2019

Ambidexterity and Innovation in Chief Nursing Officers in the Healthcare Setting

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Walden University
2019

Abstract

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Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Industrial and Organizational Psychology

Walden University

November 2019

Abstract

Leaders in the healthcare setting are challenged with competing responsibilities as they seek to provide high-quality services, ensure the implementation of safety measures, and engage in workforce maintenance. Many researchers have described innovation as a strategic approach to organizational concerns and have noted a failure to implement innovative measures in healthcare. This study was an investigation of the impact of ambidexterity in healthcare leaders on innovation. The purpose of this quantitative study, guided by the ambidexterity theory of leadership for innovation, was to analyze the extent to which ambidextrous leadership characteristics of healthcare executives and chief nursing officers (CNOs) influence the innovative performance of CNOs in the healthcare setting. The research question addressed which ambidextrous leadership behaviors or combination of behaviors, including open and closed behaviors of healthcare executives and exploration and exploitation actions of CNOs in healthcare settings, explain a statistically significant portion of the variance in innovative performance of CNOs. The research design involved the administration of a cross-sectional quantitative survey to 126 CNOs from across the nation. Each participant was employed by an acute-care hospital, held an active nursing license in the state employed, and had been in the role of CNO or chief nursing executive (CNE) for over a year, reporting directly to executive leadership. A linear multiple regression analyzed the correlation between ambidextrous factors and the effect on performance innovation. Findings suggest that a combination of ambidextrous behaviors had more impact on innovation performance than each set of behaviors alone. The results of the study may be used for the development of nursing leadership and supporting efforts for overall improvement in healthcare.

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Chapter 1: Introduction to the Study

Introduction

The ambidexterity theory of leadership for innovation is a new concept within scholarly research (Ahlers & Wilms, 2017). *Ambidexterity* is a progressive practice whereby leaders' reactions to work intricacies provoke both exploration and exploitation simultaneously (Havermans, Den Hartog, Keegan, & Uhl-Bien, 2015). The ambidextrous leader can accommodate opposition through delivering explorative and exploitative activities (Anderson, Potocnik, & Zhou, 2014; Keller & Weibler, 2015) with the use of opening and closing behaviors (Zacher & Rosing, 2015a). "Exploration cultivates new knowledge whereas exploitation enhances knowledge" (Stettner & Lavie, 2014, p. 1903). With the numerous advances and demands of society, the elements of exploring and exploiting are vital for companies to evolve toward public interests (Lewis & Smith, 2014). Today, it is imperative for organizations to be ambidextrous by displaying both innovation and implementation to survive (Latham, 2014; Lavie, Stettner, & Tushman, 2010). Among these organizations is the massive healthcare environment with multifaceted processes and a variety of personnel (Landry & Erwin, 2015).

Hospitals and healthcare agencies must adjust to changes in society in order to sustain success as organizations. Hospital leaders are challenged with numerous priorities, from staffing to safety concerns. These executives are accountable for the general state of their subordinates plus the numerous initiatives and regulations of administrative parties (Merrill, 2015). Governing bodies are calling for healthcare institutions to significantly transform to improve the overall delivery of healthcare

(Chassin & Loeb, 2013; Conway, Coyle, & Sonnenfeld, 2017; Crenshaw & Yoder-Wise, 2013; Longenecker & Longenecker, 2014; Luu, 2017b). A leading evidence-based research organization, The Institute of Medicine (IOM), released a report recommending new initiatives and healthcare reform in support of patient safety (Gutberg & Berta, 2017; Mitchell, Schuster, Smith, Pronovost, & Wu, 2015). Patient safety remains a global concern (Carayon, 2010), which challenges healthcare leaders with conflicting concerns and resources directed from individuals within the organization as well as from outside factions. An additional matter requiring the attention of nursing leaders is appropriately staffing to provide quality care to patients. According to the American Nurses Association (ANA, 2017), the nursing profession is expected to experience a mass shortage of nurses (McMenamin, 2014) that will require innovation and collaboration among leaders in dealing with the effects of limited resources. Estimates of the number of new nurses who will be required to replace retiring nurses continues to increase, now exceeding over 1,000,000 by 2022 (McMenamin, 2014).

Innovation is recommended as the first step in dealing with healthcare challenges (Akenroye & Kuenne, 2015) and is essential for ongoing quality improvement measures (McFadden, Stock, & Gowen, 2015). The need for ambidexterity in relation to innovation is a developing point of interest in healthcare. Researchers have revealed that clear innovation competencies (Akenroye & Kuenne, 2015) and ambidextrous leadership are in need of further review for effective healthcare leadership (Akenroye & Kuenne, 2015; Baker, 2015; Chin, 2015; Gutberg & Whitney, 2017) contributing to the outcomes of healthcare organizations. Studying ambidexterity and innovation in healthcare leaders

may offer a better understanding of specific leadership approaches and their effect within the workplace. Further research can also uncover concepts necessary for promoting innovation that positively influence the quality of healthcare.

Chapter 1 provides an overview of the research literature and variables within the study. The problem statement and the purpose of the study are described as well. Chapter 1 incorporates the research questions and addresses the theoretical framework and the nature of the study, along with the methodology. Major definitions, assumptions, scope and delimitations, limitations, and the significance of the study are outlined. Chapter 1 ends with a summary of key points and transitional items for Chapter 2.

Background

Organizations in today's society must be ambidextrous by demonstrating innovation and execution for sustainability (Latham, 2014; Lavie et al., 2010). The ambidexterity theory of leadership for innovation was first introduced by Rosing, Frese, and Bausch (2011) and was closely supported by Bledow, Frese, and Müller (2011). Researchers have stated that ambidexterity, exploration, and exploitation activities are the main driving forces of innovation (Rosing et al., 2011). Exploration involves searching for new knowledge to create possible options , and exploitation involves the use of the current knowledge base and the growth of what is already known (Keller & Weibler, 2015). Ambidextrous leaders must constantly alter behaviors based on fluctuating changes in the innovation process (Bledow et al., 2011). Researchers describe ambidextrous leadership as having three constituent parts: opening and closing behaviors cultivating exploration and exploitation and the flexibility to shift between each behavior

depending on circumstances (Ahlers, 2017; Alghamdi, 2018; Luu, 2017a; Ma, Zhou, Chen, & Dong, 2018; Zacher & Rosing, 2015a). When a leader engages in open behaviors this fosters exploration actions of an employee (Alghamdi, 2018). At the same time, closed behaviors of the leader encourage employee exploitative actions (Alghamdi, 2018). Both open and closed behaviors contribute to innovation ideas (Alghamdi, 2018). Open behaviors encourage individuals to practice differently and to test new ideas, whereas closed behaviors provide individuals with parameters as well as remedial actions (Alghamdi, 2018; Ma et al., 2018). Leaders can demonstrate open behaviors by providing employees autonomy and can demonstrate closed behaviors through the monitoring of progress (Malik, Pereira, & Tarba, 2017). Historical perspectives related to ambidexterity theory and the growth of the ambidexterity theory of leadership for innovation are reviewed in detail in Chapter 2.

Ambidexterity and ambidextrous leadership are the foundations for the ambidexterity theory of leadership for innovation. The initial definition of *ambidexterity* identified a comparative ability of both hands (Birkinshaw & Gupta, 2013). The term now accommodates the "meaning of an organization's capacity to do two different things equally well" (Birkinshaw & Gupta, 2013, p. 287). In more detail, ambidexterity refers to the regulation of exploring and exploiting behaviors (Alghamdi, 2018; Anderson et al., 2014). Furthermore, when explorative and exploitative behaviors in subordinates are solicited by open and closed actions of leaders, this transaction is known as *ambidextrous leadership* (Ahlers, 2017; Mueller, Runzl, & Will, 2018; Zacher & Rosing, 2015a; Zacher & Wilden, 2014). Taken a bit further with regard to innovation, the practice of

dual conducts to promote explorative and exploitative behaviors in followers exemplifies effective innovative leaders (Ahlers, 2017; Zuraik, 2017). Leaders function as an influential stimulus toward organizational innovation by engaging employees and promoting a conducive atmosphere (Bagheri & Akbari, 2018).

Although the concept of ambidexterity has been the focus of significant research, confusion and variation exist (Ahlers, 2017; Birkinshaw & Gupta, 2013; Mueller et al., 2018; Turner, Swart, & Maylor, 2013). Studies lack a standardized ambidexterity definition (Birkinshaw & Gupta, 2013; Turner et al., 2013), and current research continues to discover unique concerns and unexpected elements (Ahlers, 2017). A gap in the research persists regarding an individual ambidextrous perspective compared to ambidexterity at the organizational level (Ahlers, 2017; Good & Michel, 2013; Havermans et al., 2015; Keller & Weibler, 2015; Mueller et al., 2018). Scientists are calling for a greater focus on the leaders and leadership of ambidexterity (Ahlers, 2017; Havermans et al., 2015; Mueller et al., 2018), specifically top executives (Anderson, 2014; Birkinshaw & Gupta, 2013; Euchner, 2015; O'Reilly & Tushman, 2013). There is also a need to link leadership and innovation in more detail (Anderson et al., 2104; Lukoscheck, Gerlach, Stock, & Xin, 2018; Weatherford, Bower & Vitello-Cicciu, 2018) and predictors (Lin & McDonough, 2011; Zacher, Robinson, & Rosing, 2016) with a primary reason being that, in general, leadership is a valuable precursor to innovation (Zacher & Rosing, 2015a). Of the numerous studies conducted on topics of ambidexterity, a large number were international and were conducted within a nonhealthcare setting. More quantitative data and the expansion of leadership innovation

into different professional settings are needed (Anderson et al., 2014). Most recently, Bagheri and Akbari (2018) revealed that few innovative quantitative studies had taken place in the healthcare environment.

My interest in studying innovation in the healthcare setting developed from my reading of previous literature showing that organizational success is a direct result of innovation (Anderson et al., 2014; Lukoschek et al., 2018) and an initial step toward dealing with healthcare issues (Akenroye and Kuenne, 2015). Healthcare organizations have been connected to perceptions of being resistant to innovative changes creating a disadvantage of falling behind other successful industries (Bagheri & Akbari, 2018; Weatherford et al., 2018; Weberg & Weberg, 2014). With many changes in society and technological advances, hospitals can be impacted and will have to change. Disseminating ambidextrous information within healthcare organizations may provide avenues for learning and practice among institutional leaders and educators. According to Luu (2017b), ambidextrous leadership within healthcare may improve services, knowledge, and preventive programs. It is imperative for executives and leaders to understand the skillsets necessary within an innovative culture (Tushman & Euchner, 2015) and ambidexterity to support change (Gutberg & Berta, 2017; Luo, Zheng, Ji, & Liang, 2018). Delaying ambidexterity application in healthcare organizations and individuals may lead to negative consequences for the various people involved, from employees to patients.

Problem Statement

Healthcare is an area with multiple and complex processes that involve interdisciplinary teams. Leaders in the healthcare setting are challenged by constant change (Tung, 2016) involving a variety of areas, with social, financial, and bureaucratic elements (Dillon & Mahoney, 2015). Organizational leaders are also engaged in competing responsibilities to provide excellent services as well as maintain productivity for an effective workforce through innovative ideas (Akenroye & Kuenne, 2015; Dillon & Mahoney, 2015; McFadden et al., 2015; Seshadri, Piderit, & Giridharadas, 2010). Overall, healthcare leaders have been complacent about the pace at which they accept innovation, and nursing specifically limits using innovation for "strategizing" (Weatherford et al., 2018). Although ambidextrous leadership is suggested as a best practice for encouraging positive collaboration (Chin, 2015) and innovation execution in an organization (Zuraik, 2017), there is a lack of research on the topic within the healthcare environment. Studying ambidexterity in healthcare leaders can offer a better understanding of specific leadership approaches and their effect within the workplace.

Purpose of the Study

The purpose of this quantitative study was to examine the extent to which ambidextrous leadership characteristics of healthcare executives and chief nursing officers (CNOs) impact the innovative performance of CNOs in the healthcare setting. Researchers have identified that both opening and closing behaviors (Alghamdi, 2018; Zacher & Rosing, 2015a; Zacher & Wilden, 2014) and exploring and exploiting actions promote innovation (Rosing et al., 2011; Zacher et al., 2016). The predictor variables

were open and closed behaviors of healthcare executives and exploration and exploitation activities of CNOs. The criterion variable was innovative performance of CNOs. All variables were conducted through surveys completed by CNOs.

Research Questions and Hypotheses

Opening and closing behaviors that facilitate exploration and exploitation manners define ambidextrous leadership. The practice of open and closed behaviors has a positive relationship with innovative performance such that when open and closed behaviors are high, innovative performance is highest (Rosing et al., 2011; Zacher & Wilden, 2014). High employee exploration and exploitation actions produce high innovation performance (Alghamdi, 2018; Zacher & Rosing, 2015a). The ambidexterity theory of leadership for innovation indicates that ambidextrous leaders (i.e., leaders who foster exploration and exploitation with opening and closing behaviors) enhance employees' innovative performance (Alghamdi, 2018; Rosing et al., 2011; Zacher et al., 2016; Zacher & Rosing, 2015a). The following research question guided the structure of the quantitative study:

Research Question 1. Which ambidextrous leadership behaviors or combination of behaviors, including open and closed behaviors of healthcare executives and exploration and exploitation actions of CNOs in healthcare settings, explain statistically significant portions of the variance in innovative performance of CNOs?

H_{01}: Open and closed behaviors of healthcare executives will not explain statistically significant portions of the variance in innovative performance of CNOs.

H_{a1}: Open and closed behaviors of healthcare executives will explain statistically significant portions of the variance in innovative performance of CNOs.

H_{02}: Exploration and exploitation actions of CNOs in healthcare settings will not explain statistically significant portions of the variance in innovative performance of CNOs.

H_{a2}: Exploration and exploitation actions of CNOs in healthcare settings will explain statistically significant portions of the variance in innovative performance of CNOs.

H_{03}: Open and closed behaviors of healthcare executives with exploration and exploitation actions of CNOs in healthcare settings will not explain statistically significant portions of the variance in innovative performance of CNOs.

H_{a3}: Open and closed behaviors of healthcare executives with exploration and exploitation actions of CNOs in healthcare settings will explain statistically significant portions of the variance in innovative performance of CNOs.

Theoretical Framework

The theoretical framework used for this study was formulated from the ambidexterity theory of leadership for innovation (Rosing et al., 2011) based on ambidexterity theory (Bledow, Frese, Anderson, Erez, & Farr, 2009a, 2009b) and the constructs of March's (1991) structure of exploration and exploitation. Exploration is focused on engagement through questioning and innovation, and exploitation is attentive to proficiency by process improvement and standardization (Lavie et al., 2010; Maletič, Maletič, Dahlgaard, Dahlgaard-Park, & Gomišček, 2014). Ambidexterity combines

exploring and exploiting practices, delivering both risk/deviation and implementation/ planning (Anderson et al., 2014). According to Havermans et al. (2015), "ambidexterity is a dynamic process involving leaders responding to the perceived complexity of the environment and using behavior and actions to produce shifts in emphasis on stimulating exploration or stimulating exploitation" (p. 193). Ambidextrous leaders exhibit opening behaviors (e.g., acceptance, tolerance, trial) that increase variance and closing behaviors (e.g., overseeing, advising, counseling) that decrease variance practices influencing the exploration and exploitation behaviors of employees (Zacher & Rosing, 2015a; Zacher et al., 2016). Leaders exhibiting ambidexterity grant employees the freedom to create new ideas or processes while guiding and upholding accountability (Bledow et al., 2011).

Application of exploration and exploitation designs leads to organizational and leadership ambidexterity. Exploration and exploitation are the necessary elements for an organization (O'Reilly & Tushman, 2013) and its leaders (Zacher et al., 2016) to be considered ambidextrous and foster innovation of employees (Zacher et al., 2016). Multifaced organizations frequently deal with opposing purposes or goals simultaneously, which requires ambidexterity (Birkinshaw & Gupta, 2013) or open and closed behaviors (Zacher & Wilden, 2014). Organizational ambidexterity is associated with the skill of an organization in conducting both explore and exploit measures synchronously (O'Reilly & Tushman, 2013). When exploration of new knowledge realms occurs at the same time as exploitation of existing realms, ambidextrous learning happens (Kang & Snell, 2009). The identified constructs of the ambidexterity contexts supported the quantitative data collected.

Nature of the Study

The nature of this study was quantitative research utilizing a survey design. Ambidexterity is viewed in multifaced organizations dealing with two opposing purposes or goals simultaneously (Birkinshaw & Gupta, 2013) or open and closed behaviors (Zacher & Wilden, 2014). Ambidextrous leaders exhibit opening (increase variance) and closing (decrease variance) practices, influencing the exploration and exploitation behaviors of employees (Zacher & Rosing, 2015a; Zacher et al., 2016). Scientists Rosing et al. (2011) developed two quantitative tools to assess both leadership opening and closing behaviors of individuals. The opening and closing behaviors instruments are used to solicit employees' responses to their leaders' opening and closing behaviors (Zacher & Rosing, 2015a; Zuraik, 2017). The survey was used to ask CNOs to quantify the practicing of opening and closing behaviors of their healthcare executive superiors.

Changes in leaders' behaviors to inspire exploration and exploitation occurrences due to environmental complexities define ambidexterity (Havermans et al., 2015). Exploration and exploitation are elements needed for an organization (O'Reilly & Tushman, 2013) and its leaders (Zacher et al., 2016) to be considered ambidextrous. The employee exploration and exploitation behaviors tool was created and validated by Mom, van den Bosch, & Volberda (2007). CNOs completed a self-report survey that rated the extent of their use of exploration and exploitation behaviors.

Innovation is essential for the success of an organization (Anderson et al., 2014; Lukoschek et al., 2018; Weatherford et al., 2018). Individuals engaging in both exploration and exploitation behaviors also have innovative work performance (Zacher et

al., 2016). Innovative performance was measured by an employee self-reported innovative performance scale created by Welbourne, Johnson, and Erez (1998). Four items were collected from CNOs scoring their own innovative performance on the job.

Quantitative research provides insight toward identifying ambidextrous leadership in the health sector, where current literature is lacking. Chapter 3 provides more details on the nature of the study.

Definitions

The following are term definitions necessary to the study:

Ambidexterity is a term used to illustrate the operating guidance of exploring and exploiting activities in simultaneous practice (Good & Michel, 2013; Rosing & Zacher, 2017).

Ambidextrous leadership is exhibited by leaders who use open and closed behaviors to trigger exploration and exploitation actions of employees in a flexible manner (Zacher & Rosing, 2015a; Zacher et al., 2016).

Chief nursing officer (CNO) and *chief nurse executive* are used as interchangeable terms denoting the nurse holding the highest leadership/management position who is responsible for overseeing nursing operations within an organization.

Closed behaviors constitute actions that decrease variance in employee behaviors (Zacher et al., 2016).

Exploration is viewed as learning through actions to find and develop new knowledge, such as experimentation (Koryaka et al., 2018; Stettner & Lavie, 2014).

Exploitation considers learning through the acts of improving existing knowledge, such as refining existing processes (Koryak, Lockett, Hayton, Nicolaou, & Mole, 2018; Stettner & Lavie, 2014).

Healthcare organizations are intricate establishments with an array of complex processes delivered by interdisciplinary teams (Landry & Erwin, 2015).

A *healthcare executive* is a top senior hospital executive who has chief nursing officers as direct reports, such as a chief executive officer.

Innovation is described as proposing new ideas (abstract or concrete) and originally implementing them to assist oneself or others (Thomas, Seifert, & Joyner, 2016).

Open behaviors exhibit actions that increase variance in employee behaviors (Zacher et al., 2016).

Organizational ambidexterity indicates the skill of an organization to explore new understanding and exploit existing aptitude concurrently (O'Reilly & Tushman, 2013; Zacher et al., 2016).

Assumptions

The assumptions of the study are outlined below regarding the participants and survey tools. It was assumed that each study participant was competent in his or her current position. I assumed that the participants of the study responded to the research questionnaires in a truthful and unbiased manner. My last assumption was that the research survey measurements were effective in providing accurate data contributing to healthcare literature.

Scope and Delimitations

The research problem of the study concentrated on the need for innovative measures as a means of evolving within the complexity of the healthcare environment. Leadership is recognized as a vital aspect of organizational initiatives and employee actions. Research on leadership behaviors and innovative outcomes has been conducted in various settings. Ambidexterity is a notion that has developed concepts on the areas of leadership and innovation (Keller & Weibler, 2015). Literature reveals that ambidexterity theory is pliable and adaptable, leading to ambiguity in the definition and measurement (Birkinshaw & Gupta, 2013; O'Reilly & Tushman, 2013). Due to the evolution of ambidexterity, the foundational concepts proposed by March (1991) were used to build the framework of this study.

Limitations

A limitation of the study involved the method of collecting data through self-reporting instruments. Researchers Luo et al., (2018) state self-reported measurements may contribute to common method variance in data. Studies collecting data on employee work behaviors should seek information from immediate supervisors or peers (Luo et al., 2018).

A second limitation of the study was the focus of just one objective related to the overall outcome of the study. Healthcare is an intricate system affecting numerous individuals and society in general. There is a need for additional correlations among and between empirical data findings.

Finally, the evidence gathered pertains to a specific moment of time regarding leadership. With experience and different situations, leaders may develop changing their leadership approach and decision making. It may be helpful to collect data over a span of time as well as a variety of industries.

Significance

Healthcare continues to expand in complexity, with constant changes for individuals and groups (Longenecker & Longenecker, 2014; Tung, 2016). Team dynamics can vary due to numerous elements as well as the group's objectives. Ambidextrous leaders can effectively guide team innovation using exploration and exploitation measures (Zuraik, 2017). Innovation approaches are important for new healthcare initiatives and developing a risk-free healthcare setting (McFadden et al., 2015). Leaders are key to creating productive organizational change, as evidenced in the literature (Gutberg & Berta, 2017). To create successful change, leaders and subordinates must acknowledge innovation and ambidextrous competence (Euchner, 2015). A generous portion of the reviewed literature addresses concepts of ambidexterity from international, non-healthcare-orientated organizations with empirical references. Latham (2014) discovered a substantial portion of leadership literature comprised of just transformational and transactional leadership theories. This study aids in understanding the contexts of ambidexterity of leaders in U.S. healthcare settings along with related outcomes. This research also contributes to the literature on leadership styles and related results pertaining to group dynamics (Chin, 2015) as well as safety atmosphere (McFadden et al., 2015).

Supporting the need for further quantitative studies on the topic of ambidexterity involves a focus on exploration and exploitation practices and their concepts in relation to organizational performance (Maletič et al., 2014; Zacher et al., 2016) and outcomes (Luo et al., 2018). Evidence shows that exploration and exploitation are imperative for the existence and success of organizations (Lavie et al., 2010). Healthcare executives are vital for driving "exploration-oriented subsystems and exploitation-oriented subsystems together" (Havermans et al., 2015, pp. 193-194). Leaders in the healthcare setting contribute to the overall culture of their organizations, which can positively or negatively affect patient outcomes (Weatherford et al., 2018). Understanding exploration and exploitation from a healthcare perspective is warranted for the overall advancement of healthcare organizations. Further research on the concepts of ambidexterity can provide a means for specific strategies or initiatives within complex organizations (Turner et al., 2013). This examination may deliver necessary information toward further connection of leadership and innovation (Weatherford et al., 2018). Lastly, gathering additional evidence on ambidextrous leadership characteristics may assist scientists, professionals, practitioners, and organizations with information on overall engagement and efficiencies, creating pathways for a variety of positive social change initiatives.

Summary

As the population ages, there may be an increased need for healthcare services in many healthcare settings. Processes, policies, and procedures remain complex and continue to expand with the development of the healthcare environment. Innovation is needed for organizations to survive in ever-changing surroundings (Anderson et al.,

2014; Weatherford et al., 2018). Leaders are compelling forces of innovation and engagement who can influence positive outcomes for employees (Bagheri et al., 2018). Literature reveals that ambidextrous leadership is associated with employee innovation (Zacher et al., 2016; Zacher & Rosing, 2015a; Zacher & Wilden, 2014; Zuraik, 2017). Unfortunately, the field of health science lacks significant evidence around the leadership concept of ambidexterity (Akenroye & Kuenne, 2015; Baker, 2015; Chin, 2015; Gutberg & Whitney, 2017). This study delivers additional information to the domain of ambidexterity in addition to laying a foundation for future research regarding healthcare ambidexterity. Literature review and theoretical framework details are discussed in Chapter 2.

Chapter 2: Literature Review

Introduction

Healthcare administrators, including CNOs, are ultimately responsible for patient safety (Conway et al., 2017), among competing business affairs dealing with finances, value (Akenroye & Kuenne, 2015; McFadden et al., 2015), and persistent change (Tung, 2016). The transformation of the healthcare industry continues to trail behind contending enterprises (Bobrowski & McEldowney, 2016). For companies to remain competitive, researchers suggest incorporating robust techniques (Gutberg & Berta, 2017) such as exploitative and explorative activities (Amah & Onwughalu, 2017). Leaders who promote exploration and exploitation of subordinates through open and closed behaviors are considered to be ambidextrous (Anderson et al., 2014). Researchers have pointed out the need for studies to concentrate on exploration and exploitation, as well as to approach innovation from a variety of leadership perspectives (Zacher et al., 2016). There has also been a call for researchers to ponder specific and vague responses of leadership actions that influence innovation in organizations (Zuraik, 2017).

Innovation is the foundation for organizations' future success (Anderson et al., 2014). According to Weatherford et al. (2018), healthcare has not embraced innovation, nor has the nursing profession used innovation strategies in action planning. A limited number of U.S. researchers have incorporated the newer concept of the ambidextrous theory of leadership for innovation in their research, but the concept is gaining popularity among international researchers (Alghamdi, 2018; Amah & Onwughalu, 2017). There is a need for quantitative data and the expansion of leadership innovation into different

professional settings (Anderson et al., 2014). Birinshaw and Gupta (2013) noted a need for more literature on the executive decision process and how executives accept opposing outcomes. Research on ambidexterity in healthcare leaders may contribute to a better, more detailed understanding of leadership approaches and their impact within the workplace.

The purpose of this quantitative study was to examine the extent to which ambidextrous leadership characteristics of healthcare executives and CNOs impact the innovative performance of CNOs in the healthcare setting. Open and closed behaviors of healthcare executives were determined by questioning CNOs. Exploration and exploitation activities were used to assess ambidexterity in CNOs through a self-report questionnaire. Lastly, CNOs completed a self-report on employee innovative performance.

Chapter 2 contains a review of the strategies used to search the literature, a description of the study's theoretical foundation, and an extensive literature review on topics related to ambidextrous leadership.

Search Description

A literature search was conducted through an online examination of key words and phrases using specific and multidisciplinary databases such as EBSCOhost, Expanded Academic ASAP, ProQuest Central, ProQuest Nursing and Allied Health, and SAGE. Additional avenues of research were Google Scholar, Google Scholar linked with Walden University, ResearchGate, and Dissertations & Theses at Walden University. The subjects and terms used in the search regarding ambidextrous leadership were *leader*,

leadership, *manager*, *innovation*, *healthcare*, and *ambidexterity theory of leadership for innovation*. Reference lists from current, peer-reviewed articles published within the last 5 years were used in gathering further documents for the literature review. Results varied from none to 3,994 findings when incorporating Boolean phrases, abbreviations and combining significant research words. The literature review guided my development of the study's theoretical framework and provided an understanding of recent research on ambidexterity in relation to leaders, innovation, and the healthcare setting.

Theoretical Framework

Theories of ambidexterity have a history dating back approximately 40 years. In 1976, Robert Duncan first extended the term *ambidextrous* (Ahler, 2017; Mueller et al., 2018) to an organization's ability to create two systems to handle the process of innovation steadily over time (Gibson & Birkinshaw, 2004; O'Reilly & Tushman, 2013). The evolution of ambidexterity from the framework of organizations to a framework of organizational learning occurred years later, in 1991, by James March (Ahlers, 2017; Lavie et al., 2010). The notions of exploitation and exploration in relation to an organization's performance for sustainability were addressed on a conceptual level (Maletič et al., 2014; Miller & Martignoni, 2016). According to March (1991), entities must flex between the leveling of exploitation and exploration to persevere, which can be challenging. Distinct actions can describe the means of how to explore and exploit. Organizations can engage in exploration by experimenting with new knowledge and can engage in exploitation by using existing knowledge for efficiency (Ahlers, 2017; Keller & Weibler, 2015; Luo et al., 2018; Maletič et al., 2014; Mueller et al., 2018; O'Reilly &

Tushman, 2013; Stettner & Lavie, 2013; Zacher et al., 2016). Later, Tushman and O'Reilly (1996) posited that exploitation and exploration must happen concurrently within the organization to be ambidextrous. The constructs of organizational ambidexterity led to the theorization of individual ambidexterity. Gibson and Birkinshaw (2004) claimed that organizational processes can help "individuals to make their own judgments about how to divide their time between conflicting demands for alignment and adaptability" (p. 210). Furthermore, Bledow et al. (2009a) described the theory of ambidexterity as involving "the ability of a complex and adaptive system to manage and meet conflicting demands by engaging in fundamentally different activities" (p. 320).

Ambidexterity has developed since its inception but holds a consistent message of the considered factors involved in ambidexterity. The overarching theme of ambidexterity theory includes the idea of overseeing explorative and exploitative behaviors at the same time (Anderson et al., 2014; Lukoscheck et al., 2018; Rosing et al., 2011; Stettner & Lavie, 2014) that aid in the management of industry inconsistencies while remaining flexible to change for organizational sustainability (Ma et al., 2018). Researchers have indicated that organizational performance is directly affected by ambidextrous activity (Lukoscheck et al., 2018; Stettner & Lavie, 2014). Additionally, Zacher and Wilden (2014) shared that essential elements of ambidexterity theory indicate that the interplay of open and closed leadership behaviors speculate employee innovative performance.

Researchers have found that the use of just one leadership approach is ineffective in supporting the intricate nature of employees' actions in the innovation process,

suggesting that the use of a parallel leadership approach or two leadership approaches is necessary (Rosing et al., 2011; Zacher et al., 2016). The behaviors of leaders are vital indicators of the behaviors of the individuals whom they supervise; leadership behaviors also stimulate ambidexterity (Keller et al., 2015). A deeper look into the relationship of leader and employee regarding innovation suggests a review of the ambidexterity theory of leadership otherwise known as ambidextrous leadership . The ambidexterity theory of leadership involves the correlation between equivalent leadership manners as open and closed behaviors (Zheng, Wu, Xie, & Xu, 2017) that assists organizations in dealing with competing responsibilities (Rosing et al., 2011; Zacher & Rosing, 2015a). For example, open behaviors may be viewed as encouraging mistakes from risk taking, and closed behaviors may be seen as setting rules to limit errors (Zuraik, 2017). Lastly, ambidextrous leaders use open behaviors to promote exploration and closed behaviors to reinforce exploitation, ensuring resilience to accommodate situational needs (Ma et al., 2018). According to Bonesso, Gerli, and Scapolan (2014), innovation challenges occur when leaders are not able to stabilize open and closed behaviors spontaneously.

The ambidexterity theory of leadership for innovation is a new theory constructed by Rosing, Frese, and Bausch (Ahlers, 2017; Rosing et al., 2011). The constructs involved in the ambidexterity theory of leadership for innovation initiate when open and closed behaviors are displayed, leading to exploration and exploitation actions, which result in innovative measures (Alghamdi, 2018; Rosing et al., 2011; Zacher & Rosing 2015a). More specifically, leaders' open behaviors result in subordinates' exploration actions, and leaders' closed behaviors promote subordinates' exploitative actions, but

with simultaneous engagement of both, the manifestation is innovation (Alghamdi, 2018; Rosing et al., 2011; Zacher & Rosing, 2015a).

Review of Research

Healthcare

Healthcare organizations are a necessity for the well-being of society (Conway et al., 2017). As U.S. society continues to develop and evolve, the businesses within it, including healthcare organizations, are challenged to progress (Akenroye & Kuenne, 2015). Numerous initiatives have been implemented to meet regulations and human resource obligations or to exploit technological advances (Landry & Erwin, 2015; Longenecker & Longenecker, 2014). With the increase of healthcare demands, the nation's healthcare delivery system has lacked urgency in handling transformative measures (Longenecker & Longenecker, 2014; McMenamin, 2014), which has created restrictions for healthcare leaders (Landry & Erwin, 2015). Researchers have indicated that healthcare institutions must expand in various ways to remain successful and secure longevity (Akenroye & Kuenne, 2015; Bates, Sheikh, & Asch, 2017; Conway et al., 2017; Crenshaw & Yoder-Wise, 2013; Day et al., 2018; Gutberg & Berta, 2017; Landry & Erwin, 2015; Longenecker & Longenecker, 2014; Mancino, 2013; McFadden et al., 2015; Weatherford et al., 2018).

Safety. Healthcare organizations continue to be responsible for poor patient safety with negative patient outcomes (Chassin & Loeb, 2013; Conway et al., 2017; Gutberg & Berta, 2017; McFadden et al., 2015; Spector et al., 2015). Research has focused on top leaders guiding the way for improved safety measures (Gutberg & Berta, 2017).

Literature has identified executive leadership as having a true impact on the perception of a safety climate (McFadden et al., 2015). Competent leadership teams (Auer et al., 2014; Landry, 2015), including nursing leaders, are necessary for promoting a culture of safety and decreased harm to patients (Crenshaw & Yoder-Wise, 2013; Merrill, 2015). Auer, Schwendimann, De Geest, Ausserhofer, and Koch (2014) discovered that effective communication on safety links the relationship between healthcare leaders supporting patient safety and the evaluation of patient safety by nursing teams. Additionally, top leadership quality performance and support for organizational change are key for creating change and making improvements (Longenecker & Longenecker, 2014). Although collaborative efforts work toward a safety culture, industry leaders are called to profoundly change the healthcare delivery system with the aim of supporting a culture of safety (Gutberg & Berta, 2017; Longenecker & Longenecker, 2014; Spector et al., 2015).

Leaders. Leadership can play an important role in organizational advancement of culture change (Auer et al., 2014; Gutberg & Berta, 2017). Researchers have revealed a spectrum of healthcare accidents stem from inadequate leadership and ineffective communication (Auer et al., 2014), urging enhancements to group procedures as well as intercommunication (Landry & Erwin, 2015). According to Gutberg and Berta (2017), leader involvement at different levels of the organization is crucial for the progression and sustainability of a healthcare system. Conway et al. (2017) identified the executive position within the hospital setting focusing on patient safety as a first concern. Weatherford et al. (2018) found that successful healthcare organizations supply a combination of quality and innovation as the groundwork for positive patient events.

Researchers have suggested that healthcare leaders work hard to establish an innovative environment where employees are motivated to generate ideas and plan new processes (Bagheri & Akbari, 2018; Bates et al., 2017; Birken et al., 2015; Thomas et al., 2016). Understanding specific traits that encourage innovation will help leaders facilitate creativity in their employees. Due to the intricate nature of healthcare settings, well-established and collective leadership is a necessity (Sonnino, 2016).

Leadership

Leaders are responsible for work and relationship performances that vary with the situation and setting and that require an understanding of the leadership approach (Sonnino, 2016). In order for organizations to establish a sense of direction or vision, leadership is a necessary component of the overall organizational structure. In general, an impression of complexity with comprehending leadership exists (Ahlers & Wilms, 2017; Latham, 2014; Merrill, 2015). Numerous elements and notions can be involved with leadership. Leadership plays a vital role in establishing employee trust with clear statements regarding organizational culture and initiatives (Weatherford et al., 2018). According to Ahlers and Wilms (2017), leadership is the ability to sway beliefs and actions of individuals and involves how people communicate in and among teams to obtain outcomes. Successful leadership involves creating and maintaining a variety of different and conflicting roles (Lin et al., 2011). Researchers have extensively studied common leadership styles, such as transformational, transactional (Latham, 2014), and ambidextrous (Chin, 2015). Leadership styles have different outcomes for the individuals and cultures involved.

Transformational leadership. Transformational leadership is shown by leaders who inspire and motivate others toward greater performance through introducing a strong vision and stimulating engagement (Akenroye & Kuenne, 2015; Merrill, 2015). These leaders are seen as having a charismatic attitude and an ability to promote logical thinking (Ahlers, 2017; Junni, Sarala, Tarba, Liu, & Cooper, 2015). Literature indicates that transformational leadership expands the motivation of followers while influencing positive innovation (Akenroye & Kuenne, 2015; Bledow et al., 2011). Ahlers (2017) stated that past research supports an effective relationship between transformational leadership and exploration in innovation. Transformational leadership has also been discovered to support team ambidexterity (Junni et al., 2015). In relation to ambidextrous leadership, transformational leadership has a greater association with the exploration behaviors of individuals (Luo et al., 2018).

Transactional leadership. Transactional leadership is known for reward and correction action, as leaders motivate followers based on these two practices (Merrill, 2015). Each participating person (i.e., the leader and the follower) concentrates on accommodating his or her own self-interests (Luo et al., 2018). The transactional leader functions within policy and encourages regulation and consistency (Sonnino, 2016). A transactional leader may set expectations for subordinates with possible rewards if they are achieved, but may coach and provide guidance when expectations are not met (Ahlers, 2017; Tung, 2016). Past research has implied that there is an adverse connection between transactional leadership and employee creativity (Tung, 2016). With regard to

ambidextrous leadership, transactional leadership is associated more with exploitation behaviors of individuals (Luo et al., 2018).

Top leadership. Individuals who do not have a person to whom they directly report are considered executive leaders. The behaviors of top leaders are found to be the most important for guiding employee conduct (Keller & Weibler, 2015) and organizational commitment (Birken et al., 2015). Taking into account the concepts of ambidexterity, not only do executive leaders affect individual ambidexterity (Keller & Weibler, 2015), but they are an essential part of an ambidextrous organization (Jansen et al., 2017). Havermans et al. (2015) reported, "in the context of structurally differentiated ambidexterity, the leadership role of the top management team is considered to be of crucial importance in bringing exploration-oriented subsystems and exploitation-oriented subsystems together" (pp. 193-194). Literature has suggested that a chief executive officer's (CEO's) ambidextrous leadership predicts the actions of the top management team (Luo et al., 2018). Furthermore, the practice of CEOs integrating different leadership approaches enhances an organization's capability to manage competing challenges in an adequate manner (Luo et al., 2018). A limited amount of research has been completed on topics specifically involving executive leadership teams (Landry, 2015). The study at hand reviewed ambidextrous behaviors (e.g., opening and closing) of healthcare executives, providing evidence of current practice and possible effects within the healthcare setting.

Leadership innovation. Evidence supported a secure connection between leadership and innovation (Ahlers & Wilms, 2017). Leaders are an integral factor for the

encouragement and maintenance of organizational innovation (Akenroye & Kuenne, 2015; Weberg & Weberg, 2014). According to past researchers, leadership behaviors are the leading predictors of organizational innovation (Ahlers & Wilms, 2017; Alghamdi, 2018; Weberg & Weberg, 2014; Zacher et al., 2016). On the other hand, original leadership methods (e.g., controlling, autocratic, standardized) have been found to decrease organizational innovation (Weberg & Weberg, 2014). Exploiting and exploring are necessary elements that leaders can stimulate in employees to generate new ideas and sharing of new information, in return promoting innovation ambidexterity, defined as gradual and total innovation (Lin & McDonough, 2011). Researchers have affirmed that leaders are able to influence followers' responsibility by enforcing the importance of organizational innovation (Birken et al., 2015). Although much literature has supported links between leadership and innovation, there remains a gap concerning the specific leadership behaviors that are recommended to promote organizing and guiding innovation from both organizational and team viewpoints (Zuraik, 2017). The present research concentrated on specific behaviors supporting individual innovation within an organization.

Ambidexterity

Literature has revealed that ambidexterity is impacted by leadership styles (Junni et al., 2015; Keller & Weibler, 2015). Ambidexterity is a concept identified by many scholars as necessary to deal successfully with organizational sustainability (Gutberg & Berta, 2017; Havermans et al., 2015; Junni, Sarala, Taras, & Tarba, 2013; Lewis & Smith, 2014; O'Reilly & Tushman, 2013). The foundational concepts of ambidexterity

began with Robert Duncan (Ahlers & Wilms, 2017) in his 1976 book focusing on “dual structures” that organizations use to oversee contrasting stages and administrative capabilities (Alghamdi, 2018; Birkinshaw & Gupta, 2013; Turner et al., 2015). The evolution of ambidexterity led to work on organizational learning by James March in 1991 concentrating on innovation through exploration and exploitation (Ahlers & Wilms, 2017; Alghamdi, 2018; Birkinshaw & Gupta, 2013; Lavie et al., 2010). Exploration involves investigating by taking risks and discovering new knowledge (Ahlers & Wilms, 2017; Gutberg & Berta, 2017; Lavie et al., 2010; Luu, 2017a) to increase skills in an organization (Keller & Weibler, 2015). On the other hand, exploitation is described as refining by expanding on current information (Ahlers & Wilms, 2017; Gutberg & Berta, 2017; Keller & Weibler, 2015; Lavie et al., 2010; Luu, 2017a). Furthermore, in 1996, Tushman and O’Reilly described organizational ambidexterity as the test of balancing opposing objectives through simultaneously applying exploitation and exploration (Ahlers & Wilms, 2017; Mueller et al., 2018). In 2016, researchers Zacher, Robinson, and Rosing found opening leader behaviors (e.g., encouraging risk taking, errors, experimentation) support exploration and closing leader behaviors (e.g., demonstrating corrective action, routines, goal attainment) augment exploitation of employees (Ahlers & Wilms, 2017).

The historical perspectives of ambidextrous research fall into three main categories: sequential, structural, and contextual ambidexterity (O'Reilly & Tushman, 2013). Although the concepts of ambidexterity have developed over the years, literature has generally maintained the ambidexterity definition as an organization’s capacity to

exploit current knowledge and explore new informational events concurrently (Alghamdi, 2018; Keller & Weibler, 2015; Luu, 2017b). A certain amount of uncertainty concerning how ambidexterity is reached in different frameworks still exists (O'Reilly & Tushman, 2013; Zuraik, 2017).

Organizational ambidexterity. Organizational ambidexterity was first formulated by Robert Duncan, over 40 years ago, describing the "dual structures" organizations experience by maintaining interests comprised of different moments and management abilities (Birkinshaw & Gupta, 2013). Researchers determined when organizations are able to maneuver effectiveness and adaptability in conjunction to align existing knowledge while discovering new information, they are ambidextrous (Alghamdi, 2018; Junni et al., 2013; Mueller et al., 2018; Zheng et al., 2017). As time lapsed, the details of organizational ambidexterity evolved with the changing environment into two main forms, structural ambidexterity and contextual ambidexterity (Alghamdi, 2018; Bonesso et al., 2013).

Structural ambidexterity. Theorists maintained the concepts of exploration and exploitation are performed by separate divisions of a company for achieving structural or simultaneous ambidexterity (Lewis, Andriopoulos, & Smith, 2014; Turner et al., 2013; Tushman & Euchner, 2015) or architectural ambidexterity (Ahlers & Wilms, 2017). Additionally, researchers stated structural ambidextrous organizations should identify two distinct areas to carry out one or the other ambidextrous acts (Bonesso et al., 2013; Tushman & Euchner, 2015) which entails focusing on an individual employee level or perspective (Good & Michel, 2013). According to Good and Michel (2013), structural

ambidexterity assessed at an individual level separates individuals per work function within the organizational department.

Sequential ambidexterity. Yet another variation of organizational ambidexterity is sequential ambidexterity. With sequential ambidexterity, exploration and exploitation actions are alternated with each other in order to coordinate supporting organizational goals and ease of acclimating to change (Ahlers & Wilms, 2017). Companies that ignore shifting amid the ambidextrous elements will ultimately fail over time (Tushman & Euchner, 2015). Researchers recognized the need for both exploration and exploitation within organizations. Ambidextrous organizations are more likely to succeed due to a greater probability of innovative behaviors (Zacher et al., 2016). Past research has delineated an increase in innovation with both exploration and exploitation actions from an organizational outlook (Zacher & Rosing, 2015a) yet there is a lack of understanding from an individual employee level (Lukoschek et al., 2018).

Individual ambidexterity. The idea of individual ambidexterity evolved from the structure-oriented approach of researchers Duncan (1976) and Tushman and O'Reilly (1996) to focus on a simultaneous method of dealing with conflict (Birkinshaw & Gupta, 2013). Gibson and Birkinshaw (2004) found individual or contextual ambidexterity to be individuals that control both exploration and exploitation at the same time within an organizational environment (Ahlers & Wilms, 2017; Good & Michel, 2013). Contextual ambidexterity was also viewed from an organizational lens, but in more detail. Researchers suggested contextual ambidexterity is the concurrent resolution between exploration and exploitation of a subsist within an organization (Havermans et al., 2015),

that can occur at any level of the organization (Bonesso et al., 2013). Individuals or groups are supported to stabilize exploration and exploitation actions through a synergetic practice of linking current rules and new processes (Alghamdi, 2018; Good & Michel, 2013; Havermans et al., 2015). According to Alghamdi (2018), individual ambidexterity is the hardest level of ambidexterity to accomplish. Institutions and researchers are shifting their focus from a leader-follower model to empowering individuals in group or team settings (Chin, 2015). Scientists also found a gap in the micro level of understanding exploration and exploitation at distinct proficiencies within organizations (Mueller et al., 2018).

Ambidextrous leadership. Organizations and leaders are challenged with continuous paradoxes. Paradox is defined as **"**conflicting demands, opposing perspectives, or seemingly illogical findings" (Lewis, 2000, p. 760). Based on the foundation of organizational learning, the ambidextrous leadership approach formed under the assumption that the learning process may be improved by either transactional or transformational leadership styles for different situations and points of time (Ahlers & Wilms, 2017). Ambidextrous leaders are able to switch between the two leadership styles, transformational and transactional (Luo et al., 2018; Rosing et al., 2011; Zacher et al., 2016; Zheng et al., 2017). Researchers further indicated complicated organizational events are paired with an appropriate complex leadership approach as transformational style and open behaviors or transactional style and closed behaviors (Zheng et al., 2017). Transformational leaders emphasize open behaviors through communicating a clear vision and encouraging autonomy (Zacher et al., 2016). Transactional leaders exhibit

closed behaviors through enforcing structure and routine (Lou et al., 2018). Zacher et al. (2016) found the greater use of opening and closing behaviors the higher the exploration and exploitation actions. The outcome for ambidextrous leaders is the simultaneous practice of both exploration and exploitation activities (Ahlers & Wilms, 2017).

More recent literature were concentrated on three ambidextrous leadership items: (a) open behaviors foster exploration actions, (b) closed behaviors foster exploitation actions, and (c) ability of the leader to alternate between each behavior per the situation (Ma et al., 2018, p. 1; Luu, 2017a; Zacher & Rosing, 2015a). Open leadership behaviors are defined as actions to motivate exploration activities through encouraging self-sufficiency or alternative measures (Ma et al., 2018). Open behaviors encouraging experimentation may result in employees seeking to apply new processes and measuring the outcomes. Closed leadership behaviors center on facilitating exploitation actions that support consistency with parameter adherence (Ma et al., 2018). For example, closed behaviors centering around setting strict guidelines can influence employees to utilize current practices in a more efficient manner. Scientists tied innovation with the stability of exploration and exploitation activities (Akenroye & Kuenne, 2015; Zacher & Rosing, 2015a) in which leaders play an important role (Tung, 2016). Research also indicated the more complex a situation, a greater focus results in exploration actions versus the lower the complexity is seen with higher exploitation actions. This supports flexing between transformational and transactional methods (Havermans et al., 2015).

Researchers posed a variety of topics for future studies regarding ambidextrous leadership. There is a lack of literature data from Western businesses (Lin &

McDonough, 2011) including an array of cultures (Awan, Kraslawski, & Huiskonen, 2018) and different industries (Luu, 2017b; Zuraik, 2017). Researchers identified gaps from detail-oriented standpoints. Ambidextrous leadership began from research on an organizational level that created avenues for additional studies at different levels or roles within the organization (Gutberg & Berta, 2017; O'Reilly & Tushman, 2013; Zacher & Wilden, 2014). Furthermore, researchers maintained an interest in gathering more information to explain the functions of ambidextrous leadership concepts, exploration, and exploitation (Maletič et al., 2014; Zacher et al., 2016).

Change

Business leaders are confronted with unanticipated changes at broad and exclusive levels requiring adaptability and innovation (Akenroye & Kuenne, 2015; Alghamdi, 2018; Anderson et al., 2014; Crenshaw & Yoder-Wise, 2013; Lewis et al., 2014; Luu, 2017a). An agile leadership concept is necessary to adjust and manage various workplace concerns (Juhro & Aulia, 2018). According to past researchers, exploration and exploitation are necessary for organizations to succeed in the complexity of a changing environment (Euchner, 2015; Lewis & Smith, 2014; Mueller et al., 2018). Among business leaders are healthcare executives that guide and direct complex environments (Landry & Erin, 2015; Spector et al., 2015). Institutions practicing in the healthcare realm are called by governing bodies to significantly transform to improve the overall delivery of healthcare (Chassin & Loeb, 2013; Conway et al., 2017; Crenshaw & Yoder-Wise, 2013; Longenecker & Longenecker, 2014; Luu, 2017b). Healthcare institutions continued to be affected by radical change efforts with leadership and

employee engagement as major contributors of change (Akenroye & Kuenne, 2015; Birken et al., 2015; Gutberg & Berta, 2017; Longenecker & Longenecker, 2014).

Innovation

Innovation is a means for organizations to develop and sustain (Dunne, Aaron, McDowell, Urban, & Geho, 2016; Lukoscheck et al., 2018; Zacher et al., 2016; Zuraik, 2017). Innovation is also used by healthcare leaders to promote quality patient initiatives (Bagheri et al., 2018; Conway et al., 2017). Researchers reviewed the many challenges leaders may encounter when implementing complicated innovation measures (Bagheri et al., 2018; Bledow et al., 2011). Leaders may have to end current practice in order to realign with organizational initiatives and new strategies acclimating to environmental changes (Ahlers & Wilms, 2017). There are a couple important factors necessary to drive innovation as idea generation and implementation (Lukoscheck et al., 2018; Zacher & Rosing, 2015a). In general, leaders can add to the innovative events of employees within an organization (Akenroye & Kuenne, 2015; Birken et al, 2015; Weatherford et al., 2018) yet literature is limited on the emphasis of leadership and innovation (Zuraik, 2017). Scholars found exploration and exploitation activities, and ambidexterity are catalysts for innovation (Alghamdi, 2018; Zacher et al., 2016). According to Zacher and Rosing (2014), the collaboration between opening and closing behaviors leads to employee innovative performance. Not only are leaders' ambidextrous behaviors influencing innovation on an individual level, but also impacting positive team innovation outcomes (Zuraik, 2017).

Summary and Conclusions

Ambidexterity themes have been studied in organizations and among the leaders of the organizations. A major component for reviewing ambidexterity is the association with organizational stability. Scholars highlighted three major types of ambidextrous groups; sequential, structural, and contextual that involve exploration and exploitation concepts. Although the majority of ambidexterity studies resided at individual, team, and organizational levels, researchers agreed the need for specifics relating to the topic is warranted. Ambidexterity in healthcare as well as ambidextrous leadership are additional areas to be studied and supply new information with those subjects.

Healthcare is challenged to improve general practices and the quality of services that has been influenced by the changing environment. Effective leadership is a necessary element for advancing healthcare and sustaining operations. Ambidextrous leaders have the necessary qualities for sustainability through innovative measures. The identification of specific ambidextrous roles within the healthcare setting is yet to be determined. Through a quantitative research process investigating nursing leaders will provide insight that ambidextrous leadership in healthcare exists.

Chapter 3: Research Method

Introduction

The purpose of this nonexperimental, quantitative study was to examine the extent to which ambidextrous leadership characteristics of healthcare executives and CNOs impact the innovative performance of CNOs in the healthcare setting. Chapter 3 topics include the research design, methodology, sample, instrumentation, data analysis, test validity, and ethical considerations of the study. Details of the research rationale, sampling procedures, and measurement variables are also reviewed.

Research Design and Rationale

A cross-sectional quantitative survey design was used to gather self-reported questionnaires from CNOs regarding ambidextrous factors and their effect on performance innovation. According to the ambidexterity theory of leadership for innovation, opening and closing leadership behaviors predict employee exploration and exploitation activities, which then project employee innovation (Rosing et al., 2011; Zacher et al., 2016). To date, ambidextrous leadership has been the focus of limited research within the healthcare setting, and there have been no studies addressing the impact of executive ambidextrous leadership concepts on CNO innovation. There have been similar frameworks of ambidextrous leaders and innovation in recent literature. Zacher et al. (2016) surveyed 388 employees to further validate the theory of ambidextrous leadership for innovation with a mediating role of employee exploration and exploitation behaviors and three predictors for innovation. Alghamdi (2018) also

conducted research based on validating the ambidextrous leadership for innovation theory with 147 faculty from colleges of a university in Albaha province of Saudi Arabia.

The variables of the present study were clearly defined. The predictor variables were leadership behaviors demonstrated by healthcare executives, known as open and closed behaviors, and ambidexterity (exploration and exploitation) actions of CNOs. The Ambidextrous Leadership Questionnaire was developed to measure employees' perceptions of their leaders' opening and closing leadership behaviors (Zacher & Rosing, 2015b). An assessment called Managers' Exploration Activities, Exploitation Activities by Mom et al. (2007) determined ambidexterity in CNOs.

The criterion variable was the innovative performance of CNOs. In order to address the relationship between innovation, ambidexterity (exploration and exploitation) actions, and ambidextrous leadership (opening and closing behaviors), the concepts must be distinguished. The Generalized Role-Based Performance Scale measures employee performance with self-report in five areas: work, career, innovator, team member, and organization citizen (Welbourne et al., 1998), assisting the general research question.

Data were gathered from online surveys of CNOs to determine the effects of the predictor variables on the criterion variable. All collected data underwent a regression analysis in the Statistical Package for Social Sciences (SPSS) to establish significance in the relationships between the variables of the study. A multiple linear regression assessed opening and closing behaviors, exploration and exploitation activities (predictor variables), and innovative performance (criterion variable).

Methodology

Population

The population designated for data collection consisted of CNOs employed in an acute-care hospital setting. Nursing leaders identified as chief nurse executives (CNEs) were included in the participant population as equivalent to CNOs. All participants were required to have an active nursing license in the state in which they were currently employed in the role of CNO. Additional inclusion criteria consisted of an established direct-reporting relationship with a member of the executive leadership team or C-suite (e.g. CEO, COO, CFO). Employment at acute-care hospital settings was limited to facilities providing inpatient services, excluding single services as outpatient, behavioral health, skilled, and long-term institutions. Lastly, participants must have had greater than 1 year of experience in their current position as CNO.

Sampling and Sampling Procedures

A convenience sampling of all CNO participants who met the required criteria was included in the data collection. A power analysis was used to identify the sample size range for this quantitative study. A medium effect size was used by researcher Patterson (2018) in a regression analysis of nursing leadership behaviors driving satisfaction. A medium effect size (e = .15), an alpha level (α = .05), and a power level ($1 - \beta$ = .80) were entered into software with a linear multiple regression as the analysis. According to G*Power calculations, the minimum recommended participant size of N = 85 is necessary for accurate data results (Faul, Erdfelder, Buchner, & Lang, 2009).

Additionally, G*Power calculations indicated a maximum participant size of $N = 129$ with a power level ($1 - \beta = .95$; Faul et al., 2009; see Figure 1).

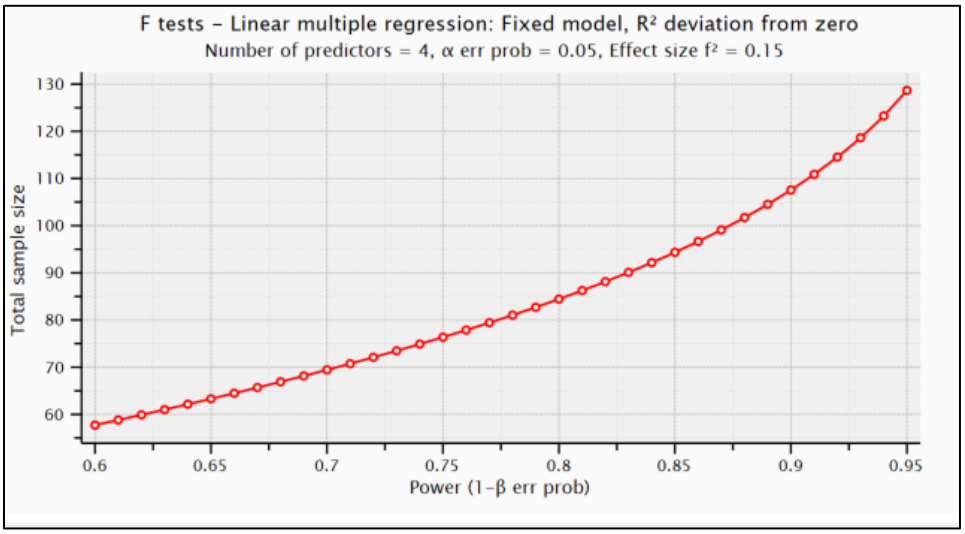

Figure 1. Power as a function of sample size.

Recruitment

Walden University's Institutional Review Board (IRB) approval number for this study was 07-24-19-0068470. Electronic formats were used to recruit participants as well as for participant questionnaires. Due to the online gathering of data from various CNOs across the nation, specific demographics were inquired to appropriately report on data, as well as make future research recommendations. Participant demographics encompassed gender, years of experience, education, reporting supervisor, and hospital size (Appendix A). Recruitment was focused on the avenue of social media, specifically LinkedIn Network. An email and an online weblink were used for participants' access of information about the study and informed consent.

Data Collection Procedures

Data were collected online using SurveyMonkey. Web-based methods for collecting data can be less expensive and more expedient than other survey formats (Burkholder, Cox, & Crawford, 2016). CNOs were asked to complete self-reported questionnaires assessing their exploration and exploitation actions (ambidexterity), work innovation, and opinions of their immediate supervisors' or healthcare executives' opening and closing behaviors (leadership behaviors). Participants were informed, in the SurveyMonkey welcome section, that the outcomes of the study would be provided per request. Because the survey was intended for a single submission, follow-up measures were not required. The data collected were used to compare relationships between the variables of the study.

Instrumentation and Operationalization of Constructs

Introduction

The three instruments that were used to survey CNO participants were as follows: (a) The Ambidextrous Leadership Questionnaire (ALQ; Zacher & Rosing, 2015b); b) Managers' Ambidexterity (Mom et al., 2007); and c) Generalized Role-Based Performance Scale (GRBPS; Welbourne et al., 1998). The following paragraphs review each of the survey instruments' scales and construct operationalization. The instruments used the standard measurement for internal consistency with Cronbach's reliability coefficient (α).

The Ambidextrous Leadership Questionnaire

The Ambidextrous Leadership Questionnaire (ALQ) was used to assess leadership behaviors in healthcare executives to whom CNOs directly report. The instrument is composed of a total of 14 questions, with seven-item opening and closing scales. The ALQ response setup is a Likert 5-point scale ranging as follows: 1 = *not at all*, 2 = *sometimes*, 3 = *often*, 4 = *routinely*, and 5 = *frequently, if not always*. The scale scoring framework is an aggregated result. Reliability was confirmed for both the open behaviors scale (α =.89) and closed behaviors scale (α =.85); (Zacher & Rosing, 2015b). An exploratory factor analysis was also conducted, validating the instrument by the researchers. Zacher et al. (2016) used the ALQ and found reliability for closing leadership behaviors (α = .83) and opening leadership behaviors (α =.91). Authors Zacher and Rosing (2015) created the ALQ with the intention of rating employees' insights concerning their leaders' opening and closing behaviors, upholding the foundation of the Rosing et al. (2011) study. The ALQ was first developed to measure open and closed behaviors of 33 team leaders of architectural and interior design firms by 90 of their employees. Additionally, researchers administered the ALQ to 290 frontline hotel staff in China (Ma, 2018); 427 software employees in Vietnam (Luu, 2017a); 186 government managers in Vietnam (Luu, 2017b); and 212 employees from commercial businesses within the United States (Zuraik, 2017). According to Zacher and Rosing (2015b), permission to use the survey is granted for research and educational purposes.

Managers' Ambidexterity

The Managers' Ambidexterity instrument was used to assess exploration and exploitation actions of CNOs through self-report. Mom et al. (2007) developed Managers' Exploration Activities, Exploitation Activities to reflect the exploration and exploitation concepts defined by March (1991). Mom, Van Den Bosch, and Volberda (2009) solicited data for Managers' Ambidexterity, adopted from Mom et al. (2007), but representing an ambidextrous individual. The instrument consists of a 14-question scale equally supporting both exploration and exploitation activities of managers within the past year. Responses to the question use a 7-point Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*, with a summated scoring framework. A confirmatory factor analysis of the instrument was completed verifying discriminant validity of the items. Convergent and discriminant validities were established by exploratory and confirmatory factor analyses. Internal consistency of the instrument has a range of results for exploration (α = .86 -.90) and exploitation activities (α = .81-.91). Numerous scholars have used the Managers' Ambidexterity instrument in a variety of work settings. Alghamdi (2018) administered the instrument with 147 faculty members in colleges of a public university in Albaha province, Saudi Arabia. Mom, Forune, and Jansen (2015) conducted a study with 337 accounting, professional, chemical, and life-sciences service managers. The instrument is available under open access by the publisher, Erasmus Research Institute of Management, through Erasmus University Rotterdam.

Generalized Role-Based Performance Scale

The Generalized Role-Based Performance Scale (GRBPS) was the last instrument used to survey CNOs in the study. Authors Welbourne et al. (1998) created the GRBPS to evaluate the performance of five duties within a persons' job and career as well as an innovator, team member, and organization citizen. Participants completed the four-item measure for each role, using a 5-point scale ranging from 1 = *needs much improvement* to 5 = *excellent*. The scale's scoring framework is an average of each role . A total of 10 data files from six businesses with a range from α =.71 to α =.94 confirmed the GRBPS's reliability. Each individual factor's Cronbach's alpha was as follows: job holder (α =.75); innovator (α =.90); career person (α =.90); team member (α =.87); and organization members (α =.84). Scientists have applied the GRBPS successfully across many work locations. Employee innovative performance was measured in a Saudi Arabia faculty (Alghamdi, 2018), and Australian team leaders were also surveyed (Zacher & Rosing, 2015a). Welbourne and Johnson provided written consent via email (Appendix B) for me to use the GRBPS instrument for this study.

Data Analysis Plan

The focus of the study was examining the extent to which ambidextrous leadership characters of healthcare executives and CNOs impact the innovative performance of CNOs in the healthcare setting. The data analysis plan for this quantitative research involved the use of SPSS version 25. An analysis and multiple regression were run to examine the research question:

Research Question 1. Which ambidextrous leadership behaviors, or combination of behaviors, including open and closed behaviors of healthcare executives and exploration and exploitation actions of CNOs in healthcare settings, explain statistically significant portions of the variance in innovative performance of CNOs?

H_{01}: Open and closed behaviors of healthcare executives will not explain statistically significant portions of the variance in innovative performance of CNOs.

H_{a1}: Open and closed behaviors of healthcare executives will explain statistically significant portions of the variance in innovative performance of CNOs.

H_{02}: Exploration and exploitation actions of CNOs in healthcare settings will not explain statistically significant portions of the variance in innovative performance of CNOs.

H_{a2}: Exploration and exploitation actions of CNOs in healthcare settings will explain statistically significant portions of the variance in innovative performance of CNOs.

H_{03}: Open and closed behaviors of healthcare executives with exploration and exploitation actions of CNOs in healthcare settings will not explain statistically significant portions of the variance in innovative performance of CNOs.

H_{a3}: Open and closed behaviors of healthcare executives with exploration and exploitation actions of CNOs in healthcare settings will explain statistically significant portions of the variance in innovative performance of CNOs.

According to Corrales, Corrales, and Ledezma (2018), regression models have multiple measures to clean data by identifying missing values, outliers, high

dimensionality, and duplicate instances. Missing values can be adjusted through imputation formed on missing or nonmissing attributes and as deletion and hot deck (Corrales et al., 2018). Outliers can be removed with a review of distance and clustering to eliminate false-positive and negative results (Corrales et al., 2018). The final data cleaners are dimensionality reduction, which decreases the number of attributes, and duplicate instances, which involves finding and removing duplicates (Corrales et al., 2018).

A multiple regression analysis was used for the correlation between the combination of predictor variables (i.e., open behaviors, closed behaviors, exploration actions, and exploitation actions) and the criterion variable (i.e., innovation performance). The amount of variance to be considered for each individual predictor variable and the combination of predictor variables was calculated by a coefficient of determination (R^2). The above data analyses methods quantified the hypothesis addressed in the study.

Threats to Validity

Threats to internal validity can weaken the assurance in the results of the relationship between variables. A potential threat to internal validity is attrition of participants due to competing priorities or lack of time inhibiting survey completion. Incomplete or missing data create additional threats that may manipulate or skew data results. A complete data cleansing was performed to eliminate partial scale completion. External validity threats can compromise the ability to generalize results outside the study settings. Participants were encouraged to complete all questionnaire items but were given the option to save completed responses and complete questions at a later time by editing

the Collector settings of SurveyMonkey. The possibility existed that participants would assume or anticipate what the study was expected to find, which might have led to biased responses. Instruments with consistent reliability and validity measures were vetted for the study.

Ethical Procedures

Ethical considerations will be taken into account throughout the entire study. Data collection did not begin until full approval of Walden University's Institutional Review Board (IRB). The IRB ensures ethical standards and U.S. federal regulations are followed (Walden University Center for Research Quality, 2015). The informed consent was provided to participants featuring voluntary involvement with the power to end the survey at any point. Participants had information provided that negative consequences will not result from their selection of answering questions and/or choice not to take part of the study. The participants' supervisors and employer were not notified of their participation and participants will remain anonymous. Participants were encouraged to answer all survey questions, completely sign out of the online questionnaire and elude leaving survey equipment unattended. Additionally, a password protected computer was used to avoid exposure of hacking any stored data or participant information.

Summary

The aim of this study was to examine the extent to which ambidextrous leadership characteristics of healthcare executives and CNOs impact the innovative performance of CNOs in the healthcare setting. Furthermore, the intent was to examine which ambidextrous leadership behaviors or combination of behaviors explain the most variance

in innovative performance of CNOs. The quantitative methodology for this study was to examine variable connections with the use of GRBPS, ALQ, and Managers' Ambidexterity instruments. SPSS was used to examine data through an analysis and regression methods. The details of Chapter 4 are how the data were collected, analyzed and reported. A discussion of the results in relation to the research questions were incorporated into the next chapter.

Chapter 4: Results

Introduction

The purpose of this quantitative study was to analyze the extent to which ambidextrous leadership characteristics of healthcare executives and CNOs influence the innovative performance of CNOs in the healthcare setting. The leadership characteristics tested using multiple linear regression were open and closed behaviors of healthcare executives, exploration and exploitation activities, and innovative performance of CNOs. All predictor variables, open and closed behaviors of healthcare executives and exploration and exploitation activities of CNOs, and the criterion variable, innovative performance of CNOs, were assessed through online questionnaires completed by CNOs. The research question and hypotheses were addressed by the examination of each variable with a multiple regression statistical model.

Research Question 1. Which ambidextrous leadership behaviors or combination of behaviors, including open and closed behaviors of healthcare executives and exploration and exploitation actions of CNOs in healthcare settings, explain statistically significant portions of the variance in innovative performance of CNOs?

H_{01}: Open and closed behaviors of healthcare executives will not explain statistically significant portions of the variance in innovative performance of CNOs.

H_{a1}: Open and closed behaviors of healthcare executives will explain statistically significant portions of the variance in innovative performance of CNOs.

H_{02}: Exploration and exploitation actions of CNOs in healthcare settings will not explain statistically significant portions of the variance in innovative performance of CNOs.

H_{a2}: Exploration and exploitation actions of CNOs in healthcare settings will explain statistically significant portions of the variance in innovative performance of CNOs.

H_{03}: Open and closed behaviors of healthcare executives with exploration and exploitation actions of CNOs in healthcare settings will not explain statistically significant portions of the variance in innovative performance of CNOs.

H_{a3}: Open and closed behaviors of healthcare executives with exploration and exploitation actions of CNOs in healthcare settings will explain statistically significant portions of the variance in innovative performance of CNOs.

Items to be reviewed in Chapter 4 are the data collection and study results inclusive of data-gathering processes and multiple regression analyses details. Descriptive statistics, assumptions, and statistical analysis findings are also noted in the chapter. The closing sections of Chapter 4 present relevant data tables and a summary of answers to the research question.

Data Collection

Timeframe

Walden University's IRB approval was received on July 24, 2019 (IRB approval number 07-24-19-0068470), and attempts at data collection began immediately. Because data were only gathered electronically from an online SurveyMonkey

questionnaire, a post was shared on the social media platform LinkedIn that announced the dissertation survey on July 29, 2019, which included a direct link to the survey. Data were collected from CNOs for approximately one month from the end of July 2019 to the end of August 2019. Anonymous responses were ensured with the exclusion of all respondent information (e.g., names, email addresses, IP addresses, and custom data) from the survey results.

Recruitment

I accessed over 1,000 of my professional LinkedIn connections, identifying 458 individuals holding the title of CNO or CNE across the nation. The criteria for study participation indicated that participants needed to be 18 years of age or older, be employed by an acute-care hospital setting, hold an active nursing license in the state employed, and have been in the role of CNO or CNE for over a year reporting directly to executive leadership. To increase the generalizability of the data outcomes, the sample incorporated participants from hospitals of various sizes across the nation.

The CNO and CNE LinkedIn connections were sent a SurveyMonkey email invitation, including a direct link to the survey, requesting research participation. The informed consent was embedded into the first section of the survey that was required prior to answering questions. Initial invitation emails were sent during the month of July, and reminder emails were sent in the month of August to those who did not complete or partially completed the survey. As new LinkedIn CNO and CNE connections were made during July and August 2019, initial and reminder survey emails were sent accordingly.

Response Rates

SurveyMonkey invitations were sent to 458 potential participants (e.g., CNO and CNE) within my LinkedIn connections. A total of 141 responses were collected via SurveyMonkey on LinkedIn. The email invitations generated a total of 134 responses, with 15 completed partially. Seven responses were gathered from the social media post on LinkedIn containing a direct web link to the SurveyMonkey questionnaire. The final number of responses used in the survey data analysis was 126, exceeding the minimum recommended participant size of $N = 85$ ($1 - \beta = .80$) per G*Power calculations (Faul et al., 2009). In order to achieve a greater power level ($1 - \beta = .95$), a participant size of $N = 129$ was needed (Faul et al., 2009).

Results

Sample Demographics

Study participants were asked to indicate five demographic descriptors consisting of gender, highest degree achieved, years of experience, title of supervisor, and company size. Of the six degree choices, diploma, associates, and postgraduate degrees were not selected as the highest degree received. There were five participants who did not respond to the item on total years of experience in current position, which varied from 1 to 42. See Table 1 for all demographic descriptor results.

Table 1

Frequencies and Percentages for Demographic Descriptors

Variable	*n*	%
Gender		
Female	104	83.20
Male	21	16.80
Highest degree received		
Bachelor	2	1.6
Graduate	77	61.1
Terminal	47	37.3
Total years of experience		
1-10	75	62
11-20	29	24
21-30	6	4.8
31-40	5	4
Over 40	1	.8
Person reports to		
CEO	102	81.6
COO	7	5.6
VP	4	3.2
Other	12	9.6
Size of company		
100–500 employees	32	25.4
501–5,000 employees	57	26.2
More than 5,000 employees	33	26.2
Other	4	3.17

Note. $N = 126$.

Data Analysis

Descriptive Statistics

A total of 141 survey responses were received. Due to partial survey completion, 15 surveys were eliminated, which resulted in 126 survey data records for the analysis. There were four predictor variables tested: open behaviors, closed behaviors, exploration actions, and exploitation actions. The reliability for each survey scale was measured by using Cronbach's reliability coefficient (α) to assess the internal consistency of the measurements (Burkholder et al., 2016). Table 2 contains descriptive statistics with reliabilities of the study variables.

Table 2

Correlations, Means, Standard Deviations, and Reliabilities for Study Variables

	(1)	(2)	(3)	(4)	(5)
(1) Open behaviors	1.00				
(2) Closed behaviors	.21*	1.00			
(3) Exploration actions	.27**	.18*	1.00		
(4) Exploitation actions	.12	.34**	.11	1.00	
(5) Innovation performance	.26**	.23**	.39**	.13	1.00
Mean	3.70	2.95	5.75	6.05	4.38
Standard deviation	1.06	.86	.78	.71	.57
Cronbach's alpha reliability	.95	.87	.77	.79	.85

Note. $N = 126$.
*$p < .05$, **$p < .01$.

Open behaviors of healthcare executives correlated positively with closed behaviors ($r = .21$, $p < .05$), exploration actions ($r = .27$, $p < .01$), and innovation

performance ($r = .26$, $p < .01$). Open behaviors of healthcare executives were not significantly correlated with exploitation actions of CNOs. Closed behaviors of healthcare executives correlated positively with exploration actions ($r = .18$, $p < .05$), exploitation actions ($r = .34$, $p < .01$), and innovation performance ($r = .23$, $p < .01$). Exploration actions displayed the largest correlation with innovation performance ($r = .39$, $p < .01$) and were not significantly correlated with exploitation actions of CNOs. Innovation performance was not significantly correlated with exploitation actions.

Hypothesis 1

The assumptions of linear relationship, normality, homoscedasticity, and absence of multicollinearity were reviewed prior to the data analysis for Hypothesis 1. The scatterplots and regression of standardized residuals showed a linear relationship between innovation performance and open and closed behaviors. Homoscedasticity was shown through a semi-rectangular-shaped form without a clear pattern (see Figure 2).

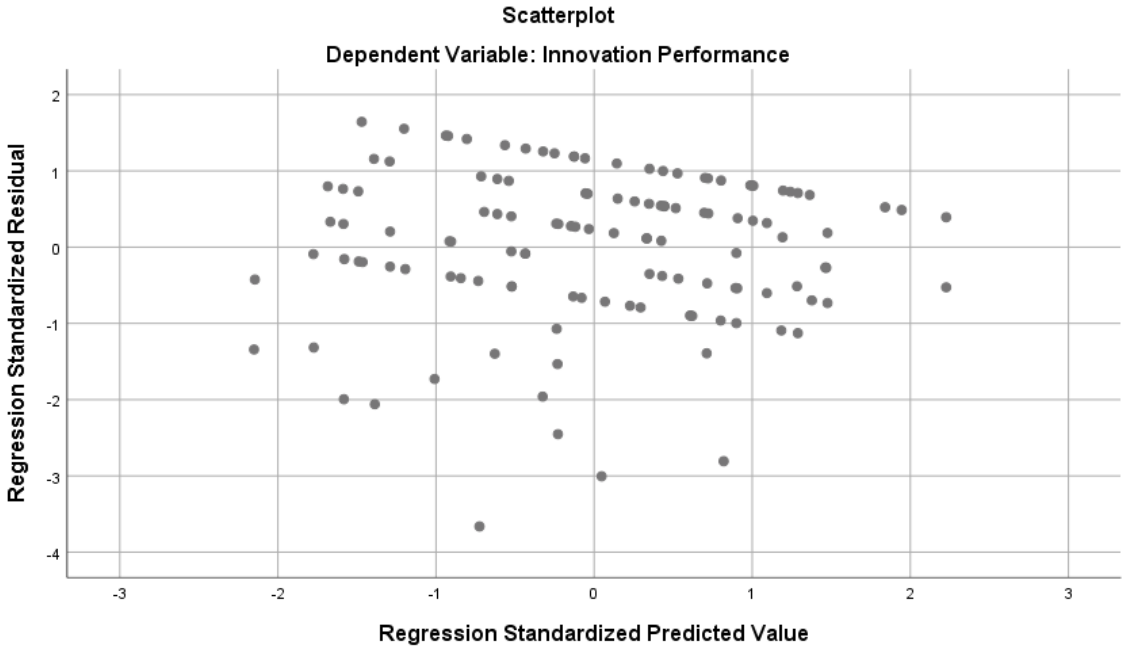

Figure 2. Scatterplot of standardized residuals for the predictor variables, open and closed behaviors.

Normality was tested with the normal P-P plot of regression standardized residuals for innovation performance and opening and closing behaviors. The assumption was met by the visual display of points along the diagonal line in Figure 3.

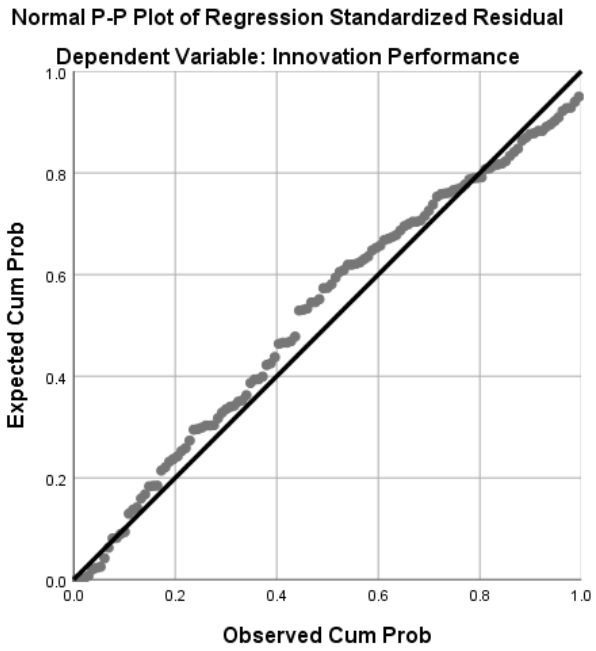

Figure 3. Normal P-P plot of regression standardized residual for opening and closing behaviors.

The absence of multicollinearity was determined through the variance inflation factor (VIF). The VIF values for open and closed variables were under 10, indicating that multicollinearity was not present (see Table 3).

Table 3

Collinearity Statistics Open and Closed Behaviors

	Std. error	*t*	Tolerance	VIF
Constant	.223	15.982		
Open behaviors	.047	2.631	.956	1.046
Closed behaviors	.058	2.089	.956	1.046

Note. Criterion variable, innovation performance. Predictor variables; open and closed behaviors.

The overall research question inquired as to which ambidextrous leadership behaviors or combination of behaviors, including open and closed behaviors of healthcare executives and exploration and exploitation actions of CNOs in healthcare settings, explain statistically significant portions of the variance in innovative performance of CNOs. In order to test the first hypothesis addressing the variance of open and closed behaviors of healthcare executives on the innovative performance of CNOs, a standard multiple regression analysis was performed.

Table 4

Standard Regression Summary for Open and Closed Behaviors of Healthcare Executives on the Innovative Performance of CNOs

Variable	B	Std. error	*β*	*t*	*p*
(constant)	3.560	.223		15.982	.000
Open behaviors	.124	.047	.231	2.631	.010
Closed behaviors	.121	.058	.183	2.089	.039

Note. R = .323 and Adj. R^2 = .090 (N = 125). Criterion variable: innovation performance.

Predictor variables, open and closed behaviors of healthcare executives, did explain a statistically significant percent of the variance in innovative performance of CNOs $F(2,122) = 7.105$, $p = .001$, with an R^2 of .104. The multiple regression of two predictor variables accounted for 10% of the variability as indexed by the R^2 statistic. The alternate hypothesis, open and closed behaviors of healthcare executives will explain statistical significant portion of the variance in innovative performance of CNOs, was supported. These findings are consistent with previous research suggesting that opening and closing leadership behaviors predict innovation (Alghamdi, 2018; Zacher & Wilden, 2014; Zacher et al., 2016).

Hypothesis 2

Before the data analysis was completed for hypothesis 2, linear relationship, normality, homoscedasticity, and absence of multicollinearity assumptions were reviewed. The scatterplots and regression of standardized residuals showed a linear relationship between innovation performance and exploration and exploitation actions. Homoscedasticity was shown through a semi rectangular-shaped form without a clear pattern (see Figure 4).

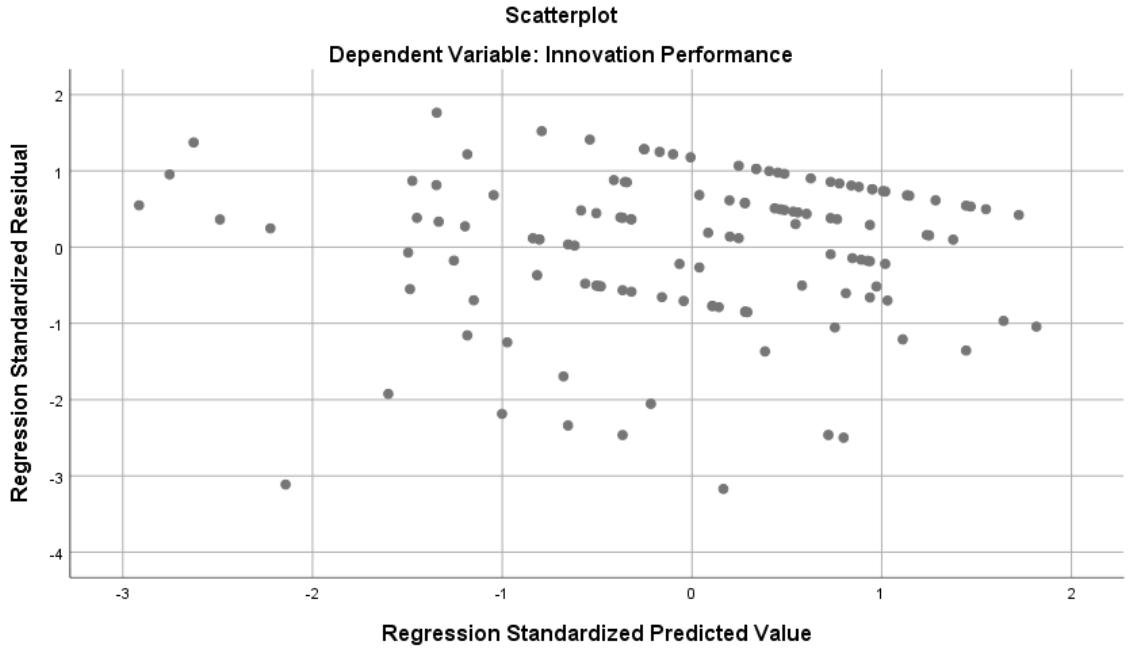

Figure 4. Normal P-P plot of regression standardized residual for exploration and exploitation actions.

Normality was tested with the normal P-P plot of regression standardized residuals for innovation performance and exploration and exploitation actions. The assumption was met by the visual display of points along the diagonal line in Figure 5.

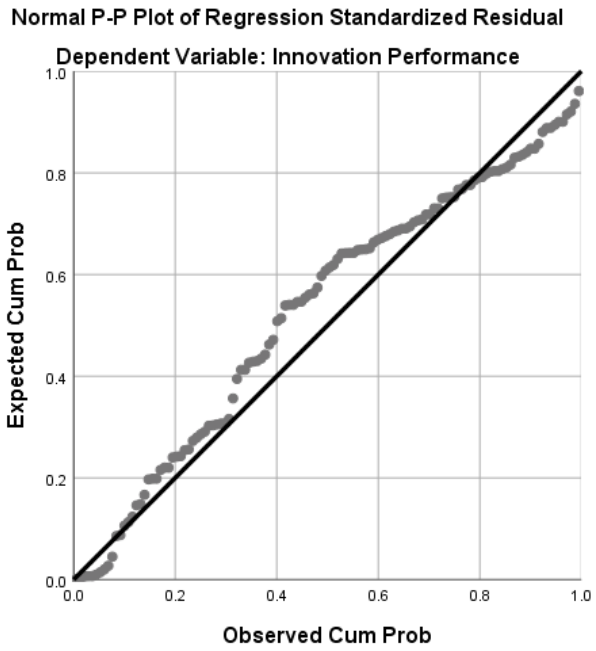

Figure 5. Normal P-P plot of regression standardized residual for exploration and exploitation behaviors.

The absence of multicollinearity was determined through the variance inflation factor (VIF). The VIF values for open and closed variables were under 10 indicating multicollinearity was not present (see Table 5).

Table 5

Collinearity Statistics Exploration and Exploitation Actions

	Std. error	*t*	Tolerance	VIF
Constant	2.327	4.594		
Exploration action	.060	4.612	.989	1.011
Exploitation action	.067	1.116	.989	1.011

Note. Criterion variable: innovation performance. Predictor variables: exploration and exploitation actions.

The second hypothesis tested the variance of exploration and exploitation actions of CNOs in the healthcare settings on the innovative performance of CNOs. A standard multiple regression analysis was performed.

Table 6

Standard Regression Summary for Exploration and Exploitation Behaviors of CNOs on the Innovative Performance of CNOs

Variable	B	Std. error	*β*	*t*	*p*
(constant)	2.327	.507		4.594	.000
Exploration actions	.279	.060	.383	4.612	.000
Exploitation actions	.075	.067	.093	1.116	.267

Note. R = .403 and Adj. R^2 = .149 (N = 126). Criterion variable: innovation performance.

Predictor variables, exploration and exploitation behaviors of CNOs, were analyzed to determine whether or not the criterion variable, innovative performance of CNOs, is predicted. The multiple regression analysis explained a statistically significant percent of the variance $F(2,123) = 11.934$, $p < .01$, with an R^2 of .163 indicating that

exploration and exploitation actions of CNOs in healthcare settings predict innovative performance of CNOs. This multiple regression of two predictor variables accounted for 16% of the variability as indexed by the R^2 statistic. Exploration actions significantly predicted innovation performance of CNOs ($\beta = .383$, $p < .01$). The model established that exploitation actions did not significantly predict innovation performance of CNOs ($\beta = .093$, $p > .01$). Past literature described exploration and exploitation to have a positive relationship with innovative performance consistent to the findings for the second hypothesis (Rosing et al., 2011; Rosing & Zacher, 2017; Zacher et al., 2016).

Hypothesis 3

Prior to completing the multiple regression, the data was tested ensuring assumptions were met supporting quality results. Predictor variables; open and closed behaviors, and exploration and exploitation actions and criterion variable, innovation performance were tested. The assumptions reviewed include linear relationship, normality, homoscedasticity, and absence of multicollinearity.

First, a linear relationship was determined between the criterion variable (i.e. innovation performance) and all four predictor variables (i.e. open and closed behaviors and exploration and exploitation actions) with scatterplots and regression of standardized residuals. No clear pattern in the distribution, equal variance and approximately rectangular-shaped is recognized meeting homoscedasticity (see Figure 6).

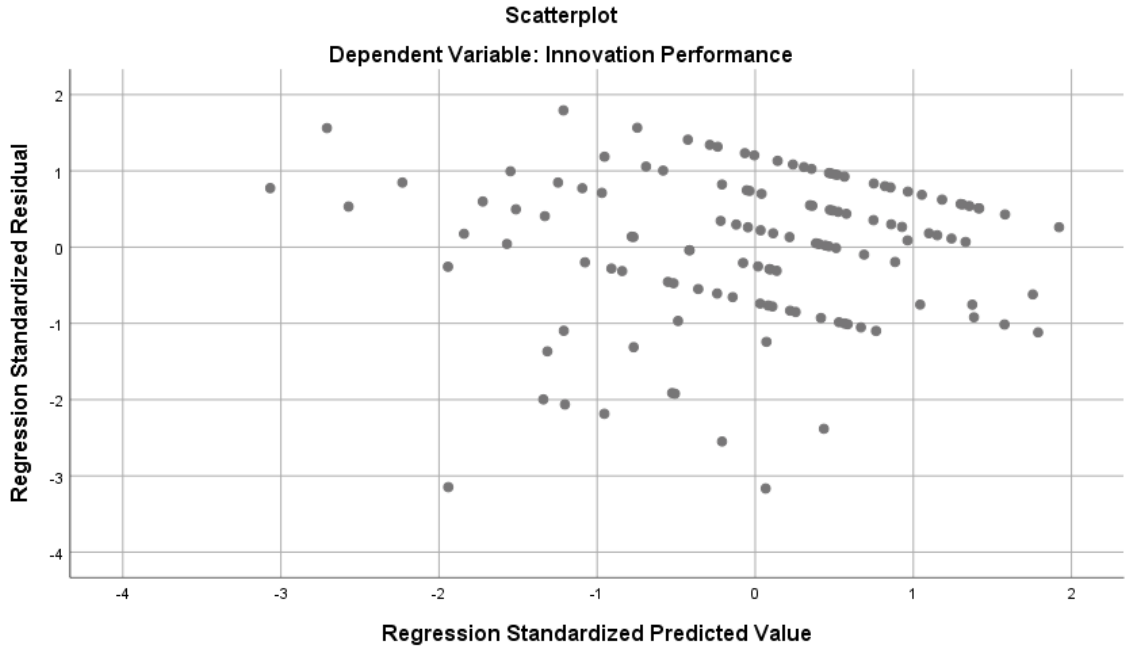

Figure 6. Scatterplot of the standardized residuals.

Next, normality was tested with the normal P-P plot of regression standardized residuals for the criterion variable (i.e. innovation performance) and predictor variables (i.e. open and closed behaviors, exploration and exploitation actions). The assumption was met for all predictor variables by the nominal deviation from normality visually represented by points displayed along a straight line (see Figure 7).

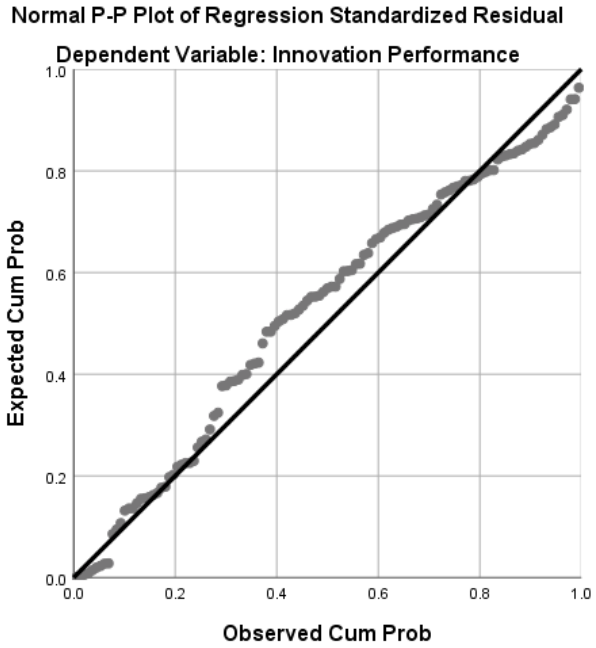

Figure 7. Normal probability plot (P-P) of the regression standardized residuals.

Lastly, the assumption of absence of multicollinearity was determined through the variance inflation factor (VIF). The VIF values for all predictor variables were under 10 indicating multicollinearity was not present (see Table 7).

Table 7

Collinearity Statistics Open and Closed Behaviors and Exploration and Exploitation Actions

	Std. error	*t*	Tolerance	VIF
Constant	.502	4.608		
Open behaviors	.047	1.706	.893	1.120
Closed behaviors	.059	1.475	.848	1.179
Exploration actions	.063	3.700	.905	1.105
Exploitation actions	.070	.432	.884	1.131

Note. $N = 125$.

The third hypothesis tested the variance of a combination of predictor variables on the criterion variable. Both open and closed behaviors of healthcare executives and exploration and exploitation actions of CNOs in healthcare settings were the predictive variables tested on the innovative performance of CNOs with a standard multiple regression.

Table 8

Standard Regression Summary for Open and Closed Behaviors of Healthcare Executives, Exploration and Exploitation Behaviors of CNOs on the Innovative Performance of CNOs

Variable	B	Std. error	β	*t*	*p*
(constant)	2.314	.502		4.608	.000
Open behaviors	.080	.047	.148	1.706	.091
Closed behaviors	.086	.059	.131	1.475	.143
Exploration behaviors	.231	.063	.318	3.700	.000
Exploitation behaviors	.030	.070	.038	.432	.667

Note. R = .445 and Adj. R^2 = .171 (N = 125). Criterion variable: innovation performance.

When combined together, predictor variables, open and closed behaviors of healthcare executives and exploration and exploitation behaviors of CNOs, were found to explain a statistically significant percent of the variance $F(4,120) = 7.405$, $p < .01$, with an R^2 of .198. The multiple regression analysis of four predictor variables accounted for 20% of the variability as indexed by the R^2 statistic indicating the largest statistically significant portion of the variance in innovative performance of CNOs. Consistent with past research, leaders' open and closed behaviors fostered employee exploration and

exploitation actions that predicted employee innovative performance (Zacher et al., 2016). Exploration actions was founded to significantly predict innovation performance ($\beta = .318$, $p < .01$). The model demonstrated that open ($\beta = .148$, $p > .01$) and closed behaviors ($\beta = .131$, $p > .01$) and exploitation actions ($\beta = .038$, $p > .01$) did not significantly predict CNO innovation performance.

Summary

Chapter 4 first presented the basis of the study and reviewed the research question and three hypotheses. A detailed examination of the data collection and standard multiple regression analysis followed. The sample size surpassed the minimum G*Power recommendation for accurate data analysis and outcomes. Four distinct predictor variables, open and closed behaviors of healthcare executives and exploration and exploitation actions of CNOs in healthcare settings, and one criterion variable, innovative performance of CNOs, were tested. The multiple regression analysis was completed, and the three hypotheses were discovered to have a significant portion of the variance in innovative performance of CNOs. More specifically, exploration and exploitation actions of CNOs in healthcare settings individually and in combination with open and closed behaviors of healthcare executives displayed a significant portion of the variance in innovative performance of CNOs. Chapter 5 reports the interpretations of the results and limitations of the study. Inferences and recommendations regarding positive social change and possible forthcoming research for the study were also reviewed in chapter 5.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this quantitative study was to examine the extent to which ambidextrous leadership characteristics of healthcare executives and CNOs impact the innovative performance of CNOs in the healthcare setting. The study was performed to assess the relationship between ambidextrous leadership behaviors of healthcare executives and CNOs and the innovative performance of CNOs. Behaviors that impact innovation in the healthcare environment were a focus of the study. Healthcare has been a leading topic of debate related to overall healthcare improvements of quality to the cost. Innovation has been identified as a means of achieving organizational success (Anderson et al., 2014; Lukoschek et al., 2018; Weatherford et al., 2018). The role of ambidextrous leadership behaviors has not been clearly defined by researchers or linked with innovative situations from an objective perspective (Zacher et al., 2016). In the current study, I expected to find a relationship between ambidextrous leadership behaviors (i.e., opening and closing behaviors and exploration and exploitation actions) of healthcare executives and CNOs and CNO innovation performance. Survey data were collected and analyzed using a standard multiple regression. The findings of the study revealed that opening and closing behaviors of healthcare executives and exploration and exploitation actions of CNOs, paired and collectively, positively predicted the innovation performance of CNOs.

Interpretation of the Findings

Hypothesis 1

The first hypothesis was accepted, indicating that open and closed behaviors of healthcare executives are predictors of innovative performance of CNOs. Past research that was reviewed showed consistent findings. Rosing et al. (2011) addressed the interactions of open and closed leader behaviors predict employee innovation performance which formulated the ambidexterity theory of leadership for innovation. An additional study also determined that employee innovation performance is highest when leader opening and closing behaviors are both high, indicating a predictive correlation (Zacher & Wilden, 2014). As reviewed earlier in the current study, open and closed behaviors of healthcare executives accounted for 10% of the variance in innovative performance of CNOs.

Open and closed behaviors of healthcare executives predicted CNO innovation performance not only together, but also as separate measures. Open behaviors of healthcare executives correlated positively with innovation performance and exploration actions. Zacher and Wilden (2014) discovered that leader opening behaviors inspire employee exploration and in return increase employee innovation, which aligns with the correlations above. Furthermore, leaders were encouraged to display closed behaviors that promoted exploitation actions to enhance the beneficial outcomes of leader open behaviors on employee innovation (Zacher & Wilden, 2014). Similarly, the current study indicated that closed behaviors of healthcare executives correlated positively with exploitation actions as well as innovation performance. In the same context, research

indicated that leader opening behavior positively predicted employee exploration behavior and leader closing behavior positively predicted employee exploitation behavior (Alghamdi, 2018; Zacher et al., 2016). In opposition, Zacher and Rosing (2015) found that leader closed behaviors alone were not positively related to team innovation. Although the current study found that open and closed behaviors are individually correlated with innovation performance, when combined, the behaviors are predictive of innovation performance. Both past literature and current research indicate that innovation performance has a greater impact from open and closed behaviors when combined. CNO innovation performance was influenced when CNOs believed that healthcare executives interacted with open and closed behaviors in the workplace.

Hypothesis 2

Researchers continue to describe the theory of ambidexterity as the management of explorative and exploitative behaviors at the same time (Anderson et al., 2014; Lukoscheck et al., 2018; Rosing et al., 2011; Stettner & Lavie, 2014). Exploration and exploitation actions are necessary for ambidextrous leadership (O'Reilly & Tushman, 2013) and the resiliency of an organization (Onwughalu & Amah, 2017). Organizations that demonstrate exploration and exploitation actions simultaneously are able to recover, leading to improved organizational resilience (Onwughalu & Amah, 2017). Employee innovation performance relies heavily on employee exploration and exploitation actions and the interaction between the activities (Zacher et al., 2016). In this study, the second hypothesis was met, illustrating exploration and exploitation actions as added predictors for CNO innovation performance. According to Turner, Kutsch, Maylor, and Swart

(2018), a direct link between ambidexterity and resilience was not established with qualitative research, but applying resilience research through the lens of ambidexterity is warranted.

Exploration and exploitation actions of CNOs accounted for 16% of the variance in innovation performance of CNOs. Exploitation alone did not predict innovation performance, but when it was combined with exploration actions, there was a positive impact. Exploration actions were largely connected to innovation performance and not to the exploitation actions of CNOs. Although previous researchers found innovation performance to be predicted by exploration and exploration actions, researchers also identified that the predictors had an individual impact on innovation performance, in contrast to the current study (Zacher et al., 2016). A substantial difference in participant criteria between past studies and the current study may have contributed to the variation in the correlation result. Furthermore, literature has cited associations and effects with leader open behaviors and employee exploration actions and leader closed behaviors with employee exploitation actions (Alghamdi, 2018; Ma et al., 2018; Zacher & Rosing, 2015; Zacher & Wilden, 2014). The outcomes of the current study suggested similar relationships between open and closed behaviors and exploration and exploitation actions, indicating support of the ambidextrous leadership theory.

Hypothesis 3

Ambidextrous leaders demonstrate behaviors that encourage seeking new solutions that cause change (i.e., open behaviors) while monitoring guidelines or routines that decrease change (i.e., closed behaviors); (Zacher & Rosing, 2015a; Zacher et al.,

2016). Each of these behaviors that ambidextrous leaders display influences subordinates to think critically, discovering new knowledge (i.e., exploration actions) with adherence to rules and efficiency (i.e., exploitation actions); (Zacher & Rosing, 2015a; Zacher et al., 2016). Researchers have proposed a direct link to innovation performance for all ambidextrous leader behaviors and those actions influenced by ambidextrous leaders in direct reports. Leader open and closed behaviors (Alghamdi, 2018; Zacher & Rosing, 2015a; Zacher & Wilden, 2014) and employee exploration and exploitation actions impact employee innovation performance (Rosing et al., 2011; Zacher et al., 2016). The current research is in alignment with previous studies, as indicated by the outcomes of combined leader open and closed behaviors and employee exploration and exploitation actions influencing employee innovation performance. The combination of behaviors (i.e., leader open and closed behaviors, employee exploration and exploitation actions) was 20% of the variance in innovation performance of CNOs, which is the greatest variance among the hypotheses in the current research.

Innovation is vital to the success of an organization (Anderson et al., 2014; Lukoschek et al., 2018; Weatherford et al., 2018). The ambidexterity theory of leadership for innovation suggests that leader open behaviors predict employee exploration actions and that leader closed behaviors predict employee exploitative actions, but with the interactions between behaviors producing innovation performance (Alghamdi, 2018; Rosing et al., 2011; Zacher et al., 2016). Analysis of the data results for the current study revealed comparable outcomes, as open behaviors of healthcare executives had a positive association with exploration actions and innovation performance. Closed behaviors of

healthcare executives had a positive association with exploitation actions and innovation performance aligned with the ambidexterity theory of leadership for innovation.

Limitations of the Study

The focus of my study was the perceptions of CNOs regarding the executive leader to whom they reported (e.g., open and closed behaviors) and self-reported CNO work behaviors (e.g., exploration and exploitation actions) and innovation performance. Data were collected from across the nation with an online survey from a variety of CNO participants. The criteria to participate consisted of holding a current nursing license, being accountable to an executive leadership member, being employed by an acute-care hospital organization, and having a year of experience in the CNO role. The results of the study may be generalizable in various states across the nation, in hospitals of various sizes, and in hospitals with diverse accreditations or services.

Healthcare organizations are intricately involved with individuals seeking health services that are governed by policies, protocols, and best practices. Due to the nature of the research environment containing strict regulatory guidelines, generalizability may not be practical to professions outside the healthcare realm. Hospital standards to meet laws, rules, and compliance requirements may have influenced CNOs' responses. There may be a limitation with transferability to specialty healthcare environments, as skilled facilities, long-term care, urgent care, and outpatient centers are subject to different regulations.

According to Creswell (2014), trustworthiness of data encompasses validity, reliability, and objectivity. Although the Cronbach's alpha reliability analyses for each

study variable were at an acceptable level, a measurement of the study involved gathering data through a self-reported tool. There may be a possibility that a common method variance or bias in the data was caused by using self-reported measures (Luo et al., 2018). Participants could have inaccurately conveyed their work behaviors and performance due to many factors, such as previous feedback, experiences, and/or perceptions. The Cronbach's alpha test suggested that there was consistency between the responses within the survey. Furthermore, data were tested, ensuring that assumptions were met supporting quality of the results. The assumptions of linear relationship, normality, homoscedasticity, and absence of multicollinearity were analyzed and met, confirming correctness and empirical validity.

Recommendations

Future researchers have several potential directions to take with the results of the current study. As mentioned in the previous section, measurements collecting self-reported data may lead to bias within the results (Luo et al., 2018). An alternative approach might involve using the measurement tools with participants of a different role. There are numerous levels of accountability throughout healthcare organizations, which range from executives to frontline employees. When collecting information on employee work behaviors, another tactic would be to solicit feedback from direct administrators and coworkers (Luo et al., 2018). Past researchers noted the need for more research on middle management (Gutberg & Berta, 2017). Researchers might consider a similar study focused on ambidextrous leaders conducted from the perspective of nursing directors or nurse managers who report to CNOs. Directing attention to middle managers

could be interesting, as findings have indicated that ambidextrous managers adjust exploration and exploitation actions in a similar manner as supervising tenured leaders (Latham, 2014).

Healthcare organizations serve various populations across the nation. The healthcare environment can be complex in nature, with professionals using numerous skills to provide different services to individuals in need (Landry & Erin, 2015; Spector et al., 2015). There are many opportunities to use the current study as a foundation for future research. Size and location of the healthcare facility, the types of quality offerings (e.g. Magnet vs. non-Magnet hospitals), and years of leadership experience may be some avenues for future researchers to pursue. Experience and time can lead to the development of individuals, including those in leadership roles. Longitudinal studies of ambidextrous leaders have been recommended in previous literature (Alghamdi, 2018). Collecting data over a time period with a variety of industries may be a beneficial contribution to research data. Awan et al. (2018) also encouraged taking a direction from a cross-cultural perspective regarding ambidextrous leadership.

Transformational and transactional leadership styles were correlated with ambidextrous leadership in prior research (Ahlers & Wilms, 2017; Luo et al., 2018; Rosing et al., 2011; Zacher et al., 2016; Zheng et al., 2017). The current study held a primary focus on specific behaviors that defined ambidexterity and ambidextrous leadership ultimately impacting innovation. Future research might review the extent to which transformational and transactional leadership styles impact ambidextrous leaders

as well as healthcare cultures (e.g., safety climate) and efficiency (e.g., process quality; McFadden et al., 2015).

There is a lack of ambidextrous leadership literature addressing a connection between macro (e.g., organizational) and micro (e.g., individual) levels of ambidexterity (Mueller et al., 2018). The current research directed attention toward healthcare executives and CNOs related to innovation performance. Future research should examine open and closed behaviors and exploration and exploitation actions at organizational, team, and individual levels.

Lastly, the current study was derived from the analysis of combined behaviors of healthcare executives (e.g., open and closed behaviors) and CNOs (e.g., exploration and exploitation actions) on CNO innovation performance. Gaps in literature surround the relationships between the itemized behaviors of ambidexterity theory of leadership for innovation. Further review is necessary in relation to the effect of individual ambidextrous concepts, open and closed behaviors, and exploration and exploitation actions on innovation performance.

Implications

Healthcare remains an environment of continued efforts to improve overall outcomes. Society evolves with environmental changes, leaving healthcare settings making adjustments to endure to be successful organizations. Throughout the literature, innovation is approached as a way to create meaningful change to deal with healthcare challenges (Akenroye & Kuenne, 2015; Weatherford, 2018) and quality-improvement measures (McFadden et al., 2015). The importance of the current research resided in its

exploration of the impact of healthcare leaders' open and closed behaviors and exploration and exploitation actions (e.g., ambidextrous leadership constructs) on CNO innovation performance. The ability to identify specific behaviors related to innovation within healthcare professionals provides a means to create possible solutions for healthcare sustainability. Healthcare organizations must bolster innovation to handle the needs and demands of society. Determining which behaviors best support innovative performance can guide organizational leaders to demonstrate these particular behaviors for effective leadership and general organizational improvement.

Healthcare institutes are responsible for engaging in reform in order to improve the delivery of care to society (Chassin & Loeb, 2013; Conway et al., 2017; Crenshaw & Yoder-Wise, 2013; Longenecker & Longenecker, 2014; Luu, 2017b). Due to the complexity of the healthcare system, hospitals have a myriad of multidisciplinary teams. These multidisciplinary teams can consist of a variety of leaders and employees at different levels and departments of a facility. Hospital leaders not only engage in collaborative efforts, but also are responsible for a wide array of duties for individual employees as well as regulatory agencies (Merrill, 2015). Organizations, including those in healthcare, must be ambidextrous in order to thrive, with the ability to innovate and execute efforts (Latham, 2014; Lavie et al., 2010). The four behaviors identified to influence innovation performance in the current study can strengthen the development of healthcare leaders. Understanding the impact of open and closed behaviors and exploration and exploitation actions may alter and advance how leaders practice, in return creating significant and positive changes. Leadership development should not be limited

to a specific area or rank. Middle managers who have an ambidextrous perspective of change and innovate tactics brings a stronger patient safety culture, aiding the improvement of patient safety and patient-centered care (Gutberg & Berta, 2017). Additionally, changing the culture influences the innovation process to advance the success of leadership for innovation (Bledow et al., 2009a).

Leadership and culture are vital to create a channel for innovation through exploration and exploitation actions (Lin & McDonough, 2011). Applying ambidexterity theory of leadership for innovation within the analyzed results signified the importance of CNO behaviors supporting innovation into the healthcare setting. An enhanced cultural shift towards an innovate environment may be seen when open and closed behaviors and exploration and exploitation actions are demonstrated by healthcare leaders with subordinates present. CNOs can contribute largely to initiating a positive cultural change in healthcare environments. According to Birken (2015), top managers can influence middle managers' innovative engagement through effectively communicating innovation support and displaying commitment. Implementing ambidexterity in hospital settings can improve existing processes with the application of new information. A culture encouraging innovation allows for higher levels of balance between exploration and exploitation actions creating change that may ultimately influence a patient safety culture (Gutberg & Berta, 2017). Increased safety measures for patients improves the quality of care and contributes to the overall wellbeing of the healthcare environment.

Conclusion

Healthcare services are embedded into communities across the nation. Hospitals are continuously challenged with changing environments and the intricacies of human lives. Leaders of regulatory institutions suggest healthcare organizations must completely revolutionize to drive improvements forward in the delivery of healthcare (Chassin & Loeb, 2013; Conway, Coyle, & Sonnenfeld, 2017; Crenshaw & Yoder-Wise, 2013; Longenecker & Longenecker, 2014; Luu, 2017b). Top leaders in healthcare settings strive to maintain quality care provided to patients and deliver decisive outcomes through innovative means (Akenroye & Kuenne, 2015; Dillon & Mahoney, 2015; McFadden et al., 2015; Seshadri, Piderit, & Giridharadas, 2010). Patient safety is a leading indicator for devising new initiatives in support of healthcare reform (Gutberg & Berta, 2017; Mitchell, Schuster, Smith, Pronovost, & Wu, 2015). According to Akenroye and Kuenne (2015), innovation is a recommended initial effort to handling healthcare petitions. The healthcare industry has fallen short on employing innovative work compared to other effective corporations (Bagheri & Akbari, 2018; Weatherford et al., 2018; Weberg & Weberg, 2014).

Leaders, in general, deal with unanticipated changes requiring flexibility and innovation (Akenroye & Kuenne, 2015; Alghamdi, 2018; Anderson et al., 2014; Crenshaw & Yoder-Wise, 2013; Lewis et al., 2014; Luu, 2017a). Healthcare leaders address acute and chronic issues across numerous professions and roles. Registered nurses comprise an abundant percentage of healthcare workers especially in hospital settings. In dealing with difficult events within the workplace, healthcare leaders and

registered nurses should compose collaborative energies towards innovation. The constructs of the ambidexterity theory for leadership in innovation provide a focus for leaders pursuing positive organizational outcomes through innovative approaches.

Healthcare has an opportunity to understand how leaders manage competing priorities that can lead to important outcomes. Many topics around ambidexterity have been researched predominately abroad and in nonhealthcare settings. The current study is the first to establish a relationship between ambidextrous behaviors and innovation in the acute care setting. The analysis of data suggested ambidextrous leaders and ambidexterity in the healthcare environment influence innovation performance. Open and closed behaviors of healthcare executives were related to exploration and exploitation actions of CNOs. When open and closed behaviors and exploration and exploitation actions are combined, a greater influence was seen on innovation performance. The results of the research lend new information on the constructs of ambidexterity for healthcare leaders. New and exciting avenues are in the forefront for the development of nursing leadership and advancements to the healthcare system.

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Appendix A: Demographic Questionnaire

Please click on the appropriate response.

1) What is your gender?
   - Male
   - Female

2) What is the highest degree you have received?
   - Diploma
   - Associates degree
   - Bachelor's degree
   - Post-graduate degree (PGCert)
   - Graduate degree (Master's)
   - Terminal degree (DNP, PhD)
   - Enter degree

3) What are the total years of experience in your position?
   - Enter number

4) Title of person you directly report to.
   - COO
   - CEO
   - CFO
   - VP
   - Enter title

5) What is the size of your company?
   - 100-500 employees
   - 501-5000 employees
   - more than 5000 employees
   - enter number

Appendix B: Permission to Use the Generalized Role-Based Performance Scale

Jennifer Wasilewski
Sat 1/19/2019 3:35 PM

Hello Dr. Welbourne,

I am a PhD student at Walden University currently working on my dissertation proposal. My topic is ambidextrous leadership in the healthcare setting. I am following the instrumentation format of an article (Ambidextrous leadership, ambidextrous employee, and the interaction between ambidextrous leadership and employee innovative performance) by Alghamdi. I am requesting permission to use 'The Generalized Role-Based Performance Scale'. Please let me know if additional information is needed.

Thank you for considering.

Sincerely,
Jennifer Wasilewski

Theresa Welbourne <theresa@eepulse.com>
Sat 1/19/2019 5:29 PM
Jennifer Wasilewski

Thanks. You have my permission and best of luck in your work. Theresa

Sent from my iPhone

Jennifer Wasilewski
Sat 1/19/2019 3:04 PM
amir.erez@warrington.ufl.edu

Hello Dr. Erez,

I am a PhD student at Walden University currently working on my dissertation proposal. My topic is ambidextrous leadership in the healthcare setting. I am following the instrumentation format of an article (Ambidextrous leadership, ambidextrous employee, and the interaction between ambidextrous leadership and employee innovative performance) by Alghamdi. I am requesting permission to use 'The Generalized Role-Based Performance Scale'. Please let me know if additional information is needed.

Thank you for considering.

Sincerely,
Jennifer Wasilewski

Erez,Amir <amir.erez@warrington.ufl.edu>
Sun 1/20/2019 10:42 AM
Jennifer Wasilewski

Hi Jennifer

You have my permission to use the Role-Based Performance Scale.

Good luck with your dissertation.

Amir

Amir Erez, Ph.D.
W.A. McGriff III Professor of Management
Warrington College of Business
University of Florida

Appendix C: Email Announcement/Letter of Invitation

Dear Prospective Participant,

My name is Jennifer Wasilewski and I am a doctoral student at Walden University in the PhD Industrial Organizational Program. I would like to invite your participation in my research study intended to examine Chief Nursing Officers' (CNOs) opinion of their supervisor's behavior and the CNOs' own behavior to determine if there is an association between these behaviors that result in CNO innovative ideas.

To participate in this study, you must be: (1) 18 years or older; (2) employed by an acute care hospital setting; (3) with an active nursing license in the state employed; and (4) in the role of chief nursing officer over a year reporting directly to executive leadership.

My research study has been approved by the Walden University Institutional Review Board. The questionnaires will take approximately 10 minutes to complete. All the information gathered from this study is confidential and will not be used for any purposes outside of this study.

I appreciate your consideration to participate and thank you for your time. If you have any questions or concerns about this study, please do not hesitate to contact me at Jennifer.wasilewski@waldenu.edu. A brief summary of the results of the study will be available per request to Jennifer.wasilewski@waldenu.edu.

To participate in the survey, please click the SurveyMonkey link here https://www.surveymonkey.com/r/2N3RQL9.

Thank you again!

Jennifer Wasilewski
Walden University Industrial Organizational PhD Program-
Specialization in Leadership Development and Coaching