the researcher's theoretical and disciplinary perspectives and experiences can influence the way they react and respond in an interview and construct meaning within the interview (deMarrais, 2014). A potential challenge in conducting interviews was bracketing the researcher's own assumptions about leadership development from the interview and avoiding asking leading questions to lead the interviewee to agree with these same perspectives.

Lastly, the life experiences of the interviewer and interviewee can impact the collection and analysis of data (deMarrais, 2004). Differences in held beliefs, values, and assumptions regarding leadership can affect data interpretation and analysis. Participants that exhibit or define leadership differently than the researcher could cause an inaccurate analysis of leadership experiences. Thus, understanding one's own subjectivities of leadership was an important point of reflection as this research developed and continued.

Role and Background of the Researcher

Constructivist grounded theory, like many other qualitative methodologies, includes subjective decisions. Understanding how the subjectivity of the researcher influences these methods aids in identifying areas for reflection. Peshkin (1988) suggests that exploring subjectivity and objectivity is important before and during the research process in order to respond to how one's subjectivities are potentially influencing the research. Subjectivity that needs further exploration are the beliefs, attitudes, and assumptions toward leadership held by the researcher. Defining leadership through the lens of the nutrition and dietetics profession will be imperative but considering one's own views of leadership also contributes to how data is collected and analyzed in the research. Definitions of leadership between the researcher and participants may have different characteristics and therefore were considered and thoroughly explored. How one views themselves as a leader may be determined by their held beliefs and assumptions of leadership characteristics and will determine how they share their experiences about professional leadership. The researcher's constant reflexivity is needed to not draw presumptive conclusions about students' perceptions of leadership if they are not consistent with the researcher's definition of leadership.

I am a credentialed RDN and governed professionally by the AND. Most of my professional career as an RDN has been in academia as an educator in nutrition and dietetics. Therefore, my research was largely through the lens of the nutrition and dietetics profession as outlined by the AND. My main motivation for researching this topic is my own struggle as an emerging leader within the profession. I plan to research the leadership development among nutrition and dietetic professionals as it relates to their educational experiences because it was missing in my own professional development and within my own educational experience.

In qualitative research and constructivist grounded theory methodology, the researcher is viewed as a tool in the research design; therefore, acknowledging oneself as a tool in the research process was key (Charmaz, 2014). Through the power of reflexivity, one can see how power and privilege play a role in the ability to move forward with research and not take for granted those who participated and the experiences that they shared in the process. Research design required continuous reflection of positionality when collecting data, conducting analysis, how meaning was constructed, and in presenting the results.

The need for leadership development among nutrition and dietetic professionals has been recognized in prior research (Gregoire & Arendt, 2004), but the exploration of how educational experiences facilitate one's own capacity for leadership is limited. In my original quest for researching leadership development, my main objective in doing the research was to improve the experience and professional preparedness of the students in the nutrition and dietetics program in which I oversee. Additionally, I aspire to make a positive contribution to the nutrition and dietetics profession by enhancing dietitians' self-efficacy to serve as leaders through dietetics education. This research will not continue to define leadership in the nutrition and dietetics profession but will explore how individuals' educational experiences contribute to their

leadership development. Rather than limiting leadership development to mastery of skills within the curriculum, ways in which educators can create an environment in which nutrition and dietetic professionals can recognize their potential as leaders. The intention of studying leadership development for students enrolled in nutrition and dietetics programs is to influence how current nutrition and dietetics educators can enhance the leadership development of future RDNs.

Conceptual Definitions

The following terms are used in this manuscript and will be further defined to provide context for this research.

- Accreditation Council for Education in Nutrition and Dietetics (ACEND) – The accreditation agency for programs that educate nutrition and dietetic professionals (ACEND, n.d.-b).

- Action Logic Model – This model was developed by Hunter et al. (2011) using constructivist developmental theory to understand the leadership development among RDNs. Tiers outlined in this model include pre-conventional, conventional, and post-conventional to group action logic stages used to assess leadership development (Hunter et al., 2011)

- Commission on Dietetic Registration (CDR) – The credentialing organization for RDN professionals. Commission on Dietetic Registration oversees and maintains the professional credentials including RD/RDN, DTR/NDTR, recertification status and the Code of Ethics for the nutrition and dietetics profession (CDR, n.d.-b).

- Constructivist Grounded Theory – A contemporary view of grounded theory, popularized by Kathy Charmaz (2014). This form of grounded theory uses similar foundational

approach in data collection, management, and analysis but uses a more constructivist

approach rather than a positivist approach outlined in original grounded theory

(Bhattcharya, 2017; Charmaz, 2014).

- Dietetics Education – There are multiple pathways to obtain the RDN credential

  including Coordinated Programs in Dietetics (CP), Individualized Supervised Practice

  Pathways (ISPP), Future Education Models Graduate Programs (FEM), and lastly,

  Didactic Programs in Dietetics (DPD) followed by a Dietetic Internship (DI) (ACEND,

  n.d.-a). This study will focus on students participating in the traditional educational

  pathway beginning with the Didactic Programs in Dietetics (undergraduate) and

  progressing to the Dietetic Internship (graduate) in preparation for the national

  credentialing exam.

- Didactic Program in Dietetics (DPD) – This program type is often completed at the

  bachelor of science level and includes specific nutrition and dietetics coursework.

  Didactic coursework must be completed prior to a dietetic internship (ACEND, n.d.-a)

- Dietetic Internship (DI) – A post-baccalaureate internship that requires completion of a

  didactic program in dietetics (DPD) and a minimum of a bachelor's degree. A dietetic

  internship consists of a minimum of 1,000 supervised practice hours and sometimes

  offered in conjunction with a graduate degree. Completion of a dietetic internship

  provides eligibility to sit for the national credentialing exam (ACEND, n.d.-a).

- Grounded Theory – A methodology used where theory is derived and illustrated by the

  data (Glasser & Strauss, 1967).

- KRDN – Core knowledge requirements determined by ACEND and must be evident in

  the curriculum for didactic nutrition and dietetics program. KRDNs must be measured by

a learning activity determined by the program and must be measured annually to assess if programs are meeting the established target measures (ACEND, n.d.-a).

- Leadership – The definition used in the dietetic leadership literature states that leadership is "the ability to inspire and guide others toward building and achieving a shared vision" (Borra & Kunkel, 2002, p. 12).

- Leadership Identity Development (LID) Model – A model developed by Komives et al. (2005) to explore the processes on how one makes meaning of their experiences in creating leadership identity. This model was developed to specifically explore how college students progressed from leader-centric views to a more relational and collaborative view of leadership (Komives et al, 2005, 2006, 2009)

- Nutrition and Dietetics – This term is used to describe professionals, students, programs, and education. These words, when combined, reflect the integration of Nutrition, which is "the science of food, nutrients, and other substances contributing to nutritional status and health" (p. 144), and Dietetics, "the application of food, nutrition, and associated sciences," (p. 144) to ensure quality care (The Academy Quality Management Committee, 2018).

- Nutrition and Dietetic Student – Those students who have completed an undergraduate DPD program and have entered into a dietetic internship or other professional or graduate program.

- Public Affairs – A mission that defines how education is delivered at a public four-year university in Midwest, U.S.A, which was used as the research site for this study. The public affairs mission focuses on ethical leadership, cultural competence, and community engagement.

- Registered Dietitian (RD)/Registered Dietitian Nutritionist (RDN) – A food and nutrition expert who has met the criteria to earn the RD/RDN credential set forth by CDR (CDR, n.d.-b).

- Self-Authorship – Originally coined by Robert Kegan (1994), self-authorship is a single phase of development towards self-evolution that considers an internal personal identity. Self-authorship later evolved by Marcia Baxter Magolda (1998) as her research expanded the development of self-authorship among college students that includes three phases, external formulas, crossroads, and self-authorship that are informed by three dimensions: epistemological, intrapersonal, and interpersonal that facilitate development.

- Transactional Leadership – A style associated with managerial forms of leadership taking a reinforcement approach where rewards are contingent on a follower's action or productivity (Smith, 2015). Historically, leadership education for RDNs are situated in management-type roles rather than exhibiting leadership in varying contexts (Patten, 2016). Leadership styles most often associated with allied health professionals, including RDNs includes transactional and transformational leadership (Arensberg et al., 1996; Boyce, 2014; Sarver, 2005; Wylie & Gallagher, 2009).

- Transformational Leadership – A leadership style that focuses on the interpersonal relationship between leader and followers. The transformation leader is defined as one who inspires, motivates, and excites followers in a charismatic way that leads to higher levels of performance and success (Cherry, 2019; Judge & Bono, 2000; Nohria & Khurana, 2010). Four components of transformational leadership include idealized influence (consisting of two subcategories: attributed charisma and behavioral charisma), inspirational motivation, intellectual stimulation, and individualized consideration. This

type of leadership style is closely related to the leadership style associated with the profession (Gregoire & Arendt, 2004).

Summary

In summary, the dietetics profession recognizes the need for leadership development but has minimal information in the literature on how to approach this development beyond leadership education. Likewise, the minimal use of qualitative research specifically in nutrition and dietetics provides a limited understanding of how one develops as a leader within the profession. Using constructivist grounded theory to explore how students make meaning of their educational experiences and how that contributes to one developing as a leader can provide insight into how to support individual development, thus supporting professional development.

Chapter 2 - Literature Review

The purpose of this study is to explore how nutrition and dietetic Bachelor of Science degree graduates describe their leadership development and the contributing factors of their educational experiences. Thus, this literature review is organized into four major topics and describes how they intersect to inform this research. The introduction provides the context for this study in leadership development for the RDN. First, the definition of an RDN and the historical perspective in the initiation of the profession is presented. Secondly, an overview of leadership, most specifically how it is defined by the nutrition and dietetics profession, and how the current literature defines a successful leader. Next, the nutrition and dietetics education and how it addresses leadership as well as leadership training for the credentialed RDN is presented. The last section includes an overview of adult developmental theory, specifically within the self-authoring framework as a lens to view how one develops as an individual and how it informs leadership identity development.

Leadership development is important for the advancement of any discipline, including that of nutrition and dietetics. Acknowledging that leadership is an important part of the dietetics profession it is, therefore, an essential part of the curriculum to prepare students for professional practice (Arendt & Gregoire, 2005; Frein et al., 2006; Gregoire & Arendt, 2004; Miner et al., 2014; Sochacki, 2016). The AND recognizes the importance of leadership development to progress the nutrition and dietetics profession (AND, n.d.). There is a lack of leadership development in the dietetics profession as documented by researchers Hunter, et al. (2011) and Gregoire and Arendt (2004). Hunter (2009) recognized that RDNs did not often serve in leadership positions associated with hospital administration. Hunter et al. (2011) later determined that RDNs lacked self-efficacy in their ability to lead. Arensberg et al. (1996) found that

subordinates of RDNs in leadership positions were viewed as having limited leadership skills.

This lack of leadership development has been documented in other allied healthcare professions

as well such as nursing, speech and language pathology, occupational therapy, radiography,

among others (Wylie & Gallagher, 2009). Many allied healthcare professions, specifically

nutrition and dietetics, are primarily female and lack representation in administrative roles within

healthcare, government, or community organizations. The majority of credentialed nutrition and

dietetic professionals are female (85.48%) compared to males (3.78%), with 10.74% of the

credentialed dietitians not reporting gender (CDR, n.d.-a). This literature review will provide a

historical perspective of the dietetics profession, background on the standardized education

required for entry-level dietetic students, leadership education, and how developmental theory is

used to understand the development of college students as it relates to leadership.

Defining Registered Dietitian Nutritionists As Leaders

This section will begin by providing a brief history of the nutrition and dietetics

profession by further defining RDNs and the evolution of the profession over the past 100 years

(Gregiore & Arendt, 2004; Stein, 2014). Secondly, leadership opportunities for the RDN will be

reviewed as well as the type of leadership most often associated with the profession. Lastly, a

review of the literature on leadership among dietetic professionals and students.

A Historical Perspective of the Profession

The recognition of nutrition and dietetics date back to the ancient Greeks, who believed

nutrition habits and diet practices were effective methods for the treatment of disease and

contributors to intellectual health. For centuries, physicians recognized diet regulation over

medication to approach many diseases such as tuberculosis, leprosy, fever, and gout. Later,

research revealed "diseases of dietary origin" (Hwalla & Koleilat, 2004, p. 718) such as anemia,

goiter, and ophthalmia. These diseases, later determined to be caused by deficiencies, lead to further discovery of specific vitamins and minerals that were essential for human health (Hwalla & Koleilat, 2004). Advancements in the nutritional sciences began to flourish in the early 19th century along with the expansion of chemistry research and quantitative nutritional studies. Diseases associated with vitamin deficiency diseases comprised much of the early research and later included research to establish daily requirements for the macronutrients, carbohydrate, protein, and lipids. With continued research and development of nutritional sciences came the development of food composition tables providing dietary recommendations for health maintenance along with plans for therapeutic diets (Hwalla & Koleilat, 2004).

With a long history of nutritional sciences, supported by medical sciences such as chemistry and biology, healthcare workers now known as RDNs, worked alongside physicians to provide medical nutrition therapy. Dietetics started to flourish in the 1940s during World War II as more qualified healthcare workers were needed as part of the wartime efforts (Stein, 2014) and dietitians specifically were recognized by the military (Hwalla & Koleilat, 2004). Hospital employment was the most common workplace among dietitians and still is today. Dietitians serve in the hospital as clinicians providing medical nutrition therapy services as well as in foodservice management with a strong foundational knowledge of the relationship between nutrients and disease. As patient care evolved and patient satisfaction scores were used for Medicare reimbursement, patient satisfaction was connected to foodservice and healing time was associated with nutrition status; therefore, the need for qualified and credentialed foodservice workers increased. The initiation of government-funded community nutrition programs provided dietitians an opportunity to further utilize their expertise in food and nutritional science in schools and other community agencies (Stein, 2014). The need for nutrition and dietetic

professionals is also supported by increased public-interest in nutrition and the functionality of food to prevent and treat chronic disease (Hwalla & Koleilat, 2004).

The dietetics profession derives from disciplines such as nursing, culinary experts, and home economics, all of which are primarily female-associated professions. The nursing profession and founder, Florence Nightingale, provided the healthcare perspective and established nutrition science as a method for treating the human body. While Alexis Soyer, the first army dietitian, taught soldiers how to cook nutritious meals with appropriate proportions for health (Hwalla & Koleilat, 2004). Despite one of the first army dietitians being male, the profession is largely viewed as a woman's profession. Historically, dietitians across the world were granted limited access to hospitals or medical universities and therefore, the profession developed through the home economics disciple that merges culinary skills with the dietary needs of individuals.

The term *dietetics* has evolved and, in some respects has become quite ambiguous. Traditionally speaking, the term dietetics refers to physical health and wellbeing and includes a connection between human beings and their environments. This contradicts a more modern perception that dietitians only work in a hospital or healthcare settings (Capra, 2012). Dietetics is a broad field that refers to a practitioner with a narrow focus – food and nutrition. Historically dietitians served as supervisors of food and special diets and trained nurses in valid cooking practices. In 1925, dietitians were termed as *nutrition experts* and have progressed to other areas outside of foodservice management, such as public health and medical nutrition therapy and have expanded to marketing, sports nutrition, advertising and policy making (Capra, 2012). As incidences of diet-related chronic illness has risen, the nutrition and dietetics professional has gained the spotlight as a means to influence the treating and preventing disease through nutrition

therapy (Capra, 2012; Klemm, 2021). As the profession evolved to establish dietitians as the experts in medical nutrition therapy, business skills were only at a basic level which has led to many dietitians serving in staff roles rather than leadership roles (Capra, 2012).

While the nutrition and dietetics profession dates back for centuries, the profession was officially established over 100 years ago with the induction of the professional organization, AND, formerly known as the American Dietetic Association (ADA). The first dietitians in the United States, Sarah Tyson Rorer, Lenna Cooper, and Lulu Graves organized the association to establish qualifications and standards for training individuals for the profession. The association worked quickly to educate new professionals by establishing quality education, holding annual meetings, and networking opportunities for its members. Today, AND is the largest organization of RDNs and other dietetic professionals, leading the future of the profession through research, nutrition services, and food policy advocacy (Hwalla & Koleilat, 2004).

This historical outlook on the profession highlights the communal aspects of dietitians and the more supportive, nurturing, foodservice and allied healthcare roles rather than highlighting their leadership capabilities as nutrition experts. Additionally, the historical review provides insight into how education for the nutrition and dietetics evolved to include medical science but were limited due to the association of a female dominated profession. While education was focused on medical science and culinary practice, leadership education was not a focus through the developmental years of the profession as it is known today.

Registered Dietitian Nutritionists as Leaders

The AND defines an RDN as an expert in providing science-based evidence in food and nutrition and practices medical nutrition therapy to prevent and treat illnesses (Ellis, 2020). Leadership within the profession historically has been presented through a management lens.

Discussions in the 1970s regarding the difference between management and leadership within dietetics began to distinguish the need for both in various contexts for the profession (Gregoire & Arendt, 2004). Dietitians are in general management positions, but their influence is harder to identify (Capra, 2012). Sneed and Gregoire (1998) and Demicco and Williams (1999) reported on the decline of dietitians in management roles. The lack of dietitians serving in leadership roles has continued as very few dietitians serve in community or hospital administration positions (Hunter et al., 2011).

Gregoire and Arendt (2004) attempted to review leadership development among dietitians and found that many organizations desire strong leadership skills but cannot truly define leadership. Because there are many definitions of leadership, it is important to state how the nutrition and dietetics profession defines leadership for the context of this research and in assessing the effectiveness of leadership capabilities within the profession. The authors attempted to bring various leadership definitions together across the literature specifically related to the nutrition and dietetics profession and found common statements such as "to motivate", "to influence", "to direct activities", "enabling others", "guide others", "communicating shared visions", and "caring for others" (Gregoire & Arendt, 2004, p. 396). In a review of statements from leaders of the AND, past presidents of the Academy call for strong leadership skills including competence, confidence, risk-taking, tolerant of conflict, result-focused, a focused listener, and strong speaker (Laramee, 2005; McCollum, 2014; Scott, 2014). The definition used in the dietetic leadership literature states that leadership is "the ability to inspire and guide others toward building and achieving a shared vision" (Borra & Kunkel as cited in Gregoire & Arendt, 2004, p. 395). These terms that are identified in dietetics leadership literature are consistent with the communal characteristics associated with an RDN's role. Communal characteristics are not

associated with strong leadership traits (Eagly & Sczesny, 2019), and therefore may contribute to the lack of leadership opportunities that dietitians have experienced in the current healthcare environment.

Leadership Opportunities for Dietitians

The necessity for leadership skills within the profession is widely documented to sustain any profession (Sneed & Gregoire, 1998). However, many researchers have also identified the lack of leadership skills within dietetics and discussed the need for further leadership development (Gregoire & Arendt, 2004; Hermosura, 2018; Hunter et al., 2011; Sarver, 2005). Sylvia Escott-Stump, former president of AND, posits that leadership is a shared responsibility of all members, that each dietetics professional has a responsibility to lead (McCollum, 2014). Therefore, making it an essential component of the training and education of nutrition and dietetic professionals.

Boyce (2014) asserts that opportunities for leadership training are numerous and applicable to RDNs working in a wide variety of sectors. There are numerous opportunities provided by the AND that include continuing education, leadership positions, and training in leadership skills through continuing education webinars and training modules, which are available to members and non-members of AND. Training that is offered include the Leadership Institute, Leadership Training through ACEND, both of which have been placed on hold or discontinued. Additionally, there are recommended books, webinars, and other resources that offer training on enhancing leadership skills (Boyce, 2014). There are also opportunities to serve in leadership positions through state affiliations, serving on committees in special interest groups, or serving on the national level through AND's House of Delegates and ACEND's Executive Board. Boyce (2014) offers suggestions for how dietitians can gain leadership

experience, which include tasks such as participating in practice groups, serving in leadership positions in state affiliate associations, joining community service organizations, participating in professional development resources at places of employment, and participating in Academy leadership development programs.

However, the gap still exists in the nutrition and dietetics literature that provides insight into how one develops as a leader in self-efficacy and motivation to lead. If leadership opportunities and training resources are provided for dietitians, then why is there still a disconnect between dietitians being viewed as competent leaders? Many opportunities for learning leadership skills and suggestions for leadership involvement/participation exist; however, the question remains as to why dietitians are reluctant to participate and why they serve primarily in service roles rather than leadership roles. Further research is needed to determine if dietitians are participating in these resources and perhaps why; as well as if those participating in leadership training, ultimately use these skills in various capacities. More research is needed on how these training opportunities aid in their development as leaders – both self-efficacy and how RDNs are viewed by their subordinates and/or their supervisors. It is undetermined the effectiveness of the Academy's leadership efforts and how, or if, those contribute to the development of leadership identity.

Leadership skill development continues to focus on leadership traits and philosophies that are desirable. Yet, the need for cultivating leadership skills is still not fully explored or understood (McCollum, 2014). A focus on development remains limited, it is unknown how effective the training is or how leadership attributes are being encouraged for new practitioners and/or students.

<p style="text-align:center">Research on Leadership of Registered Dietitian Nutritionists</p>

The research specifically related to leadership development for the dietetics professional is limited to assessing personality traits and leadership approaches rather than how leadership is developed (Gregoire & Arendt, 2004). A review of the literature showed that transactional and transformational leadership are the most identified approaches within allied health professionals, including dietitians (Arensberg et al., 1996; Boyce, 2014; Sarver, 2005; Wylie & Gallagher, 2009). Transformational leadership is the primary leadership theory identified through survey methods, specifically in the dietetics literature (Boyce, 2014). While leaders may use a variety of approaches, better leaders tend to exhibit transformational leadership characteristics in the field of dietetics (Arensberg et al., 1996; Boyce, 2014; Sarver, 2005). Reporting on this leadership theory aids in providing a lens in how the profession defines leadership and presents training resources to cultivate leadership development.

Transformational Leadership Theory Research

The transformational leadership theory focuses on the relationship and interpersonal connections between leaders and their followers. A transformational leader focuses on members' performance through a lens that ensures that the followers can reach their potential (Cherry, 2019). Research shows that this type of leadership is associated with leadership effectiveness (Judge & Bono, 2000), which contributes to employee well-being and satisfaction. The transformational leader inspires, motivates, and excites followers in a charismatic way to higher levels of performance and success (Cherry, 2019; Judge & Bono, 2000; Nohria & Khurana, 2010).

Transformational leadership is based on four components: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration. Idealized

<p style="text-align:center">28</p>

influence refers to the use of charisma, which a leader uses to motivate the followers and has often been described as the most important dimension of the transformational leadership approach. Inspirational motivation, often paired with idealized influence, refers to the leader's ability to articulate a clear and inspiring vision to the followers. Next, intellectual stimulation refers to a leader's ability to stimulate the followers' creativity, problem-solving, and critical thinking capabilities by questioning and challenging the status quo. Lastly, individual consideration is what sets the transformational leadership theory apart from traditional leadership theories. This component focuses on the interpersonal relationship between the leader and follower and allows the leader to consider the individual, supporting their needs within the organization (Judge & Bono, 2000). Leaders use these components to different degrees to achieve outcomes through their followers (McCleskey, 2014).

The main strength identified in the literature on transformational leadership is the higher levels of success within an organization associated with this leadership approach (Boyce, 2014; Cherry, 2019; Judge & Bono, 2000; Sarver, 2005; Wylie & Gallagher, 2009). Criticisms of transformational leadership include the overlap associated with the components of the theory and the lack of sufficient evidence regarding the impact of situational variables on leadership effectiveness (McCleskey, 2014). Even though transformational leadership is effective in influencing subordinates and organizational outcomes, there is minimal research on the perceptions of this type of leadership from those serving in leadership positions (Judge & Bono, 2000).

Research specifically looking at the transformational leadership approach in dietetics is limited; however, a few studies specifically reported on dietitians as transformational leaders and have compared and contrasted the views of leadership skills rated by leaders and their followers

(Arensberg et al., 1996; Sarver, 2005; Wylie & Gallagher, 2009). Arensberg et al. (1996) looked at the leadership approach used by 150 clinical nutrition managers and assessed their capabilities as a leader. This study was identified as one of the first to look at transformational leadership in dietetics. Participants were provided with the Leadership Behavior Questionnaire (LBQ) to measure behaviors associated with transformational leadership. The LBQ was developed by Sashkin and Burke (1990) specifically to assess transformational leadership behaviors and has been tested for reliability and validity. The purpose of Arensberg et al.'s (1996) study was to determine how clinical nutrition managers rated themselves on the characteristics consistent with transformational leadership compared to how their subordinates rated the managers' leadership characteristics. An area that showed significant differences between the leaders' and subordinates' ratings included communication skills indicating that the clinical nutrition managers lacked the skills to communicate the mission, vision, and goals of the organization. Arensberg et al. (1996) proposed transformational leadership theory as a prominent leadership approach used within dietetics based on the behaviors and traits exhibited by the clinical nutrition managers surveyed in this study, and that are consistent with transformational leadership styles. Other researchers have since verified this original hypothesis that dietitians exhibit characteristics of transformational leaders (Boyce, 2014; Sarver, 2005; Wylie & Gallagher, 2009). These results indicate that there is a need to research outcomes specifically in the dietetics profession as a result of transformational leadership.

Because the research on transformational leadership and dietetics is limited, the search for transformational leadership among allied health professions was needed to gain more insight on dietitians as transformational leaders. A study by Wylie and Gallagher (2009) was conducted to determine transformational leadership behavior among six of the largest allied health

profession groups (including dietetics) to determine what positively influenced transformational leadership behaviors. An abridged version of the Multifactoral Leadership Questionnaire containing 36 items that measured nine leadership factors was administered to 1700 healthcare professionals, with 753 responding. The results only included the five transformational leadership behaviors: idealized influence – attributed charisma, idealized influence – behavioral charisma, inspirational motivation, intellectual stimulation, and individualized consideration. Data were analyzed using descriptive statistical methods including Kruskal-Wallis tests to determine significance among all professionals and the transformational leadership factors as well as a Mann-Whitney U test to determine interprofessional differences. Results showed that seniority and prior leadership training positively influenced transformational leadership behaviors, whereas locus of employment and working in a multidisciplinary team had no effect. This study with allied health professionals can provide clues of what leadership behaviors are present but not *how* or *why* they develop. Factors in the study indicated that transformational leadership behaviors can develop, which is consistent with other contemporary leadership theories stating individuals can develop leadership skills rather than inherently possess them. Researchers also identified the need for qualitative data to support what data they had gathered (Wylie & Gallagher, 2009).

Leadership Research in Dietetics Using Development Theory

Leadership development specifically related to dietetics is limited. Hunter (2009) recognized that developmental theory was limited in the nutrition and dietetics literature and expanded its use to explain physical, cognitive, and emotional development as it relates specifically to how RDNs develop as leaders. Constructive developmental theory was used by Hunter et al. (2011) to describe how RDNs who were serving in leadership positions developed

as leaders. The authors suggest that one's ability to lead is not necessarily based on their philosophy of leadership, personality traits, or one's style of management, but rather in their Action Logic stage of development that determines how they interpret their surroundings and react when their power or safety is challenged.

Action Logics are the steps or stages in an individual's journey of mental growth and development during adulthood; or how one makes meaning of themselves and the world around them. The constructive developmental theory was the framework used to outline the Action Logic stages and has origins in Piaget's theory of cognitive development, as well as Kegan's development-of-self theory (Hunter et al., 2011). The Action Logic model (Figure 1) used by Hunter et al. (2011), proposes that professionals progress through stages of leadership and self-assess their effectiveness as a leader (Hunter et al., 2011).

Figure 2.1. *Action Logic Model (Hunter et al., 2011)*

	Stage	Action Logic	Characteristics
Pre-Conventional	2/3	Opportunist	Manipulative; focused on self; external blame; "I win, you lose mentality"; see feedback as an attack; fragile self-control; hostile humor; sees punishment as "an eye for an eye."
Conventional	3	Diplomat	Avoids overt conflict; wants to be a member of the group; seeks approval; conforms to social and group norms and standards; righteousness is prevalent; no self-reflection or recognition of own shortcomings; feedback heard as personal disapproval.
	3/4	Expert	Rules by logic and expertise; strong belief systems; usually cognitively grasps one or more disciplines; perfectionism; serial problem solving; can get stuck in detail; difficulty prioritizing competing demands; sees feedback as criticism.
	4	Achiever	Results and goal oriented; future oriented; seeks consensus; self as agent; initiator; may be unorthodox; self critical; mutuality and equality in relationships; begins to see complexity; accepts behavioral criticism.
Post Conventional	4/5	Individualist	Increased comprehension of complexity; turns inward, sees self in relationship; able to adjust behavior to context; systematic problem solving; can create decision paralysis; begin to seek out and value feedback.
	5	Strategist	Creates personal and organizational transformations; recognizes complexity and interrelationships; problem finding not just problem solving; aware of paradox and contradiction in system and self; nonhostile humor; deep appreciation of others; seeks feedback as vital for growth.
	5/6	Alchemist/Magician	Generates social transformations; highly aware of complexity of meaning making, dynamic processes; reframe meaning of situations; seeks spiritual and personal transformations; works with chaos and order; interplay of awareness, thought, action; aware of continuous self redefinition.

The Action Logic Model assigns stages 2 through 5/6 to illustrate movement from early in one's career to later, rather than from a lower to higher level of development. Earlier stages of development comprise the pre-conventional tier where the professional is characterized as self-focused. Stages 3 to 4 are included in the conventional tier, which is used to describe the diplomat, expert, and achiever action logic stages. Eighty percent of dietitian leaders were found to be in this tier. Stage 3: *Diplomat* is characterized as one who avoids conflict, conforms to social norms, seeks approval from others, and tends to take feedback personally. Stage 3/4: *Expert* has an established belief system. Leaders at this action logic stage tend to be focused on details and ruled by logic. Feedback at this stage is viewed as criticism. Stage 4: *Achiever* is identified as leaders who are more futuristic and goal oriented. They understand the complexity of relationships and organizational systems. At this stage, leaders tend to be more accepting of

feedback. The last tier, post-conventional, includes stages 4/5: *Individualist*, Stage 5: *Strategist*, and 5/6: *Alchemist/Magician*. Leaders in this last tier were characterized as self-aware and demonstrated higher organizational impact (Hunter et al., 2011).

The findings in this study are not reflective of all dietitians and cannot be generalized to all healthcare professionals as the sample only included those already serving in leadership; however, it provides a framework to explain how dietitians develop as leaders. A gap remains in the literature in how leadership development is cultivated earlier in one's career or its use in developing the standardized curriculum used for nutrition and dietetics education. Using developmental theory to explore leadership development can be utilized for further understanding.

In summary, there are opportunities for RDNs to learn about leadership through various modalities and opportunities to serve in leadership positions through professional organizations. The impact of training and leadership positions has not been explored to understand its effectiveness or contributions to one's leadership development. The limited research on leadership and dietetics indicates that transformational leadership is the theory most consistent with how the profession defines leadership among RDNs. Most of the dietetics research on effective leadership styles displayed by nutrition and dietetics professionals focus on transformational leadership. While characteristics of other leadership approaches are evident in the work of an RDN, there is a void in the existing literature of how dietitians utilize these other types of leadership approaches and how they inform nutrition and dietetics education.

Research on Nutrition and Dietetics Education

Hermosura (2018) conducted a needs assessment and literature review, and reported evidence that shows that dietitians are not highly regarded as competent leaders and that there is

a gap in education and implementation of leadership skills. While components of leadership are woven through the current standardized curriculum for nutrition and dietetics education, there are minimal core knowledge components that specifically relate to leadership. Sneed and Gregoire (1998) stated "for excellence in practice to occur, there must be excellence in education, (both in initial preparation and continuing education)" (p. 861). As the profession and an RDN's scope of practice evolves, so does the need for the curricula (Capra, 2012).

Background

The Accreditation Council for Education in Nutrition and Dietetics (ACEND, n.d.-b) is the accrediting agency that standardizes nutrition and dietetics education for undergraduate and graduate degrees to prepare students to begin careers in nutrition and dietetics. ACEND works to assure the quality and integrity of dietetics education, communicate accreditation expectations and foster innovation within the curriculum. To meet its goals, ACEND establishes and maintains accreditation standards, which programs use when applying for accreditation status and renewal. These standards provide criteria for accreditation consideration that include organizational requirements, program resources that provide quality education, and expectations for knowledge and competencies attained by students prior to graduation. Accreditation status is granted to programs for a seven-year term after which then they can reapply for recertification.

Accreditation standards are revised and implemented every five years to ensure quality and applicability in preparing students for the nutrition and dietetics profession. While the standards are similar for all program types, there are some differences and therefore separate accreditation documents are provided. A key difference between standards of the DPD and DI programs is found in standard five that defines appropriate curriculum and learning activity standards. DPD programs are based on core knowledge achieved by students, whereas DI

programs are competency-based. The current 2017 accreditation standards are in effect until June 1, 2022. The updated 2022 standards were adopted in September 2021 and programs have until June 1, 2022 to come into compliance with the new standards.

The previous standards for accredited programs address some leadership preparation mainly through priority tasks associated with leadership such as effective communication, mentoring, and management skills. These tasks are often situated in foodservice management curriculum; however, dietitians have a variety of practice areas in which they lead (ACEND, 2016a; ACEND, 2016b; Patten, 2016). When surveyed, 68% of dietitians agreed that the majority of their leadership education was in the context of foodservice management and not applicable to their current work (Patten, 2016). A Delphi study using three rounds of questionnaires was provided to dietetic education experts to define leadership and identify "leadership knowledge, skills, training, and experiences" (Miner et al., 2014, p. A-19). Themes were generated and descriptive statistics were used to reach consensus on the relationships between statements. From this research, teamwork and collaboration, professionalism, and honesty were all used to define leadership. "Leadership knowledge, skills, training, and experiences" (Miner et al., 2014, p. A-19) were identified as necessary components in dietetics education and can be used to inform curriculum in leadership. Priorities in leadership education included confident communication skills, teamwork, critical thinking and decision making, professional ethics, life-long learning evidence-based practice project assessment, and goal setting. Leadership skills are fundamental and are integrated into the educational curriculum (Schiller et al., 1993).

Management versus Leadership

Historically management was recognized as essential to the profession. A focus on management decreased in the early 1990's (Sneed & Gregoire, 1998); however, management theory and skills are still part of the current accreditation standards. An example of this is outlined in the knowledge-based outcomes for didactic programs in dietetics,

- "Apply management theories to the development of programs or services" (ACEND, 2021, p. 11)

- "Apply the principles of human resource management to different situations" (ACEND, 2021, p. 11).

Recently, ACEND released the updated 2022 standards for nutrition and dietetics education, which include the addition of a domain focused on leadership and career management. This domain includes six knowledge requirements to be implemented into the undergraduate curriculum for nutrition and dietetics education (ACEND, 2021).

- "Perform self-assessment that includes awareness in terms of learning and leadership styles and cultural orientation and develop goals for self-improvement" (ACEND, 2021, p. 11).

- "Identify and articulate one's skills, strengths, knowledge and experiences relevant to the position desired and career goals" (ACEND, 2021, p. 11).

- "Practice how to self-advocate for opportunities in a variety of settings (such as asking for needed support, presenting an elevator pitch)" (ACEND, 2021, p. 11).

- "Practice resolving differences or dealing with conflict" (ACEND, 2021, p. 11).

- "Promote team involvement and recognize the skills of each member" (ACEND, 2021, p. 11).

- "Demonstrate an understanding of the importance and expectations of a professional in mentoring and precepting others" (ACEND, 2021, p. 11).

The addition of these standards demonstrates the importance of leadership included in the curriculum and emphasizes the broadened view of leadership aside from management skills. However, providing direction for educators to specifically foster leadership development among students outside of the standardized curriculum is still warranted. The accreditation standards are not prescriptive in how programs offer their curriculum, they simply state the knowledge and skills to be included in the curriculum. A missing piece for educating nutrition and dietetic students is the development of the individual informed by developmental theory. Educators have an opportunity to design a curriculum that fosters development where students can bring their knowledge and leadership experience together to develop as leaders.

Research on Leadership Education in Dietetics

Patten's (2016) exploratory research to develop a leadership behavior taxonomy for clinical RDNs suggested that presenting leadership skills in other contexts will increase the development of leadership skills in other areas of dietetics as well, not just in foodservice management as it is typically found in undergraduate programs. Developing leadership skills has consistently been identified as a need in the nutrition and dietetics profession, but little description is used to outline what leadership entails in various settings in the dietetics profession outside of foodservice management (Patten, 2016). The taxonomy developed through Patten's (2016) research was designed to inform dietetics curriculum and continuing education programs for RDNs. Six hundred eight-four dietitians were surveyed to determine their leadership behaviors they practiced as a clinical RDN and the benefits to patients or clients if those behaviors were demonstrated. Lastly, the survey explored RDN's experiences and perspectives

on leadership in their education. The leadership taxonomy for clinical dietitians proposed by Patten (2016) includes five areas: change leadership, patient-focused leadership, self-directed leadership, technical leadership, and relationship leadership. Change leadership is signified by analyzing current environments and advocating for change needed to improve work environments including relationships, teamwork, and professional growth. Patient-focused leadership identifies and initiates ways to increase patient outcomes and satisfaction. Self-directed leadership is characterized by the ability to assess one's own work and make decisions appropriately while building cooperative relationships. Technical leadership is identified as engaging and utilizing current knowledge and skills as well as current research to improve patient outcomes and promoting one's role as a nutrition expert. Lastly, relationship leadership is acting with and serving as a mentor. This taxonomy can be used to inform leadership education in the nutrition and dietetics education to provide direction and support of leadership behaviors within a clinical setting (Patten, 2016).

Patten's (2016) research recommends that educators need to adjust how leadership training is situated in the curricula to provide students more leadership experiences in various contexts rather than limiting the focus on foodservice management. If educators do not specifically reinforce leadership behaviors, valuable leadership experiences may get overlooked (Patten, 2016) diminishing leadership development. With the regular revision of the dietetics curriculum, there is an opportunity for ACEND to standardized curriculum in offering leadership experiences in a variety of contexts that will provide all students diversity in their experiences (Patten, 2016). Ardent and Gregoire (2005) studied eight dietetic programs across the United States to gain an understanding of students' perceptions of their leadership skills. Through a leadership survey, they found that factors that produced higher leadership scores not only

included coursework in various forms but also included leadership experiences such as holding leadership positions through student organizations and supervisory work experience (Ardent & Gregoire, 2005). As past AND president, Susan Laramee, posits the need to cultivate a culture of leadership development is essential to the progression of the profession (Laramee, 2005). Individuals need to be in an environment where they are not only learning about leadership but that experiences are provided and development is fostered (Boyce, 2014).

Research on Leadership Development

Many of the leadership development programs specifically designed for college students are based upon business models or managerial models (Posner, 2004). Guthrie and Thompson (2010) agree that leadership education must involve a balance between formal education and leadership theories, as well as experiential learning and reflective practice. Experiential and reflective learning are consistently identified as key components in leadership development education (Gregoire & Arendt, 2004; Komives et al., 2006; Sochacki, 2016).

Experiential learning theory, as originated by Kolb (1984), states that students can take responsibility for their own learning through structured learning experiences where students are able to apply their knowledge and take opportunities to make meaning from their experiences. Kolb argues that, provided a concrete experience, individuals learn from experience in two ways: active participation and reflection. Experiences such as leadership case studies, shadowing programs, journaling, guest speakers, and follow-up leadership experience all influence the leadership behavior of students (Posner, 2004). Posner (2009) explains that "doing leadership" (p. 561) is more than learning about leadership but allows individuals to experience what it means to be an effective leader and identify behaviors that they most frequently display.

Reflective learning is a key element to experiential learning literature with regards to leadership education (Guthrie & Thompson, 2010). Guthrie and Thompson (2010) suggest that structured reflection can include various methods including discussion, journaling, reflective essay, audio notes, and group presentation. Connecting reflection to knowledge and experience situated within specific contexts while challenging students to consider new perspectives fosters leadership development (Guthrie & Thompson, 2010). Reflective learning is identified in research on student leadership development as a contributing factor to a student's progression in leadership behaviors (Gregoire & Arendt, 2004; Komives et al., 2005; Sochacki, 2016).

Through Posner's (2009) longitudinal investigation of how leadership development programs impact students' leadership behaviors, results indicate that formal leadership programs do support students' leadership development. Posner explored how students majoring in business developed as leaders through their four-year undergraduate education with the purpose of investigating the impact of a leadership program over this time period. Using the Student Leadership Practices Inventory (Kouzes & Posner, 2003; Posner, 2004), 384 students in their first year completed the questionnaire, while 294 students completed it in their last year at the university. In the five leadership practices identified by the survey instrument, senior students engaged more in the five leadership practices (modeling, inspiring, challenging, enabling, and encouraging) than did freshman students. While leadership education provides students with the vocabulary to use when identifying leadership behaviors and contributing to students' self-efficacy in leading, the literature Posner used to inform his research suggests that active involvement in student organization, participating in community service and holding leadership positions also contributed greatly to how students develop as leaders. Additionally, those students who received encouragement from faculty advisors and mentors to develop their

leadership skills reported higher actual involvement in leadership behaviors (Posner, 2009). This study also showed that those seniors who did not participate in the leadership development program scored lower on leadership behaviors than those who had participated. Limitations identified in the Student Leadership Practices Inventory (S-LPI) used for business majors cannot be used to generalize for other disciplines across campus (Posner, 2009). Evidence from the S-LPI asserts that educating on management skills or leadership is not be enough for individuals to develop as leaders, and students must practice the behaviors in which they learn through development programs (Posner, 2004, 2009).

Keating et al. (2014) looked at students' capacity to lead as a result of completing an introduction to leadership course. The framework developed for this study was leadership capacity, which involved three areas including leadership skill, motivation to lead others, and leadership self-efficacy. One hundred and sixty-five students enrolled in an introductory course were surveyed using a pre-and post-test to determine their leadership development. Results of this study showed that students who entered the class with low levels of leadership self-efficacy showed no significant gains in leadership skill or motivation to lead; however, significant gains were made in their leadership self-efficacy suggesting that a threshold of self-efficacy must be achieved first before developing in other areas as a leader. On the contrary, students coming in with high levels of leadership self-efficacy indicate that they were already confident about their ability to lead, gained specifically in areas of motivation to lead. This suggests that an increase in cognition with regards to leadership theory is an important first step in developing leaders. A leadership course can be used to not only gain skills as a leader but also provide an opportunity for one to determine their self-efficacy as a leader and motivation to lead.

Understanding Leadership Through Developmental Theory

Gregoire and Arendt (2004) identified that research is needed to determine best strategies for cultivating leadership preparedness in RDNs and preparing them for leadership positions. Historically, leadership development specifically related to nutrition and dietetic professionals and students is limited to assessing personality traits and effective leadership approaches rather than how one develops leadership (Gregoire & Arendt, 2004; Schiller et al., 1993). Contemporary leadership theories suggest that regardless of what personality traits a leader possesses, leadership skills are something that individuals can learn and use to develop as effective leaders (Cherry, 2019). The information on strategies for developing one's leadership capacity is limited (Frein et al., 2006); thus, understanding how a leader develops can help individuals assess their leadership skills and seek ways to enhance their development as effective leaders. Developmental theory provides a framework to understand how one develops as an individual rather than what one knows (Boes et al., 2010).

Cognitive Development Theory

Jean Piaget's theory of cognitive development originally explored how children developed cognitively through stages on their maturation, physical experience, social interactions, and equilibration (Wadsworth, 1971). These stages of cognitive development begin with the sensorimotor state and progress to preoperational stage, concrete operational, then formal operational stages. Ripple and Rockcastle (1964) acknowledges Piaget's assertions that development occurs linearly through the stages in a sequential manner rather than skipping stages or digressing.

Piaget's work explored how children structured their reasoning and how they interpreted their experiences; thus, asserting that intellectual development and experience coincide to

facilitate cognitive development (Ripple & Rockcastle, 1964). Piaget posits that one must act and gain experiences within the learning environment for cognitive development to progress and that it is dependent of maturation, experience, social interaction, and equilibration. Development is not based on any single factor in isolation, but all four work together to influence development (Wadsworth, 1971). Cognitive development requires construction; therefore, in educational practices Piaget's theory requires translation into applied settings with appropriate teaching methods and materials that should be based on levels of cognitive development (Wadsworth, 1971).

Piaget's work on cognitive development recognized that knowledge is constructed and that the differences in individuals impact development. However, those differences in experiences, social constructs and the factors that influence equilibration were not explored in how they contributed to cognitive development (Piaget, 1967; Wadsworth, 1971). Piaget's theory explores the development in children; however, does not suggest how one continues to develop in adulthood. Kegan further develops this theory that extends into adulthood as well as explore the transferability of the theory to other applications (Kegan, 1982).

Constructive Developmental Theory

Constructive Development Theory is based on the assumption that with appropriate opportunities and challenges, adults construct meaning, which can then change over time. It includes a subject-object balance, identifying the perspective we have and take a hold of (objective) and what we cannot see or be responsible for (subjective). "Constructivism is the use of cognitive, affective, interpersonal, and intrapersonal capacities to construct and make meaning from experience" (Mahler, 2011, p. 203). An individual's meaning making capacity has to do

with "how adults absorb and filter their experiences" (Kegan, 2000 as cited by Mahler, 2011, p. 204), and influences the way one views their own identity rather than some other process.

How individuals construct meaning influences how individuals understand themselves, respond to others, make decisions, and come to learn and know both in formal and informal settings (Mahler, 2011). Because there is variety in how people judge, respond, and interpret their experiences, a key concept of constructive development is how individuals mature and become increasingly aware of their own beliefs, values, and interpersonal relationships. As individuals develop, they articulate how their beliefs, values, and relationships are different than others. Instead of being subject to others' views, they can interpret the beliefs, values, and interpersonal relationships demonstrated by others and assimilate how they understand their role as an individual (King & Siddiqui, 2011). Learning processes from a constructivist perspective includes using prior knowledge to construct new meaning or interpretation of one's experiences that can then be used to guide future actions. Prior experiences are key to understanding how adults make meaning (Mahler, 2011). Two educators explored constructivism development theories that apply to adult learners. A discussion of Kegan's (1994) and Baxter Magolda's (1998) constructive development theories follows.

Kegan's Evolution of Consciousness

Robert Kegan further developed Piaget's theory of cognitive development and extended it into adulthood (Kegan, 1982). Additionally, Kegan further extended Piaget's theory to explain how one develops individually on an emotional or personal level (Kegan, 1982). This constructivist developmental approach reflects Piaget's original theory derived from constructivism where individuals interpret and make meaning of their experiences (King & Siddiqui, 2011). Kegan's constructivist development theory, Evolution of Consciousness,

consists of five stages, each stage leading individuals out of a stable environment into an

unstable environment where growth could occur (Kegan, 1982).

Kegan's five orders of consciousness include Stage 0: Incorporation, Stage 1: Impulsive,

Stage 2: Imperial, Stage 3: Interpersonal, Stage 4: Institutional, Stage 5: Interindividual (Kegan,

1982). Stages 0 and 1 describe how infants and children develop in an objective world. At this

early stage they begin to recognize that objects exist outside themselves, and they begin to

progress through the orders of consciousness. As children become aware of their impulsive

feelings and begin to differentiate themselves from others, they progress to stage 2 where their

thinking becomes more logical and organized. Further development from this stage requires

consideration of the needs and desires of others rather than simply those of the individual. Stage

3 is classified as a socialized mind where thinking is more abstract, and individuals become

aware of their feelings and the internal processes associated with them. Additionally, in this stage

individuals can make commitments to others as well as their ideas. Others serve as a source of

validation and authority. Acceptance is crucial at this level, which is influenced by rewarding

relationships and shared experiences. One must be challenged to resist co-dependence and

encouraged to make their own decisions to establish the independence that allows progression to

the next stage. Stage 4 is signified by the ability to take ownership of internal authority and

determine one's own values and ideas rather than relying on others to define. Acknowledging

one's independence and self-regulation signifies a self-authoring individual. Lastly, stage 5 is

rarely achieved by individuals and occurs later in life, if at all. In this stage, individuals are able

to see beyond themselves and understand how people, communities, and systems are

interconnected (Kegan, 1994).

Kegan's theory of self-evolution takes a holistic approach and explores ways individuals make meaning of their experiences. Each stage is based on a subjective-objective structure suggesting that individuals make meaning of themselves (subjective) and the world around them (objective). Kegan viewed individuals as meaning-makers and explored how individuals make meaning or understand their knowledge, experiences, and relationships through the sense of self (Kegan, 1982). Kegan's development of the orders of consciousness stemmed from a constructivist perspective asserting that adults make meaning of their experiences and through subject-object relations where individuals personally react, make sense, and draw from experiences to categorize new events into perspective that has meaning for that individual. Kegan (1994) posits that experiences are not replaced as a person ages or continues to develop but contributes to a more complex systems of the mind; thus, indicating lifelong development rather than an achieved goal.

Self-authorship is the focus of stage 4 in Kegan's constructivist development theory that suggests individuals can make meaning of and negotiate their relationships with others. As one develops their self-authorship they are able to rely less on outside influences and more on internal influences informing their opinions and individual experiences. Kegan posits that not every experience is developmentally effective in leading to self-authorship and that not all adults ever fully develop into self-authoring individuals (Kegan, 1982, 1994). Marcia Baxter Magolda (1998) expanded on Kegan's ideas of self-authorship and explored its effect on one's meaning making capacities, especially that of college students.

Baxter Magolda's Self-Authorship Theory

Self-authorship refers to a stage in the process of self-evolution posited by Kegan (1982). It is characterized by generating and organizing one's beliefs and values rather than depending

on external influences. Individuals considered to have achieved self-authorship are characterized by internally and externally tending to their knowledge, emotions, and actions (Boes, et al., 2010). The self-authorship theoretical framework is rooted in the philosophies of constructivism where meaning is constructed from an individual standpoint. Marcia Baxter Magolda further developed Kegan's concept of self-authorship and focused on the epistemological development of college students. Based on the early works of Piaget and Kegan, self-authorship theory is a holistic approach to one's capacity for meaning making of experiences (Boes et al., 2010). Baxter Magolda (1998, 2001, 2008) conducted longitudinal research that explored students' personal experiences through a constructivist viewpoint. Baxter Magolda (1998, 2008) studied the concept of self-authorship in young adults, particularly college students, to determine how to cultivate environments that lend to the development of self-authorship and other factors which contribute to an individual's development. As with other developmental theories, Baxter Magolda (1998) suggested that individuals move through stages towards becoming self-authored individuals. These stages include: the epistemological, intrapersonal, and interpersonal dimensions.

The theoretical foundation for this research is based on constructivism. Theories that support that constructivist perspective acknowledge the meaning making capacities of adults and the change and growth that takes place in the learning process, and the natural role this has in the adult development experience (Mahler, 2011). Self-authorship theory outlined by Marcia Baxter Magolda (1998) is a specific adult development theory with constructivist roots that has been previously used to explore student leadership development. Baxter Magolda's representation of self-authorship is the extension of Robert Kegan's (1982) original definition of self-authorship that was inspired by Jean Piaget's cognitive development theory.

Self-Authorship Theory

Supporting student development in an academic space (such as higher education) would not only prepare students academically but prepare students for post-collegiate challenges faced in their careers, family, and communities (King & Siddiqui, 2011). Self-authorship is a holistic approach that facilitates development through multiple domains. It acknowledges relationships involved in the context of learning and the impact it has on learning outcomes. The theoretical framework illustrates the path towards an increase in developmental capacities for responding to questions that challenge an individual to figure out what he/she believes and why. It requires an acknowledgment and monitoring of one's feelings and reactions without becoming overwhelmed (King & Siddiqui, 2011). The theory posed by Baxter Magolda (2002) identifies learning as a transformative experience that considers academic learning and student development, which are often viewed separately. By supporting student development and integrating it into academic learning, this would offer a more holistic approach to learning.

Baxter Magolda's (1998, 2002) research exploring self-authorship was a 22-year longitudinal study that began with 101 traditional-aged college students including 51% women and 50% men. The study concluded with 30 participants, all who were Caucasian and 60% women and 40% men. Methods used by Baxter Magolda included annual interviews that focused on important experiences identified by the participants. Participants were guided in discussion in how they made meaning within the three dimensions including their internal beliefs, how they sensed themselves in relation to others, and the role they play in their significant relationships. Grounded theory methodology was used and a constructivist approach was identified to analyze interview data.

Stages and Dimensions of Self-Authorship

Baxter Magolda's (1998, 2008) longitudinal study demonstrated the integration of the three dimensions as they relate to self-authorship development. Baxter Magolda found that even when individuals demonstrated complex ways of knowing, they often struggled in seeing themselves and how they relate to others in complex ways. As a result, individuals, especially women, tend to adopt the expectations of others and built an identity based on external influences, rather than constructing identity internally (Boes et al., 2010). The phases Baxter Magolda used to identify self-authorship development include following external formulas, the crossroads, and becoming self-authored. After self-authorship was demonstrated, three key elements surfaced that included trusting one's internal voice, establishing an internal foundation, and securing internal commitments (Baxter Magolda, 2010). Each of these phases are guided by three developmental dimensions: epistemological, intrapersonal, and interpersonal. The interviews used in Baxter Magolda's longitudinal interviews indicated that participants' progression toward self-authorship varied in developmental dimensions depending on personal and contextual elements. These elements would often interweave throughout one's journey of self-authorship rather than developing on a straightforward path (Baxter Magolda, 2010).

The phases outlined by Baxter Magolda (Baxter Magolda, 2010) are defined by external formulas, crossroads, and self-authorship. External formulas are used to explain the absence of self-authorship. At this stage individuals are dependent on external influences to construct values, beliefs, and identity. A crossroads is used to identify the space between the external formulas and self-authorship development. Individuals are actively involved in meaning making processes that facilitate the transition between a socialized mind and self-authorship. During a crossroads, individuals tend to take responsibility for adhering to others' expectations.

Recognizing this act is crucial in moving from a crossroads into self-authorship. Self-authorship is defined as letting others' expectations exist without taking responsibility for them, seeing them in a more objective way (Boes et al., 2010). Once an individual's internal authority is the primary influence for decision making and identity development, self-authorship is demonstrated. Internal foundation is solidified when one becomes secure in their values, beliefs, and relationships with others. They find comfort in their identity, willing to express ideas despite others' expectations, and come to the realization that they have authority to interpret and react to reality by trusting their internal dialogue (Boes et al., 2010). Kegan (1982, 1994) and Baxter Magolda (2001) outlined how the integration of the three dimensions are used as a way to explain the evolution of self-authorship development.

Epistemological Dimension

Personal epistemology describes how one constructs knowledge, views the world, and can generate their own ideas (Hodge et al., 2009). It describes an individual's understanding of the foundation of their beliefs and how this informs their judgment and responsibility in decision making (Boes et al., 2010). Through the constructivist developmental lens this dimension describes how one's capacity to make judgments changes. As individuals, reflect on their beliefs, it provides opportunity to question, reflect, and explore their held beliefs. They become aware of their own process for actively constructing beliefs and being aware of their process for their own judgments in creating a self-authored belief system (King & Siddiqui, 2011).

Intrapersonal Dimension

The intrapersonal dimension focuses on the development of identity, how one constructs their own identity through their values, social identity, and personal history (Baxter Magolda, 2008). Intrapersonal dimension allows for an individual to openly disagree with others' points of

views and work through conflict to argue for their own perspectives (Hodge et al., 2009). In doing so, one often feels a strengthened sense of identity and ability to trust one's internal voice (Baxter Magolda, 2010). A self-authored individual in this dimension is defined as one who uses affirmed values to guide decisions and actions. At this point in development, an individual can consider others' expectations without adopting them, specifically if it counteracts their own belief and value system (King & Siddiqui, 2011).

Interpersonal Dimension

The interpersonal dimension focuses on how one views social relations (Baxter Magolda, 2008) or what relationship one would like to have with others (Pizzolato, 2010). This dimension offers a perspective on the self in context to relationships with others and how those are constructed, such as those with peers, family, work colleagues, instructors, and/or advisors. This dimension explores how individuals balance their needs and values with that of others, as well as the expectations of others. Development occurs when the expectations of others differ from one's own behaviors and when varying contexts require different ways of balancing and learning from those expectations. Being an independent self-authored individual requires an acknowledgment of differences among others without feeling threatened by them or gaining affirmation from others (Baxter Magolda, 2010; Creamer & Laughlin, 2005). A self-authored individual in the interpersonal structure can honor their values while understanding and showing respect for others' perspectives when they conflict with their own (Baxter Magolda, 2010; Creamer & Laughlin, 2005; King & Siddiqui, 2011). It allows the negotiation of differences to establish mutuality and collaboration; it resists pressures for either self-service or serving of others (King & Siddiqui, 2011).

Self-authored individuals demonstrate each of these dimensions while making meaning of their experience. When faced with a dilemma, individuals may recognize what their belief is about the situation (epistemology) but then struggle to make decisions based on their internal voice (intrapersonal) and the decision others hope they make (interpersonal). Through self-authorship development progression, individuals are more open to listening to others due to their own personal security (Baxter Magolda, 2010). Typically, self-authored individuals have a default dimension which they use to construct meaning throughout their lives. Those who rely heavily on the epistemological dimension analyze situations and circumstances for what they are. The intrapersonal dimension tends to be the default for those individuals who are reflexive and interpersonal for those who are highly relational (Baxter Magolda, 2010). Regardless on the default dimension, almost all individuals rely on their epistemological dimension in order to determine their constructed belief before making meaning of their lived experiences (Baxter Magolda, 2010).

Self-Authorship Development

Self-authorship development begins with the reliance on external factors and develops when an individual encounters a crossroads where external influences conflict with the internal voice (Baxter Magolda, 2010). At this crossroads, authority is challenged and the limits of dependent relationships are recognized, which can potentially lead to epistemological, intrapersonal, and interpersonal maturity (Creamer & Laughlin, 2005). As individuals are mentored in their development, they begin to develop meaning making structures in the epistemological, intrapersonal, and interpersonal dimensions (Baxter Magolda, 2008; Hodge et al., 2009). Self-authoring individuals can separate themselves from others, determine their roles

within relationships, and establish their authority within relationships by setting limits, maintaining boundaries, and managing differences that may exist (Boes et al., 2010).

Unlike other developmental theories, self-authorship does not develop linearly and some individuals may never fully develop self-authorship (Baxter Magolda, 2008; Kegan, 1994; Posner, 2004). It is especially difficult for self-authorship to emerge during the college years without proper support (Hodge et al., 2009). External demands occur regardless of the developmental level; however, the individual's response to these demands determines the development towards self-authorship. Fostering self-authorship requires supporting individuals through a crossroads experience that gives them the capacity to interpret their own values, beliefs, and interpersonal relationship in accordance with their experiences (King & Siddiqui, 2011). Individuals struggle with developing self-authorship until they can see themselves in complex ways and how they relate to others (Boes et al., 2010).

Supporting Self-Authorship Development

While it is not common for students to graduate college as self-authoring individuals; it is possible with a learning environment that supports self-authorship development (Baxter Magolda & King, 2007). College experiences often pose a challenge where an individual experiences a struggle between internal and external influences (crossroads) and is presented with an opportunity to initiate self-authorship development. Students often see knowledge as an absolute and accept authorities' knowledge rather than critically reflecting on how the knowledge intersects with their experiences. Likewise, college students often rely on peers and other external influences for approval rather than creating their own identity (Baxter Magolda & King, 2007). By supporting self-authorship development, students can negotiate how external factors impact their decision-making abilities.

Professional learning that supports the learning, growth, and experiences of an individual has a greater effect on students than strict content delivery (Drago-Severson, 2011). Drago-Severson and Blum-DeStefano (2014) posit that information-based learning as noted in standardized curriculum is not sufficient in developing as a leader. Focusing on *how* one knows rather than *what* they know is the bases for Drago-Severson and Blum-DeStafano's (2014) Learning Designs Model for leadership education. Drago-Severson and Blum-DeStefano (2014) describes how to foster development within the classroom. Courses taught at the undergraduate level, or within a university setting, can support student leadership development by offering opportunities to learn about adult development theory and creating opportunities for individuals to see developmental practices modeled within the context of their own growth and development.

The Learning Designs Model has roots in constructive development theory, which conceptualizes individuals' unique way to make meaning from their learning experiences and life experiences. The Learning Designs Model suggests that when educators apply learning theories, such as development theory, and select learning designs that promote active engagement, it promotes learning beyond acquired knowledge and basic skills (Drago-Severson, 2011; Drago-Severson & Blum-DeStefano, 2014). Learning about, experiencing, and recognizing development results in building meaning making capacities that could potentially further enhance leadership development and can help individuals approach their careers with the developmental mindset needed in the work environment (Drago-Severson, 2011).

Commonly used practices for engaging students in leadership development is facilitated reflection, sharing perspectives, and participating in collaborative group projects. Drago-Severson and Blum-DeStefano (2014) suggested intentionally framing these practices within the context of constructive developmental theory supports learners as they transition through

developmental stages. Understanding that learners are developmentally different allows educators to structure learning environments that are supportive for a variety of developmental levels (Drago-Severson, 2011). Recognizing that individuals may be at varying developmental stages, providing developmentally appropriate challenge at the right time, and providing support as individuals demonstrate newly learned behaviors and capacities of knowing can foster leadership development. Creating environments where students feel respected, inspired, and are supported through transitional periods allow learners to see their own development (Drago-Severson, 2009, 2011).

Drago-Severson and Blum-DeStefano's (2014) work can inform nutrition and dietetics education in ways to shape professional learning opportunities that support meaning making capacities that can support leadership development. Learning about development theory within the context of one's own learning and experiences can be done using strategies such as collaboration, reflection, mentoring, providing leadership roles, and facilitating a supportive learning environment. In doing this, students can learn and develop effectively as leaders and gain a stronger leadership identity (Drago-Severson, 2009, 2011).

Higher education is not effective in promoting the complex thinking required for individuals to make informed decisions by balancing internal and external factors (Creamer, 2010). Self-authorship goes beyond the critical thinking and problem-solving fostered in higher education and focuses on the internal decision-making process required for establishing identity and relationships with others (Creamer & Laughlin, 2005). When one has confidence in their knowledge, they can make sound decisions and fully participate in organizational leadership (Collay & Cooper, 2008).

Using Self-Authorship to Study Leadership Development

Baxter Magolda described the integration of the three dimensions in order to understand how an individual develops into a self-authoring adult. Self-authorship provides a theoretical framework for the ways in which individuals choose careers, it can also provide a framework for how individuals lead within those career fields (Creamer, 2010). Understanding one's identity is a key concept in self-authorship as well as leadership development. Supporting one's self-authorship development provides an opportunity to learn strategies for supporting leadership development.

Self-authorship is a critical element in leadership development. Developing an identity as a leader is not easy for anyone. Similarly, both self-authorship and leadership need a significant amount of support in their development (Baxter Magolda & King, 2007; Hodge et al., 2009; Sochacki, 2016). Unlike leadership, self-authorship is more than just a skill; it is a way for individuals to make meaning of their experiences and use that to develop an identity and construct knowledge (Collay & Cooper, 2008). Self-authorship is required for adult decision-making (Creamer & Laughlin, 2005), and for the decision-making process that is required in leadership positions. Successfully self-authored adults are described as individuals that can collect, interpret, and analyze information, author their own thinking, feeling, and relationships with others, and form their own judgments (Baxter Magolda & King, 2007; Creamer & Laughlin, 2005).

The constructive developmental approach provides a foundation for how adults construct and interpret their experiences and develop as leaders (Hunter et al., 2011); it does not specify how the meaning making process of adults is cultivated. The purpose of using self-authorship for leadership development is not identifying the stages of development as presented by Hunter et al.

(2011) but rather using self-authorship as a broad perspective to understand how students make decisions that could impact their career and leadership development (Creamer & Laughlin, 2005). It "provides a way of understanding the process that people use to make meaning of experiences" (Creamer & Laughlin, 2005, p. 16) and how they shape their identity as a leader.

Leadership Identity Development

The Leadership Identity Development (LID) Model developed by Komives et al. (2005), provides an understanding of how students make meaning of their experiences and how those contribute to leadership identity. Komives et al. (2005) references Baxter Magolda and Kegan in their descriptions of self-authorship and their contribution to leadership identity. Komives also utilizes Erikson's (1968) assertion that people discover their identities within a social context and utilizes Erikson's (1968) definition of identity as "the sense of continuous self" (as cited by Komives et al., 2006, pg. 401) while applying identity development to leadership. The purpose of Komives et al.'s (2005, 2006) research was to explore the processes college students experience in creating a leadership identity. Due to limited research on how students' leadership identity developed over time, Komives et al. (2005) specifically explored how college students progressed from leader-centric views on leadership to developing a collaborative, relational process of leadership. The gap between student development theory and student leadership development was identified using the LID Model (Komives et al., 2009).

Through grounded theory research, thirteen diverse students who exhibited relational leadership traits were identified and selected for Komives et al.'s (2005) study. Participants were asked to engage in three intensive interviews that were used to explore life narratives, identify students' experiences in leadership or working with others, and how participants' views of leadership have changed over time. The grounded theory study resulted in identifying the

development states of how students situated themselves in the construct of leadership over time (Komives et al., 2005). Categories were created based on their definition of leadership, oneself in relation to leadership and group influences on leadership development, and on one's dependence, independence, and interdependence on others (Komives et al., 2006). Komives et al. (2005, 2006, 2009) developed the LID stage-based model with six stages of development including awareness, exploration/engagement, leadership differentiated, generativity, and integration/synthesis. Further descriptions of these stages are presented in Figure 2.

Figure 2.2. Leadership Identity Development Model (Komives et al., 2006)

Stages →	1 Awareness		2 Exploration/Engagement		3 Leader Identified	
Key categories		*Transition*		*Transition*	*Emerging*	*Immersion*
Stage Descriptions	•Recognizing that leadership is happening around you •Getting exposure to involvements		•Intentional involvements [sports, religious institutions, service, scouts, dance, SGA] •Experiencing groups for first time •Taking on responsibilities		•Trying on new roles •Identifying skills needed. •Taking on individual responsibility •Individual accomplish-ments important	•Getting things done •Managing others •Practicing different approaches/styles *Leadership seen largely as positional roles held by self or others; Leaders do leadership.*
Broadening View of Leadership	"Other people are leaders; leaders are out there somewhere"	"I am not a leader"	"I want to be involved"	"I want to do more"	"A leader gets things done"	"I am the leader and others follow me" or "I am a follower looking to the leader for direction"
Developing Self	•Becomes aware of national leaders and authority figures (e.g. the principal)	•Want to make friends	•Develop personal skills •Identify personal strengths/weaknesses •Prepare for leadership •Build self-confidence	•Recognize personal leadership potential •Motivation to change something	•Positional leadership roles or group member roles •Narrow down to meaningful experiences (e.g. sports, clubs, yearbook, scouts, class projects)	•Models others •Leader struggles with delegation •Moves in and out of leadership roles and member roles but still believes the leader is in charge •Appreciates individual recognition
Group Influences	•Uninvolved or "inactive" follower	•Want to get involved	•"Active" follower or member •Engage in diverse contexts (e.g., sports, clubs, class projects)	Narrow interests	• Leader has to get things done •Group has a job to do; organize to get tasks done	•Involve members to get the job done •Stick with a primary group as an identity base; explore other groups
Developmental Influences	Affirmation by adults (parents, teachers, coaches, scout leaders, religious elders)	•Observation/ watching •Recognition •Adult sponsors	•Affirmation of adults •Attributions (others see me as a leader)	•Role models •Older peers as sponsors •Adult sponsors •Assume positional roles •Reflection/retreat	Take on responsibilities	•Model older peers and adults •Observe older peers •Adults as mentors, guides, coaches
Changing View of Self With Others	Dependent				Independent	
					Dependent	

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The KEY	4 Leadership Differentiated			5 Generativity		6 Integration/Synthesis
Transition	Emerging	Immersion	Transition		Transition	
• Shifting order of consciousness •Take on more complex leadership challenges	•Joining with others in shared tasks/goals from positional or non-positional group roles •Need to learn group skills *New belief that leadership can come from anywhere in the group (non positional)*	•Seeks to facilitate a good group process whether in positional or non positional leader role •Commitment to community of the group *Awareness that leadership is a group process*		•Active commitment to a personal passion •Accepting responsibility for the development of others •Promotes team learning •Responsible for sustaining organizations		•Continued self-development and life-long learning •Striving for congruence and internal confidence
"Holding a position does not mean I am a leader"	"I need to lead in a participatory way and I can contribute to leadership from anywhere in the organization"; "I can be a leader without a title"; "I am *a* leader even if I am not *the* leader"	"Leadership is happening everywhere; leadership is a process; we are doing leadership together; we are all responsible"	"Who's coming after me?"	"I am responsible as a member of my communities to facilitate the development of others as leaders and enrich the life of our groups"	"I need to be true to myself in all situations and open to grow"	"I know I am able to work effectively with others to accomplish change from any place in the organization"; "I am *a* leader"
•Recognition that I cannot do it all myself •Learn to value the importance/talent of others	•Learn to trust and value others & their involvement •Openness other perspectives •Develop comfort leading as an active member •Let go control	•Learns about personal influence •Effective in both positional and non-positional roles •Practices being engaged member •Values servant leadership	•Focus on passion, vision, & commitments •Want to serve society	•Sponsor and develop others •Transforming leadership •Concern for leadership pipeline •Concerned with sustainability of ideas	•Openness to ideas •Learning from others	•Sees leadership as a life long developmental process •Want to leave things better •Am trustworthy and value that I have credibility •Recognition of role modeling to others
•Meaningfully Engage With Others •Look to group resources	•Seeing the collective whole; the big picture •Learn group and team skills	•Value teams •Value connectedness to others •Learns how system works	•Value process •Seek fit with org. vision	•Sustaining the organization •Ensuring continuity in areas of passion/ focus	•Anticipating transition to new roles	•Sees organizational complexity across contexts •Can imagine how to engage with different organizations
•Older peers as sponsors & mentors •Adults as mentors & meaning makers •Learning about leadership	•Practicing leadership in ongoing peer relationships	•Responds to meaning makers (student affairs staff, key faculty, same-age peer mentors)	•Begins coaching others	•Responds to meaning makers (student affairs staff, same-age peer mentors)	•Shared learning •Reflection/ retreat	•Re-cycle when context changes or is uncertain (contextual uncertainty) •Enables continual recycling through leadership stages
	Interdependent					

The Leadership Identity Develop (LID) Model recognizes that identity development does not occur linearly as "stages" (Komives et al., 2006, p. 404), rather, its cyclical and complex (Komives et al., 2005). The movement through the stages of the model were informed by students' experiences thus providing understanding of how one identifies as a leader. Recognizing the complexity of development, Komives et al. (2006) emphasizes transitions between each of the stages marked by trying new ways of thinking, new skills and behaviors, more reflexivity, exercising leadership, and identifying environmental factors that signaled readiness for transition.

Each stage has developmental influences and is defined by the development of independence and interdependence within a group. Developmental influences include adult and peer relationships, meaningful involvement in various organizations, collaboration, and reflective learning through journaling, leadership courses, and discussion-based activities (Komives et al., 2005). Additionally, leadership identity is influenced by context in the environment and students' varied readiness. Environmental factors that contributed transitions through the stages included committed group members, leadership education, and mentors.

The LID Model is instrumental in determining factors that influenced transition from one stage to the next; thus providing a framework to design educational programs and other learning experiences to foster leadership identity (Komives et al., 2006). Komives et al. (2006) asserts that educators can use the model to concurrently work with individuals to facilitate learning experiences for groups. Educators are responsible for creating an environment that facilitates learning and support, not necessarily for making people change. Applications of this research suggest that using assessment, professional relationships such a advisors and mentors, identifying the role of the group to differentiate perspectives, and adopting more interdependent

perspectives can cultivate a supportive learning environment that promotes identity development. All stages benefit from reflection and deepening of self-awareness, along with an appropriate combination of challenge and support (Komives et al., 2005, 2006, 2009).

Limitations to the LID Model outlined by Komives et al. (2005) is that it included students that held theoretical influences as leaders; thus, providing further areas of research to include a multitude of students that do not necessary hold organizational positions or identified by others as leaders. Additionally, determining the transferability of this model to adulthood or post-baccalaureates can provide further insight to how individuals continue to develop as leaders (Komives, et al., 2005).

Using Self-Authorship and Leadership Identity Development to Inform Research

There are similarities between Komives et al's (2005, 2006, 2009) research on student leadership development and Baxter Magolda's (1998, 2002) research on self -authorship among college students. Both theories outline stages where one recognizes their own epistemology through awareness of environment and how they fit within that environment with others. The intrapersonal dimension occurs when individuals identify other leaders who influence or lead them – in essence learning to lead by example (Komives, et al., 2006). And lastly, the interpersonal dimension occurs by differentiating oneself with leaders and the generativity of how one's own beliefs and values influence their identity as leaders. Komives et al. (2006) asserts that "expanding self-awareness at each stage is critical and that connecting self-awareness with intentional strategies for building self-efficacy for leadership is key to developing a confident leadership identity.

Like Baxter Magolda (1998, 2002, 2010), Komives et al. (2005) research primarily included college students to determine how they developed while emerging into adulthood.

Developing self as part of the LID Model provides an extended opportunity to use self-authorship development theory as a way to understand the complexity of leadership development. Developmental influences of self-authorship and leadership identity include meaningful experiences, involvement, reflective learning, and changing view of self with others, while determining how one creates their own meaning from experiences (Baxter Magolda & King, 2007; Komives et al., 2006). Current implications for practice using the LID Model can be applied for individual students' identity development. It can also be used to design supportive learning environments where leadership develops.

This research is seeking to understand how nutrition and dietetic students make meaning of their educational experiences at a university and how those experiences contribute to their leadership development using grounded theory methodology. Grounded theory methodology was also used by Komives et al. (2005, 2006), which included similar methods such constant-comparative analysis, interviews, member-checking and peer-debriefing. Likewise, Baxter Magolda's methods in intensive interviews (Baxter Magolda, 2010) in assessing college students' self-authorship development also informed the methods used to collect data to build theory.

Summary

The review of the literature regarding nutrition and dietetics, established that research in leadership development is limited to traits associated with leadership, effective leadership styles, and specific classroom techniques and curricular standards used to teach leadership concepts. Self-authorship theory provides understanding of how individuals develop in their identity, their awareness of how they are influenced by others, and how they make their own decisions. Komives et al. (2005, 2006) provides a framework informed by self-authorship to use to

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understand how students develop leadership identity. What remains to be explored is how leadership development is fostered among nutrition and dietetic students in the university setting and beyond the standardized curriculum informed by the accrediting body of nutrition and dietetics education.

The research on how nutrition and dietetic students make meaning of their educational experiences and how this contributes to their leadership development is limited. Hunter er al (2011) posits that:

> Developmental theorists assert that human beings actively make sense of experience; that we are meaning makers of our experience, creating maps of reality that change with development. Constructive developmental theorists posit that persons move through qualitatively different ways of knowing who they are, how the world works, and how they know what they know and that leaders as individuals develop over the life course and do so in predictable ways. (p. 1804)

Adult development theories suggest that leadership develops through stages (Boyce, 2014; Hunter et al., 2011; Smith, 2014), as outlined in other developmental patterns. These stages are important in assessing an individual's readiness for leadership. Exploring how nutrition and dietetic students develop as leaders based on their meaning making capacity can provide insight into this process.

To summarize, the nutrition and dietetics profession identifies leadership as a necessary skill for RDNs, which is indicated in the standardized education for nutrition and dietetic students. However, the context in which leadership is presented in dietetics education continues to be founded on knowledge and competency requirements; thus, informing dietetics educators how to build curriculum and programs to prepare entry level nutrition and dietetic professionals.

It is not consistent with the leadership development needed to propel the profession forward. The need for further development in accordance with the curriculum is noted in the constructivist developmental theory literature. Researchers such as Komives et al (2005, 2006, 2009) and Hunter et al. (2011) have used developmental theory to create models for understanding how individuals develop as leaders. Using constructivism as a perspective to research how nutrition and dietetic students develop as leaders within the context of the standardized curriculum is warranted to support student development.

Chapter 3 - Methodology

The methods for this study are founded on a constructivist grounded theory approach. How the constructivist epistemology informs this research is outlined in this chapter. The research purpose and questions are presented for context to further understand how the research was designed. Lastly, data collection and analysis procedures using the constructivist grounded theory approach are described.

Research Purpose and Questions

The purpose of this study is to explore the educational experiences and leadership development of dietetic students who have completed their bachelor's degree and have entered into a dietetic internship graduate program.

The questions guiding this study are:

1. How do nutrition and dietetic students describe their leadership development after graduating with a Bachelor of Science degree and have entered into a dietetic internship graduate program?

    a. Research sub-question 1.1. How did the nutrition and dietetics curriculum contribute to students' leadership development?

    b. Research sub-question 1.2. How did the experiences within the nutrition and dietetics undergraduate program contribute to leadership development?

    c. Research sub-question 1.3. What skills do nutrition and dietetic students possess that they contribute to leadership development?

2. In what ways do the educational experiences of Bachelor of Science degree nutrition and dietetic students shape their leadership identity?

a. Research sub-question 2.1. How do nutrition and dietetic students understand what leadership is?

b. Research sub-question 2.2. How do nutrition and dietetic students identify as leaders?

Research Design

Using a Qualitative Approach

This research follows a qualitative research design to provide a deeper understanding of students' meaning making capacity of their experiences and how those have contributed to their professional leadership development when compared to quantitative research. Qualitative research allows for the exploration of critical incidents and emergent ideas rather than looking for specific answers measured by statistical analysis (Kain, 2004). The field of nutrition and dietetics is largely based on medical science; therefore, it is largely derived from evidence-based information gathered by quantitative research design. However, qualitative research is gaining more recognition in the understanding of the nutrition and dietetics profession and has proven to complement the quantitative approaches traditionally used (Ottrey, 2018). The limited research conducted on dietetics leadership has mainly focused on trait theory with minimal references to the process of how one develops as a professional. Likewise, the minimal use of qualitative research specifically for nutrition and dietetic professionals provides a limited scope in the understanding of how individuals develop as a leader within the profession.

Theoretical Perspectives

The epistemological perspective informing this research study is constructivism. The constructivism epistemology focuses on the unique experiences of individuals and recognizes

that everyone has a unique meaning making process (Crotty, 1998). Figure 3 outlines how this epistemological perspective informs the research design for this study.

Figure 3.1. *Epistemological Perspective Overview*
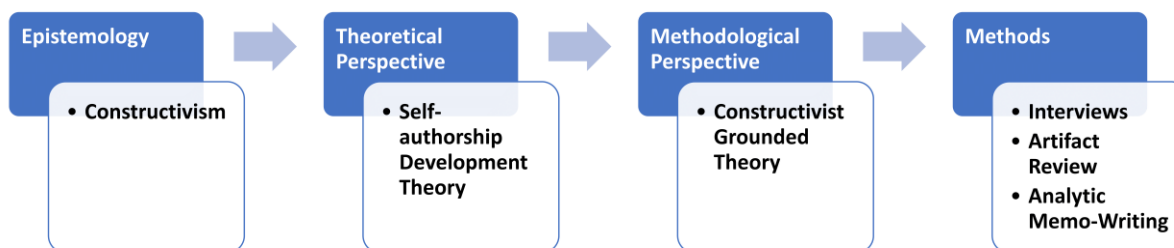
Similarities exist between the self-authoring theoretical framework and the constructivist grounded theory methodological framework used for this study as both are rooted in constructivism giving provision for the researcher and participants to individually construct meaning of their leadership experiences. The constructivist approach to this methodological framework recognizes that the construction of knowledge does not occur linearly and invites the researcher's meaning making capacity into the research design. Development theory that is rooted in constructivism, provides insight into how one develops through their meaning making capacity. Utilizing this perspective provides an alternative approach to explore influences of individuals' development rather than continued research on the influences on leadership development among nutrition and dietetic students collectively. The research design is informed by constructivism in order to allow participants to make meaning of their own educational experiences and the effect they have on one's leadership development.

As in grounded theory research, theory is built from the data that is collected and not analyzed through existing theory. After completion of the literature review on leadership development among nutrition and dietetic professionals as well as students, it was determined that the research on leadership development within the profession has been studied using

quantitative research, focused primarily on personality traits of leaders and effective leadership styles. Additionally, most of the research has been conducted with credentialed dietetic professionals and not specifically on students pursing a dietetics education. Therefore, a small gap remains in the literature that provides understanding in how nutrition and dietetic students specifically develop as leaders as a result of their education. Using a constructivist lens in this research will allow for the exploration of the meaning making capacities of individuals. Therefore, the purpose of this study is to move beyond quantitative inquiry to determine how one makes meaning of their educational experiences and the influence of those experiences on dietetic students' leadership development.

During the literature review, it was noted that development theory provides understanding of how one moves through developmental stages. Self-authorship developmental theory was specifically reviewed as it is rooted in constructivism and has been used to study how college students' make meaning of their experiences and how their meaning making capacities build identity. Additionally, self-authorship was previously used to develop a model by Komives et al. (2006) to understand how college students build a leadership identity. Even though this model was created with college students, a gap remains in how students specifically seeking a Bachelor of Science degree in nutrition and dietetics develop as leaders within the standardized curriculum used for dietetics education. While the self-authorship developmental theory, rooted in constructivism, provided a broad perspective to learn about leadership development among nutrition and dietetic students, it was not the guiding theory for this research study. Grounded theory is an appropriate methodology for this study as the iterative and inductive nature of the methodology aided the researcher in theorizing to understand the leadership development among this specific student population.

Methodological Framework

Constructivist Grounded Theory

The methodological framework utilized for this study is Charmaz's (2014) concept of constructivist grounded theory. Original grounded theory methodology was rooted in sociology as a new methodological framework that used a comparative analysis to derive theory from data rather than from other sources, to gain alternative perspectives on behavior and situations that were appropriate for its use, and gain insight into practical application of applied theory. Glaser and Strauss's (1967) original presentation of grounded theory is often referred to as Objectivist Grounded Theory (OGT) and is described by an objective process in data collection and analysis; whereas Charmaz's (2014) contemporary view on grounded theory takes a constructivist approach; thus, labeled as Constructivist Grounded Theory (CGT). Grounded theory took a constructivist turn in the 1990s, which diversified grounded theory making it more transferrable across epistemological and ontological perspectives, allowing researchers to define their own assumptions and strategies to the research process. The foundational assumptions of both OGT and CGT indicate that OGT assumes external reality, the discovery of data, that concepts emerge from the data, and that the researcher is neutral, passive, and has authority in the research process (Charmaz, 2014). Glasser and Strauss (1967) did not suggest that the researcher's position was better or that they claimed to know more about the situation than the participants but rather that the researcher was set apart from the participants, giving little credence to the researcher's influence as a possible data source (Charmaz, 2014). Kathy Charmaz addresses criticisms of earlier versions of grounded theory highlighting the flexibility in data collection and analysis resisting the more mechanical applications of the method. This approach acknowledges the researcher's subjectivity and calls for reflexivity about the research process rather than working

to exclude them from the process (Charmaz, 2014, 2017). Key tenets of the constructivist approach are reviewed to determine its appropriateness as a methodological framework for exploring how nutrition and dietetic students develop as leaders.

The key tenet in using constructivist grounded theory is that knowledge is constructed – by both the participant and by the researcher (Charmaz, 2014). Constructivist grounded theory embraces the researcher's involvement in the research process including construction and interpretation of the data, flexibility in adjusting and responding to the data as the study progresses, rather than trying to diminsh their role in the research process (Charmaz, 2014). Charmaz's (2014) constructivist influences include "social contexts, interaction, sharing viewpoints, and interpretive understandings" (p. 14) that all occur as a part of one's social life. This form of grounded theory allows for the researcher and participants to engage in an interpretive exchange that is more comparative and open-ended than originally presented to explore the meanings they make of each other and their experiences; thus, providing multiple perspectives rather than focusing on one central idea (Bhattacharya, 2017). Charmaz (2014) states, "We construct our grounded theories through our past and present involvements and interactions with people, perspectives, and research practices" (p. 17). This study in leadership development among nutrition and dietetic students is to explore how students make meaning of their educational experiences in relation to their leadership development. Likewise, this methodology gives provisions for embracing the researcher's subjectivity and provides a unique opportunity to explore how dietetics education has shaped the leadership development of the researcher as well.

Constructivist grounded theory allows for the researcher and participants to engage in an interpretive exchange that is more comparative and open-ended than presented in the original

grounded theory. It allows for further exploration of the meanings they make of each other and their experiences. Charmaz (2017) describes constructivist grounded theory as inductive, comparative, and interactive. Inductive analysis is reflective in the creation of categories and themes (Merriam & Tisdell, 2016). It is comparative as the process of comparing data sets and codes within those sets. It is also interactive as the researcher interacts with the data to determine key findings and establish codes and categories. This interactive and comparative logic moving back and forth between the data allows for patterns to emerge. Researchers construct tentative categories in which the emerging patterns are placed for all theoretical understanding (Charmaz, 2014, 2017).

The objective approach to grounded theory assumes a logico-deductive theorizing approach that encourages verification (Glasser & Strauss, 1967), whereas the constructivist grounded theory approach invites more flexibility and adopts the indicative, comparative, emergent and open-ended tenets of the original grounded theory. A constructivist approach focuses on the construction of reality and that there can be multiple realities from multiple perspectives. It assumes that data is constructed through interaction between participants and the researcher. The flexibility of this contemporary approach to grounded theory allows the researcher to bring their own epistemological perspectives to the research. Therefore, a researchers' position, subjectivities, privileges, and experiences can be part of the research process and used for construction. Constructivist grounded theory considers the researcher as part of the research design rather than a passive observer or one with authority over the research (Charmaz, 2014).

Grounded theorists, those with OGT or CGT epistemologies, use an iterative process by simultaneously collecting and analyzing data. Types of data used by grounded theorist includes

narratives and descriptions obtained through observation, artifact review and analytic-memoing. Analysis includes constant comparison as data is being collected and as categories and themes emerge while participating in theoretical sampling. A key outcome of grounded theory is to explain behavior through construction of theory or to question the use of existing theory in an alternative context (Charmaz, 2014; Glasser & Strauss, 1967). As the main goal of OGT is to create a theory that transcends historical and situational context and can be used to generalize; the CGT allows for historical and situational data to demonstrate variation in the data leading to an interpretive understanding of the theory constructed (Charmaz, 2014).

Constructivist grounded theory was used for this investigation to explore how nutrition and dietetic students make meaning of their educational experiences and how those experiences shape their leadership development. Foundational knowledge of grounded theory is key as there is limited research on leadership development among nutrition and dietetic students that uses this methodology. Additionally, further exploring the constructivist approach to grounded theory invites the researcher's perspective of leadership development along with that of the participants and how each construct meaning of their experiences in nutrition and dietetics education and leadership.

Population

In this study, the main criteria for participation were those individuals who graduated from the undergraduate nutrition and dietetics program from the public university in Midwest, U.S.A. within the past three years. By selecting a graduate within this time frame of post-baccalaureate degree, it was assumed he/she will have enough knowledge and time for leadership experiences to occur versus a student who had just begun their college experience. Likewise, this time-frame provided proximity to the undergraduate degree where participants could recall their

experiences. Selecting participants using this criterion also ensured that all participants received their nutrition and dietetics education under the same 2017 accreditation standards.

Sample

A key point to consider when planning methods centered on constructivist grounded theory, is selecting a sample of participants with diverse educational backgrounds, which may be achieved by including students with first-generation college student status, various GPA rankings, and student organization membership, among other factors. A common sampling method used in qualitative research is purposeful sampling. This type of sampling is "based on the assumption that the investigator wants to discover, understand and gain insight and therefore must select a sample from which the most can be learned" (Merriam & Tisdell, 2016, p. 96). Specific types of purposeful sampling included convenience sampling and criterion-based sampling. Convenience sampling indicates participant selection based on "time, money, location, availability of sites or respondents" (Merriam & Tisdell, 2016, p. 98). Purposeful, criterion-based sampling leads the researcher to determine the criteria appropriate for selecting participants and was used to select participants for this study. Hutchinson (2014) describes the use of criterion-based selection to aid in selecting participants that have enough knowledge about the research topic to serve in the research study. This type of selection is based on a list of characteristics or attributes that participants must possess to be selected to participate in the study (Hutchinson, 2014). The main criterion for this research study was selecting participants who graduated within the last three years from then nutrition and dietetics program from the university in Midwest, U.S.A that served as the research site for this study. It was anticipated that 15-20 participants would be interviewed for this study as recommended in grounded theory research in order for

theory building to occur (Charmaz, 2014; Glasser & Strauss, 1967). At the conclusion of this

study, there were a total of 17 participants who provided informed consent to participate.

Research Site

The researcher is the director of a didactic program in dietetics (DPD) at a public four-

year university in the Midwest, U.S.A., which served as the site for this research study. Because

of the researcher's position, she served as a tool in the research design which had an impact on

access to program artifacts and the perspective used to analyze the data. By focusing on one

DPD program as the research site, the researcher had deeper knowledge of the program, its

curriculum, culture of the university and had an established rapport with participants. Leadership

is a foundational concept that is included in many mission statements of universities across the

country, and included in accreditation standards for nutrition and dietetics education, although

there is no specific prescription by the accrediting agency of how to educate nutrition and

dietetic students on leadership skills. Participants who had graduated from the DPD program of

the research site were solicited via email. They attended a variety of dietetic internship graduate

programs across the country but all completed the same DPD program, under the same 2017

accreditation standards.

Human Protection

IRB approval was granted from the institution sponsoring the researcher and from the

institution that served as the research site. All participant interviews were conducted via Zoom

and were recorded for transcription purposes. Participants were informed that only audio

recording was necessary for transcription purposes and were given the option to use video

recording. Each participant provided informed consent (Appendix A) for recording the

interviews. Confidentiality of participant information was ensured and all interview transcripts

and audio recordings were housed on a password-protected server. Participants will remain anonymous while reporting the data. Upon completion of the research study, transcripts and recordings will be kept for three years and then appropriately destroyed.

Data Collection

Grounded theory research uses diverse data such as interviews, field notes, analytical memos, records, and reports. While conducting interviews is a common data collection method for qualitative research, collecting rich data for qualitative research is dependent on recording detailed description when creating fieldnotes from observation, analytic memo-writing, and detailed narratives through interview transcription (Charmaz, 2014; Saldaña, 2016; Stake, 1995; Yin, 2009). Recording detailed descriptions in field notes during data collection provided insight into the culture of the research site and how participants were influenced by the learning environment (Bhattacharya, 2017; Geertz, 1973). Appendix B provides an alignment table that depicts the data sources used for this study and how each were utilized in answering the research questions.

Interviews

Individual interviews, rather than focus groups, were desired for this study as participants may feel limited in their ability to share with other professionals in the room or they may feel intimidated to share if their leadership experiences are different. One-on-one interviews allowed participants to share their perspectives on leadership without pressure to conform them to a larger group. Perceptions of unequal experiences and power imbalances have been noted as a disadvantage in focus groups over individual interviews (Merriam & Tisdell, 2016).

Qualitative interviews are used when the researcher wants to gain an in-depth view of participants' experiences (deMarrais, 2014). Conducting interviews was a desired method to use

for this research study to gather data regarding how individuals developed as a result of their educational experiences and how these educational experiences contributed to their leadership skills. As Baxter Magolda (1998) discovered in her research exploring self-authorship in college-age students, she reported that self-authoring developments occurred through the interview process. Giving opportunities for professionals to consider their experiences in leadership and reflect on those, helped determine what significant incidents occurred that aided in their professional development.

Intensive interviewing as described by Charmaz (2014) creates an interactional space that provides a way for exploring "participants' perspectives on their personal experiences with the research topic" (p. 56). Characteristics of an intensive interview include selecting research participants with first-hand experience with the research topic, reliance on open-ended questions for an in-depth exploration of one's experiences, and obtaining detailed responses. A key objective of intensive interviewing is to emphasize the understanding of the participant's perspective and experiences that may involve following unanticipated areas of inquiry or implicit views and accounts of action (Charmaz, 2014).

Semi-structured interviews are commonly used in qualitative research and offer an open-ended, less structured format that assumes individuals define their experiences in unique ways (Merriam & Tisdell, 2016). Semi-structured interviews are guided by a list of structured questions and topics to be explored; however, exact wording or order does not affect the overall data collected and allows the researcher to respond to the participant and/or situation. Semi-structured interviews allow participants to share their experiences and provide genuine feedback regarding their educational experiences (Merriam & Tisdell, 2016).

Two semi-structured interviews were recorded through Zoom technology. The first interview focused on educational experiences of participants, whereas the second interview focused on how participants described their ideas and experiences with leadership. Each interview with participants lasted approximately one hour and were transcribed for data analysis. Multiple interviews were conducted in order to explore multiple research question topics (Charmaz, 2014). Conducting multiple interviews also allowed the researcher to revisit certain topics from the previous interview and allowed the participants more time to reflect on their experiences. Interviews were scheduled per the convenience of the participants but were spaced on average two to three weeks apart from Interview one to Interview two. The semi-structured interview guides are included in Appendix C. Alignment between the stimulus questions and research questions are outlined in the alignment table in Appendix B.

Artifacts

Purposeful artifacts included for this research were the ACEND accreditation standards for nutrition and dietetic education and program documents from the DPD program that served as the research site for this study. Program documents included, items that reflected the curriculum including course syllabi, curriculum maps that demonstrated scaffolding of the curriculum, course descriptions from the course catalog, and learning activities used to measure the knowledge requirements established by ACEND. Other artifacts included the university website, program webpage, and the most recent program self-study report that is written for accreditation renewal every seven years. This report was used to understand how the program's mission, goals, and objectives align with the university. It described how the program provides nutrition and dietetics education within the established culture of the institution while meeting accreditation standards. Websites provided understanding on the values of the institution and the

culture cultivated. While this research study focuses on the individual's meaning making of their experiences, collecting artifacts about the program, provided insight into how the individuals were educated within the context of the program. Additionally, artifacts were reviewed during the interview process and compared to participants' experiences to provide credibility to the data analysis process. Alignment with the artifacts used to address the research questions are outlined in the alignment table in Appendix B.

Analytic Memo Writing

Analytic memo-writing was used throughout the data collection process, creating an additional code and category generating opportunity that contributed to building grounded theory (Saldaña, 2016). Analytic memo-writing is a reflection on a researchers' coding process, how the process unfolds, emergent patterns and categories, and themes from the data, which could all contribute to theory development (Saldaña, 2016). Memo-writing serves as a transition between collecting data and analyzing the results, as it promotes early analysis of the data as the researcher begins coding early in the research process (Charmaz, 2014). Memo-writing is the crux of data analysis that leads to theory development; more so than the coding of data, the memos contain the researcher's narratives that can be further coded and analyzed (Saldaña, 2016). Fieldnotes were written documentation of participant observation, it includes the observer's personal and subjective responses to and interpretations of social action encountered (Charmaz, 2014). These notes were also considered during analytic memo-writing. An example of an analytic memo that was written during the data collection process and later used for analysis is provided.

3/29/22

Talked with [Participant 12] about her confidence in her role as the nutrition expert on

the healthcare team, which differs from where her confidence is at in her ability to

perform that role. We explored that a little together. She sees her confidence building in

her knowledge as she gains more experience. She also attributes that increased

experience to the fact that she is the only one in her internship from her undergraduate

program. She says it has given her a different perspective and a way to learn from others

and them from her that she wouldn't otherwise have had. [Participant 12] still somewhat

sees leadership as a position, but really focuses on a leader as a part of a team; that

leaders can't perform their roles unless they have a team. She too (like other participants)

discusses learning from good/bad examples. Wishing she would have gained more

experiences to get that desired *practice* in leadership. Explore a little more about

situational/conditional leadership, leading out of obligation or necessity to fulfill the

position. [Participant 12] discusses this neat idea of how leadership progresses: necessity

leads to stepping out of comfort zone and getting things done which leads to recognizing

the knowledge you bring to the team, which leads to practicing those skills. This is a

really important progression – could this contribute to theory building?

The researcher first recorded the observations that were made during the interview and

the experiences shared by the participant. The researcher then reflected on the interview and the

patterns that were emerging when compared to previous interviews from other participants.

Initial codes that emerged from this analytic memo excerpt included leadership as a position,

good and bad examples of leadership, confidence to lead, practicing leadership, obligation,

knowledge, and interdisciplinary teams. These codes were further categorized to describe

leadership skills, how one understands leadership, and contributing factors towards developing leadership identity.

Data Analysis

Grounded theory historically uses the inductive process and comparative analysis to create codes that generate categories and themes leading to theory development (Glasser & Strauss, 1967; Merriam & Tisdell, 2016). Comparative analysis is often used in qualitative research (Glasser & Strauss, 1967; Merriam & Tisdell, 2016) and is also included in the analysis approach of constructivist grounded theory (Charmaz, 2014). Comparisons occur between interviews, field notes, interactions between the researcher and participants, between the participants themselves, and incidents of the same set leading to theory formation (Merriam & Tisdell, 2016). Constructivist grounded theory is an iterative process involving interviewing, coding, memoing, and categorization (Charmaz, 2014). This logic moving back and forth between the data allows for themes to emerge. Researchers construct tentative categories in which the emerging themes are placed for all theoretical understanding (Charmaz, 2017). Constructivist grounded theory is not a linear process as researchers pause to record ideas that emerge and areas that need further exploration. The process leads grounded theorists to possible answers as to *why* and *how* people construct meaning of specific actions and situations. (Charmaz, 2014).

The process of analysis using constructivist grounded theory outlined by Charmaz (2014) preserves the original strategies of grounded theory of comparative analysis (Glasser & Strauss, 1967) but integrates contemporary methods including coding and memo-writing, while inviting the researcher into the analysis. The data analysis process used in constructivist grounded theory includes initial coding through memo-writing that leads to focused coding and categorizing.

Theoretical sampling, a common strategy in grounded theory, provides tentative categories that are not necessarily descriptive but aid the researcher in determining codes and gaps in the codes for further exploration. The data is constantly compared to new data collected and incomplete understanding that raises questions while filling the categories until they reach saturation and can move into theory building (Charmaz, 2014; Glasser & Strauss, 1967).

Coding: First and Second Round Approaches

Initiating data collection included reflection on the standardized dietetics programs and leadership skills that are fostered in the curriculum through the lens of this research study and the research questions. Additionally, information was reviewed from the AND, the governing organization of the nutrition and dietetics profession, to explore how AND promotes leadership development and the message it sends to members, both students and credentialed professionals. Reviewing these artifacts prior to conducting interviews with participants provided a context into how individuals may have learned about leadership through the standardized curriculum and leadership skills deemed necessary for the nutrition and dietetics profession.

Initial coding was applied as it is identified by Saldaña (2016) as a method used by grounded theorists. Many of the grounded theorists are cited in the information on initial coding; therefore, making this an applicable selection for coding the data. Initial coding allows the researcher to establish a starting point in the data analysis, compare and contrast the data, remain open to all possible themes, and reflect on the information (Saldaña, 2016). Initial coding was beneficial while reviewing interview transcripts and grouping the data based on the research questions. For example, the first interview focused on educational experiences of participants and the second interview focused on participants' ideas about leadership. Therefore, initial coding determined that participants viewed courses, learning activities such as assignments, and

faculty role models were positive influences in their educational experiences. Initial coding also determined that participants understand leadership through observing other individuals that exhibited positive or negative leadership behaviors. These initial codes were further explored during second round coding.

Descriptive coding was used when reviewing documents and artifacts related to the standardized curriculum established by the accreditation organization as well as university and program documents. Descriptive coding (Saldaña, 2016) provides basic information and description of the topics within the research, of the accredited standards for dietetics education, and the educational experiences provided to students through this specific nutrition and dietetics program. Descriptive coding provided an overview of the program at the research site, including courses offered, planned assignments and learning activities, as well as the values and culture of the learning environment. Examples of descriptive codes used during artifact review included collaboration, interdisciplinary teams, communication, professionalism, ethics, cultural competency, advocacy, and management. Descriptive coding is not recommended to use for interviews as it does not contribute insight into the overall themes of how the participants make meaning of their experiences (Saldaña, 2016).

Eclectic coding was used for first-cycle coding as the researcher developed the most appropriate coding approach moving forward for this research study. Saldaña (2016) describes eclectic coding as an open format to coding allowing the researcher to become familiar with the data and what form of coding would be most beneficial moving forward. Saldaña (2016) posits that eclectic coding is also beneficial for second-cycle coding as it allows for flexibility for the researcher. Coding is an interpretive process and eclectic coding allows the researcher to create codes based on their interpretation of the data (Saldaña, 2016). Eclectic coding continued to be

useful in the second round of coding for this research study. This type of coding invited the

researcher to interpret the data and create codes that were later categorized to aid in answering

the research questions. This is consistent with constructivist grounded theory methodology that

views the researcher as an important tool in the data analysis process. An example of the coding

process used in this research is provided in Figure 4.

Figure 3.2. *Example of Coding Process*

Transcript Line	Eclectic coding example
RESEARCHER: After having been gone from the university for a bit of time and had time to reflect on your experiences that you had during undergraduate course work; how do you think that prepared you for what you are doing now?	
PARTICIPANT 2: For one thing, the professors, you guys are such big role models, because of all you do, you are professors and dietitians, and share so many of your experiences with us that we can learn from.	Teachers as Role Models
PARTICIPANT 2: And I think that is what really stuck with me and like the stories that you guys tell in class about your experiences	Story telling as a teaching method Inspired and motivated by teachers

of being a dietitian, just kind of inspired me to work hard.	
RESEARCHER: What else about your undergraduate experience prepared you for what you're doing now?	
PARTICIPANT 2: I would say the rigor of the program. It was very challenging but still doable and you guys as professors are so invested in our success and enthusiastic about what you're teaching, which it's like you guys really convey your enthusiasm and want everyone to succeed. So that's very helpful as well.	Challenging curriculum Rigor = high expectations Supportive teachers Support to Succeed Challenge = learning, growth
RESEARCHER: How has your undergraduate education influenced your experiences now?	
PARTICIPANT 2: The way the program is laid out chronologically, what classes you	Sequencing of courses/curriculum Scaffolding for learning

take in the order that you're taking them I think really helped my learning.	
PARTICIPANT 2: We did a lot of hands-on type learning, which was helpful.	Learning activity type Application of learning
PARTICIPANT 2: And the role playing we did in counseling I found that to be one of the most helpful classes in all of undergrad, just the way that it translates to real life.	Learning activity type Specific course Translates to real life Application of knowledge

Codes identified through this method included how participants defined leadership such as skills and characteristics, examples of leadership such as individuals who have modeled leadership behavior, and ways in which they reflected on their own leadership abilities. Codes were differentiated by how participants viewed others in leadership roles and how they saw themselves in relation to those leaders. From the coding process categories were created identifying relationships among codes and tentative themes emerged for each of the research questions while additional data were collected. Overlap among categories occurred when answering the research sub-questions.

Data Representation

Data were collected and analyzed from 17 participants after multiple recruitment attempts were used to solicit participants. This is an appropriate number for reaching saturation in

grounded theory research (Charmaz, 2014; Glasser & Strauss, 1967). All interviews were conducted via Zoom and transcribed and reviewed for further observation. Field notes were written during each interview with participants and later used for reflection when writing analytic memos. Once interviews were transcribed, the researcher used manual coding and NVivo software to code the data. First round coding of participant interviews included initial coding that was conducted manually to group the data and identify possible patterns. Second round coding of interview transcripts was conducted through NVivo, which provided better management of the large data sets. Word frequency tools were utilized when reviewing the codes created in NVivo. This round of coding included eclectic codes to determine categories for further interpretation. Codes and categories were clustered, which provide a non-linear visual that can change as data is collected and material is organized (Rico, 1983). Clustering provides a quick, flexible, non-committal way to fit the ideas that emerged from the research into a puzzle, making it beneficial in finding and writing about the themes (Charmaz, 2014). Analytic memo-writing was used initially to identify emergent patterns and themes among clustering of the data. These were then compared to the codes identified in NVivo.

The grounded theory approach works to develop theoretical ideas that emerge from the data (Schwandt, 2007). Grounded theory methodology is an inductive and comparative process that includes verification in the development of theory. Through organizing codes into categories and identifying relationships among them, tentative theories emerge while additional data was collected (Bhattacharya, 2017; Schwandt, 2007). Theoretical sampling evolves seeking pertinent data that supports the emerging theory; it is used to elaborate and refine the categories that constitute the emerging theory. Theoretical saturation is used to determine how many interviews to conduct (Charmaz, 2014). Strauss and Corbin (1998) posit that at least ten interviews are

needed for detailed coding and grounded theory building (Saldaña, 2016). Seventeen individuals participated in two interviews for a total of 34 interviews completed as all participants who provided informed consent were included. Recruitment of participants discontinued after the desirable number of interviews were conducted. It was determined that the theoretical categories became saturated with data and no new properties emerged that contributed to overall theory development (Charmaz, 2014).

Pilot Study

A pilot study was conducted in Spring 2021 using a constructivist grounded theory approach. The pilot study included four undergraduate nutrition and dietetic students from a Mid-western public university who were in their last semester before graduation. Lessons from this pilot study informed alterations to participant selection, interview questions and provided opportunity for using NVivo software for coding and analyzing data. Participants used for the pilot study included students who were currently enrolled in an undergraduate nutrition and dietetics program. While these participants provided good foundational information during the interview, they did not have enough time to reflect on their experiences or consider themselves as leaders at this point. For example, the following question was used in the pilot study interview, *describe how prepared you feel to demonstrate leadership in your future career.* Because participants had not completed the educational experience, they did not feel prepared or could not provide examples of how they would demonstrate leadership in the future. Therefore, it was difficult to determine their meaning making capacity and how it fostered leadership development. The pilot study also provided an opportunity for the researcher to practice with different interview techniques. Interview guides from the pilot study indicated that the questions were often close-ended and did not get the data the researcher needed to answer the research

questions. Additionally, the pilot study provided an opportunity to practice using NVivo for coding a small amount of data to determine the most effective way to code a larger data set during this research study. Preliminary findings of the pilot study provided a starting-point for initial coding for this research; however, due to limited sample size and an alteration in the semi-structured interview script, these findings were not used for theory construction.

Rigor and Trustworthiness

Characteristics outlined by Tracy (2010) for high-quality qualitative research are identified in this research study. These characteristics include the selection of a worthy topic and significant contribution, sincerity, rigor and credibility, as well as resonance, ethical and meaningful coherence. These key tenets were used to reflect on the quality of this research study. Validation practices used during and after data collection and during analysis to promote rigor, trustworthiness, credibility, dependability, transferability, and confirmability (Lincoln & Guba, 1985; Tracy, 2010) of the findings are described in this section.

This study is based on a worthy topic that will provide significant contribution (Tracy, 2010) to the nutrition and dietetics profession as student leadership development is limited in the current literature. However, the need for leadership is well documented and this research can provide a significant contribution to the literature. This study can inform and improve practice for dietetic educators and potentially generate ongoing research as well as empower newly credentialed dietitians to seek and develop in leadership positions.

Sincerity, authenticity, and genuineness are key elements to the qualitative research process (Bhattacharya, 2017; Charmaz, 2014; Tracy, 2010). Qualitative research offers a unique, and crucial, opportunity for self-reflexivity about the subject and offers provision for the researcher to be a part of the research rather than simply one conducting the study. Peshkin

(1988) noted that constant reflection throughout the research process on how one's subjectivities can potentially influence the research is warranted. Throughout the data collection and analysis process the researcher's reflection was done through analytic memo-writing after each participant interview and while reviewing artifacts. The researcher reviewed her perceived ideas about the participant as a leader and any discrepancies in the interview transcripts. For example, Participant 9 was not considered a leader among the student group by program faculty employed at the research site. However, during the interviews, this participant demonstrated a lot of growth in their leadership development. This required reflection by the researcher to ensure that preconceived perceptions of the participant were not influencing the data analysis. Additionally, reflection on the similarities and differences of leadership characteristics and definitions regularly occurred throughout the data collection process. The researcher reviewed the definitions of leadership presented by the participants and compared the definitions to her own as well as that of other participants to note similarities and differences. This allowed the researcher to utilize the thoughts and ideas of participants during data analysis rather than relying on her own understanding of leadership. Analytic memos were consistently reviewed throughout data analysis to reduce misrepresentations of the data.

Rigor and credibility were taken into account through the methodological framework in order to produce high quality research. Spending considerable time collecting data in the field, careful sample collection, and planning data collection and analysis based on the grounded theory approach assisted in establishing a high-quality study (Tracy, 2010). Rigor and credibility were sought by increasing the number of participants and interviews (Charmaz, 2014). Seventeen participants each completed two interviews. Conducting multiple interviews provided more time and depth in data collection.

Credibility was also sought by triangulating the data. Triangulation of the data was conducted by gathering and comparing multiple data sources, specifically participant interviews, artifacts such as program documents and accreditation standards, and analytic memos. Comparing participant interviews and program artifacts helped to verify the information shared by participants about the structure of the curriculum and available educational opportunities. Next, member checking was complete as initial results of data analysis were shared with participants and feedback was welcomed (Baxter Magolda, 2010; Stake, 1995; Yin 2009). Minimal feedback was provided during member checking; however, the participants that did respond verified the information as it was presented. Lastly, peer debriefing was completed by program faculty from the research site, which allowed for feedback and guidance on the accuracy of the information as well as to provide possible alternative perspectives of the findings (Lincoln & Guba 1985; Schwandt, 2007). The peer debriefing completed for this research study resulted in a clearer definition of leadership skills and attributes as well as recommendations for educational strategies based on the results of the data analysis.

Resonance, ethics, and meaningful coherence (Tracy, 2010) were all considerations for this study with the anticipation that the findings are transferable to other dietetic programs as all accredited dietetic programs follow the same accreditation standards set forth by ACEND. Because ACEND is not prescriptive in how programs deliver the curriculum, programs have flexibility in how they foster leadership development within the scope of ACEND standards. Because this study was conducted in the context of one nutrition and dietetics program at a public, four-year university in the Midwest, the methods and procedures used could inform other accredited programs to consider how their program is fostering leadership development among its students. Results of this study are meaningful to the current nutrition and dietetics leadership

literature as it supports further investigation of how nutrition and dietetic students are educated and how leadership development may be fostered at the undergraduate level.

Ethical Considerations

This research endeavor was upheld by the Code of Ethics for the Nutrition and Dietetics Profession as the researcher is a credentialed RDN and therefore, responsible to the Code of Ethics for the nutrition and dietetic practitioner. This Code of Ethics is founded on principles of non-maleficence, autonomy, beneficence, and justice which guides professional practice and promotes adherence to the core values set forth by AND as well as CDR (Academy of Nutrition & Dietetics, 2018). Additionally, procedural ethics were followed in the data collection process through the IRB-approved application. IRB approval was obtained from the university in which the primary investigator conducted the research as well as from the university where data were collected.

The researcher previously had a teacher-student working relationship with all of the participants. Relational ethics include "ethical self-consciousness in which researchers are mindful of their character, actions, and consequences on others" (Tracy, 2010, p. 847). Communicating the expectations of the research study and the interview process was conducted through the recruitment materials and consent form. Additionally, all data collected through interviews and observation will be deleted at the end of the project as outlined in the IRB application.

Summary

This study aims to explore how students make meaning of their educational experiences and how those experiences impacted their leadership development. Using a qualitative approach for this study provided new insight into the influences of leadership development among

nutrition and dietetic Bachelor of Science graduates. The broad theoretical perspective and methodological framework are grounded in constructivism, providing a unique lens in which to collect and analyze the data. Chapter four will outline the themes that emerged from the data collected and analyzed.

Chapter 4 - Results

The purpose of this study is to explore the educational experiences and how nutrition and dietetic Bachelor of Science degree graduates describe their leadership development. Research questions focused on specific leadership skills that developed as a result of the curriculum and learning experiences within an undergraduate nutrition and dietetics program as well as how students identify as leaders. The researcher analyzed each source of data independently using constant comparative analysis. The data sources used included participant interviews, field notes, analytic memos, and curriculum artifacts from the program in which students obtained a nutrition and dietetics degree as well as the standardized education established by the Accreditation Council for Education in Nutrition and Dietetics (ACEND). Documents and interview transcripts was coded using NVivo software to determine categories and themes that emerged to answer the research questions. Through constructivist grounded theory, the researcher began constructing theory as the data synthesis began to reach theoretical saturation and themes began to emerge.

Analysis of the Data Sources

Document Review

Artifacts were reviewed during data collection where descriptive codes were used to learn about how leadership is presented in the accreditation standards and the curriculum of the program. Document review also provided the researcher a broad view of the research site and opportunities for students enrolled in the nutrition and dietetics program, the values and culture of the institution, as well as how leadership is presented within the context of the program. Using artifacts that are program specific also aided in triangulation of the data when comparing the data collected from participant interviews. Documents reviewed included ACEND accreditation standards, curriculum, and other program documents.

Accreditation Standards

Initial data collection began with document review. A review of the ACEND core knowledge requirements indicated the concepts of leadership are taught in the undergraduate curriculum; however, they are related to management skills in the foodservice setting versus leadership characteristics such as, self-confidence and motivation. The core knowledge requirements directly related to leadership and management skills include:

- "KRDN 4.1 Apply management theories to the development of programs or services.

- "KRDN 4.4 Apply the principles of human resource management to different situations" (ACEND, 2021, p. 11).

As of June 1, 2022, all ACEND accredited programs are to implement new ACEND 2022 standards which include updated core knowledge requirements. In the 2022 accreditation standards, a curriculum domain was added that centers around Leadership and Career Management. The intention of this domain is to address "skills, strengths, knowledge and experience relevant to leadership potential and professional growth for the nutrition and dietetics practitioner" (ACEND, 2021, p. 11). The core knowledge requirements outlined in this domain include:

- KRDN 5.1 Perform self-assessment that includes awareness in terms of learning and leadership styles and cultural orientation and develop goals for self-improvement.

- KRDN 5.2 Identify and articulate one's skills, strengths, knowledge and experiences relevant to the position desire and career goals.

- KRDN 5.3 Practice how to self-advocate for opportunities in a variety of settings (such as asking for needed support, presenting an elevator pitch).

- KRDN 5.4 Practice resolving differences or dealing with conflict.

- KRDN 5.5 Promote team involvement and recognize the skills of each member.

- KRDN 5.6 Demonstrate an understanding of the importance and expectations of a professional in mentoring and precepting others. (ACEND, 2021, pg. 11)

Other leadership characteristics were alluded to in the ACEND standardized curriculum such as effective communication, ethical decision-making, advocacy, and interprofessional collaboration. When reviewing the curriculum documents associated with dietetics education, these characteristics were expectations of all students but were not necessarily presented through a leadership lens.

Curriculum

The program curriculum of focus consists of 121 credit hours spread over eight semesters and includes 47 credit hours of general education, 23 credit hours of professional science courses, and 51 credit hours of didactic professional courses. The curriculum supports multidisciplinary collaboration, a rigorous science curriculum, equal exposure to various areas of nutrition and dietetics practice, all through the lens of the public affairs mission of the university. The public affairs mission adopted by the institution focuses on ethical leadership, community engagement, and cultural competence.

ACEND is not prescriptive in how programs present the curriculum, as long as it meets the accreditation standards. Therefore, it is important to note the unique aspects of the dietetics program at this Mid-western university that was used as the research site for this study. The curriculum for this specific program has a strong emphasis on biomedical sciences, where some courses are taken by a variety of healthcare majors in the college including nursing, cell and molecular biology, exercise and movement science, sports medicine, and nutrition and dietetics,

with students seeking careers in physical therapy, occupational therapy, medicine, physician assistants, athletic training, among others. These science courses not only provide a solid foundation of knowledge in the interpretation of nutrition science, but they also provide opportunities for exposure to multidisciplinary teams and collaboration, as well as leadership experiences for health professions students.

The curriculum is sequenced in a way that allows for scaffolding of the information within the DPD curriculum to ensure depth and breadth of knowledge. Science core classes are woven throughout the nutrition and dietetics curriculum that provide foundational knowledge of body systems, how they operate, and provide solid foundation for interpreting nutrition science. These courses are typically completed within the first six semesters of the 8-semester program sequence.

The nutrition and dietetic courses are also sequenced to promote scaffolding of the core knowledge requirements set forth by ACEND, to encompass the three areas of nutrition and dietetics (clinical, community, and food service) and emphasize the public affairs mission of the university, while also meeting students' interests. The didactic curriculum begins with an introduction to nutrition course which includes foundational knowledge of nutrients, the body's utilization of those nutrients, and application of the nutrients for weight management and individuals throughout the lifespan. This course is a prerequisite for all other nutrition and dietetic courses, once students take this course, they can progress through the curriculum. Students are also required to take an introduction to the profession course, which exposes students early to the process of becoming a registered dietitian nutritionist, including the expectations of the program, ACEND, the Academy of Nutrition and Dietetics (AND), and the Commission on Dietetic Registration (CDR). The course begins the process of building

professional skills and includes some of the leadership-focused core knowledge requirements included in the standardized curriculum. As students progress through the curriculum higher level courses are intended to ensure required core knowledge (KRDNs) are achieved and serve as preparation courses for supervised practice programs as well as the credentialing exam.

Educational Experiences

The dietetics program uses a variety of instructional approaches including traditional seated/in-person courses, courses in a blended format, and online courses. Blended courses provide opportunity for more experiential learning that allows for faculty-student interaction in the classroom as well as learning activities outside of the classroom such as attending fieldtrips, or participating in community service projects related to course objectives. Several courses within the curriculum are lab-based offering hands-on learning, which was identified by many participants as important experiences towards their learning and development. These courses include a lab portion of the class where students can interact with one another and use models or other equipment necessary for learning and practicing important skills. Some courses, offered in a blended format, provide a blend of learning activities that students do outside of the classroom, allowing for application of knowledge, hands-on activities, deeper discussion, and learning inside the classroom.

Learning activities conducted within each course are designed for students to develop collaboration, teamwork, problem-solving, critical-thinking, and self-assessment skills, personal and professional attitudes and values, cultural competence, leadership, and decision-making skills. Class discussions, project-based learning, simulations, hands-on activities, role-playing, research, and presentation skills are evident in seated, blended, and online courses. Learning

activities are reviewed annually by program faculty to ensure core knowledge requirements are being met by students and that each activity is appropriately evaluating each KRDN.

Review of program documents, specifically course syllabi and course schedules, indicate a variety of learning activities are utilized throughout the curriculum. Many of the activities were also identified by participants as being influential to their learning, which lead to foundational knowledge needed for leadership development. The learning activities identified by participants included:

- developing educational materials and presentations,

- apply management theory by organizing and conducting large events for the community,

- strategic planning,

- advocating for the nutrition and dietetics professional as a valued member of the healthcare team,

- practicing effective verbal and written communication skills,

- plan and execute a nutrition lesson plan based on needs assessment,

- practicing effective counseling skills through role playing,

- advocate and write policy that addresses food and nutrition related issues.

Many of the program's courses and activities were identified by participants as ways in which the curriculum contributed to their leadership development.

Participant Interviews

Seventeen participants who attended and received a Bachelor of Science degree in nutrition and dietetics from a Mid-western public university within the last three years volunteered to participate in this study. The 17 participants included 14 female and 3 male participants, and of those participants, 15 identified as white, one Asian American, and one

Hispanic ethnicity. Two of the participants identified as non-traditional students based on the fact that they had previous degrees from areas outside of nutrition and dietetics, and returned to college for a second degree.

Each participant completed two interviews for a total 34 separate interview transcripts. The first interview focused on questions related to educational experiences and specific leadership skills that participants developed while completing an undergraduate degree. The second interview focused mainly on participants' views and definitions of leadership and how, or if, they identify themselves as leaders. All participants were currently in a dietetic internship, graduate program, or had recently graduated from an internship/graduate program. Some graduates had taken and passed the credentialing exam and some were still waiting to take the exam. Some participants had obtained their first job as an RDN while others had not started working in the field.

Interviews were coded and categorized using a constant comparative analysis. Interviews were also compared with artifacts used during document review to analyze participants perceptions of the curriculum and how the program presented leadership. Codes and categories that emerged from the interviews and artifacts were used to answer the research sub-questions, which were developed to further describe contributing factors towards leadership development. These were used to answer the overarching questions guiding this study.

<div align="center">Analysis of Research Questions</div>

Research Question 1: How Do Dietetic Students Describe Their Leadership Development After Graduating With a Bachelor of Science Degree?

To further explore this question, sub-questions were developed to better identify contributing factors for leadership development. Sub-questions focus on how the curriculum

specifically contributed to leadership development, how individuals' experiences during their

undergraduate career contributed to leadership development, and what specific leadership skills

were obtained through these experiences.

Sub-Question 1.1: How Did the Nutrition and Dietetics Curriculum Contribute to Students'

Leadership Development?

Categories that emerged from the interviews regarding leadership development related to

the curriculum included courses, specific assignments, and the learning environment; these

categories are outlined in Figure 5. Descriptive coding was used to identify courses and

assignments that participants related to leadership development. Participants described the

courses by name that they believed had the biggest impact on their learning. Likewise, they

referred to assignments and learning activities that helped them develop leadership skills. Lastly,

the learning environment in which the courses were taught, and how the learning activities were

facilitated also contributed to leadership development of the participants. Many of the

characteristics of the program were noted in the artifacts collected; however, participants noted

specific courses and learning activities that they perceived as contributions to their leadership

development.

Figure 4.1. *Contributions of the Curriculum Identified by Participants*

Courses	- Medical Nutrition Therapy - Nutrition Counseling - Foodservice Management Courses (i.e. Quantity Foods, Administrative Dietetics) - Community Nutrition

	• Others: Physiology, Nutrition Education, Food Science
Learning activities	• Group Projects (i.e. labs, interprofessional projects, catering event) • Presentations (i.e. food demonstrations, professional presentations, public speaking) • Role Playing (i.e. counseling)
Learning environment	• Rigor • Expectations • Responsibility (i.e. time management, organization) • Initiative • Collaboration • Application of knowledge • Support (i.e. peers, faculty) • Feedback

There is correlation between the course documents reviewed and participant interviews in describing how the courses and assignments were presented in the curriculum in this nutrition and dietetics program. However, learning environment is not evident in the document review therefore participants' perceptions of how the curriculum was presented played an important

factor in their development as leaders. Many described the rigor of the program specifically due to a strong science-based curriculum and the high expectations set by faculty for professionalism and success. Quoting Participant 14, "We were expected to be prepared for exams and assignments and presentations…I mean, the expectations in undergrad were very clear, so it made me more prepared in grad school than was needed. I was very prepared." Rigor was associated with the knowledge obtained in the undergraduate curriculum. Additionally, participants spoke of the high expectations of program faculty which supported their increase in subject-related knowledge.

Participants described that due to these factors, they grew as professionals in learning responsibility, time management skills, taking initiative, and simply to organize and prioritize tasks related to their courses and assignments. Participant 4 explained, "I don't mind [the rigor], it got me to where I am today...we had to really put in the discipline and that was a huge lesson in undergrad...I look back now on the trials and tribulations and that's how you learn and become who you are." Likewise, Participant 7 shared, "Balancing work and going to school and the course work was one of the most challenging experiences." Many courses and assignments required collaboration and application of knowledge, which not only deepened understanding and knowledge of content, but also allowed for opportunities to practice newly learned leadership skills where feedback was appreciated within a supportive environment.

Further analysis of how the courses, learning activities and learning environment contributed to participants' development are described using the narrative from participants as they shared their experiences. The categories identified for research sub-question 1.1 relate to one another to further leadership development. Common themes presented throughout include observation of modeled behavior within the learning environment, emulation of those behaviors

through learning activities, and the development of self-efficacy. Self-efficacy was improved through increased knowledge from the courses and practicing leadership skills such as time-management, taking initiative and responsibility, as well as application of their knowledge; all of which were reinforced by a learning environment that provided challenge and support.

Courses. When asked about their experiences studying nutrition and dietetics during their undergraduate career, participants identified that the professional courses they took directly related to nutrition and dietetics were a foundational component of their development. Participant 4 reported, "Definitely a lot of the classes is one of the ways that helped me develop into a leader…" Likewise, Participant 5 stated, "First and foremost, I think that my academic experience was a huge driver."

Participants specified courses within the curriculum that contributed to their development during their undergraduate education. Courses identified by participants such as Medical Nutrition Therapy, Nutrition Counseling, Foodservice Management courses, Community Nutrition, among others such as Physiology, Nutrition Education and Communication, and Food Science. These courses provided a variety of ways in which leadership skills were presented and perceived. This is largely due to the rigor of the content, the opportunity for hands-on learning in these courses, and the positive leadership behaviors of the course instructor. Curriculum artifact review indicates that these courses contain a lecture and lab component offering more opportunity for active learning through hands-on experiences and application of knowledge, which were recognized by participants as contributing factors for their development of skills.

Further discussion of participants' experiences in these courses revealed how these courses contributed to leadership development, which connected with the learning activities completed and the learning environment in which the courses were delivered. Leadership skills

that development as a result of the courses offered included strong foundational knowledge of the profession that was enforced by a rigorous curriculum, but also developed through learning activities that were facilitated in a supportive learning environment. Participant 8 shared how the courses contributed to their foundational knowledge, which also contributed to their self-efficacy as a developing leader.

> I feel like [university] and all the classes touched on everything, I felt going into my master's program when we were learning all along, I never really felt like there was anything entirely new to me, and that was a very good feeling to have. (Participant 8)

Learning Activities. Participants reflected on specific assignments that prepared them for leadership in their dietetic internship graduate programs and in some cases, their current roles as RDNs. Assignments and other learning activities that participants believe contributed to their development as leaders include group projects, presentations, and role-playing activities. Descriptions of how those contributed to participants' development and supporting quotes demonstrated that deepened knowledge and understanding of nutrition and dietetics topics, along with observation and emulation of leadership behaviors, further contributed to participants' self-efficacy in leadership.

Group Projects. Group projects allowed participants to practice leadership skills either by holding a leadership position within the group or negotiating their role as a group member. Participants reflected on specific skills they learned by participating in group projects, which they associate with leadership development. Skills include collaboration as Participant 3 stated, "I've learned to work as a team and collaborate with others through group projects for school.". Initiative was another skill identified by Participant 7 who reflected on their experiences in group projects where they said, "sometimes you have to step up to be a leader and sometimes you have

to know when to step back and just be a participant." Lastly, students gained new perspective as one participant reported, "working in group projects with other students from other healthcare disciplines helped you learn from each other on one project what others do and how their knowledge is used to treat a patient" (Participant 9).

Group projects that were specifically related to interprofessional education allowed students to demonstrate knowledge and negotiate their positions as nutrition and dietetics professionals. Participants recognized once they were working in their graduate programs or jobs just how important collaboration is with other members of a healthcare team. Group projects allowed for students to practice their role as a leader or as a group member and determine how to contribute to the team in a meaningful way. Many participants believed all of the group projects they participated in helped in navigating their role within a healthcare team.

- One participant reflected, "…group projects where we had to be the leaders and then sometimes we had to be just the participants" (Participant 7).

- Participant 3 shared how group projects helped them in a variety of areas within their graduate program including clinical and foodservice experiences:
  - o "I remember an MNT lab when we did interprofessional activities which prepared me well for graduate school when I worked in a multidisciplinary team in the hospital,"
  - o "…foodservice projects, where we had to make different meals and present it to everyone in a meeting, that was definitely big on leadership, because you had to essentially put it all together and work with a team of people from the kitchen staff and food distributors."

Presentations. Participants reflected on the challenge experienced with organizing and giving numerous presentations in their undergraduate program. They believed this was the most intimidating type of learning activity due to perception of low confidence in public speaking; however, over time, many grew in their confidence in communicating difficult nutrition concepts to diverse groups. Through document review, several of the courses specifically related to nutrition and dietetics required presentations as part of the course requirements. Rubrics for presentations included demonstration of knowledge of the topic, communication skills, and professionalism as part of skill assessment. As participants described their experiences with giving presentations during the undergraduate experience, it is undetermined if their public speaking skills specifically improved. Although, it is evident that participants' confidence grew in their ability to communicate nutrition information. Thus, with continued opportunities for professional presentations, students' self-efficacy increased during their undergraduate coursework.

- "Definitely presentations, are a classic leadership skill…having to do a lot of presentations although it's not the most fun when you're doing it, it's really beneficial… have to public speak confidently and portray enthusiasm about what you're talking about otherwise no one is going to care about what you are talking about if you don't care…" (Participant 2).

- "I feel like we got really good experience, we had to be really comfortable because we did a lot of presentations, which helps me now in group sessions for my job" (Participant 14).

Role Playing. This type of learning activity was identified as an opportunity to apply knowledge, practice communication skills, and practice leadership/management skills. Courses

that utilized this learning activity were specifically related to communicating nutrition science with individuals, which included Nutrition Counseling, Nutrition Education, Quantity Foods, and Community Nutrition courses per document review. Participants reported that practicing communication and counseling skills in a learning environment where they received feedback and support to improve upon those skills provided an enhanced confidence when using it in real-life situations. "[The] role playing we did in counseling…I found that to be one of the most helpful things in all of undergrad, because of how it translates to real life" (Participant 2). Participant 9 further reiterated, "…from counseling we learned many different techniques and how to talk to a child compared to an adult…I didn't realize how important that class would be until I was in an internship and actually using the skills, so I am glad I had that class." Role playing provided an opportunity to practice communication skills with a wide variety of populations, thus further increasing confidence.

To summarize, as participants talked about courses and the assignments they completed during their undergraduate experiences in a nutrition and dietetics program, hands-on learning and application of knowledge were common themes noted by participants as major contributors to learning and development. Participants stated the following about their experiences with the courses and learning activities after completing a Bachelor of Science degree in nutrition and dietetics:

- "I applied the information I know from the classes and I feel like I know what I am doing" (Participant 1).
- "I would definitely do the project again because it definitely threw me into a foodservice experience, and I think that's the best way that I learned is definitely hands on" (Participant 6).

- "Classes that brought in more practical stuff and real life stuff so I think those kind of classes were the best" (Participant 7).

Another code used to describe contributing factors to the learning activities was autonomy. A few participants noted that when they were able to have more autonomy over their learning, selecting topics for presentations, selecting activities to complete that would meet assignment requirements, or presenting to groups and working with others outside of the classroom, it enhanced their confidence as a learner and pre-professional.

- "The volunteer opportunities we had where we got to lead our own presentations with organizations, although it was intimidating at the time, it still built my confidence up a lot" (Participant 6).

- "I feel like when I did have to come up with my own thing it felt more rewarding as I did if from start to finish by myself, but I did something I was interested in so those required more thought process, they were more rewarding and more fun to do" (Participant 16).

While autonomy was not identified by the majority of participants, it was identified as a curriculum characteristic and is noted as a contributing factor to one's self-confidence, thus contributing to leadership development.

Learning Environment. Lastly, the learning environment in which the curriculum was presented was identified by initial codes such as rigor of the curriculum, expectations of the faculty, initiative and responsibility towards leadership, opportunities for collaboration and application of knowledge, and support and feedback provided throughout the learning process. These codes were categorized into *learning environment* and recognized as a contributing factor to leadership development among participants. Through document review of the program, the

values, mission, goals, and objectives of the program were also evident as contributing factors to the environment in which learning took place for participants.

Ultimately, the learning environment is the sum of courses included in the curriculum and the assignments and activities presented in those courses. The culture of the program derives from the university's public affairs mission, which includes community engagement, ethical leadership, and cultural competence. The curriculum, designed by the program faculty as well as through the lens of the program's mission, and program specific goals and objectives provide insight to the culture of the program. One participant summed it up well when they stated,

> …My whole education experience and college experience, I'm just very grateful and
> thankful for the things I was able to learn and to be able to build off the initial foundation
> I had going into this profession, being exposed to different things in undergrad and not
> being afraid to learn new things…it helped me feel confident" (Participant 3).

The rigor of the program, the courses, and learning activities, were noted as contributing to increased confidence in one's abilities to perform as an RDN, but also as a leader. Challenges due to the rigor of the curriculum was most often associated with growth as Participant 2 stated, "I feel like every time I may have failed or messed up in undergrad, I definitely learned from it". Additionally, Participant 4 said, "You guys challenged us, but that's the biggest factor that I learned from [the university] was that I did it, it was the hardest thing I ever did, and I can do it." Participants recognized with the ability to reflect on those challenges now, that those promoted growth, which resulted in increased knowledge of nutrition science, and confidence in abilities.

Supporting the breadth and depth of knowledge in the curriculum is a requirement set forth by the accreditation standards from ACEND. Participants identified this through the sequencing and scaffolding of information. "I would say the rigor of the program, how it's laid

out chronologically and the order that they are taken" (Participant 2). Additionally, one

participant stated, "I think undergrad is often a place where people find a potential niche and rule

out what they do and do not like…its often a first exposure to learn more about what you are

interested in and what opportunities to explore" (Participant 11). The curriculum allowed

students to find their niche in preparing for a career in nutrition and dietetics as it allowed for

vast experiences and practice in areas that are of interest.

Participants reflected on opportunities outside of the courses, but within the context of the

nutrition and dietetics program and university, that involved initiative and extra responsibilities

alongside leadership experiences. This Mid-western university with a nutrition and dietetics

program has integrated service-learning components in some of the courses, offering a more

hands-on approach to learning and an opportunity for applying knowledge from the classroom to

serve the community. Participants reflected on the vast volunteer opportunities they had to

practice their skills and gain valuable experiences, which resulted in an increase in confidence in

their abilities to perform as a registered dietitian in the future.

Participants recognized the rigor of the program, the challenge they experienced to get

through the curriculum, the expectations of faculty for each individual to take responsibility and

initiative in their own learning. The assignments and learning activities presented in the

curriculum were designed by faculty teaching their respective courses, not prescribed by the

accrediting agency nor by the program, or university. Faculty create meaningful learning

experiences and use the standards of practice to ensure students are competent as entry level

practitioners and provide feedback and support in that learning process. The values of the

program are also exemplified by the faculty, which participants recognized and reported during

their interviews. Many participants spoke of how faculty modeled leadership behavior, enhanced

their learning through a variety of teaching methods, and supported their learning as they practiced newly learned leadership skills and skills of an RDN. Participant 2 shared,

> …the faculty at [the university] is what everybody remembers about their undergraduate experience, all the stories you guys tell and how invest you guys are in our life and professional careers. You guys taught us really well, showed us was to approach things as we go into the rest of our educational experience… You made it so comfortable to ask questions, and just having that type of support system educational is what motivated me to learn and push myself further into the profession…

Participant 4 also expressed their experience with the challenge of the program itself and the support they received,

> if it wasn't for [teacher A] and [teacher B] I would have quit long time ago. They just constantly told me don't stress over the things like tests, or a B, focus on what you are learning…. I was struggling through physiology and [teacher A] said, just keep going you are going to pass. It just made me feel amazing.

These two participants illustrated the importance of the role of the educator in shaping a student's learning experience. Educators who teach within a nutrition and dietetics program exhibit expertise in the field, create meaningful assignments that allow students to practice professional skills, and support student learning.

An area of further exploration is how the public affairs mission adopted by the university contributes to leadership development. The research site for this study has a statewide mission in public affairs that was adopted by the university in 1995, with a purpose to develop fully educated persons with a focus on ethical leadership, cultural competence, and community engagement. Artifacts from the research site further defined these pillars in the following ways:

- Ethical Leadership – Leadership that strives for excellence and integrity as one

  continually develops ethical and moral reasoning while contributing to the

  common good. Ethical leaders have the courage to live by their principles in all

  parts of their personal and professional lives.

- Cultural Competence – This begins with cultural self-awareness and expands to

  knowledge of, respect for, and skills to engage with those of other cultures.

  Culturally competent individuals respect multiple perspectives and can

  successfully negotiate cross-cultural differences.

- Community Engagement – Engagement that recognizes the needs in the

  communities and responds by contributing knowledge and collaborating with the

  community to meet those needs. Community engagement requires extending

  beyond oneself for the betterment of the community a process that fosters greater

  awareness and personal growth (Missouri State University, 2022).

This mission defines the primary way in which the education at this Mid-western university is

different from that of other universities and one way by which students are educated. Public

affairs is a perspective and intended to be pervasive in the experiences of students attending this

university. The public affairs mission is highly promoted across the campus and is evident in

most university publications and documents. It provides a lens in which education at the

university is delivered and what makes it unique from other institutions.

The public affairs mission is evident in the documents associated with the nutrition and

dietetics program serving as the research site, such as mission, goals, and objectives, but also in

the curriculum through the courses offered and assignments outlined in course syllabi. However,

few participants reflected on the public affairs mission as a contributing factor to their learning

and development as a leader. One of the participants, because of their unique experiences on campus as a University Ambassador, a representative of the university at large, who may have received additional training in communicating the public affairs mission, was one of the few participants in this study who identified the public affairs mission contributions to their development. Participant 8 shared that because she was always talking about the public affairs mission as a University Ambassador, communicating the values of the university to families who were visiting, the mission played a huge role in how they approached their experiences. The public affairs mission contributed to their leadership development specifically through the cultural competence pillar of the mission. Participant 8 reflected,

> …a big part of it, I think is the cultural competence, that was something I liked about the dietetics program is we did have learning projects about cultural foods and different cultures around the world, and I feel that set me up well for going into a graduate program, seeing people in the hospital that don't eat the way I do, or according to the nutrition education materials from America. So I feel like it set me up well to just be very aware and to understand there are other cultures that exist and how we teach people from other cultures is important.

Later, Participant 8 described their first job as a dietitian, working with the Hispanic population in the community. They largely attribute the Spanish-speaking skills acquired during the undergraduate education but also the strong foundational knowledge in how culture effects food, nutrition, and eating practices they received from the curriculum presented in the undergraduate program. Participant 8 provided a strong example of the embodiment of the public affairs mission of the university through the demonstration of leadership and cultural awareness.

In summary, participants report the contributing factors of leadership development as a result of the program's curriculum include the courses, the learning activities, and the learning environment in which they are presented. The learning environment is fostered not only by the culture of the university but also the people who have influence over the learning environment at this specific institution. The curriculum provides opportunity for deepening knowledge of the topic, observation and emulation of modeled behaviors through practice and experience, which all contribute to improving self-efficacy.

Sub-Question 1.2: How Did the Experiences Within the Nutrition and Dietetics Undergraduate Program Contribute to Leadership Development?

Two categories of experiences were discussed among participants: educational experiences related to academics and life experiences that were not associated with academics but were still identified as being instrumental in leadership development. Academic experiences discussed were consistent with the curriculum and leaning environment as similar codes were used when exploring the results for this research sub-question. Life experiences discussed were unique to the individual participants and not associated with the codes used for other educational contributions.

Academic Experiences. Academic experiences were categorized further into two groups: those related to curriculum and those outside the curriculum. Research sub-questions used to describe how the graduates of a Bachelor of Science degree in nutrition and dietetics understand their leadership development indicates that there are experiences during their undergraduate educational experiences that have overlap. For example, experience through group projects, specifically with an interprofessional education component, allowed students to practice leadership among peers as a representative of the nutrition and dietetics profession. Practicing

leadership was a common theme that was discussed among participants. Participant 12 voiced what group projects meant to them in practicing leadership skills,

> Group work prepared me for working with different groups of people and how to handle different situations because there are times, where you get to pick your group members and there are times you don't, so just being comfortable and just stepping out of your comfort zone to work with people you have never worked with before and just starting the group discussions.

Likewise, Participant 17 shared that, "being able to work with other interdisciplinary groups to help show our worth and our value and how we directly impact our patients' outcomes has provided new insight".

An important experience identified by several participants is the significance of working on a team. The ability to work as part of a team allows one to gain new perspective, opportunities to contribute his/her expertise, and synergy that leads to superior results. Participants recognized that when working on a team it bettered themselves and their professional practice by observing and emulating modeled behavior. The discussion around teamwork appears to develop later in the educational process as it was not necessarily noted by those students who are still in the dietetic internship graduate program but instead by those who have completed their graduate programs and started working. It is difficult to say that the undergraduate educational experience is solely responsible for developing teamwork skills; however, it is evident that opportunities to learn about oneself as a member of a team and practice leading a team was provided for participants, as this did contribute to skills of effective communication and collaboration. Identifying the importance of one's role on the team and embracing other team members' roles

takes reflection, time, and experience to fully develop as noted by two participants who recently

obtained their RDN credential and obtained their first professional position.

- Participant 3: "I'm just really big on teamwork, the results are better when you're

  working with other people and collaborating. Because when you're by yourself

  it's like this is what I think and I hope it works, and it's more just like your

  opinions and what you've gathered but when you work with others, they see

  things a little differently that maybe what you had thought about."

- Participant 14: "From the very start I've made myself an active team member

  because there were things that I could help with so I just kind of jumped in head

  first like 'I can do this' and I've gotten feedback which has made me confident in

  my skills."

Gaining experience and practicing newly learned skills is also identified as a helpful tool

in developing leadership skills. Classes and learning activities were discussed; however, it was

also noted that participants did not realize how much these experiences contributed until after

they finished their undergraduate degree. Reflection was used throughout the interview process

with participants and it appeared to help individuals recognize their own development as leaders.

Participants reflected that when they were given opportunities to practice skills associated with

leadership such as presenting in the community, when they experienced challenge through the

curriculum and reflected on how they grew because of those challenges, they were able to

recognize how these experiences contributed to their development as a leader. Participant 6 noted

that they were given opportunities to lead multiple presentations in the community, these

opportunities were given to them by faculty members that invited students to participate. They

stated,

"…the various presentations as well as the opportunities I had to volunteer for certain groups and to do presentations that allowed me to figure out my presentation style and how to hold myself and little better and I've carried a lot of that with me. I have the confidence now to talk to other dietitians and other practitioners."

A few participants reflected and recognized the importance of public affairs to their education within the program. Participants commented on how the mission, including ethical leadership, cultural competence, and community engagement made their education stand out and influenced the experiences they sought because of this focus within the curriculum. Participant 8 truly embraced the public affairs mission and the impact it made on their development. They stated,

The one thing that sticks out to me is the focus that [the university] has on public affairs, it was very much incorporated in our coursework, and that actually came to benefit me during my graduate program when I was asked to serve as the medical nutrition professional in the student ran clinic and served people in the community, and the reason I did that was because of my experiences in the community during undergrad.

Life Experiences. Although not directly related to their undergraduate experiences, some participants chose to discuss life experiences that they believed had an impact on their leadership development or had an influence over their educational experiences. For example, two participants had previous degrees and were returning to the university for a second degree. Both participants reported these previous degrees provided a unique lens in which they viewed nutrition and dietetics curriculum and approached the learning activities presented in the courses. They recognized these previous educational experiences along with varying work experiences impacted their views of leadership. The unique experiences of these two participants provided a

view of leadership focused more on management skills versus the type of leadership

characteristics defined by the nutrition and dietetics profession. These participants also described

how their views on leadership was shaped by more workforce experiences than academic

experiences.

Other life experiences described by participants that were not directly related to dietetics

curriculum but believed to influence how they view and understand leadership included faith and

religion, diverse ethnic and cultural backgrounds, and business ownership. While these life

experiences are not directly related to answering research sub-question 1.2, it is important to note

here as adult learners use life experiences to make meaning of their learning. Likewise, the

reflection that occurred during the interview process revealed to participants the connection

between their life experiences and their educational experiences.

Sub-Question 1.3: What Skills Do Nutrition and Dietetic Students Possess That They

Contribute to Leadership Development?

As a result of the undergraduate curriculum and experiences, participants commented

upon many skills that they associated with leadership. These skills were coded and categorized

into three main attributes identified by participants as requirements for serving as a leader. The

categories derived from the data indicate that participants view leaders as possessing certain

attributes and described how the skills they learned as a result of their undergraduate experience

supports these attributes. The skills and leadership attributes are outlined in Figure 6.

Figure 4.2. *Skills Acquired for Required Leadership Attributes*

Leadership Attribute	Knowledgeable	Passionate	Responsible
Skills	Experienced	Initiative	Initiative

	Knowing	Motivation	Motivation
	Life-long learner	Communicate	Time-management Organization
	Makes Decisions	Mentor	
	Goal-oriented	Makes Decisions	Trustworthy
	Confident	Positive	Mentor
	Communication	*Do-er*	Independent
		Goal-oriented	Makes Decisions
		Life-long learner	*Do-er*
		Compassion	Directs
		Confident	Prioritize
		Advocacy	*Go-to* person
			Confident
			Delegate
			Communicate

In addition to these skills and attributes described by participants, the research identified two

common themes throughout the participant interviews, self-confidence and reflection. Self-

confidence was reported by participants as a requirement for leadership, but also noted as a

barrier for participants' lack of leadership identity. Reflection was also noted as a key component

of leadership development and was evident throughout the interview process.

Knowledgeable. Multiple participants described the undergraduate experience as

providing the skills to acquire foundational knowledge and learn the responsibilities needed to

serve as a leader and expert in the field of nutrition and dietetics. Because of the learning

environment, participants had opportunity to practice leadership behaviors, Participant 7 stated "I was the leader of a group, but you learn to step back, you learn to delegate, you learn to let people shine in the areas that they're good at." And Participant 8 reported that they developed leadership when she had the autonomy to do a project for a community organization in a service-learning undergraduate course. They described this experience as,

>…a very unguided experience, they just told me if you see a need, feel free to work towards that. No specific instruction to complete it or anything else, but what I realized from that though was like they know what I'm studying in school and they see me as knowing more about it than they do and they wanted me to just see what I could come up with and so that was a really neat experience to have that amount of trust given.

The coursework, learning activities, and learning environment aided participants in building a strong foundational knowledge. Additionally, participants' experiences provided opportunities to observe and practice the leadership skills learned through the curriculum.

  Passionate. Many participants described the passion for the profession and for the area of expertise in which they work. The passion was a result of the motivation and initiative acquired through the participants' educational and life experiences. These skills were also identified as results of the learning environment from the undergraduate coursework. Participants' motivation for leadership was influenced by the focused practice areas in which they felt very passionate about (i.e. research, eating disorder care, diverse people groups). This passion for the profession derived from many factors including advocating for patients and demonstrating an RDN's value as part of a healthcare team. The stories shared by the following participants demonstrated their passion for the areas in which they are working, as they see it as valuable for them to lead in their profession.

- Participant 3 expressed that, "I am growing more and I feel more confident now than I did, four years ago, I expect that to continue to grow and you know I care so much about people that I want to be that type of leader for people…"

- Participant 14 also characterized their passion, which drives their leadership development in the area they are working, "I feel very much empowered to be an advocate for my patients… It is very motivating to me to be a leader, not only now in my job but then like a leader in the field and in the state."

Responsible. As noted with previous research questions, responsibility is a key concept in leadership development. Responsibility was associated with specific tasks that leaders would perform such as directing a group, making decisions, getting things done, and being the *go-to* person. Responsibility was also associated with other traits such as being motivated and taking initiative, which were also related to participants' expectations within the learning environment. Participants describe how the learning environment required responsibility and therefore, experienced growth in this area. Participants associated the rigorous course work, the multiple learning activities, and high expectations of faculty leading to their increased responsibilities. Several participants described leadership itself as a responsibility. Participant 9 suggested this when they said, "In a way, someone has to do it [lead]. Not everyone is going to step up and take the lead." Participant 3 demonstrated responsibility for their patients, "I really just care about my patients a lot, and if I feel like something's wrong…I will speak up without even thinking about it because that's what drives me to make things better for them, to really do the best that I can for them." Acquired responsibility also resulted in enhanced self-confidence as Participant 10 described the responsibility they feel when serving as a leader, "it's like an honorable position, someone saw that potential and skill in me so I need to do a good job."

Self-Confidence. Participants also viewed self-confidence as a requirement for leading. Self-confidence was associated with the knowledge requirement identified by participants, but also related to the amount of experience one possessed working in the field. When asked if participants view themselves as a leader, ten of the participants stated *not yet*. While participants are confident in their preparedness to become a leader with regards to their education and their experiences to this point, the majority of participants were not able to view themselves as a leader. This may not necessarily be attributed to lack of self-confidence but a lack of leadership identity. This lack of leadership identity could be connected to the knowledge requirement associated with leadership skills as well as not having a lot of experience in the field at this time. The self-confidence in preparedness to become a leader but lack of leadership identity is evident as Participants 14 and 4 described their confidence in the process of developing as a leader: Participant 14 stated, "I feel I am in the process of preparing. I recognize that I don't have the experience. I don't want to be the type of leader yet with others trusting that everything I say is correct. I still need to be part of a team and taking on leadership roles, but I still need a lot of help." Participant 4 simply noted, "To play the game you gotta trust the process" as they reflected on their abilities to lead a team and develop into the leader they aspire to be. So, while these individuals are not yet identifying as leaders, these participants recognized that they are serving in leadership roles and that it takes time and experience, to be perceived as a leader, by others or by oneself, and they have embraced the process.

Reflection. Lastly, reflection was noted by the researcher as a contributing factor for participants to describe their leadership skills and attributes. This was identified by the researcher as the interview questions and sequencing caused participants to reflect on their experiences both in undergraduate and their skills/characteristics directly related to leadership, which helped them

see how they were currently serving as a leader and how they hoped to serve as a leader in the future. Some recognized that the interview process required them to reflect, which helped participants see their growth in developing as a professional and as a leader.

- Participant 3 pointed out, "Doing this [the interview] probably just helps me define leadership because I definitely always thought of it as a position, and like I'm not a leader yet, I don't have that experience but, I guess, as we're talking, I think just making these little career moves, or little things just to get me out there, I think it definitely develops me into the leader I hope to be one day."

- Participant 17 recognized that the interview process for this research study has provided the opportunity to reflect on their definition of leadership and what that means to them. "This interview has helped me actually reflect on what specifically is going to quantify in my mind what leadership actually means, and what does it mean to me and then also thinking through what I've actually developed from all of this [referring to school, experiences, etc.]"

Likewise, reflecting on their undergraduate experienced caused them to think about how their professional education, which began as an undergraduate student, fit together with their life experiences and improved their experiences entering into a dietetic internship graduate program and the workforce. Through the reflection process, participants begin to recognize and increase in self-confidence in their ability to serve as a leader in the field.

To summarize, analyzing the interview transcripts revealed an overlap in codes of the leadership skills participants believed they possess and how the curriculum and their experiences from their undergraduate degree facilitated the recognition of their leadership attributes. Participants reported that to be a leader within the profession they must have a strong

foundational knowledge of the area in which they work, have passion for the work is also key in order to be effective and mentor others within the field, take responsibility as a leader, and that self-confidence is required to share this knowledge and be effective in leading others. The researcher noted the reflection that took place throughout the interview process and suggests that reflection is required for leadership as it allows participants to piece together their experiences and their education, in the context of their professional goals.

Research Question 2: In What Ways Do the Educational Experiences of Bachelor of Science Degree Dietetic Students Shape Their Leadership Identity?

Experiences discussed in the first interview provided an area of exploration in the second interview to determine how those experiences shaped participants' leadership identity. In many ways participants believed their leadership identity is not yet developed. They recognized that their undergraduate college experience greatly contributed to that development by providing opportunity to obtain foundational knowledge of how to perform as an RDN and experiences in which to practice leadership skills. Yet, they do not fully identify as a leader due to lack of experience (related to time) and self-confidence (in leading others), which they perceive is needed to perform as an effective leader. This research question is further explored through research sub-questions to explore how participants understand leadership and how this understanding shapes their leadership identity.

Sub-Question 2.1: How Do Nutrition and Dietetic Students Understand What Leadership Is?

Two major factors that contributed to participants' understanding of leadership included observation of others in leadership and opportunities for practicing leadership skills. Participants described their definition of leadership, named specific individuals that served as leadership models in their life, and described how they learned from both positive and negative leadership

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behaviors. Academic and life experiences were both identified as opportunities for observation and emulation of leadership.

Participants used a variety of terms to define leadership characteristics such as a point person, communicator, positive, someone who directs others, a *do-er*, an advocate, mentor, supporter, helper, approachable, experienced, knowledgeable, and one that takes initiative. These characteristics were consistent with the leadership skills described by participants as ones they had acquired because of their undergraduate experience. However, these characteristics were not evident in artifacts outlining the curriculum. Therefore, there is a disconnect in how participants define leadership with how the profession defines leadership through the standardized curriculum. *Willingness to serve* was also an attribute identified as a common theme among research participants when asked to describe their definition of successful leadership. Words used by participants to describe effective leaders included: server, empathetic, supportive, helper, understanding, approachable, compassion, listener, friendly. These attributes are associated with how participants understand and define leadership but how one grows in these characteristics is unknown as these are not evident in accreditation or program documents reviewed for this study. Ideas of leadership from participants' perspectives were determined through observation of and experience with various individuals serving in leadership roles.

Participants described their understanding of leadership as learning from individuals who modeled positive and negative leadership behaviors. Teachers, mentors, employers, family members, and peers were reportedly impactful in forming participants' ideas of effective leadership. Initial codes used to describe participants' perceptions of leadership included: individuals who 'lead in the small and big tasks', held positions, modeled leadership behavior, had passion and knowledge of topic, and were willing to serve or support others. The perceptions

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often derived from how they connect with those leaders, whether their leadership style was motivating, supportive, respectable or the opposite where participants did not feel valued or supported. The way participants described positive and negative leadership examples are described in Figure 7.

Figure 4.3. *Positive and Negative Leadership Descriptions*

Positive Leadership Descriptions	Negative Leadership Descriptions
"My boss is good at what he does, he is fair, objective, he keeps employee discussions private so he's trustworthy" (Participant 7).	"People who can't communicate well, so I feel lost and probably going to do something wrong and then nobody is going to be happy…. Or people who can't delegate, whether they don't feel confident in the people under them or they want to take the ownership for themselves" (Participant 10).
"I think of the good leaders I've had in the past and what their qualities were. A lot of them have been very empathetic and have walked through whatever it is that they are leading and have done a good job" (Participant 10).	"Leaders that are more authoritarian…they just sit around not doing anything while they tell everyone else what to do. Leaders should be hands-on, doing the same tasks they expect other people to do" (Participant 12).
"I think [he] was a really good leader because he trusted that I could go and do things on my own, he let me go on my own pace, he would help me with my projects. He checked in with	"A leader who micromanages is not a good manager if they don't trust their people.…A leader has to be a good example, they can't be

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me and gave me really good feedback, which is a big one when it comes to leadership" (Participant 16).	leaving early, or talking about other people to their coworkers" (Participant 7).

Observation was key in learning about leadership, whether observation occurred in academic experiences or life experiences. Consistently participants reported that learning about leadership does not come from one person or one experience, but a collective of various influences. When students were provided opportunities and support to practice leadership skills as part of their educational experiences, they learned and developed, not only in their understanding of leadership, but also their self-efficacy. Participant 5 summarized this appropriately, "I think academics provides a unique working environment, I felt like it was more than 'getting a job done'. When I was in academics, I felt like it was more than that, the purpose there was greater."

Sub-Question 2.2: How Do Nutrition and Dietetic Students Identify as Leaders?

The conversation through the interview process caused participants to reflect on their experiences and their understanding of leadership to then apply these ideas to their own identification as leaders. Two main themes emerged from this research sub-question: leadership goals and lack of leadership identity. The confidence in knowledge and passion for the work of a nutrition and dietetics professional were evident in conversations with participants. Each participant possessed these main characteristics that they identified as important for leadership and even reported on ways in which they were currently serving as a leader in a graduate program, community organization, or as part of a healthcare team; however, self-confidence to identify as a leader was not evident. When asked directly if participants believed they are a

leader, the majority of them reported *not yet*. Further discussion revealed that participants have

leadership goals, possess traits associated with successful leadership and have the knowledge and

skills required of leaders, but that they do not yet see themselves as leaders. When asked if they

defined themselves as leaders, participants reported:

- Participant 5: "I wouldn't say yet because I hope to aspire to a leadership position where I

  can call myself a leader but I don't think so yet. I'm always trying to grow and I just

  don't see myself as that right now."

- Participant 14: "Not yet. I recognize that I don't have the experience…I still need to be

  part of a team."

- Participant 4: "I see what others are doing and I see the process, I'm just not at that level

  and so that's why I say I'm not a leader because it's just an experience thing."

- Participant 2: "I would say no because I don't have that knowledge and I want to be able

  to help more people with more knowledge. I don't as much experiences as others."

Leadership goals were identified by many as they recognize their motivation to serve as a

leader shifted from one of obligation to one of professional development. Additionally,

leadership identity development was associated with the confidence of others in the participants'

abilities to demonstrate leadership. These two factors contributed to the leadership goals of

participants as it increased their self-efficacy to lead.

Many participants spoke an important narrative about how leadership began with an

expectation presented in school, how they first gained experience in leadership and lead out of

obligation or necessity because no one would volunteer to be the leader in a group project.

Similarly, the idea of leading out of obligation was perpetuated by the message conveyed that

leadership was a requirement for resume building. However, individuals who participated in

leadership out of obligation experienced a shift after graduating with an undergraduate degree as leadership became more of a personal goal for growth and development, a channel in which to make a bigger impact in the community, workplace, and for the profession. Participant 5 noted an important realization about leadership development progressing from obligation to goals.

> We all kind of did leadership positions to fill up our applications, that was a big thing, and I think that I would try to take a different perspective now. I realize now that it really doesn't matter what the application says, it matters what you can do as a person so that's the big thing about being in leadership – not the leadership position itself but what you can bring to the team as a member. I think that really shapes your perspective. I wish I would have had a different mindset going into my leadership opportunities as an undergrad because I could have learned a lot of these skills before because I was just kind of there, not really taking it in but just kind of crossing it off my list rather than actually learning those skills.

This participant continued to share how they recognize the missed opportunities in leadership development due to leading out of obligation rather than for personal or professional growth. They expressed that because they participated in student leadership opportunities out of obligation they struggle to identify as a leader because they used it as a resume builder during the undergraduate experience and did not really know what it meant to be a leader, not fully recognizing their abilities to lead.

Other participants expressed similar experiences with a common theme of leading out of obligation rather than embracing the learning experience. However, with these experiences of leading out of obligation came growth and development; thus, highlighting the importance of emulation as part of leadership development. Participants shared that leadership no longer feels

like an obligation or expectation but as a professional and personal goal. Participant 10 stated, "It would start out as a resume builder but then I learned that I actually enjoyed it." Participant 3 pointed out how leading out of obligation resulted in a gain in confidence.

> I was a little afraid to take on new roles and responsibilities, because I had this fear that I would fail or I wouldn't be good at it or someone else would be better at it so it's definitely a lack of confidence. And I think forcing myself into those roles made me gain a little bit more confidence and showed me I can do this if I put my mind to it and not being so afraid of those opportunities.

An important contribution to leadership identity noted by participants was the confidence that others had in the participants, which contributed the participants' self-confidence. This is consistent with how the supportive nature of learning environments was recognized as having an influence over leadership development in an undergraduate program. While participants did not always describe this confidence from others as coming directly from individuals in the educational setting but noted when other's displayed confidence in their abilities, that it contributed to their self-efficacy. This made them feel valued and capable to perform as a leader in the field. Participants described the impact that confidence from others has on their self-efficacy:

- Participant 3: "When you're getting the positive affirmations it builds up your confidence and it makes you want to work harder."

- Participant 14: "I feel very valued and very heard. I feel like I get to actively contribute to my patients' care every single day and it's very satisfying I would say to like have a big role in a big unit, in a place where people really need dietitians."

- Participant 9: "And even like a doctor started asking me about information on a patient and I was like Oh, my goodness, I feel really important right now, the doctor is coming to talk to me and, like the fact that I can actually answer these questions for them reassured me that, like I actually know stuff! I actually know what I'm doing and that made me feel really good."

- Participant 17: "It's a big confidence booster that helps combat that imposter syndrome. People want me to be in this leadership role, they believe in me, they want to support me and think that I'm the best person for this position and that I'm very knowledgeable and capable of doing this."

Many describe that their learning about leadership started during their undergraduate experience and was supported by the curriculum and individual experiences. They named leadership skills in which they had developed and reflected on ways in which they came to understand what leadership is even described the confidence they felt when others had confidence in them; but identifying as a leader was not evident. Establishing leadership goals does not occur until later as participants experienced a shift from leading out of obligation to one of professional development. Participants supported the ideas that leadership requires time, experience, and reflection.

Discussion of the Themes

Data analysis began with initial coding, which consisted of descriptive coding and eclectic coding throughout the coding process. The research study started with two main research questions and five sub-questions to explore leadership development among nutrition and dietetic Bachelor of Science degree graduates. Similar codes were used among the research sub-questions indicating a connection between the research questions as they are not independent of

each other, but rather dependent and connected. Research question one explored specifically the educational experience and its impact on leadership development. Curriculum and experiences during undergraduate course work had an impact on the leadership skills that developed among the participants. Research question two focused on how one defines leadership and how they see themselves as a leader. Skills obtained and identifying as a leader, in some cases were not connected indicating there is a gap between participants identifying their skills that are associated with leadership but not identifying as a leader at this time.

Four main themes emerged from the data analysis process that are identified as building blocks to leadership development among nutrition and dietetic Bachelor of Science graduates: knowledge, observation, emulation, and self-efficacy. Overlap among the codes and categories occurred as each research question was explored and data sources were analyzed. The themes were evident in many of the artifacts reviewed, participant interviews, as well as noted in the analytic memos created by the researcher. As the themes emerged that identified building blocks for leadership development, it became evident that each theme was reliant on each other.

Knowledge

Knowledge was identified as a key component for leadership within the profession. Foundational knowledge is highly valued by the nutrition and dietetics profession as evidenced by the knowledge requirements standardized in the curriculum. The accreditation agency oversees how the standardized knowledge requirements are presented in the curriculum of each program. Likewise, they ensure that programs are meeting target measures and outcomes associated with the standardized knowledge requirements. Artifacts from the research site indicated that the scaffolding of information and the depth and breadth of the curriculum supported the mission, goals, and objectives of the program.

Participants identified that strong foundational knowledge within one's area of expertise was a requirement for serving as a leader. Participants described the rigor of the program and how they were prepared in subject-matter content as they entered into their dietetic internship graduate programs. The rigor of specific courses and learning activities were influential in challenging participants' knowledge, which resulted in growth. Participants also described the scaffolding evident in the curriculum and reported as they progressed through the curriculum, knowledge increased and the ability to apply the new knowledge was recognized. As a result of this, self-efficacy to perform as a leader was noted.

Observation

Academic and life experiences provided opportunities for participants to observe people in leadership roles. Through observation of various leaders, participants experienced positive and negative leadership examples, which contributed to their understanding of effective leadership behaviors. Learning from positive and negative leadership examples, caused participants to reflect on the type of leadership style they best responded to and set leadership goals for themselves.

Participants recalled experiences they had during their undergraduate education that allowed them to observe modeled leadership behaviors. Observing teachers and classmates within the academic setting allowed participants to see how one might lead a classroom or a group project. Several participants commented on their life experiences and how they came to understand leadership by observing family members, employers, mentors, co-workers, and peers. By observing others in the classroom, through learning activities, or experiences outside of academics, participants gained an understanding of what leadership is and the type of leader they aspire to emulate.

Emulation

Academic experiences and reflection on acquired leadership skills were most associated with emulating leadership behaviors. Opportunities for practicing leadership skills was evident in the curriculum where participants not only observed positive leadership behavior but could also practice leadership skills in a supportive learning environment. Curriculum artifacts outlined learning activities where students could practice leadership skills such as group projects, role-playing, and simulations. Participants verified that many of these projects were essential to their learning about leadership. They also described how seeking leadership positions within a group and other educational experiences provided a way to emulate positive leadership behaviors that they had previously observed.

Reflection was noted throughout the interview process as an important activity for participants to recognize ways in which they are emulating leadership behaviors currently. Many participants described times where they demonstrated leadership and their perceptions of how they performed in those situations. Participants also described when given the opportunity to demonstrate their leadership skills and others' see their potential as leaders, they experienced an increase in their self-confidence.

Self-Efficacy

Self-confidence was identified as an attribute of effective leaders. Self-confidence in one's knowledge and understanding of leadership was reported; however, participants were less confident about their ability to serve as a leader at this point in their career. Participants described ways in which they have served as a leader during the undergraduate experience, but characterized their lack of experience as a nutrition and dietetics professional, and in some cases their lack of knowledge, as barriers to serving as a leader at this time.

Participants' confidence in their knowledge was attributed to the strong curriculum and learning environment that supported development. Academic and life experiences where participants could observe and emulate leadership behaviors increased their understanding of what leadership is and how it relates to them. With an increase in knowledge about subject-matter content and leadership, as well as opportunities to observe and emulate leadership behaviors, an increase in self-efficacy to serve as a leader in the future was noted.

Summary

The aim of this study was to describe how students with a Bachelor of Science degree in nutrition and dietetics describe their leadership development and how their educational experiences shape their leadership identity through a constructivist grounded theory approach. Chapter four presents the themes that emerged from the data to understand a model for student leadership development among nutrition and dietetic students. Chapter five will include a discussion of these themes and their contribution to the scholarship surrounding student leadership development among nutrition and dietetic students. Likewise, implications for future practice and research will also be discussed.

Chapter 5 - Discussion

Introduction

Leadership skills are commonly addressed both in the mission and curriculum of many undergraduate nutrition and dietetics programs identifying them as a necessary part of professional preparation (Arendt & Gregoire, 2005; Frein et al., 2006; Gregoire & Arendt, 2004; Miner et al., 2014; Sochacki, 2016). Leadership skills are often presented in the foodservice management curriculum within programs rather than within the broader scope of nutrition and dietetics practice (Patten, 2016). The accreditation standards of 2022 added a leadership domain to specifically address the development of leadership skills outside of managerial skills within the curriculum. Likewise, many universities include some type of leadership component within their missions and general curriculum to provide students with knowledge and skills to better serve their communities as leaders. However, university missions and accreditation standards leave a vague call to action when it comes to leadership development techniques. They do not often speak to unique programs or provide specific strategies to better foster leadership development among students at the undergraduate level. Little research has been done on the leadership development of nutrition and dietetic undergraduate students, specifically how students make meaning of their experiences and identify as leaders.

The focus of this study is to explore leadership development among students who have completed a Bachelor of Science degree in nutrition and dietetics. A constructivist grounded theory approach was used to investigate how students make meaning of their educational experiences, describe their leadership skills and development, as well as how their undergraduate experiences shaped their leadership identity. Findings from this research study were presented in chapter four and the themes that emerged are further discussed in chapter five with regards to the

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current literature on leadership development and nutrition and dietetics education. Additionally, implications of this research are discussed, as well as areas for future research.

Leadership Development Through a Constructivist Lens

A constructivist approach was used for this research as participants were asked to describe how their unique educational experiences as individuals contributed to their leadership development as Bachelor of Science degree graduates. Leadership development among nutrition and dietetics students through the lens of development theory is limited and therefore provided a foundational perspective when exploring leadership development among nutrition and dietetic students. Two existing models that are rooted in constructivism were used to explore leadership development including the Action Logic Model by Hunter et al. (2011), which determined leadership development among RDNs, and the Student Leadership Identity Development (LID) Model by Komives et al. (2006) that researched how college students develop as leaders. These two models provided insight into how these separate populations develop as leaders; however, the gap in these two models is the leadership development of college students in a nutrition and dietetic specific program and how they make meaning of their experiences within the program.

Discussion of Findings

This section briefly recaps the results of the two main research questions and the major themes that emerged from the data analysis. How the major themes are situated within the current literature to address the gap in how nutrition and dietetic undergraduate students develop as leaders. Additionally, the findings of this study can inform how curriculum is presented in nutrition and dietetic undergraduate programs as well as how to support nutrition and dietetic students in the development of leadership identity.

Research Question 1: How Do Dietetic Students Describe Their Leadership Development After Graduating With a Bachelor of Science Degree?

The curriculum and experiences in the nutrition and dietetics undergraduate program contributed to participants' general knowledge of the profession, the roles and responsibilities of an RDN. Additionally, participants reported they gained foundational knowledge required to serve as a nutrition and dietetics professional including application of nutrition science, providing medical nutrition therapy, and communicating nutrition information. Specific ways in which the curriculum contributed were categorized by specific courses, learning activities, and characteristics of the learning environment in which the curriculum was presented. Experiences that were obtained during the nutrition and dietetics undergraduate program were categorized into two groups – academic experiences and life experiences. Academic experiences were then further categorized into those related to the curriculum and those outside the curriculum. Experiences, both academic and life, and those related to curriculum or situated outside of the curriculum, were contributing factors to how students described their leadership development during their undergraduate experience. These experiences contributed by providing opportunities for observing leadership behaviors and opportunities to practice leadership. As a result of the curriculum and their experiences obtained in their undergraduate education, the leadership skills that participants possess include communication skills, time-management, organizational skills, teamwork, and advocacy. These skills were further categorized into attributes (knowledgeable, passionate, responsible) that participants described as necessary for effective leadership. Not all participants identified these components as skills they necessarily possessed but recognized that they needed to possess them in order to serve as a leader within the field of nutrition and dietetics.

Research Question 2: In What Ways Do the Educational Experiences of Bachelor of Science Degree Dietetic Students Shape Their Leadership Identity?

Participants described their understanding of leadership by positive and negative examples of leaders they observed through their educational and life experiences. They began to articulate their own definitions of leadership and even described the type of leadership they hoped to portray. When asked if participants define themselves as a leader they stated *not yet* and described the reasons why they believe they are not ready to serve as a leader. Even though participants described their understanding of what leadership is and the skills they obtained after graduating with a Bachelor of Science degree in nutrition and dietetics, they did not identify as leaders at this time. The common reasons for not identifying as leaders was due to lack of knowledge and experience within the field, which was perceived as a barrier to feeling confident enough to lead. It was evident that self-efficacy played a major role in leadership development as some described a lack of confidence as a barrier to leadership. However, even with a lack of leadership identity many shared their leadership goals and desire for serving as a leader.

Analysis of the research questions used to guide this study revealed four major themes as building blocks for leadership development of nutrition and dietetic students: knowledge, observation, emulation, and self-efficacy. Analysis indicated overlap between the research questions providing a picture for how the curriculum and experiences provide a strong foundation for knowledge and opportunities to observe and emulate positive leadership behaviors. Acquired knowledge and experiences were identified as contributors to students' self-efficacy.

- Knowledge – Content expertise was perceived as a requirement to lead within the profession. Participants value knowledge and the confidence it provides when they are able to use their knowledge to lead and serve others.

- Observation – Observation of leaders provided opportunities for participants to experience positive and negative leadership styles, learn about themselves as a potential leaders, and understand leadership.

- Emulation – Practicing modeled behaviors that were observed in and out of the academic setting as well as applying content knowledge, provided participants opportunities to emulate leadership skills contributing to their self-efficacy as pre-professionals.

- Self-Efficacy – Strong foundational knowledge of nutrition and dietetics topics as well as opportunities for emulating positive leadership skills was found to greatly enhance one's self-efficacy to serve as a leader.

Each of these building blocks are identified as key concepts for nutrition and dietetic students to develop as leaders.

Construction of a Leadership Development Model for Nutrition and Dietetic Students

Themes that emerged from data analysis suggested that participants' perceived requirements for leadership development included knowledge, observation, emulation, and self-efficacy. These themes were used to create a model outlining the process in how nutrition and dietetic students develop as leaders. Figure 8 outlines the building blocks required for leadership development among nutrition and dietetic students. The construction of this model occurred within the context of one nutrition and dietetic program as all participants and artifacts collected were from one ACEND accredited program housed within a public, four-year university in the Midwest.

Figure 5.1. *Nutrition and Dietetic Student Leadership Development Model*

During the interview process, participants described their educational experiences and characteristics of the curriculum that contributed to their leadership development. Artifacts such as program documents also provided insight into the educational experiences created by the program for student learning. Thus, the curriculum and the experiences within the curriculum served as a base for this leadership development model. The curriculum largely attributed to the knowledge acquired by participants. This was evident in the program documents as they outlined how the ACEND standardized knowledge requirements were situated within the curriculum of this program. The curriculum was also described by participants as contributing to their strong foundational knowledge. Learning activities within the curriculum, the learning environment, and other academic experiences provided opportunities for participants to observe leadership

behaviors and practice those behaviors within a supportive learning environment. Participants understanding of leadership also came through from the curriculum as well as their observation of positive and negative leadership behaviors. Participants indicated that the more knowledge and more experiences they had in emulating leadership behaviors, the more confident they became in their abilities.

The four building blocks outlined in this model are a result of the curriculum and educational experiences. These building blocks support leadership development among nutrition and dietetic students. However, it was determined that the knowledge, skills, and experiences obtained do not directly related to a leadership identity. While participants described their confidence in their knowledge, experiences, and ability to lead at some point in their career, they did not identify as a leader at this time. Participants recognized that leadership is a process and while they recognized their leadership development, they also demonstrated self-efficacy to one day serve as a leader. Therefore, it was determined that supporting leadership development, supports leadership goals to one day serve as a leader.

Upon graduating with a Bachelor of Science degree and continuing a professional path towards a career in nutrition and dietetics, participants were able to reflect and recognize how their knowledge obtained and experiences gained from the undergraduate program situated in their new environments in graduate school and later as a newly credentialed RDN. Participants described their ability to apply their knowledge and emulate leadership behaviors they once observed during their undergraduate experience. They were able to use their knowledge and experience to add value and perspective to the work they were doing now. Participants also recognized the value they brought to a group regardless of their position within their organization. This recognition of their contributions increased self-efficacy. Individuals

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recognizing their contributions to the group and seeing themselves in relation to others within the group are identified as key stages in existing constructivist developmental models used to understand leadership development. Lastly, participants identified that leadership is a life-long process and even though they do not currently identify as a leader they are confident with striving towards leadership goals.

Existing Models for Understanding Leadership Development

The leadership development model created from this study was based on individuals' meaning making of their educational experiences in a nutrition and dietetics undergraduate program. This theoretical development was rooted in constructivism similar to other models used to explore leadership development. There are two existing models that use a constructivist approach to explore how individuals develop as leaders: the Leadership Identity Development Model (Komives et al., 2006) and the Action Logic Model (Hunter et al., 2011). Results from this study are affirmed by the information in these models as ways in which individuals develop as leaders. However, limitations of these existing models left a gap in understanding how nutrition and dietetic students develop as leaders. This section will outline these two existing models, the similarities, and the limitations.

Leadership Identity Development Model

Rooted in constructivism with references to Kegan's (1994) and Baxter Magolda's (1998) concepts on self-authorship related to leadership identity; the LID Model provides a framework for explaining how one makes meaning of their experiences and how that contributes to leadership identity. Using a constructivist theory approach, the LID Model provides a framework to identify factors that can influence transitions from one stage to the next in order to design educational programs that facilitate learning and support leadership identity development

(Komives et al., 2006). The LID Model includes six stages of development including awareness, exploration/engagement, leadership differentiated, generativity, and integration/synthesis. These stages were based on individuals' definition of leadership, how one sees their relation to leadership and group influences on leadership, and an individual's dependence (Stages 1-2), independence (Stage 3), and interdependence (Stages 4-6) on others. Komives et al. (2006) recognized that in order to transition between stages, students develop by trying new ways of thinking, learning new skills and behaviors, practicing more reflexivity, exercising leadership, and identifying environmental factors that signal readiness for transition. Participants in this study identify their leadership development in similar ways expressed by the LID Model. Participant 3 provides an example of how leadership developed throughout the undergraduate experience while studying nutrition and dietetics. Situating this narrative within the LID Model is summarized in Figure 9.

Figure 5.2. *Leadership Identity Example Among Participants*

LID Model Stage	Stage Description	Participant 3's Demonstration of Stage
Stage 1: Awareness	Recognizes leadership is occurring around you and views them as authority figures. Identifies as a follower.	"…to me leadership can be a little scary…over the years I was more of a follower than a leader."
Stage 2: Exploration/Engagement	More active as a follower by intentionally participating in groups and taking	"…in situations where I need to be a leader I would need to step out of my comfort zone.

	responsibilities within those groups, personal strengths and weaknesses identified	[in the past] I just wanted to do my own thing, making sure I am doing okay, and then also help others rather then stepping up and having people follow what I'm doing."
Stage 3: Leader identified	Individual responsibility, accomplishments, and new roles. Recognizes skills needed for leadership. Defines leadership as "getting things done" and as a positional role and struggles to delegate	"…but I am learning how to essentially step into more leadership roles and not being scared about it."
Stage 4: Leadership Differentiated	Identifies shared goals of the group and exhibits more trust and value in others' perspectives. Leadership demonstration can occur from anywhere in a group, not just positional. Recognizes own	"you have to step out of your comfort zone [as a member of the healthcare team]. If you want to get things done you have to be able to speak to whoever and fight for your patient."

	contributions regardless of their position within a group.	"I take a lot of things from my leaders right now, like taking [learning] things from them that they do…I just am just really observing and figuring myself out and how I will be a leader one day."
Stage 5: Generativity	Demonstrates commitment to a passion. Recognizes responsibility for developing others to sustain an organization	"…when you're getting positive affirmations [from your boss and group] it builds up your confidence. It makes you want to work harder because someone is noticing so you must be doing well and I want to keep doing that. I know what I want going forward and what kind of team and leadership I want." "passion and motivation are the two biggest things that drive me into the leadership roles I have stepped in"

Stage 6: Integration/Synthesis	Recognizes leadership development as a life-long process and strives for self-confidence to lead others.	"In the future, as I progress and I start feeling more comfortable in stepping into leadership roles and as I am getting older and maturing, I am starting to learn a little bit better on how to make decisions for myself. I am hopeful that one day I will be able to confidently say that I am a leader. I just think now I have more growth to do."

The LID Model presented by Komives et al. (2005, 2006, 2009) affirm the themes identified in this research study of nutrition and dietetic students, specifically observation and emulation. The LID Model suggests that progress through the stages towards leadership identity requires observation of modeled leadership behaviors and opportunities to practice newly learned skills. The LID Model recognizes the influence the learning environment has on development as well as the opportunity to gain experiences in group work, self-assessment, and reflection. These opportunities, when presented in a supportive learning environment allow for individuals to negotiate relationships within a group setting, practice leadership, reflect and self-assess their own identity as a leader.

Action Logic Model

Using a constructivist theory approach, Hunter et al. (2011) used the Action Logic Model to explore how RDNs serving in leadership positions developed as leaders throughout their career based on how they interpret their surroundings and react when they are challenged. The stages within this model help to identify mental growth and development of adults and how they make meaning of themselves in relation to the world around them. The Action Logic Model was developed based on how individuals respond to conflict, social norms, feedback, and negotiates their position in relation to others. In the lower stages of the Action Logic Model (Stages 1-2), professionals were often new within the field and characterized as self-focused. Stages 3-4, which is where most professionals in the study by Hunter et al. (2011) classified within the model. These stages characterized progression by someone who avoids conflicts, conforms to social norms, seeks approval from others, and takes feedback personally to one who focuses on details and ruled by logic, then to a professional who is able to consider the future and is more goal-oriented. Stages 5-6 were the highest levels of development and were characterized as someone who is self-aware and demonstrates higher organizational impact (Hunter et al., 2011). Applications of the Action Logic Model have not been used to understand how nutrition and dietetic students develop as leaders even though Hunter et al. (2009) posits that leadership development among nutrition and dietetic professionals need to begin at the educational level and within an academic program. However, participants in this study exhibited some characteristics associated with the Action Logic Model used to explore leadership development among RDNs. These characteristics are summarized in Figure 10. Because participants in this research did not fully identify as leaders, not all the stages were supported by participant quotes.

Figure 5.3. *Action Logic Stage Example Among Participants*

Action Logic Model Stage	Stage Description	Participant Demonstration of Stage
Stage 2/3: Opportunist	Self-focused, views feedback negatively, limited self-control, blames others	N/A
Stage 3: Diplomat	Avoids conflict, seeks approval, willingly serves as a group member, conforms to social norms, limited reflection and does not recognize area of improvement for self	"I wouldn't say I take charge but just kind of start off the group, getting everyone thinking, start with an idea. You're not leading everyone, you just kick it off" (Participant 1).
Stage 3/4: Expert	Ruled by logic, expertise, and details, perfectionism; has a strong belief system; excels at problem solving, difficulty prioritizing tasks, views feedback negatively	"In dietetics knowledge is power. The more you know, the more you can help people. I can do basic things but to be more in depth with diseases processes, I don't have that knowledge yet so I can't help people, I just don't have that knowledge. I want to be able

		to help more people with the more knowledge I have" (Participant 2).
Stage 4: Achiever	Focused on the future and able to set goals; seeks consensus from group and views self as an equal in relationships; accepts feedback	"If I ever get to serve in those leadership opportunities then once I have them I'm like 'okay, now I need to go further', I don't know that I'll ever view myself as a leader and for me it's the growth mindset. Because even in times that I'm burnt out, I still find myself wanting to grow and I want to better my skills so I can help those around me more. So I may not be strong for myself but strong for other people who may need my services like clients, patients, or participants" (Participant 5).
Stage 4/5: Individualist	Negotiates oneself within a relationship and adjust	N/A

	behavior in varying contexts, understands complexity and demonstrates systematic problem solving, begins to seek feedback for self-improvement.	
Stage 5: Strategist	Initiates personal transformations, recognizes complexity and contradiction in systems and in self, deep appreciation of relationships, recognizes the value and need for feedback	N/A
Stage 5/6: Alchemist/Magician	Seeks personal and social transformations, understands the complexity of meaning making, demonstrates awareness, thought, action. Ability to reframe the meaning of situations and self	N/A

The Action Logic Model was created with RDNs serving in leadership positions so the application of this model in understanding how nutrition and dietetic students who do not yet identify as leaders is limited. The Action Logic Model did affirm the importance of gaining knowledge and experiences as important steps for leadership development as identified in theory that emerged in this study. For example, more time and experience as a nutrition and dietetics professional will offer more opportunities to see oneself in relation to others and adjusting one's behavior in varying contexts as noted in Stage 4/5. As noted by several participants, they stated, "…hopefully in the future, as I progress and start feeling more comfortable stepping into more leadership roles.." (Participant 3). Participant 15 specifically stated, "I'm not ready for [leadership]", expressing little desire for that type of role at this point in their career. And, participant 17 claimed "I don't define myself as a leader. I don't feel like a leader," as they compared themselves to peers who may have more experience. On the opposite end of the Action Logic Model, participants did not demonstrate characteristics of Stage 2/3: Opportunist, indicating that when they graduate with a Bachelor of Science degree in nutrition and dietetics, students exhibit some leadership characteristics according to Action Logic Model.

These existing models provided insight into leadership development through a constructivist developmental theory lens; however, there was a gap in understanding leadership development among specific student populations preparing for the nutrition and dietetics profession. These two existing models were reviewed during the literature review to identify this gap in exploring leadership development among nutrition and dietetic students. Additionally, these models were not used to view the data but rather to affirm the findings used to construct a nutrition and dietetics student leadership development model (Figure 8).

The limitations to using these existing models to understand leadership development of nutrition and dietetics students is due to the context in which these models were used. For example, the LID Model is specifically used to explore leadership development of college students in general, not students studying in a specific area or profession. An additional limitation to this model is its applicability to post-baccalaureate individuals and how they continue to develop as leaders. While the LID Model was created specifically in response to college students' meaning making of their own experience, the Action Logic Model considers mental growth and development during adulthood, providing an opportunity for further understanding of post-baccalaureate leadership development. Alternatively, the Action Logic Model was used to understand RDNs serving in leadership positions; not specifically used to study nutrition and dietetic students and their assessment of leadership development. A limitation of using the Action Logic Model for this research study is that because this model was used for credentialed registered dietitians already serving in leadership positions, it is undetermined how the Action Logic Model informs nutrition and dietetics education.

The juxtaposing of the two existing models outlined by Komives et al. (2006) and Hunter et al. (2011) affirm the findings from this study that recognize student leadership development and professional leadership development. The LID Model recognizes the importance of observation and emulation as key components to student leadership development. The LID model outlines transitional points between each stage and key influences in students transitioning through the developmental stages. The LID Model does not address how foundational knowledge contributes to leadership identity development. Foundational knowledge was however, recognized by the Action Logic Model used by Hunter et al. (2011) to explore leadership development among RDNs. The Action Logic Model was specifically used to

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understand the leadership development of individuals in one profession; therefore, it is not surprising that foundational knowledge is noted as a key component for leadership within that profession. Both models recognize self-efficacy as an important factor in serving as a leader. The four building blocks for leadership among nutrition and dietetic students identified from this study, overlap with these two models. Therefore, combining a student-specific model with a professional-specific model supports the model constructed from this research study suggesting that knowledge, observation, and emulation contribute to one's self-efficacy leading to leadership development.

Developing Leaders Within the Nutrition and Dietetics Education: A Call to Action

There are opportunities identified for RDNs to serve in leadership capacities (Boyce, 2014); however, a gap exists in the nutrition and dietetics literature that provides insight into how one develops self-efficacy and motivation to lead. Leadership skills continue to be a focus of nutrition and dietetics education as the standardized curriculum includes leadership skills in the newest 2022 accreditation standards for nutrition and dietetics education. However, how to cultivate leadership development is not fully understood (McCollum, 2014). As noted by Drago-Severson and Blum-DeStefano (2014), including knowledge and experiences within a constructivist developmental theory context, could move students beyond simply knowing about leadership and specific leadership skills to building meaning making capacities for leadership identity development.

The standardized curriculum of nutrition and dietetics education focuses on the process of knowledge attainment and skill competency, rather than cultivating a learning environment that promotes development beyond academics. Ways in which participants described how they developed their leadership skills and understanding of leadership as a result of the undergraduate

experience included specific courses, learning activities, and the learning environment. These experiences resulted in acquired knowledge, opportunities for observation, as well as practicing modeled leadership behaviors. Participants described the influence of the learning environment on their leadership development, which was noted as rigorous, supportive, and collaborative.

Student leadership development according to Komives et al. (2005) and self-authorship development presented by Baxter Magolda's (2008) assert that identity development is a key concept in leadership development and self-authorship development respectively. A lack of leadership identity was noted among participants in this study. This lack of leadership identity was described as 'more knowledge and experience needed'. Participant 1 reported, "I'm not there yet, I still have a year and a half [in graduate school] and I haven't got that experience yet." Participant 4 said, "I would define myself as a 'leader in training'. It's just an education and experience thing for me right now." Educational experiences contributed to their leadership development and helped them to define leadership, understand what leadership is, and set leadership goals; however, when asked if they identified as a leader the majority of the participants included in this study said 'not yet', but believe they can in the future.

Participants recognized self-confidence as a leadership requirement. As a result of the learning environment, self-confidence was boosted in the work they were doing when they participated in various learning experiences and practiced their skills. Receiving support from faculty and group members through feedback made participants feel valued which also resulted in an increase in self-confidence. The model constructed as a result of this study is consistent with Komives et al. (2006, 2009) that supported observation and practicing modeled behavior within a supportive learning environment led to increased self-confidence. Additionally, participants described a learning environment that was similar to the learning designs presented

by Drago-Severson and Blum-DeStefano (2014) that promote support of development of individual students. While participants demonstrated confidence in their skills and preparation to serve as a leader in the future, no one identified as a leader currently. This lack of leadership identity focused on knowledge and experience that participants confidently believed would come with time. Participant 3 shared their perspective on the process,

> I need to not be afraid to ask for help when I need to. I need to learn how to communicate with people in a way where they feel comfortable coming to me, to help them figure out a solution to problems. And then also just gaining more learning experiences and education, you know just things that come with working with time, I really have a goal of just absorbing it all.

This participant, among others, embraced the process of becoming a leader; recognizing that it takes time. This narrative exhibits that Participant 3 is confident in their ability to lead and also comfortable with their current limitations to serve as a leader.

Supporting self-authorship development at the undergraduate level provides an opportunity to enhance students' leadership development by developing an identity as a leader. Engaging in activities that allow students to reflect on the external influences, recognizing the crossroads, and determining ways to focus on internal decision-making processes are required for negotiating relationships with others and establishing identity. Self-authorship goes beyond the traditional critical thinking and problem-solving skills fostered in higher education. When students have confidence in their knowledge and can make decisions based on that knowledge they can participate in leadership (Collay & Cooper, 2008). When students can observe and emulate modeled leadership behaviors, they grow in confidence and establish an identity as a leader (Komives et al., 2006).

Recommendations

The themes that emerged from data analysis that supports how nutrition and dietetic students develop an identity as a leader provides opportunity for educators to identify how to best support students within the learning environment while implementing standardized curriculum. The building blocks perceived by participants as requirements for leadership development provide a link between the two models from undergraduate educational experiences, to serving as a leader within the nutrition and dietetics profession.

The information collected for this research study describe how individuals make meaning of their educational experiences within the context of a specific undergraduate nutrition and dietetics program. The culture on the campus of the public four-year institution in Midwest, U.S.A. is one that is cultivated by the public affairs mission, which largely drives the curriculum and messaging centered around leadership. Organizational structure particularly for this program may impact culture, values, attitudes towards the profession and towards leadership. Thus, the leadership development tenets outlined in this study may not be applicable to other nutrition and dietetics programs but provide an initial start in exploring how nutrition and dietetic students develop as leaders at the undergraduate level. Additionally, the findings from this study offer recommendations to the nutrition and dietetics program at the research site for how to foster leadership development among individual students. Because this research study focused on how individuals make meaning of their educational experiences and how those attributed to developing as a leader, other nutrition and dietetic educators can determine if tenets of this model are applicable to a broader range of accredited nutrition and dietetic programs.

Educational Strategies for Supporting Student Leadership Development

Findings from this study indicate that nutrition and dietetics programs have an opportunity to support student leadership development within the standardized curriculum by creating educational experiences that promote strong foundational knowledge, opportunities for observation and emulation of leadership behaviors as well as self-reflection, while supporting students through their development as leaders. The model generated because of this research study provides insight on how individuals from one nutrition and dietetics program perceive their leadership development. Existing leadership development models affirm the themes that emerged through the data analysis.

Considering the 2022 ACEND standards and the addition of a leadership domain to the knowledge requirements, nutrition and dietetic educators have an opportunity to support students' development while providing leadership education. Recommendations for the nutrition and dietetics program included in this research study include creating learning environments that maintain the strong foundational knowledge presented by the standardized curriculum, give students opportunities for observing and practicing leadership behaviors, while creating a supportive environment that positively influences transitions through developmental stages to support leadership development. Development theory, with constructivist roots, such as self-authorship development, helps educators understand how to support students' development within the learning environment by fostering their meaning making capacities. Students that are supported in their meaning making capacities are able to build an identity based on internal influences rather than external forces. As Drago-Severson and Blum-DeStefano (2014) posit, learning about developmental theory along with subject-matter content can enhance one's

capacity for meaning making of their experiences and how those relate to their own development.

Another way to support students meaning making capacities is self-reflection. Opportunities for self-reflection have been noted in the literature as a way to support learning and development (Gregoire & Arendt, 2004; Guthrie & Thompson, 2010; Komives et al., 2006; Sochacki, 2016). Reflection has also been noted to further development as a self-authoring individual leading to development of leadership identity (Baxter Magolda & King, 2007; Komives et al., 2006). During the interview process for this study, participants recognized the value of reflection in their development. Participant 17 explained,

> I really hadn't thought about it (leadership) too much in detail until this interview session. Actually, reflecting back on leadership and my undergrad experience, and even now understanding myself. Looking back, I wasn't the smartest in the group, but I still worked hard, I did it, and I did a good job.

Many noted the interview process as an important reflection method to help them identify their development to this point. Participant 10 stated, "I've never talked about it (leadership), so you've really made me think…" Therefore, by providing students time and opportunities to reflect on leadership as it relates to nutrition and dietetics, their own understanding and experiences with leadership, as well as their own progress and development; students may demonstrate stronger leadership identity development after completing a Bachelor of Science degree in nutrition and dietetics.

Developmental theories conclude that for development to occur, support must be given (Baxter Magolda & King, 2007; Hodge et al., 2009; Sochacki, 2016). Komives et al. (2006) as well as Drago-Severson and Blum-DeStefano (2014) suggest that giving support specifically

during the transition periods between stages is essential. Likewise, participants noted the pivotal time for them was during their undergraduate experience where they noticed a shift towards professional growth and leadership development near their junior year of college. This is important for educators to note as a possible area for additional support to help students progress through the stages of development to strengthen leadership identity. The LID Model (Komives et al., 2006) identified contributing factors that influence transitions from each stage. Concrete examples for educators to implement into the curriculum to foster development include affirmation, observation, reflection, taking responsibility, practicing skills, and mentoring. Drago-Severson and Blub-DeStefano (2014) provide a Learning Designs Model suggesting the addition of adult development theory within subject-matter content to support a developmental mindset among students. Additionally, participants of this research study provided insight for specific courses that contributed to leadership development. Integrating learning activities that support leadership development into the specific courses outlined by participants, provide an opportunity for educators of the nutrition and dietetics program of this research study to support leadership development among students.

In summary, the findings of this study inform nutrition and dietetic educators about the key building blocks for supporting leadership development at the undergraduate level. Specific recommendations for educational strategies include creating learning environments that offer opportunities for observation and emulation of leadership behaviors, structuring learning environments that support students through stages of development, and lastly provide opportunities for self-reflection. Creating learning environments that support the growth in knowledge and experiences result in a strong self-efficacy towards leadership development. Self-

reflection allows individuals to recognize their progress, consider their meaning making

capacities, and build a leadership identity.

Future Research Recommendations

Nutrition and dietetics programs accredited by ACEND can use findings from this study

to explore their students' leadership development and how their respective programs can support

students in developing leadership identity. Because this study utilized one program as the

research site, all participants had similar experiences in how the curriculum was delivered, the

culture of the institution and its effects on how education is presented, and how leadership itself

is presented. Thus, potentially influencing individuals' experiences in leadership development

that may be different within the context of another accredited program. Further exploration of

leadership development among a diverse group of nutrition and dietetic programs could

potentially lead to the creation of a leadership development model that is relatable and applicable

to a broader range of accredited nutrition and dietetic programs that prepare future registered

dietitian nutritionists.

The inclusion of a leadership domain to the 2022 accreditation standards was a

significant addition; thus it is important to explore if and how the implementation of this domain

supports leadership development among nutrition and dietetic students. The leadership domain

emphasizes leadership skills as it relates to career development. The question remains that is the

addition of the leadership domain within the knowledge requirement standards enough to

develop competent leadership needed to propel the profession forward?

The data collected and analyzed from this research study did not include the diversity

among participants or among undergraduate nutrition and dietetic programs needed to

appropriately develop a new theory that reliably demonstrates how Bachelor of Science nutrition

and dietetic graduates develop or shape their identity as leaders as a result of the nutrition and dietetics education. However, findings from this study provide insight into key tenets identified by participants of the research site program as requirements for leading within the profession. The categories that emerged to address the research sub-questions and the themes that emerged as a result of data analysis contributes to the understanding of how leadership development occurs within the undergraduate education for nutrition and dietetic students. Existing leadership development models can provide a basis in understanding leadership development within the profession and provide context when setting goals towards professional leadership. Additionally, the existing models affirm the findings of this research study, which educators can use to further support leadership development through a constructive developmental theory lens while delivering standardized nutrition and dietetics curriculum.

Conclusion

In conclusion, the purpose of this study was to explore the educational experiences and leadership development of nutrition and dietetic students who have completed a Bachelor of Science degree and have entered into a dietetic internship graduate program. This research study took a constructivist approach to explore how one makes meaning of his/her experiences. Using developmental theory as a broad perspective for this research study provided an opportunity to determine how development theory can enhance how leadership development is fostered at the educational level for nutrition and dietetic professionals.

Key findings from this study indicate that there are four building blocks identified by nutrition and dietetic Bachelor of Science graduates that are required for demonstrating leadership: knowledge, observation, emulation, and self-efficacy. Knowledge is obtained through the curriculum as participants outlined specific courses and learning activities that enhanced their

subject-matter knowledge. Observation and emulation were obtained through the learning environment in which the curriculum was presented as well as experiences students obtained during their undergraduate educational journey that included both academic and life experiences. These experiences allowed students to observe various types of leadership styles and emulate modeled behaviors to practice their own leadership skills. Lastly, the curriculum and obtained experiences let students understand what leadership is and how they identify themselves as leaders.

Participants of this study, who have completed a Bachelor of Science degree in nutrition and dietetics and have entered a dietetic internship graduate program, do not yet identify themselves as leaders. This finding is related to participants' perceived lack of knowledge and experience in the field at this point of their educational journey. However, participants believe they are prepared to lead and embrace the process required to become a leader within the profession. Thus, participants exuded self-efficacy to lead, just not at this point in time.

The results of this study can be used to in the future to inform educators of nutrition and dietetics programs, graduates of nutrition and dietetic programs, and in future research. While ACEND continues to standardize knowledge requirements and competencies of nutrition and dietetics education, they are not prescriptive in how programs present the standardized curriculum. Educators have an opportunity to foster an environment that supports one's development and meaning making capacity within the context of standardized curriculum. Additionally, providing opportunities for students in nutrition and dietetics programs to learn about development theory while practicing leadership skills and providing opportunities for reflection may further development as they understand the development progression into their careers. Lastly, further research is needed to develop a model with a more broad application

specifically for understanding how nutrition and dietetic students in an undergraduate program increase their meaning making capacity for leadership development. Student leadership development models along with models used for credentialed nutrition and dietetic professionals, provide a base for the development of such a model. Further research that includes diversity among nutrition and dietetics programs as well as participants (i.e. gender, people of color, first generation students, Pell-eligible students, etc.) will assist in developing a model that can be used to understand leadership development among students pursing a career as a registered dietitian nutritionist.

A focus on leadership skill development is a continued focus of the Academy of Nutrition and Dietetics. However, simply focusing on leadership skills may not be enough to foster leadership development among RDNs and propel the profession forward. Understanding how leadership development may be fostered at the academic level, specifically for nutrition and dietetic students can lead to a greater capacity for leading the profession. Development theory was used as a broad perspective to explore students' development rather than continued focus on skill development. Providing opportunities for students to increase their knowledge, observe and emulate positive leadership behaviors, will develop self-efficacy in leadership and thus, increase their meaning making capacities for serving as leaders within the profession.

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Appendix A. Informed Consent Form

Consent to Participate in a Research Study
Kansas State University

Exploring How Nutrition & Dietetic Students Make Meaning of Their Educational Experiences and the Impact it Has on Their Leadership Development: A Grounded Theory Approach
Principle Investigator: Sarah Murray, MS, RDN, LD
Co-Principle Investigator: Dr. Jeff Zacharakis

Introduction: You have been asked to participate in a research study. Before you agree to participate in this study, it is important that you read and understand the following explanation of the study and the procedures involved. Please take as much time as you need to read this consent form.
If you have any questions about the study or your role in it at any time, be sure to call or email the investigators. You may contact the investigators at:

Sarah Murray
SarahMurray@MissouriState.edu
417-836-4509

Dr. Jeff Zacharakis
jzachara@k-state.edu
785-532-5872

Your consent will provide permission to be involved in the study by selecting "I consent" found at the bottom of this page and adding your signature. Taking part in this study is entirely your choice. If you decide to take part but later change your mind, you may stop at any time. If you decide to stop, you do not have to give a reason, and there will be no negative consequences for ending your participation.

Purpose of this Study: The purpose of this study is to explore the undergraduate educational experiences of nutrition and dietetic students by conducting interviews and describing how their personal experiences foster their professional leadership development.

Your Participation: If you agree to be part of this study, you will be asked to:
- Complete two 60-minute interviews with the researcher that will be recorded via Zoom. Video recording is not necessary for this study; therefore participants may choose to only be audio recorded during the interview.

Participation risks: There are no known risks to you as a result of participating in this study.

Participation benefits: There are no benefits to you as a result of participating in this study.

Confidentiality: The results of this study will be confidential and only the investigators will have access to the information. All digital data for this research will be stored on a secured server that is password protected.

Privacy: At no time will your name or personal identifying information be used in any written reports of this research.

Data collect from you for this study (i.e. informed consent forms and interview transcripts) will not be shared with anyone outside the research project or used for future research studies, and will be destroyed at the end of the project.

Voluntary participation and withdrawal: Your participation in this study is voluntary, and you may decline to participate or withdrawal from the study at any time. Your decision to participate or not to participate will have no effect on your status as a student in your current graduate program or in your eligibility for registration and licensure as a registered dietitian.

Compensation: You will receive a $10 gift card for each interview as a thank you for participating.

Who to call with questions, concerns, or complaints: If you have more questions about this study at any time, you can contact Sarah Murray at 417-836-4509, SarahMurray@MissouriState.edu, or Dr. Jeff Zacharakis at 785-532-5872, jzachara@k-state.edu. Or the Institutional Review Board at Kansas State University at comply@k-state.edu or 785-532-3224.
If you choose to participate in the study, the researcher will email you a copy of this consent form and collect it prior to the date of data collection.

Consent to Participate:
By selecting "I consent" with a check mark and signing your name, you consent to participating in this research study and agree to the following:
- You have read and understand the information in this form.
- Your participation in the study is voluntary.
- You are 18 years of age.
- You are aware that you may choose to terminate your participation at any time, for any reason.

_____ I consent to participating in this study.

_____ Print Name

_____ Signature

Appendix B. Alignment Table: Research Questions and Data Sources

Research Question	Interview 1	Interview 2	Artifact Review
RQ #1: How do dietetic students describe their leadership development after graduating with a Bachelor of Science degree and have entered into a dietetic internship graduate program?	• How did your undergrad experience prepare you for what you are doing now? • Have you had any opportunities to serve as a leader? In what ways?	• What are some contributing factors in your leadership development thus far? • Describe how prepared you feel to demonstrate leadership in your future career.	
Sub-question 1.1: How did the nutrition and dietetics curriculum contribute to student's leadership development?	• How did your undergrad experience prepare you for what you are doing now? • Are their any classes or activities that you remember that helped you with your leadership skills?		• ACEND Standards • Program Self-Study Report • Program Course Catalog • Program Curriculum Map

			• Program Course Syllabi
Sub-question 1.2: How did the experiences within the nutrition and dietetics undergraduate program contribute to leadership development?	• How did your undergrad experience prepare you for what you are doing now? • Are their any classes or activities that you remember that helped you with your leadership skills? • Describe some of your challenging experiences? • In what ways have your educational experiences had an impact on the person you are today?	• What experiences in undergrad prepared you for leadership? How do you think this contributed to your development?	• Program Self-Study Report • Program Course Syllabi • Institution and program websites

Sub-question 1.3: What skills do nutrition and dietetic students possess that they contribute to leadership development?	• Have you had any opportunities to serve as a leader? In what ways?	• Explain any leadership goals for yourself, and if not, why?	• Analytic Memos
RQ #2: In what ways do the educational experiences of Bachelor of Science degree dietetic students shape their leadership identity?	• Have you had any opportunities to serve as a leader? In what ways? • In what ways have your educational experiences had an impact on the person you are today?	• Tell me how or why you choose to participate in leadership roles. • What are some contributing factors in your leadership development thus far?	• Program Self-Study Report • Program Course Syllabi

Sub-question 2.1: How do nutrition and dietetic students understand what leadership is?		• Describe your definition of leadership. How did you come to this definition? • What does a successful leader look like to you? • What has been the most helpful to you in understanding leadership? • Who has been the most helpful to you in understanding leadership?	• Analytic Memos
Sub-question 2.2: How do nutrition and dietetic students identify as leaders?		• Do you define yourself as a leader? Why or why not? • Describe how prepared you feel to demonstrate leadership in your future career. • Explain any leadership goals for yourself, and if not, why?	• Analytic Memos

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Appendix C - Interview Guide

Thank you for agreeing to participate in this research study that is exploring how students make meaning of their undergraduate educational experiences and how it has impacted the development of leadership skills.

I have received your informed consent so just to reiterate it is entirely your choice to participate in the study and if you change your mind at any point, we will stop. You do not have to give a reason and there will be no negative consequences for ending your participation.

I am going to record the interview for transcription purposes only and they will be stored on a password protected server until the research project is completed.

Are you ready to begin?

1. Tell me what you have been up to since leaving [university].

2. Now that you have been gone and just to reflect on your experience at [university], how did your undergrad experience prepare you for what you are doing now?

3. How has your undergraduate education influenced your experiences in a dietetic internship/graduate program?

4. Is there anything you wish you would have done differently in undergrad that would have prepared you better for what you are doing now?

5. Have you had any opportunities to serve as a leader? In what ways? What have those mean to you?

6. Are their any classes or activities that you remember that helped you with your leadership skills?

7. What were some of your challenging experiences? Describe.

    a. How, if at all, did that experience impact future actions/decisions?

8. Have your educational experiences had an impact on the person you are today? In what ways?

Interview #2

Review what was discussed last time. This time the focus will be more on leadership and what that means to you and how it relates to your development as a professional and a person. And what has informed your ideas of leadership.

Quotes or Information for further explanation (mentioned by participant last time) include:

1. Describe your definition of leadership.
   a. How did you come to this definition?
   b. What does leadership mean to you?
   c. What does a successful leader look like to you?
   d. Can you recall a time when you experienced this type of leadership – what did that mean to you?

2. What has been the most helpful to you in understanding leadership?

3. Who has been the most helpful to you in understanding leadership?

4. Do you define yourself as a leader? Why or why not?

5. Tell me how or why you choose to participate in leadership roles.

6. What are some contributing factors in your leadership development thus far?

7. What experiences in undergrad prepared you for leadership?

   a. How do you think these things contributed?

8. Was there anything you wish you had learned or done to better prepare you for leadership?

   a. How do you think this would contribute?

9. Describe how prepared you feel to demonstrate leadership in your future career.

10. Do you have any leadership goals for yourself? Explain why or why not.