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A Case Study of E-Leadership Constructs: An Assessment of Leadership in a Healthcare Organization

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A CASE STUDY OF E-LEADERSHIP CONSTRUCTS: AN ASSESSMENT OF LEADERSHIP IN A HEALTHCARE ORGANIZATION

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Dissertation Abstract

A CASE STUDY OF E-LEADERSHIP CONSTRUCTS: AN ASSESSMENT OF LEADERSHIP IN A HEALTHCARE ORGANIZATION

The purpose of this research is to identify the components of e-leadership theory and how it can be used to teach healthcare leaders to develop virtual teams in a healthcare organization. This study will define a way in which leaders can use e-leadership components to increase the efficacy of virtual teams. In particular, this study will examine the perceptions executive leaders have of e-leadership constructs.

This study used a mixed method concurrent triangulation design to examine perceptions of e-leadership theory which may be used to improve the efficacy of virtual teams. The e-leadership theory as a construct was first measured using two leadership survey instruments that evaluate e-leadership characteristics. The first instrument to measure servant leadership is the servant leadership profile – revised (RSLP) which measures the servant leadership characteristics from the leader's perspective. Next, the use of the multifactor leadership questionnaire was used to measure transformational leadership characteristics.

Finally, the use of an open-ended survey was used to gather qualitative data in order to provide a narrative to e-leadership theory. Results of this study show multiple positive and negative correlations that build upon the current research presented in e-leadership theory. The sample participants in this study provide narrative that parallel the quantitative data analysis and promote the development of e-leadership in a healthcare organization.

Keywords: e-leadership, servant leadership, transformational leadership, healthcare, virtual leadership

This dissertation, written under the direction of the candidate's dissertation committee and approved by the members of the committee, has been presented to and accepted by the Faculty of the School of Education in partial fulfillment of the requirements for the degree of Doctor of Education. The content and research methodologies presented in this work represent the work of the candidate alone.

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CHAPTER I

THE RESEARCH PROBLEM

Statement of the Problem

Technology continues to play a significant role in changing healthcare organizations in the United States. An aging population and a more diverse workforce further promotes the need for healthcare organizations to adopt ICT technology (ICT) that meets the growing demands put forth by both patients and regulations on the healthcare industry. As organizations continue to adapt new technologies into their daily operations, there continues to be a need for not only technical training but also leadership training that promotes the use of new technologies. Traditionally, organizations might see a new technology as a way to improve a customer-communication model or increase the efficacy of data analytics, but what about the impact that technology has on an organization's employee population?

Current research suggests that ICT technology could impact healthcare organizations by "improving safety, quality, and cost-efficiency of healthcare services" (Gagnon et al., 2010, p.1). Increasing the use of electronic health records will allow patient's health data to be accessed by different providers and provide patients with a participatory role in their health care. Although healthcare organizations have been slow to adopt ICT technology in the United States due to financial obligations and resistance from practitioners, Gagnon et al. (2010) states that resistance is even higher with practices of seven or more physicians contributing to the organizational adoption factors.

Health care is becoming dependent on ICT technology as the growth of long distance clinical care becomes more available. The growth of long distance clinical care is most important to those patients that are in remote locations. These remote patients are seeing an increase in communication with specialists and improved clinical outcomes (Lee & Lee, 2010; Sabnis & Charles, 2012). The increase in long distance clinical care also comes with a set of challenges as remote communication becomes more common. Some of the challenges that arise are patient privacy, accuracy in reporting, and the reliability of client data. Even more threats are a possibility when cloud computing is used to support data sharing. The possibility of hackers have increased these threats and are addressed in the Health Insurance Portability and Accountability Act of 1996 (HIPAA), Electronic Protected Health Information (ePHI), Health Information Technology for Economic and Clinical Health (HITECH); and the American Recovery and Reinvestment Act (ARRA) mandates that extra precautions be taken to prevent such electronic breaches (Harvey & Harvey, 2014; Sabnis & Charles, 2012).

"Quality healthcare is becoming more and more dependent on leveraging large volumes of health data" (Harvey & Harvey, 2014, p.1305). Increased access to mobile ICT technology is increasing the efficacy of healthcare for marginalized patients by use of healthcare technology (telemedicine) and virtual monitoring of patients. Healthcare organizations are now able to increase communication between many different healthcare departments and organizations. The Nationwide Health Information Network (NwHIN) was developed to implement "joint standards for integrating scalable, interoperable, and secure health IT systems through private-public collaborations" Harvey & Harvey, 2014,

p. 1306). Health information exchanges (HIEs) are creating a need for monitoring the level of security healthcare organizations use for data management and inter-organization communication. Steps are being taken by use of Integrating the Healthcare Enterprise (IHE) initiative that promotes the interoperability of healthcare ICT technology. Integrating such initiatives promote the ethical and compliance regulation of information in any form between healthcare organizations at all levels.

Healthcare organizations continue to develop electronic health records (EHR) that transmit data that is of "mutual interest for patients to share with their providers," data that "flows between patients and providers that would be mutually feasible," and "enable patients to communicate data specifically from home medical devices to their providers' EHRs" (Sujansky & Kunz, 2015, p.9). Patient-generated health information (PGHI), although not readily shareable with providers, is another way that ICT technology is defining delivery of EHR. Sujansky and Kunz (2015) suggest that specific requirements be implemented when promoting patient-generated data.

These requirements include but are not limited to: secured data sharing between patient and provider, low complexity software interface, controlled flow of information from the patient, distinguishable data from the patient, data that is consumable across software platforms, and secure data sharing between providers. It is important to note that communication between human patient and provider via email also continue to be secure in order to comply with HIPAA regulations. Clarity is the most important factor in email communication that can be accomplished by proper email structure such as headers, clear statements, and appropriate data.

The use of electronic health records is offering healthcare organizations many advantages that include data that is anchored and legible "clear and efficient communication of clinical information, standardization of data, and verifiability of documents required for compliance with government regulations" (Cheshire, 2014, p. 135). Not only does the use of electronic health records provide the aforementioned advancements, but there is also the benefit of communication over distances where previously time-sensitive data did not promote physician care at such a distance. Information communication technology has also allowed physicians the ability to reduce the level of prescription error by comprising all patient information in a patient's electronic health record that is retrievable instantly via a secured network. By using electronic health records, physicians can also be prompted with alerts generated by EHR software which could reduce the amount of physician error (Cheshire, 2014, p.135). Although promotion of EHR software is on the rise, so is the concern that instant access of patient information could produce an ethical issue as well.

> The American Medical Association Code of Medical Ethics states that, 'The information disclosed to a physician during the course of the patient-physician is necessary in order for the patient to be able to safely disclose sensitive personal information essential to the medical evaluation. Electronic medical records multiply the opportunities for access to patients' confidential medical information". (Cheshire, 2014, p.137)

Ethical issues are not the only issues that can be found with EHR documentation. Errors can also be found if data is entered incorrectly (also called pseudo-histories or pseudo-

exams) and then multiplied when the use of electronic copy and paste functions is used to replicate patient data.

Electronic health records (EHRs) can assist to not only reduce errors but also "increase preventive care, help providers keep track of patients with chronic diseases and improve adherence to clinical practice guidelines" (Lynott, Kooienga, & Stewart, 2012, p. 8). It is suggested that communication patterns be a focal point prior to the implementation of EHR technology. Patient-centered communication can improve the perceptions that patients have with EHR technology because the use of technology can suggest a reduced perceived emphasis on patient care. The only way to alleviate the technological errors is to pay close attention to data being inputted to EHR software and reducing the amount of erroneous clinical decisions (Cheshire, 2014, p.137). Ethical decisions made by healthcare organizations are not eradicated by the use of ICT technology but can be mitigated. The reality is that technologies will never eliminate the human element of empathy that a human gives to a patient. It is important to note that technology does have a place in health care and should never be a substitution for discourse between patient and healthcare organization.

Background and Need for Study

The Health and Social Care Act of 2012 combined with the Department of Health's implementation of the Power of Information changes how healthcare organizations manage information (Stonham, Heyes, Owen, Povey, 2012). Procedures used to manage information have functioned without the use of technology up until recently. Current information management needed to meet compliance standards requires

healthcare organizations to move toward a technology heavy process. Integrating towards an increased use of ICT technology could save clinical staff between 25 and 30 percent more time due to the redundancy of replicating paper documents (Stonham, 2012). Improper reporting via paper-based forms can also produce inconsistencies and increase errors in both data management and patient management. The use of an Electronic Health Record (EHR) would allow for clinical staff to increase accuracy of both aforementioned management constructs and free more time for patient care.

Health Information Technology (HIT) has been defined by Brailer and Thompson (2004) as an "application of information processing involving both computer hardware and software that deals with the storage, retrieval, sharing, and use of health care information, data, and knowledge for communication and decision making" (Rajagopal, 2013, p.80). When developing HIT software, it is suggested that equity, access, and availability of the healthcare staff member is taken into consideration. The reason for this is the integration of ICT technology should increase the staff member's involvement in healthcare services which should be directly represented in the strength of patient interactions. Continued support from Internet based ICT technologies has increased patient use and mobile healthcare services (Rajagopal, 2013). Not only does the use of information communication technology increase patient use, but it also reduces consultation time for clinicians.

A positive impact has been made on the perceptions of healthcare quality due to the widening of services as a result of ICT technology.

ICT technology integration can be difficult, and the addition of a complex organization can increase that difficulty due to multiple leadership structures and cultures (Evans, Ashbury, Hogue, Smith, & Pun, 2014). Technology used in many offices still reflects antiquated processes of photocopying and faxing documents to multiple locations. One of the many issues that can be found with this is that patient records can begin to lack accuracy due to an asynchronous communication pattern. The use of current ICT technology cannot only support communication accuracy but also support up-to-date patient care (Evans, 2014). Leadership as defined by Avolio and Kahi (2002) as being "a dynamic, robust system embedded within a larger organizational system" can have a strong effect on the efficacy of ICT technology integration (p. 325). Lack of leadership acceptance to technology integration can be a result of an experienced workforce whose daily processes have been vetted and produce effective results based on antiquated technology. It is then up to the leadership to provide the catalyst for physicians and other staff so that the "benefits of adopting innovative technologies must be seen to outweigh the work and costs of implementation" (Evans, 2014, p.229). According to Cavers (2014) healthcare organizations must perceive the integration of ICT technology as a way to make practitioner duties easier instead of more complicated.

Increasing access to education, leadership acceptance, and recognition by peers can all assist in easing the anxieties that healthcare organizations might have toward ICT technology integration. Still, healthcare organizations can find that some physicians will have a negative perspective towards the integration of ICT technology due to the lack of

experience with the technology. It is proposed that repeated support and education could assist physicians in incorporating technology (Evans, 2014).

How an organization designs their training when implementing an electronic healthcare record system can directly affect the efficacy of the technology integration. Avolio and Kahi state "organizations create structures that define the relationship expected among people who work in those organizations" and thus promote or hinder the development of ICT in the organization (p. 325). The level of training depends on the receiver of the information and context in which it is used, and the lack of reality used to describe any new process can prove costly when training time of physicians is limited. Technology acceptance can also prove to be problematic when developing a training program for all levels of healthcare staff. "One initial task is to identify those physicians who may present potential challenges. There are technology-phobic, computer-phobic, and paper-loving, status-quo-loving resisters" (Wu, Jackson, & Hunt, 2010, p. 56).

Leadership in healthcare organizations need to make sure they produce a vision for what the organization needs to look like in the near future when focusing on integrating electronic health records (EHR). Murphy (2011) states that "the importance of articulating a clear vision that serves as a rallying point for clinicians and can also be used in communications supporting the EHR implementation" (p.26). Although leaders can create a vision; the practical use of technology can lose its novelty quickly if clinical staff cannot effectively use ICT technology fluidly. The goal for healthcare leaders is to produce training that allows for their clinical staff to learn the EHR well enough that it can be integrated into the workflow process. Creating an environment where healthcare

staff can adapt a process to build project success should increase ease of technology integration. When leaders create training that does not build process around the technology, the technology loses novelty and is made more difficult to use. The technology must also be accessible to the clinical staff so that the practitioner can readily input data thereby increasing accuracy of data analysis (Murphy, 2011).

It is important that healthcare organizations not forget that the patient-doctor encounters remain focused on traditional means of communication (Lee & Smith, 2011). The use of ICT technology in health care allows the link between not only the physician and patient, but also those that come into contact with patient care information. Several prominent theoretical models have been used to examine and explain HIT usage including behavioral intention theories (e.g., the Theory of Reasoned Action and the Theory of Planned Behavior), Diffusion of Innovations theory, Social-Cognitive theory, the Precede-Proceed model, and the Technology Adoption Model. While these theories have been useful in predicting end users' acceptance and adoption of HIT, they do not apply to the factors that influence organizations to implement HIT such as EMRs, and little research has been conducted on this topic (Vayroch, Bahensky, & Ward, 2010).

Kaye, Kokia, Shale, Idar, and Chinitz (2010) found that studies done in European healthcare organizations provide evidence toward the effectiveness in adopting e-health applications. Results of the European study show that not only do ICT technologies improve productivity, but it also increases access to patient care. Financially, results have shown a 2:1 ratio in economic benefits when compared to costs of ICT technology implementation. Although we see a need and clear financial gain from the

implementation of ICT technology in healthcare organizations, not all countries are advanced in technology implementation. The international healthcare network would benefit greatly by way of "efficiency, quality of care and reducing medical error, along with new opportunities presented by the technologies themselves, such as telemedicine and internet-based chronic disease management" (Kaye et al., 2010, p.165).

Implementation of ICT technologies in healthcare is easier said than done in most instances. Not only are there technical barriers to the implementation of ICT technology, but there are also financial, structural, and cultural barriers. When reviewing the technology, purchasers need to know what works best for their organization and how to implement said technologies into their practice. Financially, there needs to be a defined stakeholder that is charged with incorporating the costs of the ICT technology into their balance sheet. Finding that stakeholder gets more difficult due to the structural barriers that are found in the United States due to managed care systems. Incorporating ICT technology into a healthcare organization becomes increasingly difficult when the structure of the organization involves multiple independent physicians and vendors. We must not forget that cultural barriers exist between busy physicians and their ability to continue to provide effective service to their patients (Kaye et al., 2010).

Recent research in California has found that "a certified complete EHR system increases the amount and timeliness of clinical information available at the point of care with embedded decision support and order entry" (Reed, et al., 2012, p.448). Gutowski (2011) echoes these thoughts on EHR systems via research conducted at the University of California-San Francisco (UCSF). The UCSF study was able to review a Health

Technology Assessment Program (HTAP), which concluded that "the UCSF HTAP model is an innovative way to foster improvement in this alignment, enhance the communication and relationship between hospital administration and clinical staff, and increase efficiency in the safe adoption of innovative new clinical technologies" (Gutowski, 2011, p.27). According to a study conducted by Pearl (2014), a Northern California healthcare organization found that 73 percent of their patients had registered for online services "allowing them to use the site to choose a personal physician, schedule appointments, view their laboratory results, and order refills for home delivery or pickup" (p. 252). Results also proved that "as of December 2013 more than 42,000 patients had logged onto" the mobile application created by the healthcare organization allowing patients to "review the status of preventive healthcare screenings, communicate with their physician, or schedule tests such as mammograms" (Pearl, 2014, p.253).

Purpose of the Study

The purpose of this research is to identify the components of e-leadership theory and how it can be used to teach healthcare leaders to develop virtual teams in a healthcare organization. This study was developed to define a way in which leaders can use e-leadership components to increase the efficacy of virtual teams. Specifically, I examine the executive healthcare leadership perceptions of e-leadership constructs. The study uses a mixed method case study of ten members of an executive healthcare leadership team.

Empirical findings from e-leadership constructs from both quantitative and qualitative portions of the study are analyzed to answer the three research questions.

Research Questions

The study investigates three research questions:

1. What aspects of e-leadership construct positively relate to executive healthcare leadership perceptions of ICT technology?
2. How should e-leaders be developed in a healthcare environment?
3. How do healthcare e-leaders develop strong relationships in virtual teams?

Theoretical Rationale

E-leadership theory provides the theoretical rationale for this study derived from Robert Greenleaf's (1970) theory on servant leadership and James Downton's (1973) theory of transformational leadership (Northhouse, 2010). Leadership as defined by Avolio (2007) suggest that leadership is "mentally constructed and how one makes sense of situations appears to be a function of the proximal (group or task) and distal (organizational or national culture) context in which those mental representations are formed" (p. 25). Leaders should reflect traits such as "persistence, tolerance for ambiguity, self-confidence, drive, honesty, integrity, internal locus of control, achievement motivation, and cognitive ability" (Avolio, 2007, p. 28) Servant leadership theory builds on the leader's ability to focus on their followers' needs. Transformational leadership theory suggests that a leader "engages with others and creates a connection that raises the level of motivation and morality in both the leader and the follower" (Northhouse, 2010, p.172).

Greenleaf (1977) states "servant leaders shape their employees' views and values to encourage them to become servants and servant leaders themselves" (as cited in Rivkin,

Diestel, & Schmidt, 2014, p.55). Finley (2012) states that leaders may also find that their leadership abilities while practicing servant leadership can be more effective than a title when establishing communication and authority (p.136). Building on Downton's theory, Burns (1978) states that transformational leaders need to focus on followers to the point that the full potential of the follower is possible (as cited in Bromley & Kirschner-Bromley, 2007; Kovjanic, Schuh, & Jonas, 2013). Similar to Greenleaf, Burns (1978) suggests that leaders must be able to produce social change while engaging in "the interplay of conflict and power" (Stewart, 2006, p.8). Bass (1985) further suggests that leaders need to address and meet "followers' higher psychological needs, which in turn motivates them to show 'performance beyond expectations'"(as cited in Kovjanic et al., 2013, p.544). Bass (1998) also suggests that "leaders behave in certain ways in order to raise the level of commitment from followers (as cited in Stewart, 2006, p.11). Avolio (2007) states that "30% of the variance in leadership style and emergence can be accounted for by genetic predispositions, while the remaining variance can be attributed to non-shared environmental influences such as individuals being exposed to varying opportunities for leadership development" (p. 28). Finally, similar research by Smith, Montagno, & Kuzmenko (2004), suggest that "servant leadership tends to cultivate a more static approach to the external environment than transformational leadership," and "transformational leader's motivation is directed more toward obtaining success for the organization, which will reflect on his/her abilities, and the success of these leaders is measured by the extent to which they obtain organizational rewards" (p. 89).

Historical Overview of e-Leadership

As organizations began to incorporate more online-based technologies, interactions between work groups via early ICT became more frequent and thus research around the subject of e-leadership formed. These early researchers began to study the concept of group decision support systems (GDSS), which "provide features, such as anonymity and electronic brainstorming (EBS), to address decision making and communication problems associated with traditional face-to-face group interaction" (Sosik, Avolio, Kahai, & Jung, 1998, p. 492). Many organizations have found that groups function more effectively during the review of early adoption of GDDS. Group outcomes that have been deemed important by Sosik (1998) are "group beliefs and attitudes (e.g., potency)" (p.493). The early use of ICT or GDDS has also shown to promote the ideas of the team because of the level of anonymity it provides coupled with a decreased perception of competition between group members. It is the job of the e-leader to "take the relationships among organizational members defined by an organization's structure and enhance them," and thrive "where work is mediated by information technology" (Avolio & Kahai, 2002, p. 326).

The need for e-leadership research has grown parallel with the growth of ICT and has caused questions to develop by researchers. According to Avolio and Kahai (2002), questions about e-leadership include:

- What are the implications for leaders and followers in teams and organizations where interactions are now mediated by information technology?

- How does the technology affect motivation and performance?
- How should we develop leaders to work in this new environment?
- What does 'having a presence' mean, when the leader is projected into the work group via technology?
- How will protégés be mentored when the mentor is from another culture and located in a different part of the world?
- What will organizations look like when we move through this time period and fully implement virtual leadership, teams and organizations?
- How do work associates develop strong relationships when they are separated by time and space?
- What is the role of leaders in the development of these relationships in virtual teams? (p. 325; p. 334).

Each of these questions continue to remain relevant in organizations today with new technologies constantly being implemented.

Current research in e-leadership theory has been anecdotal thus far with current applications of leadership theories used in distance leadership scenarios using leadership practices found in traditional work settings (Gurr, 2004; Jameson, 2013 b; Van de Bunt-Kokhuis & Sultan, 2012). Leadership theory currently used in organizations focuses on the various types of leadership styles attributed to the development of both leader and follower (Wilkins, & Dunaway, 2011). This study on e-leadership theory will be used to develop and analyze a new leadership framework for increased discourse between leaders and followers within organizations.

Definition of Terms

The following terms have been defined for the purpose clarification and understanding of the study.

Follower: an affiliate of an institution that is selected to work with an appointed leader to become a productive member of a collaborative group.

Leader: an affiliate of an institution selected to advise followers on work-related issues that promote organizational efficacy.

Digital divide: ability of a sender to effectively communicate a message by digital infrastructure and make available via Internet to be accessed by the receiver using a web-based platform (Peña-López, 2010, p. 3).

E-leadership: changes in organizational communication influenced by the development-information technology that has an effect on the leader-follower relationship.

Electronic Health Records: digital representation of patient paper charts found in real-time available via secure software by authorized users.

Health Information Technology: information technology specifically used for use in the healthcare industry.

Practical application: ability to apply theoretical knowledge to an active dynamic organizational environment.

Servant leadership: the ability of a leader to focus on the needs of those serving in the organization while promoting problem solving, emotional healing, empathy, listening, and acceptance.

Transformational leadership: the ability of a leader to create a connection between the leader and follower that promotes ethical and moral motivation in order to assist followers in reaching their utmost potential.

Limitations of the Study

The limitations for this study include the time given for the study and the culture of the organization could be viewed as limitations for this study. Time could prove to be a limitation for this study as the time allotted for this study did not provide enough time to conduct a study of experimental design. Time needed to conduct an experimentally designed study would require the busy executive leadership team to meet with the researcher for multiple meetings and take time for multiple e-leadership surveys. The culture of this healthcare organization functions with intrinsic desire for patient service. It is this intrinsic desire to serve patients that could skew servant leadership data from the RSLP. Additionally, the employees working in the sample hospital have specific training that not only give them an intrinsic desire to serve patents, but the industry has a history of technology integration which could skew perceptions of e-leadership. Finally, the sample participants' indicated that they not only experienced change, but were trained to deal with change. A culture that deals with change that could effect the transformational leadership data.

Delimitations of the Study

The participants used for this study are limited to leaders from one healthcare organization at a rural hospital. Although the use of a single hospital does not represent all healthcare organizations or their hospitals, data from this study will give a baseline for

future research on e-leadership. Another delimitation to this study is that leaders selected for this study was done based on availability and approval from organizational and executive leadership to discuss e-leadership theory. Those approved to participate were also asked to remain anonymous due to the organizations IRB regulations. Finally, organizational demands on participants also limit the amount of time allowed for this e-leadership case study. Therefore, time constraints can reduce the amount of discourse needed to understand all aspects of e-leadership expressed by the participants.

Significance of the Study

Perceptions of the subjects exposed to e-leadership theory training and the organizational and educational significance of this study are: (1) the need for empirical research of e-leadership theories, (2) the need to explore the use of ICT technology in a healthcare organization, (3) the need to explore the improvement of virtual teams within a healthcare organization, (4) the need for exploration of organizational communication in an e-leadership setting. Recent publications suggest the need for the development of e-leadership theories in settings not limited to public and private organizations (Jameson a, 2013).

In addition, the introduction of empirical research to e-leadership studies is needed to enhance leadership efficacy in virtual communication in healthcare organizations due to the increasing use of ICT technology. Research done during this study can potentially assist in providing both leaders and followers of healthcare organizations an ability to adapt to growing ICT technology, and at the same time easing transitions for their patients/clients. The overall development of e-leadership theory can

benefit all organizations once findings from the study have been explored and the barriers between leadership/followership and ICT technology have been identified.

Summary

In summary, the current need for healthcare organizations to explore e-leadership theory has been introduced. Current research shows that there is a need for ICT technology to continue to be introduced to health care in order to support the growing demands of an aging population. The impact of such technology could have dramatic affects on health care organization efficacy. Technology has also given healthcare practitioners the potential to reach patients from farther distances than ever experienced due to synchronous technology. Although there can be potential issues with technology integration into healthcare organizations, HIPPA, ePHI, HITECH, and ARRA have defined regulations to protect both the healthcare organization and their patient/client. As the United States continues to move into the digital health age with electronic health records and patient generated health records, we see an even stronger need for healthcare leaders to learn e-leadership theory. In the next chapter, a summary of literature will focus on e-leadership theory constructs needed to develop e-leadership acumen. The literature reviewed in this next chapter will then provide the base needed to examine the mixed-method study explained in chapter three.

CHAPTER II

REVIEW OF LITERATURE

Summary of the Problem

Some leaders have adopted leadership theories that address their personal style while others match personal leadership theories with their environment. One of the key changes that challenge organizations today is the constant integration of technology that can create a shift in process and procedures. The leader must be aware of the stress that any shift in process has on their organization and the need to use their leadership skills to ease their followers' anxieties. Leadership theories have assisted organizations in developing cultures that have the ability to function with increased efficacy. Research literature suggests that the growing use of technology is creating a gap between the efficacy of leadership and the culture in which the followers are conducting their business. The missing component to their evolving organizations is found in the way leaders are utilizing their leadership theories to create effective teams in both traditional and virtual environments. One such theory is called e-leadership theory that focuses on leadership constructs that pivots around information communication technology (ICT). The e-leadership theory is constructed from servant leadership theory and transformational leadership theory.

This chapter will review both historical and current literature that promotes an understanding of how technology can change any successful organization. Each leader holds the key to successfully adapting to these technological changes. Practitioners of any

organization know that their leadership acumen must match that of their followers' needs in order to see efficacy in leadership.

The themes that will be covered are designed to build an understanding of the relationship leadership and followership has by use of ICT technology. The first section is focused on digital communication where the exploration of ICT technology is reviewed. Following the digital communication section are the foundations of e-leadership theory. The e-leadership section of this chapter reviews the formation of the e-leadership construct and defines the history and need for exploration. The e-leadership theory is then expanded in the preceding sections with the review of both servant leadership and transformational leadership. These two theories create the construct on which the e-leadership theory is built. Finally, this chapter covers the idea of virtual teams and how they interact with organizations.

Digital Communication

When leadership integrates any new process or procedure, it is important to show how constituents are included in the future vision of the leadership. Leadership technology training courses can help leaders "in implementing Information and Communication Technology (ICT) into their profession" (Abuhmaid, 2011, p. 195). It is also important to make sure that the followers trained to use new technology feel like they can develop a "personal philosophy of teaching/learning" so that the followers become true practitioners of the proposed technology (Johnson, Wisniewski, Kuhlemeyer, Isaacs, & Krzykowski., 2012, p. 66). It is the responsibility of leadership to review training to match those constituents being enlightened with new technology such

as prior knowledge of technology (McKay & Vilela, 2011, p. 311). Even if leadership surveys their followers', "the most difficult barrier to overcome, however, may be technology anxiety" (Johnson et al., 2012, p. 63). If leadership can work to minimize any type of technology anxiety, it could be possible for leadership to have an increased acceptance of technology. After training is complete, it will be the responsibility of the leadership or training agency to continue communication with those enrolled in the technology training. According to Abuhmaid (2011) "without follow-up and coaching, any staff development would not have an impact on more than 5-10 percent of participants' practice" (p. 196).

Even if leadership gets through the aforementioned barriers to training followers on technology, residual messages can influence future training cohorts. It is always important to make certain that all involved in the training course have a clear vision of what is learned and goals to be accomplished so that time does not seem as if it is wasted (Abuhmaid, 2011, p. 202). Finally, "at the organizational level, the barriers include cost, relevance, training effectiveness and technical support while time, content and training effectiveness are the main barriers identified by employees" (McKay & Vilela, 2011, p. 311). Therefore it is necessary to communicate the intentions to all levels of leadership and constituents (McLester, 2012).

Technology Applications

As the Millennial Generation begins to join the workforce across the United States, we see an increase of an even younger generation adopting the use of technology. Recent research suggests "75% of all 12-17 year old students own their own cell phones,

and 66% of those students owned a cell phone before they turned 14 years old" (Hill, 2011, p.23). As generations of employees join organizations with increased intrinsic knowledge of technology, the potential need and ability to use technology devices to enhance organizational demands could grow. Currently "mobile devices offer four types of support during the conduct of daily work: searching for information, taking notes, recording data, and communicating with others" (Akkerman & Filius, 2011, p. 328). Along with these four types of support, mobile devices can offer connectivity anywhere there is a cellular signal, collection of data (readings, discussion boards, photos, and emails), and has varied e-communication capabilities (Alzaidiyeen, 2011; Garrett & Jackson, 2006). In studies conducted by Alzaidiyeen (2011), results show that younger populations are accepting of technology through both gender and age variations.

More importantly, "mobile learning (m-learning) enables learning independently of place and time, ubiquitous, through wireless networks and mobile devices, such as personal digital assistants (PDS), cellular phones, smart-phones, and mp-3 devices" (Gafni, 2009, p. 359). As stated, the increase of mobile technology continues to be on the rise, and developers are matching that need. It is also suggested that due to the ubiquitous use of the PLDs, the developers keep in mind that their users are working on limited cellular networks.

If leadership intends on using technology to communicate with their Millennial generation, they will need to have intuitive applications that require little student training and take full advantage of the software. Information such as schedules and organizational communication need to be readily accessible (Gafni, 2009). Technology will "allow

continuous access to resources for situated, responsive, and reflective learning" once leadership learns the technology applications (Akkerman & Filius, 2011, p. 339).

Technology Software

The use of organizational applications is only available if leadership states their clear goals for implementation as stated previously (McLester, 2012). The software is also seeing an acceptance from leaders where the term "technology" is being redefined. If software continues to be developed in support of organizational technology, we will see a cultural shift where the followers "will be in the driver's seat where they can have access to information that will help them learn at their speed" (Kamenetz & Caplin, 2010, p.74). Avolio and Kahai (2002) suggest that there are four lessons to be learned about communication between virtual teams. These lessons are as follows:

- Everyday messages, mundane or otherwise, exchanged between team members represent the essence of the relationship between team members.
- Feelings of personal closeness that characterizes strong relationships does not appear to be precipitated by communication with personal content; coworkers with the strongest personal relationships exchanged significantly more task related messages than did coworkers with the weakest personal relationships.
- Team members with strong relationships communicated more often, but the length of their messages were short, perhaps attributable to the degree to which they had developed a shared understanding or shared assumptions about the meaning that was being conveyed.

- Virtual teammates developed and strengthened relationships by proactively focusing on problems or challenges related to work (Avolio & Kahai, 2002, p. 334).

Although these four lessons assist leadership in producing an effective team the authors have also stated that the optimum leadership style used is based on the individual leader's personal choice.

Using technologies to communicate with leaders and followers at the organizational level could have the "potential to lead to increased productivity and a decrease in the knowledge gap" (Meloni, 2010, p.24). It is to the advantage of leadership to begin forecasting for such software because "by 2016, sales of tablet computers (roughly a third being iPads) are expected to hit 375 million with 760 million in use worldwide, according to Forrester Research, Inc. look back at 2011 when 56 million tablets were purchased worldwide" (Rivero, 2012, p.9).

E-Leadership Theory

There is a need for an emerging leadership style called e-leadership which is "a process of social influence where, mainly with the help of advanced IT, changes are brought about in attitudes, feelings, thoughts, behaviour and organization" (Savolainen, 2013, p. 289). E-leaders must also take the role of "team liaison, team direction setter, and team operations coordinator" (Avolio & Kahai, 2002, p. 335). Historically, the concept of e-leadership stems from the 1970's when the first technologies began to influence how organizations function. According to Avolio, Kahai, and Dodge (2000), "advanced Information Technology includes, but is not restricted to, **e**-mail systems,

message boards, groupware, GSS, knowledge management systems, executive information systems, and collaborative customer relationship management and supply-chain management systems" (p. 616). As an organization, these aforementioned technologies can also help making collective decisions by way of facilitating communication (Tashiro et al., 2012, p. 601).

The need for change in an organization's leadership is due to the way technology has altered the "patterns of how information is acquired, stored, interpreted, and disseminated - and that, in turn, alters how people are influenced and how decisions are made in organizations" (Avolio & Kahai, 2002, p. 327).

Avolio and Kahai (2002) also suggest that there are some major issues that have and will impact e-leadership in organizations. These issues are as follows:

- Leaders and followers have more access to information and each other, and this is changing the nature and content of their interactions.
- Leadership is migrating to lower and lower organizational levels and out through the boundaries of the organization to both customers and suppliers.
- Leadership creates and exists in networks that go across traditional organizational and community boundaries.
- Followers know more at earlier points in the decision-making process, and this is potentially affecting the credibility and influence of leaders.
- Unethical leaders with limited resources can now impact negatively a much broader audience of potential followers.

- The amount of time and contact that even the most senior leaders can have with their followers has increased, although the contact is not in the traditional face-to-face mode (Avolio and Kahai, 2002, p. 333).

Leadership is constantly being influenced by technology, and leaders need to become more positive about the implementation and actions when empowering followers to use technology. Leaders need to remain ethical and follow the "demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such conduct to followers" (Avolio, Walumbwa, & Weber, 2009, p. 424). The concept of information and communication technology (ICT) is of growing concern for many organizations. Leaders now need to become more aware of their ability to communicate with team members and clients via technology (Do-Hong, Wilkins, & Dunaway, 2011). For many organizations, the preferred means of communication is virtually based, and is most prevalent in the frequent use of email to communicate organizational strategies. Leaders that do not begin to see the change that ICT brings to their company could possibly see institutional failure due to the lack of leadership transformation (Ghilic-Micu, Maracine, Stoica, & Ciocan, 2011).

Fortunately for many leaders, the basic features of leadership remain the same. Currently, the skills learned in leadership theory are still applied in e-leadership such as people centered, interpersonal skills, risk taking, and transformational leadership traits (Gurr, 2004, p.116). The successful e-leader needs to remember to build relationships and trust at a faster pace than when traditional face-to-face communication (Avolio & Kahai, 2002, p. 331). ICT provides new challenges to e-leaders as the use of technology creates

increased communication. The e-leader also needs to be able to make quick decisions as virtual communication prompts immediate response rates. Another issue facing e-leaders is the degree of employee satisfaction from communicating from a distance instead of face-to-face. A larger sense of community needs to be built in organizations which function on remote employees, as they could feel isolated due to the lack of face-to-face communication (Gurr, 2004).

One of the benefits of ICT can be the use of input facilitation that allows for a wide range of employee input. It is cautioned that leaders know when to take a top-down approach to leadership as the macro view of the organization's direction can seem to lack focus with too much input. The use of technology can be found in most businesses, but the use of virtual teams is becoming a way that organizations can build overall efficacy. Leaders must remember that e-leaders should be able to "take the relationships among organizational members defined by an organization's structure and enhance them. The key difference however, is that e-leadership takes place in a context where work is mediated by information technology" (Avolio & Kahai, 2003, p. 326). Virtual teams have the ability to assist organizations in the managing of both "high-level complexity of decision-making processes" and communication between organizations' members (Jawadi, Daassi, Favier, & Kalika, 2013, p.200).

Although an organization can benefit from the use of virtual teams, it is important for its leaders to remember the context and environment in which these teams function and the lack of traditional relationships that follow. Allowing for balance in relationships will help the e-leader when working both face-to-face and virtual (Avolio and Kahai,

2002). The adaptive structuration theory (AST) suggests that leaders adapt to their organization to increase efficacy as AST promotes human behavior by looking at the organizational structure such as ICT. If leaders adapt the AST theory, the framework used to develop leadership theory will align with ICT and promote positive human behavior. Leaders should also promote positive feedback because, "with the touch of a button, the employee can contact the top management team, send an angry message to an entire workforce, or, as in one case, contact the editor of a local news show with a story about the incident (Mohammad, 2009, p. 8). E-leaders need to continue the promotion of communication in an ICT environment because it can promote positive group performance, trust, and organizational efficacy (Gurr, 2004).

Jameson's (2013 a) review of current leadership practices provides an understanding of growing themes in higher education called e-leadership. A search using scholarly databases only provided a few peer reviewed articles focusing on the topic of e-leadership (Jameson, 2013 a). When conducting a search using key terms related to the field of leadership, Jameson (2013 a) found a plethora of articles that related to leadership (technology, instruction, design, etc), yet none of these articles specifically focused on the ability of leaders to deal with theory that deals with technology integration for leaders. Due to the complexity of e-leadership such as: leadership, governance, management, finances, human resources, management of information systems, administration, etc., there needs to be more discussion and research on how leaders should promote best practices of e-leadership.

One of the most important leadership theories currently used is servant-leadership that was founded by Robert Greenleaf in the 1970's. A leader's ability to integrate leadership theories while leading virtual teams is vital (Van de Bunt-Kokhuis & Sultan, 2012). Greenleaf (1991) finds that a servant leader is one who is there to first serve those who follow first in a conscious way (Greenleaf & Spears, 2002; Van de Bunt-Kokhuis & Sultan, 2012, p. 1). Finally, there are two types of leadership that virtual leaders should use: transformational and transactional leadership (Chang & Lee, 2013).

An increased awareness of e-leadership or use of modified leadership theories can greatly improve organizations (Gurr, 2004; Sosik et al., 1998). According to Cowan (2014) e-leaders should remember seven guiding principles: trust, presence, social-emotional, promotion, communication, contextual, technology, and cultural norms. The e-leader should build trusting relationships with all members of their team. These feelings of trust can create a team that can potentially function at optimal levels.

Next, e-leaders should exude a sense of presence when working in virtual teams. Having a sense of presence can promote communication between team members and assist in creating a positive virtual environment. The social-emotional mentality of the team is also very important to monitor. E-leaders need to find a way to connect to each member of the virtual team and "genuinely express appreciation, acknowledge team progress and completion of assigned tasks, take personal responsibility for mistakes, and provide transparency whenever possible" (Cowan, 2014, p. 316).

Constant interaction with virtual team members is not only appreciated but it also helps in promoting the overall health of the team. The e-leader is responsible for the

interaction between team members which requires a level of coaching each member of the virtual team to be a positive contributor of the team. Avolio and Kahai (2002) suggest that a "participative e-leader may set up chat rooms to solicit opinions from members of a global virtual team before making any final decisions" (p. 326). Each virtual team member must know that their e-leader is available via many different ICT modes, such as phone, email, instant messaging, or even video chat (Avolio & Kahai, 2002; Cowan, 2014). The e-leader must know when and how to use each of the these ICT modes of communication and that there needs to be a periodic use of communication that virtual team members can count on whether anonymous or not. Frequent use of ICT modes can not only promote communication with virtual team members, but assure feedback is status quo for the virtual team. In doing so the e-leader must be cognizant of their response time with virtual teams keeping all responses down to 24 hours. The shortened response time can provide a sense of awareness between the e-leader and virtual team members.

Communication between the e-leader and the virtual team can keep team members connected to their team. E-leaders must not forget that when communicating information with their virtual teams that they "lack the visual cues from face-to-face interactions, they rely on communication media other than face-to-face interactions to share information and connect with one another" (Cowan, 2014, p.317). Although the use of some ICT modalities is more frequent, such as email, they might not be enough to get the message across. It is suggested that e-leaders use multiple ICT modalities to assure

that messages to virtual teams are transmitted effectively and does not overload virtual team members with one modality.

The reduced availability of face-to-face communication should not prevent e-leaders from communicating synchronously with their virtual team members. Whenever possible, the e-leader should find ways to find available technology that will provide a synchronous dyadic conversation and use multiple communication channels reducing the opportunity for misinterpretation of communication. Optimally, e-leaders would use video-chat technology (face-time) to ensure that both verbal and nonverbal communication is available. Leaders must also remember that when engaging in e-leadership discourse, time and lack of nonverbal communication can turn into a self-fulfilling prophecy and cause the follower to misinterpret the leaders feelings towards the follower communication (Avolio & Kahai, 2002, p.331). The use of automated time released ICT communication from key leaders can also create a more engaged virtual team and keep the organization's vision in sight.

Cross-Cultural Communication

Linehan (2012) suggests that Cross-Cultural communication can be enhanced by use of "communication and creation of bridging and linking networks, both on a formal mentoring basis and in creating relationships, may be precursors to intercultural competence"(p.59). e-leaders need to remain sensitive to the cultural norms of virtual teams. Research needs to take a look at culture when studying leadership by considering:

- The cultural implicit theories of both leaders and followers.
- Enacted behaviors and how they are interpreted

- The broader cultural context in which leaders and followers interact
- The duration of the leader-follower relationship
- Exogenous events that may trigger different interpretations of leadership, such as instability, uncertainty, and growth (Avolio, 2007, p. 28).

It is important for e-leaders to "consistently assess for conflict by understanding the team's culture, demographics, range of skills, level of work intensity, and team longevity" (Cowan, 2014, p.317). Leadership needs to have a grasp on their ability to embrace intercultural leadership in order to become effective e-leaders. Sinclair (2014) suggests that not only do e-leaders define the outcomes of the virtual communication process, but so do the followers involved in said communication. E-leaders need to be aware of their followers' perceptions and cognizant of cross-cultural attitudes towards communication and technology (Avolio, Kahai, & Dodge, 2000; Sinclair, 2014).

Followership

According to Kelley (1992) "nearly 80% of people function as followers who have been growing stronger whereas leaders have weakened in the last 2 decades" (Malakyan, 2013, p.6). Human history has always favored the leader and linked the abilities of leaders to organizational profits as far back as the 1700s, but we are seeing a change in rights of followers as human capital. The study of followership has grown in popularity in the past half century due to both conflicts between leaders and followers and the relationships both leaders and followers have. It has also been suggested that leaders cannot functionally lead all of the time, and thus cannot always be a leader. If we have a leader that promotes followership, then creating efficient followers can offset the

act of being a leader and further the mission of an organization. Various leadership theories have been reviewed and none have effectively described followership traits with the exception of authentic leadership until the beginning of the 1990s (Malakyan, 2013).

Leadership has the responsibility to their followers and knowledge that many followers are waiting for their leaders to develop a path for advancement within their organization. Having the ability to promote follower direction will initiate change, but Ryan and Currie (2014) suggest that leaders who allow follower strengths will enrich the interpersonal relationship and take the leader imitative to the next level. Developing a follower is difficult as the characteristics of a follower are rooted in the follower's ability to find the need for an organization's ability to succeed.

Organizational development is a direct reflection of not only the leaders intrinsic desire to succeed, but it is also found in the follower's ability to connect their work with the organizational goals. Leader's abilities to increase performance via reviews have become commonplace in organizations. If a follower has the ability to work with their leader to identify areas of improvement in organizational goals than the interpersonal relationship has the potential for growth (Ryan & Currie, 2014). Although organizational goals are directed by the initiatives set by leadership, it is important to credit those followers who actively produce solutions to the success of the organization. Followers that celebrate productivity in a way that makes others want to take part in meaningful discourse can produce a group of effective followers (Ryan & Currie, 2014).

When reviewing the role of followership, the association for most literature is to depict the follower as a passive and dependent member of an organization

(Hoption, 2014). Unfortunately, leaders who view followers in this connotation are faced with difficulty in persuading their followers to work with them in accomplishing the organization's goal. Congruently, a follower is suggested to be able to have traits such as "helping leaders, questioning leader assumptions, taking initiative, granting legitimacy to leaders, and spreading enthusiasm to coworkers as examples of active followership behaviors (Hoption, 2014, p.131).

In developing an engagement strategy, leaders need to become proficient at strategic planning, allowing for followers to visualize the goals set by an organization. Unfortunately, most leaders lack the follow-through necessary to implement the planning needed to produce successful teams (Brumm & Drury, 2013). Leadership should also remember that empowerment of the follower can make the biggest difference in creating an environment where dyadic conversations function best when both leader and follower have the equal ability to participate in discourse. During the process of empowerment, the follower has the ability to see the leader as an authentic leader, and thus develop "high value congruence between the follower and leader" where values and missions of the organization can be explored (Brumm & Drury, 2013, p.17). For some leaders, the expressed desire to become authentic leaders can produce a followership that is rooted in autonomy and shared organizational goals. A strategic leader is one who can provide for and anticipate a logical path for organizational goals which involve both leaders and followers (Brumm & Drury, 2013). When followers have an understanding of the goals set forth by an organization, it is then possible to reduce barriers that leaders

unknowingly produce based on logical progression instead of practitioner experience indicating strategic decision-making.

Leadership should also have a firm understanding of followers' typologies to make inclusion into organizational goals more effective. Kellerman (2008) states that leaders need to use strategic leadership theory in their leadership role (as cited in Brumm & Drury, 2013). According to Ireland and Hitt (2005), the strategic leadership theory allows for leaders to "anticipate, envision, maintain flexibility, think strategically, and work with others to initiate change that will create a viable future for the organization" (Brumm & Drury, 2013, p.18). Although the strategic leadership theory is fundamentally effective in producing healthy organizations, the issue of leadership execution still impedes an organization's ability to progress. One of the main issues that leaders face is the inability to follow through with the organization's plans which causes frustration with followers. Kellerman (2008) has divided followers into five categories:

> Isolates are completely detached from leaders and other followers with no interest in having input. Bystanders, Participants, and Activists have increasing levels of engagement. The continuum ends with Diehards who are defined by their dedication, including their willingness to risk life and limb. (as cited in Brumm & Drury, 2013, p.19)

It is important to note that according to Kellerman (2008) followers continue to have a subordinate relationship with leaders no matter which category followers are placed (as cited in Brumm & Drury, 2013, p.19).

When followers are engaged with a leader who is ready to give input and receive feedback, the follower has an increased potential for becoming better followers and leaders can become better leaders. Research conducted by Brumm and Drury (2013) show that with organizational planning and empowerment of followers, leaders create positive followers. The follower's "decision to follow a leader may be a more active process, based on the extent to which the leader is perceived as representing the follower's values and identity" (Avolio, 2007, p.26).

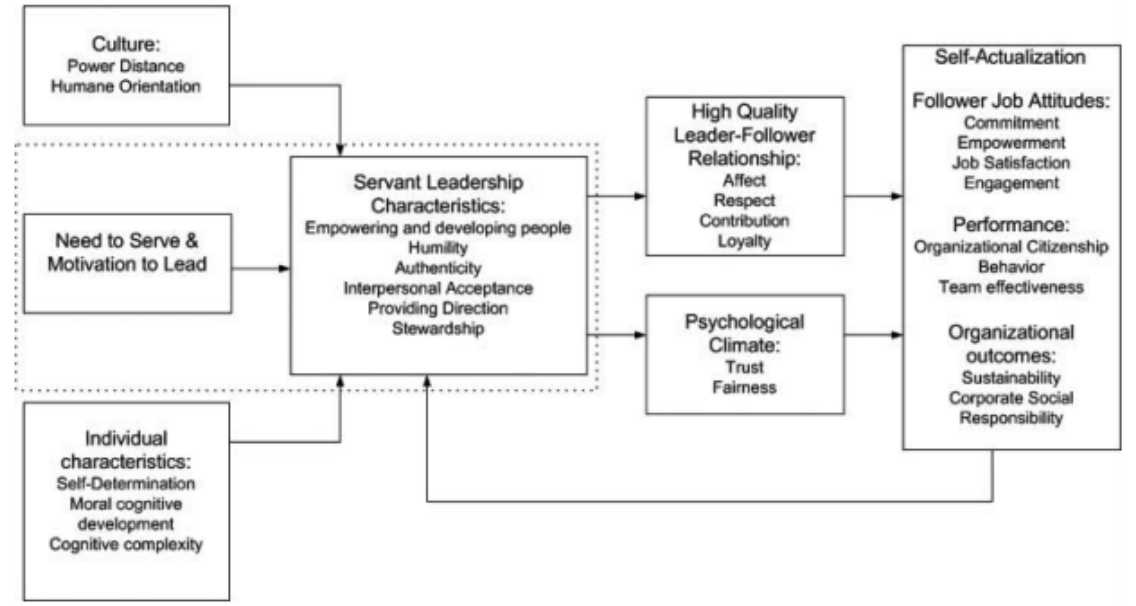
It is suggested that a new approach be used which views both leader and follower as complementary roles of an organization called the leader-follower trade (LFT) approach. The LFT approach would suggest that followers trade their functions with leaders in order to develop "their interpersonal perspectives, foster interpersonal relationships, and maximize mutual effectiveness" (Malakyan, 2013, p.11). If the LFT approach is followed, then the mutual influence from both parties should result in the increased effectiveness of the organization. When the LFT approach is compared to transformational leadership, we see that the empowerment of followers, as suggested by transformational leadership, can be developed into a follower centered development allowing the follower to lead and produce solutions for organizational development. Avolio (2007) states that "followers scoring high in achievement orientation, self-esteem, and risk-taking were more likely to be drawn to transformational leaders" (p. 26). We also see that when LFT is compared to the servant leadership approach, the leader is seen as serving those who follow. LFT would suggest that both the leader and follower are constantly exchanging their position of leader and follower in order to accomplish

organizational goals. Overall the best predictor of effective leadership are grounded in the values and culture embedded in the organization which are reflected by everyone from executive to entry level employee (Avolio, 2007).

Servant Leadership

"Servant-leadership emphasizes increased service to others, a holistic approach to work, promoting a sense of community, and the sharing of power in decision making" (Spears, 1998, p.3). The servant leader is responsible for the development of the individual thus creating an individual that promotes followers that have mutual respect of their leaders and organization (De Clercq, Bouckenooghe, Raja, & Matsyborska, 2014). The use of the servant-leadership theory in virtual teams can promote a more autonomous follower via such qualities as "listening, forgiveness, empathy, humility, care for people and the organization, healing of relationships, awareness, persuasion, courage, giving feedback, conceptualization, foresight, stewardship, authenticity, commitment to the growth and empowerment of others and building community" (Van de Bunt-Kokhuis & Sultan , 2012, p.2). Von Dieredonck (2011) suggests a model for servant leadership (Figure 1) that provides a proposed increase in engagement for followers and organizational personnel sustainability.

Figure 1. A Conceptual Model of Servant Leadership



(Van Dierendonck, 2011, p. 1233)

Building the mutual respect between leader and follower can also build social capital through goal congruence and social interactions. Leaders can build their social capital by increasing their personal knowledge between leader and follower (De Clercq, Bouckenooghe, Raja, & Matsyborska, 2014). Once leaders have built their social capital, the leader can begin to understand and utilize the unique qualities that each follower possesses creating a positive and safe environment for followers' ideas and their high level of engagement in the organization. The safe environment created by a leader through goal congruence and social interaction also creates concrete terms that contribute to a larger understanding of the organization's goals and ways each follower's unique abilities can contribute to the organization (De Clercq, Bouckenooghe, Raja, &

Matsyborska, 2014; Shinsky & Stevens, 2011). De Clercq et al. (2014) found that "servant leadership related positively to work engagement (ß = 0.363, p < .001)" (P.197).

Leaders that focus their attention to the development of their followers first and the needs of the organization second have the potential for increased organizational growth (De Clercq et al., 2014) . While working in virtual teams, the leader must make sure that followers do not suffer from isolation. Tajfel and Turner (1985) state that a leader can promote individuals from virtual teams by fostering the identity of both the individual and the group thus promoting team values via virtual team discourse (as cited in Byer & Seigler, 2012, p.430). The leader should also begin to develop a discourse within the virtual team allowing for the followers to establish a humanized relationship with their leader. Implementation of synchronous and asynchronous communication in virtual teams can promote empowered followers as they are allowed real-time and personal time to access virtual team information. The use of both synchronous and asynchronous communication can also increase the response rate from less active followers.

"A leader ventures to say, 'I will go; come with me!' A leader initiates, provides the ideas and the structure, and takes the risk of failure along with the chance of success" (Greenleaf, & Spears, 2002, p.29). According to Yukl (2013) "leadership is the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives" (Schneider, Gardner, Hinojosa, & Marin, 2014, p.413). It is not only the process that allows for leaders to accomplish organizational goals, language that is used

by the leader has an equal effect in the way leaders include or exclude members such as the use of "we" or "I" when referring to the collective (Schneider et al., 2014, p.413).

By taking a more emotional approach to communicating with their followers, leaders then understand the follower's perspective. The act of empathic communication can potentially create a sense of involvement and colleague-type atmosphere and increase the amount of feedback found in the leader-follower relationship (Schneider et al., 2014). DeRue and Ashford (2010) state that,

> leadership identity is constructed in organizations when individuals claim and grant leader and follower identities in their social interactions" suggesting that the "claiming-granting process, individuals internalize an identity as leader or follower, and those identities become relationally recognized through reciprocal role adoption and collectively endorsed within the organization context. (Schneider et al., 2014, p.415)

Healthcare organizations are constantly working on system-wide communication that creates a positive working environment for both leaders and followers. "Medical engagement then is seen as vital to organizational performance and the implementation of change. Without it, care continues to be delivered in disconnected clinical pockets, and coordinated action to produce system-wide improvement is prevented" (Swanwick & McKimm, 2011, p. 23). Leadership has a responsibility to engage followers by creating an environment that sets a direction and manages constant change found in healthcare organizations. Servant leadership theory has been instrumental in helping healthcare leaders in benefiting from their ability to create engaged followers. It is important that

leaders focus on promoting the idea of people because a leader who is interested in followers' needs should get healthcare organizations through difficult transitions.

Holloway and Kusy (2010) outlines a study completed by Rosenstein and O'Daneil (2005), stating that "70 percent of errors are caused by communication problems in teams, 20 percent of respondents reported patient harm results from incivility, 25 percent reported disruptive behavior connected to patient mortality, 49 percent viewed intimidation related to medication errors" (p.25). The ability for leaders in healthcare organizations to grow productive work environments is based on how leaders see their followers. Followers are interested in both how they are treated and the compensation for their position.

Followers that are engaged in their work are those that not only have satisfaction at work, but these followers also find pleasure in activation. Snell (2011) suggests that followers that actively engage in their work are those who not only have a personal attraction to their work, but also have a strong working relationship with their leader and perform at the highest level. Research has found that followers who exhibit "both the behaviors towards colleagues and the behaviors towards the organization, show a positive relationship with followers' active engagement (Snell, 2011, p.8). "Followers' active engagement refers to a set of behaviors related to the explicit requirements but also to the non-expressed expectations of the leader…" (Gatti, Cortese, Tartai, & Ghislieri, 2014, p.3). Gatti (2014) also finds that the follower's level of active engagement can have a positive relationship with extroversion.

Further explaining the interaction between the leader and follower, empirical evidence suggests that the emotional expressions from a leader are more important to followers than the message that is being sent to them. The exploration of leadership mood and follower perceptions has suggested that positive emotions are causal to positive leadership traits. Equally we see that mood contagion has the same effect on follower perceptions. When leaders express positive emotions during a stressful situation, they are perceived as having less intensity. These leaders' emotional expressions can potentially have a strong correlation to follower anxiety levels and organizational development. Schneider et al. (2014) find that although exploring the emotional rational to leaders is important, many leaders state that their actions are a direct representation of their industry and do not focus on the emotions used when communicating with their followers.

Both leaders and followers should see their position as one that supports the organization and that leadership is a property of the group instead of one individual. Collinson (2005) states "distance provides significant opportunities for followers to 'construct alternative, more oppositional identities and workplace counter-cultures that express skepticism about leaders and their distance from followers'"(as cited in Grint, 2010, p.94). Such distancing can increase the amount of follower responsibility and decrease organizational outcomes. Leaders need to be able to effectively facilitate the goals of the organization with an uplifting vision and promotion of inclusion of all team members. Leaders and followers must also remember not to promote the use of a scapegoat when performance is lacking within a group.

Leaders must be aware of the status of their followers and constantly making sure that the voice of those followers is being heard. Wong and Page (2003) suggest that leaders that are opposed to servant leadership:

> practice of sharing power and empowering others, fear that subordinates may use this newfound freedom and power against the leadership. In order to feel secure in their position, they resort to coercive tactics to keep subordinates under control. Paradoxically, abuse of power only influences their sense of insecurity, because they will soon discover that their potential to attract and influence followers actually decreases in proportion to their attempt to control through intimidation, deception and manipulation (Wong & Page, 2003, p.2).

For if the voice of the follower is not being heard, then the leader could be promoting the loss of either the leader or the follower due to the lack of safety and security. Hansbrough (2012) states, "follower leadership perceptions are, in part, guided by leadership schemas, which are also known as implicit leadership theories" (p. 1533). Leaders have also been reported to be better leaders when the group was troubled, thus putting the perceptions of the group on the follower instead of the leader.

Transformational Leadership

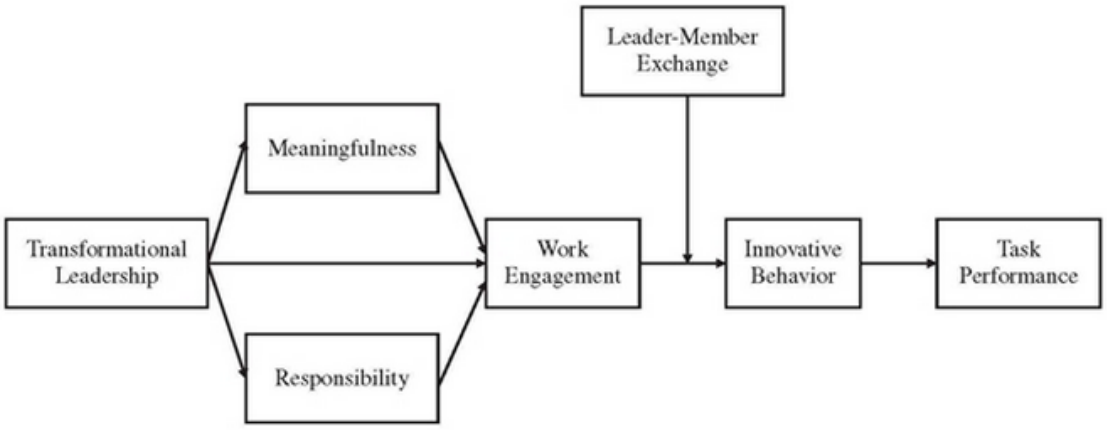
Transformational leadership is summarized by Bottomley, Burgess, and Fox III, (2014), as leadership that promotes personal qualities of the followers that will inspire progress in team members. The transformational leader is also "described as being optimistic, hopeful, developmentally oriented and of high moral character" (Avolio & Gardner, 2005, p. 329). Research also suggests that "transformational leaders have an

affinity to keep anxiety levels to a minimum, and they tend to be able to control their emotions, even in difficult situations" (Balthazard, Waldman, Thatcher, & Hannah, 2012, p. 254). The transformational leader can be characterized by the "4 I's of transformational leadership," these characteristics include "idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration" (Bass & Avolio, 1994, p. 112). The transformational leader must also take a positive outlook on those they are leading. Bass and Bass (2008) state that it is the leader's responsibility to "point to mutual interests with followers. They engage followers closely without using power, using moral leadership" (p. 619). It is important to perceive people as: "trustworthy and purposeful; everyone has a unique contribution to make; and complex problems are handled at the lowest level possible" (Bass & Avolio, 1994, p. 113). To further engage followers, leaders who exhibit transformational leadership can promote followers by empowering the human potential. Avolio (2007) states that the correlation between transformational leadership and performance had a ".42 in business versus one of .51 in military settings" (p. 27). In the end, the transformational leader culture should feel like a family atmosphere where people feel as if they can debate and engage in discourse for the betterment of the organization.

According to Sosik et al. (1998), "transformational leaders use intellectual stimulation, promote consideration of different viewpoints, and inspire collective action to enhance group potency and effectiveness" (p.493). Leaders that can be described as transformational leaders have a better chance of increasing their groups potency when the leader promotes interdependent tasks which require group members to work

collaboratively on projects. Aryee, Walumbwa, Zhou, and Hartnell (2012) has suggested a model for transformational leadership that focuses on the development of the group and follower engagement.

Figure 2. Model for transformational leadership



(Aryee, et al., 2012, p. 3)

When taking a look at the characteristics of a transformational leader, confidence towards the group's goals has shown to promote group potency (Sosik et al., 1998, p.496). The transformational leader can also transform those in their organization by use of "powerful, positive vision, and intellectually stimulating ideas, attention to uplifting the needs of followers and by having a clear sense of purpose" (Avolio & Gardner, 2005, p.330). When surveyed, virtual team members prefer the actions of the transformational leader to that of a transactional leader (Chang & Lee, 2013, p. 989). It has also been stated that "transformational leadership provides significantly better results than transactional leadership" (Chang & Lee, 2013, p. 994). A leader serving a virtual team must invest in the well-being and promotion of not only the group but also the individual

by choosing solutions that include all members of the team via discourse to encourage the virtual team. It is also important for servant-leaders who work with virtual teams to realize that their followers are working in various types of settings and thus must be aware of the type of discourse used to communicate with their followers which may differ from traditional communication formats (Van de Bunt-Kokhuis & Sultan, 2012).

For some organizations, the idea of being an individual in a group dynamic can be celebrated by some leaders; it can also become a problem for some groups. How an individual reacts in a group depends on the level of acceptance an individual has with a selected group (Haslam, Jetten, Reynolds, & Reicher, 2013). An effective leader is responsible for fostering the development of both the individual and that of the group if the group is to become effective as it progresses through its life cycle. Through the introduction of group interaction by the leader, dynamic interactionism theory can be used to assist the leader in developing both social and individual aspects of the group. The creation of activities that produce a sense of association and encouragement by leadership will increase the sense of selfhood by the group members (Haslam et al., 2013). During these group activities, it is necessary for the leader to produce a shared understanding of all norms using concrete terms that all group members can understand which will help all group members define who and what the group is. The ability for a leader to produce both group and individual identity has a positive correlation between individuals and their socialization to a new group.

It is important for leaders to see the toxic signs of followership as defined by Holloway and Kusy (2010) where “40 percent decrease their work effort, 50 percent of

employees believe they are not competent to respond to verbal abuse, 47 percent decrease time at work, 68 percent report a decline in performance, 78 percent report less commitment to the organization, 12 percent of victims of abuse quit" (p.25). To back up these findings the Level Playing Field Institute found that followers that felt humiliated accounted for the number one reason for leaving an organization (Holloway & Kusy, 2010). Research completed by Holloway and Kusy (2010), found that 94 percent of leaders say they have worked with someone that they considered as being toxic, and yet many organizations support toxic behavior from those who exhibit skills that are unique or highly productive to the organization. Leaders need to be aware of the underlying toxic behaviors such as "shaming, passive hostility and team sabotage" (Holloway & Kusy, 2010, p.26). These toxic follower traits can be hard to spot by leaders and can affect all levels of a healthcare organization.

Agho (2009) states, "more than 98% of 302 respondents agree with statements regarding the influence that effective followers have on the organization and on the work group" (as cited in Snell, 2011, p.3). The face of followership is changing in organizations and those who have discourse with leadership are becoming highly sought after. These proactive followers have been given two main dimensions, the first being an independent critical thinker and the second having active engagement. The independent critical thinker is one who has the ability to work independently from the leader and produce innovative ideas that grow the organization. The actively engaged follower is one that can work not just independently, but someone that has the ability to be a self-starter.

According to Tonvongval (2013), the "application of transformational leadership style by managers is crucial to improve operating performance and employee engagement" (p.37). A study completed by Agho (2009) states that "more than 98% of 302 respondents agree with statements regarding the influence that effective followers have on the organization and on the work group" (as cited in Gatti, 2014, p.3). An engaged employee has many benefits to both the employee and organization. The main benefit to organizations is the willingness to provide a desire to succeed and promote the organization (Getti et al, 2014; Tonvongal, 2013). These employee desires for success can result in an increased earnings per share for the company as well (Tonvongval, 2013).

The findings in this section show that the attention placed on leadership is just as important as followership in organizations. Recent studies outlined in this section promote the idea that there are positive relationships with the development of leaders and follower engagement. The use of e-leadership theory can learn from these findings and should improve the virtual team when focusing on follower engagement.

As technology advances, educators see the need for the constant updating and integration of technology into their pedagogy. Social and web-based technologies have made communication in a virtual environment empowering for both leader and follower. Followers engaged in virtual environments become "fully integrated in mind, body, and spirit" with both leader and other followers (Byer & Seigler, 2012, p. 430). In virtual environments, it is the leader's responsibility to assist followers in developing ethical reasoning, leadership, and ownership skills that follow Dewey's (1916) higher education views (as cited in Byer & Seigler, 2012). Technology continues to help organizations

grow and evolve. There can be an issue with trust building when organizations use technology-mediated interaction (Savolainen, 2013).

Leaders working in technology-mediated environments are characterized as technology-mediated leaders (TML), which is also "characterized by the geographical distance between the leader and the follower" focusing on communication that uses technology to share information (Savolainen, 2013, p. 288). The use of technology by leader and follower has changed how followers perceive a leader's power, interactions, and boundaries. According to Avolio and Kahai (2002) the release of information needs to be calculated and "leaders need to be prepared in the event that it has already been disseminated before" (p. 328). The use of online learning in higher education is continuing to grow with the use of various education technology pedagogies. The efficacy of education technology is reviewed when used to deliver leadership skills to graduate students (Sherman, Crum, & Beaty, 2010).

The increased use of education technology has prompted the review of technology usage to assist remote learners in understanding leadership theories discussed in graduate courses. Sherman et al. (2010) surveyed 88 students (with a 41% response rate) enrolled in graduate education leadership courses, and the results of the study show that 56% preferred a hybrid course that used both face-to-face and distance technology instruction. Of the respondents, 81% preferred online learning to face-to-face learning and 80% felt a strong connection to their faculty. Although the respondents felt that their online education was effective, they did not think that online education is a substitution for face-

to-face education. Finally, the study found respondents were not confident in indicating that their online courses provided enough training to implement change.

It is the e-leader's responsibility to continue to build relationships with their team members. The e-leader's ability to build a relationship without using the traditional face-to-face strategy can yield high returns between leader and team member respect and cooperation. It is suggested that e-leaders adopt both behavioral complexity theory (BCT) and leader-member exchange (LMX) when analyzing the efficacy of leadership in virtual teams (Jawadi et al., 2013). The use of BCT takes a look at the behaviors and roles e-leaders take in an organization. LMX allows for leaders to look at the relationship between the leader and the team member (Barbuto & Hayden, 2011).

As a leader it is important to understand what e-leadership is before it is examined at the practitioner level. Although the position of leadership directs organizations, the development of certain technologies provides a background position for those in leadership (Avolio et al., 2014). In this new background position, leaders are more focused on the social well being of an organization based on the behaviors of the follower and their integration of technologies. The leader that can engage their followers' in positive discourse and put their followers' interests first have a better chance at developing a strong organization (De Clercq, Bouckenooghe, Raja, & Matsyborska, 2014). The "e-leadership is a process that aims to guide behaviors toward fixed shared goals but which is simultaneously mediated by information and communication technologies" (Jawadi, et al., 2013, p. 200).

One of the more important roles that e-leaders face in virtual teams is the ability to collaborate, socialize, and communicate with virtual team members. The ability to build the interpersonal relationship with virtual team members allows for a high level of trust and relationship building within virtual teams. These relationships can be built by active positive task-related activities. An e-leader's ability to create a positive and creative virtual environment can have a positive relationship between the efficacy of the team and collective identity of the virtual team. These environments also need to be in line with the organization as they need to be "custodians of the corporate culture" (Bass & Riggio, 2006, p.101). Although a positive relationship is a necessary part of an effective virtual team, the attention to timely communication can also build team efficacy. The role of a transformational leader is also tasked with promoting the development of positive traits that benefit the organization.

Virtual Teams

The shift towards global business has created an increase in long distance teams. Some virtual teams have communication barriers due to the distance between team members that prevent effective leadership and business process. Virtual teams are defined as being "based on the number of locations (one or more) and the number of managers (one or more) to give rise to four categories of teams: teleworkers, remote team, matrixed teleworkers, and matrixed remote teams" (Avolio & Kahai, 2002, p. 335). Balthazard, Waldman, and Warren (2009) suggest that "virtualness can be treated as a continuous variable reflecting the degree to which a team uses technology-mediated communication

as opposed to face-to-face communication in its collaboration and in reaching its goals" (p.655).

In the healthcare field, we are starting to see specialists virtually communicate with smaller teams located in remote locations (Avolio & Kahai, 2002). Quisenberry and Burrell (2012) state that "with the advent of technological advances, acquisitions, and globalizing operations, leaders of various organizations are discovering the need to lead outside of the traditional face-to-face leadership scenario and are transitioning to leading in a virtual environment" (p.98). Barnwell, Nedrick, Rudolph, Sesay, and Wellen (2014) suggest that there are five traits that virtual team members must exhibit in order to adjust to potential communication barriers. These five traits are listed as being:

- High-quality technical skills - A strong skill-set is needed to minimize the need for outside assistance.
- Political and general sensitivity - Because of the strong chance of cultural beliefs and rituals, sensitivity is a must during interpersonal communication amongst team members.
- Strong problem-orientation - Problem-oriented people tend to learn and adopt whatever problem-solving technique appears helpful to successfully complete tasks.
- Strong goal-orientation - Projects in general are risky endeavors and team members may need to go above and beyond their regular duties in order to meet project objectives.

- High self-esteem - Individuals on the team should have high self-esteem. They should not be afraid to admit their mistakes or identify team members causing disruption on the team.

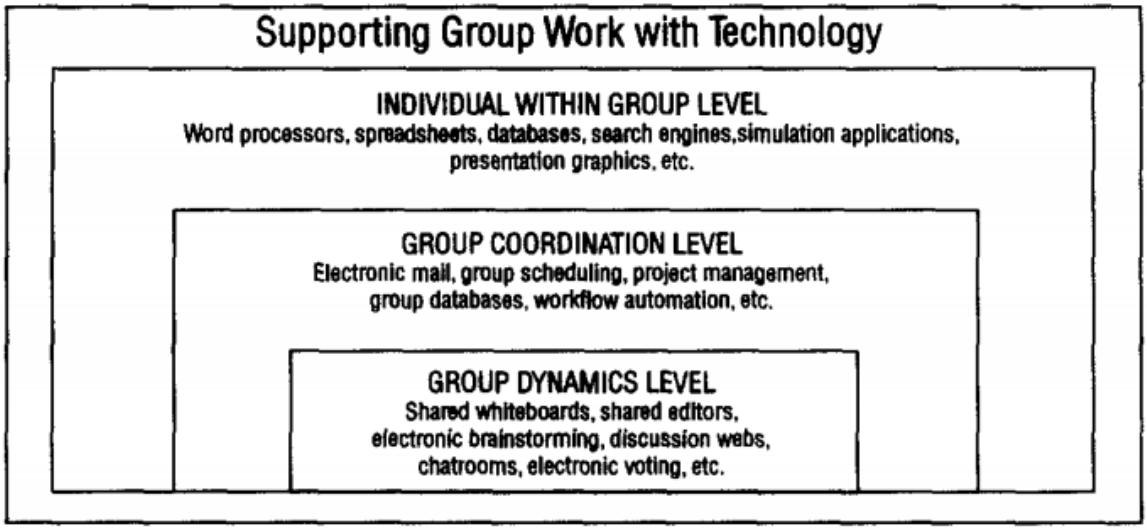
(Barnwell et al., 2014, p.2).

Morgan, Paucar-Caceres, and Wright (2014) further suggest that behavior complexity "has been identified in the operation of virtual teams in which effective team leaders have managed to deal with the seemingly paradoxical and sometimes contradictory situation of being able to perform multiple leadership roles simultaneously" (p.608). Avolio and Kahai (2002) suggest that "virtual teams who spent the first few occasions of interaction identifying who was participating in their team, clarifying their expectations, and how they wanted to work together had higher performance several months later" (p. 330).

Although these traits can assist a virtual team in developing communication, there are still other environmental issues that need to be addressed. These environmental issues are not limited to language, cultural norms, and policies. A leader of virtual teams must make sure that they work with environmental issues and "establish a team culture that takes into account the dynamic environment of global projects" (Barnwell et al., 2014, p.2). Virtual team leaders (e-leaders) should remember that "no matter how good the user's intentions, action based on misinformation can lead to medical harm. Electronic medical records deliver this information over greater distances and at greater speed than has ever been possible with paper records" (Chesire, 2014, p. 136). Tullar, Kaiser, and Balthazard (1998) suggest that "coordination level support can greatly increase the productivity of the organization for problems that can be solved through a

series of individual but interdependent processes" (p.56). These support levels are described in Figure 3 below which indicates the levels of group process within a virtual team.

Figure 3. Supporting group work with technology



(Tullar, et al., 1998, p.56)

The rhetoric used by leadership in virtual teams must be accepted by all cultures and subcultures involved in the virtual team communication process and thus improving the team's effectiveness (Avolio & Kahai, 2002).

Once leadership has developed a team culture, it is the role of the leader to foster relationships with each member of the team and keeping a close eye on first impressions and meeting expectations (Avolio & Kahai, 2002, Barnwell et al., 2014). These relationships can be difficult due to barriers that virtual team members can display. Challenges for virtual teams have been identified by Avolio and Kahai (2002) as being:

- The difficulty of keeping tight and loose controls on intermediate progress toward goals.

- Promoting close cooperation among teams and team members in order to integrate deliverables.
- Encouraging and recognizing emergent leaders in virtual teams.
- Establishing explicit processes for archiving important written documentation.
- Establishing proper boundaries between home and work (p.335).

Barnwell et al. (2014) suggests that these common barriers that could hinder a virtual team are: different points of view, role conflict, and implicit power struggles (p.3). A virtual team leader must also realize that remote locations can have culturally and contextually relevant procedures that produce a more effective remote location that is different from many other locations (Avolio & Kahai, 2002; Banwell et al., 2014). These relevant procedures need to be reviewed and fostered by the leader to promote harmony with the aggregate team.

The introduction of technology has increased both efficacy and communication of virtual teams across the globe. Virtual teams now have the ability to function autonomously from their headquarter location without being limited by time zones, work location, and response time(Barnwell et al., 2014; Quisenberry & Burrell, 2012). Although these technological advancements can increase some aspects of business, they can hinder traditional forms of communication that might be found during phatic communication (Quisenberry & Burrell, 2012). Such phatic communication is found in break rooms and can turn into impromptu meetings which have the opportunity to evolve into a revolutionary idea. Such stagnant communication patterns due to technology need

to be mediated by leadership in order to promote ideas and virtual team morale. “A regular telephone call or periodic video conference with members is helpful in the provision of leadership. These regular contacts may help to decrease the chances of isolation” (Barnwell et al., 2014, p.6). The increase in communication can also potentially increase the perception of social presence between virtual team members (Chen, Wu, Ma, & Knight, 2011)

Flow of information is necessary for any organization to function effectively. The leader of virtual teams must be cognizant of communication patterns and act as a liaison for continued and efficient communication. When virtual teams stay in communication, the leader should remember to promote a dependent virtual team member. Barnwell et al. (2014) suggest that virtual team leaders: remain relevant, have excellent written communication, relationships must be solid, the team must be empowered and self-directed, and be sensitive. The leaders of today need to be ready for the increased use of information communication technology. Leaders of virtual teams should begin coordinating communication between members of the virtual team that promotes both work and social needs (Cowan, 2014). Further, Schmidt (2014) indicates “that transformational leadership behaviors had a greater impact in virtual teams compared to face-to-face teams” (p. 184). Taplin, Foster, and Shortell (2013) suggest that in order to develop their virtual team, organizational leaders should:

- Encourage physicians to delegate leadership to others who have the time and skill
- Co-locate team members in order to facilitate needed communication

- Help teams map their work flow and clarify roles to improve functioning
- Positively influence the culture, composition, and size of teams, all of which affect team outcomes
- Involve teams in decisions that affect them, which in turn affects team member loyalty, cooperation, and retention
- Create a culture of safety where medical teams are more likely to reduce medical errors

The importance of communication between e-leader and virtual team can mean the overall efficacy of an organization, but the e-leader's ability to focus on sender and receiver feedback can assure successful virtual communication (Chen, Wu, Ma, & Knight, 2011; Morgan, et al., 2014). Avolio and Kahai (2002) suggest that e-leaders remain vigilant in ensuring team members are aware of task requirements and communication problems that could affect virtual team relationships.

Although organizations might have traditional hours of operations, the virtual team does not function on such time parameters. It is because of these non-traditional time parameters that virtual team leaders should be responsible for communicating with their teams and stay connected throughout the day and night (Cowan, 2014; Quisenberry & Burrell, 2012). Quisenberry and Burrell (2012) state that trust and establishment of relationships between e-leaders and virtual teams is necessary in order to increase performance (p.99).

Technology has made communication frequency in virtual teams more accessible due to the use of email, video, and instant messaging software. The virtual leader must

know how and when to use each of these ICT technologies to increase the efficacy of virtual team communication. Each time a leader communicates with virtual teams, the leader should use "proactive planning, regularly established meetings, and a clearly defined communication process that all team members understand and adhere to for timely and effective communication" (Cowan, 2014, p.314). It is important for virtual teams to remember that computer-mediated communication can increase communication between team members, and it can also remove much relied upon nonverbal cues that bring meaning to subtext during conversation (Morgan, et al., 2014).

According to Cascio (2000) there are three behaviors that virtual leaders need to be cognizant of when working with virtual teams. These behaviors outlined below are virtual-collaboration, virtual-socialization, and virtual-communication.

> "Virtual-collaboration considers the team's ability to exchange ideas constructively, create agreement among the team members, and develop a 'working document' that is interactive and used as a tracking tool." Virtual-socialization assesses the team's ability to effectively provide and accept feedback from their peers, volunteer for additional responsibilities, and share personal information appropriately. Virtual-communication includes timely responses to email messages, usually within 24 hours, ensuring that information is communicated effectively and understood by the members of the group, and acknowledgment when messages are received." (Cowan, 2014, p.314)

A virtual team is defined as a team that relies on "electronic communication as the primary method of interaction" (Cowan, 2014, p.314). Therefore, leadership that oversee virtual teams must be cognizant of all aspects of the team.

There are benefits to having a virtual team that ranges from expansion of operations to widening recruitment geographics to those potential employees fixed to certain global locations. If organizations want to compete in the global world of business, they must begin to implement virtual team development. Quisenberry and Burrell (2012) suggest that "knowledge can build more rapidly within shared and collaborative networks of professionals that use technological innovation to communicate, distribute ideas, benchmark, and share lessons learned from both success and failures (p.100).

Virtual teams provide organizations with a new modality in which to grow business, and as leadership adjusts to these virtual teams, it is important to adjust leadership style to that of e-leadership. Research found in this section indicates that although ICT is helping grow organizations, there are communication patterns that have a hard time translating. The use of multiple communication modalities can help to ensure messages are received, but the e-leader must be the hub of communication ensuring feedback is constant from both leader and team members.

Summary

The literature review was developed to provide a background to concepts of e-leadership, virtual team development within a healthcare organization context, and information communication technology relating to this study. Although e-leadership is described in this literature review, most of the literature is anecdotal due to the lack of

empirical research. This comprehensive literature review was conducted and used to define e-leadership theory in order to get a holistic perspective of the theory. The exploration of anxiety in this literature review has helped in understanding perceptions virtual team members might have while engaging in the use of ICT technology to facilitate their daily tasks. Digital communication although relatively new to organizations continues to increase in popularity due to the required mandates government regulations put on healthcare organizations. As more organizations move to digital communication and the increased development of virtual teams, there will be a need to focus on virtual team member engagement. The section on engagement and followership shows that there are many factors that e-leaders need to be aware of if they intend on advancing their virtual teams. Finally, the e-leadership construct was reviewed in both servant leadership and transformational leadership sections. These sections provided a background to the e-leadership theory and built a base for understanding effective e-leaders in a virtual team environment.

CHAPTER III

METHODOLOGY

Summary of the Purpose

The purpose of this mixed-methods research is to identify how the components of e-leadership theory can affect virtual team members in a healthcare organization and to teach leaders to develop virtual teams. The objective of this research was to use a case study and concurrent triangulation to define a way in which healthcare leaders can use e-leadership components to increase the efficacy of ICT technology in virtual teams.

In particular, this study measured and examined the perceptions of healthcare leadership staff involved in use of ICT technology. The study examined empirical findings from e-leadership constructs in relation to findings from a mixed-method case study conducted during the experiment. Finally, this research investigated the perceptions of ICT technology from a healthcare executive leadership perspective.

Research Design

A mixed methods case study approach measured the perceptions of e-leadership constructs from the executive leadership perspective in a healthcare organization. Procedures used in this study include the use of two surveys to measure servant leadership, transformational leadership, along with a group interview that use audio recordings, and note taking. Using a mixed methods approach in this study allows for an increased understanding of e-leadership constructs. Each participant involved in the study was given a letter and consent form prior to entering the study.

A case study format is used so that "the researcher explores in depth a program, an event, an activity, a process, or one or more individuals" (Cresswell, 2003, p.15). The use of a concurrent triangulation strategy to data collection and analysis was used in this study in order to "determine the validity of data and bias" (Krathwohl, 2009, p. 285). Triangulation works to confirm "data from different sources, confirming observations from different observers, and confirming information with different data-collection methods (Krathwohl, 2009, p.286). Uses of a mixed-methods design aid in the discovery of intended findings from the research, and identify any inconsistencies or contradictions found in the data (Krathwohl, 2009). Concurrent data collection also support the time frame constraints that the Healthcare Organization timeline operates under by allowing for simultaneous gathering of both qualitative and quantitative data. The mixed-method approach help to enhance and illustrate the perceptions of e-leadership from executive leaders of the healthcare organization. Both qualitative and quantitative data gathered from this study was designed to illustrate the perceptions of executive healthcare leaders (Krathwohl, 2009).

The sample for this case study was comprised of executive level leadership from each division of a rural hospital in Northern California. This sample allowed for a thorough understanding of executive leadership perceptions towards e-leadership within a remote rural hospital location. Reasons for using a mixed-method approach were to develop the e-leadership theory from anecdotal to empirical evidence. The combination of both qualitative and quantitative gave both a better understanding and a voice to e-leadership. The results of this study have provided a base for future research on e-

leadership and promotion of virtual teams. Research questions addressed during this study are as follows:

1. What aspects of e-leadership construct positively relate to executive healthcare leadership perceptions of ICT technology?
2. How should we develop e-leadership in a healthcare environment?
3. How do healthcare e-leaders develop strong relationships in virtual teams?

Participants and Research Site

The population consisted of ten executive leaders from a healthcare organization. Leadership staff is located at a Healthcare Organization in the western United States. The Healthcare Organization headquarters is located in an urban city environment with several hospital locations in the western United States focusing on emergence of health information technology. The sample hospital was chosen based on its commitment to developing health-related information communication technology and its geographic location as a rural hospital. Executive leadership is constantly communicating with headquarters located in a distant location from the sample hospital. Each member of the executive leadership staff comes from a different department of the rural hospital and thus provides a unique perspective to the study.

Sample case study is a representation of the larger organization that is comprised of 38 hospitals and over 60,000 caregivers. Each hospital has an executive leadership structure which mirrors that of the sample hospital. In total the organization has 380 executive leadership members spanning across three states. A power analysis has been calculated with an alpha of .05 and power value of .80 indicating that a power of .65 (247

participants) would be needed for statistical significance. Although the study does not meets these minimum power analysis requirements, it does address baseline perceptions of e-leadership from each department of the hospital.

Table 1

Demographics of Healthcare Executive Leadership

Demographic Category	Leaders
Ethnicity	
African American	0%
American Indian/ Alaskan Native	0%
Asian	0%
Caucasian/ White	90.0%
Native Hawaiian/Pacific Islander	0%
Hispanic/ Latino	0%
Other	10.0%

Note. The Researcher obtained above demographics for the sample based on a demographics survey facilitated via SurveyMonkey Inc. (2015).

Permission to conduct this study was granted through both Director of Leadership Development and Chief Executive Officer of the sample hospital. The Healthcare organization's Department of Education and Training supports the promotion of leadership development and advancement of e-leadership constructs and intends on continued support with e-leadership development.

Research site

The research will be completed at a single healthcare organization. Leadership measurement was done in the fall of 2015 by way of face-to-face communication in a conference room and two leadership surveys intended to measure both servant and transformational leadership. Each leader was sent a notification for the scheduled e-

leadership training and has reported to the selected conference room located at the sample rural hospital site.

Ethical Considerations

"Ethical problems are inevitable in some qualitative research, and many ethical decisions must be made on the spot without the support of committee discussion or ethicists" (Krathwohl, 2009, p.287). In the healthcare industry, confidentiality is very important and must comply with HIPAA regulations. Each healthcare institution required the signing informed consent forms from the participants to ensure the security of organizational data (Appendix A). Participant names used in this study were given an alphanumeric representation to ensure anonymity and then stored on the researcher's locked computer. Finally, the Institutional Review Board (IRB) approval was received prior to the beginning of the study.

Instrumentation

The goal of this research was to measure the efficacy e-leadership traits have on healthcare leaders' perception of ICT technology and to increase communication within virtual teams. The research conducted for this study applied a mixed-methods approach that used survey methodology and focus groups to collect data needed to provide an understanding of the effects of e-leadership theory. Surveys were used to gather data from executive leaders of the healthcare organization along with questions that explored leader perceptions of e-leadership acumen. A focus group was used to further explore the narrative of leaders that worked with virtual teams and their perceptions of e-leadership efficacy.

A demographics survey was used to collect demographic information from each leader enrolled in the study. This simple demographic study collected information such as, gender, age, race, marital status, education level, employment status, current position of employment, experience with the Internet, and preferred computing platform (Appendix C).

Leadership survey

Leaders selected to participate in the study were given two leadership surveys that attempted to measure the perceptions of e-leadership acumen. The first survey used was the Servant Leadership Profile - Revised (RSLP**)** that allowed the researcher to address leadership perceptions of their servant leadership abilities. Next the leaders were given the Multifactor Leadership Questionnaire 5X (MLQ) to measure transformational leadership abilities. Both RSLP and MLQ have allowed the researcher to construct a quantitative analysis of e-leadership abilities from the leader's perspective.

Servant Leadership Profile - Revised (RSLP)

The study useed the Servant Leadership Profile - Revised (RSLP) to measure a leader’s self-perception of their servant leadership abilities. This survey instrument was developed by Page and Wong (2000) originally to effectively quantifiably measure the characteristics of servant leadership from the leader's perspective via the Self - Assessment of Servant Leadership Profile (SASLP). The 62 question instrument was qualified through a pilot study used a Likert scale from Strongly Agree (1) to Strongly Disagree (7). A Cronbach’s alpha values were used for twelve subscales, which included:

Total (0.937), Integrity (0.796), Humility (0.656), Servanthood (0.761), Caring for Others (0.714), Empowering Others (0.765), Developing Others (0.916), Visioning (0.569), Goal-setting (0.768), Leading (0.837), Modeling (0.763), Team-Building (0.815), and Shared Decision-Making (0.802). The validity of the SASLP provided the base for the development of both the quantitative analysis of servant leadership and the creation of the RSLP. Page and Wong (2003b) have also suggested a conceptual framework for measuring servant leadership as show below in Table 2 (p.3).

Table 2

Conceptual framework for measuring servant leadership

I.	**Character-Orientation (Being: What kind of person is the leader?)** Concerned with cultivating a servant's attitude, focusing on the leader's values, credibility and motive. • Integrity • Humility • Servanthood
II.	**People-Orientation (Relating: How does the leader relate to others?)** Concerned with developing human resources, focusing on the leader's relationship with people and his/her commitment to develop others. • Caring for others • Empowering others • Developing others
III.	**Task-Orientation (Doing: What does the leader do?)** Concerned with achieving productivity and success, focusing on the leader's tasks and skills necessary for success. • Visioning • Goal setting • Leading
IV.	**Process-Orientation (Organizing: How does the leader impact organizational processes?)** Concerned with increasing the efficiency of the organization, focusing the leader's ability to model and develop a flexible, efficient and open system. • Modeling • Team building • Shared decision-making

Reliability of the RSLP

The RSLP is comprised of 62 questions that continue to use the Likert scale ranging from Strongly Agree (1) to Strongly Disagree (7). A Cronbach's alpha was then

conducted that incorporated the newly developed seven factors of servant leadership with the total for items (62) being .92 and an ANOVA test which yielded a $p<.001$ level $F(141,8662) = 45.51$, $p=.000$. The Cronbach's alpha for each of the of the seven factors included: developing and empowering others (.87), humility (.85), authentic leadership (.81), open participatory leadership (.76), inspiring leadership (.83), visionary leadership (.61), and courageous leadership (.54). Comparative mean data (n = 109) is provided by Whorton (2014) which measured servant leadership from leader in an engineering firm. The comparative data is appropriate because the participants in the study demographics share similar ethnicity (86% white) and education with the current study. The comparative data also share similar analytical based professions which require extended formal education. Although there are many similarities between comparative and sample demographics, gender representation and industry of the comparative sample are not exact matches.

Multifactor Leadership Questionnaire 5X (MLQ)

The Multifactor Leadership Questionnaire has been in use for over 20 years and used in studies ranging from public to private organizations. The focus of these previous studies is based on the work of Burns (1978) who studied transformational leadership theory. Bass and Avolio developed the Multifactor Leadership Questionnaire to measure a leader's transformational and transactional leadership efficacy. The development of the Multifactor Leadership Questionnaire used responses from 70 experienced transformational leader senior executives. Graduate students then reviewed the 142 items generated from the responses and synthesized them into three categories based on

transformational, transactional, and can't say. Of the synthesized data, 73 items were then selected to be included into the Multifactor Leadership Questionnaire. Further research was able to factor and analyze all 73 items which then produced 7 factors describing both transformational and transactional leadership (Bass & Avolio, 2004). The earlier version of the Multifactor Leadership Questionnaire measured: transformational, transactional and non-transactional/ laissez-faire leadership (Bass & Avolio, 2004). The Multifactor Leadership Questionnaire 5X (MLQ) has been developed to measure a "wider and more detailed range of leadership factors" and "a more effective and comprehensive means for leadership assessment, training and development" (Bass & Avolio, 2004, p.72). The MLQ uses a Likert scale ranging from 0 (not at all) to 4 (frequently) to measure transformational leadership, transactional leadership, and passive avoidant.

Reliability of the MLQ

The 45-item MLQ measures the presence of 12 factors that are derived from transformational, transactional, and passive avoidant leadership styles. Transformational leadership is measured by five factors: idealized influence (attributed), idealized influence (behavior), inspirational motivation, intellectual stimulation, and individualized consideration. Transactional leadership is measured by two factors: contingent reward leadership, and management by exception. Finally, passive avoidant leadership is measured by two factors: management by exception (passive), and laissez-faire. Three leadership outcomes are also measured by the MLQ used to measure leadership independent of the leadership style. These aforementioned leadership outcomes are: effort, effectiveness, and satisfaction.

The MLQ has been analyzed for internal validity with reliability ranging from .74 to .94, and transformational leadership internal validity of .95 (Bass & Avolio, 2004, p.51). For each of the five transformational leadership traits the Cronbach's alpha was calculated: idealized influence (attributed) (.91), idealized influence (behavior) (.94), inspirational motivation (.91), intellectual stimulation (.93), and individualized consideration (.88) (Bass & Avolio, 2004, p.64). Normative data has been provided via the MLQ manual and is based on data gathered from self evaluation (n = 3,375).

Qualitative Instrument – Interviews

One of the more effective methods used in developing questioning used in qualitative instruments is for a researcher is to "lay out a 'blueprint' to guide question construction" (Krathwohl, 2009, p. 576). The questions developed from the use of the blueprint construction theory were done to address each section of the e-leadership construct. Although the qualitative instrument is constructed of questions developed by the researcher, each interview question is based on the research conducted by Savolainen (2014). Like Savolainen (2014), "the interview method for data collection is well grounded, as the topic is abstract, still scarcely studied empirically, and descriptive research is needed of the issue" (p.50).

Each question is designed to prompt the participant to expand on personal perceptions of the e-leadership construct among healthcare professionals. Each question is open ended in order to allow for interpretation of the participant and to explore the possibility of new questions to emerge during the interview. Each participant was given a copy of the questionnaire prior to the qualitative data collection to allow for saturation of

the questions prior to the limited time given for the interviews. Data from the interviews were recorded via use of digital voice recording device and transcribed by the researcher for analysis.

Participants were also given the opportunity to further their perceptions of e-leadership constructs by way of submitting the questionnaire to the researcher via secured email in order to add to the discourse on e-leadership. Submission via secured email also gives the participants further perceptions on e-leadership anonymity from the sample.

The interview questions given to the participants were designed to extract specific information desired to answer the research questions (Merriam, 2009). The following are questions given to the participants:

Questions:

1. Tell me about yourself, your professional background, and your relationship with leadership and technology integration.
2. Tell me about your leadership abilities, describe your how you communicate with your followers and your relationship with them.
3. What is your overall leadership philosophy?
4. How do you define ICT technology?
5. What are some conceptual aspects of e-leadership that you believe in and practice?
6. How do you translate the philosophy of Servant Leadership and Transformational Leadership into practice? What methods do you employ?
7. Give me some examples of your application of/to these leadership theories.
8. What are some successes and challenges you have encountered in the process of working with virtual teams?

9. What are some outcomes/impacts of virtual teams on your followers? How do you assess the impact? In what other areas do you see impact?

10. Do you engage in ICT technology integration with fellow leaders and staff? How do they respond?

Leadership Focus Group

Focus groups were used to both deliver e-leadership theory and review interview questions with leaders in order to ensure saturation of the e-leadership theory and retain qualitative responses to interview questions (Figure 4). The leadership focus group were given the opportunity to explore e-leadership constructs and identify both opportunities for growth and current effective e-leadership practices. Focus group discussion followed that of a predetermined qualitative survey questions in order to ensure consistency between group members.

Figure 4. Graphic depiction of concurrent triangulation research design.

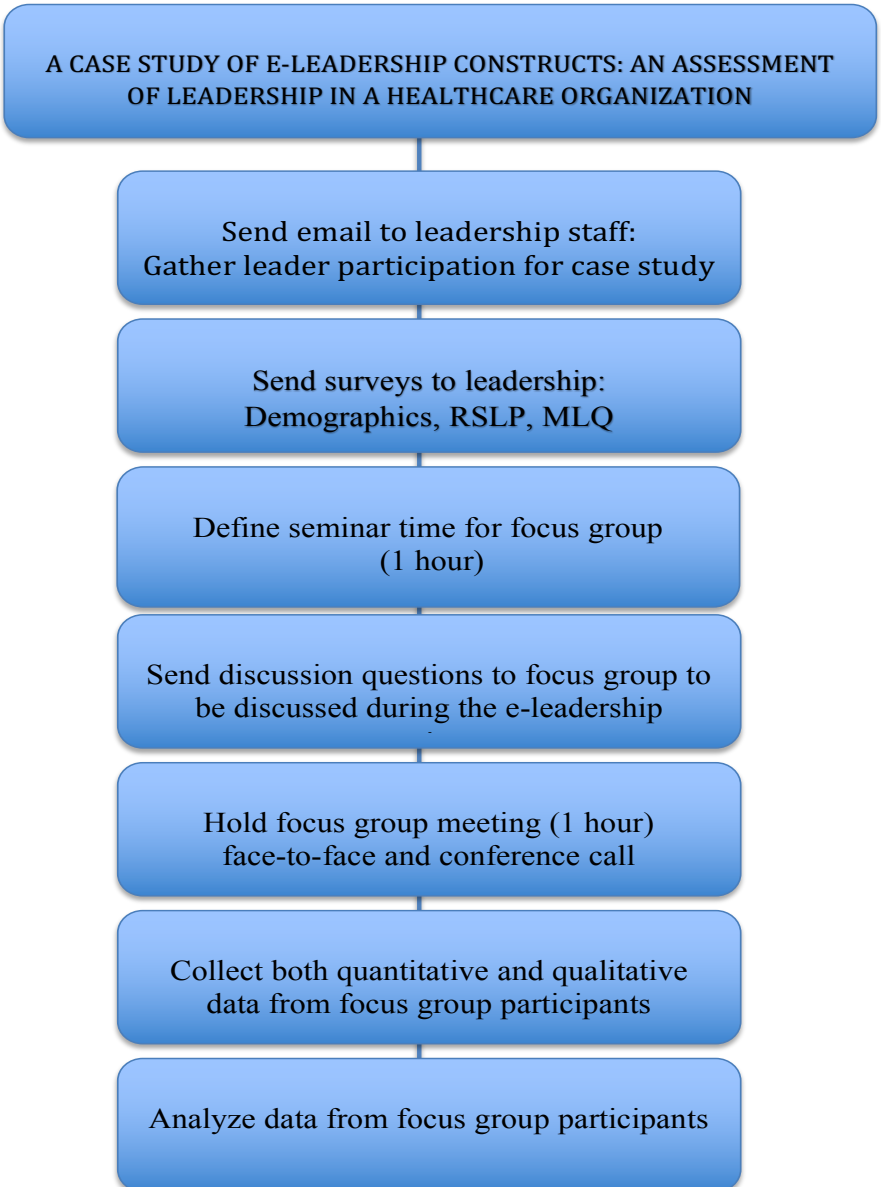


Figure 4. The concurrent triangulation mixed methods approach uses both qualitative and quantitative data collection in a simultaneous process due to time constraints of the organization.

Data Collection

The first task of this mixed-method approach was to define the sample of leaders to be used for the study which is done by way of convince sampler. According to Merriam (2009) "a unique sample is based on unique, atypical, perhaps rare attributes or

occurrences of the phenomenon of interest" (p.78). The convenience sample was selected based on its rural location and access to the executive leadership group provided by the Director of Leadership Development. These reasons fall in line with the description of a convenience sample as being "a sample based on time, money, location, availability of sites or respondents, and so on" (Merriam, 2009, p.79). Although the researcher realizes that the use of a convenience sample selection might not produce very credible results, the information gathered will help build baseline data for future research on e-leadership constructs.

Sampling Method

The convince sample for the Healthcare Organization consisted of 10 members of the Leadership staff population. Surveys and interviews for the study will be conducted during the Fall of 2015. Due to the predetermined population defined by the healthcare organization, the researcher was not able to have the opportunity to use random sampling to avoid "bias by ensuring that all relevant population characteristics have an equal chance of being represented" in the sample (Krathwohl, 2009, p.165).

Qualitative Data Collection

The qualitative method in this study was developed to give leader's perceptions of e-leadership a voice due to the multiple realities quantitative data produces. Each leader had the opportunity to "describe complex personal and interpersonal phenomena that would be impossible to portray with quantitative research's single dimensional scales" (Krathwohl, 2009, p.237). A convince sample was used to take qualitative data from the

leadership-sampling unit to determine the effects of e-leadership theories on the healthcare organization's virtual teams.

The qualitative portion of this study included 10 leaders from the healthcare organization. Interviews allowed for the researcher to gather perceptions of e-leadership constructs and perceive the leadership abilities that make an effective e-leader. Each leader involved in the study was be asked a set of questions during the e-leadership seminar. The qualitative questions have been developed based on the literature review and research questions to ensure that "a holistic picture of phenomena will restore perspective on the problem" (Krathwohl, 2009, p.238).

Quantitative Data Collection

The quantitative portion of this research study included a population of 10 leaders from the healthcare organization spanning over multiple locations in California. Leaders were given a demographics survey to understand the sample. Leaders had the opportunity to quantitatively examine the level of both Servant and Transformational Leadership abilities via the Servant Leadership Profile - Revised **(**RSLP**)** (Appendix D) and the Multifactor Leadership Questionnaire 5X (MLQ) (Appendix F) respectively.

The leaders of convince sample were surveyed via Survey Monkey Inc. website using multiple measurements to "sense any trends, whether linear or curvilinear" (Krathwohl, 2009, p.504). Using these surveys provided the study evidence of validity which should support the theory being tested and to "determine the nature of persons, their perceptions, actions, and intentions" of the healthcare organization leaders (Krathwohl, 2009, p.568). These perceptions were integral in developing the conclusions

for determining the efficacy of e-leadership theory on healthcare organization's executive leadership. A multiple measure method was used to gather data from the surveys distributed to the leadership-sampling unit. Krathwohl (2009) states, "looking at the same phenomenon or attribute with different measures and methods shows whether one of these is affecting the results" (p.487).

Data Analysis

In this triangulated mixed-method case study, each research question was answered by use of multiple surveys. Qualitative data gathered from focus groups were analyzed to assist in further understanding the efficacy of the implementation of e-leadership constructs.

1. What aspects of e-leadership construct positively relate to executive healthcare leadership perceptions of ICT technology?
2. How should e-leaders be developed in a healthcare environment?
3. How do healthcare e-leaders develop strong relationships in virtual teams?

A descriptive analysis of the demographic survey (questions 1 – 11) and 1, 2, 3, and 4 of the interview protocol provided information about the participants in this case study. The study addressed the research questions by use of descriptive statistics generated on each of the surveys administered to the participants. The descriptive statistics for each of the surveys included individual scores and use of a Pearson (r) correlation to determine the relationship between RSLP and MLQ scores of the participants. Each quantitative instrument was composed of subscales used to evaluate a group's servant (RSLP) and transformational (MLQ) leadership abilities. The RSLP is comprised of seven subscales,

which include: developing and empowering others, power and pride, serving others, open/ participatory leadership, inspiring leadership, visionary leadership, and courageous leadership. According to Page and Wong (2003b) the seven factor can be defined by using the description below.

Factor 1 Developing and Empowering Others
- Item 61. I am always looking for hidden talents in my workers.
- Item 72. I continuously appreciate, recognize and encourage the work of others

Factor 2. Power and Pride (Vulnerability and Humility)
- Item 83. To be a strong leader, I need to keep all my subordinates under control.
- Item 93. It is important that I am seen as superior to my subordinates in everything.

Factor 3. Visionary Leadership
- Item 32. I am able to inspire others with my enthusiasm and confidence in what can be accomplish.
- Item 42. I am able to present a vision that is readily and enthusiastically embraced by others.

Factor 4. Servanthood
- Item 1. I am willing to maintain a servant's heart, even though some people may take advantage of my servant leadership style.
- Item 77. I am willing to make personal sacrifices in serving others.

Factor 5. Integrity (Honesty)
- Item 10. I always keep my promises and commitments to others.
- Item 22. I want to build trust through honesty and empathy.

Factor 6. Integrity (Authenticity)
- Item 47. I practice what I preach.
- Item 65. My actions are consistent with my convictions.

Factor 7. Courageous Leadership
- Item 79. Having widely consulted others and carefully considered all the options, I do not hesitate in making difficult decisions.
- Item 39. I have the moral courage to do the right thing, even when it hurts me politically. (p. 10)

Equally, the MLQ also provides five subscale characteristics consisting of: idealized influence (attributed), idealized influence (behavior), inspirational motivation, intellectual

stimulation, and individualized consideration. These five subscale characteristics have been described by Bass and Avolio (2004) below as:

(1/2) Idealized Influence (Attributes and Behaviors)
These leaders are admired, respected, and trusted. Followers identify with and want to emulate their leaders. Among the things the leader does to earn credit with followers is to consider followers' needs over his or her own needs. The leader shares risks with followers and is consistent in conduct with underlying ethics, principles, and values.

1. Idealized Attributes (IA)
- Instill pride in others for being associated with me
- Go beyond self-interest for the good of the group
- Act in ways that build others' respect for me
- Display a sense of power and confidence

2. Idealized Behaviors (IB)
- Talk about my most important values and beliefs
- Specify the importance of having a strong sense of purpose
- Consider the moral and ethical consequences of decisions
- Emphasize the importance of having a collective sense of mission

3. Inspirational Motivation (IM)
These leaders behave in ways that motivate those around them by providing meaning and challenge to their followers' work. Individual and team spirit is aroused. Enthusiasm and optimism are displayed. The leader encourages followers to envision attractive future states, which they can ultimately envision for themselves.
- Talk optimistically about the future
- Talk enthusiastically about what needs to be accomplished
- Articulate a compelling vision of the future
- Express confidence that goals will be achieved

4. Intellectual Stimulation (IS)
These leaders stimulate their followers' effort to be innovative and creative by questioning assumptions, reframing problems, and approaching old situations in new ways. There is no ridicule or public criticism of individual members' mistakes. New ideas and creative solutions to problems are solicited from followers, who are included in the process of addressing problems and finding solutions.
- Re-examine critical assumptions to question whether they are appropriate

- Seek differing perspectives when solving problems
- Get others to look at problems from many different angles
- Suggest new ways of looking at how to complete assignments

5. Individual Consideration (IC)
These leaders pay attention to each individual's need for achievement and growth by acting as a coach or mentor. Followers are developed to successively higher levels of potential. New learning opportunities are created along with a supportive climate in which to grow. Individual differences in terms of needs and desires are recognized.

- Spend time teaching and coaching
- Treat others as individuals rather than just as a member of the group
- Consider each individual as having different needs, abilities and aspirations from others
- Help others to develop their strengths

(p. 103)

As stated in Table 3, Question 1 is addressed specifically by analyzing the Pearson correlation coefficient between RSLP and MLQ surveys and qualitative data using questions 4, 5, and 8. Next, question 2 is addressed by analyzing the relationship between the RSLP and MLQ surveys and normative data provided by the individual survey authors. Qualitative data is then analyzed using questions 1, 3, 8, and 10; using five categories: (a) pride and power, (b) value and vision, (c) future and enthusiasm, (d) openness and others, (e) teaching and empowering to further examine this question. Finally, question 3 is then addressed by use of measuring the relationship between the leadership surveys (RSLP, MLQ) factors four and five, then compared to the responses from the qualitative data using questions 2, 5, 6, 7, and 9.

Table 3

Comparison of Instruments and Items

Research question	*RSLP*	*MLQ*	*Demographic questionnaire*	*Interview protocol*
#1	C 1 – 7	C 1 – 5	–	4, 5, 8
#2	C 1 – 7	C 1 – 5	–	1, 3, 8, 10
#3	C 1 – 7	C 1 – 5	–	2, 5, 6, 7, 9
	–	–	1–11	–

Note: C represents individual characteristics measured by the instrument

Validity and Reliability

Krathwohl (2009) states "validity involves repeatedly hitting the heart of the target, as in the middle target, which shows a measure with both validity and reliability" (p.412). In order to ensure validity and reliability for the qualitative surveys, the participants were recorded to ensure accuracy of the participant responses. The surveys for this study were chosen because they have been vetted through use in multiple empirical research studies and have proven their validity. The reliability of each survey have been measured by the use of Cronbach's alpha, which give a "truer estimate of internal consistency reliability" (Krathwohl, 2009, p.414).

The triangulation mixed-method design used in this study includes threats to both data collection and data analysis. To minimize threats to the qualitative portion of the study, "ratings on scales, assigning weights to certain behaviors to provide a score" were used to establish trends with the developed measures (Krathwohl, 2009, p.404).

Reduction of researcher bias was important to this study due to the researcher's previous work in improving ICT technology as a practitioner. The views of the researcher

are apparent when speaking with the leaders of the sample unit as it was needed to inform these leaders on the e-leadership construct. All qualitative data collected from the leadership treatment group was reviewed and then made available for review by the leadership treatment group to ensure accuracy.

Researcher's Profile

As a mixed-methods researcher, the researcher is tasked with acknowledging that the lens used to interpret both qualitative and quantitative data is based in personal bias founded in experiences ranging from professional and analytical data collection and analysis. It is this acknowledgement of my personal and professional bias that needed to be explained to provide a context to research.

I have had the opportunity to grow up in the Silicon Valley for the majority of my primary schooling. These years were very important to me as I was surrounded by conversations of technology integration in my classrooms. Coming from a middle class Caucasian family, we were lucky to have television and modest technologies in the home for that time. Although the influence of technology was apparent in the classroom, none compared to the influence of my childhood friend whose father worked in technology. I can remember being introduced to a laptop in the mid 1980's that gave me a look into the near future of technology, and I remember being told that this laptop was the future of communication. As I got older I became more cognizant of how different technologies could be used to communicate vast amounts of information.

Once I had graduated from high school, I became interested in the development of communication pathways and completed a Bachelors of Arts (BA) degree in

communication studies. I believe that this BA degree set a solid foundation for any endeavor that I might take in my future personal and professional life. After graduating from my BA degree I found the need to experience how business worked and pursued my Masters of Business Administration (MBA). It was my thought that this MBA would give me the knowledge and credentials to work with companies in a managerial role where my affinity for communication technology could progress any department.

I found a disparity in technology acumen stemming from both socio-economic background and generational familiarity with technology. It was at this time that I had decided to learn what could be done to create change in educating people on communication technologies, and I enrolled in my second Masters of Arts in Education Leadership (MA). During my studies with my MA, I focused my thesis on how students perceived distance education constructs. The knowledge gained from this MA provide me the opportunity to accept a position in a for-profit college that created change in improving students' online education experience.

While climbing the ranks in the for-profit industry, I learned that much of what makes a difference in many organizations is the ability for that organization to produce great communicators. While researching communication technology, I found there was a growing need for e-Leadership in order to produce a successful organization. After much research on the e-Leadership theory, I found that the growing trends in healthcare information and communication technology are helping to solve communication issues for those who habitually work with healthcare professionals. It is for this reason that I have chosen to begin the discourse with healthcare professionals and engage in

developing e-Leadership theories to possibly reduce the communication errors between healthcare organizations and their patients.

Summary

The case study format for this dissertation is intended to feature the perceptions of e-leadership theory through the lens of executive healthcare leadership. The sample used for this study is a representation of the executive healthcare leadership from a specific Northern California healthcare organization and intended to provide baseline data for future research. The voices provided in this case study were chosen to gather perspective from each executive leadership department and thus assist in establishing a clear vision of e-leadership in a remote healthcare setting. Data for this study was analyzed using a concurrent triangulation mixed-method design which allowed the researcher to gather data effectively and within the timeframe allotted by the healthcare organization. The e-leadership construct was evaluated using quantitative data from proven instruments measuring both servant and transformational leadership acumen. Narrative for the study was provided via use of a questionnaire, which was developed by analysis of literature and relationships between the e-leadership constructs.

CHAPTER IV

FINDINGS

Introduction

In this study the e-leadership perceptions of executive healthcare leaders who currently work in a rural Northern California hospital were explored. These e-leadership perceptions are important to the healthcare industry due to the increase of electronic healthcare technology and lack of e-leadership research in the healthcare industry.

The findings and data analysis are presented in Chapter IV, which have been developed by use of the servant leadership profile - revised (RSLP), multifactor leadership questionnaire (MLQ), and interview protocol. The RSLP measures the following servant leadership categories: (a) empowering and developing others (ED); (b) power and pride (PP); (c) serving others (SO); (d) open; participatory leadership (OP); (e) inspiring leadership (IL); (f) visionary leadership (VL); (g) courageous leadership (CL). Use of the MLQ provides measurement of transformational leadership by examining the following categories: idealized influence (attributes) (IA); idealized influence (behaviors) (IB); inspirational motivation (IM); intellectual stimulation (IS); individual consideration (IC). The interview protocol was designed to give a narrative to the e-leadership theory construct and to help describe what role servant and transformational leadership play in executive healthcare leadership perceptions of e-leadership. The data that has been gathered from each participant has been analyzed by using methodology defined in Chapter III and analyzed using IBM's SPSS ® software (SPSS).

Results for this study is presented in the following format. First the participants are described by use of descriptive profile. Second, findings from the RSLP and MLQ

that specifically address each research question and then exhibiting data in the following order: (a) RSLP and MLQ correlation statistic, (b) the analogous open-ended interview protocol responses in narrative format, (c) and concludes a summary of the chapter.

Participant Profile

For this case study, there were 10 executive healthcare leaders (sample participants) who actively sat on an executive board for the sample hospital. Of the 10 sample participants there was a 100% response rate for both RSLP and MLQ quantitative surveys and open-ended questions. The participants consisted of members who represented each department of the hospital.

Descriptive statistics calculated using the data gathered from the demographics survey that included: gender, age, ethnicity, education level, employment status, and current position. As noted in Table 4, the sample participants were generally female (90.00%), of the sample participants 10% indicated that they were between the age of 40 – 49, 40% between the ages of 50 – 59, and 50 % indicated that they were 60 years of age or older. Ethnicity has proven to be homogeneous with 90% of the sample participants indicating that they were Caucasian/ White and 10% indicating that they were Other. When analyzing the education level of sample participants' data shows that 10% indicated they had Some college but no degree, 10% indicated they have an Associates degree, 20% stated they have a Bachelor degree, 50% indicated they have a Master's degree, and 10% indicated they have a Doctorate degree. All of the sample participants indicated that they were employed 40 or more hours per week, with 80% indicating they

considered themselves as upper management, 10% considered themselves as middle management, and 10% considered themselves as administrative staff.

Table 4

Demographics Characteristics

Characteristics	Executive leader	
	f	%
Gender		
Male	1	10
Female	9	90
Age		
40 – 49	1	10
50 – 59	4	40
60 – Older	5	50
Race		
Caucasian/ White	9	90
Other	1	10
Education level		
Some college but no degree	1	10
Associate degree	1	10
Bachelor degree	2	20
Master's degree	5	50
Doctorate degree	1	10
Employment status		
Employed, working 40 or more hours per week	10	100
Current position		
Upper management	8	80
Middle management	1	10
Administrative staff	1	10

Note. N = 10. Executive healthcare leadership staff

Research Question 1

What aspects of e-leadership construct positively relate to executive healthcare leadership perceptions of ICT technology?

Positive Correlation Results from RSLP and MLQ for Research Question 1

The RSLP and MLQ indicate a total of 12 characteristics that measured both servant and transformational leadership. A Pearson correlation is used to measure the positive correlations between the two leadership scales. Negative correlations will also be examined although the data did not find very strong relationships with transformational subscales. Krathwohl (2009) states that a "correlation of +1.00 indicates a perfect relationship" (p.387). For this question, analysis will report both very strong relationships (.70 to .100). The results for the Pearson correlations are listed in Table 5.

Positive relationships to RSLP and MLQ subscales

Executive healthcare leadership RSLP and MLQ data results indicate a very strong positive correlation between multiple servant and transformational leadership attributes. The first highest very strong positive relationship recorded is the idealized influence (behavior) and serving others (r = .838) suggesting that sample participants have a strong sense of purpose and are willing to serve others while keeping a collective vision of the mission at hand. Second, the data indicates that there is a very strong positive correlation between inspirational motivation and empowering and developing others (r = .789), suggesting sample participants are enthusiastic/ optimistic about the task at hand and celebrate the work of others while promoting hidden talents. Next, the data indicates a very strong positive correlation between intellectual stimulation and

visionary leadership (r = .753), which suggests that sample participants interact with followers by seeking and being open to different perspectives to problems while still able to keep focused and enthusiastic on the vision of the group. Data also shows that the sample participants had a very strong positive correlation between inspirational motivation and inspiring leadership (r = .751), indicating that there is a strong ability to enthusiastically inspire followers with confidence and optimism of future goals. Sample participant data also proved to have a very strong positive correlation between individualized consideration and inspiring leadership (r = .721), displaying the ability to develop followers by acting as an enthusiastic mentor; considering each member an individual with specific strengths. Very strong positive correlations also have been found between inspirational motivation and serving others (r = .702), indicating that these sample participants can promote positive future (intrinsic and extrinsic) outlooks while doing what is needed to serve their followers in getting the job done. The final very strong positive correlation includes extra effort and inspiring leadership (.740) which is not included in transformational leadership measurement, but instead is a characteristic measuring transactional leadership. A leadership group that exhibits extra effort not only has a desire to succeed, but they also have the ability to inspire others to excel with enthusiasm and confidence.

Negative relationships to RSLP and MLQ subscales

The next data set used to answer Research Question 1 detail the negative relationships between both RSLP and MLQ subscales. Although the subscales shown in Table 6 do not directly measure transformational leadership, the transactional leadership

theory that is measured do hold significance in the study. The negative relationships measured consist of strong negative relationships between RSLP and MLQ subscales.

Data collected from the sample participants indicate some strong negative relationships between the RSLP and MLQ as indicated in Table 6. The first strong negative relationship is found between the laissez-faire subscale and the power and pride subscale indicating a relationship of -.433. Finally, a strong negative relationship of -.518 is found between the laissez-faire subscale and the courageous leadership subscale.

Table 5

RSLP and MLQ correlation

		DE	PP	SO	OP	IL	VL	CL
IB	Pearson	.652*	.447	.838*	.051	.653*	.502	-.030
	Sig. (2-tailed)	.041	.195	.002	.888	.040	.139	.934
	N	10	10	10	10	10	10	10
IM	Pearson	.789*	.443	.702*	.196	.751*	.370	-.100
	Sig. (2-tailed)	.007	.199	.024	.588	.012	.293	.783
	N	10	10	10	10	10	10	10
IS	Pearson	.231	-.316	.518	-.129	.584	.753*	-.187
	Sig. (2-tailed)	.521	.374	.125	.722	.076	.012	.605
	N	10	10	10	10	10	10	10
IC	Pearson	.435	-.280	.417	.137	.721*	.593	-.314
	Sig. (2-tailed)	.208	.434	.230	.706	.019	.071	.377
	N	10	10	10	10	10	10	10
EE	Pearson	.577	.102	.448	.383	.740*	.255	-.062
	Sig. (2-tailed)	.081	.779	.194	.274	.014	.478	.865
	N	10	10	10	10	10	10	10
LF	Pearson	.511	-.433	.197	.008	.598	.220	-.518
	Sig. (2-tailed)	.131	.211	.586	.982	.068	.541	.125
	N	10	10	10	10	10	10	10

*. Correlation is significant to the 0.05 level (2-tailed).

LEGEND: II(A) = IDEALIZED INFLUENCE (ATTRIBUTED)
II(B) = IDEALIZED INFLUENCE (BEHAVIOR)
IM = INSPIRATIONAL MOTIVATION
IS = INTELLECTUAL CONSIDERATION
IC = INDIVIDUALIZED CONSIDERATION
DE = DEVELOPING & EMPOWERING OTHERS
PP = POWER AND PRIDE
SO = SERVING OTHERS
OP = OPEN, PARTICIPATORY LEADERSHIP
IL = INSPIRING LEADERSHIP
VL = VISIONARY LEADERSHIP
CL = COURAGEOUS LEADERSHIP
EE = COURAGEOUS LEADERSHIP
LF = LAISSEZ-FAIRE

Table 6

Laissez-faire correlation

		DE	PP	SO	OP	IL	VL	CL
LF	Pearson	.511	-.433	.197	.008	.598	.220	-.518
	Sig. (2-tailed)	.131	.211	.586	.982	.068	.541	.125
	N	10	10	10	10	10	10	10

LEGEND: LF =LAISSEZ-FAIRE

DE = DEVELOPING & EMPOWERING OTHERS
PP = POWER AND PRIDE
SO = SERVING OTHERS
OP = OPEN, PARTICIPATORY LEADERSHIP
IL = INSPIRING LEADERSHIP
VL = VISIONARY LEADERSHIP
CL = COURAGEOUS LEADERSHIP

Open-Ended Interview Protocol

What aspects of e-leadership construct positively relate to executive healthcare leadership perceptions of ICT technology?

Research Question 1 was designed to gain a baseline perspective of how executive healthcare leadership perceives ICT technology. Each question below gives a narrative aimed at further understanding the first research question of this study. Although not all responses were included; each response defines the collective responses by the sample participants.

Open-Ended Interview Question 4

Of the sample participants (n = 10), 100% took time to answer Question 4 from the interview protocol. The sample participants' responses were constructive and expressed how the advancement of ICT technology can positively impact executive healthcare leadership. Question four asked *How do you define ICT technology?* When asked how the sample would define ICT technology, a participant responded with "I

would define this very broadly. It includes all tools including P.C. and emails, and cell phone/iPads and texting, and of course regular phones. Most people, at least in management are constantly connected." The sample participants describe the use of technology and how each different ICT technology system positively helps them with "medical information, technological systems, and overall communications." The overall perception of ICT technology was described by the sample participants as "anything or piece of information that you attempt to send out a message." The sample participants preferred to look at their technologies as effective communication tools they could use to communicate with both in house and off campus employees. It was important to the sample participants that employees knew that ICT technology is "like the platform that you use to communicate."

Open-Ended Interview Question 5

Question five of the interview protocol asked the sample participants, *what are some conceptual aspects of e-leadership that you believe in and practice?* This question was designed to provide narrative to developing aspects of e-leadership constructs that can positively impact executive healthcare. One sample participant responded to the question by saying "I think it goes back to how a person wants to communicate, and the generation that you are speaking to. Does texting or emailing best communicate, and learn from each individual so you can be the most successful." The sample participants understood that ICT technology was there to improve communication and thus also stated that "one of the good things about email is that you know that at least everyone is getting

the same message." Using ICT technology can bring employee voice closer together due to the ease of sending an email. A sample participant articulated this point by saying,

> I think one of the things that technology does is take down formal barriers. When I send an email out to a large group of folks, it allows individual folks to reply and communicate directly with me if they want to communicate.

Not only does email provide instant communication, but it also does not solve the issue of needing to travel long distances for meetings. The sample participants agreed with one of their group members when it was stated that,

> I currently find it necessary to communicate with peers many times via email or text message. I am patiently waiting for the ability to communicate with my counterparts in (corporate location) via skype or some other technology that does not require three hours of driving for a two-hour meeting.

Not only did the sample participants agree that ICT is needed in daily operations, but sample found that there were some important negative aspects that could arise if proper e-communication was not followed. The sample participants agreed that:

> e-communication is a quick and effective way of sharing messages, getting messages out and tracking who has received that message. It is also a good way to know that everyone is hearing the same message. One drawback is that there is so much electronic communication occurring that one cannot always keep up with the volume and it is easy to miss an important message. Asking for confirmation of receipt is sometimes critical.

As an organization with many experienced executive healthcare leaders, the use of ICT technology has not only improved communication within the hospital and organization but has also improved communication with the community. The sample participants have also found that ICT technology has also improved communication between the hospital and the neighboring community. When describing how the hospital and neighboring community benefited from ICT technology, the sample participants stated:

> We are very strategic on how we communicate with the masses. We are getting responses from people we wouldn't have ever known otherwise. Our target market audience is the 50+ age group and we are seen through social media from the 30 - upper 40s which is a group that we have never reached before.

Data collected for this question indicates that the sample participants are constantly using ICT technology to positively impact executive healthcare leadership.

Open-Ended Interview Question 8

Introducing question eight to the sample participants provides perspective that e-leadership construct has on virtual teams. Question eight asks the sample participants *What are some successes and challenges you have encountered in the process of working with virtual teams?* As a rural hospital, the participants have learned to embrace virtual teams because they bring an increased level of support to the hospital. One sample participant indicated that "the upside for me is that you can bring in expertise that you might not normally have access to because there are not limits for you geographically." The ability to have access to virtual teams suggests to improve patient care and an

increased level of support for healthcare information technology. One sample participant stated that:

> Virtual teams using Cerner has allowed us to figure out who can help us solve a problem in real time. We can get people and stakeholders on a call to figure out how we can get things fixed instead of holding meetings and making many different phone calls.

In further support of virtual teams, the sample participants stated, "I would say that use of technology communication is a time saver where before we would have to fly off to a conference. So now we can save time and money and still get the same information." Although the sample participants indicate that virtual teams bring some much need benefit, there are some aspects of virtual teams that is challenging. When asked about some of the challenges, the participants agreed with the statement:

> Virtual teams allow for working on a common goal while geographically dispersed. It also allows for bringing in expertise that might not be available at the local level. A challenge is keeping team members focused. There are so many demands for time. There is a tendency to be more focused on that which is right in front of you.

Research Question 2

How should e-leaders be developed in a healthcare environment?

The second question for this study will be answered using both the quantitative and qualitative data gathered during this study. According to the research by Bass and Avolio (2004), the data collected should be analyzed as a group instead of individually

when determining levels of transformational leadership; therefore, both RSLP and MLQ will be measured per group. First the mean scores for both RSLP and MLQ will be compared with mean scores provided by Whorton (2014) and Bass and Avolio (2004) respectively to determine relationships for each subscale. Finally, the mean scores of the MLQ will be compared to the norm table percentile data provided by Bass and Avolio (2004) to determine a compared ranking of the sample participants. The development of e-leaders in a healthcare environment is dependent upon the development of both servant and transformational leadership characteristics. Group means of the sample participants for RSLP (Table 7) and MLQ (Table 9) have been developed using SPSS. Tables 8 and 10 contain mean normative sample data for the RSLP and MLQ respectively which have been provided by each instrument's author.

Mean score comparison between RSLP and comparative sample

The first RSLP subscale reviewed indicates that the group sample mean score (6.05) proved to be higher than the comparative sample of 5.77 suggesting that the sample participants are more apt to developing and empowering others. Next, the RSLP described the sample participants' ability to promote power and pride with a mean score of 1.988, and when compared to the comparative sample of 2.28 suggests a positive result as promotion of power and pride is seen as a negative trait. The next question is critical to the fundamentals of the survey; the sample participants scored higher in serving others (5.95) compared to the comparative data (5.62). In e-leadership it is very important for a leadership group to be open to their followers, thus the open, participatory leadership subscale (6.67) shows that the sample participants' also scored above the comparative

data mean (6.26). Inspiring leadership characteristics mean (6.01) measured by the RSLP indicates that sample participants are higher than the comparative data (5.60). Once again, results scored higher when reviewing the data gathered from the visionary leadership characteristic mean (5.96) when compared to the comparative data mean (5.20). Finally, the courageous leadership characteristic mean (6.36) was measured against the normative data mean (6.13) providing further results.

Table 7

RSLP Sample Mean Scores

	DE	PP	SO	OP	IL	VL	CL
Mean	6.05	1.98	5.95	6.67	6.01	5.96	6.36
Median	6.06	1.68	6.14	6.75	5.93	6.00	6.30
Std. Deviation	.453	.785	.745	.241	.454	.548	.429

LEGEND:
DE = DEVELOPING & EMPOWERING OTHERS
PP = POWER AND PRIDE
SO = SERVING OTHERS
OP = OPEN, PARTICIPATORY LEADERSHIP
IL = INSPIRING LEADERSHIP
VL = VISIONARY LEADERSHIP
CL = COURAGEOUS LEADERSHIP

Table 8

Comparative Leaders' RSLP Mean Scores by Servant Leadership Category

Factor	Qualities	Corresponding Questions	Mean
1	Developing and empowering others	16, 21, 23, 27, 31, 37, 38, 39, 42, 46, 48,49, 53, 59, 61, 62	5.77
2	Power and pride*	9, 14, 15, 18, 28, 29, 56, 60	2.28
3	Serving others	6, 17, 30, 44, 45, 47, 50, 51, 52, 57, 58	5.62
4	Open, participatory leadership	2, 5, 7, 8, 10, 11, 12, 34, 35, 36	6.26
5	Inspiring leadership	1, 13, 19, 20, 22, 25, 26	5.60
6	Visionary leadership	40, 41, 43, 54, 55	5.20
7	Courageous leadership	3, 4, 24, 32, 33	6.13

Note. *A negative trait, but can be converted to a positive trait by scoring in reverse. (N = 109)

Mean score comparison between MLQ and normative sample

Idealized attributes or idealized influence (attributes) represent the first of the five transformational subscale characteristics found in the MLQ. Sample participant group mean scores (2.89) for the idealized attributes characteristic indicate a lower than average ranking compared to the normative sample mean (2.95). Sample participants were then measured for their idealized behaviors or idealized influence (behaviors) providing a mean (3.23) which is higher than the normative sample (2.99) indicating that the sample participants exhibit a higher than idealized behaviors. Next the MLQ measured inspirational motivation and provided a sample participant mean of 3.10 which is higher than the normative sample (3.04) suggesting an increased level of inspirational motivation. Intellectual stimulation means calculated by the MLQ (3.10) indicated a higher than average sample participant characteristic when compared to the normative sample mean (2.96). Finally, the MLQ measured the individual consideration characteristic mean of the sample participants (3.27) which proved to be higher than the normative sample mean (3.16).

Table 9

MLQ Sample Mean Scores

	IA	IB	IM	IS	IC
Mean	2.89	3.23	3.10	3.10	3.27
Median	2.71	3.41	3.00	3.00	3.12
Std. Deviation	.558	.629	.543	.428	.362

LEGEND: II(A) = IDEALIZED INFLUENCE (ATTRIBUTED)
II(B) = IDEALIZED INFLUENCE (BEHAVIOR)
IM = INSPIRATIONAL MOTIVATION
IS = INTELLECTUAL STIMULATION
IC = INDIVIDUALIZED CONSIDERATION

Table 10

Leaders' MLQ Mean Scores by Transformational Leadership Category

Factor	Qualities	Corresponding Questions	Mean
1	Idealized Attributes or Idealized Influence (Attributes)	10, 18, 21, 25	2.95
2	Idealized Behaviors or Idealized Influence (Behaviors)	6, 14, 23, 24	2.99
3	Inspirational Motivation	9,13, 26, 36	3.04
4	Intellectual Stimulation	2, 8, 30, 32	2.96
5	Individual Consideration	15, 19, 29, 31	3.16

(N = 3,375)

Mean score comparison between MLQ and Percentiles for Individual Scores

The third data set used for question 2 is used to determine the percentile ranking for the group sample. The MLQ is used to determine the level of transformational leadership that the group sample participants exhibit compared to the total rating levels (US) based on research compiled by Bass and Avolio (2004). The use of percentiles used for this section could provide a baseline for future executive healthcare leadership research, and other contexts of leadership research. The first group sample subscale characteristic compared in this study shows that idealized attributes group sample mean (2.89) rank in the 40th percentile. Next the idealized behaviors group sample mean (3.23) also ranked in the 50th percentile. The sample mean scored in the 50th percentile when comparing the inspirational characteristic group sample mean (3.10). An increase was shown when comparing the intellectual stimulation from the group sample mean (3.10) indicating a 60th percentile ranking. Finally, the group sample mean for individualized consideration (3.27) ranks in the 70th percentile.

Table 11

Percentiles for Individual Scores Based Total of all Rating Levels (US)

	IA	IB	IM	IS	IC
N =	27,285	27,285	27,285	27,385	27,385
%tile			MLQ Scores		
5	1.50	1.50	1.50	1.50	1.25
10	2.00	1.75	2.00	1.75	1.75
20	2.25	2.25	2.25	2.25	2.25
30	2.75	2.50	2.50	2.50	2.50
40	2.75 **2.89**	2.75	2.75	2.75	2.75
50	3.00	3.00 **3.23**	3.00 **3.10**	2.75	2.75
60	3.25	3.25	3.25	3.00 **3.10**	3.00
70	3.50	3.50	3.43	3.25	3.25 **3.27**
80	3.50	3.75	3.50	3.43	3.43
90	3.75	3.75	3.75	3.75	3.75
95	4.00	4.00	3.75	3.75	4.00

Note: Sample mean scores indicated as bold

LEGEND: II(A) = IDEALIZED INFLUENCE (ATTRIBUTED)
II(B) = IDEALIZED INFLUENCE (BEHAVIOR)
IM = INSPIRATIONAL MOTIVATION
IS = INTELLECTUAL STIMULATION
IC = INDIVIDUALIZED CONSIDERATION

KEY OF FREQUENCY: 4.0 = Frequently, if not always
3.0 = Fairly often
2.0 = Sometimes
1.0 = Once in a while
0.0 = Not at all

Open-Ended Interview Protocol

Research question two is designed to provide insight on how executive healthcare e-leaders should be developed. Four questions were asked that directly address e-leadership development which received 100% participation from the sample participants. Although all participants answered each of the five questions relating to this topic, not all participant answers were used in order to reduce redundancy.

Open-Ended Interview Question 1

The first question asks the sample participants to *tell me about yourself, your professional background, and your relationship with leadership and technology integration.* This question returned very rich data in which one sample participant indicated:

> Our relationship with leadership (corporate) is very close and collaborative, and there is certainly an opportunity to let our needs be known. Technology is still developing, and there are still a lot of face-to-face meetings. We drive to meetings, but I have to say I don't blame anyone for having a face-to-face meeting because I am more engaged when we have them. My former boss used to have cameras on computers to keep people engaged while conducting video meetings. What used to be cool to answer email, now people look at email as if it intrudes onto their private time.

Connection between leader and technology for the sample participants shows it to be mixed for each of the participants. One of the sample participants indicated that "one of the detriments I see to technology and e-communication is that it is so easy that you can

overwhelm somebody, or you can get overwhelmed so easily. You can email or text me all you want but I may not get to it. So there is a positive and a negative there." Although promotion of technology does seem to vary within the sample participants, the experience level does bring a potential polarized view toward technology integration. One sample participant stated;

> In 1978 I worked in a hospital and we had a hospital information system (HIS), from that point on going into nursing I thought we were going to be connected via computer. There is over a 30-year gap between where we are today (2015) and 1978. I'll give you an example, last night I got a message from my team last night that our health information system was down and my team started texting, emailing, and maybe some face-time technology to communicate quickly to solve the problem.

This quote provides a very personal detail towards perceptions of how leaders and followers should use ICT technology to solve problems in healthcare. Another sample participant provided feedback to the previous quote by stating:

> As emergency management, I just took a course on social media on disasters. In the middle of a disaster people are Facebooking and twittering, and so in order to control environments and get the correct information out, it really does need to have some set parameters to it. I'm really focusing on the importance of miscommunication and texting, and how the nonverbal can be construed some other way without the face-time. I am starting to think that face-time is more appropriate because I am into instant communication all the time. I have multiple

> people that I manage, I have the young people/ techies that teach me stuff. I also have others that come up with hardcopies where I have to say "have you not looked at your email?"

This quote gives a perspective to the relationship of leadership and technology integration which suggests leaders have a more cognitive approach to the way ICT technology is used to convey messages. The sample participants have also suggested that not every level of employee has the same knowledge of ICT technology. According to one sample participant:

> I think that where we are learning about technology communication, the people we work with may not be far along. We still have resistance to email. They don't want to check in everyday; there still two completely different sides and where to go with technology.

These perceptions of possible technology usage disparity between leaders and followers has also been communicated by one sample participant by stating:

> I have an extensive background in communication and have used airline systems to communicate messages to employees in 30 different offices, and that was in the mid-80's. Here in the hospital I have people giving me hardcopies, and I have to say "send it in an e-mail." I am still saying that today, ten years later from starting my current position. At the employee level, it is an act of God to get any easy communication out or to have them to communicate back. Even a lot of the managers don't have any technical skills.

No matter the perceptions of how a leader should use technology, or if followers have the required technology acumen, the need is still there. One of the sample participant responses mirrors this idea by saying:

> My background was not in formal leadership skills, but learned as career progresses. Technology is a must today in order to communicate effectively. Computers and email was started to be used in college and then cell phone technology to texting. Now we have many tools at our disposal. Email became the main mode of communication in our professional lives. Now we have so many emails, and it does not seem to be reliable due to the volume of email. So now we have to text and call to get a hold of people. Texting and email is used to communicate with other physicians.

Open-Ended Interview Question 3

Next, question 3 is used to answer the second research question by asking the sample participants, *what is your overall leadership philosophy*? The sample participants first provided descriptions to generalize thoughts about leadership philosophy such as: role model, mentor, transparency and honesty. A sample participant then stated:

> I don't have followers. Our team works collaboratively calling upon the skill sets of the individual team members for completion of work. Our communication is ongoing throughout the day as needed and by email only when necessary. My relationship is that of a co-worker, but it is recognized that I have the authority to make change.

The theme of working in a team environment was reoccurring in the responses to the interview protocol question 3. A second sample participant also stated:

> I like to build a team. I expect that we will all work together within our areas of expertise but towards the same end goal. I like to encourage and lead my team to process improvement. Staying in one place is not sustainable.

The data also suggests that the sample participants are interested in constantly striving for success. This is demonstrated when a sample participant was quoted by saying "I want to enable the people I work with to have the skills necessary to do what they need to do." It is also important to note that the sample participants not only strive for success, but reflected on their leadership philosophy by stating, "My leadership philosophy is to encourage people. I like to make sure the work gets done."

Sample participants determined that although it is necessary to get a job done, it is also just as necessary to have an understanding of the job at hand. One sample participant articulated this by saying:

> I think that if you are clear about the vision the way you want to go, and people will understand that vision and a relationship with common respect and people will come with you. If you articulated that vision effectively, then those individuals will have a base line respect. You must invest in them and that relationship.

Having that mutual understanding can also promote a type of synergy between leader and follower. This idea was expressed when a sample participant stated:

> I take time for people to understand why decisions are to be made or why I cannot share information, but when I can we will. In some cases, I can be more determined in terms of a nurturing leader than more of a hardcore leader.

It should be noted that the sample participants were also cognizant of their role in the organization. The leadership roles that one holds as a healthcare executive was also examined by the sample participant. Participants agreed with one of the sample participants when they stated:

> I would say my philosophy is that teamwork and cooperation is better than brow beating to increase collaboration. I personally am a type A person, and I have learned over the years to adjust that so that I am not so controlling and more helping. Everyone knows that there is accountability in our office, and in the past have not been as strong, but have picked this up over the years in a positive way.

The sample participants acknowledged their position in the organization and agreed that the use of team and communication creates a positive environment.

Open-Ended Interview Question 8

In order to develop e-leaders in a healthcare environment, the perceptions of virtual teams need to be examined. Question 8 promotes development of e-leadership by asking, *what are some successes and challenges you have encountered in the process of working with virtual teams*? The sample participants agreed that there are challenges with using virtual teams to increase productivity in a healthcare organization. One sample participant stated:

> There is also the challenge of "I thought you were going to do it." So now there is double work or now we have two or three people working on the same thing, and we meet in the middle or we say I thought you were going to do it. So if we don't identify exactly what we intend for people to do on the phone or email, then it might not get done.

In this quote it is noted that the sample participant is struggling with a potential lack of formal training when conducting virtual team work. Placing individuals in a virtual team can include issues of distance, culture, and communication. This is articulated by a sample participant by stating:

> I have worked on projects with peers, and there is always the challenge of being in different locations, different timelines and different priorities; but we have always met, mostly by conference calls, completed our assignments and successfully completed what we have been assigned.

Although the sample participants agreed that virtual team development is an area of concern, one sample participant indicated that "in a clinical team, telemedicine has enabled us to extend and expand our capacity of care and level of care, but it is not a perfect technology."

Open-Ended Interview Question 10

Including question 10 provides a perspective on how e-leadership should be developed in a healthcare environment by asking, *do you engage in ICT technology integration with fellow leaders and staff? How do they respond*? The sample participants agreed that learning how to use technology by doing is the best way to master a new

technology. This is indicated when a sample participant was quoted saying "I am better using technology by doing it. Since I am results driven, I will try any approach to get the job done." The idea of engaging in ICT technology seemed to be a requirement for the sample population. According to a sample participant:

> I don't know that you have any choice any more with regards to learning the new technologies, communicating in the most expedient fashion using the technology that makes the most sense. For the most part people respond well, but once again, there is a lot of discussion about the "humanity" of communication being lost.

The use of ICT technology in healthcare seems to have made current modes of communication more streamlined and practical. According to the sample participants, the absence of ICT technology also has its drawbacks.

> The danger in not answering email or text right away is the sender asking why the recipients are not responding right away. We have to stop that idea, and we need to separate ourselves from communication, and that is okay.

Sample participants suggest that although ICT technology has its benefits, employees need to make time for thought and making the ethical choice.

Research Question 3

How do healthcare e-leaders develop strong relationships in virtual teams?

The ability for the sample population to develop a relationship in virtual teams was first measured quantitatively by taking the Pearson correlation between intellectual consideration (MLQ) and open, participatory leadership (RSLP) characteristics indicated in Table 12. Finally, the use of the individualized consideration (MLQ) was correlated with both developing and empowering others, and serving others (RSLP) as shown in Table 13.

Intellectual stimulation correlation

Data from Table 12 indicates that the intellectual consideration has weak positive relationship with developing and empowering others (r = .231).

Table 12

Intellectual stimulation correlation (n = 10)

		DE	PP	SO	OP	IL	VL	CL
IS	Pearson	.231	-.316	.518	-.129	.584	.753*	-.187
	Sig. (2-tailed)	.521	.374	.125	.722	.076	.012	.605
	N	10	10	10	10	10	10	10

*. Correlation is significant to the 0.05 level (2-tailed).

LEGEND: IS = INTELLECTUAL STIMULATION

DE = DEVELOPING & EMPOWERING OTHERS
PP = POWER AND PRIDE
SO = SERVING OTHERS
OP = OPEN, PARTICIPATORY LEADERSHIP
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CL = COURAGEOUS LEADERSHIP

Individualized consideration correlation

The individualized consideration data from the MLQ shows a strong positive relationship (r = .435) with developing and empowering others data from the RSLP. Next, the individualized consideration data from the MLQ is correlated with the serving others data from the RSLP providing a strong positive relationship (r = .417).

Table 13

Individualized consideration correlation

		DE	PP	SO	OP	IL	VL	CL
IC	Pearson	.435	-.280	.417	.137	.721*	.593	-.314
	Sig. (2-tailed)	.208	.434	.230	.706	.019	.071	.377
	N	10	10	10	10	10	10	10

*. Correlation is significant to the 0.05 level (2-tailed).

LEGEND: IC = INDIVIDUALIZED CONSIDERATION

DE = DEVELOPING & EMPOWERING OTHERS
PP = POWER AND PRIDE
SO = SERVING OTHERS
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VL = VISIONARY LEADERSHIP
CL = COURAGEOUS LEADERSHIP

Power and Pride mean scores

The use of mean scores used in this section provide relationships between the power and pride from the RSLP and the MLQ subscales. The first MLQ subscale, idealized influence (attributed) has a no or negligible relationship (r = .039) with power and pride. Second, idealized influence (behavior) proves to have a strong negative relationship (r = .447) with power and pride. Next, inspirational motivation (r = .443) also indicates at strong negative relationship with power and pride. Intellectual stimulation proves to have a moderate negative relationship (r = -.316) with power and

pride. Finally, power and pride has a weak negative relationship with individualized consideration (-.280).

Table 14

Power and Pride correlation

		IA	IB	IM	IS	IC
PP	Pearson	.039	.447	.443	-.316	-.280
	Sig. (2-tailed)	.915	.195	.199	.374	.040
	N	10	10	10	10	10

*. Correlation is significant to the 0.05 level (2-tailed).

LEGEND: II(A) = IDEALIZED INFLUENCE (ATTRIBUTED) PP = POWER AND PRIDE
II(B) = IDEALIZED INFLUENCE (BEHAVIOR)
IM = INSPIRATIONAL MOTIVATION
IS = INTELLECTUAL STIMULATION
IC = INDIVIDUALIZED CONSIDERATION

Open-Ended Interview Protocol

Relationship development between a leader and follow is an important part of any virtual team. The open-ended questions for this section will provide a narrative that will suggest how executive healthcare leadership develops strong relationships in virtual teams.

Open-Ended Interview Question 2

Question 2 is designed to examine the communication patterns that executive healthcare leaders have with their followers by asking sample participants, *tell me about your leadership abilities, describe how you communicate with your followers and your relationship with them.* The sample respondents indicated that the relationship between leader and follower is a very important aspect of virtual teams. One sample participant stated:

> As a leader, I believe my responsibilities include finding the best people to do the job and helping to remove barriers so that they can work towards the best results. I expect my team to work independently, supporting their own teams. At the same time, I expect honesty and transparency and full communication. It is my job to create a safe environment where either good or bad news can be shared. I believe on focusing on the issues and not the person. Blaming is not productive.

Data from this question has also provided a leadership perspective that encourages follower involvement. The sample participants indicated that follower involvement is important by stating:

> I think it is important not to put people in narrowly-defined holes, but to allow exploration and growth whenever the opportunity arises. I find that flexibility promotes new ideas and process improvement. I try and encourage risk taking, even if the results are not as hoped. Finding the courage to take the risk is in itself a success.

These growth opportunities are only possible when communication is open. This is apparent when sample participants stated "My communication with my team needs to be honest and open. Together, we are stronger and better equipped to solve problems." Although as a healthcare leader, communicating the message is important, it is also important to communicate the message correctly. One sample participant suggested this by stating:

> I like to take a step back and ask myself "how do they want to be communicated with," some are techies, but they all like a face-to-face meeting. As leadership,

> they want us to know them as a person just as our patients want us to know them as people. So communicating with our followers depends on how they want to be communicated with, and how to make it effective. Sometimes it takes multiple levels of communication to be effective.

The sample participants also explored the idea of what it means to communicate effectively. Perceptions of idea communication were discussed; face-to-face was suggested to be irreplaceable when a sample participant stated, "there is still value in face-to-face; I still do rounds with my employees. I find that there is still information that needs to be shared face-to-face. For the most part my employees all love to text.

The use of ICT technology in healthcare is suggested to increase the flow of communication, but the information can still be misinterpreted. One sample participant indicated:

> It's much harder to interpret letters via whatever technology medium. For example, last night I got a phone call because whatever was going back and forth via text was not what we thought the conversation should be. Clarification sometimes requires voice or face-to-face.

According to the sample population, a leader that knows their audience is more effective when working in virtual teams, because "we have to know the person first before we can send an email or text. After you have established yourself with someone then you can begin to work on projects via technology." Although having a relationship between leader and follower is important, one sample participant indicated that:

> I think that technology can connect us more quickly, but there is this pace of change that is so rapid that it is so hard to keep up with. I find that if I'm not careful that it gets me in that mode of sending an email or text it does not say what I want it to say.

Sample participants have also indicated that developing a strong relationship in virtual teams requires the ability to know the technology available. According to one sample participant "some people do not know how to use text-based communication because they use all bold letters; and it seems as if people are yelling at me, and that might not be the case." Data for question 2 also shows that the sample participants are cognizant of what it takes to be an effective communicator.

> I'm in the business of people, healthcare, it's about touch and the relationship with people. So I would like to make the comment that there are different ages of people in leadership, and we have to communicate best with that age group. When we are communicating you can email, but a personalized hand written letter seems to make a different impression on people. Perhaps it is their age that your writing it to. An older person will be more impressed with a handwritten letter than an email, anybody can shoot off an email in a few seconds, and to take that time can make the difference. I need to promote that person relationship.

The sample participants have also indicated that the ability to develop strong relationships in virtual teams is a learned trait as a practitioner instead. One sample participant stated:

> When I first got into management, I started in wellness. My communication style is very direct, and I state the obvious. I naturally want to work in a team. I like to bounce ideas off of people when we work together.

Concurrently, another sample participant added:

> I did not have specific leadership training, but encouraged to be in leadership roles instead of actively seeking leadership roles. I tend to be socially adaptable depending on the type of group that I work with.

Other sample participants indicated that developing strong relationships in virtual teams requires the ability to change the way we communicate by stating "I can talk to people on an intellectual level or gregarious level. I like to get to know people and have them know me." Each sample participant also promoted the idea that to communicate with followers one must continue to grow as a person. The idea of continued personal growth was articulated by a sample participant by stating "we all continue to learn and grow. While I think that my skill set is strong in understanding leadership, I am one of those life long learners." Each sample participant also understood that the sample used in this study consisted of mostly women, and that strength came from open communication. One sample participant stated:

> We have the strongest team ever with an office of majority women, and we are strong because we communicate very well. We deal with problems head-on and seen as learning experiences. We also try to have a social component to our staff that might be put on the calendar for people to join outside the office prefer to work with people directly instead of using ICT technology.

Open-Ended Interview Question 5

Next, question 5 asks *What are some conceptual aspects of e-leadership that you believe in and practice?* The use of this question 5 provides perspective for developing strong virtual teams. The sample participants promote the use of technology to communicate with followers, but suggest that as an e-leader there are some problems with the use of ICT technology. This is articulated by one sample participant when they stated:

> e-leadership brings another level of anxiety and fear because, 'did I see that message; did I get that message about the updated policy that allows me to act quickly.' The other side of that is that we are able to communicate with that employee on the front lines about doing something and making decisions quickly in a way that we couldn't have prior to today's technology. There is also an increase responsibility and anxiety with that.

The lack of trust in communication seemed to be unanimous between the sample participants. One sample participant provided an example of how ICT technology has failed while working with virtual teams by saying:

> The problem is that technology does not always work. Three corporate (COO) leadership emails went into my junk mailbox; and that is high anxiety because even if I did a search, the email would not show up. Now I cannot count on technology, and that becomes place of excuse that either I really did not get the email or like some employees, they will say they will just say they did not get the email to get out of it. The fact that email is so instantaneous, it really cuts down

> on our creativity, and now we don't have time to think. We used to be able to take time to get things done (think and reflect). Now everything is flying in and out of our office. We don't have time to think about what we just did because we have fires to put out all the time.

The sample participants agreed that the biggest mode of communication between virtual teams is email. As previously stated, there are pros and cons to using email. It was noted by one sample participant that:

> One of the biggest pieces is email, but it is a friend and foe. The reason for that is that we have gotten so dependent on email that we have given up personal styles of communication. We are a little less in control in how our message is being interpreted.

Open-Ended Interview Question 6

Building strong relationships in virtual teams requires certain e-leadership traits. Question 6, *How do you translate the philosophy of Servant Leadership and Transformational Leadership into practice? What methods do you employ*? provides a narrative which can be used to help answer research question three. The sample participants were given examples of both servant and transformational leadership and have stated similar philosophies equal to:

> My philosophy is that it is my job to make sure the tools and resources are available to those that I am working with. If time is needed to mentor and help the project move forward, which is how the time is spent first before I work on those deadlines that have been set for the projects I am working on.

It should also be noted that although some of the sample participants had an understanding of both leadership theories, others agreed with the theories and stated:

> I did not previously know of either of these philosophies by these names. I would say I am somewhere in the middle. Because I lead functions that I myself cannot do, my team leaders are often the creators of the visions for their areas and often the motivators in getting goals met. My team leaders are very self-directed, and my job is to support them in their efforts making sure they have the proper tools and barriers are removed. As a team, we discuss goals around patient experience, employee engagement, and regulatory compliant. My involvement in identifying a specific vision is dependent on the individual leaders.

In some instances, the sample participants have stated that although they personally believe in the aforementioned theories, it is difficult to break old managerial habits that followers' have when saying:

> I have worked for years to empower my employees to be able to answer questions, ask a manager, ask a V.P. and do this yourself. I struggle with this in the healthcare environment with some reports because they feel that it is the bosses job to tell me what to do. I shouldn't be asking anybody or questioning anybody. To me, the most important part is empowering the employees; and it isn't just the boss who is smart, or it isn't the boss that should tell you what to do.

Equally, other sample participants state that "If I didn't empower my people, I wouldn't be able to do what I do," which was also articulated when another sample participant gave an example by stating:

> Do what you need to do to make the patient happy and then tell us, and if that wasn't the best idea then we can discuss how to do it better next time. Know you your audience though. I had an employee that didn't like to answer email, so I had to go to his office to ask him to check his email at least once a day. I knew that if I wanted something from him, I needed to physically go to his office.

The idea of being a servant leader in a healthcare organization was explained by a sample participant by saying:

> To me, a servant leader is someone that will only ask you to do something that they would not do themselves. An example of that is making rounds or checking on patients. Transformational leadership is different because true motivation comes from influence and not power. To really transform an organization through technology or any of that, it requires role modeling influencing and inspiring.

In response, sample participants began describing an example of how empowering the follower results in positive outcomes by saying:

> You have to be open to the fact that someone else might have a different idea. As a servant leader you have to trust that it might be the right answer and accept the failure if it is not. We have an employee that wanted to put electronic health records in all of our community physician offices which is a huge expensive initiative, and it was a little scare for me and her. We had to trust that it was going to work out, and it did. There was a lot of two-way trust that had to happen and accepting that it may or may not work.

Servant leadership traits proved to be existent in the data collected for this question, but one sample participant remembered that:

> The mission of the company is to be a servant to the patient and the community. We constantly talk about how we can serve the patient and community. Most of that is done verbally, but it is also done via email and embed in the communication a statement of how the mission impacts patent care.

Open-Ended Interview Question 7

Question 7 of the interview protocol expands on question 6 by asking *Give me some examples of your application of these leadership theories* which allows the researcher to address examples of e-leadership development in virtual teams. Although responses were lacking in concrete examples, one of the sample participants did say that having a rapport with followers can help open communication by saying:

> I take the time to know those that I work with. I know about their families and support their work/life balance. We communicate every morning and generally at the end of the day to take time with where we are at on things that need to be accomplished. They have access to my calendar and have the ability to place time for discussion of what they need.

Another sample participant said that fostering positive growth is a big part of leadership but at times leaders have to reject ideas.

> When I am not able to follow servant and transformational theories, I feel like failure. There are times when you need to go to a person that reports to you and say nope regardless of how creative you are or how much you think you are doing

> the right thing; you have to say no. I always do feel that there should have been a way to get here without doing the authority thing.

Leaders in the sample agreed that errors need to be made in order to grow as a team. One of the sample participants articulated this idea by saying:

> When I first was given leadership roles, I was told that if I was not making mistakes then I was not trying. That gave me permission to fail and to be called on, and that is important for people to learn.

Open-Ended Interview Question 9

Each of the participants were asked *What are some outcomes/impacts of virtual teams on your followers? How do you assess the impact? In what other areas do you see impact?* This question was developed to understand how e-leaders in a healthcare organization see the impact of virtual teams and its role in developing strong relationships in virtual teams. Many of the sample participants agreed that virtual teams can help facilitate information quickly but were concerned with how virtual teams impact work/life balance. The sample participants indicated these work/life concerns by saying:

> It is too easy to forget to share what is learned as they are not part of the process. While the information flow is moving at record speeds, we do not always communicate the outcomes successfully. Difficult for work/life balance when technology tethers you to the job outside of work time.

The sample participants seem to be in constant communication within the executive leadership team, but at the same time, it was articulated that virtual teams can create a silo effect which can hinder the transmission of information.

> Some of the projects I have worked on get me so caught up in the project and so involved setting up what needs to be done; you forget to share it with your followers. That then creates communication problems because it is lovely that you know, but can you remember to begin to share with your followers?

The ICT technology used by the sample participants did not seem to involve much video communication. This lack of video communication could lead to a potential decreased involvement between leader and follower. A sample participant articulated this by saying:

> Inclusive participation can be difficult in virtual teams when you are on conference calls because people are anonymous. You often have to call people out because people are not comfortable speaking to a black hole.

It should be noted that the sample participants approve of the technology used to communicate with virtual teams, but there are still some drawbacks with telemedicine. One sample participant stated this by saying "The telemedicine team works, but the communication isn't as direct as you would have in a person." These thoughts were agreed upon by many of the sample participants, and were done so in a positive light as virtual teams have increased productivity and patient care.

Summary

The research conducted in this study used three survey instruments to gather data needed to measure e-leadership constructs. Data collected from the sample participants were used to answer the three research questions presented in the study. The first question asks what aspects of e-leadership construct positively relates to the executive healthcare leadership perceptions of ICT technology. Second, how should e-leaders be

developed in a healthcare environment? Third and finally, how do healthcare e-leaders develop strong relationships in virtual teams? The sample participants consisted of executive healthcare leaders from a single rural hospital. Of the 10 sample participants, all of them were able to complete each of the three survey instruments.

Sample participants' responses in research question 1 indicated nine correlations (very strong positive correlation and strong positive correlation) between the RSLP and MLQ used in this study. Each of the correlated subscales directly link to measuring e-leadership construct as indicated in chapter 2 with a Pearson correlation coefficient (r) of .650 or higher. The qualitative data collected through the interview protocol used three questions (4, 5, and 8) to provide narrative which explained how healthcare executive leadership is positively impacted by ICT technology. Sample participants' answers indicated that much of the daily communication focuses on the use of technology and provides leaders with constant contact between leaders and followers. Finally, the sample participants indicated that the implementation of ICT technology has increased patient care by allowing for more specialized employees to be in contact with leaders at the local level.

Research question 2 provided data that described the mean score of both RSLP and MLQ subscales compared to the normative data provided for the RSLP (Page & Wong, 2000), and MLQ (Bass & Avolio, 2004). Overall, the sample participants RSLP scores were higher than the normative data provided by Page and Wong (2000). The data from the MLQ scores were also higher than the normative data with the exception of the idealized attributes characteristic which scored lower than the normative data. Next, the

MLQ mean scores were compared to the percentile scores provided by the authors. The data gathered from the sample participants indicated percentile ranking fell between the 40% and 50% when compared to the scores percentile scores provided by the author. The qualitative data also indicated a positive perception of e-leadership constructs as the sample participants see ICT technology as a positive attribute to daily communication. Although the technology and processes used in ICT technology have been indicated to be in need of refinement, many of the technologies have brought increased communication to the sample participants.

Finally, research question 3 measured characteristics of e-leadership by measuring Pearson correlations between two different sets of RSLP and MLQ means. The first set of means that were correlated used intellectual consideration and open, participatory leadership. Results from this correlation indicate that there is a negligible correlation between intellectual consideration and open, participatory leadership. Data conversely shows a strong positive correlation between individualized consideration, developing and empowering others, and serving others. The open-ended interview protocol data shows that the relationship between leaders and followers should be developed using servant and transformational leadership theories based on sample participant responses. Much of the sample participant data indicated that ICT technology positively affects virtual teams, but the use of face-to-face communication still has added value to those working in healthcare.

CHAPTER V

DISCUSSION, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

Introduction

A summary of results from Chapter IV will be discussed in this chapter. This chapter start with a discussion of research methodology used to analyze data in Chapter IV. Next, this chapter discusses major findings, conclusions, implications, and recommendations for future research and professional practice. Finally, concluding thoughts are offered for this study.

The construct of e-leadership was reviewed in this study within the context of healthcare leadership which introduces data for emerging e-leadership literature. Introducing e-leadership to the healthcare industry provides a new perspective to current e-leadership literature. Current literature on e-leadership focuses on anecdotal evidence and few have specifically introduced the concept of e-leadership via an empirical study. The introduction of e-leadership to the healthcare industry is intended to increase patient care, communication using ICT technology, and follower engagement.

Purpose Statement and Research Questions

The purpose of this research was to identify the components of e-leadership theory and how it can be used to teach healthcare leaders to develop virtual teams in a healthcare organization. This study was defined in a way in which leaders can use e-leadership components to increase the efficacy of virtual teams. Finally, the intent of this research is to provide baseline data for future executive leadership healthcare studies which contribute to current e-leadership literature.

Three research questions were addressed during this study:

1. What aspects of e-leadership construct positively relate to executive healthcare leadership perceptions of ICT technology?
2. How should we develop e-leadership in a healthcare environment?
3. How do healthcare e-leaders develop strong relationships in virtual teams?

Research Methodology

This study used a mixed-method case study approach to measure the perceptions executive healthcare leaders had of e-leadership constructs. Two surveys were used to measure the e-leadership construct and gain a quantitative perspective of e-leadership. The two survey instruments used were intended to measure servant leadership (RSLP) and transformational leadership (MLQ) which define the e-leadership construct. In order to gain an increased understanding of e-leadership constructs, group interviews were used to provide a narrative to the e-leadership literature. Prior to taking the surveys, sample participants were asked to sign consent forms and take a demographics survey. Each survey instrument was made available to each sample participant via SurveyMonkey Inc. (2015).

The sample used in this study returned homogeneous data from a single executive healthcare leadership team. Data collection via SurveyMonkey Inc. (2015) proved to be the most efficient mode due to the remoteness of the sample hospital and amount of travel required of each executive. Including the open-ended responses gave each sample participant a chance to provide narrative to each of the interview protocol questions. The concurrent data collection method was used to collect both quantitative and qualitative

data for this study due to time constraints placed by the healthcare organization. Once collected, both quantitative and qualitative data was triangulated and analyzed to strengthen the study (Krathwohl, 2009). Although the study provides data that supports the linear relationships to build knowledge about the e-leadership construct, the sample size (n = 10) used is not significant and thus should not be used to infer any perceptions of executive healthcare leadership populations.

Discussion

Research Question 1. Results from Research Question 1 provided aspects of e-leadership construct which positively relate to executive healthcare leadership perceptions of ICT technology. The data used to answer the first research question included very strong positive correlations between 7 of the 13 subscales (RSLP and MLQ), with Sig. (2-tailed) values ranging from .002 and .024 suggesting statistical significance between each of the subscales. Each of the ten sample participants provided complete data needed to answer the Research Question 1. Each of the leadership surveys were analyzed using a Pearson correlation coefficient to determine linear relationships between subscales. It should be noted that transactional leadership is also measured using the MLQ which provided a subscale (Extra Effort) that positively correlated with statistical significance.

The results from the data used to answer the first research question indicated very strong positive relationships (r = .838) between the idealized influence (behavior) and serving others subscales. These very strong positive relationships indicate that the sample participants have a strong sense of purpose, collective sense of mission, and are willing to

personally sacrifice what is needed to help others. Second, data suggests a very strong positive relationship between inspirational motivation and three RSLP subscales: developing and empowering others (r = .789), serving others (r = .702), and inspiring leadership (r = .751). These three very strong relationships indicate that the sample participants have the ability to motivate their followers talk with confidence while keeping a servant's heart. These subscale qualities are necessary for e-leaders because of the constant use of ICT technology which reduces the amount of face-to-face (and nonverbal) communication that is traditionally available with working relationships. The sample participants' in this study suggested that they would define ICT technology as including "all tools including P.C. and emails, and cell phone/iPads and texting, and of course regular phones."

Next, the study revealed that there is a very strong positive relationship (r = .753) between intellectual stimulation and visionary leadership. The strong positive relationship between these two subscales indicate that the sample participants' in this study seek different perspectives from their followers to solve problems while keeping an enthusiastic focus on future goals. Providing a chance for followers to engage in problem solving activities with enthusiasm is fundamental for an e-leader due to the isolated environments virtual teams can create. These quantitative results were also validated when a sample participant indicated,

> I think one of the things that technology does is take down formal barriers. When I send an email out to a large group of folks, it allows individual folks to reply and communicate directly with me if they want to communicate.

The strong negative relationships were analyzed showing strong negative relationships between the laissez-faire subscale from the MLQ and two RSLP subscales, power and pride (r = -.433), and courageous leadership (r = -.518). These measurements indicate that the sample participants in fact have the characteristics to be executive leaders, as we see that their laissez-faire characteristics decline as power and pride and courageous characteristics rise. These characteristic are particularly in line with e-leadership because an a leader that works in virtual teams need to project confidence and be seen as a positive and confident leader due to the lack of frequent face-to-face contact.

The study data also indicated that the individualized consideration subscale had a very strong positive relationship (r = .721) with the inspiring leadership subscale. This relationship indicates that the sample participants tend to develop followers as mentors and look for and explore specific traits of each follower. As an e-leader, it is important to have these traits because virtual teams can make members feel isolated due to geographic location. For an e-leader, having the ability to act as a mentor and show inclusion could have the ability to breakdown the feeling of geographic locations.

Finally, measurement from the MLQ subscale which measures transformational leadership indicates a very strong positive relationship (r = .740) between extra effort and inspiring leadership. When e-leaders have these traits, the followers feel inspired by the leader's desire to succeed, which can keep virtual team members engaged while working remotely. The results from this research question indicate that the sample participants possess the necessary characteristics for e-leadership and as one sample participant

stated, accepting of new technologies that "bring in expertise that you might not normally have access to because of there are not limits for you geographically."

Research Question 2. Next, Research Question 2 was designed to examine areas of development for e-leaders in the healthcare environment. The data used to answer this question studies the mean scores of the RSLP and looks for relationships between comparative RSLP leadership data, and then compares MLQ data to normative MLQ data provided Bass and Avolio (2004). Next a percentile ranging of the mean for MLQ data is compared to the norm table percentile data provided by Bass and Avolio (2004).

Mean scores from the sample participant data proved to be higher in each of the seven categories when measured to the comparative data. It should be noted that the power and pride subscale is scored in reverse due to being a negative trait. The sample participant mean score proved to score higher (scored in reverse) at r = 1.98, where the comparative mean score measured r = 2.28. Qualitative data gathered from the study also promote the quantitative findings and were indicated when a sample participant stated,

> I take time for people to understand why decisions are to be made or why I cannot share information, but when I can we will. In some cases, I can be more determined in terms of a nurturing leader than more of a hardcore leader.

Comparisons between the MLQ mean score sample data and normative data provides transformational subscale percentile rankings. Of the five MLQ subscales, only the idealized attributes (r = 2.89) characteristics subscale proved to be lower than the normative sample mean (r = 2.95). The subscale mean comparisons suggest that the sample participant data promotes positive e-leadership traits. When addressing the

idealized attributes subscale, data suggests that the sample participants might need development in this area. When comparing data from the RSLP and MLQ, previous research indicates that e-leaders should have a lowered idealized attribute score. The lowered idealized attribute score suggests that an e-leader will have a lower sense of power and confidence which should correlate negatively with both RSLP and MLQ instruments. Power and confidence although present in the qualitative interviews, did not indicate a need for exploitation in order to accomplish tasks. The sample participants' indicated this concept by stating,

> I would say my philosophy is that teamwork and cooperation is better than brow beating to increase collaboration. I personally am a type A person and I have learned over the years to adjust that so that I am not so controlling and more helping. Everyone knows that there is accountability in our office, and in the past have not been as strong, but have picked this up over the years in a positive way.

Finally, data from the sample MLQ mean scores are compared with percentile for individual scores based on total of all rating levels in the United States (Bass & Avolio, 2004). The data examined in this section provides a baseline for future healthcare leadership and other contexts of leadership research. Once again the sample participants ranked lowest in idealized attributes with a percentile ranking in the 40^{th} percentile. Idealized behavior and inspirational motivation ranked in the 50^{th} percentile, and intellectual stimulation and individualized consideration ranked in the 60^{th} and 70^{th} percentile respectively. These percentile scores further suggest that the sample participants portray e-leadership characteristics based on current literature and their

percentile rankings. The overall acceptance of ICT technology within the sample participants was best articulated when one participant stated,

> I don't know that you have any choice any more with regards to learning the new technologies communicating in the most expedient fashion using the technology that makes the most sense. For the most part people respond well, but once again, there is a lot of discussion about the "humanity" of communication being lost.

Research Question 3. The final research questions how e-leaders develop strong relationships in virtual teams. The data used in this section first includes Pearson correlations which analyze the relationship between the intellectual stimulation (MLQ) subscale and the open, participatory leadership (RSLP) subscale. Next, the relationship data was analyzed from the individualized consideration (MLQ) and both developing and empowering others, and serving others from the RSLP. These subscale characteristics were chosen based on an e-leaders need to consider virtual team follower's individual perspectives and developing the follower's personal strengths.

The measurement between the intellectual consideration and developing and empowering others subscales suggests a weak positive relationship of $r = .231$. A weak positive relationship between these two subscales suggests that although these two subscales might not have a very strong positive correlation, the subscales do move in the same direction when measured. The statistical data gathered between the intellectual consideration and developing and empowering other subscales was articulated by the sample participants when they stated that,

> As a leader, I believe my responsibilities include finding the best people to do the job and helping to remove barriers so that they can work towards the best results. I expect my team to work independently, supporting their own teams. At the same time, I expect honesty and transparency and full communication. It is my job to create a safe environment where either good or bad news can be shared. I believe on focusing on the issues and not the person. Blaming is not productive.

Further qualitative data suggests that the sample participants require followers to be developed and empowered enough to work independently while in virtual teams by stating,

> e-leadership brings another level of anxiety and fear because, 'did I see that message; did I get that message about the updated policy that allows me to act quickly.' The other side of that is that we are able to communicate with that employee on the front lines about doing something and making decisions quickly in a way that we couldn't have prior to today's technology. There is also an increase responsibility and anxiety with that.

This suggests that the sample participants, although interested in developing followers, are also concerned with making sure that the people they employ to work with them should already have much of what is needed to accomplish required assignments.

Data collected to measure the idealized consideration subscale of the MLQ was compared with two subscales from the RSLP. The first RSLP subscale compared to the idealized consideration subscale was developing and empowering others suggesting a strong positive relationship ($r = .435$). Next, the serving others subscale was compared to

the idealized consideration subscale providing a strong positive relationship (r = 417). These two strong positive relationships suggest that e-leaders who spend time working with followers of virtual teams as individuals provide a sense of empowerment and do what is necessary for the follower to succeed. Sample participants also suggested that they are interested in empowering virtual team follower by stating,

> My philosophy is that it is my job to make sure the tools and resources are available to those that I am working with. If time is needed to mentor and help the project move forward, which is how the time is spent first before I work on those deadlines that have been set for the projects I am working on.

Data collected is also represented when a sample participant stated,

> I think it is important not to put people in narrowly-defined holes, but to allow exploration and growth whenever the opportunity arises. I find that flexibility promotes new ideas and process improvement. I try and encourage risk taking, even if the results are not as hoped. Finding the courage to take the risk is in itself a success.

The data collected for this question suggests that the sample participants are concerned with developing their virtual team followers, it is also necessary for these sample participants' to have qualified staff that can work autonomously. The sample participants also show to have a need to provide what is needed for followers to accomplish tasks effectively in a way that includes personal creativity.

Conclusion

Instrumentation used for this study was used based on the current literature suggested to indicate potential characteristics of e-leadership. After analysis of both quantitative instruments many very positive relationships have been discovered that suggest the use of both servant and transformational leadership theories provide measurement to e-leadership characteristics. The sample participants used in this case study suggest that executive healthcare leaders have the potential for effective e-leadership roles (Avolio &Kahai, 2002).

The research suggest that the executive healthcare leaders used in this study have the characteristics needed to inspire and empower followers of virtual teams (Aryee, 2012; Quisenberry & Burrell, 2012). These qualities are particularly important for executive healthcare leaders working in rural locations due to the constant use of technology to increase the contact with experts that were once unable to work with rural patients. These executive healthcare leaders can use virtual teams to work on challenging issues by using intellectual stimulation to engage in the development of solutions (Sosik et al., 1998). As stated by the sample participants, the goal of the rural hospital is to serve the community which is indicated in both quantitative and qualitative instruments. The ability to have servant leadership skills promote virtual teams by increasing levels in engagement and influence of the followers (Avolio & Kahai, 2002; Yukl, 2013).

Implications

Much of the research that has been done to measure e-leadership has looked at individual's constructs that have been suggested to build the e-leadership

construct. In this formal study, data is presented that provides results that can be used as baseline data for future studies that look to measure e-leadership. The data in this study has also developed the knowledge of research in not only e-leadership theory, but also servant and transformational leadership.

Findings from this research study have helped build empirical evidence of the e-leadership theory and an understanding of executive healthcare leadership. The data gathered in this study should be used to develop themes used to inform, guide, and develop executive healthcare leaders as e-leaders. Data gathered in this study reinforced the perceptions executive healthcare leaders have about e-leadership constructs. The study also reflected the need for increased support for leadership training to improve e-leadership characteristics.

The goal of this study was to improve the base knowledge for developing an e-leader based on quantitative measurements. By conducting this study, insights of e-leadership can be used to develop programs used to increase executive healthcare leadership virtual team acumen. This study also provides a baseline for detecting levels of e-leadership characteristics which can be used to build effective virtual teams in the healthcare field. The use of qualitative research has allowed for dialogue used to understand the perspective executive healthcare leadership has of e-leadership theory and challenging areas for future research.

The research conducted for this study has provided insight for practical implication. The data gathered indicates that the sample executive healthcare leaders located in rural hospital locations rank high in both servant and transformational

leadership which measure the e-leadership theory. These measurements indicate that sample executive healthcare leadership have the characteristics necessary for technology integration. Additionally, these executive healthcare leaders also prove to have characteristics necessary to work in virtual teams needed to improve patient care. Many of the sample participant qualitative responses parallel this data and indicate that the sample participants are perceptive to ICT technology and look forward to improved use of new ICT technologies.

Research conducted in this study could also mean that other executive leadership groups could produce similar responses to both RSLP and MLQ instruments. Although other sample participants could score similarly to the current executive healthcare leadership sample, future sample participants might not have similar perceptions of ICT technology integration.

Finally, the data serves as evidence that executive healthcare leaders working in rural hospital locations have the needed e-leadership characteristics to lead virtual teams. Although these rural executive healthcare leaders have learned to work in virtual teams, more data needs to be collected to analyze the e-leadership abilities of those working in the same virtual teams located in corporate-urban locations.

Limitations

The limitations for this study include the time given for the study and the culture of the organization could be viewed as limitations for this study. Time could prove to be a limitation for this study as the time allotted for this study did not provide enough time

to conduct a study of experimental design. Time needed to conduct an experimentally designed study would require the busy executive leadership team to meet with the researcher for multiple meetings and take time for multiple e-leadership surveys. The culture of this healthcare organization functions with intrinsic desire for patient service. It is this intrinsic desire to serve patients that could skew servant leadership data from the RSLP. Additionally, the employees working in the sample hospital have specific training that not only give them an intrinsic desire to serve patients, but the industry has a history of technology integration which could skew perceptions of e-leadership. Finally, the sample participants' indicated that they not only experienced change, but were trained to deal with change. A culture that deals with change that could affect the transformational leadership data.

Recommendations

Results from this study have provided recommendations for future practice and future research.

Future Practice

The e-leadership theory research conducted in this study used a sample of executive leaders that currently work in a rural location and rely on ICT technology to communicate with corporate leadership and specialized medial staff. Findings from the data gathered in this study have provided three emerging recommendations for future practice.

Recommendation 1

The first recommendation for future practice is the development of healthcare leaders in an educational setting. Per the qualitative research with the sample participants, much of the leadership training that the executive leadership team has been done based on personal need; none of which have explicitly covered e-leadership. Although much of the leadership training the sample participants have received correlated with the e-leadership theory as a construct, a specialized training seminar focusing on e-leadership and ICT technology could benefit both executive leadership and their direct reports.

Recommendation 2

The second recommendation to develop a training program that specifically discusses the use of ICT technology software/hardware. During this training program, leaders and followers will be introduced/reintroduced to the contextual use of ICT software/hardware and define a concrete process for communication.

Recommendation 3

The final recommendation is to implement the use of synchronous video communication between executive leadership and followers. Research conducted in this study has suggested that much of the communication between executive leadership and followers is done via text communication (email, IM, text). Use of such text communication, although quick, does not take into account for inflection and interpersonal perceptions. Use of video based communication could reduce communication error and improve leader-follower relationships.

Future Research

The e-leadership theory research has yet to analyze instruments that work concurrently to measure leaders e-leadership characteristics. Further research should be conducted to increase the knowledge of healthcare e-leadership. The following represent three recommendations for expanding the knowledge base for the e-leadership theory.

Recommendation 1

The data gathered for this case study used a single executive leadership group located in a rural hospital in Northern California. Few studies have analyzed e-leadership as a construct where both RSLP and MLQ instruments are used to measure executive healthcare leadership e-leadership characteristics. Further research needs to be completed that analyze a larger sample size that allows for statistically significant levels of external validity where assumptions can be made about the e-leadership theory as a construct using both RSLP and MLQ instruments.

Recommendation 2

The second recommendation is for future research to be conducted to measure the engagement levels of those followers involved in virtual teams. Engagement scores can then be compared with both the RSLP and MLQ e-leadership instruments. These measurements of both executive leadership e-leadership characteristics and engagement can then be compared to provide further evidence used to increase communication within virtual teams.

Recommendation 3

The next recommendation for future research is to measure the anxiety levels of those followers that work in virtual teams. These anxiety levels would then be compared to the e-leadership instruments (RSLP and MLQ). These anxiety level measurements can then be used to develop an understanding of how anxiety levels affect follower demographics. Once these anxiety demographics are outlined, training can be developed to decrease anxiety levels.

Concluding Remarks

During this study a perception of executive healthcare leadership were examined within the context of e-leadership theory. Technology integration is a necessary part of most organizations, and this study has shown how important ICT is for rural healthcare organizations. The executive leadership used in this study have provided a narrative that promotes much of what was hoped for from its participants.

The data gathered for this study included many very strong positive relationships between the two survey instruments. These findings provided a hopeful indication that future research can be measured using these survey instruments. The sample participants' qualitative responses also mirrored the quantitative data which further indicates that executive healthcare leaders show necessary characteristics for effective e-leadership. While the findings do not suggest that all executive healthcare leaders possess these characteristics, it is comforting to know that these leaders are accepting and willing to use ICT that can improve patient care.

Results from this study provide a starting point for healthcare leaders to begin the discourse needed to improve effective technology communication. Although results indicate that executive healthcare leaders are aware of and ready to accept new technologies, the idea might not be as strong with the corresponding followers or direct reports. Working at a distance within the rural hospital setting has its limitations with specialty care, but technology has given rural hospitals a level of support that patients need.

Introducing technology into a rural hospital can bring the much needed support to patients, but the disparity between leadership and follower acceptance can determine ICT efficacy. The research in this study indicates that the leadership is willing to implement new technology, but this might be due to an executive level vantage point and understanding of how new ICT can empower patients and staff. Knowing how or why new ICT is necessary or can be used to increase patient care may be beneficial, and it is because of this that more studies need to be completed to understand the follower's perspective on ICT integration. E-leadership training for both leaders and followers could increase the efficacy of ICT integration and provide a needed forum for healthcare teams to discuss perceived issues and develop the necessary cultural norms needed for effective communication.

With the proposed e-leadership training, these leaders and followers can begin to lower anxiety levels that might occur when introducing new technologies and communication patterns. It is also proposed that the support from e-leadership training could also increase engagement levels from the followers, producing increased data

transfer between leader and follower via ICT. Much is to be learned from the implementation of e-leadership in the healthcare filed, but with effective measurement, research can continue to understand how ICT effects virtual teams in healthcare organizations.

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APPENDICES

APPENDIX A

UNIVERSITY OF SAN FRANCISCO

CONSENT TO BE A RESEARCH PARTICIPANT

Purpose and Background
Mr. Kevin Lovelace, a doctoral student in the School of Education at the University of San Francisco is conducting a study of e-leadership efficacy in a healthcare organization. The researcher is interested in exploring how members of a healthcare organization use e-leadership theory to increase communication using information communication technology in virtual teams. I am being asked to participate because I am a member of a healthcare organization and work in a virtual team.

Procedures
If I agree to be a participant in this study, the following will happen:

1. I will participate in one 60-minute e-leadership seminar with the researcher, during which I will be asked about my professional information communication leadership abilities. This interview will take place at a location selected by the healthcare organization.

2. I will be asked to take two leadership surveys prior to the e-leadership seminar to establish e-leadership acumen.

3. I will be asked to provide a review of all documents that have been submitted for analysis such as responses to seminar questionnaires.

Risks and/or Discomforts
1. There will be minimal risk involved in this study if any. There will not be any risk by participating in the seminars, interviews, or sharing of sensitive information. I am free to decline any of the procedures involved at anytime.

2. Confidentiality will be protected as far as is possible. Pseudonyms will be used to protect my confidentiality and the confidentiality of my school. The interviews will be digitally recorded and transcribed. At no time will anyone other than the researcher have access to the recorded interviews, documents, and field notes. The data will be stored in a secure file.

Benefits
The benefit for this research will be the advancement in understanding e-leadership theories and application to healthcare organizations. It is the goal of the researcher to

publish finding of e-leadership theory and to use the information as a base for future research.

Costs/Financial Considerations
There will be no financial cost to me as a result of my participation.

Payment/Reimbursements
I will not receive any financial or material compensation for my participation.

Questions
If I have any questions or comments about participation in this study, I should first talk with the director of leadership development. If for some reason I do not wish to do this, I may contact the researcher, at kjlovelace@dons.usfca.edu. I may reach the IRBPHS office by calling (415) 422-6091 and leaving a voicemail message, by e-mailing IRBPHS@usfca.edu, or by writing to:

IRBPHS
Counseling Psychology Department, Education Building
University of San Francisco
2130 Fulton Street
San Francisco, CA 94117-1071

Consent
I have been given a copy of the "Research Subject's Bill of Rights" and I have been given a copy of this consent form to keep. PARTICIPATION IN RESEARCH IS VOLUNTARY. I am free to decline to be in this study, or to withdraw from it at any point. My decision as to whether or not to participate in this study will have no influence on my present or future status as a student or employee at USF. My signature below indicates that I agree to participate in this study.

_____

Participant's Signature Date

_____

Signature of Researcher Date

APPENDIX B

UNIVERSITY OF SAN FRANCISCO

Protocol Exemption Notification

INTERVIEW PROTOCOL

Time of Interview:

Date:

Place:

Participant:

Position of Participant:

*Mention: the purpose of the study, data sources, data collection process, confidentiality, length of interview, consent form.

Questions:

1. Tell me about yourself, your professional background, and your relationship with leadership and technology integration.
2. Tell me about your leadership abilities, describe how you communicate with your followers and your relationship with them.
3. What is your overall leadership philosophy?
4. How do you define ICT technology?
5. What are some conceptual aspects of e-leadership that you believe in and practice?
6. How do you translate the philosophy of Servant Leadership and Transformational Leadership into practice? What methods do you employ?
7. Give me some examples of your application of these leadership theories.
8. What are some successes and challenges you have encountered in the process of working with virtual teams?
9. What are some outcomes/impacts of virtual teams on your followers? How do you assess the impact? In what other areas do you see impact?
10. Do you engage in ICT technology integration with fellow leaders and staff? How do they respond?

*Thank my participant. Assure confidentiality. Set up follow-up interview

APPENDIX C

DEMOGRAPHICS SURVEY

1. Are you male or female?
   - Male
   - Female
   - Transgender

2. Which category below includes your age?
   - 17 or younger
   - 18-20
   - 21-29
   - 30-39
   - 40-49
   - 50-59
   - 60 or older

3. How would you classify yourself?
   - African American
   - American Indian/ Alaskan Native
   - Asian
   - Caucasian/ White
   - Native Hawaiian/ Pacific Islander
   - Hispanic/ Latino
   - Other

4. What is your current marital status?
   - Divorced
   - Living with another
   - Married
   - Separated
   - Single
   - Widowed

5. What is the highest level of school you have completed or the highest degree you have received?
   - Less than high school degree
   - High school degree or equivalent (e.g., GED)
   - Some college but no degree
   - Associate degree
   - Bachelor degree
   - Master's degree
   - Doctorate degree

6. Which of the following categories best describes your employment status?
   - Employed, working 40 or more hours per week
   - Employed, working 20-39 hours per week
   - Employed, working 1-20 hours per week

7. How many children under 18 years old live in your household?
   - None
   - 1
   - 2
   - 3
   - 4 or more

8. Which describes your role in your current position?
   - Upper Management
   - Middle Management
   - Administrative staff
   - Support staff

9. How long have you used the internet?
   - Never used it
   - Less than 6 months
   - 6 to 12 months
   - 1 to 3 years
   - 4 to 6 years
   - 7 years or more

10. How frequent do you access the web from the following places?

	Daily	Weekly	Monthly	Never
From home				
From work				
From other places				

11. What is your primary computing platform?
   - DOS
   - Macintosh
   - OS2
   - Unix
   - Windows
   - Other

APPENDIX D

Servant Leadership Profile - Revised (RSLP**)**

Leadership matters a great deal in the success or failure of any organization. This instrument was designed to measure both positive and negative leadership characteristics.

Please use the following scale to indicate your agreement or disagreement with each of the statements in describing your own attitudes and practices as a leader. If you have not held any leadership position in an organization, then answer the questions as if you were in a position of authority and responsibility. There are no right or wrong answers. Simply rate each question in terms of what you really believe or normally do in leadership situations.

1	2	3	4	5	6	7
Strongly Disagree (SD)			Undecided			Strongly Agree (SA)

For example, if you strongly agree, you may circle 7, if you mildly disagree, you may circle 3. If you are undecided, circle 4, but use this category sparingly.

1. To inspire team spirit, I communicate enthusiasm and confidence.	1	2	3	4	5	6	7
2. I listen actively and receptively to what others have to say, even when they disagree with me.	1	2	3	4	5	6	7
3. I practice plain talking – I mean what I say and say what I mean.	1	2	3	4	5	6	7
4. I always keep my promises and commitments to others.	1	2	3	4	5	6	7
5. I grant all my workers a fair amount of responsibility and latitude in carrying out their tasks.	1	2	3	4	5	6	7
6. I am genuine and honest with people, even when such transparency is politically unwise.	1	2	3	4	5	6	7
7. I am willing to accept other people's ideas, whenever they are better than mine.	1	2	3	4	5	6	7
8. I promote tolerance, kindness, and honesty in the work place.	1	2	3	4	5	6	7
9. To be a leader, I should be front and centre in every function in which I am involved.	1	2	3	4	5	6	7
10. I create a climate of trust and openness to facilitate participation in decision making.	1	2	3	4	5	6	7
11. My leadership effectiveness is improved through	1	2	3	4	5	6	7

empowering others.

12. I want to build trust through honesty and empathy.	1	2	3	4	5	6	7
13. I am able to bring out the best in others.	1	2	3	4	5	6	7
14. I want to make sure that everyone follows orders without questioning my authority.	1	2	3	4	5	6	7
15. As a leader, my name must be associated with every initiative.	1	2	3	4	5	6	7
16. I consistently delegate responsibility to others and empower them to do their job.	1	2	3	4	5	6	7
17. I seek to serve rather than be served.	1	2	3	4	5	6	7
18. To be a strong leader, I need to have the power to do whatever I want without being questioned.	1	2	3	4	5	6	7
19. I am able to inspire others with my enthusiasm and confidence in what can be accomplished.	1	2	3	4	5	6	7
20. I am able to transform an ordinary group of individuals into a winning team.	1	2	3	4	5	6	7
21. I try to remove all organizational barriers so that others can freely participate in decision-making.	1	2	3	4	5	6	7
22. I devote a lot of energy to promoting trust, mutual understanding and team spirit.	1	2	3	4	5	6	7
23. I derive a great deal of satisfaction in helping others succeed.	1	2	3	4	5	6	7
24. I have the moral courage to do the right thing, even when it hurts me politically.	1	2	3	4	5	6	7
25. I am able to rally people around me and inspire them to achieve a common goal.	1	2	3	4	5	6	7
26. I am able to present a vision that is readily and enthusiastically embraced by others.	1	2	3	4	5	6	7
27. I invest considerable time and energy in helping others overcome their weaknesses and develop their potential.	1	2	3	4	5	6	7
28. I want to have the final say on everything, even areas where I don't have the competence.	1	2	3	4	5	6	7
29. I don't want to share power with others, because they may use it against me.	1	2	3	4	5	6	7
30. I practice what I preach.	1	2	3	4	5	6	7
31. I am willing to risk mistakes by empowering others to "carry the ball."	1	2	3	4	5	6	7
32. I have the courage to assume full responsibility for my mistakes and acknowledge my own limitations.	1	2	3	4	5	6	7
33. I have the courage and determination to do what is right in spite of difficulty or opposition.	1	2	3	4	5	6	7
34. Whenever possible, I give credits to others.	1	2	3	4	5	6	7

35. I am willing to share my power and authority with others in the decision making process.	1	2	3	4	5	6	7
36. I genuinely care about the welfare of people working with me.	1	2	3	4	5	6	7
37. I invest considerable time and energy equipping others.	1	2	3	4	5	6	7
38. I make it a high priority to cultivate good relationships among group members.	1	2	3	4	5	6	7
39. I am always looking for hidden talents in my workers.	1	2	3	4	5	6	7
40. My leadership is based on a strong sense of mission.	1	2	3	4	5	6	7
41. I am able to articulate a clear sense of purpose and direction for my organization's future.	1	2	3	4	5	6	7
42. My leadership contributes to my employees/colleague's personal growth.	1	2	3	4	5	6	7
43. I have a good understanding of what is happening inside the organization.	1	2	3	4	5	6	7
44. I set an example of placing group interests above self interests.	1	2	3	4	5	6	7
45. I work for the best interests of others rather than self.	1	2	3	4	5	6	7
46. I consistently appreciate, recognize, and encourage the work of others.	1	2	3	4	5	6	7
47. I always place team success above personal success.	1	2	3	4	5	6	7
48. I willingly share my power with others, but I do not abdicate my authority and responsibility.	1	2	3	4	5	6	7
49. I consistently appreciate and validate others for their contributions.	1	2	3	4	5	6	7
50. When I serve others, I do not expect any return.	1	2	3	4	5	6	7
51. I am willing to make personal sacrifices in serving others.	1	2	3	4	5	6	7
52. I regularly celebrate special occasions and events to foster a group spirit.	1	2	3	4	5	6	7
53. I consistently encourage others to take initiative.	1	2	3	4	5	6	7
54. I am usually dissatisfied with the status quo and know how things can be improved.	1	2	3	4	5	6	7
55. I take proactive actions rather than waiting for events to happen to me.	1	2	3	4	5	6	7
56. To be a strong leader, I need to keep all my subordinates under control.	1	2	3	4	5	6	7
57. I find enjoyment in serving others in whatever role or capacity.	1	2	3	4	5	6	7
58. I have a heart to serve others.	1	2	3	4	5	6	7
59. I have great satisfaction in bringing out the best in others.	1	2	3	4	5	6	7

60. It is important that I am seen as superior to my subordinates in everything.	1	2	3	4	5	6	7
61. I often identify talented people and give them opportunities to grow and shine.	1	2	3	4	5	6	7
62. My ambition focuses on finding better ways of serving others and making them successful.	1	2	3	4	5	6	7

APPENDIX E

Servant Leadership Profile - Revised (RSLP) Permission

Kevin Lovelace <kjlovelace@dons.usfca.edu>

SLPR Permission
2 messages

Kevin Lovelace <kjlovelace@dons.usfca.edu> Tue, Jul 28, 2015 at 6:41 PM
To: dr.paul.wong@gmail.com, ptpwong@rogers.com

Hi Dr. Wong,

I am a doctoral student at the University of San Francisco working on my dissertation focusing on e-Leadership. I would like to use your Servant Leadership Profile-Revised to explore the e-leadership construct.

What process do I need to follow to get permission to use the SLPR?

Do you have instructions for interpretation of the SLPR?

Your website states that the use of the SLPR is free for academic use, are there any other costs that I need to know of?

I look forward to hearing from you soon!

Thank you,

Kevin Lovelace

Paul TP Wong <dr.paul.wong@gmail.com> Thu, Jul 30, 2015 at 10:56 AM
To: Kevin Lovelace <kjlovelace@dons.usfca.edu>
Cc: Don Page <page@twu.ca>

I am happy to grant you permission to use Servant Leadership Profile-Revised for your research. Regarding interpretation, you need to consult the original paper in which this instrument was published.

All the best.

Paul Wong

www.drpaulwong.com
[Quoted text hidden]

APPENDIX F

Multifactor Leadership Questionnaire (MLQ-5x-Short)

INSTRUCTIONS: This questionnaire is to describe your leadership style as you perceive it. Please answer all items on this answer sheet. **If an item is irrelevant, or if you are unsure or do not know the answer, leave the answer blank.**

Forty-five descriptive statements are listed on the following pages. Judge how frequently each statement fits you. The word "others" may mean your peers, clients, direct reports, supervisors, and/or all of these individuals.

Use the following rating scale:

KEY
0 - Not at all 1 - Once in a while 2 = Sometimes 3 = Fairly often 4 = Frequently, if not always

1. I provide others with assistance in exchange for their efforts.
2. I re-examine critical assumptions to question whether they are appropriate.
3. I fail to interfere until problems become serious.
4. I focus attention on irregularities, mistakes, exceptions, and deviations from standards.
5. I avoid getting involved when important issues arise.

*Note: According to copyright notification, not all questions can be displayed. The researcher did use a complete MLQ 5X instrument when gathering data.

APPENDIX G

Multifactor Leadership Questionnaire (MLQ-5x-Short) Permission

Approval for Remote Online Use of a Mind Garden Instrument

Effective date is October 12, 2015 for:

Kevin Lovelace

You submitted your statement for remote online use at 8:06 pm EDT on October 05, 2015.

mind garden www.mindgarden.com

Multifactor Leadership Questionnaire™

Instrument (Leader and Rater Form)

and Scoring Guide (Form 5X-Short)

by Bruce Avolio and Bernard Bass

Published by Mind Garden, Inc.

info@mindgarden.com
www.mindgarden.com

APPENDIX H

IRBPHS ACCEPTANCE LETTER

Kevin Lovelace <kjlovelace@dons.usfca.edu>

Exemption Notification - IRB ID: 470

Christy Lusareta <noreply@axiommentor.com> Fri, May 15, 2015 at 5:29 PM
Reply-To: Christy Lusareta <calusareta@usfca.edu>
To: kjlovelace@usfca.edu

UNIVERSITY OF SAN FRANCISCO

Protocol Exemption Notification

To: Kevin Lovelace
From: Terence Patterson, IRB Chair
Subject: Protocol #470
Date: 05/15/2015

The Institutional Review Board for the Protection of Human Subjects (IRBPHS) at the University of San Francisco (USF) has reviewed your request for human subjects approval regarding your study.

Your project (IRB Protocol **#470**) with the title **THE EFFECTS OF E-LEADERSHIP CONSTRUCTS: DEVELOPMENT OF VIRTUAL TEAMS IN A HEALTHCARE ORGANIZATION** has been approved by the University of San Francisco IRBPHS as **Exempt** according to 45CFR46.101(b). Your application for exemption has been verified because your project involves minimal risk to subjects as reviewed by the IRB on 05/15/2015.

Please note that changes to your protocol may affect its exempt status. Please submit a modification application within ten working days, indicating any changes to your research. Please include the Protocol number assigned to your application in your correspondence.

On behalf of the IRBPHS committee, I wish you much success in your endeavors.

Sincerely,

Terence Patterson, EdD, ABPP

Professor & Chair, Institutional Review Board for the Protection of Human Subjects

University of San Francisco

irbphs@usfca.edu

https://www.axiommentor.com/pages/home.cfm