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IDENTIFYING LEADERSHIP BEHAVIORS, ENGAGEMENT, AND INNOVATIVE WORK BEHAVIOR IN HEALTH CARE

By
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A DISSERTATION IN PRACTICE PROPOSAL

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Abstract

Previous research has indicated the influence direct supervisors have on employees’ sense of engagement. To meet the quadruple aim of improving health care, a better understanding of employees’ experience was needed. The main purpose of this non-experimental, quantitative study was to determine how point of care employees in health care self-reported leadership behaviors influence their sense of engagement and innovative work behavior. Data were gathered via an online survey combined of the Multifactor Leadership Questionnaire (MLQ), the Utrecht Work Engagement Scale (UWES), and the Innovative Work Behavior questionnaire. It was found that engagement significantly predicted innovation. Transformational leadership behaviors significantly predicted the three components of engagement; vigor, dedication, and absorption. Two of the five transformational leadership behaviors significantly predicted innovation. Results from this study hope to better inform leadership development programs within health care.

Keywords: transformational, leader, leadership, development, engagement, vigor, dedication, absorption, innovation, health care, Canada
Dedication

This work is dedicated to my wife, Lisa, and my two children Alexis and Hudson. There is no way I could have completed this journey without the support and understanding they have provided along the way.
Acknowledgements

The dissertation journey has been long and full of peaks and valleys. While it has felt like a lonely journey there are many that have supported me along the way. My family in particular has sacrificed time and connection to allow me to travel on this journey. By providing support, encouragement, and love, Lisa, Alexis, and Hudson have all traveled alongside of me.

My parents have always encouraged and supported me. I have been blessed with a truly loving family. My dad, Dr. Don Page, not only paved a way forward with his example of both academic and leadership excellence he demonstrated servant leadership at its finest by supporting me in my own goals. My thoughts and understanding of leadership were formed from the example of my father as well as his academic teaching.

I started this journey at Creighton while I was teaching at a local university. About half way through the program I changed careers and joined a health care organization. The concern was the new work environment would not be as supportive of my academic goals. In fact, the opposite was true. The care and attention for me was certainly felt as people not only supported the idea, and the study, but me personally. There was always someone there to encourage me, listen, and provide fresh ideas. Without that support this journey would have never made it out of the dark valley. Thank you to all of my work colleagues and supervisors for not only encouraging me but sharing the load at work to allow me to pursue this academic goal.

My chair, Dr. Peggy Hawkins, provided enough challenge and encouragement to make this journey enjoyable. I chose Creighton due to the high-quality faculty and education and Dr. Hawkins provided just what I needed. Her wisdom and encouragement
always came at the right time. I also enjoyed the connection and challenge from Dr. Yabome Gilpin-Jackson as she supported me with encouragement and a learning edge. Her capacity to learn and lead is an example for me to follow.
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CHAPTER ONE: INTRODUCTION

Introduction and Background

The increasing costs of health care is leading to demands for innovative approaches to enhance patients’ experience, reduce the cost of providing care, improve the health of populations and enhance the experience of the care provider. While the challenges are immense it is believed that focusing on the experience of the care provider will also enhance the patients’ experience in the health care system. When employees feel cared for, they are more likely to provide better care for patients. It is proposed that developing leadership abilities is one way to enable employees to experience care and contribute to the overall vision within the health care authority setting where this research was conducted. Prior research has identified the influence direct supervisors have on employees’ engagement. The main purpose of this non-experimental, quantitative study was to determine the relationship between leadership behaviors and work engagement and innovative work behavior within the health care system. To understand how employees saw their leadership behaviors a leadership style questionnaire was utilized, identifying transformational leadership behaviors. Two other well established surveys indicated employees’ engagement at work as well as their innovative work behavior. Statistical analyses sought to identify relationships between transformational leadership behaviors with engagement and innovation.

The first chapter is a thorough description of the current problem in health care and what the study aimed to identify. Chapter Two discusses the previous research on leadership, engagement, and innovation in the realm of health care. Transformational leadership behaviors are identified along with the three components of engagement. The
methodology of the study is outlined in Chapter Three. Future studies could replicate this study at other hospitals. In Chapter Four, the statistical analysis of the data is presented. An overview of the final analysis of the study with a proposed solution are presented in Chapter Five. The results of this study could guide leadership development programs within health care to enhance employees’ engagement and innovative work behavior.

Statement of the Problem

Canadians have long trusted the strength of the universal health care system. With the ever-increasing costs and challenges, there is always an opportunity to seek ways to enhance the system. Health care in Canada is continually seeking ways to enhance the patient experience and provide better quality care. While advancements in technology and operations have increased efficiency, it is the employee that is providing the health care experience. The triple aim of improving health care organizations focuses on improving the individual experience of care, improving the health of populations, and reducing the per capita cost of health care (Berwick, Nolan, & Whittington, 2008). The glaring omission in the triple aim, is the care provider within the health care system. It is the worker that is the backbone of any productive and efficient health care system (Hickey & Stromberg, 2013). The quadruple aim adds a fourth aim of improving the experience of providing care (Sikka, Morath, & Leape, 2015). The care provider includes point of care employees, frontline leaders, doctors, nurses and those with non-caregiving work for the benefit of the system.

The quadruple aim identifies critical factors for improving health care systems; the question remains how best to meet these objectives. While the focus on costs and efficiency may affect the numbers behind the health care system, it is the worker that will
influence patient care and provider care the most. Health care authorities need to know where to invest in initiatives that will enhance both provider and patient experience. Leadership development has grown immensely in many industries, including health care. Nurse managers’ leadership skills can influence several aspects of the employees’ experience such as patient care, safety, engagement, and work effectiveness (Page, 2004; Spence Laschinger, Wilk, Cho, & Greco, 2009). Research has also indicated that titled leaders within the health care system can transfer their enthusiasm and high power to subordinates through modeling which increases the employee’s level of engagement (Hayati, Charkhabi & Naami, 2014).

**Purpose of the Study**

The purpose of this quantitative study was to explore the relationship between leadership behaviors and work engagement and innovative work behavior within the health care system.

**Research Question and Hypothesis**

Leadership research often focuses on the individual with the positional authority. Managers certainly influence employees’ resources and tasks which influence engagement. Employees can influence each other and the people they interact with beyond the positional title of leadership. In health care, nurses may not physically see their managers for a long time, which can change the relationship between them (even with fully engaged employees). If point of care workers saw themselves as leaders in the system, would it influence their level of engagement at work? The ability to see themselves as able to influence and engage with the people around them depicts a sense
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of leadership. Do certain leadership behaviors lead to greater engagement or innovation?

The nature of this problem suggests the following research question:

What is the influence of point of care employees’ leadership behaviors on work engagement and innovative work behavior?

Bass and Riggio (2006) stated that leadership behaviors can be separated into two fundamental styles of leadership, transformational or transactional. The components of transformational leadership are idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individual consideration. Utilizing these components of transformational leadership, the following five hypotheses were investigated in this study, to better understand the influence of point of care employees’ leadership behaviors in engagement and innovative work behavior.

\( H_{a1} \): Idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration significantly predict engagement.

\( H_{a2} \): Idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration significantly predict innovation.

\( H_{a3} \): Engagement significantly predicts innovation.

\( H_{a4} \): There is a statistically significant difference in engagement by leadership style.

\( H_{a5} \): There is a statistically significant difference in innovation by leadership style.

Aim of the Study

The aim of this study was to enhance the training and development for point of care employees at a specific hospital within a large health care authority. The organization would be able to know the effect of transformational leadership on
employees’ sense of engagement and innovation within the work environment. Instead of focusing on managers’ direct influence, more time and effort could be spent developing individual leadership abilities for all employees.

**Methodology Overview**

To reduce the personal bias of the researcher a quantitative study was chosen utilizing well established reliable and valid surveys. An online survey was used to collect participants’ sense of leadership style, level of work engagement and innovative work behavior. Bass and Avolio’s (1997) Multifactor Leadership Questionnaire (MLQ) was well-recognized and a validated tool to assess leadership style. Reliability of the questionnaire was between 0.81 and 0.94 from 14 studies in medicine, military, financial, and industrial work environments (Bass & Avolio, 1997). The MLQ separates the four transactional leadership behaviors from the five transformational leadership behaviors (See Appendix F).

Work engagement was measured utilizing the Utrecht Work Engagement Scale (UWES) developed by Schaufeli & Bakker (2003) (See Appendix D). The UWES is the most often used assessment to measure engagement (Bakker, Schaufeli, Leiter, & Taris, 2008). The scale was developed with over 14,000 participants in ten different countries with a Cronbach’s alpha of .92 (Schaufeli, Bakker, & Salanova, 2006). Work engagement refers to a persistent and pervasive state of mind characterized by attention and dedication to work and high levels of enthusiasm while at work (Schaufeli & Bakker, 2004). Research has indicated that work engagement is an essential outcome of empowering working environments within nursing (Laschinger, Finegan, & Wilk, 2009).
A search through the Buros Center for Testing (n.d.) revealed no significant tool for assessing innovation. The literature review revealed that De Jong and Den Hartog’s (2010) ten item scale was the most commonly utilized survey for measuring innovative work behavior (See Appendix C). Therefore, the ten-item scale was used for individuals to assess their work behavior towards innovation. The survey has a Cronbach’s alpha of .70 (De Jong & Den Hartog, 2010).

For the best response rate, a modified version of Dillman, Smyth, and Christian’s (2014) Tailored Design Methodology was implemented. Emails were sent out with a link to the survey with an option to submit an email address after completing the survey, to be entered in a draw for ten coffee cards. A reminder email was sent out after the initial email followed by a third email two weeks later. Data was collected and processed using Intellectus Statistics (2017).

The director of the hospital identified seven units to complete the research of point of care employees within these units. There are 219 employees spread throughout these seven units comprised of medicine, maternity, palliative care, and psychology.

**Definition of Relevant Terms**

The five components of transformational leadership will be defined throughout this paper but for clarity here is a brief outline. The various roles within the hospital will also be defined for clarity.

*Idealized influence (attributes and behaviors):* attitudes and behaviors that serve as role models for others. Followers identify with the leaders and want to emulate them.
Two elements of idealized influence: “the leader’s behaviors and the elements that are attributed to the leader by followers” (Bass & Riggio, 2006, p. 6).

Inspirational motivation: “Transformational leaders behave in ways that motivate and inspire those around them by providing meaning and challenge to their followers’ work” (Bass & Riggio, 2006, p. 6).

Intellectual stimulation: refers to when a leader stimulates others’ “efforts to be creative and innovate by questioning assumptions, reframing problems, and approaching old situations in new ways” (Bass & Riggio, 2006, p. 6).

Individualized consideration: refers to when a leader pays “special attention to each individual follower’s needs for achievement and growth by acting as a coach or mentor” (Bass & Riggio, 2006, p. 7).

Point of care employee: The point of care employee refers to any employee that works directly with patients. For this study physicians were excluded from the point of care category and provided with their own category. Most point of care employees are registered nurses (RN) or licenced practical nurse (LPN).

Frontline Leader: The frontline leader description is for leadership positions that coordinate and educate point of care employees. While there is influence there is not a direct reporting nature in this relationship. Sample job titles would include: Patient Care Coordinators and Clinical Nurse Educators

Manager: The manager role oversees all point of care employees in certain programs as well as site specific units. Many times, managers have hundreds of direct reports.
**Senior Leader:** The senior leader oversees the operation and budget of the hospital. Also known as the executive director the senior leader is responsible for all everything under the hospital roof as well as connecting with the local community leaders.

**Delimitations and Limitations**

There are several limitations with this study. Participants self-reported their perception of their leadership. While beneficial, this self-report only provides one individual perspective. A second limitation is the statistical analysis only offers a degree of the relationship between the variables. Even if the relationship is significant between the variables an assumption of causation cannot be assumed.

The survey utilized to measure leadership styles is limited in scope. Other prominent leadership styles such as servant leadership, leader-member exchange theory, or Kouzes and Posner’s (2002) leadership practice are not represented. Northouse (2016) discusses so many different leadership theories that it is impractical to measure them all. The focus on transformational leadership developed from previous research within the health care field (Page, 2004; Weberg, 2010; Masood & Afsar, 2017; McGuire & Kennerly, 2006). The study only used quantitative data and therefore is limited in perspective.

The study was completed by an employee of the health authority. While not connected with the hospital directly the researcher is employed within the People Development in the health authority. This created a significant personal bias with the research. This created a delimitation as participants may have questioned the motivation behind the study. To mitigate the bias the quantitative study of survey data was designed
utilizing previously recognized surveys. This process creates the best opportunity for the personal bias to be mitigated while still identifying key leadership behaviors, engagement, and innovative work behavior within the organization. The sample for this study focused on point of care employees at one hospital. There are twelve hospitals within the health care authority alone not including all of the other areas for care. A delimitation is the study is really only feasible to this population at this hospital. Future studies may choose to focus on different employees and their specific job description or location to better understand the differences and similarities to leadership and engagement.

**Leader’s Role and Responsibility in Relation to the Problem**

Leadership is influence (Maxwell, 1993). Research has shown that understanding the influence of leadership can improve the health care system (Page, 2004). Traditional development of leaders focused on the position or title. A fundamental perspective behind this study is that every individual has *leadership*. All individuals influence others and therefore have leadership regardless of title or position. If every health care worker saw themselves as leaders influencing those around them, a more positive culture could develop. Information from this study informs future leadership training programs for point of care leaders. Health care has traditionally been a hierarchical organization and it is time for individuals to see themselves as leaders within the system. According to Burns, (1978) leadership is based on a relationship between the leader and follower. If point of care employees saw themselves as leaders in the system, they may increase their level of engagement and the quality of care they provide. Recent research has focused more on an authentic style of leadership within the health care system, but it is unclear if
transformational leadership or authentic leadership engages an employee more. This research has the potential to guide future leadership development programs within hospitals to enhance point of care employees’ sense of leadership within the system.

The Jesuit Charisms are embedded within Creighton’s Interdisciplinary Leadership program and provide clarity for this study and leadership in general (Dickel, & Ishii-Jordan, 2008). A faith that seeks justice, provides a guideline for health care in general to provide quality care for all individuals regardless of socio-economic status. The Canadian health care system is a leader in providing quality care for all populations. Health care is continuing to improve with a greater emphasis on care for the whole person, cura personalis. Enhancing the experience of the patient requires leadership from the care provider to promote human dignity, respect, and patient choice within the health care system. The Jesuit Charism of magis, excellence is also embedded within the focus of this study. The focus on seeking innovation and enhancement of the care provided continues to be the desire for excellence in health care.

**Significance of the Study**

Within the health care field there is a continual call for fiscal restraint, and patient safety. Meanwhile, the number of available health care workers is decreasing (Tencer, 2015). Health care employees are continually asked to do more with less. Having a more engaged employee leads to organizational outcomes such as less turnover, patient safety, and satisfaction, along with better productivity (Bargagliotti, 2011, Simpson, 2009). When employees find meaning in their work, believe in what they are doing, and can express their ideals, engagement increases (Freeney & Tiernan, 2009). Employees that are more engaged at work give an extra measure of effort, talent, and skill towards the...
organization’s goals and are proud and enthusiastic in their work (Freeney & Tiernan, 2009, Lowe, 2012, Towers Perrin, 2003). Increased knowledge about engagement at work in health care can create a safer and productive environment for patient care (Bargagliotti, 2012).

Innovation is required to continually improve the process of health care as well as the experience of the patient and care provider. Rodgers, (2003) defined innovation as “an idea, practice, or object that is perceived as new to an individual or another unit of adoption” (p. 136). Most innovations have been technological innovations so much so, that technology is often used as a synonym of innovation (Rodgers, 2003). Innovation within health care has focused on technology, and patient procedures. Within the employees’ experience of working in health care innovation practices have not been in place. The hierarchical structure of health care authorities tends to create top down leadership and change management. Evidence based practice also creates a hesitation in creating new ideas or processes due to caution for further evidence before trying the new innovation. The multiple agents including governments, consumers, advocacy groups, physicians, and health authorities increase the difficulty to implement new changes (Herzlinger, 2006). While technology and procedures do help patients, it is point of care employees that have the most influence on patients’ experience. Increased innovative work behavior directly at the frontline of health care may bring improvements that senior leaders never considered.

The influence of direct supervisors’ leadership style in engagement is well documented (Manning, 2016). The titled leader can shape and promote environments that enhance engagement and care (Mohr, Abelson & Barach, 2002). The current reality
within health care systems requires managers to increase the number of direct reports. As well, the intricacies of shift work increase the difficulty of a manager to influence a direct report. Engagement and care quality can improve when individuals see themselves as leaders in the system. A shift away from the traditional hierarchy structure to a network of leaders working collaboratively increases awareness and innovation. Network leadership is based on the principles of transformational leadership, servant leadership, and Collins’ level 5 leaders, to build trust-based relationships into a network (Wei-Skillern, Ehrlichman, Sawyer, 2015). Point of care employees can enhance their leadership capacity and join a network of leaders enhancing engagement and quality of care.

The health care authority has over 25,000 employees and is one of the largest in Canada. The health care authority oversees not only a significant employee population but covers a large geographical landscape. Managers within this system can have multiple sites that require substantial driving times. This results in even less face-to-face contact between employees and their direct supervisor. Relying on managers to influence and enhance employees sense of engagement can be limiting given the number of direct reports and the geographical distances. A different framework would improve direct care employees’ understanding of leadership and engagement. Knowing which leadership behaviors are related to engagement and innovation enables the health care authority to focus training and development for point of care workers. The results of this study provide focus for the hospital to enhance leadership development for point of care employees.
Summary

The purpose of this quantitative study was to better understand which style of leadership influences the point of care employee’s sense of engagement and innovative work behavior. The results of the study move the organization toward a better understanding of how to meet the quadruple aim (Sikka, Morath, & Leape, 2015) and enhance the experience of the care provider. An electronic survey was sent to point of care employees to self-assess their leadership behaviors (MLQ) along with their level of engagement (UWES) and their innovative work behavior. A greater understanding of point of care leadership style will further inform the design of future leadership development programs. Even though the author does work within the health authority, utilizing known survey tools and quantified research methods the personal bias of the author was mitigated. The results of the research enable training and development programs to be developed as well as understanding the link between leadership, engagement, and innovative work behavior.

Given the emphasis on leadership, engagement, and innovation the next chapter provides an overview of previous research on these specific areas.
CHAPTER TWO: LITERATURE REVIEW

Introduction

As the demands on the health care system continue to increase, there is a call for greater employee engagement and innovation. To meet part of the quadruple aim, The Provincial Government of British Columbia has mandated that health care measure and increase employee engagement as well as increase innovation. Leadership is one of the key influencers in engagement and innovation. Analysis of transformational leadership provides clarity on behaviors that influence engagement and innovation. A better understanding of the characteristics of transformational leadership will enable health care authorities to develop and train more transformational leaders which, in turn, may increase engagement. More insight into the structure and leadership that promotes innovation is still needed. The following paragraphs will define transformational leadership, engagement, and innovation along with significant research in each area to identify dynamics of improving the experience of employees within the health care industry.

Transformational Leadership

Leadership is about achieving a collective purpose. Burns, (1978) defined transformational leadership as the relationship between the leader and followers. Leaders act to engage with followers and further goals and purposes "that represent the values and motivations, the wants and needs, the aspirations and expectations of both leaders and followers" (p. 19). Transformational leaders engage and enable followers to pursue jointly held goals. Leaders strive to satisfy followers’ wants, needs, and motivations as well as their own. This requires open communication and ongoing exchanges of
information and ideas. Transformational leadership is strengthened when separate interests are potentially placed on hold in pursuit of higher united goals (Burns, 1978). Transformational leaders are aware of the individual needs and seek to help others develop their leadership potential (Bass & Riggio, 2006). Transformational leadership increases collective interest among members and helps to achieve mutual goals. Whereas, transactional leadership focuses on establishing objectives, monitoring, and controlling to complete contractual obligations (Bass, 1999).

Bass (1991) stated that “transformational leaders achieve results in one or more ways: They may be charismatic to their followers and thus inspire them; they may meet the emotional needs of each employee; and/or they may intellectually stimulate employees” (p. 21). The four qualities of transformational leadership are, idealized influence (attributes and behaviors), inspirational motivation, intellectual stimulation, and individualized consideration (Bass, Avolio, Jung, & Berson, 2003). Transformational leaders are admired, respected and trusted, creating the idealized influence as followers identify and want to emulate their leaders. Leaders’ behavior can motivate others by providing meaning, and inspiration through enthusiasm and optimism. Transformational leaders stimulate followers to be “innovative and creative by questioning assumptions, reframing problems, and approaching old situations in new ways” (Bass et al., 2003, p. 208). Individualized consideration refers to the leaders’ ability to pay attention to individual’s growth and achievement through mentorship or coaching. The transformational leader creates a supportive climate with new opportunities and challenges while recognizing individual followers’ needs and desires (Bass et al., 2003).
Research has shown that there is a significant relationship between job satisfaction, productivity, organizational commitment and leadership (Fox, Fox, & Wells, 1999; McNeese-Smith, 1995). Maxwell (1998) has even gone as far to say that everything rises and falls on leadership. Different research from North America, the Netherlands, Portugal, China, and New Zealand has shown linkages between transformational leadership and employee attitudinal outcomes (Zhu, Avolio, & Walumbwa, 2009; Tims, Bakker, & Xanthopoulou, 2011; Salanova, Lorente, Chambel, & Martinex, 2011; Aryee & Walumbwa, 2012; Xu & Thomas, 2011). Transformational leadership influenced extra-role performance and was fully mediated by work engagement in a study with 297 nurses in Portugal (Salanova et al., 2011). In China, Aryee and Walumbwa (2012) found several indirect effects of transformational leadership on work engagement including responsibility, meaningfulness, and innovative behavior.

Dickson et al., (2014) found that the complexity in health care required a different approach to leadership. Collective leadership capacity that challenges the traditional notions of autonomy, accountability, and collaboration was proposed requiring a shared or distributed model of leadership. To meet the leadership need, the British Columbia Health Leadership Development and Engagement Collaborative (BCHLDEC) designed and implemented province wide programs known as the LINX modules including core, experience, and transforming (Vilches et al., 2016). These programs focus on the leader with the title in the hierarchy of health care. Missing are the point of care employees that directly influence patients and those around them.
Understandably, much of the leadership research has been conducted with the employee evaluating their direct supervisor. Indeed, supervisors have a significant influence on employees’ attitude and effort at work. Within health care, the desire is to have all employees see themselves as leaders and able to influence their work environment.

**Engagement**

Kahn (1990) first identified engagement to occur when “people employ and express themselves, physically, cognitively, or emotionally during role performances” (p. 964). Building off Kahn's definitions, Schaufeli, Salanova, Gonzalez-Roma and Bakker (2002) defined engagement as a work-related state of mind that is positive and fulfilling characterized by vigor, dedication and absorption.

Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one’s work, and persistence even in the face of difficulties. Dedication is characterized by a sense of significance, enthusiasm, inspiration, pride, and challenge . . . [and] absorption is characterized by being fully concentrated and deeply engrossed in one’s work, whereby time passes quickly and one has difficulties with detaching oneself from work. (Schaufeli et al., 2002, p. 74)

Beyond the individual level of engagement, Shuck and Wollard (2010) defined engagement as "an individual employee's cognitive, emotional, and behavioral state directed toward desired organizational outcomes" (p. 103). Employee engagement can also be interchanged with work engagement, job engagement, role or personal engagement (Kim, Kolb, & Kim, 2012).
Work engagement has become popular because of its predictive value for job performance (Bakker, 2009). Engagement refers to a persistent and pervasive state of mind characterized by attention and dedication to work and high levels of enthusiasm while at work (Schaufeli, & Bakker, 2004). Research has shown that engagement is related to job performance (Bakker & Bal, 2010; Halbesleben & Wheeler, 2008), client satisfaction (Salanova, Agut, & Peiro, 2005), and financial returns (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). Research has demonstrated that increases in social support, autonomy, opportunities to learn and develop as well as performance feedback were positive predictors of work engagement (Schaufeli, Bakker, & van Rhenen, 2009). Job resources and personal resources such as self-esteem, optimism, and self-efficacy are important predictors of work engagement (Bakker, Albrecht, & Leiter, 2011).

The opposite of engagement is burnout which has become an increasing statistic within the health care field. In 2013, a survey of 508 employees in health care indicated that 60% reported job burnout and 34% planned to look for a different job (CareerBuilder, 2013). The increase in burnout among health care workers “threatens patient-centeredness and the Triple Aim” (Bodenheimer & Sinsky, 2014, p. 574). The quadruple aim adds the experience of the provider which increases the need for engaged employees (Sikka, Morath, & Leape, 2015). Health care organizations are struggling to fill vacant positions and meet the increasing demand on the system. A shift from focusing on burnout leads to seeking an understanding of what increases engagement. Increasing engagement leads to lower levels of burnout (Gonzalez-Roma, Schaufeli, Bakker, & Lloret, 2006). Research has indicated that work engagement is an essential outcome of
empowering working environments within nursing (Laschinger, Finegan, & Wilk, 2009). It does appear that leadership can influence employees’ engagement levels. Van Bogaert, Clarke, Willems, and Mondelaers, (2013) found that the nurse manager influences work engagement at the unit level.

Leiter, Laschinger, Day, and Gilin-Oore (2011) demonstrated the value of the CREW intervention (Civility, Respect, and Engagement at Work) within Canadian hospitals. Increasing civility and respect enhanced engagement and social climates in the work environment. Increasing civility and respect in the work environment has not only enhanced social dynamics but reduced burnout (Maslach & Leiter, 2017). The effectiveness of this intervention hinged on the commitment of senior leadership to ensure employees have sustained implementation that encourages new ways of interacting with each other (Bakker, Albrecht, & Leiter, 2011).

Is it possible to have too much engagement? There is a downside to engagement. Workaholics have such an inner drive that they work too much overtime which no longer is enjoyable, yet the inner drive compels them to keep working. "In order to burn out, a person needs to have been on fire at one time" (Pines, Aronson, & Kafry, 1981, p. 4). Eventually the high arousal of engaged employees develops into a strain creating a negative effect. The absorption component of engagement could create unhealthy behavior with employees that no longer have balance with their personal lives (Bakker, Albrecht, & Leiter, 2011). Halbesleben, Harvey, and Bolino (2009) found that engaged employees were most likely to experience work-family conflict.
Innovation

Earlier literature made a distinction between creativity and innovation where creativity is the exploring and generating of ideas, and innovation includes the championing and implementation of ideas (De Jong & Den Hartog, 2010). Innovation is the generation of ideas and the behaviors related to support and implementation of those ideas (Scott & Bruce, 1998; Janssen, 2000). It is the implementation of the idea that separates innovation from creativity. Innovative work behavior is the production of new and useful ideas related to products, services, processes, and procedures (Amabile, 1988).

De Jong and Den Hartog (2010) build from Kanter's (1988) original work as well as research on creativity, to develop four dimensions of innovative work behavior. The four aspects include idea exploration, idea generation, idea championing, and idea implementation. Idea exploration is the first component to identify what opportunities exist for innovation. Within this idea exploration stage, Drucker (1985) identified seven sources of opportunities to initiate the innovation process including: changes in demographics; changes in perception; unexpected successes, failures or events; gaps between what is happening and what should be happening; process changes to identified problems or failures; and changes in market or industrial structures. The exploration of different ideas involves an intentional focus on improving or altering current products, services or processes (Kanter, 1988; Farr & Ford, 1990; Basadur, 2004). The second stage of innovation involves idea generation. The generation of ideas may relate to any product or service or process to improve a current situation. Kanter (1988) stated that idea generation could involve rearranging current ideas into a new picture similar to how a kaleidoscope creates new visuals from existing pieces. Creativity ends with the
generation of ideas. The next two stages of innovation are what set it apart from merely generating ideas.

Idea championing is Kanter’s (1988) third stage of innovation. Often new ideas need to be promoted as they are different than what the organization is currently doing. The uncertainty of success and the challenge of cost implementation often creates resistance to the change (Kanter, 1988). Championing involves building coalitions, aligning support, finding the right people to be involved, and persistence (De Jong & Den Hartog, 2010; Howell, Shea & Higgins, 2005). The fourth stage of innovation is implementation. The implementation of the ideas requires considerable effort and behaviors by incorporating innovation into the regular work processes through testing and modifying them (De Jong & Den Hartog, 2010; Kanter, 1988).

Applying these four stages in the health care organization can be difficult. Given the extreme consequences of failure in health care, decisions must be evidence-based. Health care processes have developed by creating known policies and procedures to replicate one way to operate to ensure perceived success. This creates higher regard for evidence-based practices and procedures over individual innovative ideas. Employees in health care are tasked with making decisions and developing processes in extraordinarily unpredictable and dynamic environments. There are many complex interactions within the various stakeholders including patients, payers, providers, and suppliers (Thakur, Hsu, & Fontenot, 2012). The innovative practices within the health care system have focused on biomedical and technological research. Unlike other innovations that have enhanced the product or reduced costs to the consumer, most of the technological and
biomedical innovation have increased costs to the consumer with little proven benefit (Berwick, Bauchner, & Fontanarosa, 2015).

**Literature about the Professional Practice Setting**

The Government of British Columbia oversees the funding to the health care authorities. For several years now, the Ministry of Health has required health care authorities to measure employees’ engagement levels in accordance with the Provincial engagement framework (BC Ministry of Health, 2014). Labour costs are the highest expenditure within the budget for health care authorities. When employees are not engaged in their work environment, there is an increase in labour costs as the number of sick days increases and staff do not work to capacity. The strategic priorities for the health care authority are to provide high-quality care services, refine primary and community care to reduce hospital use, have an engaged and motivated workforce, and manage resources wisely (Fraser Health, n.d.). In accordance with the strategic priorities, an innovation and change agenda was set in 2014 to improve health care within the Province. Part of this agenda calls for improving innovation productivity and efficiency within the health care authorities (BC Ministry of Health, 2014). In 2018 the Ministry of Health Human Resources stated a need for increased engagement and participation. Engagement and participation are key influencers on work performance in health care. The Ministry of Health also declared an increased need for leadership behaviors that can manage the changing environment (British Columbia Provincial Health Workforce Strategy, 2018).
Summary

Effective leaders in health care motivate nurses towards more innovative behavior (Gifford, Davies, Tourangeau, & Lefebre, 2011; Park, 1997; Scott, 2010; Welford, 2002; Wilson-Evered, Härtel, & Neale, 2004). There is extensive research on the benefits of transformational leadership within health care. Transformational leadership has been found to enhance patient safety, knowledge sharing, and a culture of trust (Page, 2004; Cummings et al., 2010; Liu, Siu, & Shi, 2010). Leadership development programs in health care should focus on the four dimensions of transformational leadership, including: establishing clear expectations, developing a shared vision, inspiring and motivating, and building a sense of team (McGuire & Kennerly, 2006). The biomedical and procedural innovations within health care need to continue but leadership is what will ultimately improve patients’ experience. Employees at the point of care can demonstrate key transformational leadership behaviors to better understand and work with the patient as well as contributing to a better working environment that enhances engagement and innovation.

Clarity on the influence of personal leadership in engagement will provide insight on the best type of intervention to improve engagement. Leiter et al.’s (2011) CREW intervention has demonstrated that engagement can increase with greater civility and respect. While not explicit, it seems civility and respect would be woven into the fabric of transformational leadership. Civility and respect are requirements of understanding and developing people around you through personal influence.

There has been a lot of research completed on transformational leadership, engagement, and innovation. These three have not been tied together nor has it focused
on the individual ability to self-report on their level of engagement and how they see their leadership practice. Much of the research focuses on supervisors’ leadership behavior. For true innovation, employees must see themselves as leaders within the system. They can then influence the work environment to create conditions and interactions for greater engagement.
CHAPTER THREE: METHODOLOGY

Introduction

This chapter will overview the purpose and intent of the study as well as describe the procedures conducted. The purpose of this quantitative study is to explore the relationship between transformational leadership behaviors and engagement and innovation within the health care system. To better understand the experience of the care provider and meet the quadruple aim (Sikka, Morath, & Leape, 2015) the study aimed to identify a relationship between leadership style and engagement and innovative work behavior. The procedures and process used to collect data is documented to enable replication for future research.

Aim of the Study

The aim of this Dissertation in Practice is to better understand the influence of transformational leadership behaviors to create an evidenced based leadership development program.

Research Question and Hypotheses

To answer the research question: What is the influence of point of care employees’ leadership behaviors on work engagement and innovative work behavior? To gain understanding of transformational leadership behaviors the five components of transformational leadership are included in the hypotheses.

Five hypotheses were created to identify relationships among the five components of transformational leadership with engagement and innovative work behavior.

H\textsubscript{1}: Idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration significantly predict engagement.
Hₐ₂: Idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration significantly predict innovation.

Hₐ₃: Engagement significantly predicts innovation.

Hₐ₄: There is a statistically significant difference in engagement by leadership style.

Hₐ₅: There is a statistically significant difference in innovation by leadership style.

**Research Design**

This non-experiment quantitative research utilized the data from the three surveys to measure the statistical significance between the variables. The five transformational leadership behaviors; idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration, indicated in the MLQ were used along with the results of the UWES engagement vigor, dedication, and absorption. The total of the innovative work behavior survey was used as an indicator of innovation.

To assess hypotheses 1 and 2, a hierarchical linear regression was conducted to assess if the amount of variance idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration uniquely contribute to the variance in engagement and innovation. A hierarchical linear regression facilitates analysis of the predictive association between a set of predictor variables and a criterion variable. In a hierarchical linear regression analysis, each predictor variable is entered into the regression model in individual blocks. The individual blocks are compared to the previous block of the regression model to determine if it contributes unique variation to the criterion variable. The five attributes of transformational leadership will be used as the predictor variables along with the engagement score of vigor, dedication, and
absorption as the criterion variable. For hypothesis two, the score in innovation was the criterion variable.

The researcher used the $F$ statistic, $R$-squared, and $p$ value to discuss the statistical significance of the model and the variation in the criterion variables. The $F$-test determined whether the predictor variable in each block explains more variance in the criterion variable than the previous regression block. The $R$-squared value assesses the amount of variance in the criterion variable that accounted for by the predictor variables. An alpha level of 0.05 ($p$) was used to determine statistical significance. Post hoc $t$-tests were used to assess the contribution of each predictor variable and beta coefficients were reported to determine the magnitude and direction of the relationship with the criterion variable.

To assess hypothesis three, the researcher conducted a simple linear regression to determine if engagement predicts innovation. A linear regression allows the researcher to assess the predictive relationship between the predictor variable and the criterion variable. The main effects model regression equation will be used: $\text{innovation} = B_1 \times \text{engagement} + c$, where the $B_1$ is the unstandardized beta coefficient, and $c$ is the constant term (Tabachnick & Fidell, 2013). The assumptions of normality of residuals, homoscedasticity of residuals, and the lack of outliers were assessed. Normality was assessed via examination of a Q-Q scatterplot (Field, 2009; Bates, Mächler, Bolker, & Walker, 2014; DeCarlo, 1997). Homoscedasticity was assessed via examination of the residuals and fitted values scatterplot (Field, 2009; Bates et al., 2014; Osborne & Walters, 2002). Outliers were assessed using studentized residuals (Field, 2009; Stevens, 2009). The alpha level was set at 0.05 for the analysis.
To address hypothesis four and five, the researcher conducted an Analysis of Variance (ANOVA) to determine if there is a significant difference in engagement and innovation by leadership style. An ANOVA is appropriate when the researcher intends to assess statistically significant differences in a continuous dependent variable by a categorical independent variable (Field, 2009). Participants were grouped by their dominant leadership style, either transformational or transaction. When participants did not have a clear score for one particular style they were grouped into a mixed category. To indicate statistical significance the $F$ statistic and $p$ value were used. The alpha level was set at 0.05. Post hoc Tukey pairwise comparisons were conducted on the statistically significant differences.

**Participants**

The study focused on point of care employees within a hospital in British Columbia. The hospital is in a large community and offers all the major procedures and benefits of a medium size hospital. The director of the hospital identified seven units to participate in the study. The units are typical of any hospital within the health care authority including, medicine, maternity, palliative, and older adults. The broad selection of units creates the greatest replication across all hospital units throughout the province. The seven units created a total population of 219 participants. The point of care employees who work directly with patients in these units were sent an email link as well as randomly selected while they were working on the unit. While most were registered nurses there are also licenced practical nurses, and care aids that fit this category. By emailing the survey, managers of the seven units were also included. Physicians report directly to the government of British Columbia and not to the hospital. They were
included on the email list as physicians work directly with patients and influence the culture of the hospital yet have no reporting nature within the hospital.

For the best response rate, a modified version of Dillman, Smyth, and Christian’s (2014) Tailored Design Methodology was implemented. Emails were sent out with a link to the survey with an option to submit an email address after completing the survey, to be entered in a draw for ten coffee cards. It was recognized that point of care staff spend their time on the floor helping patients and do not check their emails often. Permission was granted by the director of the hospital to conduct the research on site. Therefore, the researcher spent two weeks in the hospital moving to the various units randomly selecting individuals during their slowest work time. A nurse traveled with the researcher to relieve active employees and provide them time to complete the survey at a workstation or laptop. A reminder email was sent out after the initial email followed by a third email two weeks later. The total sample size of usable responses was one hundred and fifty-seven ($n = 157$) resulting in a 72% response rate from the seven units within the hospital.

To determine the sample size for the various statistical analysis, a power analysis was conducted in G*Power 3.1.7. A power analysis was conducted for a multiple linear regression, simple linear regression, and an ANOVA with the following parameters. For a multiple regression with five predictors, an alpha of 0.05, a power of 0.95, and a medium effect size ($f^2 = 0.15$) the minimum sample size necessary was 138 (Faul, Erdfelder, Buchner, & Lang, 2013). For a linear regression with one predictor, an alpha of 0.05, a power of 0.95, and a medium effect size ($f^2 = 0.15$) a minimum of 89 participants was necessary (Faul et al., 2013). For an ANOVA with 3 groups, an alpha of 0.05, a power of 0.95, and a large effect size ($f = 0.40$) a minimum of 102 participants
was necessary (Faul et al., 2013). The desired sample size was 102 participants to meet the sample size requirement for the ANOVA analysis.

Data Collection Tools

The three separate quantitative surveys were combined into one and placed on the online survey platform Checkbox. The link to the survey was then emailed out or accessed in person by typing in the site address.

The Multifactor Leadership Questionnaire (MLQ), self-rater report, created by Bass and Avolio (1997), was used for participants to measure their transformational leadership behaviors including idealized behaviors, attributes, motivation, intellectual stimulation, and individual consideration (See Appendix F). The MLQ is comprised of 45 items that identify leadership as laissez-faire, transactional, or transformational. First developed in 1985 the MLQ has gone through several revisions to enhance construct validity. It is one of the most recognized leadership surveys used around the world in several different industries including banking, education, government, manufacturing, and health care (Avolio & Bass, 2015). The MLQ has an overall Cronbach alpha coefficient of .86. The manual for scoring the assessment was purchased through Mind Garden and used as a reference for administering the assessment (Avolio & Bass, 2015).

To measure engagement, the Utrecht Work Engagement Scale (UWES) (See Appendix D) was used (Schaufeli, Bakker, & Salanova, 2006). The Utrecht Work Engagement Scale is the most often used scientifically derived measure of engagement (Schaufeli & Bakker, 2010; Bakker, Schaufeli, Leiter, & Taris, 2008; Schaufeli et al., 2002). The scale was developed with over 14,000 participants in ten different countries with a Cronbach’s alpha of .92 (Schaufeli, Bakker, & Salanova, 2006). While it does
provide clarity on the three factors of engagement it does not address the day to day variations in energy and dedication (Bakker, Albrecht, & Leiter, 2011). Sonnentag, Dormann, and Demerouti (2010) discuss the use of quantitative diary studies to capture the day to day fluctuations within individuals over time. While the advantage of diary research allows individuals to record specific feelings and perceptions each day it requires a greater commitment from individuals.

A search through the Buros Center for Testing (n.d.) revealed no significant tool for assessing innovation. The literature review revealed that De Jong and Den Hartog’s (2010) ten item scale is the most commonly utilized survey for measuring innovative work behavior (See Appendix E). Therefore, the ten-item scale was used for individuals to assess their work behavior towards innovation. The survey has a Cronbach’s alpha of .70 (De Jong & Den Hartog, 2010).

**Data Collection Procedures**

Data for the study was collected during the month of June 2018. Participants from the seven hospital units were recruited via email link and random face to face interactions in the units within the hospital site. The email link lead to an online survey hosted in Checkbox where the MLQ, UWES and the innovative work behavior survey were complied into one 65 question survey.

The completed surveys were scored and then compiled into Intellectus Statistics (2017) software. Descriptive statistics asking:

- Number of years working in health care as a full-time employee.
- Position title – physician, nurse (RN, LPN, nurse practitioner), therapist (OT, PT, SLP, rehab), health care assistant, manager, or senior leader
The questions from the MLQ were separated to identify key leadership behaviors that are prevalent among the participants. Following the manual for the MLQ scores were compiled and then averaged to gain a total in the five domains of transformational leadership: including idealized behaviors, attributes, motivation, intellectual stimulation, and consideration (Avolio & Bass, 2015).

The results from the UWES survey were added into the categories of vigor, dedication, and absorption according to Schaufeli, Bakker, and Salanova (2006). Results from the ten questions in the innovative work behavior survey were added together (De Jong & Den Hartog, 2010).

Composite means, and standard deviations were computed for each of the survey results according to job title. To assess hypothesis one and two a hierarchical linear regression was conducted to assess if the amount of variance idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration uniquely contribute to the variance in engagement (vigor, dedication, and absorption) and innovation. A simple linear regression was used to address hypothesis three to determine if engagement predicts innovation. The total score from engagement was used with the total score from the innovative work behavior survey. The main effects model regression equation was used: innovation = $B_1 \times$engagement + c, where the $B_1$ is the unstandardized beta coefficient, and c is the constant term (Tabachnick & Fidell, 2013).

To address hypotheses four and five an analysis of variance (ANOVA) was used to determine if there is a significant difference in engagement and innovation by leadership style. An ANOVA is appropriate when the researcher intends to assess
statistically significant differences in a continuous dependent variable by a categorical independent variable (Field, 2009). Leadership style was determined from the MLQ scores that were in the ninetieth percentile for that leadership behavior (Avolio & Bass, 2015).

The UWES and the innovative work behavior survey were free to use as long as the citation indicated where the assessment originated. The MLQ required a licensing fee from Mind Garden that was $2.50 per survey. As an incentive ten coffee cards worth fifty dollars each were purchased and participants could choose to enter a draw to win a card. The researcher also carried small candies to be distributed to individuals while they were completing the survey face to face. The candies and coffee cards certainly increased the response rate. One issue that arose was people not answering all the questions in the survey but still applying for the coffee card. There were 23 surveys that were deemed unusable because not enough of the survey questions were answered to provide an accurate response.

**Ethical Considerations**

It is important to note that the researcher is employed within the health authority where the study took place. This created some significant personal bias with the outcome of the research. Quantitative research methods were chosen to reduce the bias of the researcher as well as the organization. Instead of creating questions it was decided to use existing well-known surveys that have been previously used in health care settings.

The researcher and the director of the hospital were aware of the shadow of power in their roles and wanted to reduce the influence on participants (Johnson, 2015). Transparency of information helps to reduce the overuse of power and assumptions. The
researcher met with all the managers of the units to explain the purpose of the research. Managers were then allowed to choose to be a part of the research. A letter was then crafted to further explain the purpose of the research and explain that the results would not be collected or used for any role or performance expiations. Frontline leaders were then contacted to identify a time when the researcher could visit.

The existing surveys used also have well researched and refined questions to reduce leading questions. Personal identifiers and tracking on the Checkbox platform were turned off. The data was stored on password protected Amazon servers located in Canada. Amazon is known for having high security and control over the data and is used by many government and health care organizations around the world (AWS Data Privacy, n.d.). The data was only accessed from a password protected computer.

Documents submitted to the IRB included the letter of agreement from the research site (See Appendix B), the letter to participants (See Appendix A) with the participants’ bill of rights (See Appendix C), and the application. Formal approval from the IRB was provided on June 11, 2018 and the IRBNet ID 1207626-2 was assigned.

Summary

There are multiple problems and solutions within the vast complexities known as health care. The quadruple aim provides a framework to focus on four primary objectives to improve health care. While new innovations and technology are ever increasing within health care, it is the care provider that enhances the patient experience the most. Employees that are cared for will be able to provide better care for patients. The complexities in health care have increased managers’ portfolios creating a disconnected organization. The point of care employees can no longer wait for their direct supervisor
to lead the way. Instead, a new paradigm is needed where the point of care employees see themselves as leaders enhancing their own levels of engagement and innovation within their sphere of control (Covey, 1989). This research will provide an outline for better leadership behaviors for the point of care employees.

The three surveys combined created one large 65 question survey that was held on the online Checkbox platform. The seven units identified in the hospital were emailed the link to the survey. The researcher also visited the units with a traveling nurse to relieve participants from their duties and allow time to complete the survey. Participants were notified verbally and digitally that their participation was voluntary. All information was stored on a secure computer and all personal identifiers were eliminated to allow participants to answer the questions freely.
CHAPTER FOUR: FINDINGS

Introduction

The quantitative study sought to meet the purpose of exploring the relationship between leadership behaviors with work engagement and innovative work behavior within the health care system. To answer the research question: What is the influence of point of care employees’ leadership behaviors on work engagement and innovative work behavior? the Multifactor Leadership Questionnaire (MLQ) identified leadership behaviors in different categories identified as more transformational leadership or transactional leadership behaviors (Avolio & Bass, 2015). Five hypotheses were created to better understand the influence of leadership behaviors in engagement and innovative work behavior. The MLQ identifies five components of transformational leadership as idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation and individualized consideration (Avolio & Bass, 2015). The hypotheses look to identify relationships among the five components of transformational leadership with engagement and innovative work behavior.

\( H_{a1} \): Idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration significantly predict engagement.

\( H_{a2} \): Idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration significantly predict innovation.

\( H_{a3} \): Engagement significantly predicts innovation.
**H₄:** There is a statistically significant difference in engagement by leadership style.

**H₅:** There is a statistically significant difference in innovation by leadership style.

Results from the three combined surveys on leadership style, engagement, and innovative work behavior were entered in Intellectus Statistics (2017) software for analysis of descriptive statistics, hierarchical linear regressions and analysis of variance to answer the five hypotheses. After review of the descriptive statistics of the surveyed population at the hospital each of the hypotheses will be addressed.

**Presentation of the Findings**

**Descriptive Statistics**

In total 219 participants were contacted via email and face to face interactions at seven units within the hospital and asked to complete the survey. Two more follow up emails were sent as reminders to complete the survey during a two-week window. Many of the point of care staff do not access their email or use a computer at work. To reach these point of care staff, the researcher visited the seven units with a roaming nurse. Point of care staff had their work covered by the roaming nurse and were provided time to complete the survey at a workstation or iPad or laptop. One hundred and eighty people from the seven units at the hospital clicked on the survey. The various questions on the survey were not marked as mandatory, resulting in some respondents not completing all the questions. There were some that did not answer many of the questions but did submit the survey. The Starbucks incentive card may have caused this behavior where people do not answer all the questions but still submit for the coffee card. To obtain accurate data
from the responses required a summation or average from the answers. With many answers missing the total scores would produce many outliers. The researcher decided that having a 90% completion rate would obtain the best results. This eliminated 23 responses where participants had not responded to at least 90% of the questions. The total sample size of usable responses was one hundred and fifty-seven \((n = 157)\) resulting in a 72% response rate from the seven units within the hospital.

The majority of participants work directly with patients at the point of care \((n = 87, 55\%)\). Frontline leaders hold titles such as Patient Care Coordinator, or Clinical Nurse Educator \((n = 49, 31\%)\). Table 1 shows the break down by title and years working in health care. The most commonly observed categories in years working in health care were five years or less and five to ten years, each with an observed frequency of 29 (18%).
Table 1

Frequency Table for Nominal and Ordinal Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>$n$</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td>7</td>
<td>4.46</td>
</tr>
<tr>
<td>Point of Care Staff</td>
<td>87</td>
<td>55.41</td>
</tr>
<tr>
<td>Frontline Leader</td>
<td>49</td>
<td>31.21</td>
</tr>
<tr>
<td>Manager</td>
<td>10</td>
<td>6.37</td>
</tr>
<tr>
<td>Physician</td>
<td>3</td>
<td>1.91</td>
</tr>
<tr>
<td>Senior Leader</td>
<td>1</td>
<td>0.64</td>
</tr>
<tr>
<td>Years working in health care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5 or less</td>
<td>29</td>
<td>18.47</td>
</tr>
<tr>
<td>5 to 10</td>
<td>29</td>
<td>18.47</td>
</tr>
<tr>
<td>10 to 15</td>
<td>26</td>
<td>16.56</td>
</tr>
<tr>
<td>15 to 20</td>
<td>25</td>
<td>15.92</td>
</tr>
<tr>
<td>20 to 25</td>
<td>21</td>
<td>13.38</td>
</tr>
<tr>
<td>25 to 30</td>
<td>12</td>
<td>7.64</td>
</tr>
<tr>
<td>30 to 35</td>
<td>6</td>
<td>3.82</td>
</tr>
<tr>
<td>35 to 40</td>
<td>7</td>
<td>4.46</td>
</tr>
<tr>
<td>Missing</td>
<td>2</td>
<td>1.27</td>
</tr>
</tbody>
</table>

*Note.* Due to rounding errors, percentages may not equal 100%.

Leadership Style

The individual leadership behaviors of idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individual consideration were combined to identify an overall score of transformational leadership behaviors. Avolio and Bass (2015) suggested that this score should not identify one as being a transformational or transactional leader, but it could provide some insight. A transformational leader would score in the ninetieth percentile ($>18.5$) of the combined transformational behaviors. Whereas a transactional leader would score ($>9.65$) in the combined transactional behaviors of contingent reward, management by exception (active), management by exception (passive), and laissez-faire (Avolio & Bass, 2015).
The participants’ self-rated scores were combined to identify generally where they saw themselves as more transformational or transactional. Physicians had the highest combined mean transformational leadership score of 16.83 ($SD = 2.67$, $SE_M = 1.54$, Min = 13.75, Max = 18.50). Other than the three physicians, the managers had the highest scores of the combined transformational behaviors with an average of 16.23 ($SD = 2.72$, $SE_M = 0.86$, Min = 11.75, Max = 20.00). The point of care staff had an average of 15.16 ($SD = 2.53$, $SE_M = 0.27$, Min = 10.00, Max = 20.00) and the frontline leader had an average of 15.84 ($SD = 2.15$, $SE_M = 0.31$, Min = 9.50, Max = 20.00). The transactional leadership totals combined participants’ scores from the MLQ questions categorized by contingent reward, management by exception (active), management by exception (passive), and laissez-faire (Avolio & Bass, 2015). Avolio and Bass (2015) stated that a combined score of greater than 9.65 would indicate an individual would be in the 90th percentile of more consistently transactional leadership behaviors. The frontline leaders had the lowest average of 5.91 ($SD = 1.94$, $SE_M = 0.28$, Min = 1.75, Max = 10.25). For point of care staff, the observations of transactional leadership had an average total of 6.34 ($SD = 1.84$, $SE_M = 0.20$, Min = 2.50, Max = 11.00).

Skewness and kurtosis were also calculated in Table 2. When the skewness is greater than 2 in absolute value, the variable is considered to be asymmetrical about its mean. When the kurtosis is greater than or equal to 3, the variable's distribution is markedly different than a normal distribution in its tendency to produce outliers (Westfall & Henning, 2013).
Table 2

*Summary Statistics Table for Interval and Ratio Variables Split by Title*

<table>
<thead>
<tr>
<th>Variable</th>
<th>Transformational leadership total</th>
<th>Transactional leadership total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$M$</td>
<td>$SD$</td>
</tr>
<tr>
<td>Administration</td>
<td>15.02</td>
<td>1.99</td>
</tr>
<tr>
<td>Point of Care Staff</td>
<td>15.16</td>
<td>2.53</td>
</tr>
<tr>
<td>Frontline Leader</td>
<td>15.84</td>
<td>2.15</td>
</tr>
<tr>
<td>Manager</td>
<td>16.23</td>
<td>2.72</td>
</tr>
<tr>
<td>Physician</td>
<td>16.83</td>
<td>2.67</td>
</tr>
<tr>
<td>Senior Leader</td>
<td>16.75</td>
<td>-</td>
</tr>
</tbody>
</table>

*Note.* '-' denotes the sample size is too small to calculate the statistic.

Other than mean scores a more descriptive statistic is presented in Table 3 that lists the ninetieth percentile for leadership scores of transformational and transactional by title. The mixed category are those that did not score in either of the other two ninetieth percentiles. Eighteen percent of the point of care staff saw themselves as having transformational leadership behaviors whereas sixteen percent of the managers felt they demonstrate more transformational leadership behaviors.
Table 3

Leadership Style by Title

<table>
<thead>
<tr>
<th>Variable</th>
<th>Administration Point of Care</th>
<th>Frontline leader</th>
<th>Manager</th>
<th>Physician</th>
<th>Senior Leader</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership style</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transformational</td>
<td>1 (14%)</td>
<td>16 (18%)</td>
<td>8 (16%)</td>
<td>3 (30%)</td>
<td>2 (67%)</td>
</tr>
<tr>
<td>Transactional</td>
<td>1 (14%)</td>
<td>4 (5%)</td>
<td>1 (2%)</td>
<td>0 (0%)</td>
<td>0 (0%)</td>
</tr>
<tr>
<td>Mixed</td>
<td>5 (71%)</td>
<td>67 (82%)</td>
<td>40 (82%)</td>
<td>7 (70%)</td>
<td>1 (33%)</td>
</tr>
</tbody>
</table>

Engagement by Title

Summary statistics were calculated from the work and well-being survey (UWES) scores of the three components of engagement; including vigor, dedication, and absorption as well as the engagement total score and split by title (Schaufeli & Bakker, 2003). There were not enough senior leaders that responded to the survey to provide enough information to make comparisons. As shown in Table 4, the highest average in engagement vigor was the management group 11.20 (SD = 2.15, SEM = 0.68, Min = 7.00, Max = 14.00). While the administration titles had the lowest average score 8.57 (SD = 1.90, SEM = 0.72, Min = 5.00, Max = 11.00). The Physicians indicated the highest average in engagement dedication 13.00 (SD = 2.65, SEM = 1.53, Min = 10.00, Max = 15.00) with the administration being the lowest average 10.86 (SD = 3.80, SEM = 1.44, Min = 3.00, Max = 15.00). For engagement absorption the physician group had the highest average 13.00 (SD = 1.00, SEM = 0.58, Min = 12.00, Max = 14.00) with administration having the lowest average 10.29 (SD = 3.73, SEM = 1.41, Min = 4.00, Max = 14.00). The engagement total score was calculated by summing vigor, dedication, and
absorption. The manager group had the highest total average in engagement 36.10 ($SD = 5.51$, $SE_M = 1.74$, Min = 27.00, Max = 43.00) and the administration group had the lowest total average 29.71 ($SD = 8.92$, $SE_M = 3.37$, Min = 12.00, Max = 40.00).

Table 4

**Summary Statistics Table for Engagement Totals Split by Title**

<table>
<thead>
<tr>
<th>Variable</th>
<th>$M$</th>
<th>$SD$</th>
<th>$n$</th>
<th>$SE_M$</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engagement Vigor</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td>8.57</td>
<td>1.90</td>
<td>7</td>
<td>0.72</td>
</tr>
<tr>
<td>Point of Care Staff</td>
<td>10.90</td>
<td>2.99</td>
<td>87</td>
<td>0.32</td>
</tr>
<tr>
<td>Frontline Leader</td>
<td>10.59</td>
<td>2.93</td>
<td>49</td>
<td>0.42</td>
</tr>
<tr>
<td>Manager</td>
<td>11.20</td>
<td>2.15</td>
<td>10</td>
<td>0.68</td>
</tr>
<tr>
<td>Physician</td>
<td>9.33</td>
<td>1.53</td>
<td>3</td>
<td>0.88</td>
</tr>
<tr>
<td>Senior Leader</td>
<td>15.00</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td><strong>Engagement Dedication</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td>10.86</td>
<td>3.80</td>
<td>7</td>
<td>1.44</td>
</tr>
<tr>
<td>Point of Care Staff</td>
<td>12.83</td>
<td>2.35</td>
<td>87</td>
<td>0.25</td>
</tr>
<tr>
<td>Frontline Leader</td>
<td>12.65</td>
<td>2.41</td>
<td>49</td>
<td>0.34</td>
</tr>
<tr>
<td>Manager</td>
<td>12.60</td>
<td>1.96</td>
<td>10</td>
<td>0.62</td>
</tr>
<tr>
<td>Physician</td>
<td>13.00</td>
<td>2.65</td>
<td>3</td>
<td>1.53</td>
</tr>
<tr>
<td>Senior Leader</td>
<td>15.00</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td><strong>Engagement Absorption</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td>10.29</td>
<td>3.73</td>
<td>7</td>
<td>1.41</td>
</tr>
<tr>
<td>Point of Care Staff</td>
<td>10.87</td>
<td>2.68</td>
<td>87</td>
<td>0.29</td>
</tr>
<tr>
<td>Frontline Leader</td>
<td>11.63</td>
<td>2.60</td>
<td>49</td>
<td>0.37</td>
</tr>
<tr>
<td>Manager</td>
<td>12.30</td>
<td>2.26</td>
<td>10</td>
<td>0.72</td>
</tr>
<tr>
<td>Physician</td>
<td>13.00</td>
<td>1.00</td>
<td>3</td>
<td>0.58</td>
</tr>
<tr>
<td>Senior Leader</td>
<td>12.00</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
<tr>
<td><strong>Engagement Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td>29.71</td>
<td>8.92</td>
<td>7</td>
<td>3.37</td>
</tr>
<tr>
<td>Point of Care Staff</td>
<td>34.60</td>
<td>7.14</td>
<td>87</td>
<td>0.77</td>
</tr>
<tr>
<td>Frontline Leader</td>
<td>34.88</td>
<td>7.01</td>
<td>49</td>
<td>1.00</td>
</tr>
<tr>
<td>Manager</td>
<td>36.10</td>
<td>5.51</td>
<td>10</td>
<td>1.74</td>
</tr>
<tr>
<td>Physician</td>
<td>35.33</td>
<td>5.03</td>
<td>3</td>
<td>2.91</td>
</tr>
<tr>
<td>Senior Leader</td>
<td>42.00</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

*Note.* "-' denotes the sample size is too small to calculate the statistic.
Innovative Work Behavior By Title

Summary statistics were calculated for the innovative work behavior score and split by title. Table 5 lists the mean scores for the innovative work behavior survey by title. There were not enough responses in the senior leader category to calculate. The manager group had the highest average score in innovative work behavior 39.90 (SD = 6.56, SE_M = 2.07, Min = 27.00, Max = 49.00). The administration group had the lowest average score in innovative work behavior 36.43 (SD = 7.23, SE_M = 2.73, Min = 24.00, Max = 45.00).

Table 5
Summary Statistics Table for Innovative Work Behavior Split by Title

<table>
<thead>
<tr>
<th>Variable</th>
<th>M</th>
<th>SD</th>
<th>n</th>
<th>SE_M</th>
</tr>
</thead>
<tbody>
<tr>
<td>Innovative work behavior</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administration</td>
<td>36.43</td>
<td>7.23</td>
<td>7</td>
<td>2.73</td>
</tr>
<tr>
<td>Direct Care Staff</td>
<td>35.97</td>
<td>7.40</td>
<td>87</td>
<td>0.79</td>
</tr>
<tr>
<td>Frontline Leader</td>
<td>38.14</td>
<td>6.15</td>
<td>49</td>
<td>0.88</td>
</tr>
<tr>
<td>Manager</td>
<td>39.90</td>
<td>6.56</td>
<td>10</td>
<td>2.07</td>
</tr>
<tr>
<td>Physician</td>
<td>38.33</td>
<td>3.06</td>
<td>3</td>
<td>1.76</td>
</tr>
<tr>
<td>Senior Leader</td>
<td>44.00</td>
<td>-</td>
<td>1</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: "-" denotes the sample size is too small to calculate the statistic.

Research Question and Hypotheses

From the three surveys information was collected to do statistical analysis to the five hypotheses.

H_a1: Idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration significantly predict engagement.

H_a2: Idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration significantly predict innovation.

H_a3: Engagement significantly predicts innovation.
$H_{44}$: There is a statistically significant difference in engagement by leadership style.

$H_{45}$: There is a statistically significant difference in innovation by leadership style.

**Engagement.**

To assess the first hypothesis, $H_{a1}$: Idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration significantly predict engagement, a five-step hierarchical linear regression was used. The UWES identifies vigor, dedication, and absorption as the three components of engagement. Each score in engagement was used in the five-step hierarchical linear regression.

**Engagement vigor.**

Engagement vigor was first entered as the dependent variable. Each transformational leadership behavior, idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration was entered as a step in the hierarchical linear regression with engagement vigor as the dependant variable. The $F$-test for step 1, adding idealized attributes was significant, $F(1, 155) = 8.03, p = .005, \Delta R^2 = 0.05$. indicating that adding idealized attributes explained an additional 4.93% of the variation in engagement vigor. The $F$-test for step 2, idealized behaviors, was significant, $F(1, 154) = 4.24, p = .041, \Delta R^2 = 0.03$. Adding idealized behaviors explained an additional 2.55% of the variation in engagement vigor. The $F$-test for step 3, inspirational motivation, was significant, $F(1, 153) = 17.84, p < .001, \Delta R^2 = 0.10$. Adding inspirational motivation explained an additional 9.66% of the variation in engagement vigor. The $F$-test for step 4, intellectual stimulation, was not significant, $F$
(1, 152) = 0.47, \( p = .495 \), \( \Delta R^2 = 0.00 \). Adding intellectual stimulation did not account for a significant amount of additional variation in engagement vigor. The \( F \)-test for step 5, individual consideration, was significant, \( F (1, 151) = 4.41, p = .037, \Delta R^2 = 0.02 \). Adding individual consideration explained an additional 2.34% of the variation in engagement vigor. The results for the model comparisons are in Table 6.

Table 6

<table>
<thead>
<tr>
<th>Model</th>
<th>( R^2 )</th>
<th>( df_{mod} )</th>
<th>( df_{res} )</th>
<th>( F )</th>
<th>( p )</th>
<th>( \Delta R^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>0.05</td>
<td>1</td>
<td>155</td>
<td>8.03</td>
<td>.005</td>
<td>0.05</td>
</tr>
<tr>
<td>Step 2</td>
<td>0.07</td>
<td>1</td>
<td>154</td>
<td>4.24</td>
<td>.041</td>
<td>0.03</td>
</tr>
<tr>
<td>Step 3</td>
<td>0.17</td>
<td>1</td>
<td>153</td>
<td>17.84</td>
<td>&lt; .001</td>
<td>0.10</td>
</tr>
<tr>
<td>Step 4</td>
<td>0.17</td>
<td>1</td>
<td>152</td>
<td>0.47</td>
<td>.495</td>
<td>0.00</td>
</tr>
<tr>
<td>Step 5</td>
<td>0.20</td>
<td>1</td>
<td>151</td>
<td>4.41</td>
<td>.037</td>
<td>0.02</td>
</tr>
</tbody>
</table>

*Note:* Each Step was compared to the previous model in the hierarchical regression analysis.

*Model interpretation.*

Idealized attributes did not significantly predict engagement vigor, \( B = -0.02, t(151) = -0.04, p = .968 \). Idealized behaviors did not significantly predict engagement vigor, \( B = 0.13, t(151) = 0.26, p = .793 \). Inspirational motivation significantly predicted engagement vigor, \( B = 1.64, t(151) = 3.67, p < .001 \). Intellectual stimulation did not significantly predict engagement vigor, \( B = -0.69, t(151) = -1.36, p = .177 \). Individual consideration significantly predicted engagement vigor, \( B = 1.10, t(151) = 2.10, p = .037 \).

*Engagement dedication.*

Another hierarchical linear regression was performed with engagement dedication as the dependent variable and the five components of transformational leadership as the independent variables. The \( F \)-test for Step 1, idealized attributes, was significant, \( F (1, 155) = 7.15, p = .008, \Delta R^2 = 0.04 \). The \( F \)-test for Step 2, idealized behaviors, was
significant, $F(1, 154) = 10.39, p = .002, \Delta R^2 = 0.06$. The $F$-test for Step 3, inspirational motivation, was significant, $F(1, 153) = 12.23, p < .001, \Delta R^2 = 0.07$. The $F$-test for Step 4, intellectual stimulation, was not significant, $F(1, 152) = 0.23, p = .631, \Delta R^2 = 0.00$. The $F$-test for Step 5, individual consideration, was significant, $F(1, 151) = 12.05, p < .001, \Delta R^2 = 0.06$. The results for the model comparisons are in Table 7.

**Table 7**

*Model Comparisons for Variables predicting Engagement Dedication*

<table>
<thead>
<tr>
<th>Model</th>
<th>$R^2$</th>
<th>$df_{mod}$</th>
<th>$df_{res}$</th>
<th>$F$</th>
<th>$p$</th>
<th>$\Delta R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>0.04</td>
<td>1</td>
<td>155</td>
<td>7.15</td>
<td>.008</td>
<td>0.04</td>
</tr>
<tr>
<td>Step 2</td>
<td>0.10</td>
<td>1</td>
<td>154</td>
<td>10.39</td>
<td>.002</td>
<td>0.06</td>
</tr>
<tr>
<td>Step 3</td>
<td>0.17</td>
<td>1</td>
<td>153</td>
<td>12.23</td>
<td>&lt; .001</td>
<td>0.07</td>
</tr>
<tr>
<td>Step 4</td>
<td>0.17</td>
<td>1</td>
<td>152</td>
<td>0.23</td>
<td>.631</td>
<td>0.00</td>
</tr>
<tr>
<td>Step 5</td>
<td>0.23</td>
<td>1</td>
<td>151</td>
<td>12.05</td>
<td>&lt; .001</td>
<td>0.06</td>
</tr>
</tbody>
</table>

*Note:* Each Step was compared to the previous model in the hierarchical regression analysis.

*Model interpretation.*

Idealized attributes did not significantly predict engagement dedication, $B = -0.33, t(151) = -0.91, p = .365$. Idealized behaviors did not significantly predict engagement dedication, $B = 0.39, t(151) = 0.98, p = .330$. Inspirational motivation significantly predicted engagement dedication, $B = 0.90, t(151) = 2.45, p = .015$. Intellectual stimulation did not significantly predict engagement dedication, $B = -0.29, t(151) = -0.69, p = .489$. Individual consideration significantly predicted engagement dedication, $B = 1.49, t(151) = 3.47, p < .001$.

*Engagement absorption.*

Another five-step hierarchical linear regression was conducted with the engagement adsorption score as the dependent variable. Each transformational leadership behavior, idealized attributes, idealized behaviors, inspirational motivation, intellectual
stimulation, and individualized consideration was entered as a step in the hierarchical linear regression with engagement absorption as the dependent variable.

Each step in the hierarchical regression was compared to the previous step using F-tests. The coefficients of the model in the final step were interpreted. The F-test for Step 1, idealized attributes, was significant, $F(1, 155) = 7.89, p = .006, \Delta R^2 = 0.05$. This model indicates that adding idealized attributes explained an additional 4.84% of the variation in engagement absorption. The F-test for Step 2, idealized behaviors, was significant, $F(1, 154) = 8.42, p = .004, \Delta R^2 = 0.05$. This indicates that adding idealized behaviors explained an additional 4.94% of the variation in engagement absorption. The F-test for Step 3, inspirational motivation, was not significant, $F(1, 153) = 1.75, p = .188, \Delta R^2 = 0.01$. The F-test for Step 4, intellectual stimulation, was not significant, $F(1, 152) = 0.00, p = .964, \Delta R^2 = 0.00$. The F-test for Step 5, individual consideration, was significant, $F(1, 151) = 4.02, p = .047, \Delta R^2 = 0.02$. This model indicates that adding individual consideration explained an additional 2.31% of the variation in engagement absorption. The results for the model comparisons are in Table 8.

Table 8

<table>
<thead>
<tr>
<th>Model</th>
<th>$R^2$</th>
<th>$df_{mod}$</th>
<th>$df_{res}$</th>
<th>$F$</th>
<th>$p$</th>
<th>$\Delta R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1</td>
<td>0.05</td>
<td>1</td>
<td>155</td>
<td>7.89</td>
<td>.006</td>
<td>0.05</td>
</tr>
<tr>
<td>Step 2</td>
<td>0.10</td>
<td>1</td>
<td>154</td>
<td>8.42</td>
<td>.004</td>
<td>0.05</td>
</tr>
<tr>
<td>Step 3</td>
<td>0.11</td>
<td>1</td>
<td>153</td>
<td>1.75</td>
<td>.188</td>
<td>0.01</td>
</tr>
<tr>
<td>Step 4</td>
<td>0.11</td>
<td>1</td>
<td>152</td>
<td>0.00</td>
<td>.964</td>
<td>0.00</td>
</tr>
<tr>
<td>Step 5</td>
<td>0.13</td>
<td>1</td>
<td>151</td>
<td>4.02</td>
<td>.047</td>
<td>0.02</td>
</tr>
</tbody>
</table>

*Note:* Each Step was compared to the previous model in the hierarchical regression analysis.
Model interpretation.

Idealized attributes did not significantly predict engagement absorption, $B = 0.08$, $t(151) = 0.19$, $p = .846$. Idealized behaviors did not significantly predict engagement absorption, $B = 0.82$, $t(151) = 1.75$, $p = .081$. Inspirational motivation did not significantly predict engagement absorption, $B = 0.34$, $t(151) = 0.78$, $p = .437$. Intellectual stimulation did not significantly predict engagement absorption, $B = -0.35$, $t(151) = -0.71$, $p = .476$. Individual consideration significantly predicted engagement absorption, $B = 1.01$, $t(151) = 2.00$, $p = .047$.

While not all five transformational leadership behaviors significantly predicted engagement there was an increase in all three factors of engagement. The hypothesis was supported, the leadership behaviors of inspirational motivation significantly predicted engagement vigor, and dedication. The transformational leadership behaviors of individual consideration significantly predicted engagement vigor, dedication, and absorption. The leadership behaviors of idealized attributes, idealized behaviors, and intellectual stimulation did not significantly predict engagement. Figure 1 is a visual representation of the relationships.
Innovative Work Behavior

To address the second hypothesis; $H_{a2}$: Idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration significantly predict innovation. A five-step hierarchical linear regression was conducted with the total score from the innovative work behavior questions as the dependent variable. Idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individual consideration were added as predictor variables in five steps in the hierarchical linear regression.

The $F$-test for Step 1, idealized attributes, was significant, $F(1, 155) = 28.41, p < .001, \Delta R^2 = 0.15$. This model indicates that adding idealized attributes explained an additional 15.49% of the variation in innovative work behavior. The $F$-test for Step 2,
idealized behaviors, was significant, $F(1, 154) = 26.04, p < .001, \Delta R^2 = 0.12$. This model indicates that adding idealized behaviors explained an additional 12.22% of the variation in innovative work behavior. The $F$-test for Step 3, inspirational motivation, was significant, $F(1, 153) = 48.60, p < .001, \Delta R^2 = 0.17$. This model indicates that adding inspirational motivation explained an additional 17.43% of the variation in innovative work behavior. The $F$-test for Step 4, intellectual stimulation, was significant, $F(1, 152) = 11.26, p = .001, \Delta R^2 = 0.04$. The $F$-test for Step 5, individual consideration, approached significance but was not significant, $F(1, 151) = 3.48, p = .064, \Delta R^2 = 0.01$.

Idealized attributes did not significantly predict the innovative work behavior total, $B = -0.72, t(151) = -0.87, p = .387$. Idealized behaviors did not significantly predict the innovative work behavior total, $B = 1.06, t(151) = 1.15, p = .250$. Inspirational motivation significantly predicted the innovative work behavior total, $B = 4.76, t(151) = 5.62, p < .001$. This indicates that on average, a one-unit increase of inspirational motivation will increase the value of innovative work behavior total by 4.76 units. Intellectual stimulation significantly predicted the innovative work behavior total, $B = 2.47, t(151) = 2.56, p = .011$. This indicates that on average, a one-unit increase of intellectual stimulation will increase the value of the innovative work behavior total by 2.47 units. Individual consideration did not significantly predict the innovative work behavior total, $B = 1.85, t(151) = 1.87, p = .064$.

Three of the five transformational leadership behaviors did not significantly predict innovation. There is a significant relationship between the transformational leadership behaviors on innovative work behavior but there was not enough to significantly predict innovative work behavior. A null hypothesis was retained, $H_{02}$:
Idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration do not significantly predict innovation.

**Linear Regression Analysis Engagement and Innovative Work Behavior**

To assess the third hypothesis; $H_{a3}$: Engagement significantly predicts innovation, a linear regression model was used. A linear regression allows the researcher to assess the predictive relationship between the predictor variable and the criterion variable. The main effects model regression equation will be used: $\text{innovation} = B_1 \times \text{engagement} + c$, where the $B_1$ is the unstandardized beta coefficient, and $c$ is the constant term (Tabachnick & Fidell, 2013). The assumptions of normality of residuals, homoscedasticity of residuals, and the lack of outliers were assessed.

**Normality.**

Normality was evaluated using a Q-Q scatterplot (Bates, Mächler, Bolker, & Walker, 2014; DeCarlo, 1997; Field, 2009). The Q-Q scatterplot compares the distribution of the residuals with a normal distribution (a theoretical distribution which follows a bell curve). In the Q-Q scatterplot, the solid line represents the theoretical quantiles of a normal distribution. Normality can be assumed if the points form a relatively straight line. The Q-Q scatterplot for normality is presented in Figure 2.
Homoscedasticity was evaluated by plotting the residuals against the predicted values (Bates et al., 2014; Field, 2009; Osborne & Walters, 2002). The assumption of homoscedasticity is met if the points appear randomly distributed with a mean of zero and no apparent curvature. Figure 3 presents a scatterplot of predicted values and model residuals.
Figure 3. Residuals scatterplot testing homoscedasticity.

Outliers.

To identify influential points, studentized residuals were calculated and the absolute values were plotted against the observation numbers (Field, 2009; Stevens, 2009). Studentized residuals are calculated by dividing the model residuals by the estimated residual standard deviation. An observation with a studentized residual greater than 3.14 in absolute value, the .999 quartile of a $t$ distribution with 156 degrees of freedom, was considered to have significant influence on the results of the model. Figure 4 presents the studentized residuals plot of the observations. Observation numbers are specified next to each point with a studentized residual greater than three.
Results.

The results of the linear regression model were significant, $F(1,155) = 48.62, p < .001$, $R^2 = 0.24$, indicating that approximately 24% of the variance in innovative work behavior is explainable by engagement. The engagement total significantly predicted innovative work behavior, $B = 0.48, t(155) = 6.97, p < .001$. Table 9 summarizes the results of the regression model.
Table 9

*Results for Linear Regression with Engagement predicting Innovative Work Behavior*

<table>
<thead>
<tr>
<th>Variable</th>
<th>$B$</th>
<th>$SE$</th>
<th>95% CI</th>
<th>$\beta$</th>
<th>$t$</th>
<th>$p$</th>
</tr>
</thead>
<tbody>
<tr>
<td>(Intercept)</td>
<td>20.36</td>
<td>2.44</td>
<td>[15.55, 25.18]</td>
<td>0.00</td>
<td>8.36</td>
<td>&lt; .001</td>
</tr>
<tr>
<td>Engagement</td>
<td>0.48</td>
<td>0.07</td>
<td>[0.34, 0.62]</td>
<td>0.49</td>
<td>6.97</td>
<td>&lt; .001</td>
</tr>
</tbody>
</table>

*Note.* Results: $F(1,155) = 48.62, p < .001, R^2 = 0.24$

Unstandardized Regression Equation: Innovative work behavior = 20.36 + 0.48*Engagement

The hypothesis $H_{a3}$: Engagement significantly predicts innovation was fully supported. Engagement does significantly predict innovative work behavior.

**Leadership Style and Engagement**

An analysis of variance (ANOVA) was used to test hypothesis four, $H_{a4}$: There is a statistically significant difference in engagement by leadership style.

The results of the ANOVA were significant, $F(2, 154) = 6.63, p = .002$, indicating there were significant differences in engagement among the levels of transformational, transactional and middle leadership styles. The results are presented in Table 10. The eta squared was 0.08 indicating leadership style explains approximately 8% of the variance in engagement. The means and standard deviations are presented in Table 11.

Table 10

*Analysis of Variance Table for Engagement by Leadership Style*

<table>
<thead>
<tr>
<th>Term</th>
<th>$SS$</th>
<th>$df$</th>
<th>$F$</th>
<th>$p$</th>
<th>$\eta^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership style</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transformational</td>
<td>617.69</td>
<td>2</td>
<td>6.63</td>
<td>.002</td>
<td>0.08</td>
</tr>
<tr>
<td>Transactional</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>7175.13</td>
<td>154</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 11
*Mean, Standard Deviation, and Sample Size for Engagement by Leadership Style*

<table>
<thead>
<tr>
<th>Combination</th>
<th>M</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformational</td>
<td>38.70</td>
<td>5.71</td>
<td>30</td>
</tr>
<tr>
<td>Transactional</td>
<td>34.17</td>
<td>3.97</td>
<td>6</td>
</tr>
<tr>
<td>Middle</td>
<td>33.64</td>
<td>7.16</td>
<td>121</td>
</tr>
</tbody>
</table>

To further examine the differences among the variables, paired t-tests were calculated between each pair of measurements. Tukey pairwise comparisons were conducted for all significant effects. For the main effect of leadership style, the mean of engagement for transformational leadership ($M = 38.70$, $SD = 5.71$) was significantly larger than for the middle group ($M = 33.64$, $SD = 7.16$), $p = .001$. No other significant effects were found.

The results from the ANOVA confirm the hypothesis $H_{a4}$: There was a statistically significant difference in engagement by leadership style.

**Leadership Style and Innovative Work Behavior**

An analysis of variance (ANOVA) was conducted to determine whether there were significant differences in innovative work behavior by leadership style. The hypothesis was, $H_{a5}$: There is a statistically significant difference in innovation by leadership style.

The results of the ANOVA are presented in Table 12 indicating there were significant differences in innovative work behavior among the different leadership styles, $F(2, 154) = 19.84$, $p < .001$. The eta squared was 0.20 indicating leadership style explains approximately 20% of the variance in innovative work behavior. The means and standard deviations are presented in Table 13.
Table 12

Analysis of Variance Table for Innovative Work Behavior by Leadership Style

<table>
<thead>
<tr>
<th>Term</th>
<th>SS</th>
<th>df</th>
<th>F</th>
<th>p</th>
<th>( \eta^2 )</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership style</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Transformational</td>
<td>1546.44</td>
<td>2</td>
<td>19.84</td>
<td>&lt; .001</td>
<td>0.20</td>
</tr>
<tr>
<td>Transactional</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>6001.54</td>
<td>154</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Residuals</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 13

Mean, Standard Deviation, and Sample Size for Innovative Work Behavior by Leadership Style

<table>
<thead>
<tr>
<th>Combination</th>
<th>M</th>
<th>SD</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformational leadership</td>
<td>43.43</td>
<td>4.17</td>
<td>30</td>
</tr>
<tr>
<td>Transactional leadership</td>
<td>37.17</td>
<td>5.53</td>
<td>6</td>
</tr>
<tr>
<td>Middle</td>
<td>35.41</td>
<td>6.67</td>
<td>121</td>
</tr>
</tbody>
</table>

The hypothesis was supported, \( H_a : 5 \): There is a statistically significant difference in innovation by leadership style. Paired \( t \)-tests were calculated between each pair of measurements to further examine the differences among the variables. Tukey pairwise comparisons were conducted for all significant effects. The mean of innovative work behavior for transformational leadership \((M = 43.43, SD = 4.17)\) was significantly larger than for the middle group \((M = 35.41, SD = 6.67), p < .001.\)

Analysis and Synthesis of Findings

The results of the three surveys on leadership style, engagement, and innovative work behavior each provided interesting data regarding the point of care staff within the hospital. This study sought to identify the relationship between leadership style, engagement, and innovative work behavior. It was found that the transformational
leadership behaviors of inspirational motivation and individual consideration significantly predicted engagement vigor, dedication, and absorption. All three aspects of engagement were increased when individuals rated themselves as having greater awareness for inspirational motivation and individual consideration. This suggests that the more point of care employees see themselves as transformational leaders in the system the higher their engagement within the organization will be.

The second hypothesis was not confirmed $H_{a2}$: Idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration significantly predict innovation. It was found that two of the three components of transformational leadership did influence the total innovation work behavior score. Inspirational motivation significantly predicted the innovative work behavior total, $B = 4.76, t(151) = 5.62, p < .001$. Intellectual stimulation significantly predicted the innovative work behavior total, $B = 2.47, t(151) = 2.56, p = .011$.

Results from the third hypothesis were significant. Engagement did significantly predict innovative work behavior. One possible solution to increasing innovative work behavior may be to enhance employees’ experience and therefore increase engagement.

The results from hypotheses four and five indicate that there is a significant difference between leadership style in engagement and innovation. While this indicates a relationship and not necessarily causation there is enough to consider future steps in leadership development. If point of care employees saw themselves as more transformational leaders, they may also have an increase in engagement and innovation.
Summary

The participants from the seven units at the hospital provided 157 responses to the combined survey of the MLQ, UWES, and innovative work behavior surveys. The goal of reaching mostly point of care staff that work directly with patients as well as frontline leaders and managers was met. Respondents were able to self-rate on their leadership behaviors, level of engagement, and innovative work behavior. Five research questions were created along with five separate hypotheses. The transformational leadership behaviors were separated into five categories including idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration. $H_{a1}$ was confirmed in that two leadership behaviors, inspirational motivation and individual consideration significantly predicted, vigor, dedication, and absorption, the three components of engagement. Because three of the five leadership behaviors did not significantly predict innovation, a null hypothesis was retained for $H_{o2}$: Idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration did not significantly predict innovation. Hypothesis three was supported demonstrating that engagement does significantly predict innovation. The results from the ANOVA identified that hypothesis four and five were supported, there is a significant difference in innovation by leadership style ($H_{a4}$). There is a significant difference in innovation by leadership style ($H_{a5}$).
CHAPTER FIVE: CONCLUSIONS AND RECOMMENDATIONS

Introduction

Nurse managers’ leadership skills can influence several aspects of the employee’s experience such as patient care, safety, engagement, and work effectiveness (Page, 2004; Spence Laschinger, Wilk, Cho, & Greco, 2009). Research has also indicated that titled leaders within the health care system can transfer their enthusiasm and high power to subordinates through modeling which increases employees’ level of engagement (Hayati, Charkhabi & Naami, 2014). The primary purpose of this non-experimental, quantitative study was to determine how point of care employees see their leadership behaviors and what is the relationship with engagement and innovation. As was discussed in Chapter Four, transformational leadership behaviors did significantly predict engagement and there was a positive relationship between engagement and innovation. This chapter will focus on the now what question. Specifically, how insights from this study may be utilized in a practical sense at the hospital along with insights into future research are discussed.

Purpose of the Study

The purpose of this quantitative study is to explore the relationship between leadership behaviors and work engagement and innovative work behavior within the health care system.

Aim of the Study

The aim of this study was to enhance the training and development for point of care employees at a specific hospital within a substantial health care authority. The organization would be able to know the effects of employees’ transformational leadership
behaviors on their sense of engagement and innovation within the work environment. Instead of focusing on managers’ direct influence, more time and effort could be spent developing individual leadership abilities for all employees.

**Proposed Solution**

The results of the study indicate a need for increased awareness to transformational leadership behaviors in particular the components, idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration (Bass, Avolio, Jung, & Berson, 2003). More detail on how these components interact with both engagement and innovation are listed below. The Burke-Litwin model for change outlines several guiding principles throughout the change process (Burke, 2014). The transactional portion of the model focuses on motivation, work unit climate, and task requirements (Burke, 2014). The leadership training will begin the process of unfreezing the current context and educating point of care employees on new behaviors (Schein as cited in Burke, 2014). The top portion of the Burke-Litwin model concentrates on the transformational actions towards change. Frontline leaders, managers, and directors will engage in visioning what the hospital could be like if everyone was aligned to the leadership change. Given the nature of change and a looping back towards previous behaviors creating a guiding coalition of employees working towards the change goal, will enable the hospital to achieve a more transformational culture enhancing the experience of the care provider (Burke, 2014; Kotter, 2012). Coaching after training enhances the impact and increases the potential of adoption of the new behaviors (Losch, Traut-Mattausch, Mühlberger, & Jonas, 2016). Any organizational change will require commitment from the senior leaders within the hospital with the end goal of having all
employees see themselves as leaders able to influence their work environment. The research here indicates the benefits of investing the time and financial commitment to leadership development to meet the quadruple aim for improving health care.

**Transformational Leadership**

If the desire is to embed transformational leadership behaviors throughout the hospital there is a lot of work to be done. Only eighteen percent of the point of care staff rated themselves as a transformational leader. There is a need for further training and development of leadership behaviors within the hospital. Direct instruction and development within the hospital enhance the interactions with all employees building a more collective purpose. Leadership development programs should focus on the four dimensions of transformational leadership (McGuire & Kennerly, 2006).

Academic programs have included basic leadership preparation within the nursing education at the baccalaureate, master’s, and doctor of nursing programs (American Association of Colleges of Nursing, 2006, 2008, 2011; Barr & Dowding, 2015). The leadership education is not necessarily being transferred into the work environment. This research found that the majority of respondents had worked less than ten years in health care, which suggests they are relatively new out of their academic program yet transformational leadership behaviors were not readily identified in their work environment. A hospital-wide training program would not only enhance individual capabilities but create a learning organization. Training and development should not only focus on personal enhancement or leader development but instead focus on leadership and followership as a whole (Day, 2000; Day & O’Conner, 2003). The Canadian College of Health Leaders created the LEADS framework curriculum with five domains: Lead
self, Engage others, Achieve results, Develop coalitions, Systems transformation (Dickson & Tholl, 2014). This curriculum is certainly a positive step forward towards developing leaders in health care. While there has been some success in creating a cultural change there is still work to be done in leadership development (Vilches, Fenwick, Harris, Lammi, & Racette, 2016). The results of this leadership study clearly indicate the benefits in engagement through leadership behaviors. It seems reasonable to implement leadership development across the organization to not only increase engagement but to enhance self awareness and influence on others.

An organization can either make leaders through training and development or purchase leaders through recruitment and selection (Bamberger & Meshoulam, 2000). Replacing or even recruiting new people to fit in the roles of leadership is not a viable option for the health care authority, due to costs associated with recruitment as well as the large numbers of people. Training and development of transformational leadership behaviors have resulted in changed behaviors and better organizational outcomes (Barling, Weber, & Kelloway, 1996; Kelloway, Barling, & Helleur, 2000). A culture of leadership would require more than one-day workshops informing individuals of leadership capabilities. Ideally individuals would outline goals and plans for their leadership development that may include workshops, observing other leaders, and coaching. The actual training days would be spread out over six months to allow participants to learn for one day and then apply the content in their work environment for a month. Galuska’s (2012) metasynthesis of 21 qualitative or mixed methods studies on leadership programs found three key themes for enhancing leadership development in health care. Critical components to the successful implementation of leadership
development are “a supportive context for leadership development in nurses including opportunity structure, the relationship factor and organizational culture for growth” (Galuska, 2012, p. 336). Similar to making a long-term financial investment where one sets aside a small amount of money each month and receives the more substantial sum at retirement after many years of contributing and compound interest; leadership training can contribute over time to realize the long-term goal. Focusing on the point of care employee not only demonstrates care for the employee it adds to the long-term goal of leadership development throughout the hospital. Continuing to make deposits of leadership development within the hospital will compound and create a changed culture. As point of care employees step into frontline leader and manager positions their leadership will continue to influence the hospital.

Engagement

Understanding the influence in engagement, will assist in meeting the fourth component of the quadruple aim, improving the experience of providing care (Sikka, Morath, & Leape, 2015). Previous research found that managers can influence work engagement at the unit level (Van Bogaert, Clarke, Willems, & Mondelaers, 2013). This research focused on the individual and their self-rating of leadership behaviors. All three parts of engagement, vigor, dedication, and absorption were influenced by inspirational motivation and individual consideration. Inspirational motivation involves envisioning an attractive future state or shared vision to strive towards with enthusiasm and optimism (Bass & Riggio, 2006). An influencer can share with others their enthusiasm and optimism for the future state and compel others to want to come alongside them. At the individual level, one would see themselves fitting into the larger shared vision and what
the future state could hold. While, understanding the greater picture of what they are moving towards individually. Applied in the health care setting with point of care workers, inspirational motivation at the individual level, allows employees to see the work they do contribute to the greater organization. As employees work with patients and families, the more inspirational motivation they demonstrate, the more motivated they are to commit to providing quality care. This was reflected in the relationship found between, inspirational motivation and engagement vigor. Inspirational motivation also influenced, engagement dedication. When care providers understand the greater vision and how they are contributing towards it, there is an increase in dedication towards that vision. As point of care employees interact with each other, patients, and families, the more inspired they will be to provide extra dedication and vigor. While this may seem obvious in the maternity unit, where nurses share the joy with families, the data collection also included the palliative care unit. When point of care employees in the palliative unit see themselves as fitting into the larger shared vision with the family, there is an increase in engagement vigor and dedication. From the health authority’s perspective to enhance the experience of providing care, employees need to know how they are contributing to the greater vision both with the organization and with the patients and families.

**Individual consideration in engagement.**

Through coaching and mentoring, transformational leaders recognize individual needs for growth and achievement (Bass & Riggio, 2006). Interactions with others are personalized as the transformational leader is aware of individual concerns and accepts individual differences. Individually considerate leaders listen effectively and see the person as a whole and not just there to complete tasks (Bass & Riggio, 2006). Health care
requires individual consideration of each patient and colleague to enhance patient safety and the overall patient experience. Individual consideration was found to significantly predict engagement vigor, dedication, and absorption. Therefore, to meet the quadruple aim and enhance the care provider’s experience individual consideration from the direct supervisor positively influences and enhances the work experience. As employees see themselves, recognizing others as individuals, both patients and colleagues increase their vigor, dedication, and absorption at work. When a hospital or care authority increases in size, with thousands of employees, individual consideration becomes more challenging. The more the point of care employee can consider individuals and act out transformational leadership the more embedded it will grow within the hospital. A shift in culture would be the result, as all employees work together to listen and recognize each other instead of only relying on the supervisor or manager to lead. Followers and leaders are roles, not people with inherent characteristics (Baker, 2007). At times followers will have more influence than leaders (Kellerman, 2012). Active followers share a common purpose with leaders influencing each other as partners towards a common purpose.

Group courses identifying key components of transformational leadership would provide the foundation to the individual growth and planning of each employee. The hospital could work on identifying case studies, action learning groups, or online programs to enhance transformational leadership behaviors. Utilizing actual work problems where individuals are challenged would increase the individual consideration of the learning itself strengthening the culture of transformational leadership. When leaders treat others with compassion, and unique appreciation while recognizing and celebrating
their achievements greater individualized consideration is achieved (Kelloway, & Barling, 2000).

**Innovative Work Behavior**

Three of the five transformational leadership behaviors did not significantly predict innovation. While the null hypothesis was retained it is worth noting that inspirational motivation and intellectual stimulation did significantly predict innovative work behavior. To address the concern on how to increase innovative work behavior within the hospital undoubtedly transformational leadership has an effect. It was found that transformational leadership significantly influences engagement and engagement influences innovative work behavior. An increase in intellectual stimulation and inspirational motivation would increase innovation as well as transformational leadership in engagement which would also influence innovation.

Bass and Riggio (2006) defined intellectual stimulation as the ability to stimulate “followers’ efforts to be innovative and creative by questioning assumptions, reframing problems, and approaching old situations in new ways” (p. 7). A culture where point of care employees are encouraged to try new approaches or look at things differently without fear of being criticized because they are different from the leader would enhance more innovative thinking. The exploration of different ideas involves an intentional focus on improving or altering current products, services or processes (Kanter, 1988; Farr & Ford, 1990; Basadur, 2004). Enhancing intellectual stimulation in all employees increases the awareness and overall vision of the hospital. Instead of dividing lines or resources, point of care employees are encouraged to work together, share resources, and create new processes. Innovation rarely comes through a top-down structure. It is through the
generation and implementation of ideas at the employee level that innovation will occur (De Jong & Den Hartog, 2010).

Inspirational motivation is demonstrated when transformational leaders motivate and inspire the people around them. Team spirit is encouraged, and enthusiasm and optimism are displayed (Bass & Riggio, 2006). A compelling shared vision draws people towards increasing their contribution and commitment to the future state. The leadership behaviors of inspiration motivation align with idea championing for innovation. New ideas need to be promoted due to the uncertainty of success and the challenge of implementation to combat the resistance to the change. Idea championing involves building coalitions aligning support, finding the right people to be involved, and persistence (De Jong & Den Hartog, 2010; Howell, Shea, & Higgins, 2005). Inspirational motivation is the application of idea championing into leadership behaviors. Often new ideas are generated but not acted on. As more point of care employees see themselves as being able to not only create ideas but also champion and implement them an increase in innovation will occur. The first stage is to remove the obstacles and enhance the transformational leadership behaviors of inspirational motivation and intellectual stimulation within the hospital itself. As employees see their ideas encouraged within the hospital they will respond with greater motivation and engagement increasing their feeling of being cared for within the work environment.

**Factors and Stakeholders Related to the Solution**

For a complete cultural shift to take place it will take time and commitment to the development of people. The executive leaders of the hospital will not only need to set aside the necessary funding for the program but will need to model transformational
leadership daily and admit mistakes in the process. When point of care employees see
their leaders model the leadership behaviors they will be more likely to see themselves as
leaders in the system as well. For any training and development to work it will need to be
embedded within the culture of the organization.

- **Potential Barriers and Obstacles to Proposed Solution** Commitment to the
  long-term goal of developing leaders will be required for success. The return on
  investment may not be seen in the short term which will require a longer
  perspective. The hospital has thousands of employees. To attempt to engage
each employee in a training and development program would take considerable
  effort and time. Effective adult education will require programs with smaller
  numbers for learners to be able to engage more fully with the material and
  personalize the content (Caffarella & Daffron, 2013). Training leaders needs to
  be more than just a one-time program. Consistent with social learning theory
  that connects conceptual knowledge with opportunities to practice and apply
  enhances the learning process. Whetten and Cameron’s (1995) principles of
  training: 1. the presentation of behavioral principles, 2. demonstration of the
  principles, 3. opportunities to practice the principles; and 4. feedback on
  performance is similar to Bloom’s taxonomy from learning to application
  (Karthwohl, 2002).

- **Financial/Budget Issues Related to Proposed Solution** Training of employees
  requires a significant investment. There will be costs associated with the
development and teaching of the program. In health care there is another cost as
  positions would need to be backfilled for any individual taking the training.
While funding in health care is particularly tight it is time to shift the focus into developing employees to meet the quadruple aim. Without a shift, hospitals will only continue to lose employees. The Gallup Leadership Institute (2004) conducted a meta-analysis of leadership interventions from the past 100 years and found that it is an effective way of developing leaders (as cited in Bass & Riggio, 2006). The return on investment will be noticed as common language increases and point of care leaders step into formal leadership positions.

- **Legal Issues Related to the Proposed Solution** The proposed training and development would be offered by employees of the health care authority in the hospital setting. No new legal issues are anticipated as all staff and coordination exist within the health care authority already.

- **Other Issues or Stakeholders Related to Proposed Solution** It is important to distinguish that success of the program does not mean individuals would change their role. Instead the focus is for the employee to be the best they can be in the role they desire. Within the transformational leadership development course a section would cover personal and organizational values allowing the individuals to identify where their values align with the corporate values. A patient care coordinator may even step out of their leadership position and return to providing direct care to patients if they find it is a better fit. The individual would likely be more engaged in a role that fits their values and skills more appropriately.
Evaluation and Timeline for Implementation and Assessment

Caffarella and Daffron’s (2013) interactive model for program planning, would be utilized for the creation and evaluation of the training and development program. The model outlines all of the necessary components for creating educational programs for adults including items such as: needs assessment, learning objectives, instruction, transfer of learning, and evaluation. The MLQ could continually be used as an assessment to measure transformational leadership behaviors before and after the training intervention. The program delivery would be one day a month, spread out over six months to allow employees to attend a day of training and return to the work environment for application. Critical to the model is the transfer of learning from the classroom to the work environment (Caffarella & Daffron, 2013). To enhance the transfer of learning, individuals will need to be sponsored by managers. This not only demonstrates the commitment from the direct supervisor but also engages managers to be proactive in the training. After each day of training the manager will receive an email discussing the content from the day of learning. In the email will be coaching questions the manager can utilize to engage with the point of care employee going through the training. This process encourages more discussion and application of the content throughout the work environment. As a final assessment of the training and development intervention the MLQ could once again provide insight as well as a one-on-one conversation with the direct manager about the employee’s leadership. This promotes a favorable exchange where the employee and the manager can discuss the transformational leadership abilities they see in each other and be innovative on how to implement them in the work environment.
Limitations and Delimitations of the Study

The primary limitation of this study was the self-reporting nature of the quantitative assessment. While all three surveys have been well used and documented around the world, self-reporting on leadership behaviors can be a limitation. By only collecting one form of data the study is limited in scope. It is hard to clearly understand participants’ perceptions as they answer the quantitative questions. Many of the questions were phrased in a particular way that may not have been interpreted by the participant in the way it was intended.

The MLQ survey measures leadership styles but is limited in scope. Other prominent leadership styles such as servant leadership, authentic leadership, leader-member exchange theory, or Kouzes and Posner’s (2002) leadership practice are not represented. Northouse (2016) discusses so many different leadership theories that it is impractical to measure them all. It is unclear how the other leadership styles may have affected engagement or innovative work behavior.

The author of this study works within the health care authority to develop leaders creating a significant personal bias with the research. Therefore, the use of recognized valid and reliable quantitative surveys were utilized to mitigate the personal bias while still identifying key leadership behaviors, engagement, and innovative work behavior within the organization.
Implications of the Research

Practical Implications

There are many stakeholders in the Canadian health care system. Ultimately any changes will require commitment from all the stakeholders but a shift in culture may be the first step to demonstrate the success of innovation. This research enables the hospital to explain better why leadership development is essential in the hospital and what the end benefits are. It would be prudent to engage with the nurses’ union as they are an active group that influences health care in the system. The union can also support the culture shift to transformational leadership. Within the hospital itself there will need to be a strong commitment to creating the transformational leadership shift ensuring not only that point of care employees have access to the training but also that the directors and managers are modeling transformational leadership behaviors. Increased knowledge about engagement at work in health care can create a safer and productive environment for patient care (Bargagliotti, 2012).

Health care is continually struggling with expenses and budgets. To implement the training and development will require a significant commitment to the cost of providing the program. There is the actual cost of operating the training but more importantly is the cost of backfilling positions while people attend the training. If areas are not backfilled appropriately the culture will shift to a negative perception of the training as employees will only see that they have to work extra to cover people at training. There will need to be a willingness to cover these positions and expectations through the entire training process.
Consistency is the third practical implication for the shift in culture to be successful. The hospital will require a consistent approach for at least five years to see the benefits of the investment of leadership training and development. During this time the directors need to ensure point of care employees have the opportunity to access the training, are supported to step into new roles, and build the relationships with others throughout the hospital (Galuska, 2012).

**Implications for Future Research**

The aim of this study was on the point of care employee in one hospital in a substantial health care authority. Further research at other hospitals would provide a comparison between sites and programs that operate within the health care authority. The self-reporting nature of this study only provided one perspective. Future research on the interactions between point of care employees within their unit would give further insight.

The engagement scores of vigor, dedication, and absorption provide insight into employees’ sense of engagement at work but there are other factors that influence the work environment. Point of care employees are continually being asked to do more with less. The pace of health care work, as well as the demand and type of work, (always meeting other peoples’ needs) requires point of care employees to be intentional about their recovery. Future research could extrapolate more on mindfulness, sense of team, and resilience. It is believed that these factors also influence the level of engagement at work particularly in health care.

The innovative work behavior survey provided insight into their sense of innovation within the organization. While this measured the personal perception of innovation, future research could assess the relationship between the employees’
perspective of innovation and the organization’s structure and leadership towards innovation.

**Implications for Leadership Theory and Practice**

Understanding the role of leadership in health care can influence patient safety, quality of care, and work engagement (Page, 2004; Spence Laschinger, et al., 2009). The results of this study enable a hospital director to allocate budget and time to build into employees and begin creating a culture of transformational leaders. The training and development is a step towards meeting the quadruple aim of enhancing the care providers’ experience. As point of care employees see themselves as leaders in the system an increase in engagement occurs. Employees tend to contribute more when they understand the greater vision and who is involved instead of only meeting the transactional task of the day. A culture of shared leader and follower exchanges creates a relationship beyond the traditional hierarchy that is common in health care. Transformational leaders pay attention to the needs and development of others and seek ways to develop leadership potential in others (Bass & Riggio, 2006). Having the point of care employee see themselves as a leader not only enhances their perspectives to the larger organization it increases their engagement and innovation and creates a culture of support and development.

**Summary of the Study**

To meet the quadruple aim (Sikka, Morath, & Leape, 2015) and better understand the experience of the care provider, the study aimed to identify a relationship between leadership style and engagement and innovative work behavior. The quantitative research utilized three internationally recognized surveys on leadership style, engagement, and
innovation with point of care employees at a hospital in British Columbia, Canada. One hundred and fifty-seven \((n = 157)\) responses to the online survey were collected resulting in a significant response rate (72%).

Results from the surveys provided insight into leadership style (MLQ), engagement (UWES) and innovative work behavior. The MLQ separates leadership style into different components for transformational (idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, individualized consideration) and transactional behaviors (contingent reward, management by exception, laissez-fair). To answer the research question five hypotheses were created to identify relationships among the five components of transformational leadership with engagement and innovative work behavior.

- **H\(_{a1}\)**: Idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration significantly predict engagement.
- **H\(_{a2}\)**: Idealized attributes, idealized behaviors, inspirational motivation, intellectual stimulation, and individualized consideration significantly predict innovation.
- **H\(_{a3}\)**: Engagement significantly predicts innovation.
- **H\(_{a4}\)**: There is a statistically significant difference in engagement by leadership style.
- **H\(_{a5}\)**: There is a statistically significant difference in innovation by leadership style.

A five-step hierarchical linear regression was conducted with the engagement scores as the dependent variable and the five components of transformational leadership as the independent variables. It was found that inspirational motivation and individual consideration significantly predicted engagement vigor, dedication, and absorption. The
first hypothesis was supported, transformational leadership behaviors significantly predicts engagement.

To answer the second hypothesis, a five-step hierarchical linear regression was conducted with the innovation scores as the dependent variable and the five components of transformational leadership as predictor variables. There is a significant relationship between the transformational leadership behaviors on innovative work behavior but there was not enough to significantly predict innovative work behavior. A null hypothesis was retained, transformational leadership behaviors did not significantly predict innovation.

The third hypothesis; $H_{a3}$: Engagement significantly predicts innovation was supported through a linear regression. The engagement total significantly predicted innovative work behavior. Utilizing an ANOVA, it was also found that the fourth hypothesis was supported; $H_{a4}$: There is a statistically significant difference in engagement by leadership style. The fifth hypothesis was also supported. An ANOVA was conducted to determine whether there were significant differences in innovative work behavior by leadership style. $H_{a5}$: There is a statistically significant difference in innovation by leadership style.

Results from this study better inform the hospital administration about the benefits of leadership development within the hospital. An increase in training and development along with an organizational structure and modeling of transformational leadership behaviors will increase the engagement and innovation which will likely enhance the experience of the care provider. As point of care employees develop their leadership abilities they will be more likely to step into leadership roles and create a culture of transformational leadership. Point of care employees have the most influence
on the patient’s experience. Increased innovative work behavior directly at the frontline of health care may bring improvements that senior leaders never considered.
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Appendix A

Letter to Participants

April 2018

Dear Participant,

You are being invited to participate in this research study on leadership, engagement, and innovative behavior because you work within Fraser Health and influence the people, culture, and patients.

The purpose of this study is to better inform the work within People Development to provide enhanced leadership development to all employees within Fraser Health. The results of the study may also be published and presented at conferences to inform other health authorities.

The study is open to include all full-time employees within Fraser Health. If you agree to participate please click on the link to go through the survey. The goal is to gather responses from as many employees as possible. Participation is voluntary, and you can withdraw at any time.

The survey questions seek to better understand your leadership style, engagement, and innovative work behavior. There are no anticipated risks, but mild emotional risks may occur in the process of participation. If this happens please feel free to follow up with the key investigator or contact Employee Assistance.

The results of the survey will inform people as to leadership style most used within the organization along with key components of engagement. The results should also indicate employees innovative work behavior. It is hoped to use these results to enhance training, coaching, and leadership practices within the organization. There are no direct benefits to the participant for completing the survey.

All data collected will remain confidential and accessible only to the investigators of this study and complies with the BC Freedom of Information and Protection of Privacy Act. If you choose to withdraw from this study, your data will be removed and destroyed from our database. While we will do our best to protect your information there is no guarantee that we will be able to do so.

After completing the survey, you may enter a draw for 10 Starbucks coffee cards with a $50 value.

If you require any further information regarding this project or your participation in the study you may contact Daryl Page cell: 778-773-2156

Sincerely,
Daryl Page

If you require more information here is a link to the Bill of Rights for Research Participants.
Appendix B

Letter of Agreement

May 30, 2018

To the Creighton University IRB,

We are familiar with Daryl Page’s research project entitled Researching the relationship between leadership style, engagement, and innovative work behavior. We understand involvement to be having employees access and respond to the survey during work hours. We also give access for the survey to be distributed both electronically and via ipad within the hospital.

We understand this research will be carried out following sound ethical principles, that participant involvement in this research study is strictly voluntary, and confidentiality of participants’ research data is ensured, as described in the protocol.

Therefore, as a representative of, I agree Daryl Page’s research project may be conducted at our hospital.

Sincerely,

[Signature]

[Name]
Executive Director

[Institution]
Appendix C

Participant Bill of Rights

As a participant in a research study, you have the right:

1. To have enough time to decide whether or not to be in a research study and to make that decision without any pressure from the people who are conducting the research.

2. To refuse to be in a study at all, and to stop participating at any time after you begin the study.

3. To be told what the study is trying to find out, what will happen to you, and what you will be asked to do if you are in the study.

4. To be told about the reasonably foreseeable risks of being in the study.

5. To be told about the possible benefits of being in the study.

6. To be told who will have access to information collected about you, and how your confidentiality will be protected.
Appendix D

Work & Well-being Survey (UWES) ©

The following 9 statements are about how you feel at work. Please read each statement carefully and decide if you ever feel this way about your job. If you have never had this feeling, cross the “0” (zero) in the space after the statement. If you have had this feeling, indicate how often you feel it by crossing the number (from 1 to 6) that best describes how frequently you feel that way.

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Never</td>
<td>Almost never</td>
<td>Rarely</td>
<td>Sometimes</td>
<td>Often</td>
<td>Very often</td>
<td>Always</td>
</tr>
<tr>
<td></td>
<td>A few times a year or less</td>
<td>Once a month or less</td>
<td>A few times a month</td>
<td>Once a week</td>
<td>A few times a week</td>
<td>Every day</td>
</tr>
</tbody>
</table>

1. ________ At my work, I feel bursting with energy (VI1)
2. ________ At my job, I feel strong and vigorous (VI2)
3. ________ I am enthusiastic about my job (DE2)
4. ________ My job inspires me (DE3)
5. ________ When I get up in the morning, I feel like going to work (VI3)
6. ________ I feel happy when I am working intensely (AB3)
7. ________ I am proud of the work that I do ((DE4)
8. ________ I am immersed in my work (AB4)
9. ________ I get carried away when I’m working (AB5)

© Schaufeli & Bakker (2003). The Utrecht Work Engagement Scale is free for use for non-commercial scientific research. Commercial and/or non-scientific use is prohibited, unless previous written permission is granted by the authors.
Appendix E

Innovative Work Behavior

Ten item scale. Rate on a 1-5 Likert scale.

How often do you…

- Pay attention to issues that are not part of your daily work?
- Wonder how things can be improved?
- Search out new working methods, techniques or instruments?
- Generate original solutions for problems?
- Find new approaches to execute tasks?
- Make important organizational members enthusiastic for innovative ideas?
- Attempt to convince people to support an innovative idea?
- Systematically introduce innovative ideas into work practices?
- Contribute to implementation of new ideas?
- Put effort in the development of new things?

(De Jong & Den Hartog, 2010)
Appendix F

Multifactor Leadership Questionnaire

Use the following rating scale:

<table>
<thead>
<tr>
<th>Not at all</th>
<th>Once in a while</th>
<th>Sometimes</th>
<th>Fairly often</th>
<th>Frequently, if not always</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>

1. I provide others with assistance in exchange for their efforts ........................................... 0 1 2 3 4
2. I re-examine critical assumptions to question whether they are appropriate ......................... 0 1 2 3 4
3. I fail to interfere until problems become serious ................................................................. 0 1 2 3 4
4. I focus attention on irregularities, mistakes, exceptions, and deviations from standards .......... 0 1 2 3 4
5. I avoid getting involved when important issues arise ...................................................................... 0 1 2 3 4
6. I talk about my most important values and beliefs ...................................................................... 0 1 2 3 4
7. I am absent when needed ................................................................................................................ 0 1 2 3 4
8. I seek differing perspectives when solving problems .................................................................... 0 1 2 3 4
9. I talk optimistically about the future ............................................................................................ 0 1 2 3 4
10. I instill pride in others for being associated with me .................................................................. 0 1 2 3 4
11. I discuss in specific terms who is responsible for achieving performance targets ..................... 0 1 2 3 4
12. I wait for things to go wrong before taking action ....................................................................... 0 1 2 3 4
13. I talk enthusiastically about what needs to be accomplished ....................................................... 0 1 2 3 4
14. I specify the importance of having a strong sense of purpose ....................................................... 0 1 2 3 4
15. I spend time teaching and coaching .............................................................................................. 0 1 2 3 4

Continued ➔
<table>
<thead>
<tr>
<th></th>
<th>Not at all</th>
<th>Once in a while</th>
<th>Sometimes</th>
<th>Fairly often</th>
<th>Frequently, if not always</th>
</tr>
</thead>
<tbody>
<tr>
<td>16. I make clear what one can expect to receive when performance goals are achieved.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>17. I show that I am a firm believer in &quot;if it ain't broke, don't fix it.&quot;</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>18. I go beyond self-interest for the good of the group.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>19. I treat others as individuals rather than just as a member of a group.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>20. I demonstrate that problems must become chronic before I take action.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>21. I act in ways that build others' respect for me.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>22. I concentrate my full attention on dealing with mistakes, complaints, and failures.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>23. I consider the moral and ethical consequences of decisions.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>24. I keep track of all mistakes.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>25. I display a sense of power and confidence.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>26. I articulate a compelling vision of the future.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>27. I direct my attention toward failures to meet standards.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>28. I avoid making decisions.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>29. I consider an individual as having different needs, abilities, and aspirations from others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>30. I get others to look at problems from many different angles.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>31. I help others to develop their strengths.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>32. I suggest new ways of looking at how to complete assignments.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>33. I delay responding to urgent questions.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>34. I emphasize the importance of having a collective sense of mission.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>35. I express satisfaction when others meet expectations.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>36. I express confidence that goals will be achieved.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>37. I am effective in meeting others' job-related needs.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>38. I use methods of leadership that are satisfying.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>39. I get others to do more than they expected to do.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>40. I am effective in representing others to higher authority.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>41. I work with others in a satisfactory way.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>42. I heighten others' desire to succeed.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>43. I am effective in meeting organizational requirements.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>44. I increase others' willingness to try harder.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
<tr>
<td>45. I lead a group that is effective.</td>
<td>0</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>4</td>
</tr>
</tbody>
</table>