THE DIETETICS LEADERSHIP IDENTITY PROJECT: LEADERSHIP TAXONOMY IN CLINICAL DIETETICS

by

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B.S., Brigham Young University, 2009
M.S., Brigham Young University, 2012

AN ABSTRACT OF A DISSERTATION

submitted in partial fulfillment of the requirements for the degree

DOCTOR OF PHILOSOPHY

Department of Hospitality Management and Dietetics
College of Human Ecology

KANSAS STATE UNIVERSITY
Manhattan, Kansas

2016

Abstract

There has been a historic and consistent call for Registered Dietitian Nutritionists (RDN) to develop and practice leadership skills regardless of roles and responsibilities. The majority of RDNs practice as clinicians in the health care environment, however, there is no clear description of what leadership entails in that setting. Very little published research exists regarding leadership in dietetics, and there are no known studies about clinical leadership in the profession.

The purpose of this exploratory study was to develop an evidence and practice-based leadership behavior taxonomy for clinical RDNs. To do this, a comprehensive list of leadership behavior items was developed based on literature review and then validated by an expert panel of Clinical Nutrition Managers. A stratified random national sample of 4,700 clinical RDNs was invited to complete the survey instrument; participants rated the frequency of demonstrating each behavior item and the potential benefit to the patients or clients if they demonstrated it. Additional questions exploring clinical RDNs' experiences and perspectives of clinical leadership and demographics were asked. There was a 14.6% response rate ($N = 684$). The frequency data were used to conduct exploratory (EFA) and confirmatory factor analyses. Five factors emerged from the EFA and a clinical leadership behavior taxonomy was developed based on those findings.

Most clinical RDNs considered themselves clinical leaders (74.9%), felt that leadership was relevant to daily clinical nutrition practice (89.6%), and enjoyed their jobs more when practicing leadership at work (75.7%). One-way ANOVAs and independent *t* tests revealed no significant differences in composite mean leadership frequency scores across gender, level of education, years in practice, years in current position, type of current position, or having a

specialty certification, however, there was a significant relationship between composite scores and levels of professional involvement *Welch's F* (3, 674) = 13.79, $p < .001$.

This research advances clinical dietetics practice by creating a common language to discuss leadership and its development and practice, the taxonomy should inform education standards, continuing education offerings, and employee development for clinical RDNs.

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Dedication

This is dedicated to Malcolm Patten– may you find your great passion and pursue it.

Chapter 1 - Introduction

Dietetics

Dietetics is a broad and multi-faceted profession that combines several sciences (food, nutrition, social, business, and basic) into the delivery of effective food and nutrition services in various contexts (Academy, 2014). According to the Bureau of Labor Statistics ([BLS], 2014a), Registered Dietitian Nutritionists (RDNs) and nutritionists held approximately 67,400 jobs in 2012. As a result of an aging population and health care reform, it is projected that by 2020, the supply of Commission on Dietetic Registration (CDR)-credentialed dietetics practitioners will only meet about 75% of the demand (Hooker, Williams, Papneja, Sen, & Hogan, 2012). It is important to clarify that all RDNs are nutritionists, however, not all nutritionists are RDNs. To become an RDN, one must obtain at least a bachelor's degree through an Accreditation Council for Education in Nutrition and Dietetics (ACEND) accredited program, complete 1,200 hours of required supervised practice through an ACEND accredited program, pass CDR's national credentialing examination, and meet continuing education requirements (Academy, 2013). Accredited dietetics education programs provide exposure to the breadth of the dietetics profession; core knowledge requirements are met through academic coursework and competencies are developed and measured through supervised practice (ACEND, 2015).

Dietitians are employed in a variety of environments, including health care, community health, business and industry, research, education, government, and private practice (Academy, 2013). The most recent Compensation and Benefits Survey of the Dietetics Profession from the Academy (2015a) reports that 57% of RDNs practice in clinical nutrition, while 11% work in food and nutrition management and 10% in community nutrition. Dietetics is a predominantly female field (95%), and a reported 9% of RDNs are non-White (Academy, 2015a). The majority

(75%) of practicing RDNs work in full time positions (Academy, 2015a). Forty-eight percent of RDNs have master's degrees as their highest degree attained, and 24% of RDNs also have at least one specialty certification (Academy, 2015a).

The Academy of Nutrition and Dietetics (formerly the American Dietetic Association [ADA]) is a professional organization for RDNs and Dietetic Technicians, Registered. To date, the Academy is the largest organization of food and nutrition professionals in the world and has over 75,000 members (Academy, n.d.a.). There are several organizational units within the Academy, and the most relevant include: ACEND, that acts in concert with the Academy subunits to determine educational competencies and ensure education programs are properly preparing students; CDR, that administers the national examination and manages the continuing education requirements for RDNs; a Board of Directors that governs the Academy itself; and a House of Delegates (HOD) that governs the profession of dietetics (Academy, n.d.b.).

Clinical Dietetics Practice

Role Responsibilities

Clinical dietetics is the primary practice area within the dietetics profession. Of RDNs, 57% work in clinical nutrition setting; more specifically, 32% work in acute care/inpatient clinical nutrition, 17% work in ambulatory care clinical nutrition, and 8% work in long-term care clinical nutrition settings (Academy, 2015a). In clinical dietetics, RDNs' main responsibility is to provide medical nutrition therapy (MNT) to patients or clients as they coordinate patient care plans with the patient/client and other health care professionals (e.g., physicians, physician's assistants, pharmacists, nurses, speech therapists, social workers, etc.) as part of an interdisciplinary team (BLS, 2014a; ADA, 2011). Medical nutrition therapy involves completing nutrition assessments and reassessments, making nutrition diagnoses, determining and

implementing nutrition interventions, and monitoring and evaluating those interventions (Academy, 2014). Ultimately, the goal of MNT is to prevent, delay, or manage health conditions or diseases (Academy, 2014). Typically, Clinical Nutrition Managers (CNMs) attend to administrative responsibilities and manage clinical RDNs in health care settings as they work in a formal management/leadership capacity (Clark et al., 2012).

Within clinical dietetics, there are opportunities for RDNs to specialize in working with certain conditions or disease states (BLS, 2014a). Some specialties have formal certifications while others do not. In clinical dietetics, the CDR has board certified specialties for pediatric, oncological, gerontological, and renal nutrition (CDR, 2015). Also, CDR offers The Certificate of Training in Weight Management with the option of specializing in adult or childhood/adolescent populations (CDR, 2015). The National Board of Nutrition Support Certification (NBNSC) manages the Certified Nutrition Support Clinician® certification which is a specialization in providing oral supplements, tube feedings, and/or intravenous feedings to patients (NBNSC, 2015). The Certified Diabetes Educator® (CDE®) is a specialty for professionals who focus on diabetes management and/or prevention; the specialty credential is administered by the National Certification Board for Diabetes Educators (NCBDE, 2015).

Beginning in the fall of 2015, the CDR (n.d.) offered an examination for Advanced Practice certification in clinical practice. In order to obtain this certification, RDNs must be able to use the nutrition care process accurately and efficiently, manage patients/patient groups using research-based practice, and be capable of determining interventions for patients/patient groups. Pertinent to this study, these RDNs will also be required to demonstrate their capacity to lead interdisciplinary teams and direct relevant initiatives in their work settings (CDR, n.d.)

Current Clinical Environment

The health care environment is experiencing significant change. As this environment evolves, clinical dietetics will need to keep pace. In the Academy's most recent Workforce Demand Study, several *change drivers* were highlighted that will continue to impact dietetics practice from 2012-2022 (Rhea & Bettles, 2012). The aging population will affect clinical dietetics in two ways: there will be increased use of institutionalized care settings, and there will be job opportunities as RDNs retire (Rhea & Bettles, 2012). It is expected that the demand of inpatient and outpatient clinical nutrition will grow 42% from 2010 to 2020, which would leave a shortfall of at least 10,000 full-time positions (Hooker et al., 2012). For long-term care clinical nutrition, the expected demand growth is 36% for that same time period with an anticipated shortfall of 1,900 full-time positions by 2020 (Hooker et al., 2012).

Another change driver is diversity. The profession itself is rather homogenous as it is predominantly female and White; thus, RDNs need the skills to serve a more diverse patient population and participate in a more diverse workplace, which requires developing cross-cultural skills and understanding (Academy, 2015a; Rhea & Bettles, 2012). The combination effect of increased diversity and an aging population will require adjustment of current dietetics services offered and creation of new, more relevant services to meet the evolving US population's needs (Nyland & Lafferty, 2012).

Other changes noted by Rhea and Bettles (2012) include advancements in practice and technology. First, the ubiquitous nature and availability of technology is allowing patients to manage their own diets. For clinical RDNs to stay relevant, they need to either participate in the development of these technologies or adapt to provide "higher-value services that cannot be programmed into expert systems" (p. S11). Another change driver is the evolution of personalized nutrition. Some clinical RDNs will need to shift to prediction and prevention of

disease (e.g. genomic testing) in their practice, and pursue technology training that will prepare them for this new aspect of the health care environment (Rhea & Bettles, 2012).

As policy and health care change, there will be an increased emphasis on using interdisciplinary teams to address the coming challenges. The dietetics profession—and in this case, clinical RDNs—will need to be "assertive and opportunistic" in the workplace as they contribute to problem solving and teamwork (Rhea & Bettles, 2012, p. S11). If RDNs develop business and leadership skills to complement their technical skills, they will be well-suited to lead interdisciplinary teams (Nyland & Lafferty, 2012). Beyond leadership skills, RDNs need to develop the ability to see past the silo of clinical dietetics towards the entire health care system to demonstrate continued value to their employers (Rhea & Bettles, 2012).

Health care reform has created positive opportunities for the dietetics profession, however, it has not secured the RDN credential as the only provider of nutrition services (Rhea & Bettles, 2012). The new playing field created by health care reform has pushed clinical RDNs to optimize reimbursement for services they provide and ensure they maximize their scope of practice by taking advantage of newly granted opportunities like order writing privileges (H. Filipowicz, personal communication, April 28, 2015). Leadership, advocacy, and outcomes research for evidenced-based practice are increasingly important in clinical dietetics.

The Centers for Medicare and Medicaid Services (CMS) developed an incentive payment program for acute care hospitals that receive reimbursement from Medicare called Value Based Purchasing (VBP; CMS, 2012). The goal of VBP is to reward quality care instead of quantity of procedures, and as such there is a focus on measuring best clinical practices and the patients' overall care experiences (CMS, 2012). Although there are opportunities for clinical RDNs to support the best clinical practice measures, they are very specific and mostly fall under

other health care professionals' scopes of practice. The most relevant clinical measures that RDNs might support include providing discharge instructions to patients with heart failure and maintaining heart surgery patients' blood sugar in the days following surgery (Medicare.gov, 2015).

The contributions of clinical RDNs to VBP is evidenced through Hospital Consumer Assessment of Healthcare Providers and Systems (HCAHPS) surveys completed by adult patients (Medicare.gov, 2015). The HCAHPS scores are a composite of eight measurements that include (Medicare.gov, 2015):

- Communication with nurses
- Communication with doctors
- Responsiveness of hospital staff
- Pain management
- Cleanliness and quietness of hospital environment
- Communication about medicines
- Discharge information
- Overall rating of hospital

Clinical RDNs directly contribute to several of these measures, particularly responsiveness of hospital staff, cleanliness and quietness of hospital environment, discharge information, communication about medicines (most likely as they relate to appetite or taste changes), discharge information, and overall rating of hospital. It is important to consider patients are not always able to differentiate between their health care providers, so RDN communication could be reflected in nurse or doctor communication scores. Further, as members of the health care team, RDNs have the responsibility of helping their units improve the

patient experience that may require brainstorming and consideration beyond their personal scope of practice or level of comfort. The Director of Clinical Nutrition at Stanford Health Care reported a major emphasis in their health system on improving patient flow through services, particularly in reducing delays in patient care as a way to improve the patient experience (H. Filipowicz, personal communication, April 28, 2015). She also highlighted the emphasis on Continuous Quality Improvement and how the management team is leading that effort to frontline employees (in her case: clinical RDNs) in a way that makes them feel empowered to make changes that positively impact the patient experience.

As of July 2014, CMS authorized RDNs to independently order patient diets, relevant laboratory tests for monitoring the effectiveness of medical nutrition therapy, and make modifications to diet orders based on those results once they obtained hospital clinical privileges (CMS, 2014). This change was initiated by CMS in an effort to increase efficiency and effectiveness in health care resources. Importantly, there are two challenges that can impede RDNs from adopting these practices – state licensure laws and hospital regulations. According to the Academy, there are 17 states that do not have apparent statutory or regulatory impediments, 17 states that "do not have definitive impediments to obtaining privileges," and 16 states that do have statutory or regulatory impediments precluding RDNs from these opportunities currently (Academy, n.d.c). In states that do not have laws precluding this practice, RDNs still need to coordinate and advocate within their acute care facility to obtain clinical privileges. In order for RDNs to demonstrate their value and maximize their scope of practice, leadership and advocacy within facilities and states will be required.

As the health care environment changes, clinical dietetics will evolve. Clinical RDNs will continue to provide MNT to patients and clients, however, the manner and mode in which

they do this will constantly adjust with the health care system. Clinical RDNs will be most successful if they have professional and leadership skills to supplement their technical nutrition skills.

Leadership

Leadership is broad in nature and is defined in a variety of ways. A persistent theme among definitions is that leadership is the act of influencing others to achieve a shared purpose (Borra & Kunkel, 2002; Burns, 1979; Clawson, 2009; Smircich & Morgan, 1982; Yukl, 2002). Yukl (2002) clarified two views of leadership: 1) Leadership is a formal role with someone being the "Leader" while others are followers, and 2) Leadership is a dynamic social process in which people influence others and the leadership power is diffused among members. The second approach to leadership is of most interest for this research.

Informal Leadership

Most research about leadership is based on the formal management/leadership positions with much less existing research about informal leadership (Andert, Platt, & Alexakis, 2011; Larrson, Segersteen, & Svensson, 2010, Pescosolido, 2002; Pielstick, 2000). Larrson et al. (2010) explained that informal leadership is any leadership that takes place by someone who does not hold a formal management position. From available research regarding informal leaders in small groups and in the workplace, there have been some valuable findings. Pielstick (2000) found that informal leaders were rated to have higher levels of leadership than formal leaders. Pescosolido (2001) discovered that informal leaders' self-efficacy contributed to their group's self-efficacy. Another study found that informal leaders behave as knowledge brokers and practice sensemaking within their organization (Larsson et al., 2010). Others have found that males are more likely to be seen as informal leaders than are females; this could be related to

the legitimate power that the culture grants males (French et al., 1959; Neubert & Tagger, 2004). Researchers have called for additional studies to continue elucidating the role of informal leaders in the workplace (Andert et al., 2011; Larrson et al., 2010).

Women and Leadership

As the dietetics profession is predominantly female, it is necessary to consider leadership as it relates to women. Most studies regarding women and leadership are based on formal management and leadership roles and particularly about women in executive positions, however, some of the findings are still relevant to informal leadership because they reveal barriers that exist for women in the workplace. Pew Research Center (2015) surveyed the public about their views of gender and leadership and found that 43% of respondents believe that women are held to higher standards than men and 43% believe that corporate America is not prepared for more female leadership than it has. Hauser (2014) determined that some of the historic barriers to women in the health care management persist, specifically that the work place culture is still "male-entrenched" and there is inadequate consideration for work-life balance" (p. 320). Likewise, McDonagh and Paris (2012) highlighted health care's military and religious roots as the basis for some of the continuing challenges for women. RockHealth (2015) found that women in health care saw their greatest barriers as a lack of confidence, balance, and mentorship. The American College of Health Care Executives ([ACHE], 2012) found that 44% of female health care executives felt that family and home responsibilities disproportionately fell to them. Some of these long-term effects from society and workplace's cultures still inhibit women's interests and opportunities to demonstrate leadership.

Clinical Leadership

There has been recent professional and academic interest in the concept of clinical leadership, particularly in the nursing profession (Chavez & Yoder, 2015; Downey et al., 2011; Spitzer, 2007). Edmonstone (2009) explained that "clinician leadership" can be a sweeping title for a variety of leadership types within health care, yet this research will focus specifically on frontline clinicians that demonstrate leadership behaviors/skills in concurrence with their typical technical responsibilities. Mountford and Webb (2009) highlighted the fact that clinicians have the responsibility to determine daily patient care and as such, they can make a unique contribution to strategic planning. In order to be successful as clinician leaders, there needs to be mentorship/training and positive incentives for the extra effort (Bohmer, 2013; Downey, Parslow, and Smart, 2011).

Leadership Taxonomies

A taxonomy is a classifying system comprised of conceptual domains/dimensions for "multifaceted, complex phenomena;" they are utilized to improve clarity of otherwise complicated systems (Bradley, Curry, & Devers, 2007, p. 1761). To date, there are numerous leadership taxonomies and each varies in terminology and level of comprehensiveness (Yukl, Gordon, & Taber, 2002). Yukl et al. (2002) completed a meta-analysis of leadership taxonomies and research from the previous 50 years and developed a comprehensive hierarchical taxonomy of leadership behavior. Ten years later, Yukl (2012) published an updated taxonomy that contained four metacategories (i.e., domain) which include: task-orientation, relations-orientation, change orientation, and external leadership. Each metacategory has 3-4 leadership behaviors associated with it. Yukl (2012) noted that this taxonomy is not "the final solution for classifying leadership behavior" (p. 79) and that even as the taxonomy develops and changes

over time, it is important to prevent it from becoming too complex for use in developing coding guides or observational checklists.

Several health care specific leadership frameworks or taxonomies have been developed. The United Kingdom's National Health Service (NHS, 2011; NHS, 2013) and Canada's LEADS Collaborative (n.d.) have each developed leadership taxonomies for all health care employees (regardless of position). The NHS (2013) noted that their purpose in emphasizing leadership across their organization was to develop employee engagement, improve quality of care, heighten patient satisfaction, and ultimately achieve organizational success. The Nurse Manager Leadership Partnership ([NMLP], 2008) developed their leadership inventory for nurse managers' self-evaluation, career planning, and supervisor evaluation. Researchers developed a taxonomy for intraoperative leadership behaviors of surgeons for the purpose of having evidence-based training information and a system for observing and assessing these behaviors over time (Parker, et al., 2013). To date, dietetics does not have a defined leadership taxonomy for any practice area.

Leadership in Dietetics

The mission statement for the Academy of Nutrition and Dietetics is, "Empowering members to be the food and nutrition leaders" (Academy, n.d.). In alignment with the mission statement, numerous Academy presidents have highlighted leadership as an essential professional skill for RDNs (Bergman, 2013; Crayton, 2015; Derelian, 1995; Dodd, 1992; Edge, 2004; Escott-Stump, 2011; McCollum, 2013; Pavlinac, 2009). President Pavlinac (2009) said, "We need leaders in dietetics" (p. 972). President Rodriguez (2010) pointed out that "service and leadership go hand-in-hand for our profession." President Escott-Stump (2011) wrote, "No one can question our technical knowledge. Yet we must also exude confidence, leadership, and

genuine enthusiasm" (p. 1109). Most recently, President Crayton (2015) shared, "we must keep demonstrating to the world that we are the best-qualified leaders in nutrition and dietetics. We aim to maximize the health of the people in our community, state, nation, and in the world" (p. 1037). She continued, "I believe everyone has the ability to lead. It is in leadership that we learn who we are, and what our strengths are" (Crayton, 2015, p. 1037). Although leadership has been consistently emphasized, there is a lack of clarity regarding what is meant by these calls, especially for the clinical practice area where the majority of RDNs practices.

Statement of Problems

There is a lack of published research regarding leadership in dietetics. Primarily, the related research has been descriptive in nature with the aim of attributing RDNs with specific leadership styles/behaviors (Gregoire & Arendt, 2004). The populations studied have primarily been those in formal management or leadership roles (Arensberg, Foltz, Johnson, Strasser, & Schiller, 1996; Hunter, Lewis, & Ritter-Gooder, 2012; Mislevey, Schiller, Wolf, & Finn, 2000; Molt, 1995; Schiller, Foltz, & Campbell, 1993) or dietetics students (Arendt & Gregoire, 2005). To date, there has been no published research regarding informal leadership of clinical dietitians. This is troublesome because the majority of RDNs do not hold formal leadership positions in the workplace – only 11% of RDNs indicated that the primary practice area of their position was in food and nutrition management (Academy, 2015a). Instead, most RDNs function in a position titled (in some variation) as "Clinical Dietitian," "Clinical Dietitian, Long Term Care," or "Outpatient Dietitian - General" which indicates that they are primarily responsible for frontline patient/client care (Academy, 2015a). Yet, there is ambiguity in what leadership might look like or include in these roles. This is especially concerning because management and leadership theory are primarily taught in conjunction with foodservice management, and students may not

be able to translate the principles to other practice areas or they may discount them entirely if foodservice management is not their interest (Patten & Sauer, 2014). There has been and continues to be an elusiveness as to how leadership in clinical dietetics is defined.

Purpose

The purpose of this exploratory study is to create an evidence and practice-based taxonomy of leadership behaviors for the clinical practice area of dietetics.

Objectives

The objectives of this research are:

1) To ascertain key leadership behaviors for clinical RDNs in the health care environment.
2) To identify Clinical Nutrition Managers' leadership expectations of clinical RDNs.
3) To develop a practice based leadership behavior taxonomy for clinical dietetics.
4) To identify leadership gaps in clinical dietetics practice.

Research Questions

The research questions of this study are:

1) What is the framework for leadership behaviors of clinical RDNs?
2) What leadership behaviors do CNMs prioritize as highest order for clinical RDNs?
3) What leadership behaviors are most frequently practiced by a random national sample of clinical RDNs?
4) What is the nature of the relationships between specific characteristics of clinical RDNs and their frequency of practicing leadership behaviors?
    a. Gender

b. Level of education

c. Years practicing as a clinical RDN

d. Years in current position

e. Level of professional involvement

5) How do clinical RDNs assess the potential benefit to their patients/clients if they demonstrate specific leadership behaviors?

Significance of Research

The health care industry at large as well as the nursing profession have begun to research and encourage clinical leadership as a means of improving the patient experience and outcomes. Investigating clinical leadership for the dietetics profession will add to this body of knowledge. Further, it will provide direct information about leadership in the primary practice area of dietetics and will be a resource for clinical dietitians to self-reflect on their current practice and identify what growth opportunities they need. This taxonomy will be particularly useful for Clinical Nutrition Managers (those who typically manage clinical RDNs) to use and reference as they coach their staff (clinical RDNs) to higher performance. It will provide opportunities for ACEND to incorporate practical leadership into educational standards and can inform continuing education offerings for clinical RDNs. Essentially, this research can provide the first bridge to articulating what clinical leadership is for a large subset of RDNs.

Limitations

As with other, stand-alone, electronically administered surveys there are limitations. Although the study has more responses than most other dietetics leadership studies, the operational response rate was 14.6%. The Compensation and Benefits Survey (Academy,

2015a) has seen a decline in response rates over the past five years and so it may be a reflection on the profession or more broadly, the current technological environment. Dillman (2015) noted that response rates can be low because invitation emails are overlooked or deleted easily and because survey completion may not be reasonable amidst other activities they are engaging in (e.g., walking or eating) when the invitation arrives. Another limitation was that frequency of performing leadership behaviors was self-reported and not validated by the perspectives of other professionals (e.g., CNMs, clinical nutrition peers, other health care professionals).

Definition of Terms

Dietetics: "Dietetics is the integration, application and communication of principles derived from food, nutrition, social, business and basic sciences, to achieve and maintain optimal nutrition status of individuals through the development, provision and management of effective food and nutrition services in a variety of settings" (Academy, 2014, p. 7).

Registered Dietitian/Registered Dietitian Nutritionist (RD/RDN): "An individual who has met current minimum (Baccalaureate) academic requirements with successful completion of both specified didactic education and supervised-practice experiences through programs accredited by The Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics and who has successfully completed the Registration Examination for Dietitians. To maintain the RD or RDN credential, the RD or RDN must comply with the Professional Development Portfolio (PDP) recertification requirements (accrue 75 units of approved continuing professional education every five years" (Academy, 2014, p. 24).

Clinical Dietitians (RD/RDN): "Registered Dietitians who work in a health care setting and provide nutritional care to patients; management skills are often required as part of the job" (Hudson, 2013, p. 600).

Leadership: "The ability to inspire and guide others toward building and achieving a shared vision" (Borra and Kunkel, 2002, p. 12).

Taxonomy: A "formal system for classifying multifaceted, complex phenomena according to a set of common conceptual domains and dimensions" (Bradley, et al., 2007, p. 1761).

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Chapter 2 - Review of Literature

This chapter will explore relevant research to inform the proposed study. First, leadership will be discussed with emphases on power bases, informal leadership, women and leadership, and clinicians. Leadership attention and research in the dietetics profession will be investigated. Finally, comprehensive leadership taxonomies and health care specific leadership taxonomies will be introduced to further guide the proposed methodology.

Leadership

Spitzer (2007) emphasized that "practicing leadership is a mandate for any group claiming to be a profession. Leadership skills are required as an essential part of carrying out the mission of serving society" (p. 6). Feser, Mayol, and Srinivasan (2015) highlighted the importance of leadership in today's workforce with this statement:

> Telling CEOs these days that leadership drives performance is a bit like saying that oxygen is necessary to breathe. Over 90 percent of CEOs are already planning to increase investment in leadership development because they see it as the single most important human-capital issue their organizations face.

Stodgill (1974) rightly explained, "There are almost as many different definitions of leadership as there are persons who have attempted to define the concept" (p. 7). A search on Amazon.com for "leadership books" resulted in 181,717 items. Searches for "leadership" on Google Scholar had 2,740,000 results and Proquest Research Library had 1,465,172 results demonstrating that the breadth of discussion and information available on the topic of leadership is expansive.

Bennis stated, "'Always, it seems, the concept of leadership eludes us or turns up in another form to taunt us again with its slipperiness and complexity. So we have invented an endless proliferation of terms to deal with it… and still the concept is not sufficiently defined'" (as cited in Yukl, 2002, p. 2). Although definitions of leadership can vary, the idea of influencing others to accomplish a shared goal is prevalent. Burns (1979) defined leadership as "leaders inducing followers to act for certain goals that represent the values and the motivations – the wants and needs, the aspirations and expectations – *of both leaders and followers"* (p. 19). Yukl (2002) emphasized that leadership involves influencing others in an effort to meet shared objectives. Smircich and Morgan (1982) explained that at least one individual is successful at framing and defining reality for others. Clawson (2009) included the leader's self-development in the leadership equation when he described it as "managing *energy*, first in yourself and then in those around you" (p. 3).

Yukl (2002) elucidated that leadership is often viewed in two separate ways. The first being that leadership is a specialized role, meaning that there is a leader (or group of leaders) and followers, and the leader has specific responsibilities and functions to perform because of said role. The second approach looks at leadership as "an influence process that occurs naturally within a social system and is diffused among the members" (Yukl, 2002, p. 4). In this second view, leadership is more fluid and can be exercised by all members of the group. This research focuses on the diffused approach to leadership.

Power Bases

To understand influence, it is helpful to consider bases of social power. French, Raven, and Cartwright (1959) identified five major sources of power as being reward, coercive, legitimate, referent, and expert. Reward power is centered in someone's capacity to reward

another and the strength of this power base depends on the reward's size/nature and the recipient's perception of the reward. Coercive power is based on one's ability to punish. Like reward power, coercive power depends on the size/nature of the punishment as well as the recipient's perception of it. Legitimate power is often associated with the distinction of a formal role/office (termed "social structure"), however, it also comes from cultural values (e.g., values about age, physical characteristics, gender, etc.), and "designation by a legitimizing agent" (i.e., delegation; French et al., 1959, p. 154). The strength of legitimate power depends on how specific a power designation is. For example, a Department Head has influence over his/her department but presumably not over the entire organization. It is important to note that when legitimate power is derived from cultural practices, it is common to find "there are certain areas of behavior in which a person of one sex is granted the right to prescribe behavior for the other sex" and that its power span is broad (French et al., 1959, p. 153). Referent power is centered in the idea that someone identifies, wants to identify, or desires to maintain identification with a person, norm, part of a group, or a role. Referent power's range can be narrow if the attraction/identification is very specific (French et al., 1959). Expert power is centered in someone's knowledge or information about a specific subject and it typically influences only cognitive structures. French et al. (1959) used the examples of someone taking the legal advice of a lawyer, or directions from a local to demonstrate expert power. Influencing others is essential to leadership, and the consideration of power bases informs that process.

Informal Leadership

Leadership performed by someone who does not have a managerial position is often termed "informal leadership" (Larsson, et al., 2010). As such, informal leaders do not typically have legitimate, coercive, or reward power bases available to them, but they do have expert and

referent power (French et al., 1959; Pielstick, 2000). Other terms associated with informal leadership include: grassroots, alternating, emergent, shared, or distributed leadership (Andert, et al., 2011). To date, most of the leadership literature is focused on formal leaders and very little research has focused on understanding and investigating informal leadership in the workplace (Andert et al., 2011, Larrson et al., 2010, Pescosolido, 2002; Pielstick, 2000). Further, much of the existing informal leadership research is focused on small groups rather than dynamic organizations (Larsson et al., 2010).

Wheelan and Johnston (1996) conducted an exploratory, descriptive field study with the purpose of considering informal member leader emergence in a temporary system having formal leaders. The study took place at a 4-day Group Relations Conference with 31 people in attendance; 21 attendees chose to participate (14 women and 7 men). At the end of the conference, the participants were asked to identify three people (excluding the formal leaders) who demonstrated the most leadership during the study which ultimately resulted in four member leaders being recognized (two women and two men). Throughout the conference there were various small and large group sessions and each was audiotaped and transcribed. Researchers identified "complete thoughts" which were communications that could be reduced to and understood as "simple statements" (Wheelan & Johnston, 1996, p. 27). The complete thoughts were categorized into statement types: dependency, counterdependency, fight, flight, pairing, counterpairing, and work. Wheelan and Johnston (1996) sought to find patterns in the communication through performing discriminant analyses of the categorized verbal statements. The researchers reported that although member leaders talked more than the majority of their peers, quantity did not equate to leadership. Another finding was that there was not a difference in task orientation between member leaders and non-leaders. Also, the verbal behaviors of

member leaders were similar. A key finding from this study was that the member leaders commonly challenged, opposed, or ignored the formal leaders in these groups.

Pielstick (2000) completed a comparative analysis of formal (individuals having a leadership position) and informal leaders using a previously developed instrument called "The Leader Profile." The instrument was comprised of 161 descriptors categorized into six groups: shared vision, communication, relationships, guidance, character, and community (Pielstick, 2000). Pielstick (2000) purchased a mailing list from the Center for Advanced Study of Leadership and randomly selected 500 names from it to distribute two questionnaires – one regarding a formal leader and the other regarding an informal leader within the same organization. In the end, 95 surveys were returned and 34% of leaders were female and 64% of leaders were employees in education (Pielstick, 2000). Variable means were calculated for formal and informal leaders. The top ten variables with highest means (ranging from 4.16 to 4.48) for formal leaders in this study were: intelligent, self-confident, committed, professional expertise, perseveres, strives for excellence or quality, understands complexities, personable, positive spirit, and uses critical thinking. Interestingly, the top ten variables with highest means (ranging from 4.6 to 4.7) for informal leaders were: honesty and integrity, credible, fair, sense of humor, treats everyone with dignity/respect, likes to have fun, promotes gender equity, ethical, caring, and principle-centered. Although some of the variables appear similar, there was no overlap between variables in these rankings. Ultimately, 87 of the 161 variables (54%) showed a significant difference ($p = 0.05$) between formal and informal leaders with all but one being higher scored in favor of informal leaders. There were four significant variables stronger for formal leaders and they were: engages in politicking, has a need for power, uses authority of

position, and uses fear or coercion. Pielstick (2000) concluded that others perceived informal leaders as demonstrating higher levels of leading than formal leaders.

Pescosolido (2001) studied informal leaders' impact on group efficacy development in small groups. For this study, 120 MBA students were broken into groups of five to complete a semester-long project. Each group was observed twice, once near the beginning of the semester and once at the end. Following each observation, the students completed the same questionnaire that asked them to identify who they saw as the group leader and the person who was most voted for in each group was deemed the leader. Students were also asked to rate how confident they were that their group could get certain grades in order to obtain individual efficacy scores (Pescosolido, 2001). Finally, the small groups were asked to come up with a consensus of what grade they were entirely confident they could earn as a group and that became the group efficacy score. All of the groups maintained the same informal group leader from the first observation to the second and multiple regression of the data indicated that "the informal leader's efficacy did contribute significantly to the group's efficacy score" (Pescosolido, 2001, p. 82). Another finding of this study was that the informal leader's impact on group efficacy was less at the second observation than at the first leading to Pescosolido's conclusion that informal leaders have their strongest influence on the group efficacy at the beginning of a group's interaction.

Neubert and Tagger (2004) investigated gender's moderating role of informal leadership emergence in 18 work teams (237 members) at a Midwestern manufacturing company. Teams ranged from 1-25 members (M = 12) and were predominantly female (67%) and White (non-hispanic; 97%). Team members ascribed responsibility to 20 different leadership behaviors on a five-point Likert scale (1 = supervisor, 3 = shared between team and supervisor, and 5 = team) in order to determine how much of the daily leadership was performed by informal leaders.

Neubert and Tagger (2004) found that informal leaders had a lot of opportunity to lead with a mean self-leadership score of 3.53 (*SD* = 0.53) across the 18 work teams. All team members also identified their gender and completed the Wonderlic Personnel Test (for assessing general mental ability), the Personal Characteristics Inventory (for assessing the Big Five personality characteristics), and a questionnaire regarding team member network centrality (Neubert & Tagger, 2004). Neubert and Tagger (2004) found that of the Big Five Personality traits, extraversion was associated with informal leadership for both men and women. Interestingly, higher scores for conscientiousness for men markedly increased the likelihood that they would be seen as an informal leader but for women, higher scores in conscientiousness actually slightly decreased the likelihood. Another finding was that higher general mental ability in men actually decreased the likelihood of being seen as informal leaders but higher general mental ability in women increased their likelihood. Neubert and Tagger (2004) found that overall, men are more likely than women to emerge as informal leaders in intact teams.

Larsson et al. (2010) researched informal leadership at a high tech company in Sweden. This study expanded the literature on informal leadership to its impact on the entire organization instead of just considering it within small groups/teams (Larsson et al., 2010). Their research used contextually sensitive ethnography throughout three months of field work at the organization and was supplemented with formal interviews with a broad range of employees to better understand the emerging themes. Over the course of the project, a manager was shadowed for seven days which allowed observation/contact with all of the hierarchical levels in a variety of contexts. The field notes and interview transcriptions were coded, and analyzed using grounded theory. Larsson et al. (2010) discovered that employees in this environment were autonomous and reliant on their own judgment; that formal managers prioritized, strategized,

monitored, and coordinated projects; and that informal leadership was the central feature of a coexisting informal community. A key finding from this study was that informal leaders acted as knowledge brokers and that "informal leaders provide essential resources to a vast array of employees by disseminating and linking various types of information, and through their wide access to informal arenas, are seen to do so in a timely and flexible manner" (Larrson et al., 2010, p.186). Larrson et al. (2010) contended that this information brokering is the way that informal leaders participate in sensemaking for the organization, whereas, the formal leaders contribute by providing expectations, feedback, and structure. They also found that the informal leaders in their study worked in conjunction with the formal managers rather than against them which is contrary to Wheelan and Johnston's (1996) findings.

In summary, the role of informal leaders in groups and organizations is only beginning to be understood. Informal leaders have been seen demonstrating higher levels of leadership than formal leaders (Pielstick, 2000), their self-efficacy contributes to the group's self-efficacy (Pescosolido, 2001), and they have acted as knowledge brokers within an organization (Larsson et al., 2010). Men are more apt to be seen as informal leaders, possibly related to the legitimate power that the culture ascribes to them (French et al., 1959; Neubert & Tagger, 2004). More research is needed to better understand informal leadership and what role it plays in the workplace (Andert et al., 2011; Larrson et al., 2010).

Women and Leadership

Women's participation in the workforce was 57.2% in 2013, which is a dramatic increase from 1945 when less than one third of women worked (BLS, 2014b). Women are also becoming more educated than ever before – the number of women with college degrees has more than

tripled between 1970 and 2013 (BLS, 2014b). Still, in the US, full-time employed women only earn 82% of what full-time employed men earn (BLS, 2014b).

Discussion about women and leadership typically centers on the concern that women are not making it to the executive leadership positions in companies at rates consistent with their workplace presence. Although this research is focused on informal leadership behaviors, understanding the challenges that women face in the workplace is important contextual background and the barriers can impact them at all levels of the organization.

Pew Research Center (2015) surveyed 1,835 randomly selected adults in November 2014 regarding their views on gender and leadership. Participants identified several major challenges that hold women back from attaining "top jobs" – 43% indicated that women are held to higher standards, 43% said that corporate America is not ready for more women leaders, 23% attributed it to family responsibilities monopolizing women's time, and 20% said that women do not have enough connections to make it (Pew, 2015). This study also revealed that 65% of women believe they face some level of gender discrimination, whereas, only 48% of men say women face gender discrimination in today's society. Positively, 71% of all respondents said there should be changes in the US to make the workplace more equitable (Pew, 2015).

Pew (2015) asked respondents what traits they deemed "absolutely essential" for a leader and results included: honesty (84%), intelligence (80%), decisiveness (80%), organized (67%), compassionate (57%), innovative (56%), and ambitious (53%). Women respondents (especially younger generations) saw ambition as more essential to leadership than men did (Pew, 2015). Of these essential leadership traits, respondents were asked if they were characteristic of a specific gender. Being compassionate (65%), organized (48%), and honest (29%) were all identified as

being more characteristic of women. Being decisive (27%) and ambitious (21%) were classified as being more characteristic of men (Pew, 2015).

Although the majority of respondents indicated they saw no difference in which gender of top executives was better at specific contributions, there are some interesting perceptions worth mentioning. Respondents saw women being better at being honest and ethical (31%), providing fair pay and good benefits (30%), and providing guidance and mentorship of young employees (25%). In contrast, respondents saw men being better at being willing to take risks (34%), and negotiating profitable deals (18%; Pew, 2015).

Ibarra, Ely and Kolb (2013) argued that the learning cycle for becoming a leader is upset by "subtle gender bias that persists in organizations and in society" (p. 4). Organizational cultures can be "deeply conflicted about whether, when, and how [women] should exercise authority" which makes it difficult for women to seek leadership opportunities (Ibarra et al., 2013, p. 5). Ibarra et al. (2013) elucidated key factors contributing to what is known as "second-generation gender bias" which refers to the idea that instead of overt gender bias, there are longstanding traditions/systems and their consequences that serve as obstacles for women advancing their careers. One issue is that there is a lack of female role models in leadership (Ibarra et al., 2013). This can complicate women's recognition of opportunity, and it can also limit access to networks and sponsors. People are subject to similar-to-me bias that often makes it more comfortable to interact with and sponsor someone of their own gender. Additionally, male networks are more apt to provide informal help than are female networks (Ibarra et al., 2013). Another factor is that masculinity and leadership tend to be associated – ideal leaders and ideal men have historically had similar traits and the contradiction of societal expectations continues to be an obstacle for women (Ibarra et al., 2013).

Eagley (2007) examined the leadership advantages and disadvantages of women. She highlighted the current contradiction that women are touted as having the leadership acumen for today's US culture and the reality that women are still not attaining leadership positions at the same rate as men. Eagley (2007) noted that contemporary organizations are responding to rapid technology changes, more complex organizational missions, increased workplace diversity, and increased competition and as such, good leadership is being redefined to include the idea of coaching and teaching. Another consideration is that leadership roles typically allow a lot of discretion for how time and energy is spent. Eagley (2007) suggested that the difference in male/female leadership might exist in that discretionary effort (i.e., organizational citizenship behavior) that is not specifically related to the leadership "role" (e.g., helping with work, being friendlier, mentoring, or not). The workplace is evolving and women's opportunities are expanding from decades past, however, there continue to be challenges for women and their workplace advancement.

Women in Health Care Leadership

According to the US Bureau of Labor Statistics (2014b), women were the majority (74.4%) of health care practitioners in 2013. That said, RockHealth (2015) reported that only 34% of executives at the top 100 hospitals are female. Interestingly though, Pew (2015) found that 37% of the public they surveyed indicated that a woman, as opposed to a man (14%), would do a better job running a major hospital. McDonagh and Paris (2012) cited health care's historic roots in military and religious history as a reason for the continued bureaucracy inhibiting women from advancing in health care organizations.

Like other workplace environments, barriers do exist for women in health care. In a study of 282 health care leaders, traditional barriers to female leadership were emphasized to still be

relevant– particularly "male-entrenched cultures and a lack of consideration for work-life balance" (Hauser, 2014, p. 320). McDonagh and Paris (2012) highlighted "inhospitable corporate cultures, lack of leadership development opportunities, lack of confidence, the need to balance work and family life, and double standards due to subtle or overt discrimination" as obstacles for women (pp. 23-24). RockHealth (2015) surveyed 421 women in health care and found that the top three career barriers were lack of confidence (64%), balance (53%), and lack of mentorship (44%). They also found that 40% of women reported not having a mentor, 85% reported not having a female mentor, and 50% reported that they do not feel like they have the same access to mentorship as their male peers (RockHealth, 2015). This lack of mentorship for women is consistent with the concerns cited by Ibarra et al. (2013).

In study completed by the American College of Healthcare Executives (ACHE) in 2012, 4,330 members were surveyed regarding career attainments of men and women health care executives. With education and experience being equal, women earned 20% less income than men (Women = $134,100, and men = $166,900). Further, 44% of women (13% of men) felt disproportionate distribution of family/home obligations fell on them, and 29% of women (4% of men) reported acting as the primary caregiver to children when ill (ACHE, 2012).

Barriers do continue to exist for women in the workplace. Even if formal leadership positions are not the end goal for RDNs, they still may face lack of mentors, work/family life balance, stigmas/stereotypes, and lack of confidence which could impact their informal leadership opportunities. These barriers need to be attended to in order to help clinical RDNs foster leadership skills and mindsets.

Clinician Leadership

With the evolving health care landscape, there has been discussion regarding the importance of clinician leadership. Clinician leadership is terminology that can be broadly used to define someone in a formal leadership position with clinical expertise to someone in a clinical position who demonstrates leadership behaviors (Edmonstone, 2009). Mountford and Webb (2009) identified three different types of clinical leaders in their research: institutional leaders, service leaders, and frontline leaders. Institutional leaders are typically in executive roles, communicate clinically-based missions, and have skills in administration and leadership. Service leaders are responsible for a team or unit and have clinical and financial responsibilities within their department. Further, they understand the broad organization and how their team/unit fits in. Frontline leaders are clinicians who manage to go beyond just focusing on patient care and demonstrate a commitment to continuous improvement. As problems arise in patient care, frontline leaders feel the responsibility and take the initiative to find solutions. Through this process, they learn about their personal leadership style and various quality improvement techniques (Mountford & Webb, 2009). For the purposes of this literature review, the focus will be on frontline clinical/clinician leaders.

Clinician leaders can either be appointed by management or formally/informally elected by their peers, and their impact comes by influencing others (Edmonstone, 2009). Much of clinician leader influence is attributable to their behavior and communication skills as they interact with peers (Bohmer, 2013). Bohmer (2013) recognized humility, self-doubt, curiosity, and courage as key attributes for clinician leaders. Mountford and Webb (2009) identified power sources for frontline clinical leaders to be their passion for and credibility in clinical work as well as their proximity to the realities of frontline patient care. For success, clinical leaders need to

understand systems- and quality-improvement, be self-starters, and be team players (Mountford & Webb, 2009).

As frontline professionals, clinicians determine the daily care patients receive and have the technical knowledge to contribute to strategic planning for long-term service delivery (Mountford & Webb, 2009). They have a micro-view on patients, patient groups, and offered services (Edmonstone, 2009), which creates a prime perspective for observing opportunities to improve care and increase efficiency. Lees (2010) asserted that leadership saves lives in health care and that it is "central to what clinicians do" (p. 28). Ham (2003) identified frontline staff (doctors, nurses, and other staff) as the key to improving health care because the patient experience rests in their daily control. Health care has an inverted power structure because the frontline professional staff has more influence on daily decisions than administration (Ham, 2003). For health care to change, the clinicians need to be engaged and the leaders among them will need to convince the group at large to approach work differently (Ham, 2003).

There are challenges associated with clinician leadership. Bohmer (2013) noted that "calls for leadership are common, but the specifics of which clinicians need to do what remain unclear" (p. 1468) and that clinicians may not have the training or interest to take on leadership. Further, clinicians are educated to be individualists which makes shared goals and collective actions more difficult to achieve (Bohmer, 2013). Other challenges associated with clinician leadership include the skepticism or apprehension clinicians have about the cost/benefit of spending time leading rather than treating patients, and the reality that leadership is poorly or sometimes negatively incentivized for them (Mountford & Webb, 2009). Additionally, health care organizations need to clarify what they want clinical leaders to contribute (including skills

and attitudes) and how clinical leadership varies in the different professions and roles that clinicians have (Mountford & Webb, 2009).

Bailey et al. (2012) looked at leadership in health care through the lens of leadership being a personal capability rather than a formal title or position. They considered leadership's vital role at the patient's point of care using the Adaptive Leadership framework. This framework looks at two categories of challenges that patients face: technical and adaptive. Technical challenges for patients are typically resolved through the application of clinical expertise by the provider; for example, a nurse providing a bronchodilator to a patient with chronic asthma who has difficulty breathing. Adaptive challenges are more complex and require health care providers to support patients as they (the patients) adapt, learn, and make changes to their behavior (Bailey et al., 2012). Often, this involves working with the patient and his/her family members or connecting patients with others with similar circumstances or diagnoses. Assisting the patient with chronic asthma using an adaptive leadership approach might involve helping him identify ways to avoid environmental triggers that inhibit his breathing in the future. Although most situations require both technical and adaptive interventions, too frequently health care providers attempt to resolve adaptive challenges with technical interventions (Bailey et al., 2012). Bailey et al. (2012) concluded that practicing adaptive leadership in clinical encounters with patients and co-workers can potentially improve the point of care experience and ultimately positively impact chronic condition management and care systems.

Nursing Leadership

Although there is a paucity of clinician leadership research for dietetics, the nursing profession has begun to explore and emphasize the idea of frontline nursing leadership. In respect to this concept, Spitzer (2007) said:

> … regardless of the career path chosen, all nurses must seek those leadership skills applicable to their professional environment and responsibilities. The nurse who chooses direct patient care must develop and demonstrate leadership skills such as organization, delegation, communication, and coaching with patients and families. They must also be a role model to other staff. (p. 6)

Downey, Parslow, and Smart (2011) considered the benefits of informal nurse leaders (INL) through interviewing Nurse Managers about their experiences with them. They reported that typically INLs are nurses with a desire to share their knowledge, nurses recognized as leaders among their peers, nurses who support the entire team, and nurses who are high performers (Downey et al., 2011). Having a strong work ethic, good attendance, commitment to patient care, integrity, and a department perspective were also hallmarks of INLs. One benefit of recognizing the value of INLs is that when INLs learn about organizational change, they make efforts to help those changes be successful. Downey et al. (2011) concluded that informal leaders are critical to coping with today's health care climate and that nurses should be "developed and empowered to impact unit performance, efficiency, and culture in a positive manner" (p. 521).

Dearmon, Riley, Mestas, and Buckner (2015) completed a qualitative study in which they established a Frontline Innovations group with 12 medical-surgical frontline nurses. The Chief Nursing Officer and three faculty members from a partnering university directed the Frontline Innovations group, and these individuals throughout the course of the project mentored the nurses. Thirty Frontline Innovations meetings occurred over the course of 18 months and 20 of those were audiotaped (60-90 minutes each). The transcripts were coded and analyzed. The key outcome themes researchers found were all considered leadership competencies and included

"concepts of collaboration, empowerment, confidence, and lifelong learning" (Dearmon et al., 2015, p. 71). Researchers concluded that frontline nurses are not used to solving system wide problems and struggle to have the confidence and leadership skills necessary for partnering with administration. Dearmon et al. (2015) also recognized that frontline nurses did develop their leadership capacity through mentoring.

Chavez and Yoder (2015) completed a literature review with the purpose of providing a concept analysis of staff nurse clinical leadership (SNCL). Using various key word searches, 646 citations were discovered and narrowed down to 14 articles that actually described staff nurse leadership. Through their analysis, Chavez and Yoder (2015) were unable to identify a definition of SNCL which led to the proposition of one: "the process by which staff nurses exert significant influence over other individuals in the health care team, and although no formal authority has been vested in them facilitate individual and collective efforts to accomplish shared clinical objectives" (p. 92).

Chavez and Yoder (2015) proposed antecedents, attributes, and consequences of SNCL in their study. The antecedents are conditions/experiences that are required for SNCL to exist– they are not attributes of clinical leadership. The antecedents included: an integrative collaborative health care team (a group of professionals working collaboratively to provide patient care), professional nursing competence (the foundation of knowledge, skills, abilities, and judgment for nursing), and structural empowerment (access to the resources to do their job).

Next, they identified how staff nurses attain and then maintain their status as a leader (Chavez & Yoder, 2015). The manner in which a person first attains status as a leader differentiates SNCL from other nurse leadership roles; staff nurses obtain their leadership status through support of their peers, whereas, formal nurse leaders initially attain leadership status

through their position power. In order to become a leader, there are preliminary attributes that staff nurses need: clinical ability (knowledge and hands-on skills), effective communication (ability to listen and articulate information), and relational coordination (manage interdependent relationships of people doing interdependent tasks). To maintain the status of a leader, a staff nurse must demonstrate both the ability to produce innovation and to produce change (Chavez & Yoder, 2015).

Finally, although not empirically supported, Chavez and Yoder (2015) proposed four consequences to the SNCL concept. They included: facilitation of individual- and team-level achievements of shared clinical objectives, maintenance of team processes, efficiency of the health care team, and higher quality of work life. Chavez and Yoder (2015) highlighted the fact that currently, there are no existing instruments that measure SNCL or that "capture the meaning of the concept in its entirety" (p. 97). Additional work is required to create measures that reflect SNCL's attributes. SNCL is a new science that is still developing and warrants further research (Chavez & Yoder, 2015).

In review, frontline clinical leadership is clearly becoming an important consideration for health care. Patient care providers have a unique perspective and influence on the patient experience. They also understand the frontline systems in a way health care administrators cannot—based on their technical skill and proximity—and as such, are important to overall health care leadership. Issues like lack of mentorship/training, cost/benefit of the extra effort, and lack of positive incentives need attention from formal health care leaders.

Leadership in Dietetics

As in all professions, leadership plays an important role in dietetics. Often, it can seem ancillary to the technical skills and knowledge that RDNs have, yet it is required for the

continual success of the profession. In 2002, Borra and Kunkel shared the American Dietetic Association's (now the Academy) adopted leadership statement as:

> Leadership is the ability to inspire and guide others toward building and achieving a shared vision. Association leaders shall model the way with a mindset for transformation, innovation, invention, adaptability, empowerment and risk taking. This leadership mindset will enable the Association and its members to embark on a path toward a successful future. (p. 12).

It is important to note there have been no apparent updates to this statement to date, and it is not easily found within current Academy materials.

Call for Dietetics Leadership

For the past several decades, there has been a clear and consistent call for leadership within the dietetics profession. In 1984, Nestle highlighted the importance of focusing on leadership in clinical dietetics by saying, "If the profession does not encourage dietitians to become leaders and to take a more active and independent role, others certainly will not" (p. 1352). In 1991, Finn emphasized the relevance of leadership for individual dietitians wherever they work. She stated that leadership can range from basic to complex and that "it is the ability to convince other people to participate in attaining goals, objectives, or visions, the skill and will to motivate others, instill confidence and trust, to rally them to a cause" (p. 2). In 2004, Gregoire and Arendt reviewed leadership research in dietetics, discussed the ambiguity of what leadership is for the profession, and closed with a recommendation for more dietetics leadership research (Gregoire & Arendt, 2004).

Throughout the same time period, Academy Presidents were also echoing the theme in their communication to RDNs (Bergman, 2013; Crayton, 2015; Derelian, 1995; Dodd, 1992;

Edge, 2004; Escott-Stump, 2011; McCollum, 2013; Pavlinac, 2009). President Dodd (1992) said, "Individuals should begin assessing their own work environment to identify trends and opportunities for leadership" (p. 225). In 2004, President Edge expressed, "If each of us makes a point to develop our leadership mindsets and our skills, we will not only lead the future of dietetics but help lead in many walks of life throughout our country and the world" (p. 719). The message continued with President Pavlinac (2009) as she said, "We need every member to be a leader" (p. 972). President McCollum (2013) wrote, "the leadership we demonstrate together will affect the health of our nation and determine the opportunities of our profession for generations to come" (p. 1013). President Crayton (2015) challenged Academy members to "find and express greatness through our own style of leadership" (p. 1037). This thrust for leadership development and practice aligns with the Academy's mission statement, "empowering members to be the nation's food and nutrition leaders" (Academy, n.d.a.). Within the dietetics profession there are formal paths of leadership (such as elected positions in professional organizations or management responsibilities in the workplace), however, there is also a notion of informal leadership that is the impetus of many of the Academy Presidents' messages.

Academy's Efforts to Develop Leadership

Academy's Website

The Academy of Nutrition and Dietetics (n.d.b) has taken some steps to encourage leadership development among its members. In the spring of 2015, with a website redesign, the Academy included a designated leadership page for members. Included in this section are links to formal leadership information and opportunities (Board of Directors, House of Delegates, Nominations and Elections), volunteering information, honor/award information, and leadership development resources. As one of the resources, the Academy's Center of Professional

Development collaborated with leadership experts to create online leadership training sessions for RDNs that can be used as continuing education credits that culminate in a Certificate of Training. The first level of training is comprised of four online modules with the aim of helping members *develop* in their roles as leader. The Level 1 modules are:

- Transformational Governance: Enhancing the Organization's Ability to Succeed
- Exceptional Leadership: Initiating and Managing Change through Skill Development
- Leadership: An Appreciative Approach
- Talking about Talking: Communicating as a Leader

The second level of training available also has four modules and seeks to help *advance* leadership skill development. This second training covers the following topics:

- Emotional Intelligence: The Chemistry of Leadership
- Exceptional Leadership – Initiating and Managing Change through Skill Development
- Blurred Lines, Clear Head: Ethics and Leadership
- Crucial Conversation Success

The Academy has made these modules available to members for $19 per module and to non-members for $49 per module. Each level of training has a post test and if an individual scores at least 80%, a Certificate of Training will be issued (Academy, n.d.b).

The Academy has developed a Standards of Excellence Metric Tool which is designed for self-assessment of an organization's program, services, or initiatives (Academy, 2015b). This tool measures four standards, which are quality of leadership, organization, practice, and outcomes. Each of the standards can be used in health care, education and research, business and industry, and community nutrition and public health practice segments. For measuring quality of

leadership, this tool investigates leadership "within the organization and the profession, volunteer leadership, individual honors and awards, transformational leadership, and mentorship" (Academy, 2015b). Throughout the quality of leadership section, formal management roles appear to be a primary interest and are referred to as the "RDN-leader." Also in this section, the tool explores how an organization supports professional organization leadership, volunteer work, and mentorship for all RDNs in the organization (Academy, 2015b).

Under leadership resources on the Academy's website, there is a section focused on development of cultural competency (Academy, n.d.b). Listed is a series of resources from the Academy and other online sources, and there are tip sheets with information about cultural food practices. Additionally, the Academy included a list of recommended journal articles and books to help inform RDNs about cultural practices (Academy, n.d.b).

Also on the Academy's leadership website page is a list of general leadership development resources (Academy, n.d.b). Multiple books are listed and categorized under the topics: Association Leadership, Coaching, Change and Leadership, Effective Communications, Multigenerational Leadership, Self as Leader, Strength-Based Change, and General Leadership Books. Of note, the most recently published book included on the list is dated 2007. There are links to 21 websites, some of which include: Advancing Women in Leadership, Center for Creative Leadership, Emerging Leader, Positive Psychology, and Society for Human Resource Management. Also, four articles about leadership are listed; none of which is specific to dietetics professionals and the most recent was published in 2002 (Academy, n.d.b).

Finally, on the leadership page, there is a link to resources for recruitment and retention (Academy, n.d.b). These are designed specifically for recruiting/retaining members into the Academy, its state affiliates, and other smaller organizational units of the Academy (e.g.,

Dietetic Practice Groups and Member Interest Groups). Provided are templates, forms, surveys, newsletter resources, brochures, flyers, and PowerPoint presentations (Academy, n.d.b).

Based on what information is provided on the Academy's leadership website page, it is evident that leadership in dietetics can range from formal elected/appointed positions (i.e., positions on Board of Directors or House of Delegates) to the idea that every member can be a leader. It is also clear that there is a paucity of dietetics specific leadership literature available as resources for development, which is contradictory to the vision (Academy, n.d.b).

House of Delegates

The House of Delegates is the arm of the Academy responsible for governing the dietetics profession (Academy, n.d.d). As part of their efforts, *Mega Issues* that are "overriding issues of strategic importance, which cut across multiple goal or outcome areas" are addressed twice annually. They identify concerns, questions, and opportunities for the profession to address within the next five to ten years. Once a Mega Issue is selected, a Backgrounder document is released for review so that House of Delegate and Academy members can be familiar with the foundational information of the issue. In recent history, there have been several Mega Issues that indirectly relate to leadership in clinical dietetics and include (Academy, n.d.d):

- Fall 2014: Business and Management Skills
- Fall 2013: Nutrition Services Delivery and Payment: The Business of Every Academy Member
- Spring 2012: Continuum of Professional Progression and Growth
- Fall 2011: Interdisciplinary Teams
- Fall 2010: Health Reform and Health Reform – Next Steps
- Spring 2010: Management and Leadership Across Practice

Annual Conference

The Academy (n.d.e) hosts an annual conference called the Food and Nutrition Conference and Expo (FNCE). Each year, the offered classes are categorized into "tracks" so participants can find educational sessions that are most pertinent to their career interests. For FNCE 2015, there were 15 tracks listed with one being "Leadership, Professional Skills and Career Development." The session topics in this track ranged broadly to cover the three components of the track. A few examples of educational sessions available at FNCE 2015 most related to leadership are: "Dietitian Leadership in the New Generation of Food Retail Healthcare," "Always Be Selling: How to Develop Sales Skills at Every Practice Level to Enhance Success," and "Show me the Evidence: RDNs Monitoring and Evaluating Outcomes in Weight Management Practice" (Academy, n.d.e). Anecdotally, RDNs most interested in leadership are often underwhelmed by the offerings.

Dietetics Education

The Accreditation Council for Education in Nutrition and Dietetics (ACEND) establishes the core knowledge and competencies for RDNs. The knowledge requirements are met through didactic learning and the competencies are demonstrated through supervised practice experience. The 2012 standards are the most current iteration with slight updates made in 2015 (ACEND, 2015). Although attributes of leadership development are laced through various knowledge statements and competencies using words like communication, teamwork, justification, professional attributes, and customer service, there is only one competency that explicitly refers to leadership (ACEND, 2015). During supervised practice, students/interns must "Apply leadership skills to achieve desired outcomes" (CRD 2.8; ACEND, 2015). If dietetics educators and preceptors (practitioners who facilitate student experiences during supervised practice) do

not emphasize leadership development, it can easily be overlooked in the educational experience (Patten & Sauer, 2014).

Dietetics Leadership Research

There is very little recently published research about leadership in dietetics. The majority of leadership in dietetics research has been descriptive survey research with the goal of ascribing leadership styles or qualities to RDNs (Gregoire & Arendt, 2004). The populations studied have primarily been either those in formal management or leadership roles (Arensberg, et al, 1996; Hunter, et al., 2012; Mislevey, et al., 2000; Molt, 1995; Schiller, et al., 1993) or dietetics students (Arendt & Gregoire, 2005). To date, there has been no published research regarding informal or grass roots leadership of clinical dietitians.

Over thirty years ago, Bedford (1984) conducted a study to identify affective behaviors (i.e., attitudes, beliefs, and values) that contributed to effective performance for entry-level dietitians. She noted that professional competencies were emphasized in the dietetics profession, but they were centered in knowledge and skills without the affective domain being directly considered. Nineteen dietitians participated in four rounds of a Delphi panel to develop a list of affective behaviors deemed important for entry-level practice. Consensus among panelists was met on 41 statements that were then categorized into components: human, technical, conceptual, and professional. The human component focused on "the ability and judgment of a person to interact effectively with other individuals and to apply the principles of effective leadership" (Bedford, 1984, p. 671). Other behaviors that could be considered relevant to leadership practice were weaved through the remaining components (e.g., conceptual included understanding one's place in the greater system, and personal component included "appropriate assertiveness;" Bedford, 1984, p. 672). The second phase of the study involved surveying two separate groups

of 500 dietitians. One group of dietitians *ranked* each statement from most to least important within each component and the other group *rated* each statement on a 4-point scale (1 = absolutely essential and 4 = not of concern). Factor analysis on the data resulted in six statement groups: initiative/flexibility, professional commitment, interpersonal, personal responsibility, leadership, and personal commitment. Bedford (1994) encouraged additional research to ascertain "the practicality of utilizing these behavior statements to evaluate the performance of dietitians both at the entry level and at more advanced levels" (p. 670).

Schiller, et al. (1993) surveyed 893 RDs who had been in the dietetics profession for at least three years, were in Clinical Nutrition Management positions at the time of the study, and had attended a specific leadership workshop. A previously validated tool, the Life Styles Inventory—Level 1, Self-Description (LSI--Level 1) instrument was utilized to measure respondents' self-perceptions (Schiller et al., 1993). As a result, the dominant styles that emerged for respondents were Dependent style and Self Actualize style. Dependent style reflects a tendency to be submissive, overcautious, self-doubting, and reliant on superiors (Schiller et al., 1993). Those with the dependent style are very attentive to doing what is expected of them and make decisions based on others' judgment calls. The attributes of the Dependent style do not align well with leadership. The researchers recognized the dominance of the Self Actualize style as a more positive finding for the profession – this style is associated with being optimistic, realistic, and creative. People with a Self Actualize style maintain a healthy perspective, balance concern for people and tasks, and focus on quality (Schiller et al., 1993). Ultimately, Schiller et al. (1993) concluded that the dietetics profession should "foster the development of self-actualized dietitian-leaders at all levels to position the profession strategically as a major contributor to preventative, curative, and rehabilitative health care services."

Molt (1995) studied how foodservice management RDNs rated the helpfulness of specific experiences for their leadership skill development. Inclusion criteria for the study included: paid dietetics employment for 6-11 years, full-time employment in foodservice management (college, university, hospital, or school environments), supervisory responsibility, budget responsibility, and US residence. Of 269 respondents, most were female (94%) and worked in hospital foodservice (79%). Through factor analysis, 80 experience items were categorized into six types of experiences (specific assignment, working with others, professional organization work, breadth of experience, volunteer service, analysis of the organization). Each type of experience was considered helpful with the most helpful being the specific assignment category. Molt (1995) identified that both on- and off-the-job experiences contribute to leadership development and that by putting themselves in new/challenging experiences RDNs may enhance their leadership skills.

Using survey methodology, Arensberg, et al. (1996) investigated CNMs' leadership qualities as they related to training and length of time in management. CNMs and subordinates responded to demographic questions for themselves and then both groups completed the Leadership Behavior Questionnaire (LBQ) for the CNM. In data analysis, they found that CNMs had the highest rating on respectful leadership and the lowest rating on communication leadership (Arensberg et al., 1996). Generally, the CNM self-scores were higher than the scores they were assigned by their subordinates. Arensberg et al. (1996) called for more research in clinical dietetics that distinguishes leadership from management.

Arendt and Gregoire (2005) researched how dietetics students perceive themselves as leaders. Dietetics students at eight universities in the United States were surveyed with a total of 283 undergraduates responding. The survey instrument had three components: leadership action

statements, leadership self-perception questions, and demographic questions. As a result, researchers found that a majority of students did perceive themselves as leaders in a variety of contexts. They also found that the leadership behaviors did not vary by college classification status or supervisory experience. Interestingly, students reported most frequently exhibiting leadership behaviors in class, however, they did not perceive themselves as leaders in that setting. Arendt and Gregoire (2005) concluded that the profession needs a reliable instrument to measure leadership in students and practitioners.

Using grounded theory, Hunter, et al. (2012) completed 25 semi-structured interviews of nationally appointed or elected leaders from the Academy of Nutrition and Dietetics. The objective of this research was to develop a hypothetical model that represented leadership development for dietetics. The major themes that emerged from open coding of these interviews were: "born/made, mentoring, horizontal development, personal growth, 'getting hooked,' and 'from fear to freedom'" (Hunter et al., 2012, p. 316). Ultimately, researchers determined mentoring was the segue to leadership development in the dietetics profession. Participants reported being nurtured, encouraged, supported, guided, challenged, and inspired by their mentors (Hunter et al., 2012). Further, they emphasized mentoring as the most effective and important factor in their leadership development. Hunter et al. (2012) recommended that the Academy of Nutrition and Dietetics make leadership development available to all RDNs, including clinical RDNs, so that they can advocate and negotiate for nutrition care as the health care environment evolves.

A recent study sought to define dietetics leadership and determine leadership priorities for dietetics education (Miner, Holyoke, & Ramsay, 2014). Using a Delphi study, Academy state affiliate presidents and directors of Coordinated Dietetics Programs were contacted and a

total of 40 panelists participated in the study. A consensus was met that a definition of leadership for dietetics should include teamwork/collaboration, professionalism, and honesty. A broad survey of professional and leadership skills (e.g., knowledge of MNT, confident communication, critical thinking, etc.) were recognized as valued priorities for dietetics education (Miner et al., 2014). The leadership education priorities were relevant to the dietetics profession and were not unique to those that will pursue management careers.

In a 2014 teleconference with 10 key thought-leaders in the dietetics profession, several barriers to leadership education were addressed (Patten & Sauer, 2014). One concern articulated was courses that often incorporate leadership theory and principles are relegated to non-RDN professors and that this "limits, at least to some extent, how we prepare and help future RDs understand the benefit of having the RD credential and the management and leadership expertise." Another barrier a participant addressed was that educators do not adequately recognize the difference between management and leadership and that leadership should be taught in the clinical setting as well as the management setting. Further, during supervised practice there seems to be a missed opportunity "to showcase how dietitians have leadership skills on various teams that they interact with. That leadership piece could be taught throughout the whole program." A reality discussed was that students are often introduced to these management and leadership skills in foodservice classes, which is a practice area that students are not drawn to; this leads to many students discounting these skills entirely (Patten & Sauer, 2014). Awareness of these barriers will allow dietetics education programs to attend to them.

In summary, over the past several decades there has been intermittent research related to dietetics leadership. Positively, it was found that dietetics students recognize themselves as leaders (Arendt & Gregoire, 2005). Leadership skill development for RDNs involves

experiences both in and outside of work (Molt, 1995) and it is strengthened by mentoring (Hunter et al., 2012). However, researchers have encouraged additional research and attention to dietetics leadership in order to foster its development at all levels, and promote the profession as a key health care provider (Arsenberg et al., 1996; Hunter et al., 2012; Schiller et al., 1993).

Leadership Taxonomies

As discussed, leadership is a complex and broad concept. Fleishman et al. (1991) pointed out that there have been so many attempts at classifying leadership behavior that it might appear that further attempts are futile, yet they recognized value in the effort due to science having been advanced by effective taxonomies in the past. Bradley, Curry, and Devers (2007) defined taxonomy as a "formal system for classifying multifaceted, complex phenomena according to a set of common conceptual domains and dimensions" (p. 1761). Taxonomies are used to define and compare "complex phenomena" to "increase clarity" (Bradley et al., 2007, p. 1761). Fleishman and Quaintance (1984, as cited in Fleishman et al., 1991) have identified three steps to properly begin classifying behavior:

1) The target behavioral domain must be explicitly defined
2) Viable classifications systems must be developed to ascertain observable actions or outcomes
3) The classification scheme has to be assessed for both internal and external validity

In 2002, Yukl et al. published a hierarchical taxonomy of leadership behavior that they had developed by integrating the previous fifty years of research. Yukl et al. (2002) recognized the confusion associated with having multiple leadership taxonomies that used different categories and terminology to capture many of the same behaviors while the comprehensiveness of the taxonomies still varied. Researchers evaluated leadership studies from the previous five

decades and recognized a heavy emphasis on task and relations behavior but noticed that leading change was often overlooked. Yukl et al. (2002) meta-analyzed the available research and found evidence that leading change was a distinct behavior that should be included. Ultimately, Yukl et al. (2002) identified the three broad categories (called metacategories) for their hierarchical taxonomy as: Task Behavior, Relations Behavior, and Change Behavior. Next, using very clear criteria, they selected specific behavioral components or task behaviors. Ultimately, each of the three metacategories comprised 3-4 specific task behaviors. The criteria was:

1) Behavior had to be directly observable
2) Behavior had to be potentially applicable to all types of organizational leaders
3) Behavior had to primarily belong in one category (but could have secondary relevance to other categories)
4) Behavior had to be founded in theory and research. (Yukl et al., 2002).

Ten years later, Yukl (2012) published an updated hierarchical taxonomy of leadership behavior. At that time, additional research and analysis justified the inclusion of an additional metacategory of external leadership behaviors (Yukl, 2012). Yukl (2012) concluded "that leaders can enhance the performance of a team, work unit, or organization by using a combination of specific task, relations, change, and external behaviors that are relevant for their situation" (p. 78). Task-oriented leadership behaviors included the specific behaviors of: clarifying, planning, monitoring operations, and problem solving. Relations-oriented leadership behavior included: supporting, developing, recognizing, and empowering. Change-oriented leadership behaviors are: advocating change, envisioning change, encouraging innovation, and facilitating collective learning. Finally, external leadership behaviors include: networking, external monitoring, and representing. Yukl (2012) cautioned that this version of the taxonomy

is not a "final solution for classifying leadership behavior" (p. 79) and that as more research occurs, the taxonomy can change but that it is not beneficial to make the taxonomy too complex in the process. For the taxonomy's utilization as observation checklists and coding guides, Yukl (2012) recommends keeping it simple.

Health Care

To date, there is no existing leadership taxonomy specific to clinical RDNs or even RDNs in general. There are, however, several leadership frameworks developed for health care (or specific health care professions) that have been developed by the Nurse Manager Leadership Partnership (NMLP), the United Kingdom's National Health Service (NHS), Canada's LEADS Collaborative, and surgeon leadership researchers. Exploring their rationale and taxonomies is helpful in understanding the opportunities that exist for clinical dietetics.

The Nurse Manager Skills Inventory

The Nurse Manager Skills Inventory was created to respond to the dynamic health care environment that relies so heavily on nurse management and was developed by The Nurse Manager Leadership Partnership ([NMLP], 2008) consisting of the American Organization of Nurse Executives and the American Association of Critical-Care Nurses. This inventory is intended for self-evaluation, supervisor evaluation, one-on-one discussion about performance, and as a basis for career planning (NMLP, 2008). The inventory is comprised of three domains—The Science: Managing the Business, The Leader Within: Creating the Leader in Yourself, and The Art: Leading the People—and each domain has very specific behaviors delineated. For example, under The Art: Leading the People are four subsections (Human Resource Leadership Skills, Relationship Management and Influencing Behaviors, Diversity, and Shared Decision-Making). Each subsection contains specific skills listed (e.g. Diversity is

comprised of: cultural competence, social justice, and generational diversity) and then each specific skill has a brief description (e.g. cultural competence "includes understanding the components of cultural competence as they apply to the workforce" (NMLP, 2008). A scale is located by each specific behavior that ranges from "novice experience/skill" to "expert practice" which allows for self-reflection and supervisor rating (NMLP, 2008).

The Leadership Framework

The NHS's Leadership Academy's (2011) Leadership Framework is unique in that it is designed to guide leadership development for all health care employees regardless of their discipline or position. The NHS (2011) created this framework with the understanding that leadership is not solely for those in formal management positions and that each health care employee has responsibility for the success of the organization and service. The whole framework is centered on providing services to patients. The framework has five core domains that are essential for everyone, and there are two additional domains for those in more formal leadership roles (NHS, 2011). Each domain has four categories that the NHS terms "elements" and each element has four "descriptors" (NHS, 2011, p. 3). The core domains are: demonstrating personal qualities, working with others, managing services, improving services, and setting direction. Because this framework is designed for such a broad group of professions and individuals, the NHS has delineated four stages of leadership context to help guide users. The stages are: Stage 1 Own practice/immediate team, Stage 2 Whole service/across teams, Stage 3 Across services/wider organization, and Stage 4 Whole organization/health care system. The description of Stage 1 is relevant for this research; it is:

> about building personal relationships with patients and colleagues, often working as part of a multi-disciplinary team. Staff needs to recognize problems and work with others to

solve them. The impact of the decisions staff take at this level will be limited in terms of risk. (NHS, 2011, p. 4).

As part of their materials, the NHS includes examples of how each element would vary depending on what stage of leadership an individual is functioning in.

Health Care Leadership Model

In 2013, the NHS released the Health Care Leadership Model they created in collaboration with the Hay group and researchers from Open University. The model was developed after completing a literature review, performing strategic interviews with a variety of NHS leaders that were coded and themed, and testing with the intended audience (NHS, 2013). Similar to their original Leadership Framework (NHS, 2011), this model is designed for all NHS employees regardless of their status as formal/informal leader or clinician/non-clinician (NHS, 2013). The NHS (2013) noted this broad emphasis on leadership will result in more engaged employees, high-quality care, patient satisfaction, and overall success for their organization. The model has nine dimensions with specific leadership behaviors listed for four different levels of proficiency for that dimension (essential, proficient, strong, and exemplary). The nine dimensions include: Inspiring Shared Purpose, Leading with Care, Evaluating Information, Connecting our Service, Sharing the Vision, Engaging the Team, Holding to Account, Developing Capability, and Influencing for Results (NHS, 2013).

Health Leadership Capabilities Framework

The LEADS Collaborative (n.d) of Canada developed the Health Leadership Capabilities Framework. Similar to the NHS's framework's conceptual base, this framework is based on the idea that regardless of role, individuals all must demonstrate leadership in an effort to advance the health system. This framework highlights skills, behaviors, and knowledge necessary for

leadership and also stresses "'leader effectiveness' differs depending on the context in which an individual exerts influence" (LEADS Collaborative, n.d.) Each of the five domains has four corresponding skills, behaviors, or knowledge statements. The domains are: Lead Self, Engage Others, Achieve Results, Develop Coalitions, and Systems Transformation (LEADS Collaborative, n.d).

Surgeons' Leadership Inventory (SLI)

The SLI was developed by researchers with the express purpose of identifying specific leadership behaviors or skills that are necessary for surgeons during operations (Parker, Flin, McKinley, and Yule, 2013). Surgeons are considered the de facto leader on intraoperative teams as they are ultimately responsible for the operation's outcome (Parker et al., 2013). Thus, this the taxonomy was developed to have evidence-based training information and allow for structured observation/assessment of leadership in this context (Parker et al., 2013).

Researchers hosted ten single-discipline focus groups usually consisting 4-8 people to establish a taxonomy of surgeon leadership behaviors; participants included surgeons, nurses, anesthetists, and training surgeons. The focus groups were audio recorded, transcribed, and coded based on a preliminary taxonomy researchers developed through a literature review and observational study. Parker et al. (2013) used Fleishman and Quaintance's (1984) guidelines for taxonomy development. They identified their behavioral domain as surgeons' "leadership behaviors in intraoperative teams" (p. 747), their observable outcomes were patient safety and team performance, and they completed "an initial examination of the taxonomy's validity" (p. 747). The resulting SLI's elements were: maintaining standards, making decisions, managing resources, directing, training, supporting others, communicating, and coping with pressure.

Each of these groups developed their taxonomies/framework as a way of providing clarity to their constituents. Several of these organizations have cited self-assessment and/or supervisor assessment as their purpose for development (NHS, 2011; NHS, 2013; NLMP, 2008; Parker et al., 2013). Taxonomies can provide common language to improve communication and research about leadership.

Summary

In summary, leadership is a broad topic that is heavily studied in professional sectors. Informal leadership has been studied in various settings and professions including other healthcare professions (i.e., clinical leadership), but has not been researched in the dietetics profession. Although the Academy's mission statement is "Empowering members to be the food and nutrition leaders" (Academy, n.d.a.), there is an opportunity to clarify which leadership behaviors are relevant to clinical dietetics practice, especially as this segment of the profession does not have formal management responsibilities and is the largest subset of the profession.

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Chapter 3 - Methodology

Introduction

The purpose of this exploratory study was to identify specific leadership behaviors relevant to the practice of clinical dietetics and develop a leadership behavior taxonomy for the clinical practice area of dietetics. The researcher utilized a survey instrument, initially developed with the guidance from previous research, and through a review by an expert panel of Clinical Nutrition Managers (CNMs) updated the leadership behaviors to be current and relevant. The methodology is discussed in this section.

Population and Sample

Expert Panel

The population for the expert panel was CNMs (those who typically manage clinical RDNs). A purposive sample of 29 CNMs was invited to participate in the expert panel component of this study. The final sample was determined by those who provided informed consent and joined the expert panel through video conferencing software.

Survey

The population of this study was RDNs registered by the Commission on Dietetics Registration (CDR) who practice clinical nutrition. To use the RDN credential, one must be registered through CDR in good standing, making the sampling population for this study more comprehensive and accurate than a convenience selection of those with an optional membership in a professional organization such as the Academy. The CDR provided a stratified random sample of 5,000 RDNs who self-reported clinical nutrition as their practice area. In review, 57% of RDNs work in the clinical nutrition setting (Academy, 2015).

From this sampling frame, 300 clinical RDNs were randomly selected and invited to pilot test the survey instrument, and the remaining 4,700 clinical RDNs were retained to administer the final version of the survey. For both the pilot and final surveys, the final samples were determined by participants identifying themselves as currently employed in clinical dietetics and spending at least 25% of their work time as an RDN in clinical nutrition. If participants did not meet these criteria (which were addressed in the first two survey questions), they were directed to the end of the survey and thanked for participating.

Instrument Development

A survey instrument comprised of leadership and demographic questions for clinical RDNs was developed through consideration of relevant research and expert opinion. The questions and conceptualization of the leadership behavior items were validated by an expert panel of CNMs, followed by a national survey of clinical RDNs. The survey instrument was designed and administered electronically (Qualtrics, Provo, UT).

Leadership Behavior Item Development

Yukl, Gordon, and Taber (2002) developed a hierarchical taxonomy of leadership behaviors having integrated 50 years of related research and findings. Ten years later, Yukl (2012) updated and extended that taxonomy to now include four meta-categories of behaviors (task-oriented, relations-oriented, change-oriented, and external), each comprised of three to four component behaviors. Although a strong theoretical base for developing an initial leadership behavior taxonomy for clinical dietitians, some aspects of Yukl's (2012) leadership behavior taxonomy were less relevant for this study's target population. Primarily, this is due to a majority of leadership research having been focused on leadership behaviors of people in formal

management roles rather than informal leaders (Larrson, et al., 2010, Pescosolido, 2002; Pielstick, 2000).

To meet the needs of clinical dietitians, core elements of Yukl's (2012) work served as the initial empirical foundation for the proposed taxonomy. Additionally, to ensure that this taxonomy captured the specific needs of the target population, relevant research and insight from other related health care professions (LEADS Collaborative, n.d.; NHS, 2011; NHS, 2013; NMLP, 2008; Parker et al., 2013), informal leadership research (Larsson et al., 2010; Pielstick, 2000), dietetics professional research (Academy, 2015a; Nyland & Lafferty, 2012; Rhea & Bettles, 2012), and dietetics leadership research (Hunter et al., 2012; Miner et al., 2014; Patten & Sauer, 2014) were incorporated to inform the initial list of 21 leadership behavior items (Appendix A).

Expert Panel

Using expert sampling, the leadership behavior items for clinical RDNs were validated by CNMs which is methodology adapted and modified from Downey et al.'s (2001) study that utilized Nurse Managers to clarify informal leadership behaviors of frontline nurses. The CNMs were selected by researchers based on their known experience with clinical dietetics and the current health care environment. By using the target population's managers, it was anticipated that global leadership behaviors for clinical dietitians could be considered, especially in light of current health care issues and demands. Participants in the expert panel were invited to the panel through email, received a $25 Amazon.com gift card as an incentive (Appendix B), and signed informed consent prior to participation (Appendix C).

Expert Panel Protocol

The expert panel of nine participants took place via video conferencing software modeling the methodology Howells and Sauer (2015) employed for focus group research involving CNMs. Confirmed participants were provided an instructional guide via email prior to the appointment to prepare them for use of the technology and a brief introduction to the content to be addressed in the expert panel (Howells & Sauer, 2015). The expert panel was audio and video recorded.

The expert panel used the nominal group technique (NGT) protocol adapted from Potter, Gordon, and Hamer (2004) and Harvey and Holmes (2012). The NGT protocol has been found effective in health care research, specifically when working with busy experts with limited time available during the work day, as very little participant preparation is required for the meeting (Harvey & Holmes, 2012). Another major benefit of this protocol is its efficiency in providing copious information in a short amount of time (Harvey & Holmes, 2012).

Recommended time frames for this type of meeting are about 60-90 minutes (Harvey & Holmes, 2012) or up to two hours (Potter et al., 2004). For this research, 90 minutes was used to complete the expert panel. Recommended numbers of participants for this protocol ranged from five to nine (Potter et al., 2004) or six to twelve (Harvey & Holmes, 2012); thus, for this study 29 CNMs were invited in order to meet that range of participants, under the assumption scheduling conflicts would reduce participation of all invitees.

The NGT protocol has specific steps that the researcher used to facilitate this expert panel and these are delineated in a discussion guide (Potter et al., 2004; Appendix D). First, the lead researcher welcomed participants, conducted brief introductions, and explained the purpose and protocol of the meeting. The researcher provided an explanation of what a leadership behavior taxonomy is and that one should be "comprehensive but parsimonious" (Yukl, 2012, p. 66); also,

that it is intended for clinical RDNs to best contribute where they currently practice and not necessarily to move them into a formal leadership position or role. Second was a phase of silent idea generation and lasted approximately 10 minutes (Potter et al., 2004). This phase involved participants reviewing the leadership behavior items and identifying what they found most valuable, what needed to be reworded, and where they saw gaps. The third stage was focused on the sharing group members' ideas and lasted approximately 15-20 minutes (Potter et al., 2004). The lead researcher facilitated a round robin sharing process until the participants' ideas were all revealed and noted participants' comments. The fourth stage of this protocol was focused on group discussion and was allotted approximately 30 minutes (Potter et al., 2004). Finally, the last stage involved the participants voting and ranking the ideas (Potter et al., 2004). In order to do this most effectively considering the videoconferencing modality in use, a brief electronic survey was distributed electronically (Qualtrics, Provo, UT) to allow participants to prioritize each of the original leadership behaviors as high, medium, low, or not a priority. They also provided demographic information.

Expert Panel Data

The expert panel was recorded and recommendations for adjusting the leadership behavior items to best fit clinical dietetics were incorporated (Appendix A). Once updated, the leadership behavior statements were inserted into the survey instrument for clinical RDNs.

Survey Development

An invitation email with consent information consistent with requirements of the Institution's Review Board (IRB) was developed (Appendix E). The finalized version of the clinical RDN leadership behavior items were converted into a survey instrument to be administered electronically via Qualtrics Survey Software to clinical RDNs (Appendix F). Also,

the first two survey items were pre-screening questions to ensure only currently employed clinical RDNs participated in the survey. The definition of clinical nutrition and dietetics practice was included to clarify the practice area (Academy, 2014). The survey instrument was comprised of two sections: 1) leadership questions and 2) additional questions and demographics.

Leadership Section

For each of the leadership behaviors, clinical RDNs responded to two prompts:

- For each of the following statements, please indicate how frequently you have performed the behavior as a clinical RDN in an average month.
- For each of the following, please rate the potential benefit to patients/clients if you demonstrate this behavior in your roles as a clinical RDN.

Frequency was measured by a 7-point Likert-Type scale adapted from Vagias (2006):

1 – Never

2 – Rarely, in less than 10% of the chances when you could have

3 – Occasionally, in about 30% of the chances when you could have

4 – Sometimes, in about 50% of the chances when you could have

5 – Frequently, in about 70% of the chances when you could have

6 – Usually, in about 90% of the chances you could have.

7 – Every time

The methods for rating the perceived benefit, in the context of RDN roles and responsibilities, were adapted and modified from the CDR's Practice Audit for measuring risk (Meuller, Touger-Decker, Sauer, Rogers, & Ward, 2011). A 5-point Likert-Type scale modified from CDR's practice audit was used to assess this ("*risk*" was replaced with "*benefit*"):

1 – Very low benefit

2 – Low benefit

3 – Moderate benefit

4 – High benefit

5 – Very high benefit

A series of statements were developed to capture clinical RDNs' experience and perspective on leadership. Statements addressed leadership's relevance to specific roles and how it was situated in their previous dietetics education. Other statements led participants to consider if they saw themselves as clinical leaders and if other stakeholders (e.g., manager, physicians, nurses, other health care staff) considered them as clinical leaders and appreciated their leadership efforts. This section also investigated the perceived impact of workplace policies and procedures, workplace politics, and responsibilities outside of work on practicing clinical leadership.

The last component of the leadership section included two open-ended questions. Participants were asked to write their definition of clinical leadership and to identify what primary barriers to providing leadership exist for clinical RDNs.

Additional and Demographic Section

The additional questions and demographic section of the survey focused on characteristics that have potential impact on responses or allow for comparison data based on subgroups. Some questions included: gender, age, race, level of education, hours worked (full-time, part-time, or as needed), professional involvement (Mortensen, Nyland, Fullmer, & Eggett, 2002), years in a clinical RDN role, years in current position, and recent leadership training or development involvement. Also, several questions were focused on facility, job position (CDR,

2012), specialty certifications, and type of employer (contract management or self-operated clinical services).

Administration

The research protocol for this study was approved by Kansas State University's Internal Review Board prior to initiating interaction with study participants (Appendix F). The pilot survey instrument was deployed electronically (Qualtrics, Provo, UT) to a random sample of 300 clinical RDNs from the CDR-provided list of 5,000 clinical RDNs. In addition to the intended instrument, pilot participants addressed the flow and readability of the instrument. Researchers evaluated pilot respondents' survey completion durations. In total, 4 emails were immediately rejected, 46 participants began the survey, and 33 completed it in its entirety for a response rate of 11.1%. Participant feedback was considered and incorporated to improve the usability of the final survey instrument. An example of this was the modification of one initial screening questions which originally read, "Please estimate the percent of your work time that you spend directly practicing nutrition care, medical nutrition therapy and related services to address health promotion and prevention delay or management of diseases and/or conditions." To increase clarity for participants, the question was rephrased to read, "Please estimate the percent of your work time you spend practicing clinical dietetics (as opposed to completing foodservice, clinical nutrition management, or other role responsibilities.)"

The finalized survey instrument was administered electronically (Qualtrics, Provo, UT) to the remaining 4,700 contacts provided by CDR. Of deployed emails, 75 were undeliverable and 54 participants opted out of the study by unsubscribing or personally emailing the researcher. There was an initial email invitation with two reminder emails over the course of two weeks. At

the completion of the survey instrument, participants had the option of entering their name to win one of ten $50 retail gift cards.

Data Analysis

After collection, the data was imported into Statistical Package for the Social Sciences for Mac (SPSS, version 23, 2015, Chicago, IL). Cases with missing responses for entire components or sections of the survey were removed from analysis. Descriptive statistics and frequencies were utilized to determine the sample's demographic profile and to obtain an overview of responses. The composite mean frequency variable was calculated from participants' responses to the leadership frequency section statements. Analysis of Variance (ANOVA), *t*-tests, and chi-squared tests were conducted. Leadership frequency data was used for a confirmatory factor analysis in SPSS AMOS (version 23, 2014, Chicago, IL) and an exploratory factor analysis in SPSS.

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Chapter 4 - Status of Self-Reported Leadership Perceptions and Behaviors of Clinical Dietitians

Abstract

Although the clinical practice setting employs the largest subset of Registered Dietitian Nutritionists (RDNs), the leadership behaviors and beliefs embedded within this significant area of practice have not been examined. A national random sample (n = 4,700) of clinical RDNs, stratified by state, was surveyed to ascertain their leadership experiences and perspectives. The survey instrument investigated the frequency at which clinical RDNs practiced 27 specific leadership behaviors (7-point scale), their assessment of potential benefit to patients or clients of the same behaviors (5-point scale), and general perspectives on leadership in clinical dietetics. This undertaking was a first of its kind and formed a useful theory-based reference point for this area of research in dietetics practice.

Clinical RDNs had high composite mean frequency scores for practicing leadership (M = 5.33, SD = 0.83, score range: 3-7). There were no significant differences found in composite mean frequency scores across gender, level of education, years in practice, years in current position, type of current position, or having a specialty certification. There was a significant relationship between mean composite frequency scores and levels of professional involvement *Welch's* F (3, 674) = 13.79, $p < .001$, as well as participation in recent leadership training and development t (661.43) = -5.12, $p < .001$. Most clinical RDNs considered themselves clinical leaders (74.9%), felt that leadership was relevant to daily clinical nutrition practice (89.6%), and enjoyed their jobs more when practicing leadership at work (75.7%).

Key Words: leadership, dietetics leadership, clinical dietetics, clinical leadership

Introduction

Leadership is an important component of every profession. Although it has been defined in a variety of ways, the Academy of Nutrition and Dietetics (Academy) has adopted its leadership definition to be **"**the ability to inspire and guide others toward building and achieving a shared vision" (Borra & Kunkel, 2002, p. 12). Importantly, leadership can be viewed as a specialized role (i.e., a formal position such as manager or director) with its associated responsibilities, or as a diffused process of influencing others within a social system (Yukl, 2002). For the purposes of this study, the latter leadership perspective is assumed.

The Academy's mission statement is "Empowering members to be food and nutrition leaders," emphasizing that leadership is key to the dietetics profession's impact on the nation's health (Academy, n.d.). Consistently, elected Academy presidents have called for leadership development and practice by RDNs (Bergman, 2013; Crayton, 2015; Derelian, 1995; Dodd, 1992; Edge, 2004; Escott-Stump, 2011; McCollum, 2013; Pavlinac, 2009; Rodriguez, 2010). For example, RDNs have expressed opportunities to lead in their work environments (Dodd, 1992), to develop leadership mindsets (Edge, 2004), and to recognize leadership's effect on the nation's health and the profession's standing (McCollum, 2013). Past-President Pavlinac (2009) underscored the shared responsibility of dietetics leadership in her statement, "We need every member to be a leader" (p. 972).

According to the most recent Compensation and Benefits Survey of the Dietetics Profession (N = 6,385), a majority (57%) of RDNs works in a clinical nutrition setting and within the profession, the most common job titles are "Clinical Dietitian" (16%), "Clinical Dietitian – Long Term Care" (8%), and "Outpatient Dietitian – General" (5%; Academy, 2015a). Although clinical RDNs comprise a majority of the dietetics profession, their leadership

experiences and perspectives have not been studied. To date, dietetics leadership research has primarily focused on RDNs in formal leadership or management roles (Arensberg, Foltz, Johnson, Strasser, & Schiller, 1996; Hunter, Lewis, & Ritter-Gooder, 2012; Mislevey, Schiller, Wolf, & Finn, 2000; Molt, 1995; Schiller, Foltz, & Campbell, 1993) or dietetics students (Arendt & Gregoire, 2005). Interestingly, only 11% of RDNs reported working in food and nutrition management (Academy, 2015). With the increased and consistent emphasis on clinical leadership in research and practice of other health care professions (LEADS Collaborative, n.d.; National Health Service [NHS], 2011; NHS, 2013; The Nurse Manager Leadership Partnership, 2008; Parker et al., 2013), it is increasingly important to explore clinical leadership in the dietetics profession.

This study examined leadership experiences and perspectives among clinical dietitians with the objectives of (a) ascertaining key leadership behaviors for clinical RDNs in the health care environment, (b) determining self-reported frequency of practicing leadership behaviors by clinical RDNs, (c) assessing perceived potential benefit to patients or clients if clinical RDNs practice leadership behaviors, and (d) identifying leadership gaps in clinical dietetics practice.

Methodology

Sample

A national stratified (by state) random sample of 5,000 clinical RDNs who were registered by the Commission on Dietetics Registration (CDR) was obtained from CDR. The CDR is the credentialing agency for the Academy, and maintains the most current and reliable database of certified RDNs nationally. As such, this sample included credentialed practitioners identified only as clinical RDNs. Prior to data collection, the Kansas State University Institutional Review Board approved this study.

Survey

Leadership Behavior Development

Yukl's (2012) leadership taxonomy served as the theoretical basis for developing the clinical RDN leadership behaviors. Yukl's (2012) taxonomy includes four meta-categories of leadership behaviors (task-oriented, relations-oriented, change-oriented, and external), and each meta-category is comprised of three to four component behaviors. Empirical findings from other related health care professions (LEADS Collaborative, n.d.; NHS, 2011; NHS, 2013; NMLP, 2008; Parker et al., 2013), informal leadership research (Larsson, Segerstéen, & Svensson, 2010; Pielstick, 2000), dietetics professional research (Academy, 2015; Academy, n.d.c.; Nyland & Lafferty, 2012; Rhea & Bettles, 2012), and dietetics leadership research (Hunter, Lewis, & Ritter-Gooder, 2012, Miner, Holyoke, & Ramsay, 2014; Patten & Sauer, 2014) were reviewed and incorporated into the initial list of leadership behavior items.

Through purposive sampling, Clinical Nutrition Managers (CNMs) were invited to participate in an expert panel via video conferencing software. Most RDNs in the medical environment report to CNMs, who serve as their supervisor and professional guide in the workplace. A nominal group technique adapted from Potter, Gordon, and Hamer (2004) and Harvey and Holmes (2012) was used to provide structure for the process and gather feedback about the leadership statements. Ultimately, CNMs rated the priority of each leadership behavior for clinical RDNs on a 4-point scale (1 = high priority, 2 = medium priority, 3 = low priority, 4 = not a priority). Their feedback was integrated into a final list of 27 leadership behaviors (Appendix A).

Survey Instrument

The survey instrument (Appendix F) was comprised of initial screening questions and two sections – leadership and demographic information. The two screening questions were developed to ensure participants practiced clinical dietetics at the time of the study. The leadership section had three components. The first component asked participants to rate the frequency at which they practiced the 27 leadership behaviors in an average month as a clinical RDN (1 = never, 2 = rarely, in less than 10% of the chances when you could have, 3 = occasionally, in about 30% of the chances when you could have, 4 = sometimes, in about 50% of the chances when you could have, 5 = frequently, in about 70% of the chances when you could have, 6 = usually, in about 90% of the chances you could have, 7 – every time; Vagias, 2006). The second component invited participants to rate the potential benefit to patients or clients if they demonstrated each of the 27 leadership behavior in their roles as a clinical RDN; the scale used was modified from a risk assessment scale from CDR's Practice Audit (1 = very low benefit, 2 = low benefit, 3 = moderate benefit, 4 = high benefit, 5 = very high benefit; Meuller, Touger-Decker, Sauer, Rogers, & Ward, 2011).

The third leadership component included statements that were developed to capture clinical RDNs' experience and perspective on leadership in their education and in their work environment; participants rated their agreement on a typical five-point scale. This component also included two open-ended questions. The demographic section included relevant characteristics that could have impacted responses.

A random sample of 300 clinical RDNs was drawn from the initial cohort to pilot the survey instrument. There were 33 pilot responses equating to a response rate of 11%. Minor modifications were made to the screening questions based on the pilot results.

Data Collection

The survey instrument was deployed electronically (Qualtrics, Provo, UT) to 4,700 contacts. Correspondence included an initial email and two follow-up emails encouraging participation. As an incentive, participants were invited to provide their names and contact information to enter a drawing for one of ten $50 gift cards.

Data Analysis

Statistical Package for the Social Sciences for Mac (SPSS, version 23, 2015, Chicago, IL) was used for data analysis. For this phase of the study, descriptive statistics and frequencies were used. Chi-squared analysis, independent *t* tests, and one-way ANOVAs were also performed.

Results

Of the 4,700 contacts, 992 RDNs began the survey and of those, 793 finished it (this includes 101 participants who were screened out by the initial questions). Also, 75 of the email addresses were undeliverable and 54 contacts opted out of participation either through a link on the initial invite or reminders, or through personal correspondence with the researcher (primarily citing either retirement or change of practice area as their reason). Finally, responses were excluded for those who did not practice clinical dietetics or provide complete and valid responses. Ultimately, there were 684 usable surveys resulting in an operational response rate of 14.6%. The usable responses for this study are far greater than those attained in similar research, averaging 343 responses (Arendt & Gregoire, 2005; Arensberg, et al., 1996; Hauser, 2014; Molt, 1995; RockHealth, 2015).

The profile of respondents is displayed in Table 4.1. More than half (56.4%) reported being 40 years or older, most (96.9%) were female, 44.3% held Master's degrees, and 13.4%

indicated being a race other than White/Caucasian. Additionally, most reported more than 10 years of clinical dietetics experience (64.6%) and current full-time employment (77.5%). More than half (55%) did not report a specialty certification or designation, while few reported involvement in professional organizations; 40.3% not involved and 39.4% only somewhat involved, respectively. The sample demographics closely reflect those of the most recent Compensation and Benefits Survey of the Academy; specifically, participants were 95% female, the median age was 49 years old, 9% reported a race other than white, and 75% worked full-time (Academy, 2015).

A majority (58%) of participants in this study practiced in acute care/inpatient clinical settings, however, representation from ambulatory care outpatient (25.7%) and long term care (13.4%) settings was also similar to the distribution within clinical practice from the Compensation and Benefits Survey (Academy, 2015). Many participants reported to a supervisor with the RDN credential (57.8%) who held the title "Clinical Nutrition Manager/Chief Clinical Dietitian" (45.9%). Although more than half (55.4%) of clinical RDNs indicated they had not participated in any leadership training or development activities in the past three years, 30.7% reported attending a leadership seminar. Of those who reported leadership training or development, it was funded either by their employer (28.9%) or self (16.2%).

Insert Table 4.1

Leadership Behavior Frequency

Clinical RDNs self-reported the frequency at which they practiced the 27 leadership behaviors in an average month on a seven-point frequency scale (Table 4.2). The behavior frequency statement means ranged from 3.47 (*SD* = 1.18) to 6.66 (*SD* = 0.59). The most

frequently practiced behavior was demonstrating professionalism and ethical integrity at work (*M* = 6.66, *SD*=0.59). Other frequently practiced behaviors were specific to capably meeting the technical demands of the clinical RDN role, including promoting the role as a credible source of nutrition information (*M* = 6.22, *SD* =0.96), utilizing knowledge of current research to improve patient outcomes (*M* = 6.15, *SD* = 0.870), and engaging in developing mastery of clinical knowledge and skills (*M* = 5.93, *SD* = 0.99).

Even the lowest statement means were comparably high for the scale; the only one that fell on the lower half of the scale was engaging with a mentor oneself (*M* = 3.47, *SD* = 1.82). Other behavior statements with comparatively lower means included improving work methods or discovering new ones through research, experiment, or external knowledge (*M* = 4.49, *SD* = 1.45), and engaging in conflict resolution (*M* = 4.57, *SD* = 1.62). Additionally, analyzing current environment and identifying opportunities and threats to work as a clinical RDN (*M* = 4.58, *SD* = 1.55), envisioning change in the environment by clearly articulating a vision for what can be attained (*M* = 4.61, *SD* = 1.37), and advocating change in the environment by explaining what and why changes are needed (*M* = 4.74, *SD* = 1.34) all yielded comparatively lower means.

Insert Table 4.2

Composite Mean Frequency Score Relationships

For each participant, a composite mean score was calculated based on the frequency ratings of the individual 27 leadership behaviors (*M* = 5.33, *SD* = 0.83, score range: 3-7). Using one-way ANOVA, relationships of composite mean scores and other measures were examined. No significant differences were found in composite mean frequency scores across gender (male, female, other), level of education, years in clinical practice, years in current clinical position,

type of current position (i.e., acute, outpatient, home, or long-term care), or percent of work time spent doing clinical responsibilities. An independent *t* test indicated there was no difference in composite mean frequency scores among those who held specialty certifications or designations and those who did not.

There was a statistically significant difference between levels of professional involvement and composite mean frequency scores *Welch's F* (3, 674) = 13.79, $p < .001$. Games-Howell post hoc comparisons were conducted to identify significant differences between means and revealed that clinical RDNs who assessed themselves as involved or very involved professionally had higher mean frequency composite scores than those who were not involved or somewhat involved. An independent *t* test was calculated for those who had and had not participated in leadership training or development in the past three years and revealed that participators had significantly higher composite mean frequency scores than non-participators *t* (661.43) = -5.12, $p < .001$.

Additionally, the relationships with various characteristics specific to RDNs and clinical practice (e.g., years in clinical nutrition, years in current position, level of professional involvement, recent leadership training, level of education, etc.) and composite mean frequency scores were examined using regression analysis. Previous findings indicated that these particular variables may influence or predict leadership behaviors in other professions. The regression models yielded weak predictive outcomes, thus additional research is necessary to inform this perspective.

Potential Benefit Assessment

Participants rated the potential benefit of a clinical RDN practicing each leadership behavior to patients or clients on a five-point scale (1 = very low benefit to 5 = very high benefit;

Table 4.3). The range of means for this component was 3.6 (*SD* = 0.99) to 4.7 (*SD* = 0.52), which is relatively high and quite narrow considering the scale. The behaviors with the highest means included demonstrating a positive attitude (*M* = 4.70, *SD* = 0.52), demonstrating professionalism and ethical integrity at work (*M* = 4.68, *SD* = 0.54), and utilizing knowledge of current research to improve patient outcomes (*M* = 4.62, *SD* = 0.58). The behaviors that clinical RDNs rated as the lowest potential benefit to patient or clients included engaging with a mentor oneself (*M* = 3.60, *SD* = 0.99), acting as a mentor to students or new dietitians (*M* = 3.69, *SD* = 1.01), and engaging in conflict resolution (*M* = 3.76, *SD* = 0.94).

Insert Table 4.3

Leadership Experiences and Perceptions

Clinical RDNs rated their agreement (1 = strongly disagree to 5 = strongly agree) with various statements regarding their leadership experience and perceptions (Table 4.4). The majority of participants indicated they agreed or strongly agreed leadership was relevant to daily clinical nutrition practice (89.6%), they enjoyed their job as a clinical RDN more when they demonstrated leadership (75.7%), and they wanted to learn more about clinical leadership (56.7%). Most (61.4%) disagreed or strongly disagreed that leadership pertains more to service in a professional organization than in the daily clinical RDN role.

Clinical RDNs were asked to reflect on their dietetics education and most (68%) agreed or strongly agreed that the concept of leadership was usually aligned with management or foodservice coursework rather than clinical coursework. Participants had more varied agreement with the statement, "as a dietetics student, the topic of clinical leadership was included in

nutrition coursework"– 35.5% strongly disagreed or disagreed, and 38.7% agreed or strongly agreed.

Most clinical RDNs agreed or strongly agreed that they considered themselves clinical leaders (74.9%), and that their clinical nutrition peers (66.4%), their managers (74.7%) and other healthcare professions (73.2%) did as well. Clinical RDNs agreed or strongly agreed that their leadership efforts were appreciated by their manager (77.6%), nurses (71.5%), physicians (65.5%), and other health care professionals (73.3%). Also, most agreed or strongly agreed that providing leadership is an expected performance goal in their clinical RDN role (67.2%) and that their leadership efforts are acknowledged by their managers in their performance evaluations (66.3%).

Positively, over half of clinical RDNs (56.8%) indicated they agreed or strongly agreed that their organization's culture encouraged them to be leaders. Interestingly, clinical RDNs had more varied agreement with the statements that politics at work prevent them from demonstrating the level of leadership they would like to provide, and that their organization's policies and procedures limited their opportunities to lead at work. Many clinical RDNs (56%) reported that their responsibilities outside of work limited their capacity to exhibit leadership behaviors at work, however, a notable 22.2% indicated the opposite. Chi-square analysis revealed a relationship between age group and agreement with the statement, "My responsibilities outside of work limit my capacity to exhibit leadership behaviors at work" χ^2 (20) = 32.31, p = .04. However, its Cramer's V was .104, indicating only a weak relationship. Additionally, a chi-square analysis with gender and agreement with that statement was not significant.

Insert Table 4.4

Discussion and Implications

The following discussion section focuses primarily on clinical acumen, mentorship, professional involvement, dietetics education, and barriers to clinical leadership. As a new area of research in dietetics and specifically clinical practice, there are limited established findings regarding leadership to form substantial empirical or comparative discussion. However, there are some key findings from this study that align with previous findings, internal and external to dietetics practice.

Overall, the findings suggest a positive tendency about leadership within clinical dietetics practice. The mean of composite scores ($M = 5.33$, $SD = 0.83$, score range: 3-7) for the self-reported frequency of performing the 27 leadership behaviors was on the upper end of the possible 1-7 scale. This indicates that on average, clinical RDNs "frequently" perform these behaviors in their roles. Consistent with those scores, most clinical RDNs consider themselves clinical leaders (74.9%) and perceive that others (e.g., their manager, peers, and other health care professionals) consider them as such. Additionally, clinical RDNs consider leadership relevant to daily clinical nutrition practice and enjoy their job more when they demonstrate leadership.

Frequency and Potential Benefit of Leadership Behaviors

The five most frequently practiced leadership behaviors also aligned (although ordered differently) with the five behaviors rated as having the highest potential benefit for patients or clients (Tables 4.2 and 4.3). Three of these statements related to developing and sharing clinical acumen (utilize knowledge of current research to improve patient outcomes, engage in

developing mastery of clinical knowledge and skills, and promote my role a credible source of nutrition information). This is a supportive finding and proposition given the broader conversation about frontline clinical leadership by Mountford and Webb (2009) who identified passion and credibility in clinical work as a major source of power for clinical leaders. Clinical RDNs who are actively developing their technical skills and promoting their skill set can influence others and improve the health care system.

Engaging with a mentor and acting as a mentor to students or new dietitians were two of the lowest ratings on both scales: frequency scale and potential benefit to patients or client scale. Although 44% of clinical RDNs reported they had someone encouraging their leadership development as a clinical RDN, about a third of participants did not (32.5%). This is concerning since other research has presented convincing evidence for the relationship between mentorship and leadership development. Hunter et al. (2012) investigated leadership development of appointed and elected Academy leaders in dietetics to propose a dietetics leadership development model, and their key finding was mentoring is the segue to leadership development in the profession. Participants in that study reported that their mentors nurtured, encouraged, challenged, and inspired them (Hunter et al., 2012). Dearmon, Riley, Mestas, and Buckner (2015) found that frontline nurses developed their leadership capacity through mentoring. Finally, as dietetics is a primarily female profession, it is worth noting that RockHealth (2015, *N* = 421) surveyed women in health care and discovered that lack of mentorship was one their greatest barriers. In that study, 40% of women reported not having a mentor, and 85% did not have a female mentor. Understanding clinical RDNs' experience with, perspective of, and barriers to mentorship is an important next research step.

It is encouraging that there was no significant difference among clinical RDNs' composite mean leadership frequency scores based on gender, level of education, years in clinical practice, years in current clinical position, or having a specialty certification or designation. These characteristics are not prerequisites to leadership practice and every clinical RDN has the capacity to practice leadership. It is also encouraging that the factors related to higher composite mean frequency scores are reasonably accessible. Clinical RDNs who assessed themselves as involved or very involved in professional organizations had higher composite mean frequency scores for their role at work. This insight appears to justify professional involvement (cost of membership, time away from work, or simply workplace flexibility to manage associated responsibilities) to clinical RDN employers. Further, clinical RDNs who reported participation in leadership training or development (options included: book, seminar, coursework, certification, or other form) in the past three years had higher composite mean frequency scores. Although this is not a causal relationship and it may be accounted for because people interested in leadership development are more apt to practice leadership at work, it may serve employers of clinical RDNs to use this as a parameter during the recruitment process for vetting candidates for clinical dietetics positions.

Leadership Experiences and Perceptions

Dietetics Education

In this study, 68% of clinical RDNs agreed at some level that leadership education was usually aligned with management or foodservice coursework in their dietetics education programs. Fewer clinical RDNs (38.7%) agreed or strongly agreed the topic of clinical leadership was included in their nutrition classes. Patten and Sauer (2014) held a teleconference with ten thought-leaders in the dietetics profession, and the importance of expanding leadership

training beyond foodservice and management courses emerged as a key theme. There are logical reasons for teaching leadership theory in management and foodservice courses in the dietetics curriculum, however, there is also risk in this approach. With the largest subset of RDNs practicing in clinical care (Academy, 2015), the development and practice of leadership may be discounted if presented as only a component of foodservice or management courses (Patten & Sauer, 2014). With the development of new education requirements, there is a unique opportunity for the Accreditation Council for Education in Nutrition and Dietetics (ACEND) to incorporate leadership knowledge and competency requirements across clinical education topics.

Work Environment and Structure

With the current and growing emphasis on interdisciplinary teamwork in health care (Rhea & Bettles, 2012), it is noteworthy that most clinical RDNs reported their leadership efforts were appreciated by their manager, nurses, physicians, and other health care professionals. Nyland and Lafferty (2012) noted that RDNs with both leadership and technical skills would be suited to lead interdisciplinary teams. Perhaps this sense of appreciation felt by clinical RDNs fosters a comfort in providing leadership in an interdisciplinary setting.

Over half of clinical RDNs reported their organization's culture encouraged them to be leaders. However, nearly a third (32%) of clinical RDNs felt that workplace politics prevented them from demonstrating the level of leadership they would prefer as a clinical RDN. More formally, a majority of clinical RDNs indicated leadership was an expected performance goal for their role and their leadership efforts were acknowledged in their performance evaluations. Although 38% of participants did not feel that their organization's policies and procedures limited their leadership opportunities, 32% of participants did feel they were an impediment.

Organizations and managers would benefit from a careful investigation of their specific environment and structure to assess it for barriers to clinical leadership.

Outside Responsibilities

There continue to be concerns that women's opportunities to lead are limited by inflexible workplace cultures (McDonagh & Paris, 2012), a lack of consideration for work-life balance (Hauser, 2014), and carrying a disproportionate load of family responsibilities (American College of Healthcare Executives, 2012). Those concerns, paired with Mountford and Webb's (2009) finding that clinicians are skeptical of spending time on leadership rather than focusing on treating patients may be noteworthy for clinical leadership in dietetics. Positively, 56% of clinical RDNs reported their responsibilities outside of work did not limit their capacity to exhibit leadership behaviors at work. Still, 22.2% reported that they did limit their leadership capacity at work. This study did not investigate child, elder, or other care responsibilities, and it may be worthwhile to explore the challenges that this subset of clinical RDNs face.

Limitations

A limitation of this study was that clinical RDNs self-reported the frequency of performing these leadership behaviors. It did not measure other health care professionals' perceptions of the frequency or effectiveness of clinical RDNs performing these behaviors.

Conclusions

Overall, clinical RDNs self-report high levels of clinical leadership. These professionals reported a high frequency of performing leadership behaviors at work and demonstrated they see potential benefit to patients or clients when they (clinical RDNs) perform them. Based on these data, leadership behavior for clinical RDNs is not constrained to level of education, years of

experience, or specialty certification. There continues to be an opportunity to investigate mentorship and its relationship with leadership development within dietetics. Also, it is recommended that leadership permeate the dietetics education curriculum so students will have opportunities to view leadership application in a variety of settings.

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Table 4:1 Characteristics of Clinical Dietitians (N = 684)

Characteristic	n	%[a]
Age		
20 – 29 years	82	12.1
30 – 39 years	214	31.6
40 – 49 years	149	22.0
50 – 59 years	154	22.7
60 years or older	79	11.7
Gender		
Female	661	96.9
Male	19	2.8
Other	2	0.3
Education		
Baccalaureate degree	223	32.6
Some graduate coursework	147	21.5
Master's degree	303	44.3
Doctoral degree	11	1.6
Race		
White/Caucasian	590	86.6
Asian	38	5.6
Hispanic	20	2.9
African American	11	1.6
Native American	8	1.2
Pacific Islander	1	0.1
Other	13	1.9

Characteristic	n	%[a]
Years of clinical experience		
Less than 1 year	2	0.3
1-3 years	40	5.9
4-6 years	87	12.7
7-10 years	113	16.5
Greater than 10 years	441	64.6
Years in present clinical position		
Less than 1 year	54	7.9
1-3 years	169	24.7
4-6 years	123	18.0
7-10 years	113	16.5
Greater than 10 years	224	32.8
Employment Status		
Full time (≥32 hours/week)	530	77.5
Part time (< 32 hours/week)	124	18.1
PRN, per diem, or casual	30	4.4
Area of clinical practice		
Acute care/inpatient	395	58.0
Ambulatory care outpatient	175	25.7
Long term care	91	13.4
Ambulatory care home care	20	2.9
Professional involvement		
Not involved	275	40.3
Somewhat involved	269	39.4
Involved	97	14.2
Very involved	42	6.1

Characteristic	n	%[a]	Characteristic	n	%[a]
Specialty certifications/designations			***Employer type***		
None	376	55.0	Self-operated	433	63.9
Certified Nutrition Support Clinician®	93	13.6	Contract managed	133	19.6
Certificate of Training in Weight Management	80	11.7	Other	112	16.5
Certified Diabetes Educator®	75	11.0	***RDNs employed at facility***		
BCS[b] – Renal Nutrition	17	2.5	1 RDN	151	22.1
BCS – Oncology Nutrition	16	2.3	2-4 RDNs	186	27.2
BCS – Gerontological Nutrition	11	1.6	5-10 RDNs	183	26.8
BCS – Pediatric Nutrition	10	1.5	11-20 RDNs	88	12.9
BCS – Sports Dietetics	7	1.0	More than 20 RDNs	75	11.0
Other	34	5.0			
			Primary supervisor RDN		
Recent leadership training/development			Yes	395	57.8
None	379	55.4	No	288	42.2
Seminar	210	30.7			
Coursework	79	11.5	***Primary supervisor's title***		
Book	67	9.8	Clinical Nutrition Manager/ Chief Clinical Dietitian	314	45.9
Certification	36	5.3	Department or Program Director	114	16.7
Other	43	6.3	Foodservice Director	80	11.7
			Nurse Manager	55	8.0
Leadership training/development funding source			Other	121	17.7
Work	198	28.9			
Self	111	16.2			
Professional organization	30	4.4			
Other	9	1.3			

[a]Responses may not equal 100% due to non-response to a question. [b]Board Certified Specialist

Table 4:2 Self-Reported Frequency of Performing Leadership Behaviors as Clinical RDN (N = 684)

		n (%)						
Clinical Leadership Behavior	**Mean ± SD**	**Never**	**Rarely**	**Occasionally**	**Sometimes**	**Frequently**	**Usually**	**Every time**
Demonstrate professionalism and ethical integrity at work.	6.66 ± 0.586	-	-	-	4 (0.6)	29 (4.2)	160 (23.4)	491 (71.8)
Promote my role as a credible source of nutrition information.	6.22 ± 0.958	-	4 (0.6)	5 (0.7)	31 (4.5)	92 (13.5)	217 (31.7)	335 (49.0)
Demonstrate a positive attitude.	6.19 ± 0.756	-	-	-	15 (2.2)	97 (14.2)	314 (45.9)	258 (37.7)
Utilize knowledge of current research to improve patient outcomes.	6.15 ± 0.871	-	1 (0.1)	3 (0.4)	32 (4.7)	91 (13.3)	285 (41.7)	272 (39.8)
Engage in developing mastery of clinical knowledge and skills.	5.93 ± 0.990	-	4 (0.6)	13 (1.9)	37 (5.4)	130 (19.0)	286 (41.8)	214 (31.3)
Build cooperative relationships.	5.89 ± 1.138	2 (0.3)	7 (1.0)	18 (2.6)	52 (7.6)	118 (17.3)	245 (35.8)	242 (35.4)
Demonstrate appreciation to others for their effective performance and contribution.	5.72 ± 1.127	3 (0.4)	6 (0.9)	19 (2.8)	63 (9.2)	149 (21.8)	265 (38.7)	179 (26.2)
Cope with and manage disruptions in your normal work.	5.55 ± 1.431	2 (0.3)	27 (3.9)	43 (6.3)	86 (12.6)	109 (15.9)	199 (29.1)	218 (31.9)
Help others cope with stressful situations.	5.55 ± 1.131	-	11 (1.6)	27 (3.9)	71 (10.4)	175 (25.6)	266 (38.9)	134 (19.6)
Build and maintain relationships with others who can provide support, resources, and information.	5.52 ± 1.179	2 (0.3)	7 (1.0)	40 (5.8)	67 (9.8)	177 (25.9)	251 (36.7)	140 (20.5)
Make decisions about objectives and priorities, organize work, and allocate resources as needed for your activities and projects.	5.50 ± 1.556	12 (1.8)	35 (5.1)	49 (7.2)	50 (7.3)	110 (16.1)	214 (31.3)	214 (31.3)
Engage in activities to improve patient safety and the patient experience (includes adjusting services to meet needs of the population you serve).	5.44 ± 1.408	7 (1.0)	23 (3.4)	43 (6.3)	80 (11.7)	140 (20.5)	215 (31.5)	175 (25.6)
Initiate efforts to increase patient satisfaction.	5.44 ± 1.323	7 (1.0)	18 (2.6)	35 (5.1)	81 (11.8)	156 (22.8)	238 (34.8)	149 (21.8)

Clinical Leadership Behavior	Mean ± SD	n (%)						
		Never	Rarely	Occasionally	Sometimes	Frequently	Usually	Every time
Assess if your work or projects are progressing properly.	5.43 ± 1.431	4 (0.6)	26 (3.8)	53 (7.7)	76 (11.1)	142 (20.8)	198 (28.9)	185 (27.0)
Identify and share available services within the facility or community with patients/clients.	5.37 ± 1.360	11 (1.6)	17 (2.5)	42 (6.1)	82 (12.0)	149 (21.8)	251 (36.7)	131 (19.2)
Develop plans to monitor and improve patient outcomes.	5.34 ± 1.480	10 (1.5)	33 (4.8)	45 (6.6)	71 (10.4)	155 (22.7)	203 (29.7)	166 (24.3)
Represent your nutrition team through promoting the team's reputation and advocating for resources.	5.22 ± 1.540	13 (1.9)	35 (5.1)	59 (8.6)	78 (11.4)	150 (22.0)	193 (28.3)	155 (22.7)
Seek and accept new professional opportunities and challenges for professional growth.	5.16 ± 1.409	3 (0.4)	37 (5.4)	54 (7.9)	102 (14.9)	165 (24.1)	206 (30.1)	117 (17.1)
Share and link information among colleagues in your work unit to improve patient care.	5.15 ± 1.437	9 (1.3)	36 (5.3)	55 (8.0)	104 (15.2)	144 (21.1)	213 (31.1)	123 (18.0)
Analyze how services interact to meet department and organizational objectives.	5.08 ± 1.492	16 (2.3)	34 (5.0)	52 (7.6)	107 (15.7)	147 (21.6)	220 (32.3)	106 (15.5)
Act as a mentor to students or new dietitians.	4.90 ± 1.900	39 (5.7)	70 (10.2)	65 (9.5)	86 (12.6)	90 (13.2)	154 (22.5)	179 (26.2)
Advocate change in the environment by explaining what and why changes are needed.	4.74 ± 1.341	4 (0.6)	38 (5.6)	84 (12.3)	157 (23.0)	179 (26.2)	170 (24.9)	52 (7.6)
Envision change in the environment by clearly articulating a vision for what can be attained.	4.61 ± 1.373	8 (1.2)	44 (6.4)	95 (13.9)	150 (21.9)	197 (28.8)	141 (20.6)	49 (7.2)
Analyze current environment and identify opportunities and threats to your work as a clinical RDN.	4.58 ± 1.551	22 (3.2)	62 (9.1)	76 (11.1)	143 (20.9)	156 (22.8)	165 (24.1)	60 (8.8)
Engage in conflict resolution.	4.57 ± 1.615	20 (2.9)	77 (11.3)	79 (11.5)	125 (18.3)	158 (23.1)	149 (21.8)	76 (11.1)
Improve work methods or discover new ones through research, experiment, or external knowledge.	4.49 ± 1.450	14 (2.0)	56 (8.2)	112 (16.4)	136 (19.9)	169 (24.7)	161 (23.5)	36 (5.3)

		n (%)						
Clinical Leadership Behavior	**Mean ± SD**	**Never**	**Rarely**	**Occasionally**	**Sometimes**	**Frequently**	**Usually**	**Every time**
Engage with a mentor yourself.	3.47 ± 1.818	99 (14.5)	155 (22.7)	121 (17.7)	112 (16.4)	81 (11.9)	59 (8.7)	55 (8.1)

Note. Respondents reported frequency of performing each of these behaviors in an average month.

Seven-point Scale: 1= Never; 2 = Rarely (in about <10% of chances when you could have); 3 = Occasionally (in about 30% of chances when you could have); 4 = Sometimes (in about 50% of chances when you could have); 5 = Frequently (in about 70% of chances when you could have); 6 = Usually (in about 90% of chances when you could have); and 7 = Every time.

Table 4:3 Potential Benefit to Patients/Clients if Clinical RDNs Demonstrate Leadership Behaviors (N = 684)

		n (%)				
Clinical Leadership Behavior	**Mean ± SD**	**Very Low Benefit**	**Low Benefit**	**Some Benefit**	**High Benefit**	**Very High Benefit**
Demonstrate a positive attitude.	4.70 ± 0.520	-	1 (0.1)	17 (2.5)	171 (25.0)	495 (72.4)
Demonstrate professionalism and ethical integrity at work.	4.68 ± 0.536	-	1 (0.1)	21 (3.1)	172 (25.1)	490 (71.6)
Utilize knowledge of current research to improve patient outcomes.	4.62 ± 0.584	-	1 (0.1)	33 (4.8)	191 (27.9)	459 (67.1)
Engage in developing mastery of clinical knowledge and skills.	4.60 ± 0.590	1 (0.1)	3 (0.4)	22 (3.2)	215 (31.4)	443 (64.8)
Promote my role as a credible source of nutrition information.	4.47 ± 0.655	-	4 (0.6)	49 (7.2)	249 (36.5)	381 (55.8)
Initiate efforts to increase patient satisfaction.	4.46 ± 0.645	-	2 (0.3)	51 (7.5)	263 (38.5)	367 (53.7)
Engage in activities to improve patient safety and the patient experience (includes adjusting services to meet needs of the population you serve).	4.42 ± 0.710	1 (0.1)	5 (0.7)	68 (9.9)	242 (35.4)	368 (53.8)
Build cooperative relationships.	4.41 ± 0.682	1 (0.1)	7 (1.0)	49 (7.2)	281 (41.1)	346 (50.6)
Develop plans to monitor and improve patient outcomes.	4.39 ± 0.683	-	4 (0.6)	66 (9.6)	272 (39.8)	342 (50.0)
Build and maintain relationships with others who can provide support, resources, and information.	4.35 ± 0.687	1 (0.1)	2 (0.3)	71 (10.4)	290 (42.4)	320 (46.8)
Identify and share available services within the facility or community with patients/clients.	4.31 ± 0.709	1 (0.1)	6 (0.9)	75 (11.0)	303 (44.3)	299 (43.7)

Clinical Leadership Behavior	Mean ± SD	n (%)				
		Very Low Benefit	Low Benefit	Some Benefit	High Benefit	Very High Benefit
Demonstrate appreciation to others for their effective performance and contribution.	4.21 ± 0.778	1 (0.1)	13 (1.9)	105 (15.4)	287 (42.0)	278 (40.6)
Help others cope with stressful situations.	4.20 ± 0.783	1 (0.1)	13 (1.9)	110 (16.1)	285 (41.7)	275 (40.2)
Share and link information among colleagues in your work unit to improve patient care.	4.20 ± 0.773	3 (0.4)	11 (1.6)	99 (14.5)	306 (44.8)	264 (38.7)
Represent your nutrition team through promoting the team's reputation and advocating for resources.	4.19 ± 0.824	1 (0.1)	24 (3.5)	101 (14.8)	275 (40.3)	281 (41.2)
Improve work methods or discover new ones through research, experiment, or external knowledge.	4.11 ± 0.784	4 (0.6)	11 (1.6)	120 (17.5)	321 (46.9)	228 (33.3)
Seek and accept new professional opportunities and challenges for professional growth.	4.09 ± 0.855	4 (0.6)	20 (2.9)	137 (20.1)	271 (39.7)	251 (36.7)
Make decisions about objectives and priorities, organize work, and allocate resources as needed for your activities and projects.	3.98 ± 0.826	7 (1.0)	16 (2.3)	150 (21.9)	322 (47.1)	189 (27.6)
Advocate change in the environment by explaining what and why changes are needed.	3.98 ± 0.789	2 (0.3)	16 (2.3)	158 (23.1)	323 (47.2)	185 (27.0)
Cope with and manage disruptions in your normal work.	3.94 ± 0.859	7 (1.0)	28 (4.1)	146 (21.3)	318 (46.5)	185 (27.0)

Clinical Leadership Behavior	Mean ± SD	n (%)				
		Very Low Benefit	Low Benefit	Some Benefit	High Benefit	Very High Benefit
Analyze how services interact to meet department and organizational objectives.	3.89 ± 0.883	7 (1.0)	28 (4.1)	180 (26.3)	284 (41.5)	185 (27.0)
Envision change in the environment by clearly articulating a vision for what can be attained.	3.89 ± 0.781	2 (0.3)	15 (2.2)	193 (28.2)	320 (46.8)	154 (22.5)
Assess if your work or projects are progressing properly.	3.87 ± 0.857	7 (1.0)	29 (4.2)	173 (25.3)	313 (45.8)	162 (23.7)
Analyze current environment and identify opportunities and threats to your work as a clinical RDN.	3.80 ± 0.922	7 (1.0)	42 (6.1)	204 (29.9)	258 (37.8)	172 (25.2)
Engage in conflict resolution.	3.76 ± 0.941	8 (1.2)	47 (6.9)	214 (31.3)	245 (35.9)	169 (24.7)
Act as a mentor to students or new dietitians.	3.69 ± 1.012	25 (3.7)	47 (6.9)	195 (28.6)	261 (38.2)	155 (22.7)
Engage with a mentor yourself.	3.60 ± 0.985	21 (3.1)	51 (7.5)	240 (35.2)	235 (34.5)	135 (19.8)

Note. Five-point Scale: 1 = Very Low Benefit; 2 = Low Benefit; 3 = Some Benefit; 4 = High Benefit; 5 = Very High Benefit

Table 4:4 Clinical RDNs' Agreement with Leadership Statements (N = 684)

		n (%)				
Statement	**Mean ± SD**	**Strongly Disagree**	**Disagree**	**Neither Agree nor Disagree**	**Agree**	**Strongly Agree**
General						
I feel that leadership is relevant to daily clinical nutrition practice.	4.24 ± 0.731	6 (0.9)	10 (1.5)	55 (8.0)	359 (52.5)	254 (37.1)
When I do demonstrate leadership, I enjoy my job as a clinical RDN more.	3.98 ± 0.782	4 (0.6)	15 (2.2)	147 (21.5)	343 (50.1)	175 (25.6)
As a dietetics student, the concept of leadership was usually aligned with management, foodservice, etc. rather than clinical coursework.	3.70 ± 0.920	11 (1.6)	76 (11.1)	130 (19.0)	359 (52.6)	107 (15.7)
I want to learn more about clinical leadership.	3.54 ± 0.877	9 (1.3)	75 (11.0)	212 (31.0)	312 (45.6)	76 (11.1)
I will seek leadership roles within the dietetics field.	3.48 ± 0.965	15 (2.2)	95 (13.9)	217 (31.7)	264 (38.6)	93 (13.6)
As a dietetics student, the topic of leadership was included in my clinical nutrition coursework.	3.02 ± 1.088	55 (8.0)	188 (27.5)	176 (25.8)	219 (32.1)	45 (6.6)
I feel that leadership pertains more to service in my professional organizations (such as elected or volunteer positions) than to my daily role as a clinical RDN.	2.48 ± 1.010	91 (13.3)	329 (48.1)	130 (19.0)	115 (16.8)	19 (2.8)
Leadership Acceptance						
My leadership efforts are appreciated by my manager.	3.94 ± 0.841	7 (1.0)	38 (5.6)	108 (15.8)	368 (53.9)	162 (23.7)
My manager considers me a leader in clinical practice.	3.92 ± 0.847	4 (0.6)	41 (6.0)	128 (18.7)	345 (50.4)	166 (24.3)

Statement	Mean ± SD	n (%)				
		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
The other healthcare professionals with whom I work consider me a leader in clinical practice.	3.89 ± 0.798	-	38 (5.6)	145 (21.2)	355 (51.9)	146 (21.3)
I consider myself a clinical leader.	3.89 ± 0.784	3 (0.4)	33 (4.8)	136 (19.9)	378 (55.3)	134 (19.6)
My leadership efforts are appreciated by nurses.	3.82 ± 0.839	9 (1.3)	36 (5.3)	150 (21.9)	362 (52.9)	127 (18.6)
My leadership efforts are appreciated by other healthcare staff.	3.81 ± 0.770	5 (0.7)	36 (5.3)	142 (20.8)	402 (58.8)	99 (14.5)
My clinical nutrition peers consider me a leader in clinical practice.	3.78 ± 0.807	2 (0.3)	37 (5.4)	191 (27.9)	333 (48.7)	121 (17.7)
My leadership efforts are appreciated by physicians.	3.74 ± 0.887	12 (1.8)	42 (6.1)	182 (26.6)	323 (47.2)	125 (18.3)
Environmental Factors						
Providing leadership is an expected performance goal in my role as a clinical RDN.	3.73 ± 0.910	6 (0.9)	72 (10.5)	146 (21.3)	334 (48.8)	126 (18.4)
My efforts to provide clinical leadership are acknowledged by my manager in my performance evaluations.	3.72 ± 0.966	14 (2.0)	70 (10.2)	147 (21.5)	315 (46.1)	138 (20.2)
My organization's culture encourages me to be a leader as a clinical RDN.	3.48 ± 1.084	36 (5.3)	99 (14.5)	160 (23.4)	280 (40.9)	109 (15.9)
I have someone encouraging my leadership development as a clinical RDN.	3.12 ± 1.156	65 (9.5)	157 (23.0)	161 (23.5)	233 (34.1)	68 (9.9)

Statement	Mean ± SD	n (%)				
		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
Politics at work prevent me from demonstrating the level of leadership I would like to provide as a clinical RDN.	2.99 ± 1.101	47 (6.9)	218 (31.9)	174 (25.4)	186 (27.2)	59 (8.6)
My organization's policies and procedures limit my opportunities to lead at work.	2.95 ± 1.055	42 (6.1)	218 (31.9)	205 (30.0)	167 (24.4)	52 (7.6)
My responsibilities outside of work limit my capacity to exhibit leadership behaviors at work.	2.59 ± 1.002	70 (10.2)	313 (45.8)	149 (21.8)	133 (19.4)	19 (2.8)

Note. Five-point Scale: 1 = Strongly Disagree; 2 = Disagree; 3 = Neither Agree nor Disagree; 4 = Agree; 5 = Strongly Agree

Chapter 5 - Clinical Dietetics Leadership Taxonomy

Abstract

In health care, there has been an increased emphasis on clinical leadership and the positive impact that clinicians who have both technical and leadership skills can have. A majority of Registered Dietitian Nutritionists (RDNs) work in clinical practice, and there are no known studies about clinical leadership with this population.

A series of clinical leadership behaviors for RDNs was developed based on Yukl's (2012) hierarchal leadership taxonomy and supplemented by other leadership and dietetics research findings. The behavior list was validated by an expert panel of Clinical Nutrition Managers (CNMs) and then incorporated into a survey instrument. A stratified random sample of clinical RDNs was surveyed and invited to rate (on a 7-point scale) the frequency at which they practice each of the 27 behaviors at work.

Through confirmatory factor analysis (CFA), the data ($N = 684$) was used to test the alignment with Yukl's leadership taxonomy, χ^2 (318, $N = 684$) = 1,326.09; *RMSEA* = .07, *GFI* = .86, *AGFI* = .83. Although several of the fit indices met acceptable thresholds, the model was not confirmed. As new research in the field of dietetics, an exploratory factor analysis (EFA) was conducted with the same data and resulted in leadership factors: change, patient-focused, self-directed, technical, and relationship leadership. These factors comprise a proposed leadership taxonomy for the clinical practice area of dietetics. This taxonomy can inform dietetics education requirements, clinical RDN workplace development, and continuing education offerings.

Key Words: leadership taxonomy, leadership, clinical leadership, dietetics leadership

Introduction

Within any profession, leadership at all levels is important to meet its intended objectives. The Academy of Nutrition and Dietetics (Academy) recognizes this through its mission statement, "Empowering members to be the food and nutrition leaders" (Academy, n.d.). Unfortunately, most leadership research, internal and external to dietetics, is focused primarily on formal management or leadership positions (Arensberg, Vivian, Johnson, Strasser, & Schiller, 1996; Hunter, Lewis, & Ritter-Gooder, 2012; Mislevey, Schiller, Wolf, & Finn, 2000; Molt, 1995; Pescosolido, 2002; Pielstick, 2000, Schiller, Foltz, & Campbell, 1993). For dietetics, this poses an interesting challenge since a majority of RDNs practice clinical nutrition (acute, ambulatory, or long-term care; Academy, 2015) which does not typically entail formal management or leadership responsibilities. This population does have opportunities to demonstrate leadership as it improves organizations, services, and the patient or client outcomes.

Clinical Leadership

Health care professionals have begun to examine the role of a clinical leadership as they recognize the positive contributions clinicians, who are also leaders, can make. Edmonstone (2009) stressed that clinicians have a micro-view on patients and services which uniquely allows them to find ways to increase efficiency and improve care. Ham (2003) pointed out that health care has an inverted power structure because frontline professional staff has more influence on daily decisions than administration does, which underscores the value of clinicians who have both technical and leadership skills. Importantly, clarification as to what clinical leadership means for various clinical professions is still needed (Mountford & Webb, 2009). There are no known studies or working definitions regarding informal leadership among clinical RDNs.

Taxonomies

A taxonomy is a formal method of categorizing complex phenomena into domains and dimensions with the purpose to increase clarity (Bradley, Curry, & Devers, 2007). Yukl, Gordon, and Taber (2002) reviewed 50 years of empirical leadership research and developed a hierarchical taxonomy of leadership behavior after recognizing that much of that research was addressing similar concepts, but did not share the same terminology. The taxonomy included three main categories (termed metacategories): task behavior, relations behavior, and change behavior. Within each metacategory, there were 3-4 associated behaviors.

A decade later, Yukl (2012) updated the hierarchical taxonomy of leadership behavior based on new research. The taxonomy maintained its three metacategories and added external leadership behaviors. The metacategories and the key behaviors that comprise them include:

- Task-oriented leadership behaviors: clarifying, planning, monitoring operations, and problem solving.
- Relations-oriented leadership behaviors: supporting, developing, recognizing, and empowering.
- Change-oriented leadership behaviors are: advocating change, envisioning change, encouraging innovation, and facilitating collective learning.
- External leadership behaviors include: networking, external monitoring, and representing (Yukl, 2012).

Yukl (2012) acknowledged that this leadership taxonomy would continue to evolve, but cautioned that it should be kept procedurally simplistic so it could be usable. Yukl's (2012) taxonomy served as the theoretical underpinning for this study.

In health care, organizations and professions have developed leadership taxonomies or frameworks to provide common language and expectations for leadership. These taxonomies

have also served as development tools to guide leadership assessment by supervisors and self-assessment by employees (National Health Service [NHS], 2011; NHS, 2013; Nurse Manager Leadership Partnership, 2008; Parker, Flin, McKinley, & Yule, 2013). To date, there has not be a clinical dietetics leadership taxonomy developed.

The objective of this study was to develop a leadership taxonomy for clinical dietetics practice. Initially, a CFA was completed to investigate the extent that Yukl's (2012) leadership metacategories fit this data. Next, an EFA was conducted to identify and propose a possible leadership taxonomy for clinical dietetics practice.

Methodology

This study involved several steps. Initially, a thorough literature review informed the development of key clinical dietetics leadership behaviors. Then, a battery of behaviors was presented to an expert panel of CNMs to obtain their perspective and feedback. A stratified random sample of clinical RDNs was surveyed regarding the frequency of their leadership behavior practice. Finally, the data was systematically analyzed for structure and fit, and a clinical dietetics leadership taxonomy was developed and proposed.

Sample

Using purposive sampling, CNMs were invited to participate in the expert panel phase based on their known leadership in the clinical dietetics environment. A stratified random national sample of 5,000 clinical RDNs registered by the Commission on Dietetics Registration (CDR) was obtained from CDR. As the credentialing agency for the dietetics profession, the CDR maintains the most up-to-date registry of RDNs and was able to select only RDNs who reported clinical nutrition as their practice area. Prior to data collection, the Kansas State University Institutional Review Board approved this study.

Taxonomy Development

Initial Behavior Item Development

The study's theoretical base was Yukl's (2012) leadership behavior taxonomy, however, several of its components were irrelevant to the study's population due to an emphasis on behaviors particular to formal management roles. In order to meet the needs of clinical RDNs, findings from a detailed literature review were incorporated, and an operational list of behaviors was developed (Table 5.1). These supplemental behaviors were developed from other related health care professions (LEADS Collaborative, n.d.; NHS, 2011; NHS, 2013; NMLP, 2008; Parker et al., 2013), informal leadership research (Larsson, Segerstéen, & Svensson, 2010; Pielstick, 2000), dietetics professional research (Academy, 2015; Nyland & Lafferty, 2012; Rhea & Bettles, 2012), and dietetics leadership research (Hunter et al., 2012; Miner, Holyoke, & Ramsay, 2014; Patten & Sauer, 2014).

Insert Table 5.1

Expert Panel

Leadership behaviors were validated for clinical RDNs by an expert panel of CNMs (those who typically manage clinical RDNs). Similarly, Downey, Parslow, and Smart (2011) examined informal nursing leadership through interviewing Nurse Managers. In this study, CNMs were invited based on their known experience with clinical dietetics and their understanding of the needs in the current health care environment. The target population's managers were selected with the objective that they could consider both the reality and potential of clinical RDN leadership as it situates in the health care environment. Ultimately, nine CNMs participated and they represented various levels of education, experience, management scope,

and employer types (Table 5.2). Participants were offered a $25 gift card to Amazon.com as a token of appreciation.

The 90-minute expert panel was conducted via video conferencing software modeling Howells and Sauer's (2015) methodology used with CNMs in prior research. Participants were emailed an instructional guide several days before the meeting to introduce them to the technology and to provide an overview of the content. A nominal group technique (NGT) protocol was adapted from Potter, Gordon, and Hamer (2004) and Harvey and Holmes (2012) for managing the panel. This protocol has been effective in other health care research due to its efficiency in obtaining information while mitigating the preparation burden on participants (Harvey & Holmes, 2012). The final stage of NGT protocol invites participants to vote and rank the discussed ideas (Potter et al., 2004). This was modified in this study due to the videoconferencing modality, and a short electronic survey was distributed allowing participants to rate the priority of each of the 21 original behaviors as high, medium, low, or not a priority (Table 5.3). The CNMs' comments and rankings (Table 5.3) were reviewed by two researchers and adjustments were made resulting in a final list of 27 leadership behaviors (Table 5.1).

Insert Table 5.2

Insert Table 5.3

Survey Instrument

A survey instrument was developed incorporating the 27 leadership behaviors and relevant demographic questions. This study was part of a larger survey instrument that explored

additional clinical leadership perspectives. Participants were screened out if they were not currently practicing clinical dietetics. Clinical RDNs were prompted to indicate the frequency at which they had performed each of the behaviors in their role over an average month. A 7-point Likert-type scale was used (Vagias, 2006):

1 – Never

2 – Rarely, in less than 10% of the chances when you could have

3 – Occasionally, in about 30% of the chances when you could have

4 – Sometimes, in about 50% of the chances when you could have

5 – Frequently, in about 70% of the chances when you could have

6 – Usually, in about 90% of the chances you could have.

7 – Every time

A pilot test was conducted using a random sample of 300 clinical RDNs from the contact list provided by CDR. There were 33 pilot responses (11% response rate). Pilot participants indicated the survey flowed well and only minor adjustments were made to the screening questions.

Data Collection

The survey was administered electronically (Qualtrics, Provo, UT) to 4,700 contacts. An initial and two reminder emails were sent. Upon completion of the survey, participants were invited to enter a drawing to win one of ten $50 gift cards.

Data Analysis

Statistical Package for the Social Sciences for Mac (SPSS, version 23, 2015, Chicago, IL) was used to determine descriptive statistics, frequencies, correlations, and reliability. SPSS

AMOS (version 23, 2014, Chicago, IL) was used to complete a CFA and SPSS was used to complete an exploratory factor analysis (EFA).

Results

There were 793 finished responses, however, after excluding invalid responses and those from participants who did not practice clinical dietetics, there were 684 usable responses (14.6% response rate). A demographic profile of participants is provided in Table 5.4, which closely mirrors the demographic profile of the Academy's most recent Compensation and Benefits Survey (N = 6,385; Academy, 2015). In this study, 11.4% of participants reported being a race other than white, and most were female, held Master's degrees, and worked full-time. Similarly, the Compensation and Benefits Survey's participants 8% reported being a race other than white, with many being females (95%), who worked full-time (75%), and held Master's degrees (48%) (Academy, 2015).

Insert Table 5.4

Confirmatory Factor Analysis

A confirmatory factor analysis (CFA) was conducted to confirm Yukl's (2012) hierarchal leadership taxonomy comprised of four metacategories. The leadership behaviors derived from Yukl's (2012) study were included in their respective categories, and the supplemental behaviors developed from other leadership and professional research were assigned to the most relevant of the four metacategories by two researchers (Table 5.5). To complete this, the reported leadership frequency of the 27 behaviors was used (Table 5.6). Also, because the software requires missing

values to be attended to, the nine missing values (of the total 18,468) were configured in SPSS using series mean methodology.

Insert Table 5.5

Insert Table 5.6

The original model was constructed in AMOS and model fit was evaluated (Appendix H). The fit indices varied in significance for the original model, χ^2 (318, N = 684) = 1,326.09; *RMSEA* = .07, *GFI* = .86, *AGFI* = .83 (Table 5.7). Overall, the significant chi-squared value indicated the model did not fit; however, the large sample size of this study may have influenced this (Hooper, Coughlan, & Mullen, 2008; Matsunaga, 2011). Other indices, such as *CMIN/df* and *RMSEA*, were interpreted as acceptable (Hooper et al., 2008). The *GFI* and *AGFI* approached the ideal minimum of .95, however, the *NFI* and *CFI* were both well below the desired value of .95 (Matsunaga, 2011). Each of the four factors had relatively high covariances with each other (ranging from .90 to .98).

Insert Table 5.7

Subsequently, exploratory procedures included two additional modifications and tests of those models (Appendix H). To improve fit of Modified Model #1, researchers evaluated the behavior item relationships to identify higher covariances of errors (Gaskin, 2011). Ultimately, researchers opted to co-vary several items within factors in this iteration, χ^2 (314, N = 684) = 1,169.11; *RMSEA* = .06, *GFI* = .87, *AGFI* = .85 (Table 5.7). The *CMIN/df*, *RMSEA*, *NFI,* and

CFI improved, although only slightly. To explore further, a Modified Model #2 was developed by eliminating six behavior items with loadings below .65 from Modified Model #1. The removed behavior items included:

- Assess if your work or projects are progressing properly.
- Demonstrate a positive attitude.
- Demonstrate professionalism and ethical integrity at work.
- Utilize knowledge of current research to improve patient outcomes.
- Engage in developing mastery of clinical knowledge and skills.
- Act as a mentor to students or new dietitians.
- Engage with a mentor yourself.

Again, there were only minor changes in the fit indices with Modified Model #2, χ^2 (163, N = 684) = 773.14; *RMSEA* = .07, *GFI* = .89, *AGFI* = .85. The *GFI* and *NFI* each slightly improved and the *CMIN/df* and *RMSEA* reverted to approximating the values in the original model. In summary, although some of the fit indices reflected fit, the original CFA did not conclusively confirm Yukl's (2012) theoretical model for clinical RDNs. Further, additional data-driven modifications did not dramatically improve the model fit.

Exploratory Factor Analysis

Using the clinical RDNs' self-reported frequency of practicing each of the 27 leadership behaviors (Table 5.6), an exploratory factor analysis (EFA) was conducted. As an exploratory study, it was meaningful to use EFA to illustrate the relationships among variables and determine if any of the variables could be eliminated to simplify the taxonomy (Williams, Onsman, & Brown, 2010). Ultimately, a clinical leadership behavior taxonomy is proposed from these findings.

Initially, the data was assessed for its suitability for EFA. Although minimum sample size for conducting EFA is debated in the literature (MacCallum, Widaman, Zhang, & Hong, 1999), $N = 684$ met the general guidelines. Comrey and Lee (as cited in Williams et al., 2010) identified for adequacy of sample sizes (300 = good, 500 = very good, and 1,000 or more = excellent). The sample to variable ratio is also debated (MacCallum et al., 1999), however, this data set exceeded the broad range of guidelines (3:1 to 20:1; Williams et al., 2010) with a ratio of 25 cases per variable. Additionally, the correlation matrix of the 27 leadership behavior items was reviewed to assure each variable correlated with at least one other variable at 0.3 (Table 5.8). Finally, the Kaiser-Meyer-Olkin Measure of Sampling Adequacy was .941, and Bartlett's Test of Sphericity was significant χ^2 (351) = 9517.34, $p < .001$, both of which indicate the data was acceptable for EFA.

Insert Table 5.8

Factors were extracted using principal components analysis. Criteria for extraction included eigenvalues exceeding 1, scree plot indication, and consideration of the cumulative percentage of variance (Williams et al., 2010). An orthogonal varimax rotation was used. The initial analysis resulted in six factors accounting for 65% of the cumulative variance. Criteria for item-inclusion in EFA can vary dramatically; for this study, criteria were: a minimum factor loading of .40, and if an item cross-loaded, at least .20 difference between the primary and secondary loads (Matsunaga, 2011). Of the 27 behaviors, five items did not meet the established criteria for cross-loading and were eliminated before proceeding. The items eliminated were:

- Demonstrate appreciation to others for their effective performance and contribution.
- Help others cope with stressful situations.

- Demonstrate professionalism and ethical integrity at work.
- Analyze how services interact to meet department and organizational objectives.
- Engage in conflict resolution.

With the remaining 22 behaviors, a second EFA was conducted which resulted in five factors accounting for 64.8% of the cumulative variance. Cronbach's alpha coefficients were computed and assessed for each factor (.90, .84, .78, .80, and .71 respectively). During this process, an additional item (*Demonstrate a positive attitude*) was removed to improve the reliability of the third factor. In summary, a total of six behavior items were removed from the analysis before continuing to a third and final EFA.

Using the remaining 21 behavior items, EFA was completed and five factors emerged accounting for 66.6% of the total variance. The factor loadings can be reviewed in Table 5.9. The first factor is titled "Change Leadership" and is comprised of seven items with factor loadings ranging from .56 to .81; this factor accounted for 41.1% of the variance. The second factor is "Patient-Focused Leadership" and its four items loaded between .69 and .76, and the factor accounted for 8.0% of the variance. Accounting for 6.9% of the variance, a third factor is called "Self-Directed Leadership" and its four behavior loadings ranged from .61 to .80. A fourth factor comprised three behavior items and is called "Technical Leadership." The loadings ranged from .75 to .81 and this factor accounted for 5.5% of the variance. Finally, the fifth factor has three behavior items and is called "Relationship Leadership." Its loadings ranged from .60 to .80 and it accounted for 5.1% of the total variance. The Cronbach's alpha coefficients for these factors are .90, .84, .80, .82, and .71 respectively which fall within the recommended range of .70 to .90 or .95 (Tavakol & Dennick, 2011).

Insert Table 5.9

Discussion and Implications

Leadership Models

A strength of this study is the large sample size (N = 684), which limits chances of misspecification of items (Matsunaga, 2011). That said, the results from the original CFA and the subsequent adjusted model analyses provided mixed results. The theoretical model was not confirmed based on chi-square and *CFI* values (Matsunaga, 2011), yet it is positive that several of the fit indices met the recommended threshold values identified by Hooper et al. (2008; e.g., *RMSEA* and *CMIN/df*). The high covariance between the four factors/metacategories may reflect that these four factors are not specific to clinical dietetics leadership, or perhaps, there is simply a single factor or an alternative variation of factors for this population. Also noteworthy, there were only very minor improvements to the fit indices as the modifications were made.

There are several considerations for why the model may not have been confirmed. First, Yukl's (2012) leadership behaviors were altered in this study based on the informal nature of clinical leadership (formal leadership behaviors were eliminated) and the environment in which clinical RDNs work (clinical-specific behaviors were added). It is plausible that the tested model does not align with the primary working roles or population for clinical dietetics. Another possible reason is that although the sample size was large, there were multiple behavior items (27) in the study which can increase the likelihood of a poor model fit, especially if the behaviors overlap (Matsunaga, 2011).

Clinical Dietetics Leadership Taxonomy

Due to the exploratory and baseline nature of this study, it was logical to conduct an EFA in order to propose a leadership taxonomy for this population. Again, positively, the sample size of this study is large (N = 684), which strengthens the results (Matsunaga, 2011), and the data was suitable for conducting an EFA. What emerged is a clear taxonomy of five factors of leadership behaviors for clinical dietetics (Figure 5.1). The five factors have high internal consistency with Cronbach's alpha coefficients all falling within the acceptable range (Tavakol & Dennick, 2011).

The behavior items within each factor align well in a practical sense. The factor termed "Change Leadership" includes seven behavior items, many of which have a logical progression. For example, clinical RDNs must be able to analyze their environment, envision opportunities for change, and then advocate for those changes. In order to effectively advocate change, clinical RDNs need to foster relationships with those who can support change, and they need to do their part to promote the nutrition team in their interactions with others. The second factor, "Patient-focused Leadership," is comprised of behaviors focused on improving patient outcomes, safety, and satisfaction. In the current health care environment, these elements are paramount and involve RDNs who engage with patients most often for a food and nutrition services programs. Thus, there is a unique opportunity for clinicians to perform these because they have greater influence on many of the decisions impacting patients than do administrators (Ham, 2003).

"Self-Directed Leadership" encompasses four leadership behavior items. This aspect of clinical dietetics leadership focuses on the clinical RDN's ability to manage his or her own workflow efficiently and effectively. At first glance, some may question how these behaviors apply to leadership, but it is important to remember clinical leaders are role models for others

and are able to perform many of their other leadership activities because they manage their time well. Clawson's (2009) definition captures the important self-factor quite well: "leadership is about managing *energy*, first in yourself and then in those around you" (p. 3).

The factor titled "Technical Leadership" includes three key behaviors: engaging in developing mastery of clinical knowledge and skills, utilizing knowledge of current research to improve patient outcomes, and promoting the role of the RDN as a credible source of nutrition information. Clinical leaders gain their influence in their work environment and with colleagues from their credibility and passion for clinical work (Chavez & Yoder, 2015; Mountford & Webb, 2009). With an increased emphasis on interdisciplinary work (Rhea & Bettles, 2012), clinical RDNs will gain the confidence of other health care professionals by being a credible contributor to the patient care team.

The final factor is "Relationship Leadership," and it is comprised of three leadership behavior items: acting as a mentor, engaging with a mentor, and sharing and linking information among colleagues. Hunter et al. (2012) identified mentorship as the segue to leadership in the dietetic profession. Likewise, the role of mentoring in leadership development has been identified with frontline nurses (Dearmon, Riley, Mestas, & Buckner, 2015). In terms of sharing and linking information, Larrson et al. (2010) explained that this is how informal leaders contribute to sensemaking in an organization. Similarly, relational coordination (managing interdependent relationships of people doing interdependent tasks) and effective communication are cited as preliminary attributes for becoming a clinical leader in nursing (Chavez & Yoder, 2015). Moving forward, this taxonomy can serve as a framework for other clinical leadership studies, and using another sample, a CFA can be used to confirm this model for the clinical dietetics population.

Implications

There are several implications for the dietetics profession. Despite the frequent calls for leadership and the anecdotal acceptance of leadership's importance to the profession (Bergman, 2013; Crayton, 2015; Derelian, 1995; Dodd, 1992; Edge, 2004; Escott-Stump, 2011; McCollum, 2013; Pavlinac, 2009), there has been ambiguity regarding what leadership is and involves (Gregoire & Arendt, 2004). First, this leadership taxonomy can provide language and direction for the Accreditation Council for Education in Nutrition and Dietetics to foster leadership education across the dietetics curriculum. With a majority of RDNs practicing in this environment (Academy, 2015), presentation of leadership topics applicable to this practice area will support the Academy and profession in meeting its mission to empower "members to be food and nutrition leaders" (Academy, n.d.). Additionally, dietetics educators can incorporate this taxonomy into relevant coursework. The direct application of this research into the classroom may help prepare students to recognize and provide leadership in the clinical dietetics practice area.

This taxonomy can also be used to improve clinical practice. For example, there is potential to direct workplace professional development and continuing education offerings for RDNs. Supervisors of clinical RDNs may use this to guide coaching and development conversations with staff along the continuum of their careers. Clinical RDNs can self-assess their development and identify growth areas using this information.

Ultimately, the Academy could incorporate these findings into the creation of a development tool. If made easily accessible to clinical RDNs and students in supervised practice, leadership development and practice could be tracked and improved over time.

Conclusions

The CFA did not confirm Yukl's (2012) leadership model. Alternatively, through EFA, a clinical leadership taxonomy is proposed. The taxonomy is comprised of five factors: change, patient-focused, self-directed, technical, and relationship leadership. This taxonomy can inform education requirements, continuing education offerings, and workplace professional development for clinical RDNs.

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Table 5:1 Original and Final Leadership Behaviors

Original	Modification	Final
Make decisions about objectives & priorities, organize work, and allocate resources as needed for your activities and projects.	M	Make decisions about objectives and priorities, organize work, and allocate resources as needed for your activities and projects.
Assess if your work or projects are progressing properly.	M	Assess if your work or projects are progressing properly.
Cope with and manage disruptions in your normal work.	M	Cope with and manage disruptions in your normal work.
Build cooperative relationships, demonstrate a positive attitude, and help others cope with stressful situations.	R	Build cooperative relationships. Demonstrate a positive attitude. Help others cope with stressful situations.
Demonstrate appreciation to others for their effective performance and contribution.	M	Demonstrate appreciation to others for their effective performance and contribution.
Advocate change in the environment by explaining what and why changes are needed.	M	Advocate change in the environment by explaining what and why changes are needed.
Envision change in the environment by clearly articulating a vision for what can be attained.	M	Envision change in the environment by clearly articulating a vision for what can be attained.
Improve work methods or discover new ones through research, experiment, or external knowledge.	M	Improve work methods or discover new ones through research, experiment, or external knowledge.
Build and maintain relationships with others who can provide support, resources, and information.	M	Build and maintain relationships with others who can provide support, resources, and information.
Analyze current external environment and identify opportunities and threats to your work as a clinical RDN.	M	Analyze current environment and identify opportunities and threats to your work as a clinical RDN.
Represent your nutrition team in transactions through promoting the team's reputation and lobbying for resources.	R	Represent your nutrition team through promoting the team's reputation and advocating for resources.
Accept new professional opportunities and challenges for professional growth.	R	Seek and accept new professional opportunities and challenges for professional growth.
Demonstrate professionalism and honesty at work.	R	Demonstrate professionalism and ethical integrity at work.
Stay current on position-related research.	R	Utilize knowledge of current research to improve patient outcomes.
Engage in developing mastery of clinical knowledge and skills to serve as a credible nutrition professional.	R, A	Engage in developing mastery of clinical knowledge and skills. Promote my role as a credible source of nutrition information.

Original	Modification	Final
Analyze interrelated subsystems and how services interact to navigate meeting department and organizational objectives.	R	Analyze how services interact to meet department and organizational objectives.
Engage in activities to improve patient safety and the patient experience (includes adjusting services to meet needs of the population you serve).	R	Engage in activities to improve patient safety and the patient experience (includes adjusting services to meet needs of the population you serve).
	A	Develop plans to monitor and improve patient outcomes.
	A	Initiate efforts to increase patient satisfaction.
Identify and share available services within the facility or community with patients/clients.	M	Identify and share available services within the facility or community with patients/clients.
Act as a mentor to students or new dietitians.	M	Act as a mentor to students or new dietitians.
Engage with a mentor yourself.	M	Engage with a mentor yourself.
Informally share and link information among colleagues in your work unit to improve patient care.	R	Share and link information among colleagues in your work unit to improve patient care.
	A	Engage in conflict resolution.

Note. A (Add); M (Maintain); R (Revise)

Table 5:2 Expert Panel Characteristics (N = 9)

Characteristic	n
Gender	
Female	8
Male	1
Education	
Baccalaureate degree	1
Some graduate coursework	1
Master's degree	5
Doctoral degree	2
Years in clinical nutrition management	
Less than 1 year	0
1-3 years	1
4-6 years	3
7-10 years	1
Greater than 10 years	4
Employer type	
Self-operated	5
Contract managed	3
Other	1
Number of employees supervised	
1-5 employees	0
6-10 employees	1
11-15 employees	3
16-20 employees	0
21-25 employees	1
Greater than 26	4

Table 5:3 Expert Panel's Prioritization of Original Clinical Leadership Behaviors (N = 9)

Clinical Leadership Behavior	High Priority	Medium Priority	Low Priority	Not a Priority
Build cooperative relationships, demonstrate a positive attitude, and help others cope with stressful situations.	7	2	0	0
Advocate change in the environment by explaining what and why changes are needed.	7	2	0	0
Make decisions about objectives & priorities, organize work, and allocate resources as needed for your activities and projects.	6	3	0	0
Build and maintain relationships with others who can provide support, resources, and information.	6	3	0	0
Assess if your work or projects are progressing properly.	6	3	0	0
Improve work methods or discover new ones through research, experiment, or external knowledge.	6	2	1	0
Demonstrate appreciation to others for their effective performance and contribution.	6	2	1	0
Demonstrate professionalism and honesty at work.	6	2	0	1
Analyze interrelated subsystems and how services interact to navigate meeting department and organizational objectives.	6	1	2	0
Envision change in the environment by clearly articulating a vision for what can be attained.	5	4	0	0
Engage in activities to improve patient safety and the patient experience (includes adjusting services to meet needs of the population you serve).	5	3	1	0
Engage with a mentor yourself.	5	3	0	1
Informally share and link information among colleagues in your work unit to improve patient care.	5	2	2	0
Accept new professional opportunities and challenges for professional growth.	4	5	0	0
Represent your nutrition team in transactions through promoting the team's reputation and lobbying for resources.	4	4	1	0
Cope with and manage disruptions in your normal work.	4	3	1	1
Analyze current external environment and identify opportunities and threats to your work as a clinical RDN.	4	2	3	0
Act as a mentor to students or new dietitians.	3	6	0	0
Identify and share available services within the facility or community with patients/clients.	3	3	2	1
Stay current on position-related research.	3	3	3	0
Engage in developing mastery of clinical knowledge and skills to serve as a credible nutrition professional.	3	3	3	0

Table 5:4 Characteristics of Clinical Dietitians (N = 684)

Characteristic	n	%[a]
Age		
20 – 29 years	82	12.1
30 – 39 years	214	31.6
40 – 49 years	149	22.0
50 – 59 years	154	22.7
60 years or older	79	11.7
Gender		
Female	661	96.9
Male	19	2.8
Other	2	0.3
Education		
Baccalaureate degree	223	32.6
Some graduate coursework	147	21.5
Master's degree	303	44.3
Doctoral degree	11	1.6
Race		
White/Caucasian	590	86.6
Asian	38	5.6
Hispanic	20	2.9
African American	11	1.6
Native American	8	1.2
Pacific Islander	1	0.1
Other	13	1.9
Years of clinical experience		
Less than 1 year	2	0.3
1-3 years	40	5.9
4-6 years	87	12.7
7-10 years	113	16.5
Greater than 10 years	441	64.6
Years in present clinical position		
Less than 1 year	54	7.9
1-3 years	169	24.7
4-6 years	123	18.0
7-10 years	113	16.5
Greater than 10 years	224	32.8
Employment Status		
Full time (≥32 hours/week)	530	77.5
Part time (< 32 hours/week)	124	18.1
PRN, per diem, or casual	30	4.4
Area of clinical practice		
Acute care/inpatient	395	58.0
Ambulatory care outpatient	175	25.7
Long term care	91	13.4
Ambulatory care home care	20	2.9
Professional involvement		
Not involved	275	40.3
Somewhat involved	269	39.4
Involved	97	14.2
Very involved	42	6.1

Characteristic	n	%[a]	Characteristic	n	%[a]
Specialty certifications/designations			***Employer type***		
None	376	55.0	Self-operated	433	63.9
Certified Nutrition Support Clinician®	93	13.6	Contract managed	133	19.6
Certificate of Training in Weight Management	80	11.7	Other	112	16.5
Certified Diabetes Educator®	75	11.0			
BCS[b] – Renal Nutrition	17	2.5	***RDNs employed at facility***		
BCS – Oncology Nutrition	16	2.3	1 RDN	151	22.1
BCS – Gerontological Nutrition	11	1.6	2-4 RDNs	186	27.2
BCS – Pediatric Nutrition	10	1.5	5-10 RDNs	183	26.8
BCS – Sports Dietetics	7	1.0	11-20 RDNs	88	12.9
Other	34	5.0	More than 20 RDNs	75	11.0
Recent leadership training/development			***Primary supervisor RDN***		
None	379	55.4	Yes	395	57.8
Seminar	210	30.7	No	288	42.2
Coursework	79	11.5			
Book	67	9.8	***Primary supervisor's title***		
Certification	36	5.3	Clinical Nutrition Manager/ Chief Clinical Dietitian	314	45.9
Other	43	6.3	Department or Program Director	114	16.7
			Foodservice Director	80	11.7
Leadership training funding source			Nurse Manager	55	8.0
Work	198	28.9	Other	121	17.7
Self	111	16.2			
Professional organization	30	4.4			
Other	9	1.3			

[a]Responses may not equal 100% due to non-response to a question. [b]Board Certified Specialist

Table 5:5 Leadership Behaviors Organized by Yukl's (2012) Metacategories

I. Task-oriented
Make decisions about objectives and priorities, organize work, and allocate resources as needed for your activities and projects.[a]
Assess if your work or projects are progressing properly.[a]
Cope with and manage disruptions in your normal work.[a]
Engage in developing mastery of clinical knowledge and skills.
Utilize knowledge of current research to improve patient outcomes.
Analyze how services interact to meet department and organizational objectives.
Develop plans to monitor and improve patient outcomes.
Seek and accept new professional opportunities and challenges for professional growth.
II. Relations-oriented
Build cooperative relationships.[a]
Demonstrate a positive attitude.[a]
Help others cope with stressful situations.[a]
Demonstrate appreciation to others for their effective performance and contribution.[a]
Engage in conflict resolution.
Engage with a mentor yourself.
Act as a mentor to students or new dietitians.
Share and link information among colleagues in your work unit to improve patient care.
Demonstrate professionalism and ethical integrity at work.
III. Change-oriented
Advocate change in the environment by explaining what and why changes are needed.[a]
Envision change in the environment by clearly articulating a vision for what can be attained.[a]
Improve work methods or discover new ones through research, experiment, or external knowledge.[a]
Initiate efforts to increase patient satisfaction.
Engage in activities to improve patient safety and the patient experience (includes adjusting services to meet needs of the population you serve).
IV. External
Build and maintain relationships with others who can provide support, resources, and information.[a]
Analyze current environment and identify opportunities and threats to your work as a clinical RDN.[a]
Represent your nutrition team through promoting the team's reputation and advocating for resources.[a]
Promote my role as a credible source of nutrition information.
Identify and share available services within the facility or community with patients/clients.

[a] Item derived from Yukl's (2012) Hierarchal Leadership Taxonomy

Table 5:6 Self-Reported Frequency of Performing Leadership Behaviors as Clinical RDN (N = 684)

		n (%)						
Clinical Leadership Behavior	**Mean ± SD**	**Never**	**Rarely**	**Occasionally**	**Sometimes**	**Frequently**	**Usually**	**Every time**
Demonstrate professionalism and ethical integrity at work.	6.66±0.586	-	-	-	4 (0.6)	29 (4.2)	160 (23.4)	491 (71.8)
Promote my role as a credible source of nutrition information.	6.22±0.958	-	4 (0.6)	5 (0.7)	31 (4.5)	92 (13.5)	217 (31.7)	335 (49.0)
Demonstrate a positive attitude.	6.19±0.756	-	-	-	15 (2.2)	97 (14.2)	314 (45.9)	258 (37.7)
Utilize knowledge of current research to improve patient outcomes.	6.15±0.871	-	1 (0.1)	3 (0.4)	32 (4.7)	91 (13.3)	285 (41.7)	272 (39.8)
Engage in developing mastery of clinical knowledge and skills.	5.93±0.990	-	4 (0.6)	13 (1.9)	37 (5.4)	130 (19.0)	286 (41.8)	214 (31.3)
Build cooperative relationships.	5.89±1.138	2 (0.3)	7 (1.0)	18 (2.6)	52 (7.6)	118 (17.3)	245 (35.8)	242 (35.4)
Demonstrate appreciation to others for their effective performance and contribution.	5.72±1.127	3 (0.4)	6 (0.9)	19 (2.8)	63 (9.2)	149 (21.8)	265 (38.7)	179 (26.2)
Cope with and manage disruptions in your normal work.	5.55±1.431	2 (0.3)	27 (3.9)	43 (6.3)	86 (12.6)	109 (15.9)	199 (29.1)	218 (31.9)
Help others cope with stressful situations.	5.55±1.131	-	11 (1.6)	27 (3.9)	71 (10.4)	175 (25.6)	266 (38.9)	134 (19.6)
Build and maintain relationships with others who can provide support, resources, and information.	5.52±1.179	2 (0.3)	7 (1.0)	40 (5.8)	67 (9.8)	177 (25.9)	251 (36.7)	140 (20.5)
Make decisions about objectives and priorities, organize work, and allocate resources as needed for your activities and projects.	5.50±1.556	12 (1.8)	35 (5.1)	49 (7.2)	50 (7.3)	110 (16.1)	214 (31.3)	214 (31.3)

Clinical Leadership Behavior	Mean ± SD	n (%)						
		Never	Rarely	Occasionally	Sometimes	Frequently	Usually	Every time
Engage in activities to improve patient safety and the patient experience (includes adjusting services to meet needs of the population you serve).	5.44±1.408	7 (1.0)	23 (3.4)	43 (6.3)	80 (11.7)	140 (20.5)	215 (31.5)	175 (25.6)
Initiate efforts to increase patient satisfaction.	5.44±1.323	7 (1.0)	18 (2.6)	35 (5.1)	81 (11.8)	156 (22.8)	238 (34.8)	149 (21.8)
Assess if your work or projects are progressing properly.	5.43±1.431	4 (0.6)	26 (3.8)	53 (7.7)	76 (11.1)	142 (20.8)	198 (28.9)	185 (27.0)
Identify and share available services within the facility or community with patients/clients.	5.37±1.360	11 (1.6)	17 (2.5)	42 (6.1)	82 (12.0)	149 (21.8)	251 (36.7)	131 (19.2)
Develop plans to monitor and improve patient outcomes.	5.34±1.480	10 (1.5)	33 (4.8)	45 (6.6)	71 (10.4)	155 (22.7)	203 (29.7)	166 (24.3)
Represent your nutrition team through promoting the team's reputation and advocating for resources.	5.22±1.540	13 (1.9)	35 (5.1)	59 (8.6)	78 (11.4)	150 (22.0)	193 (28.3)	155 (22.7)
Seek and accept new professional opportunities and challenges for professional growth.	5.16±1.409	3 (0.4)	37 (5.4)	54 (7.9)	102 (14.9)	165 (24.1)	206 (30.1)	117 (17.1)
Share and link information among colleagues in your work unit to improve patient care.	5.15±1.437	9 (1.3)	36 (5.3)	55 (8.0)	104 (15.2)	144 (21.1)	213 (31.1)	123 (18.0)
Analyze how services interact to meet department and organizational objectives.	5.08±1.492	16 (2.3)	34 (5.0)	52 (7.6)	107 (15.7)	147 (21.6)	220 (32.3)	106 (15.5)
Act as a mentor to students or new dietitians.	4.90±1.900	39 (5.7)	70 (10.2)	65 (9.5)	86 (12.6)	90 (13.2)	154 (22.5)	179 (26.2)

Clinical Leadership Behavior	Mean ± SD	n (%)						
		Never	Rarely	Occasionally	Sometimes	Frequently	Usually	Every time
Advocate change in the environment by explaining what and why changes are needed.	4.74±1.341	4 (0.6)	38 (5.6)	84 (12.3)	157 (23.0)	179 (26.2)	170 (24.9)	52 (7.6)
Envision change in the environment by clearly articulating a vision for what can be attained.	4.61±1.373	8 (1.2)	44 (6.4)	95 (13.9)	150 (21.9)	197 (28.8)	141 (20.6)	49 (7.2)
Analyze current environment and identify opportunities and threats to your work as a clinical RDN.	4.58±1.551	22 (3.2)	62 (9.1)	76 (11.1)	143 (20.9)	156 (22.8)	165 (24.1)	60 (8.8)
Engage in conflict resolution.	4.57±1.615	20 (2.9)	77 (11.3)	79 (11.5)	125 (18.3)	158 (23.1)	149 (21.8)	76 (11.1)
Improve work methods or discover new ones through research, experiment, or external knowledge.	4.49±1.450	14 (2.0)	56 (8.2)	112 (16.4)	136 (19.9)	169 (24.7)	161 (23.5)	36 (5.3)
Engage with a mentor yourself.	3.47±1.818	99 (14.5)	155 (22.7)	121 (17.7)	112 (16.4)	81 (11.9)	59 (8.7)	55 (8.1)

Note. Respondents reported frequency of performing each of these behaviors in an average month.

Seven-point Scale: 1= Never; 2 = Rarely (in about <10% of chances when you could have); 3 = Occasionally (in about 30% of chances when you could have); 4 = Sometimes (in about 50% of chances when you could have); 5 = Frequently (in about 70% of chances when you could have); 6 = Usually (in about 90% of chances when you could have); and 7 = Every time.

Table 5:7 Fit Indices for Leadership Behavior Taxonomy Models (N = 684)

Model	χ^2	df	CMIN/df	RMSEA	GFI	AGFI	RMR	NFI	CFI
Original Model	1326.09*	318	4.17	.07	.86	.83	.18	.22	.26
Modified Model #1	1169.11*	314	3.72	.06	.87	.85	.16	.31	.37
Modified Model #2	773.14*	163	4.74	.07	.89	.85	.16	.33	.37

* $p < .001$

Table 5:8 Correlation Matrix (N = 684)

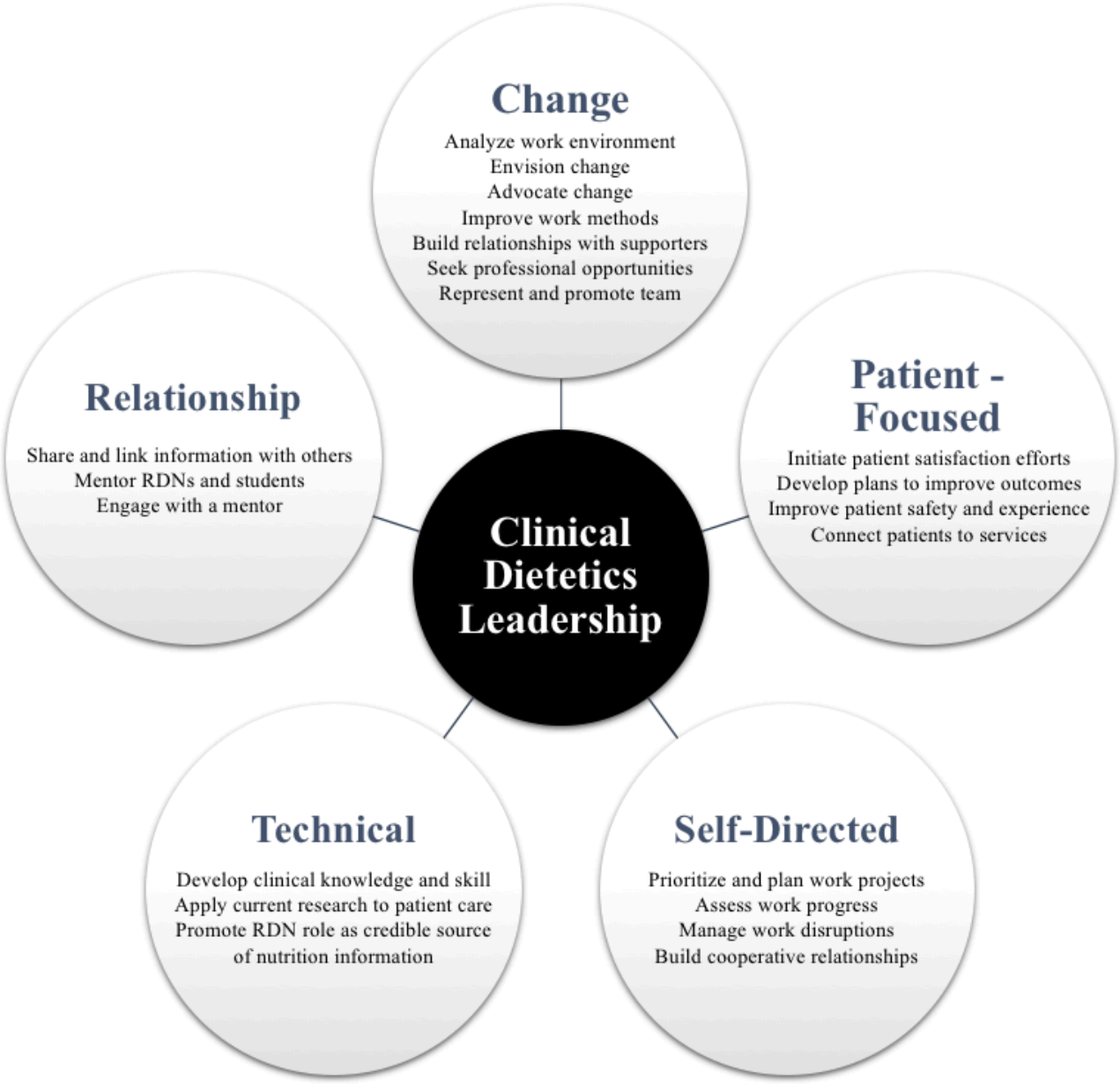
	F1	F2	F3	F4	F5	F6	F7	F8	F9	F10	F11	F12	F13	F14	F15	F16	F17	F18	F19	F20	F21	F22	F23	F24	F25	F26	F27
F1	1	.646	.519	.342	.142	.182	.239	.356	.339	.302	.258	.343	.303	.273	.136	.205	.151	.167	.312	.236	.234	.234	.273	.209	.193	.255	.253
F2	.646	1	.590	.421	.245	.300	.293	.415	.378	.346	.377	.368	.357	.356	.215	.287	.258	.238	.342	.265	.314	.267	.323	.223	.215	.303	.289
F3	.519	.590	1	.517	.179	.365	.327	.375	.348	.331	.383	.381	.351	.344	.228	.250	.244	.205	.318	.294	.312	.248	.346	.276	.244	.292	.377
F4	.342	.421	.517	1	.371	.367	.356	.298	.293	.284	.455	.315	.370	.338	.265	.275	.337	.321	.325	.285	.299	.299	.334	.162	.164	.279	.315
F5	.142	.245	.179	.371	1	.368	.407	.208	.193	.251	.330	.172	.224	.256	.423	.354	.295	.318	.198	.172	.236	.268	.253	.081	.123	.210	.137
F6	.182	.300	.365	.367	.368	1	.537	.456	.445	.441	.461	.401	.418	.396	.222	.251	.333	.302	.371	.378	.354	.359	.352	.238	.261	.319	.375
F7	.239	.293	.327	.356	.407	.537	1	.482	.461	.436	.467	.410	.420	.404	.296	.282	.318	.266	.373	.354	.328	.355	.309	.201	.259	.295	.314
F8	.356	.415	.375	.298	.208	.456	.482	1	.807	.662	.529	.567	.527	.521	.234	.309	.336	.337	.502	.422	.473	.414	.419	.323	.371	.405	.462
F9	.339	.378	.348	.293	.193	.445	.461	.807	1	.689	.563	.582	.535	.502	.188	.308	.327	.303	.489	.459	.448	.405	.405	.322	.319	.404	.467
F10	.302	.346	.331	.284	.251	.441	.436	.662	.689	1	.577	.635	.495	.549	.193	.303	.330	.301	.480	.441	.430	.400	.391	.297	.390	.351	.450
F11	.258	.377	.383	.455	.330	.461	.467	.529	.563	.577	1	.553	.527	.507	.306	.321	.355	.357	.446	.383	.373	.389	.459	.299	.343	.397	.420
F12	.343	.368	.381	.315	.172	.401	.410	.567	.582	.635	.553	1	.561	.575	.200	.330	.361	.343	.545	.445	.421	.402	.434	.322	.359	.356	.461
F13	.303	.357	.351	.370	.224	.418	.420	.527	.535	.495	.527	.561	1	.619	.231	.362	.348	.433	.501	.454	.412	.426	.465	.370	.339	.417	.390
F14	.273	.356	.344	.338	.256	.396	.404	.521	.502	.549	.507	.575	.619	1	.261	.391	.412	.440	.484	.418	.399	.421	.424	.346	.405	.368	.396
F15	.136	.215	.228	.265	.423	.222	.296	.234	.188	.193	.306	.200	.231	.261	1	.462	.406	.426	.221	.257	.266	.294	.301	.158	.117	.214	.180
F16	.205	.287	.250	.275	.354	.251	.282	.309	.308	.303	.321	.330	.362	.391	.462	1	.655	.546	.394	.362	.350	.380	.394	.223	.217	.315	.260
F17	.151	.258	.244	.337	.295	.333	.318	.336	.327	.330	.355	.361	.348	.412	.406	.655	1	.589	.435	.428	.362	.352	.376	.229	.234	.324	.291
F18	.167	.238	.205	.321	.318	.302	.266	.337	.303	.301	.357	.343	.433	.440	.426	.546	.589	1	.480	.404	.358	.377	.429	.225	.238	.326	.267
F19	.312	.342	.318	.325	.198	.371	.373	.502	.489	.480	.446	.545	.501	.484	.221	.394	.435	.480	1	.641	.521	.489	.530	.300	.356	.403	.525
F20	.236	.265	.294	.285	.172	.378	.354	.422	.459	.441	.383	.445	.454	.418	.257	.362	.428	.404	.641	1	.593	.566	.545	.297	.283	.393	.444
F21	.234	.314	.312	.299	.236	.354	.328	.473	.448	.430	.373	.421	.412	.399	.266	.350	.362	.358	.521	.593	1	.543	.536	.252	.266	.399	.414
F22	.234	.267	.248	.299	.268	.359	.355	.414	.405	.400	.389	.402	.426	.421	.294	.380	.352	.377	.489	.566	.543	1	.617	.251	.315	.396	.452
F23	.273	.323	.346	.334	.253	.352	.309	.419	.405	.391	.459	.434	.465	.424	.301	.394	.376	.429	.530	.545	.536	.617	1	.319	.324	.460	.449
F24	.209	.223	.276	.162	.081	.238	.201	.323	.322	.297	.299	.322	.370	.346	.158	.223	.229	.225	.300	.297	.252	.251	.319	1	.474	.452	.375
F25	.193	.215	.244	.164	.123	.261	.259	.371	.319	.390	.343	.359	.339	.405	.117	.217	.234	.238	.356	.283	.266	.315	.324	.474	1	.435	.414
F26	.255	.303	.292	.279	.210	.319	.295	.405	.404	.351	.397	.356	.417	.368	.214	.315	.324	.326	.403	.393	.399	.396	.460	.452	.435	1	.521
F27	.253	.289	.377	.315	.137	.375	.314	.462	.467	.450	.420	.461	.390	.396	.180	.260	.291	.267	.525	.444	.414	.452	.449	.375	.414	.521	1

F1 Make decisions about objectives and priorities, organize work, and allocate resources as needed for your activities and projects.
F2 Assess if your work or projects are progressing properly.
F3 Cope with and manage disruptions in your normal work.
F4 Build cooperative relationships.
F5 Demonstrate a positive attitude.
F6 Help others cope with stressful situations.
F7 Demonstrate appreciation to others for their effective performance and contribution.
F8 Envision change in the environment by clearly articulating a vision for what can be attained.
F9 Advocate change in the environment by explaining what and why changes are needed.
F10 Improve work methods or discover new ones through research, experiment, or external knowledge.
F11 Build and maintain relationships with others who can provide support, resources, and information.
F12 Analyze current environment and identify opportunities and threats to your work as a clinical RDN.
F13 Represent your nutrition team through promoting the team's reputation and advocating for resources.
F14 Seek and accept new professional opportunities and challenges for professional growth.
F15 Demonstrate professionalism and ethical integrity at work.
F16 Utilize knowledge of current research to improve patient outcomes.
F17 Engage in developing mastery of clinical knowledge and skills.
F18 Promote my role as a credible source of nutrition information.
F19 Analyze how services interact to meet department and organizational objectives.
F20 Engage in activities to improve patient safety and the patient experience (includes adjusting services to meet needs of the population you serve).
F21 Develop plans to monitor and improve patient outcomes.
F22 Initiate efforts to increase patient satisfaction.
F23 Identify and share available services within the facility or community with patients/clients.
F24 Act as a mentor to students or new dietitians.
F25 Engage with a mentor yourself.
F26 Share and link information among colleagues in your work unit to improve patient care.
F27 Engage in conflict resolution.

Table 5:9 Varimax Rotation Factor Loadings

	Factor				
	I	II	III	IV	V
I. Change					
Advocate change in the environment by explaining what and why changes are needed.	.808	.246	.174	.072	.114
Improve work methods or discover new ones through research, experiment, or external knowledge.	.804	.203	.130	.104	.141
Envision change in the environment by clearly articulating a vision for what can be attained.	.773	.243	.208	.088	.147
Analyze current environment and identify opportunities and threats to your work as a clinical RDN.	.696	.204	.210	.184	.172
Build and maintain relationships with others who can provide support, resources, and information.	.628	.176	.258	.228	.176
Seek and accept new professional opportunities and challenges for professional growth.	.584	.158	.161	.371	.268
Represent your nutrition team through promoting the team's reputation and advocating for resources.	.557	.242	.208	.288	.260
II. Patient-Focused					
Initiate efforts to increase patient satisfaction.	.227	.757	.104	.198	.145
Develop plans to monitor and improve patient outcomes.	.297	.730	.156	.147	.076
Engage in activities to improve patient safety and the patient experience (includes adjusting services to meet needs of the population you serve).	.295	.710	.103	.227	.125
Identify and share available services within the facility or community with patients/clients.	.206	.692	.205	.237	.234
III. Self-Directed					
Assess if your work or projects are progressing properly.	.230	.110	.800	.106	.094
Make decisions about objectives and priorities, organize work, and allocate resources as needed for your activities and projects.	.178	.104	.783	-.018	.103
Cope with and manage disruptions in your normal work.	.192	.128	.776	.096	.156
Build cooperative relationships.	.175	.157	.605	.310	.007
IV. Technical					
Engage in developing mastery of clinical knowledge and skills.	.197	.187	.104	.811	.090
Utilize knowledge of current research to improve patient outcomes.	.146	.196	.147	.780	.103
Promote my role as a credible source of nutrition information.	.193	.232	.080	.753	.119
V. Relationship					
Act as a mentor to students or new dietitians.	.172	.101	.120	.093	.800
Engage with a mentor yourself.	.272	.109	.057	.091	.750
Share and link information among colleagues in your work unit to improve patient care.	.188	.361	.186	.163	.601
Eigenvalues	**8.66**	**1.67**	**1.44**	**1.15**	**1.07**
Percentage of Variance	**41.24**	**7.97**	**6.88**	**5.45**	**5.08**
Cronbach's Alpha Coefficients	**.90**	**.84**	**.80**	**.82**	**.71**

Figure 5:1 Clinical Dietetics Leadership Taxonomy



Chapter 6 - Summary and Conclusions

The primary practice area within the dietetics profession is clinical nutrition, but there is no current leadership research for this major subset of Registered Dietitian Nutritionists (RDNs). Given the crucial role that front line clinicians play within the continuum of the vast health care system, other health care organizations and professions have initiated research about clinical leadership (Edmonstone, 2009; Ham, 2003; Mountford & Webb, 2009; National Heath Services [NHS], 2011; NHS, 2013; The Nurse Manager Leadership Partnership, 2008; Parker, Flin, McKinley, & Yule, 2013).

This exploratory study identified clinical RDNs' experiences and perspectives about clinical leadership in the workplace. Of important distinction, this project focused primarily on identifying leadership behaviors to supplement the technical component of their work, not to assess or encourage progression into formal management positions. To investigate clinical RDN leadership, a series of leadership behaviors was developed based on Yukl's (2012) hierarchical leadership taxonomy. The behaviors were validated by an expert panel of Clinical Nutrition Managers (CNMs) and modified based on their feedback. Finally, a survey instrument was developed to identify the frequency at which clinical RDNs practiced the behaviors, how they assessed the potential benefit of practicing those behaviors to patients or clients, and how they perceived other factors associated with clinical leadership. The survey instrument was deployed electronically (Qualtrics, Provo, UT) to a stratified random sample of 4,700 clinical RDNs. This chapter summarizes the major findings, limitations, and implications for future research.

Major Findings

A guiding purpose of this study was to create an evidence- and practice-based taxonomy of leadership behaviors for clinical dietetics, in addition to determining clinical RDNs' perspectives and experiences related to leadership. There was a total response rate of 14.6% (*N* = 684). Comparatively, the response to the final survey surpassed that of other similar surveys conducted thus far.

The demographic profile of study participants was consistent with the most recent Academy of Nutrition and Dietetics (Academy) Compensation and Benefits Survey (*N* = 6,385; Academy, 2015). In the Academy's (2015) study, participants were 95% female, the median age was 49 years old, 9% reported a race other than white, and 75% worked full-time. Comparatively, in this study, 56.4% reported being 40 years of age or older, 96.9% were female, 44.3% held Master's degrees, and 13.4% indicated they were a race other than white. Additionally, type of care settings was distributed similarly to the Compensation and Benefits survey (Academy, 2015). Most (58%) participants practiced in acute care/inpatient clinical settings, a quarter of participants (25.7%) practiced in ambulatory care outpatient, and 13.4% practiced in long term care (13.4%). This section will summarize the key results for each of the research questions.

Research Question 1

What is the framework for leadership behaviors of clinical RDNs?

A clinical dietetics leadership taxonomy is proposed from this research, which is new to this profession. The taxonomy was developed from a thorough literature review, was validated by an expert panel, and frequency data was then obtained from a national stratified random sample of clinical RDNs. A varimax rotated, exploratory factor analysis was conducted and five

aspects (comprised of several associated behaviors) of clinical dietetics leadership emerged. The proposed clinical dietetics leadership taxonomy includes:

Change Leadership

- Advocate change in the environment by explaining what and why changes are needed.
- Improve work methods or discover new ones through research, experiment, or external knowledge.
- Envision change in the environment by clearly articulating a vision for what can be attained.
- Analyze current environment and identify opportunities and threats to your work as a clinical RDN.
- Build and maintain relationships with others who can provide support, resources, and information.
- Seek and accept new professional opportunities and challenges for professional growth.
- Represent your nutrition team through promoting the team's reputation and advocating for resources.

Patient-Focused Leadership

- Initiate efforts to increase patient satisfaction.
- Develop plans to monitor and improve patient outcomes.
- Engage in activities to improve patient safety and the patient experience (includes adjusting services to meet needs of the population you serve).
- Identify and share available services within the facility or community with

patients/clients.

Self-Directed Leadership

- Assess if your work or projects are progressing properly.
- Make decisions about objectives and priorities, organize work, and allocate resources as needed for your activities and projects.
- Cope with and manage disruptions in your normal work.
- Build cooperative relationships.

Technical Leadership

- Engage in developing mastery of clinical knowledge and skills.
- Utilize knowledge of current research to improve patient outcomes.
- Promote my role as a credible source of nutrition information.

Relationship Leadership

- Act as a mentor to students or new dietitians.
- Engage with a mentor yourself.
- Share and link information among colleagues in your work unit to improve patient care.

Research Question 2

What leadership behaviors do CNMs prioritize as highest order for clinical RDNs?

Based on feedback from the CNMs who participated in the expert panel, the five behaviors rated as having the highest priority for clinical RDNs included:

- Build cooperative relationships, demonstrate a positive attitude, and help others cope with stressful situations (7 rated as high priority and 2 as medium priority).
- Advocate change in the environment by explaining what and why changes are needed (7 rated as high priority and 2 as medium priority).

- Make decisions about objectives and priorities, organize work, and allocate resources as needed for your activities and projects (6 rated as high priority and 3 as medium priority).
- Build and maintain relationships with others who can provide support, resources, and information (6 rated as high priority and 3 as medium priority).
- Assess if your work or projects are progressing properly (6 rated as high priority and 3 as medium priority).

Interestingly, CNMs rated the behaviors most associated with clinical acumen as comparably lower priority. Their responses indicate they view clinical knowledge and skills—although important—to be be components of the technical aspect of a clinical RDN's job. Researchers opted to retain these in the final version of the survey instrument due to the emphasis others have placed on them in clinical leadership research (Chavez & Yoder, 2015; Downey, Parslow, & Smart, 2011; NMLP, 2008). Importantly, power bases for informal leaders are limited, with one of those being expert power (French, Raven, & Cartwright, 1959). Expert power in this case comes from clinical RDNs using and sharing up-to-date information and their unique technical skill set with patients and health care professionals.

Research Question 3

What leadership behaviors are most frequently practiced by a random national sample of clinical RDNs?

Clinical RDNs used a 7-point frequency scale (1 = Never to 7 = Every time) to indicate the frequency at which they practice each leadership behavior in an average month. The leadership behaviors that resulted in the highest overall means were:

- Demonstrate professionalism and ethical integrity at work (M = 6.66, SD = 0.586).

- Promote my role as a credible source of nutrition information (M = 6.22, SD = 0.958).
- Demonstrate a positive attitude (M = 6.19, SD = 0.756).
- Utilize knowledge of current research to improve patient outcomes (M = 6.15, SD = 0.871).
- Engage in developing mastery of clinical knowledge and skills (M = 5.93, SD = 0.990).

These findings are logical given the annual registration requirement for RDNs to confirm their oath to practice ethically, which embraces credibility and remaining current on evidence based knowledge.

Research Question 4

What is the nature of the relationships between specific characteristics of clinical RDNs and their frequency of practicing leadership behaviors?

A series of one-way ANOVAs were used to examine relationships between clinical RDNs' composite mean frequency scores and various clinical RDN characteristics. There were no significant differences in composite mean frequency scores across gender (male, female, other), level of education, years in clinical practice, type of clinical position, or years in current clinical position. There was a statistically significant difference between levels of professional involvement and composite mean frequency scores *Welch's F* (3, 674) = 13.79, p = .000. Games-Howell post hoc comparisons revealed clinical RDNs who assessed themselves as involved or very involved professionally had higher mean frequency composite scores than those who were less involved.

Research Question 5

How do clinical RDNs assess the potential benefit to their patients or clients if they demonstrate specific leadership behaviors?

Using a five-point scale (1 = very low benefit to 5 = very high benefit), clinical RDNs assessed the potential benefit to patients or clients of practicing each of the 27 leadership behaviors. In general, the means for each of the 27 behaviors were relatively high based on the scale (range: 3.6 – 4.7). The behaviors assessed as having the greatest potential benefit to patients or clients were:

- Demonstrate a positive attitude ($M = 4.70$, $SD = 0.52$).
- Demonstrate professionalism and ethical integrity at work ($M = 4.68$, $SD = 0.54$).
- Utilize knowledge of current research to improve patient outcomes ($M = 4.62$, $SD = 0.58$).
- Engage in developing mastery of clinical knowledge and skills ($M = 4.60$, $SD = 0.590$).
- Promote my role as a credible source of nutrition information ($M = 4.47$, $SD = 0.655$).

Again, the means for each behavior were relatively high and clustered on the scale (5-point scale, lowest $M = 3.60$). The behaviors that clinical RDNs rated as having the lowest potential benefit to patient or clients included:

- Engage with a mentor yourself ($M = 3.60$, $SD = 0.99$).
- Act as a mentor to students or new dietitians ($M = 3.69$, $SD = 1.01$).
- Engage in conflict resolution ($M = 3.76$, $SD = 0.94$).
- Analyze current environment and identify opportunities and threats to your work as a clinical RDN ($M = 3.80$, $SD = 0.922$).
- Assess if your work or projects are progressing properly ($M = 3.87$, $SD = 0.857$).

Additional Findings

Clinical Leadership Defined

To gain greater depth and appreciation of RDNs' perspectives on the subject, two open-ended questions were included on the survey instrument. The first open-ended question invited participants to define clinical leadership and yielded 593 written responses. Some comments indicate that clinical leadership responsibilities belonged specifically to formal managers (*n* = 27), while a greater number—a majority—shared relevant insight for clinical RDNs. The most common themes to emerge from these responses were:

- **A clinical leader has a patient focus.**
    - Promotes best possible patient outcomes
    - Advocates for patients
    - Takes time to explain rationale of nutrition care to patients
    - Motivates patients
    - Improves patients' health statuses
    - Seeks advice from others to help treat difficult cases
    - "Is an advocate for those who need nourishment during acute/critical illness"
- **A clinical leader is a credible source for nutrition information.**
    - Has clinical expertise
    - Is specialized in practice
    - Continues to learn
    - Is the person others *want* to turn to for nutritional needs
    - Represents and advocates for proper nutrition
    - Is the nutrition spokesperson for the facility

  - Stands up for self as the nutrition expert

- **A clinical leader is a role model and mentor.**
  - Builds trust with others
  - Mentors other RDNs and students
  - Sets and leads by example
  - Is a "go-to" person
  - Supports other RDNs
  - Is a resource to peers
- **A clinical leader is a strong interdisciplinary team member.**
  - Builds and fosters relationships
  - Is capable of working cooperatively
  - Offers support to colleagues
  - Uses a team approach
  - Is an active and fully engaged member of the interdisciplinary team
  - Leads interdisciplinary team activities or projects
  - Promotes the clinical RDN role to other disciplines
  - Educates other health care professionals about latest nutrition research
  - Respects other health care professionals
- **A clinical leader is proactive and innovative.**
  - Takes initiative; "steps up"
  - Is a self-starter
  - Is an impetus of change
  - Takes active role in future of clinical nutrition

- Sees upcoming trends
- Evaluates situations, identifies problems or opportunities, formulates plans, and effects change
- Develops new ideas for programs and services
- Takes on special projects
- Leads improvement projects
- Identifies new sources of revenue

Mountford and Webb (2009) highlighted the need to clarify what clinical leadership entails and how it varies among clinical professions. Only recently in the nursing profession, Chavez and Yoder (2015) proposed a definition for staff nurse clinical leadership because there was not one previously identified. To foster and expect clinical leadership in dietetics, it is important that a specific working definition be developed and incorporated into dietetics education and continuing education. The comments obtained from clinical RDNs support and underscore the proposed clinical dietetics leadership taxonomy very well. Both emphasize aspects of leadership as they relate to patients, working with others, managing one's own workload, innovating and guiding change, and the importance of clinical acumen.

Clinical Leadership Barriers

The second open-response question asked participants to identify the primary barriers to providing leadership as a clinical RDN (n = 553). A small, but notable, subset of 17 participants indicated they saw no barriers. For the greater number of responses, barriers included those imposed on by oneself, other health care professionals, managers and teams, organizations, and the dietetics profession. Several personal barriers included feeling fear (n =

3), intimidation (n = 1), isolation (n = 3), or discomfort (n = 4) in practicing leadership. Eight participants referred to family responsibilities and work-life balance as a barrier.

A larger proportion of comments reflected clinical RDNs' perceptions of how others viewed and treated them as professionals. Clinical RDNs (n = 129) frequently reported feeling looked down upon because they are RDNs, devalued, not taken seriously, or not respected by other health care professionals. Within those comments, participants stated they were seen as ancillary staff rather than health care providers, and that others were unaware of the level of education required to become an RDN. There was an emphasis on these feelings being rooted in interactions with doctors (n = 34) and nursing staff (n = 15). This is especially interesting because most participants (73.2%) indicated that they agreed or strongly agreed that other health care professionals considered them (the clinical RDN) as a leader in clinical practice. Also, only 7.9% strongly disagreed or disagreed that their leadership efforts are appreciated by physicians. Another barrier was that clinical RDNs see other health care disciplines encroaching on nutrition services and not recognizing RDNs as the nutrition professional.

The primary team- and organization-imposed barriers were significant. The most commonly reported barrier was a shortage of time (n = 166). Between inadequate staffing and heavy workloads, clinical RDNs indicated they did not have the extra time to look for or accept opportunities to lead or engage in improvement activities. Some of the other main challenges were associated with bureaucracy and hierarchy, organizational policies, and the difficulty of working through all of the proper channels to eventually arrive at desired outcomes (n = 52). The general workplace culture (n = 13) and its politics (n = 29) were cited as barriers. Another barrier was clinical RDNs' lack of order writing privileges (n = 14); this was also stated as the

reason some clinical RDNs felt that they were not taken seriously or valued by other health care professionals.

Many clinical RDNs reported a general lack of support from their organization and/or manager (n = 76). Participants indicated that their manager was a barrier– either because the manager did not provide support in clinical leadership or because the clinical RDNs perceived their manager as purposefully limiting their opportunities to lead. Limited resources were discussed (n = 21), and in particular, the lack of reimbursement for professional involvement or continuing education. While discussing teams, multiple clinical RDNs felt their peers were not interested in effecting change (n = 17). Bohmer (2013) emphasized that clinicians are trained as individualists, which poses challenges for shared goals and collective action.

Finally, barriers associated with employment organizations and with the dietetics profession were listed by clinical RDNs. Multiple clinical RDNs (n = 37) alluded to one barrier being little to no advancement opportunities at work or in the dietetics field. In fact, one recipient of this survey did not meet the criteria for participation and emailed the researcher, sharing she "found limited career advancement, salary advancement, and leadership options in dietetics," so she opted to become a Physician's Assistant. She wrote, "I thought you might find it interesting that my choice to follow my own path towards leadership and professional advancement has in fact excluded me from your study" (personal communication, February, 29, 2016). This is not an isolated response; 14 participants mentioned inadequate salaries as a barrier. This aligns with Mountford and Webb's (2009) report that leadership is not adequately incentivized for clinicians.

Several clinical RDNs (n =12) felt they were not properly trained or educated to be clinical leaders– one specifically said in reference to dietetics leadership, it is "not highly

emphasized in dietetics internships except in [the] role as food service management." Finally, lack of mentorship was also identified as a barrier– specifically, that there are "no mentors to learn from," and there is "a lack of mentorship among successful leaders in Clinical Practice" (*n* = 4). Three others mentioned they did not have adequate time to provide mentoring. This is consistent with the clinical RDNs' reported frequency of engaging with (*M* = 3.47, 7-point frequency scale) and acting as a mentor (*M* = 4.90, 7-point frequency scale).

The open-ended nature of these responses may have yielded distinctly different results than if presented in another fashion. Had researchers used a prescribed, multiple-choice question to ascertain most common barriers, responses may have differed. Additionally, very little context was provided in the question and participants may have had varying interpretations of what it means to provide leadership as a clinical RDN.

In summary, only a small segment of responses referred to personal barriers such as feeling intimidated or uncomfortable to practice leadership. Instead, the predominate barriers to clinical leadership were extrinsic and founded in interactions with others, or associated with the organization or profession. Over three decades ago, speaking specifically about clinical RDNs, Nestle (1984) warned, "if the profession does not encourage dietitians to become leaders and to take a more active and independent role, others certainly will not" (p. 1352). It is possible that over time, the lack of a leadership identity and focus has systematically developed a feedback loop in which a lack of leadership continues to inhibit current and future clinical RDN leadership. Today's clinical RDNs face these extrinsic barriers to leadership, and they will likely only be overcome by combining leadership skills of individual clinical RDNs to change stigmas and advocate for their needs. The profession, and particularly stakeholders involved with the

clinical practice area, need to develop a calculated approach to overcome these leadership barriers.

Limitations

There are inherent limitations associated with deploying the survey instrument electronically. First, the usable response rate was relatively low (14.6%) which is consistent with other stand-alone email surveys (Dillman, 2015). The Academy's most recent Compensation and Benefits Survey had a response rate of 21% which was down from 30% in 2011 and 2013 (Academy, 2015). The Academy's Council on Future Practice's visioning process survey very recently reported that almost 4% of recipients opened and completed their survey (Academy, personal communication, March 31, 2016). Perhaps this is a professional trend or a symptom of the current living and working environment. Dillman (2015) pointed out that individuals may receive over 100 emails per day, and they can easily be overlooked and deleted. Also, with "constant contact devices," more people are opting not to complete surveys as they are difficult to do while walking or doing other activities (p. 9, Dillman, 2015). Further, as elucidated in the findings, clinical leadership has not had a formal emphasis in general dietetics education, and "leadership" is often associated with foodservice management in the profession rather than clinical care. Unfortunately, it is possible that clinical RDNs were either not interested in the topic or did not feel it was relevant to their role, despite attempts to clarify this in the cover letters.

To encourage responses, an initial invitation email and two reminder emails were issued, an offer to enter a drawing for one of ten $50 gift cards was made, and survey burden was kept to a minimum (Qualtrics reported the trimmed mean duration was 17 minutes, the mode duration was 12 minutes, and the range was 1 minute to over 4 hours). Additionally, the survey

instrument's presentation was automatically optimized by Qualtrics (Provo, UT) for computer screens and handheld devices; instead of a large matrix for rating frequency and potential benefit, the hand held devices saw a more typical multiple choice presentation (one statement with the scale listed vertically below it rather than horizontally). Positively, the demographics of this study aligned with those of the Compensation and Benefits Survey (2015) and the *N* was larger than other past dietetics leadership studies (Arendt & Gregoire, 2005; Molt, 1995).

Another limitation to this study is that clinical RDNs self-reported their leadership behavior frequencies. Although clinical RDNs see themselves as frequently practicing these behaviors, key stakeholders like CNMs, clinical nutrition peers, and other health care professionals (e.g., doctors or nurses) did not validate these responses in this study.

Implications and Future Research

The findings from this study support a new and exciting future research agenda for the dietetics profession. For the purpose of this project, the implications and future research ideas are categorized and discussed for general clinical leadership, clinical dietetics practice and its stakeholders, and dietetics education.

Clinical Leadership

Findings from this study contribute to the broader concept of clinical leadership and support the need and direction of future research. It is constructive that clinical RDNs recognized relatively high potential benefit for patients or clients from practicing each of the 27 leadership behaviors. As such, many RDNs enter the field with the goal of helping others. Lees (2010) wrote that leadership saves lives in health care settings, and it is positive that clinical RDNs identified the relationship of their workplace leadership behaviors to the benefit of patients they serve. Mountford and Webb (2009) pointed out that a major power source for

clinical leaders lies in their credibility in the clinical aspect of their work– this may help explain why clinical RDNs reported frequent practice and high potential benefit to patients as behaviors which specifically strengthened their position as a nutrition expert. Similarly, Bohmer (2013) recognized that influence for clinical leaders is often derived from their behavior and communication skills as they interacted with their peers. It is positive that a majority of clinical RDNs reported their clinical nutrition peers (66.4%) and other health care professionals (73.2%) saw them (clinical RDNs) as clinical leaders and that most felt their colleagues (i.e., nurses, physicians, and other healthcare professionals) appreciated their leadership efforts.

Several challenges associated with clinical leadership have been discussed by others. One of these is that many clinicians do not have the training or interest to pursue or accept leadership (Bohmer, 2013). In the current study, 56.7% of clinical RDNs reported they wanted to learn more about clinical leadership. Another challenge is the uncertainty of taking on leadership opportunities because of the cost/benefit concerns and lack of incentives (Mountford & Webb, 2009). Consistent with these concerns, a generous number of clinical RDNs noted a lack of incentives as the primary barrier to practicing leadership in their roles. Others noted inequities with their pay and workload. While this study did not investigate financial benefits, more than three-fourths of clinical RDNs did report they enjoyed their jobs more when they demonstrated leadership at work. Although an intangible benefit, elements of this finding may motivate clinicians to choose to practice leadership, which warrants further investigation.

Future Research

- Do the results of applying this study's methodology and leadership behaviors to other clinical professions clarify which leadership behaviors are common and unique to various health care professionals?

- What are interdisciplinary team members' expectations of other health care professionals' leadership behavior as it relates to quality of patient care and experience?
- What training methods and resources are effective for fostering clinical leadership among clinicians in the health care setting?

Dietetics

A majority of clinical RDNs consider themselves to be leaders and indicated their colleagues also consider them as such. There do not appear to be major prerequisites for frequent leadership behavior practice as there were no significant differences across gender, level of education, specialty certifications held, years in practice, type of position, or years in current position. Past-President Pavlinac's (2009) call for every Academy member to be a leader appears achievable in the clinical nutrition setting. Fortunately, the few characteristics that reflected differences in leadership frequency scores are reasonably accessible for clinical RDNs– higher levels of professional involvement and participation leadership training. The relationship between professional involvement and workplace leadership behavior frequency should be used by clinical RDNs and the Academy to encourage employers to support professional involvement.

Engaging with and being a mentor were both leadership behaviors that were less frequently practiced and rated as having a comparatively lower potential benefit for patients and clients by clinical RDNs. In open-ended responses, comments about lack of access to mentorship were made. There continues to be an opportunity to investigate clinical RDNs' experience with, perspective of, and barriers to engaging in and receiving mentorship. This is especially important in light of Hunter, Lewis, and Ritter-Gooder's (2012) finding that mentorship is the segue to leadership in dietetics.

There are several implications from this study for managers of clinical RDNs. First, the leadership taxonomy can be used to guide professional development conversations with staff members. Second, an investigation into specific clinical leadership barriers within the team and organization's politics, culture, and policies and procedures will allow managers to begin mitigating them.

The Academy would benefit from using the clinical dietetics leadership taxonomy for the basis of a development or measurement tool. If made available electronically, clinical RDNs could self-assess and track their leadership development over the course of their careers. It would also serve as a value-added tool the Academy could share with employers and managers of RDNs. This leadership taxonomy should also inform continuing education opportunities for clinical RDNs.

Future Research

- Do on-on-the job observations of clinical RDNs reflect the self-reported clinical leadership data in this study?
- How do self, manager, and colleague (RDN and other health care professional) ratings of frequency and effectiveness of clinical RDN leadership practices align?
- What do clinical RDNs, who are considered clinical leaders, identify as effective solutions for overcoming the most common primary barriers to clinical leadership?
- What is a formal definition of clinical dietetics leadership?
- How does a modified version of this leadership taxonomy apply to other dietetics practice areas (e.g., community nutrition, academe, business/sales)?

Dietetics Education

Clearly, dietetics educators need to adjust how leadership is situated in their curricula. Furthermore, the context and enthusiasm in which the topic is taught requires attention as well. As expected, most participants (68%) in this study indicated that leadership was aligned with their foodservice and management coursework; this is interesting because the knowledge and competency statements for foodservice reflect only a fraction of those related to clinical practice (ACEND, 2015). There is certainly opportunity to include leadership within areas that are more frequently taught. Further, a majority of RDNs are not entering foodservice and management practice and as such, students may be discounting the importance of leadership because the topic is not applied to their professional interests. Adjusting leadership introduction and application across the dietetics curriculum will require a paradigm shift for many dietetics educators as it is a change to the long-standing professional tradition of linking management, foodservice, and leadership topics. Additional research supporting leadership in various dietetics practice areas and direction from the Accreditation Council for Education in Nutrition and Dietetics (ACEND) may be necessary to effect this change. Further, as dietetics adopts the upcoming advanced degree requirement for practice, ACEND has the unique opportunity to include leadership knowledge and competency requirements spanning the dietetics curriculum at each level of dietetics education.

Future Research

- What perceptions do dietetics educators have of leadership education and practice in the profession?
- In what ways have dietetics educators introduced and taught leadership in their curricula?

- What educational strategies expand students' understanding and application of dietetics leadership in practice?
- How do perspectives and approaches to leadership vary across students in different educational disciplines (e.g., compare findings from dietetics and business students)?

Conclusion

The proposed clinical dietetics leadership taxonomy contributes to a more specific definition of leadership for a major subset of the profession. The taxonomy's individual behaviors will help guide leadership education, development, and research into the future. Clinical RDNs have an important role as they balance what is demanded of them– meeting the immediate nutrition needs of patients, but also assuring a place in the health care setting for RDNs as it continues to evolve. Adjusting perspectives as to what dietetics leadership is and how it factors into professional responsibilities will require a calculated team approach by individual RDNs, the Academy, educators, ACEND, and researchers. Anecdotally, RDNs enter the dietetics profession to help others, and this requires a lot of time, energy, and dedication. One important way to amplify these efforts is to prepare RDNs to have strong nutrition knowledge *and* leadership skills. While RDNs denoting their own leadership strengths is an appropriate goal for the profession, gaining the respect and being identified as leaders by clinical peers is ideal.

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Appendix A - Leadership Behavior Items

Original

1. Make decisions about objectives & priorities, organize work, and allocate resources as needed for your activities and projects.
2. Assess if your work or projects are progressing properly.
3. Cope with and manage disruptions in your normal work.
4. Build cooperative relationships, demonstrate a positive attitude, and help others cope with stressful situations.
5. Demonstrate appreciation to others for their effective performance and contribution.
6. Advocate change in the environment by explaining what and why changes are needed.
7. Envision change in the environment by clearly articulating a vision for what can be attained.
8. Improve work methods or discover new ones through research, experiment, or external knowledge.
9. Build and maintain relationships with others who can provide support, resources, and information.
10. Analyze current external environment and identify opportunities and threats to your work as a clinical RDN.
11. Represent your nutrition team in transactions through promoting the team's reputation and lobbying for resources.
12. Accept new professional opportunities and challenges for professional growth.
13. Demonstrate professionalism and honesty at work.
14. Stay current on position-related research.
15. Engage in developing mastery of clinical knowledge and skills to serve as a credible nutrition professional.
16. Analyze interrelated subsystems and how services interact to navigate meeting department and organizational objectives.
17. Engage in activities to improve patient safety and the patient experience (includes adjusting services to meet needs of the population you serve).
18. Identify and share available services within the facility or community with patients/clients.
19. Act as a mentor to students or new dietitians.
20. Engage with a mentor yourself.
21. Informally share and link information among colleagues in your work unit to improve patient care.

Final

1. Make decisions about objectives and priorities, organize work, and allocate resources as needed for your activities and projects.
2. Assess if your work or projects are progressing properly.
3. Cope with and manage disruptions in your normal work.
4. Build cooperative relationships.
5. Demonstrate a positive attitude.
6. Help others cope with stressful situations.
7. Demonstrate appreciation to others for their effective performance and contribution.
8. Advocate change in the environment by explaining what and why changes are needed.
9. Envision change in the environment by clearly articulating a vision for what can be attained.
10. Improve work methods or discover new ones through research, experiment, or external knowledge.
11. Build and maintain relationships with others who can provide support, resources, and information.
12. Analyze current environment and identify opportunities and threats to your work as a clinical RDN.
13. Represent your nutrition team through promoting the team's reputation and advocating for resources.
14. Seek and accept new professional opportunities and challenges for professional growth.
15. Demonstrate professionalism and ethical integrity at work.
16. Utilize knowledge of current research to improve patient outcomes.
17. Engage in developing mastery of clinical knowledge and skills.
18. Promote my role as a credible source of nutrition information.
19. Analyze how services interact to meet department and organizational objectives.
20. Engage in activities to improve patient safety and the patient experience (includes adjusting services to meet needs of the population you serve).
21. Develop plans to monitor and improve patient outcomes.
22. Initiate efforts to increase patient satisfaction.
23. Identify and share available services within the facility or community with patients/clients.
24. Act as a mentor to students or new dietitians.
25. Engage with a mentor yourself.
26. Share and link information among colleagues in your work unit to improve patient care.
27. Engage in conflict resolution.

Appendix B - Request for Expert Panel Participation Email

Dear Clinical Nutrition Manager,

A research team at Kansas State University is conducting a study to develop a taxonomy of leadership behaviors for clinical Registered Dietitian Nutritionists (RDNs). As supervisors of clinical RDNs, we are eager to obtain your perspective and insight regarding key leadership behaviors. We have developed a list of leadership behaviors based on theory and existing research, however, we want you to identify what might be missing and help us prioritize these behaviors for the clinical dietetics environment. It is important to highlight that we are seeking behaviors that are relevant in clinical RDNs' *current* roles, not necessarily pushing them to formal leadership positions.

We will be conducting an expert panel through videoconferencing technology in **January** and are requesting your participation because of your known leadership in the profession and experience in the clinical environment. Your participation will take approximately 90 minutes. **As a token of our appreciation, participants will receive a $25 Amazon gift card.**

All of your responses will remain confidential and anonymous and we will only be reporting summary data. If you are able to participate, you will be provided an informed consent form to complete prior to the video conference.

Please notify me by at your earliest convenience if you are willing to participate. We will schedule dates/times after we have received responses from invited participants. If you have questions regarding this study, please do not hesitate to contact Emily Patten at emilykvaterlaus@ksu.edu or Kevin Sauer at 785-532-5581 or ksauer@ksu.edu.

We look forward to your insight and appreciate your consideration.

Thank you,

Emily Vaterlaus Patten, MS, RD
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Kansas State University
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Kevin Sauer, PhD, RD, LD
Associate Professor
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Appendix C - Informed Consent to Participate in Expert Panel

KANSAS STATE UNIVERSITY

INFORMED CONSENT

PROJECT TITLE: The Dietetics Leadership Identity Project: Leadership Taxonomy in Clinical Dietetics

APPROVAL DATE OF PROJECT: 12/15/15 EXPIRATION DATE OF PROJECT:12/15/16

PRINCIPAL INVESTIGATOR: Dr. Kevin Sauer, RDN, LD

CO-INVESTIGATOR(S): Emily Vaterlaus Patten, MS, RD

CONTACT NAME AND PHONE FOR ANY PROBLEMS/QUESTIONS: Emily Vaterlaus Patten, MS, RD, 208-861-0727, emilykvaterlaus@ksu.edu; or Dr. Kevin Sauer, RDN, LD, 785-532-5581; ksauer@ksu.edu

IRB CHAIR CONTACT/PHONE INFORMATION*:*

- Rick Scheidt, Chair, Committee on Research Involving Human Subjects, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.
- Jerry Jaax, Associate Vice President for Research Compliance and University Veterinarian, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506, (785) 532-3224.

PURPOSE OF THE RESEARCH: This is a research project exploring leadership behaviors of clinical dietitians. This expert panel of Clinical Nutrition Managers will help develop an instrument specific to informal leadership practices of clinical dietitians.

PROCEDURES OR METHODS TO BE USED: An expert panel will be used to determine the importance of specific leadership behaviors for clinical dietitians. This will be completed via an online, synchronous video conference. The expert panel will be video and audio recorded.

LENGTH OF STUDY: The expert panel will be 90 minutes.

RISKS OR DISCOMFORTS ANTICIPATED: No known risks.

BENEFITS ANTICIPATED:

1. Relevant leadership behaviors will be identified and discussed by Clinical Nutrition Managers
2. A survey instrument will ultimately be developed for distribution to a national sample of clinical RDNs to examine their leadership behaviors.

EXTENT OF CONFIDENTIALITY: Responses will remain confidential and anonymous. Only aggregate data will be reported and video/audio recordings will not be distributed.

TERMS OF PARTICIPATION: I understand this project is research, and that my participation is completely voluntary. I also understand that if I decide to participate in this study, I may withdraw my consent at any time, and stop participating at any time without explanation, penalty, or loss of benefits, or academic standing to which I may otherwise be entitled.

I verify that my signature below indicates that I have read and understand this consent form, and willingly agree to participate in this study under the terms described, and that my signature acknowledges that I have received a signed and dated copy of this consent form.

Participant Name: _____

Participant Signature: _____ **Date:** _____

Witness to Signature: (project staff) _____ **Date:** _____

Appendix D - Expert Panel Discussion Guide

Introduction and Explanation

Welcome to today's expert panel! We really appreciate your time and know that you're very busy people. Your contributions are very important to this project.

Before we get started, I'd like to introduce myself. I am Emily Vaterlaus Patten and am currently a PhD Candidate at Kansas State with Dr. Sauer as my major advisor. He is also available at 785-532-5581 or ksauer@ksu.edu should any of you have technical difficulties during the session. I completed my undergraduate dietetics degree, internship, and master's degree at Brigham Young University. Following that, I worked as a clinical dietitian and then an administrative dietitian at Intermountain Healthcare in Salt Lake City, Utah. I have always been very passionate about dietetics and plan to focus my research career on how we can continue to promote and progress our profession.

Some background on this current research project – The Academy's mission statement is "Empowering members to be food and nutrition leaders." There have been some really consistent and clear calls by Academy presidents for the development and practice of leadership regardless of practice area or position, but what we've noticed is that there seems to be ambiguity as to what leadership is in the profession. Much of this could be related to the frequency in which leadership concepts are looped into foodservice management courses during dietetics education, or are only associated with formal management or volunteer elected positions. We see this as a concern because the largest proportion of practice and practitioners is in clinical practice. Many of these professionals do not have formal management responsibilities associated with their roles.

As we move forward, please keep in mind that the goal of this research is to focus on which leadership behaviors are important for clinical RDNs in their ***current*** role as they provide Medical Nutrition Therapy to patients; contribute to your nutrition team, interdisciplinary teams, and the facility; and train new staff or precept dietetics students. The goal of this research is to develop a series of key leadership behaviors for this population and then organizing them statistically into a leadership taxonomy that can eventually be used in career development and can inform dietetics education and continuing education. We want this taxonomy to be comprehensive yet concise so that it does not become overwhelming.

We need your insight as managers of clinicians because you work in the environment with them, you evaluate their performance, but you also might have a unique perspective on the leadership potential of the clinical RDN position as it relates to the whole organization. So as we proceed, consider your evaluation of clinical RDNs and the feedback you've received from other healthcare professionals about your staff.

Let's briefly introduce ourselves (name, role) before we get started. [Introductions]

Today, we will be using a protocol called Nominal Group Technique in which I'll present some information, give you some time to gather your thoughts and ideas regarding leadership of clinical RDNs, and then we'll use a round-robin approach to share what additional ideas you might have. We'll hold off on discussion until everyone has a chance to share their ideas and once they are all on the table, we'll have a group discussion regarding them. The final step of this process will involve you responding to a short survey following this video conference in which you'll sort the behaviors we discussed into 4 categories. This technique has been found to be very effective in health care settings because it allows for quick generation of ideas and then wraps up with rating or ranking of ideas.

Silent Idea Generation

To begin, please open the file called "Leadership Behavior Items" that was attached in the video conference log-in email I sent you this morning.

Please take 10 minutes to review this list of behaviors and identify any behaviors that are unclear or you think need reworking AND any additional behaviors that you consider missing and important for clinical dietetics practice.

I'll have a stop watch on my screen so you can track the time. I'll let you know when we're at 5 minutes and 9 minutes for those of you on the phone.

If you have questions or comments during this time period, please email me OR use the chat feature on Zoom. Giving everyone some silent time to consider these is important.

Sharing Ideas

We'll go around the group and each person can share their initial thoughts. If possible, let's hold off on discussion until everyone gets a chance to share their list of ideas. As something comes up that you feel strongly about or want to clarify, please write it down and we'll come back to it in our group discussion time.

Group Discussion

Now that we have all of these additional ideas, let's please discuss them. A list of all of the ideas should be in your email in-box for your review [researcher sends email with updated attachment].

Researcher facilitates discussion.

Researcher questions whether these behaviors are actually possible/reasonable in daily responsibilities of clinical RDNs.

Voting and Ranking

We have a few additional questions we would like to address, but to wrap this up I will send you a short survey in which you will sort these leadership behaviors into various levels of priority.

Ideally, we would like for you to complete this while our discussion is still fresh in your mind. If we could get this from you as soon as possible, we would appreciate it.

Other Questions

We are developing a survey that clinical RDNs will complete. We are curious if you have any ideas for improving the success of our survey – by that we mean, getting clinical RDNs to respond.

What incentives might engage them?

Thank you all for your time. You'll be seeing a survey from me within the next hour and it will only take a few more minutes of your time. At the end, it will give you a place to indicate what email address you want me to send your Amazon gift card to.

Appendix E - Participation Invitation for Clinical RDNs

Dear [first name],

A research team from Kansas State University is conducting a study regarding leadership behaviors in the clinical dietetics environment. You have been randomly selected from the Commission on Dietetic Registration's list of dietitians who practice clinical nutrition. The purpose of this study is to examine leadership in clinical dietetics and we are interested in your perspective and experience.

Your response is very important to the success of this study. **Please respond to questions while considering your daily responsibilities and interactions as a clinical dietitian**. The survey takes approximately 10-15 minutes to complete. Upon completion of the survey, you will be able to enter your contact information for a **chance to win one of ten $50 gift cards** (if you win, you can select any $50 gift card from Amazon's extensive list).

Participation is entirely voluntary; there is no penalty or loss of benefits if you choose to not participate or discontinue participation at any time. Your responses will remain anonymous and confidential, and results will only be reported in a summary format. By choosing to complete this questionnaire, you are indicating your voluntary participation in this study.

If you have any questions regarding this study, please do not hesitate to contact Emily Vaterlaus Patten (emilykvaterlaus@ksu.edu) or Kevin Sauer (785-532-5581 or ksauer@ksu.edu).

Thank you for your assistance in this research,

Emily Vaterlaus Patten, MS, RD
PhD Candidate
Kansas State University
emilykvaterlaus@ksu.edu

Kevin Sauer, PhD, RD, LD
Associate Professor
Department of Food, Nutrition, Dietetics and Health
Kansas State University
785-532-5581
ksauer@ksu.edu

Follow this link to the Survey:

Or copy and paste the URL below into your internet browser:

Follow the link to opt out of future emails:

For questions about your rights as a participant or the manner the study is conducted, you may contact Dr. Rick Scheidt, Chair of Committee on Research Involving Human Subjects, (785) 532-3224, 203 Fairchild Hall, Kansas State University, Manhattan, KS 66506.

Appendix F - Survey Instrument for Clinical RDNs

Q1 Are you currently employed as a Registered Dietitian Nutritionist (RDN) in clinical nutrition and dietetics practice?

> The Academy of Nutrition and Dietetics delineates: Clinical Nutrition and Dietetics Practice utilizes the skills, knowledge, and applied judgment of the RDN or RD whose practice involves nutrition care, medical nutrition therapy and related services provided to individuals and/or groups of all ages to address health promotion; and prevention, delay or management of diseases and/or conditions.

- ❍ Yes
- ❍ No

If No Is Selected, Then Skip To End of Survey

Q2 Please estimate the percent of your work time you spend practicing clinical dietetics (as opposed to completing foodservice, clinical nutrition management, or other role responsibilities):

- ❍ 0%
- ❍ 25%
- ❍ 50%
- ❍ 75%
- ❍ 100%

If 0% Is Selected, Then Skip To End of Survey

Q3 For each of the following statements, please indicate how frequently you have performed the behavior as a clinical RDN in an average month.

Never	Rarely (in <10% of chances when you could have)	Occasionally (in about 30% of the chances when you could have)	Sometimes (in about 50% of the chances when you could have)	Frequently (in about 70% of the chances when you could have)	Usually (in about 90% of the chances when you could have)	Every time
Make decisions about objectives and priorities, organize work, and allocate resources as needed for your activities and projects.						
Assess if your work or projects are progressing properly.						
Cope with and manage disruptions in your normal work.						
Build cooperative relationships.						
Demonstrate a positive attitude.						
Help others cope with stressful situations.						
Demonstrate appreciation to others for their effective performance and contribution.						
Envision change in the environment by clearly articulating a vision for what can be attained.						
Advocate change in the environment by explaining what and why changes are needed.						
Improve work methods or discover new ones through research, experiment, or external knowledge.						
Build and maintain relationships with others who can provide support, resources, and information.						
Analyze current environment and identify opportunities and threats to your work as a clinical RDN.						
Represent your nutrition team through promoting the team's reputation and advocating for resources.						
Seek and accept new professional opportunities and challenges for professional growth.						
Demonstrate professionalism and ethical integrity at work.						
Utilize knowledge of current research to improve patient outcomes.						
Engage in developing mastery of clinical knowledge and skills.						
Promote my role as a credible source of nutrition information.						
Analyze how services interact to meet department and organizational objectives.						
Engage in activities to improve patient safety and the patient experience (includes adjusting services to meet needs of the population you serve).						
Develop plans to monitor and improve patient outcomes.						
Initiate efforts to increase patient satisfaction.						
Identify and share available services within the facility or community with patients/clients.						
Act as a mentor to students or new dietitians.						
Engage with a mentor yourself.						
Share and link information among colleagues in your work unit to improve patient care.						
Engage in conflict resolution.						

Q4 For each of the following, please rate the potential benefit to patients/clients if you demonstrate this behavior in your role as a clinical RDN.

Very Low Benefit	Low Benefit	Some Benefit	High Benefit	Very High Benefit
Make decisions about objectives and priorities, organize work, and allocate resources as needed for your activities and projects.				
Assess if your work or projects are progressing properly.				
Cope with and manage disruptions in your normal work.				
Build cooperative relationships.				
Demonstrate a positive attitude.				
Help others cope with stressful situations.				
Demonstrate appreciation to others for their effective performance and contribution.				
Envision change in the environment by clearly articulating a vision for what can be attained.				
Advocate change in the environment by explaining what and why changes are needed.				
Improve work methods or discover new ones through research, experiment, or external knowledge.				
Build and maintain relationships with others who can provide support, resources, and information.				
Analyze current environment and identify opportunities and threats to your work as a clinical RDN.				
Represent your nutrition team through promoting the team's reputation and advocating for resources.				
Seek and accept new professional opportunities and challenges for professional growth.				
Demonstrate professionalism and ethical integrity at work.				
Utilize knowledge of current research to improve patient outcomes.				
Engage in developing mastery of clinical knowledge and skills.				
Promote my role as a credible source of nutrition information.				
Analyze how services interact to meet department and organizational objectives.				
Engage in activities to improve patient safety and the patient experience (includes adjusting services to meet needs of the population you serve).				
Develop plans to monitor and improve patient outcomes.				
Initiate efforts to increase patient satisfaction.				
Identify and share available services within the facility or community with patients/clients.				
Act as a mentor to students or new dietitians.				
Engage with a mentor yourself.				
Share and link information among colleagues in your work unit to improve patient care.				
Engage in conflict resolution.				

Q5 You're about halfway done!

Q6 Please rate your agreement with the following statements:

Strongly disagree	Disagree	Neither agree nor disagree	Agree	Strongly agree
I feel that leadership is relevant to daily clinical nutrition practice.				
Leadership pertains more to formal managers than to my role as a clinical RDN.				
As a dietetics student, the topic of leadership was included in my clinical nutrition coursework.				
As a dietetics student, the concept of leadership was usually aligned with management, foodservice, etc. rather than clinical coursework.				
I feel that leadership pertains more to service in my professional organizations (such as elected or volunteer positions) than to my daily role as a clinical RDN.				
I have someone encouraging my leadership development as a clinical RDN.				
I consider myself a clinical leader.				
My clinical nutrition peers consider me a leader in clinical practice.				
The other healthcare professionals with whom I work consider me a leader in clinical practice.				
My manager considers me a leader in clinical practice.				
My leadership efforts are appreciated by physicians.				
My leadership efforts are appreciated by nurses.				
My leadership efforts are appreciated by other healthcare staff.				
My leadership efforts are appreciated by my manager.				
When I do demonstrate leadership, I enjoy my job as a clinical RDN more.				
Providing leadership is an expected performance goal in my role as a clinical RDN.				
My efforts to provide clinical leadership are acknowledged by my manager in my performance evaluations.				
My organization's culture encourages me to be a leader as a clinical RDN.				
My organization's policies and procedures limit my opportunities to lead at work.				
Politics at work prevent me from demonstrating the level of leadership I would like to provide as a clinical RDN.				
My responsibilities outside of work limit my capacity to exhibit leadership behaviors at work.				
I want to learn more about clinical leadership.				
I will seek leadership roles within the dietetics field.				

Q7 I would define clinical leadership as:

Q8 The primary barriers to providing leadership as a clinical dietitian are:

Q9 With which gender do you most identify?

- Female
- Male
- Other

Q10 What year were you born?

Q11 What is your race?
- White/Caucasian
- African American
- Hispanic
- Asian
- Native American
- Pacific Islander
- Other _____

Q12 What is your highest level of education?
- Baccalaureate degree
- Some graduate coursework completed
- Master's degree
- Doctoral degree

Q13 Throughout your career, how long have you practiced in clinical dietetics?
- Less than 1 year
- 1-3 years
- 4-6 years
- 7-10 years
- Greater than 10 years

Q14 How long have you held your current clinical dietetics position?
- Less than 1 year
- 1-3 years
- 4-6 years
- 7-10 years
- Greater than 10 years

Q15 What is your current employment status?
- Full time (32 or more hours/week)
- Part time (Less than 32 hours/week)
- PRN, per diem, or casual

Q16 Is your primary supervisor a Registered Dietitian?
- Yes
- No

Q17 Which title best describes your primary supervisor?
- Clinical Nutrition Manager/ Chief Clinical Dietitian
- Department or Program Director
- Foodservice Director
- Nurse Manager
- Other: _____

Q18 How would you self-assess your level of professional involvement in the past 3 years? Consider your involvement in local, state, or national levels of professional organizations like the Academy of Nutrition and Dietetics, American Society for Parenteral and Enteral Nutrition, American Diabetes Association, etc.

- o Not involved
- o Somewhat involved
- o Involved
- o Very Involved

Q20 Do you have any specialty certifications or designations? (Please mark all that apply).

- ☐ No, I do not.
- ☐ Board Certified Specialist - Pediatric Nutrition
- ☐ Board Certified Specialist - Gerontological Nutrition
- ☐ Board Certified Specialist - Renal Nutrition
- ☐ Board Certified Specialist - Oncology Nutrition
- ☐ Board Certified Specialist - Sports Dietetics
- ☐ Certificate of Training in Weight Management
- ☐ Certified Nutrition Support Clinician®
- ☐ Certified Diabetes Educator®
- ☐ Other: _____

Q21 Have you participated in leadership training/development in the past 3 years? (Please mark all that apply).

- ☐ No, I have not.
- ☐ Book
- ☐ Seminar
- ☐ Coursework
- ☐ Certification
- ☐ Other: _____

Answer If Have you participated? (Please mark all t... No, I have not. Is Not Selected
Q22 Who funded this training/development? (Please mark all that apply).

- ☐ Work
- ☐ Professional organization
- ☐ Self
- ☐ Other: _____

Q23 Approximately, how many RDNs are employed at/by your facility (including you)?

- o Just me (1)
- o 2-4 RDNs
- o 5-10 RDNs
- o 11-20 RDNs
- o More than 20 RDNs

Q24 Of the following, which best describes your employer?

- o Contract management company
- o Self-operated organization
- o Other: _____

Appendix G - IRB Approval

KANSAS STATE UNIVERSITY | University Research Compliance Office

TO: Kevin Sauer
Human Nutrition
105 Justin

Proposal Number: 8052

FROM: Rick Scheidt, Chair
Committee on Research Involving Human Subjects

DATE: 12/11/2015

RE: Proposal Entitled, "The Dietetics Leadership Idenetity Project: Leadership Taxonomy in Clinical Dietetics"

The Committee on Research Involving Human Subjects / Institutional Review Board (IRB) for Kansas State University has reviewed the proposal identified above and has determined that it is EXEMPT from further IRB review. This exemption applies only to the proposal - as written – and currently on file with the IRB. Any change potentially affecting human subjects must be approved by the IRB prior to implementation and may disqualify the proposal from exemption.

Based upon information provided to the IRB, this activity is exempt under the criteria set forth in the Federal Policy for the Protection of Human Subjects, **45 CFR §46.101, paragraph b, category: 2, subsection: ii.**

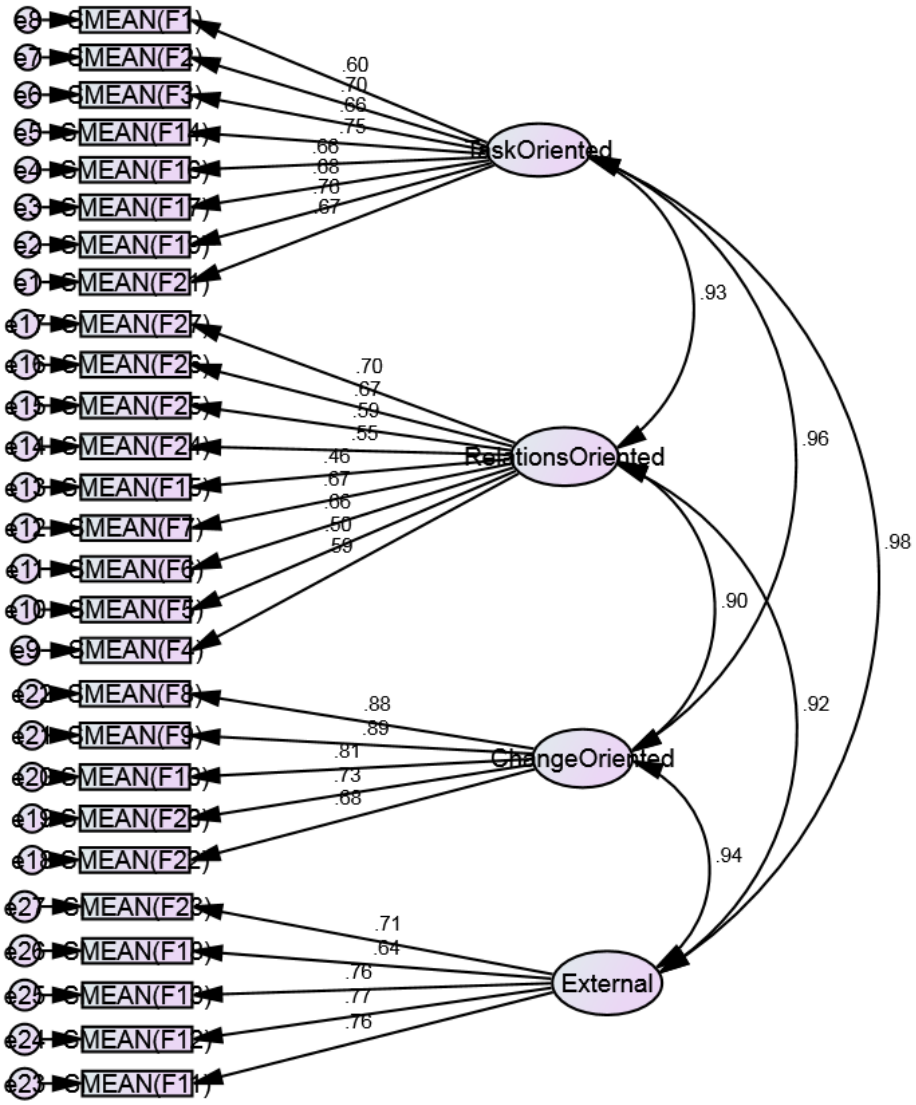
Certain research is exempt from the requirements of HHS/OHRP regulations. A determination that research is exempt does not imply that investigators have no ethical responsibilities to subjects in such research; it means only that the regulatory requirements related to IRB review, informed consent, and assurance of compliance do not apply to the research.

Any unanticipated problems involving risk to subjects or to others must be reported immediately to the Chair of the Committee on Research Involving Human Subjects, the University Research Compliance Office, and if the subjects are KSU students, to the Director of the Student Health Center.

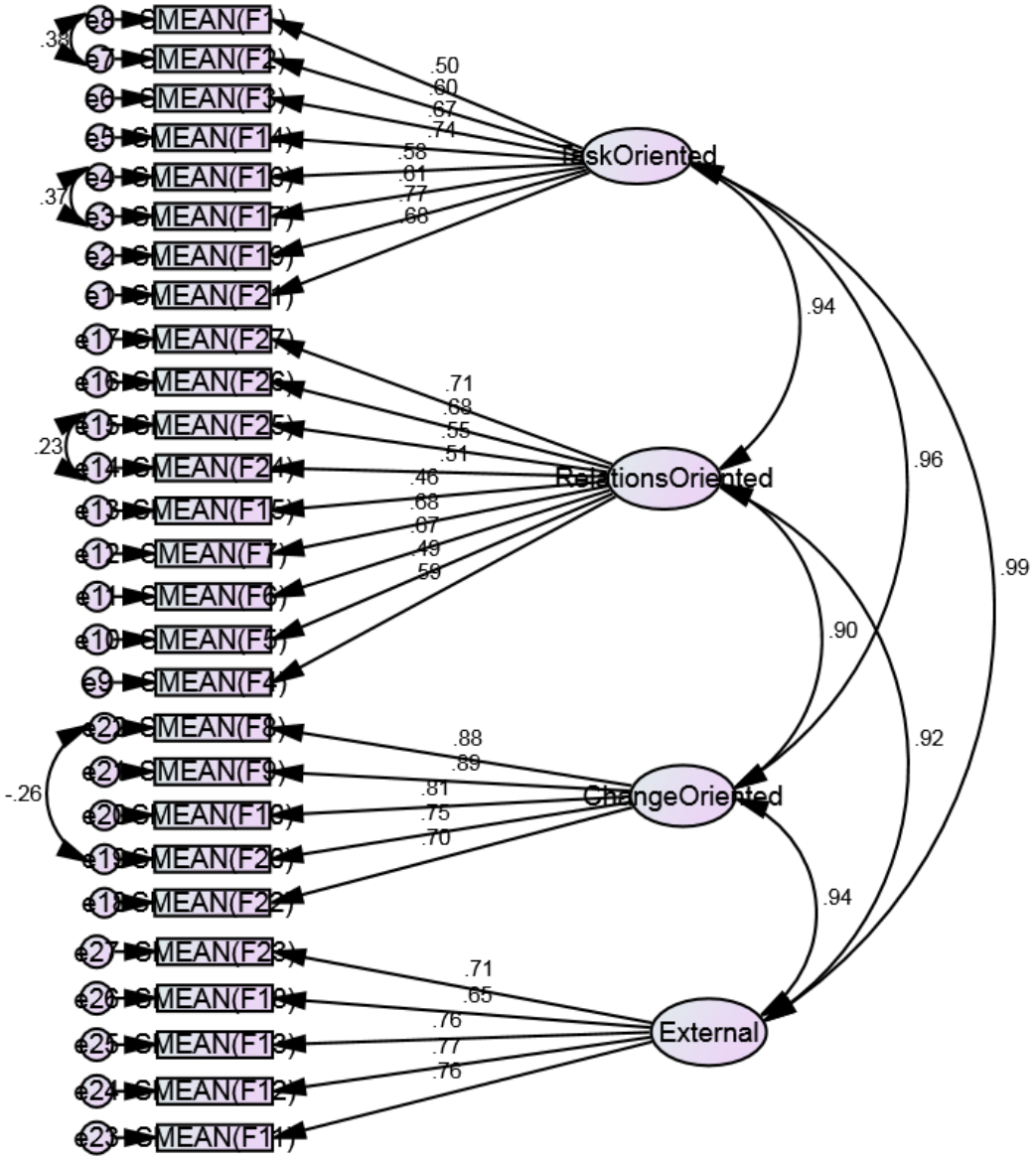
203 Fairchild Hall, Lower Mezzanine, 1601 Vattier St., Manhattan, KS 66506-1103 | 785-532-3224 | fax: 785-532-3278 | k-state.edu/research/comply | comply@ksu.edu

Appendix H - Models

Original Model



Modified Model #1



Modified Model #2