2017

E-leadership and Leader-Member Exchange Strategies for Increasing Nonprofit Virtual Team Productivity

Nichole Guerra
Walden University

Walden University

College of Management and Technology

This is to certify that the doctoral study by

Nichole Guerra

has been found to be complete and satisfactory in all respects,
and that any and all revisions required by
the review committee have been made.

Review Committee
Dr. Theresa Neal, Committee Chairperson, Doctor of Business Administration Faculty

Dr. Scott Burrus, Committee Member, Doctor of Business Administration Faculty

Dr. Gergana Velkova, University Reviewer, Doctor of Business Administration Faculty

Chief Academic Officer
Eric Riedel, Ph.D.

Walden University
2017

Abstract

E-leadership and Leader-Member Exchange Strategies for Increasing Nonprofit Virtual Team Productivity

by

Nichole Guerra

MS, Capella University, 2011

BS, Slippery Rock University, 2008

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

December 2017

Abstract

Nonprofit leaders often place new employees with little experience in challenging virtual team settings, where they are expected to meet increased service demands. Productivity failures reported in the 2015 State of the Nonprofit Sector survey revealed that 76% of U.S. nonprofit agencies experienced increased demand for services in 2014, while 52% were unable to meet those demands. Based on the e-leadership and leader-member exchange (LMX) theories, the purpose of this descriptive, single case study was to identify the leadership strategies used by nonprofit midlevel supervisors to increase productivity of virtual teams containing new employees in Colorado. A purposeful sampling method facilitated identification of participants who had experience using successful leadership strategies to increase virtual team productivity. Data were collected through face-to-face semistructured interviews with 6 virtual team leaders and the review of organizational documents that contained weekly, executive leadership minutes over a period of 25 months. Data were analyzed using thematic analysis and word frequency searches. Three themes emerged related to increasing virtual team productivity: formal and informal staff support improved productivity, cohesive team dynamics improved productivity, and effective virtual staff mobility facilitated fieldwork. Human service nonprofit leaders who are proficient with virtual team leadership strategies could increase team productivity and meaningfully advance the use of virtual teams across the industry. Increasing nonprofit, virtual team productivity contributes to social change by meeting increased service demands in underserved communities and enhancing nonprofit employees' work experiences for continued support of the nonprofit mission.

E-leadership and Leader-Member Exchange Strategies for Increasing Nonprofit Virtual Team Productivity

by

Nichole Guerra-Brown

MS, Capella University, 2011

BS, Slippery Rock University, 2008

Doctoral Study Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Business Administration

Walden University

December 2017

Dedication

I dedicated this study to my family. My son was only 4 months old when I embarked on the DBA journey and my daughter was just a toddler shadowing me as I read dozens of articles. Over the years, my husband was so incredibly patient with me that I do not know how I could ever repay him. Thank you.

Acknowledgments

I would like to acknowledge my committee members, Dr. Theresa Neal, Dr. Scott Burrus, and Dr. Gergana Velkova, for helping me through the doctoral study process. Please note I would like to give a special thanks to Dr. Neal, who was a wonderful support and motivator in the role of committee chair regarding the doctoral study process and encouraging me to think about life after graduation. I am also grateful for Dr. Velkova, who challenged me to become a better writer. In addition, Mr. David Ervin deserves a big thank you for facilitating data collection for this doctoral study. Finally, Dr. Betty Geer and Dr. Ashley Williams deserve a warm thank you. Dr. Geer supported a flexible work schedule that allowed me to balance my work and personal life with my academics during a critical period. Dr. Williams offered friendly and professional advice that I sincerely appreciated and found helpful as I neared completion of the DBA program. I am grateful for everyone's support. Thank you.

Table of Contents

List of Tables

Section 1: Foundation of the Study

Virtual team productivity has become a topic of increasing interest at the intersection of business and research. However, few studies exist about virtual team productivity in the nonprofit business sector. In fact, the literature largely surrounds global corporations. As nonprofit leaders attempt to use innovative strategies to meet service demands, they turn to technology. In this study, I attempted to contribute to the existing literature about virtual team productivity by exploring virtual leadership strategies that nonprofit leaders use to increase productivity. The new information obtained through this study could help to expand the literature about contemporary nonprofit leadership strategies used among local virtual teams.

Background of the Problem

Vogelsang et al. (2015) conducted a nonprofit sector survey and showed that effectiveness, responsiveness, and productivity represented significant values held by nonprofit workers. Nonprofit leaders that hold these values seek to address unmet community needs through excellent services despite limited resources (Vogelsang et al., 2015). Bonilla (2015) noted how nonprofit organizations with ongoing instability among employees stress program delivery and operations. In fact, Sinuany-Stern and Sherman (2014) expected continued nonprofit organizational growth to meet increasing demands while nonprofit leaders continued experiencing greater pressure to allocate resources more efficiently and effectively. Additionally, new employees may experience difficulty adjusting to new job roles due to inherently high workloads, high stress, and fewer

interactions with supervisors (Church, 2014). Nonprofit program expansions require hiring new employees and preparing them for innovative strategies such as virtual teams.

Nonprofit virtual work teams gained popularity as access to technological advances increased (Foster, Abbey, Callow, Zu, & Wilbon, 2015). Advanced technology represented a medium for communication, collaboration, knowledge management, productivity management, and social media engagement in the workplace (McCord & Franetovic, 2014). Based on the results of their study, McCord and Franetovic (2014) suggested that new employees adopted technology at higher rates than established employees did. However, nonprofit leaders still need strategies that ensure virtual team productivity among all team members.

Problem Statement

Nonprofit agencies place new employees with no previous experience or related educational background (Block, Wheeland, & Rosenberg, 2014) in challenging virtual team settings (Fan, Chen, Wang, & Chen, 2014). Recruitment and training costs can range from $3000 to $5000 per employee in already stressed nonprofit budgets, further pressuring leaders to meet productivity standards (Block et al., 2014). Productivity failures reported in the 2015 State of the Nonprofit Sector survey revealed that 76% of U.S. nonprofit agencies experienced increased demand for services in 2014, while 52% were unable to meet those demands (Nonprofit Finance Fund, 2015). The general business problem is that nonprofits can fail to achieve productivity goals because of increased demand for services. The specific business problem is that some nonprofit

midlevel supervisors lack leadership strategies for increasing productivity of virtual teams containing new employees.

Purpose Statement

The purpose of this qualitative, single case study was to explore leadership strategies that nonprofit midlevel supervisors used to increase productivity of virtual teams containing new employees. The specific population consisted of midlevel supervisors from a nonprofit, case management agency in Colorado who used successful leadership strategies to manage new employees in virtual teams effectively and meet increasing service demands. Implications for positive social change may include the potential for increased virtual team productivity and nonprofits' capabilities of meeting service demands in the community. Individuals receiving services from nonprofit organizations may directly benefit from improved productivity levels by receiving high-quality services; thereby increasing their overall quality of life. Additionally, successful management of virtual teams may enhance overall work experiences for employees who are new to the nonprofit sector and potentially increase employees' longevity in the nonprofit industry.

Nature of the Study

I selected a qualitative method for this study. Using qualitative studies facilitated exploratory research in natural settings by using theme identification to describe, compare, and explain exploratory data (Azimian, Negarandeh, & Fakhr-Movahedi, 2014; Yin, 2013). Thus, the exploration of virtual leadership strategies warranted a qualitative

approach for this study. Phenomena studied in the natural environment are suited for constructivist epistemologies based on perceptions and interpretations (Sousa, 2014). Researchers use the quantitative methodology to facilitate the examination of relationships and differences among variables by using statistical analysis (Galinac Grbac, Runeson, & Huljenić, 2013), but can fail to address the complexities of the phenomenon. The quantitative approach was inappropriate for exploring successful leadership strategies that nonprofit supervisors use to increase productivity of virtual teams containing new employees. Conducting quantitative data analysis after qualitative data analysis would measure the effectiveness of identified themes (Myneni, Fujimoto, Cobb, & Cohen, 2015). However, using the quantitative component of mixed methodology could minimize phenomena's complexity by reducing individual perspectives to numerical data.

I selected the descriptive, single case study design for the study. Using case studies allow researchers to collect participants' perspectives on complex social phenomena that occur in business settings (Yin, 2013). Observation data for ethnographic studies (Zilber, 2014) would be difficult to obtain in virtual environments; thus, not appropriate for this study. Researchers use the phenomenological design to study the lived experiences of participants (Moustakas, 1994). Therefore, phenomenology was not appropriate for this study to address the specific business problem because I focused on exploring the strategies nonprofit supervisors use to increase productivity of virtual teams containing new employees.

Research Question

What leadership strategies do nonprofit midlevel supervisors use to increase productivity of virtual teams containing new employees?

Interview Questions

1. What leadership strategies have you used to increase virtual team productivity with new employees?
2. How did new team members respond to the strategies that you used for increasing work productivity?
3. How do you assess the effectiveness of your leadership strategies related to virtual team productivity?
4. How did you overcome productivity challenges that you experienced with new employees on your team?
5. How, if at all, do your leadership strategies for increasing work productivity differ between established employees and new employees on your team?
6. How do you integrate new employees with other members of your virtual team?
7. What additional information would you like to share regarding virtual team productivity strategies among new employees?

Conceptual Framework

I used the e-leadership and leader-member exchange (LMX) theories as the conceptual lens through which to view this study. Avolio, Kahai, and Dodge (2000) introduced e-leadership shortly after the 1995 information technology boom in the

workforce to describe two-way relationships encompassing social dynamics between leaders and followers in the virtual workforce. Relationships and trust represent the key constructs underlying this framework (Avolio et al., 2000). E-leadership strategies for managing virtual teams include emotional, social, technical, and authentic skills (Avolio et al., 2000; Jawadi, Daassi, Favier, & Kalika, 2013; Savolainen, 2015). As advanced technology becomes the preferred method of communication in the workplace (Tashiro, Lau, Mori, Fujii, & Kajikawa, 2012), researchers cannot use traditional leadership theories based on face-to-face (f2f) interactions only to explain e-leadership comprehensively (Avolio et al., 2000).

Dansereau, Graen, and Haga (1975) developed the LMX theory in the 1970s. The focus shifted from the in-group and out-group dynamic of the 1970s to the effects of high-quality interactions between leaders and followers on organizational effectiveness in the 1990s (Graen & Uhl-Bien, 1995). The following key constructs underlie LMX theory: (a) vertical dyads, (b) in-groups and out-groups, (c) role-making, (d) team-making, and (e) high-quality relationships (Dansereau et al., 1975; Graen & Uhl-Bien, 1991). E-leadership and LMX theories share common themes that may explain how nonprofit midlevel supervisors use strategies to increase productivity in virtual teams containing new employees.

Operational Definitions

Face-to-face (f2f) teams: F2f teams represent colocated teams that regularly engage in f2f interactions and rely primarily on f2f communication for collaboration

(Blau & Presser, 2013; Gladden, 2014; Korzynski, 2013) despite varying levels of technology used to complete daily tasks (Morgan, Paucar-Caceres, & Wright, 2014; Orhan, 2014).

Leadership strategies: Emotional, social, authentic, and technical skills used to motivate and support employees (Savolainen, 2015) in the workplace for improved performance and productivity (Ye & King, 2016).

Nonprofit organizations: Nonprofit organizations represent the third sector in which the mission statement rather than profits drive organizational operations (Sinuany-Stern & Sherman, 2014). Nonprofit missions aim to maintain community stability through economic, environmental, and social well-being (McDonald, Weerawardena, Madhavaram, & Mort, 2015); therefore, leaders reinvest profits into the mission.

Productivity: Due to the strong link between quality outcomes and quantitative measures (Ye & King, 2016), productivity refers to Kämäräinen, Paulus, and Tallbacka's (2016) description of combined efficiency measures (e.g., resource allocation, costs, revenues, physical inputs, etc.) and quality functions (e.g., goals, standards, access to services, customer satisfaction, risk mitigation and prevention, etc.) during a given period (Phipps, Prieto, & Ndinguri, 2013).

Virtual teams: Virtual teams represent teams located across distance and time in which members primarily rely on technology for ongoing communication and collaboration and not merely for task completion; however, virtual teams structures might

include some f2f elements (Avolio, Sosik, Kahai, & Baker, 2014; Morgan et al., 2014; Orhan, 2014) and geographic dispersion can range from global to local.

Assumptions, Limitations, and Delimitations

Assumptions

Assumptions are primarily based on the literature review and represent concepts about the study that the researchers believe to be true (Adamik, 2016; Marshall & Rossman, 2014). Further, a discussion of assumptions helps to establish the foundation of the study (Marshall & Rossman, 2014). Since I collected data by conducting interviews, I made assumptions regarding interviewees. First, I assumed that participants would share as much information as they could recall while maintaining employee confidentiality and compliance with the Health Insurance Portability and Accountability Act (HIPPA) to answer the interview questions. The second assumption was that participants had sufficient experience in successfully managing employees in virtual teams to answer the interview questions.

Limitations

Limitations are weaknesses of a study that are based on the study design or conceptual framework (Marshall & Rossman, 2014). All research has limitations that researchers cannot control but must discuss while noting the strength of the chosen design (Kirkwood & Price, 2013; Marshall & Rossman, 2014). Limitations of a qualitative study design include a lack of generalizability to the masses even though transferability remains applicable (Marshall & Rossman, 2014) A limitation inherent to

case study designs include response bias from interview data (Yin, 2013). Marshall and Rossman (2014) described how quantitative researchers fail to capture participants' attitudes and perceptions about a phenomenon that qualitative researchers typically analyze. Despite limitations of this study, using a qualitative research design allowed me to analyze participants' responses in depth to understand the interviewees' attitudes and perspectives regarding a phenomenon that I might otherwise miss if using a quantitative design.

Delimitations

Delimitations represent factors that limit the study's scope but are within the researcher's control (Marshall & Rossman, 2014). I identified several delimitations to this study. First, the study was limited to a single site for the case study and only included midlevel virtual team leaders that had that position for a minimum of 1 year and successfully increased productivity among virtual teams. Even though the case study design limits the scope of a study, the researcher designs the interview questions and can utilize a semistructured interview approach to probe for additional information as appropriate (Yin, 2013). If the number of participants that meet the criteria is too small, then the small sample could negatively influence data saturation (Boddy, 2016); however, I as the researcher continued conducting interviews until reaching data saturation. Second, I will explore virtual teams that remained dispersed throughout Colorado only, which delimited the study. Third, the industry delimited the study because the sample

was comprised of virtual teams that operated in nonprofit, human services settings and maintained some level of f2f communication.

Significance of the Study

Virtual team managers must ensure that new employees contribute to team productivity. Team productivity matters to organizational leaders because team productivity leads to overall organizational productivity (Singhal, Garg, & Saxena, 2014). Findings from this study could be significant to nonprofit business practice by providing a deeper understanding of successful leadership strategies for managing virtual teams with new employees. Using e-leadership and LMX theories helped to uncover how f2f and online interactions between leaders and followers becomes critical to managing new employees in virtual teams. The implications for positive social change may include a significant knowledge contribution for application by organizational leaders to increase virtual teams' productivity. Greater virtual team productivity might increase the quantity and quality of services individuals receive through nonprofit agencies. Additionally, employees may benefit from improved virtual team leadership and productivity through more positive work experiences. Employees' positive work experiences could further enhance client experiences. Positive client experiences could eventually lead to greater independence among community members that rely on nonprofit services; hence, nonprofit leaders could use organizational productivity strategies to address critical community needs.

A Review of the Professional and Academic Literature

This literature review will begin with a description of its contents organization, followed by an analysis of the strategies I used when searching the literature on this topic. I conducted most searches for the literature review through the Walden Library digital databases. The most commonly used databases included Emerald Management, Sage Premier, and Business Source Complete. I also used information technology, human services, and psychology databases through EBSCOhost to broaden my search. I always selected the peer-reviewed option before performing searches. Frequently used search terms for leadership included *e-leadership, virtual leadership, LMX, transformational leadership, transactional leadership and team leadership.* Using the following terms yielded results about specific themes explored: *nonprofit services, nonprofit demands, nonprofit productivity, virtual productivity, new employees, and new hires.* Using broader search terms such as *productivity* and *virtuality* proved to be useful. Broadening search key terms helped to find relevant information for the literature review. Occasionally, articles were inaccessible through the Walden Library and I later obtained them through Google Scholar. I began by searching for articles published from 2013 – 2016; however, as I continued my research, I narrowed the search to 2014 – 2016. Those dates did not include the search for seminal works on the origin of my conceptual framework, which required sources published before 2013.

I will begin this literature review by describing the selected conceptual frameworks of e-leadership and LMX theory, and will then compare and contrast the

conceptual frameworks to other popular theories that could apply to this topic. Pertinent themes discussed in the literature review include productivity, nonprofit service demands, and virtuality. Subset themes within virtuality include virtuality training and new employees. A thorough analysis of the conceptual frameworks and themes required that I search beyond the fields of management and nonprofit.

Performing Boolean searches helped me find relevant articles. Search terms revolved around keywords from the research question and the conceptual framework. Initial searches for *e-leadership*, for example, later shifted to include *virtual leadership*. The literature on nonprofit-specific themes remained low; therefore, I conducted broader searches for nonprofit literature. In contrast, searches on *productivity* research yielded an abundance of articles, but not necessarily related to the nonprofit field or virtual teams. Finding literature about *new employees on virtual teams* was also difficult, which led to a general search term for *new employees* and *new hires*, and then scouring articles to include only relevant information in the literature review. Bibliography mining was occasionally helpful in finding articles published within the desired period. I used 81 references for the literature review. Note that of the publications referenced in the literature review, 94% are 5 years old or less and 98% are peer reviewed. I used 164 references for the entire doctoral study. Of all the references used, 91% are 5 years old or less and 99% are peer reviewed. In the following literature review, I will explore the conceptual frameworks and concepts with the goal of providing context for this doctoral

study; thus, themes outlined pertain to the virtual leadership strategies needed to increase productivity among virtual teams that contain new employees.

Critical Analysis of the Conceptual Framework

The conceptual framework for this study consists of e-leadership and LMX theories. The literature review contains a separate discussion of e-leadership and LMX how each framework can supplement the other. Readers will gain an understanding of how combining e-leadership and LMX theories is beneficial to understanding virtual team leadership strategies in today's era.

E-leadership. Avolio et al. (2000) introduced the theory of e-leadership shortly after the 1995 information technology boom in the workforce to describe socially dynamic, two-way relationships between leaders and followers in the virtual workforce. Relationships and trust represent the key constructs underlying this framework (Avolio et al., 2000; Cowan, 2014). E-leadership strategies used in virtual teams include emotional, social, authentic, and technical skills, which capture the recurring themes of relationships, communication, and trust building among virtual team members (Avolio et al., 2000; Jawadi et al., 2013; Savolainen, 2015). Commonly used virtual communication strategies include e-mail, phone, voice-mail, teleconferencing, instant messaging, text messaging, and videos (Cowan, 2014; Wright, 2015). Additional virtual tools used today include Smartboards, YouTube, WordPress, videos, GoogleDocs, GoogleSites, blogs, and Dropbox (Preston et al., 2015). Some researchers showed how many team members prefer audio rather than video technology to communicate virtually (Olson, Appunn,

McAllister, Walters, & Grinnell, 2014). Virtual leaders should gain a strong understanding of e-leadership strategies, compare and contrast e-leadership with traditional f2f leadership, understand technological impacts on leadership, and expect that e-leadership will continue to evolve.

Virtual team leaders must learn how to manage emotions during virtual team interactions appropriately (Savolainen, 2015). Social strategies such as open communication and active listening help develop stronger relationships between leaders and followers in online settings (Savolainen, 2015). Leaders using authentic e-leadership strategies base their interactions with followers on trust and honesty (Savolainen, 2015). Savolainen (2015) explained that using technical e-leadership strategies also helps to foster trust because team members can rely on their leaders for assistance and correct information.

Furthermore, virtual team leaders must align virtual communication strategies with appropriate technology for optimal outcomes (Jawadi et al., 2013). E-mail remains popular despite continued misunderstandings regarding tone and word choice during virtual communication; nevertheless, leaders underscore the significance of using e-mail for regular, ongoing communication in the workplace (Fan et al., 2014). During a study conducted by Fan et al. (2014), the researchers found that leaders must adjust their online language to meet their subordinates' communication needs. For example, even though leaders should provide regular, timely, and appropriate feedback to all members, task-oriented team members require more specific instructions and constant communication

regarding work progress (Fan et al., 2014). Leaders should consider how information overload through e-mail could affect team performance and productivity (Ellwart, Happ, Gurtner, & Rack, 2015); however, Gilstrap and Hendershot (2015) agreed with the need for frequent virtual communication, adding that e-leaders must provide performance feedback to all team members in a clear and consistent manner.

Gilstrap and Hendershot (2015) conducted a qualitative study in which they administered online surveys to e-leaders in nonprofit, for-profit, and government agencies and received 281 responses from participants in 36 U.S. states. The aim of the study was to learn more about the strategies that e-leaders used to manage uncertainty in virtual teams (Gilstrap & Hendershot, 2015). Gilstrap and Hendershot found that people, time, and technology represented the most frequently cited sources of uncertainty that e-leaders faced. Similarly, participants responded that as e-leaders, they use teamwork, time-efficiency, and technological strategies to manage the challenge of uncertainties, as well as effective communication, relationship building, and monitoring systems. However, debate remains over the level of monitoring as an effective strategy (Avolio et al., 2014). Analysis of Gilstrap and Hendershot's data revealed a significant association among communication, teamwork, and relationship building strategies, which add to the e-leadership concepts established by Avolio et al. (2000) and Savolainen (2015).

As advanced information technology (AIT) becomes the preferred method of communication in the workplace, researchers cannot use traditional leadership theories based on f2f interactions only to explain e-leadership comprehensively (Avolio et al.,

2000; Tashiro et al., 2012). Also, research on e-leadership continues to gain popularity with a reduced focus on the technology itself (Jameson, 2013). In other words, leaders care about how they adapt to virtual work teams through technology. Leaders do remain interested in f2f leadership and the effects of online communication on f2f interactions (Blau & Presser, 2013). In fact, e-leaders should assess the need for combining virtual communication with f2f interactions as needed (Gilstrap & Hendershot, 2015). Blau and Presser (2013) found that some lessons learned through e-leadership might transfer to offline leadership. Likewise, the attention given to conflict management and ongoing social relationships among f2f work teams should apply to virtual teams (Chang & Lee, 2013). However, Avolio et al. (2014) and Cowan (2014) explained that the use of technology-mediated communication among virtual teams creates a clear distinction between e-leader and f2f leadership characteristics. Collaborative virtual teams require effective communication strategies whereby team members understand and follow the expected communication processes (Cowan, 2014). Leaders may benefit from the dynamic nature of e-leadership strategies, which apply to leader-follower interactions, group interactions, organizational interactions, and community interactions (Avolio et al., 2000; Avolio et al., 2014).

Avolio et al. (2014) performed a contemporary review of e-leadership by exploring the relationship between AIT and leadership, noting how distance, time, and cultures can affect the presence of e-leadership. Charlier, Stewart, Greco, and Reeves (2016) and Gladden (2014) described Avolio et al.'s concept as team dispersion, which

can vary in the amount and type of technology used for communication across varying distances. E-leaders can influence individual, group, and community perceptions to impact technological implementation and practice (Avolio et al., 2014). Throughout their review of contemporary literature on e-leadership, Avolio et al. found that the leaders' intent when using technology both positively and negatively affected leadership quality. For example, effective use of technology could lead to successful management strategies and positive employee experiences. In contrast, efficient use of technology could disrupt organizational stability and invade individuals' privacy (Avolio et al., 2014). How leaders use technology remains as important as the implementation of technology.

Leaders often rely on previous experiences and knowledge of virtual tools to determine how they will implement virtual e-leadership strategies (Preston et al., 2015). Preston et al. (2015) conducted a multicase study through semistructured interviews involving e-leaders from 10 Canadian high school settings. Around the same time, Olson et al. (2014) conducted a phenomenological study and a case study on the use of webcams and their impact on virtual team effectiveness and trust. Participants from both studies shared how e-leaders and members must become competent with virtual tools employed to ensure effectiveness; therefore, participants frequently suggested formal training and professional development in technology to improve leadership success and productivity rates (Ford, Piccolo, & Ford, 2016; Olson et al., 2014; Preston et al., 2015). Aside from formal training, Preston et al. found several barriers to expanding the number

of virtual tools used by e-leaders: (a) lack of time and motivation to familiarize themselves with new tools, (b) unreliable technology, and (c) internet inaccessibility.

Olson et al.'s (2014) study consisted of five faculty members from an online university and took place over a 5-month period. During that time, Olson et al. introduced three different IT mediums, each on different weeks, for the team members to use. Throughout the study, Olson et al. found that virtual team effectiveness significantly declined immediately following the introduction of a new technology. However, virtual team trust and effectiveness improved after participants learned how to use the newly introduced technologies (Olson et al., 2014). Team members' ability to perform tasks rather than a particular technology directly affected trust among the participants (Olson et al., 2014). Yet, participants' ability to perform daily tasks depended on their capacity to learn the new technology; thus, the need for formalized training on the use of virtual technology remains a critical e-leadership strategy (Olson et al., 2014; Preston et al., 2015). Formal training should include basic IT troubleshooting to maximize the benefits of implementing AIT (Jost, 2016). Olson et al. further illustrated how easy it becomes for leaders to introduce new technologies without appropriate planning. Virtual team leaders should establish processes to ensure the effective use of technology through customized training designed to meet the learning needs of individual virtual team members (Olson et al., 2014). E-leaders should ensure that team members receive formal and informal support during implementation phases of new virtual tools (Olson et al., 2014; Preston et al., 2015).

Korzynski (2013) conducted online, structured surveys through LinkedIn, to which 115 managers and executives responded. A review of the literature showed that online social networking might attract younger leaders; however, Korzynski found no significant relationship between age and online social networking. Using online social networking for business proved more useful throughout larger organizations to link higher-level executives with lower-level employees. Korzynski also found that participative and consultative leaders work more effectively through online social networks than directive leaders do; however, employees showed little interest in communication with leaders through social networking. Gilstrap and Hendershot (2015) and Korzynski agreed that using frequent virtual communication can fulfill a leadership need among virtual teams. Employees showed some interest in social networking, which leaders could use as a supplemental virtual leadership strategy to foster an informal supportive environment for team members but it cannot replace f2f communication and other more established virtual leadership strategies (Korzynski, 2013). E-leaders should still consider online collaboration and social networking opportunities for improved productivity among virtual teams (Cowan, 2014). Korzynski explained that social networking might increase throughout organizations as individuals gradually increase social networking participation; therefore, leaders must adapt e-leadership strategies to the evolution of organizational social networking. Given the evolving nature of virtual team settings, a discussion on social networking as a communication and leadership

strategy could provide insight regarding this study on leadership strategies and virtual team productivity.

The coevolution of technology and leadership changed e-leadership, particularly following advancements with the Internet and mobile devices (Avolio et al., 2014). Additionally, millennial team members raised in a digital era seem more comfortable with AIT than older generations (Avolio et al., 2014; Trees, 2015). Nevertheless, older generations will continue adapting to technological advancements as the need arises (Avolio et al., 2014; Trees, 2015). Future research on e-leadership remains warranted given the ongoing changes in the technology industry. For instance, virtual communication tools continue evolving to include emotion identification and gamification (Avolio et al., 2014). Further, future researchers should address debates regarding the level of online anonymity and transparency that is justified in the workplace (Avolio et al., 2014). Even though a review of the literature on e-leadership showed anonymity could help increase online collaboration, supervisors still implemented strategies that enhanced team transparency such as calendars, monitoring systems, and tracking devices (Avolio et al., 2014; Gilstrap & Hendershot, 2015). Evolving virtual teams and their use of AIT continues shaping e-leadership strategies that leaders use to meet contemporary needs (Avolio et al., 2014; Korzynski, 2013; Preston et al., 2015).

LMX. Dansereau et al. (1975) developed the LMX theory in the 1970s. The focus of LMX shifted from the in-group and out-group dynamic of the 1970s to the effects of

high-quality interactions between leaders and followers on organizational effectiveness in the 1990s (Graen & Uhl-Bien, 1995). The following key constructs underlie LMX theory: (a) vertical dyads, (b) in-groups and out-groups, (c) role-making, (d) team-making, and (e) high-quality relationships (Dansereau et al., 1975; Graen & Uhl-Bien, 1991). The unique, two-way relationship between organizational leaders and followers comprises the foundation of LMX (Breevaart, Bakker, Demerouti, & van den Heuvel, 2015; Casimir, Ngee Keith Ng, Yuan Wang, & Ooi, 2014).

Theorists characterized low-quality relationships as contractual agreements, whereas mutual obligation, respect, and trust characterized high-quality relationships (Breevaart et al., 2015; Casimir et al., 2014). High-quality LMX surpasses contractual relationships in that each party has high expectations of each other (Breevaart et al., 2015). Breevaart et al. (2015) and Choy, McCormack, and Djurkovic (2016) agreed that high-quality LMX strategies, directly and indirectly, affect employee job performance through social support, delegation, and employee participation in decision-making. Leaders can also use delegation and participation to reinforce ongoing mutual respect for high-quality LMX maintenance (Choy et al., 2016). A review of the literature on LMX shows that employees' level of work engagement (Breevaart et al., 2015), perceived organizational support, and employees' affective commitment (Casimir et al., 2014) remain associated with LMX and employee job performance. Based on Breevart et al., Casimir et al. (2014), and Choy et al.'s findings, using the LMX theory is an appropriate lens to guide research related to productivity as defined for this study. Casimir et al. and

Choy et al. noted the value of a positive organizational culture that fosters effective LMX strategies. High-quality LMX has elements of e-leadership's recurrent themes to include relationships, trust, and communication (Avolio et al., 2000; Breevaart et al., 2015; Casimir et al., 2014; Jawadi et al., 2013). Open communication through active listening and scheduling one-on-one time with their followers helps leaders promote a positive organizational culture for high-quality LMX (Breevaart et al., 2015; Choy et al., 2016).

Lloyd, Boer, and Voelpel (2015) also discussed the need for organizational leaders to support a culture of listening and understanding. Researchers agreed that leaders can train on listening and communication skills to enhance leader-member interactions and develop stronger relationships (Lloyd et al., 2015; Sollitto, Martin, Dusic, Gibbons, & Wagenhouser, 2016). Sollitto et al. (2016) examined the relationship between LMX and organizational assimilation and organizational identification among other work outcomes for part-time employees in f2f teams. Organizational assimilation refers to the process whereby new employees learn the organizational culture and their job role (Sollitto et al., 2016). Role negotiation, competency, recognition, involvement, and familiarity with coworkers and supervisors represent dimensions of assimilation (Sollitto et al., 2016). Leaders play a critical role in organizational assimilation by introducing new employees to co-workers and facilitating the development of relationships among team members (Sollitto et al., 2016), a concept that could transfer to virtual settings. Sollitto et al. showed that organizational assimilation and identification are significant predictors of LMX, specifically, supervisor familiarity and recognition

within the assimilation outcome. Further, part-time employees often rely on their relationship with supervisors to help develop relationships with coworkers (Sollitto et al., 2016). Again, the literature on LMX supports the recurrent theme of relationships and communication that e-leaders address (Avolio et al., 2000; Sollitto et al., 2016).

Sollitto et al. (2016) suggested that part-time employees build relationships throughout the team by leveraging their supervisor-subordinate relationship and existing relationships between their supervisor and other team members. Tse's (2014) explanation of LMX differentiation may contrast with Sollitto et al.'s views. Tse examined the relationship between LMX differentiation and team performance, and the mediating and moderating effects of team-member exchanges (TMX) and team affective climate on that relationship, respectively. LMX differentiation refers to the variability in the quality of LMX relationships between leaders and team members and TMX refers to the quality of relationships between team members (Tse, 2014). Shared emotions and experiences characterize the affective climate of a work team (Tse, 2014). LMX differentiation remains inevitable due to factors such as time availability, resources, and personality differences (Li & Liao, 2014; Tse, 2014; Vidyarthi, Erdogan, Anand, Liden, & Chaudhry, 2014). Tse proposed that teams with a high affective climate could be more sensitive to LMX differentiation; therefore, LMX differentiation could negatively affect team performance and productivity. Leaders can minimize the adverse effects of LMX differentiation on team performance by aligning the level of differentiation with the team's affective climate or team culture, and the degree of role differentiation valued by

team members (Tse, 2014). Although Tse contributed to the study of LMX, a negative relationship between LMX differentiation and team performance remains unclear due to a lack of data collection and analysis. Teams might benefit from LMX differentiation as suggested by Sollitto et al.

Li and Liao (2014) agreed with Tse's (2014) belief that LMX differentiation remains inevitable and presents both advantages and disadvantages in the workplace. Leaders can maximize the benefits of LMX differentiation by redistributing team resources efficiently and according to member abilities and team needs for increased productivity (Li & Liao, 2014). However, Li and Liao warned that leaders using LMX differentiation risk isolating some team members by inadvertently developing in-groups and out-groups, which Graen and Uhl-Bien (1995) might advise against. Li and Liao suggested that leaders using LMX differentiation could influence individual and team level productivity. Ye and King (2016) agreed that individual productivity levels shift according to the perceived quality of relationships between individuals and their leaders. Team leaders should maintain self-awareness regarding their level of LMX differentiation to minimize the development of in-groups, out-groups, and potential member isolation (Li & Liao, 2014). Likewise, Li and Liao recommended that leaders maintain awareness of members' perceptions of LMX differentiation and adjust accordingly. Li and Liao used the results of their study to illustrate the complexity and adaptability of the LMX theory, which shows why LMX theory remains relevant in today's society. The use of LMX theory, which leaders can apply and adapt to various

settings, aligns well with this study that involved an exploration of leadership strategies in virtual team settings.

E-leadership and LMX. Researchers who select only one theory or conceptual framework to use as a guiding lens throughout their research provide incomplete explanations of the phenomenon under study (Parker, 2014). By pairing e-leadership and LMX theory, researchers could provide a more comprehensive explanation of the phenomenon as noted by Parker. Common themes comprise e-leadership and LMX theories used to explain how nonprofit leaders implement strategies to increase productivity in virtual teams containing new employees. Chrisentary and Barrett (2015) conducted a phenomenological study on virtual leadership that included interviews with 15 virtual team leaders in the medical device industry. They identified six major themes throughout interviews used to illustrate the shared experiences of 15 midlevel managers: (a) empowerment, (b) communication, (c) trust, (d) encouragement and inspiration, (e) integrity, and (f) connecting with individuals. Chrisentary and Barrett emphasized that trust and connecting with individuals in virtual teams remains critical to leader-member relationships. When workplace relationships maintain a low degree of virtuality, then members require at least a working knowledge of virtual communication strategies and related technology (Quinn & Fitch, 2014). However, high virtual teams need leaders and members to become proficient with virtual communication; in fact, Quinn and Fitch (2014) expected new employees to gain proficiency before joining virtual teams. Even though Chrisentary and Barrett suggested that successful virtual team leaders display

transformational qualities, the researchers highlighted LMX theory by referencing the importance of leader-follower relationships among virtual teams. As noted by Quinn and Fitch, leaders engaging in virtual LMX benefit from e-strategies to maintain effective communication.

Vidyarthi et al. (2014) observed how many contemporary workplaces include leader-member dyads that require simultaneous relationships with two supervisors, leading to LMX differentiation. Settings where employees reported to more than one supervisor resulted from collaboration among different teams, departments, and external agencies (Vidyarthi et al., 2014). The frequency and style of communication remain paramount to the success of nontraditional settings such as virtual teams with dual LMX relationships (Chrisentary & Barrett, 2015; Vidyarthi et al., 2014). Vidyarthi et al. suggested that in dual LMX relationships, the quality of each relationship remained significant to that particular dyad. However, employees were able to offset negative outcomes of their low-quality relationship with secondary supervisors by maintaining frequent communication and a strong relationship with their primary supervisor (Vidyarthi et al., 2014). Leaders must consider the frequency of communication among leaders and team members whether they use e-leadership, LMX strategies, or both (Gilstrap & Hendershot, 2015; Korzynski, 2013; Vidyarthi et al., 2014).

Further, leaders using both e-leadership and LMX focus on interactions between leaders and followers, albeit through different mediums (Avolio et al., 2000; Breevaart et al., 2015; Casimir et al., 2014). Even though LMX strategies can transfer between f2f and

virtual contexts, the virtual nature of e-leadership strategies can help to supplement LMX in virtual team management (Phelps, 2014). Avolio et al. (2000) noted that e-leadership strategies mirror LMX strategies via technology. E-leadership remains a newer leadership style (Savolainen, 2015); therefore, managers using e-leadership strategies might benefit from complementing e-leadership with LMX strategies.

Contrasting Conceptual Models

The following discussion includes a description of transformational, transactional, and team leadership theories. Transformational, transactional, and team leadership theories are contrasted with the conceptual framework of the study. Even though the contrasting theories are popular, the selected conceptual framework is justified.

Transformational and transactional leadership. Supporters of transformational leadership theory posit that leaders align employee views with the organizational mission and vision (Burch & Guarana, 2014). Transformational leaders remain widely recognized for their effectiveness in increasing employees' long-term organizational commitment to change due to their relationship-building skills (Appelbaum, Degbe, MacDonald, & Nguyen-Quang, 2015). Maintaining a relational nature facilitates a communication style that influences employees' attitudes to effect change (Appelbaum et al., 2015). Chou, Lin, Chang, and Chuang (2013) noted that transformational leadership increases trust in the team leader and among team members. Although many people associate transformational leadership with trust, mediators such as trust and efficacy lead to

improved team performance outcomes (Chou et al., 2013). Leaders can also achieve trust and efficacy through LMX strategies.

Leaders using LMX strategies promote meaningful roles and positive interactions among followers while respecting one another's roles (Burch & Guarana, 2014). Burch and Guarana (2014) found a strong link between transformational and LMX strategies and higher levels of follower engagement, noting a weak link between transformational leadership and follower engagement when operating independently of LMX strategies. Li, Mitchell, and Boyle (2016) identified differences between individual and group-level transformational leadership that warrant further research to understand the difference in applications. Instead, leaders using LMX theory can incorporate both individual and group elements of leadership, which justified conducting research on the effects of LMX rather than the effects of transformational leadership among virtual teams for this study.

An abundance of literature exists about combined transformational and transactional leadership styles in the field of business and management (Holten & Brenner, 2015). Holten and Brenner (2015) examined the effects of active manager engagement through transformational and transactional leadership styles on employee change appraisals. They found a positive association between transformational leadership and employee change appraisals' long-term effects on employee attitudes and a negative association between transactional leadership and employee change appraisals. Appelbaum et al. (2015) and Holten and Brenner agreed that transformational leaders help initiate early change through relationship development with employees, but

transactional leaders limit themselves to formulaic change processes without attention to relationship development. This idea may conflict with Holten and Brenner's statement that results are not immediately evident when using transformational leadership styles due to the time required for building relationships.

Van Knippenberg and Sitkin (2013) questioned the validity of transformational leadership theory, noting that numerous transformational models exist. Dimensions within transformational models often overlap and highly correlate with other leadership styles, such as LMX and participatory leadership (van Knippenberg & Sitkin, 2013). Van Knippenberg and Sitkin suggested that given the depth of research performed on transformational leadership thus far, researchers failed to clearly distinguish between transformational and other leadership styles. Furthermore, van Knippenberg and Sitkin noted that transactional leadership is minimally useful but implemented to counterbalance transformational leadership. Leader-follower contractual relationships drive transactional leadership by establishing desired work behaviors among subordinates through contingent rewards and disciplinary action (van Knippenberg & Sitkin, 2013). Using transactional theory as the guiding framework for this study to explore virtual team settings would fail to highlight recurrent themes of virtual settings such as trust, communication, and relationship building (Chrisentary & Barrett, 2015; Kim & Park, 2015).

Kim and Park (2015) studied the effects of transactional and LMX leadership strategies on employees' organizational affective commitment and emotional exhaustion.

Employee performance and disciplinary actions comprise the primary functions of transactional leadership (Kim & Park, 2015). Kim and Park noted that transactional behavior remains inevitable in the workplace, but that low levels of transactional leadership used simultaneously with LMX is acceptable. Leaders who are responsible for performance evaluations and disciplinary action and who combine high transactional leadership with high LMX induce confusion, stress, and emotional exhaustion about performance and productivity among employees (Kim & Park, 2015). Kim and Park recommended using LMX strategies to increase employees' organizational commitment by fostering high-quality relationships. They explained that employees could hold each other accountable through LMX strategies, which may substitute the contingent reward nature of transactional leadership. Likewise, high-quality relationship development that is characteristic of LMX strategies is analogous to transformational leadership characteristics; therefore, leaders could replace transformational and transactional leadership styles with LMX strategies (Appelbaum et al., 2015; Chou et al., 2013; Kim & Park, 2015).

Team leadership. Hoch and Kozlowski (2014) explained that working with virtual teams often has its disadvantages such as reduced team cohesion, work satisfaction, trust, cooperation, social control, and team goal commitment; thus, leading to reduced team performance. Some researchers have argued that hierarchical roles, personal traits, experiences, and context contribute to the development of trust between leaders and employees (Nienaber, Romeike, Searle, & Schewe, 2015). Even though

organizational hierarchies influence trust development, virtual and f2f contexts significantly differ. Hoch and Kozlowski proposed that using traditional hierarchical leadership styles could not fully address virtual team disadvantages; therefore, they recommended supplementing traditional leadership styles with other forms of leadership to manage virtual teams. Hoch and Kozlowski investigated the effects of team leadership on team performance through a sample of virtual teams that represented a broad range of virtuality. They noted that formal virtual team leaders must invest more time, initiative, and dedication to compensate for virtual team disadvantages; however, higher investments by one individual are not always possible. Therefore, Hoch and Kozlowski suggested using shared team leadership whereby numerous team members share leadership responsibilities and increase potential for improved virtual team performance.

Ziek and Smulowitz (2014) illustrated the value of shared team leadership. Because some virtual teams do not have assigned team leaders, Ziek and Smulowitz examined the relationship between emergent team leadership skills and team effectiveness. Using emergent leadership constructs such as communication, commitment, relationships, trust, clear goals, and direction helps shape high expectations among members (Breevaart et al., 2015). Ziek and Smulowitz found that emergent virtual team leaders communicate more than team members do through frequent and lengthier messages. They also noted that emergent virtual team leaders engage in significantly more procedural communication, whereas group members engage more in task communication. Virtual leaders must use effective communication to establish their role

(Ziek & Smulowitz, 2014). Further, virtual leaders must rely on effective communication to break down barriers such as mistrust and isolation that members sometimes feel while working in virtual teams (Hoch & Kozlowski, 2014). Ziek and Smulowitz indicated that effective communication facilitated the emergence of more than one leader across most teams in their study, which highlighted the importance of collaboration and shared leadership in virtual teams. However, a major limitation of their study was that all participants were students; therefore, the results might not transfer to work settings.

Similarly, the use of traditional hierarchical leadership styles might not transfer to virtual team settings. Although communication, relationships, and trust have remained critical to team leadership (Ziek & Smulowitz, 2014), they have also recurred throughout the literature on LMX and e-leadership (Avolio et al., 2000; Graen & Uhl-Bien, 1995). Hoch and Kozlowski (2014) noted that the research community has supported LMX and transformational leadership theories, and have continued to use those theories to predict performance outcomes. But, Hoch and Kozlowski stated that leaders have difficulty practicing transformational leadership characteristics in virtual settings. Instead, relationships established by using LMX strategies easily transfer to virtual settings through AIT (Hoch & Kozlowski, 2014). Even though leaders can apply LMX strategies through virtual communication, the quality of relationships might decrease due to fewer f2f interactions (Hoch & Kozlowski, 2014). Nevertheless, the transferability of LMX strategies to virtual settings justifies coupling traditional LMX with a supplemental leadership style to manage virtual teams. Hoch and Kozlowski noted challenges with

measuring team leadership, which Gracca and Passos (2015) noted could differ significantly depending on the team context; therefore, using e-leadership could supplement LMX for this study. Finally, Rousseau and Aube (2014) identified similarities between team-based reward leadership and transactional leadership based on the reward component where leaders provide positive reinforcement for the achievement of expected team outcomes. Rousseau and Aube promoted the use of social rewards over tangible rewards because social rewards are readily available and less costly. However, using e-leadership includes a social component that can address the social reward component without the transactional nature. Using e-leadership and LMX theory to explore leadership strategies for increasing the productivity of virtual teams containing new employees remains warranted for this study.

Themes and Phenomena

Broad themes discussed include productivity, nonprofit service demands, and virtuality. Elements of virtuality, including communication, virtuality training, and managing new employees are also discussed and linked to increasing productivity in virtual teams. Note the links identified between the themes discussed and elements of the chosen conceptual framework.

Productivity. Throughout the extant literature, researchers did not apply a standard definition for productivity; however, scholars often defined productivity as a measurement that indicates how efficiently employees convert inputs to outputs (Kämäräinen et al., 2016). Because leaders use various metrics to define productivity,

Phipps et al. (2013) referred to productivity as organizational leaders' approach for increasing value during a given period. Kämäräinen et al. (2016) preferred to define productivity as the combination of efficiency measures and quality functions. Efficiency measures included resource allocation, costs, and physical inputs, while quality factors included how well employees met goals and standards, access to services, customer satisfaction, and risk mitigation and prevention (Kämäräinen et al., 2016). Some authors considered revenue as a quality factor because leaders must increase stakeholder value to raise revenues (Grönroos & Ojasalo, 2015; Kämäräinen et al., 2016). Rousseau and Aube (2014) distinguished between team performance and team productivity by arguing that leaders measure team performance through quantity, quality, goal completion, and fulfilled commitments. However, Teng (2014) noted difficulties with measuring the qualitative value of productivity and developed a model for such measurement that included quality improvement efforts, participation, innovation, employee complaints, and staff attrition. Despite the lack of a standardized definition for productivity, the need for quality measurements within productivity models remains evident.

Grönroos and Ojasalo (2015) claimed that productivity managers aim to increase profits. They developed a conceptual paper on the mutual learning and collaboration between service employees and customers to increase efficiency, quality, and revenues in service production. They also found that the literature on productivity remained highly linked to traditional, manufacturing models. Leaders that used traditional productivity models addressed profits through cost cutting activities with the assumption that quality

output would remain the same (Grönroos & Ojasalo, 2015; Kämäräinen et al., 2016). However, traditional productivity models lack qualitative measures, making this an inappropriate model for service productivity measures (Grönroos & Ojasalo, 2015). Grönroos and Ojasalo elaborated on the complexity of service productivity, noting that leaders should clearly integrate quality factors with quantitative measures as discussed by Teng (2014) and Kämäräinen et al. (2016). For example, Grönroos and Ojasalo explained how unrelated customer experiences immediately following a service encounter could influence the perceived quality of that service, which illustrated the importance of establishing integrated measures. Evidently, mutual learning between service providers and customers can lead to a stronger alignment between customer expectations and actual experiences (Grönroos & Ojasalo, 2015). As both parties learn more about one another, overall efficiency in service delivery could increase while maintaining quality expectations and increasing providers' ability to serve more customers (Grönroos & Ojasalo, 2015). Quantitative and qualitative productivity measures apply to industries outside of traditional manufacturing settings (Grönroos & Ojasalo, 2015; Ye & King, 2016).

In contrast to traditional manufacturing models described by Grönroos and Ojasalo (2015), Ye and King (2016) surveyed 879 frontline employees in the health care setting on the relationship between productivity, qualitative performance, trust, job satisfaction, and role stress. Throughout their study, Ye and King found that focusing on quantitative productivity measures among frontline service employees led to lower

quality output and lower job satisfaction. In contrast, Ye and King found that frontline employees who experienced high levels of trust in their supervisors produced more balanced levels of quality performance and quantitative productivity. Consensus has remained among researchers that a focus on quantitative productivity measures only yields short-term gains (Kämäräinen et al., 2016; Ye & King, 2016). Ye and King explained that trust alone did not moderate the negative effects of productivity. Instead, maintaining high levels of trust among frontline employees influenced how they responded to productivity-related stress, thereby helping employees to balance quantitative and qualitative productivity demands (Ye & King, 2016) as outlined by Rousseau and Aube (2014), Kämäräinen et al. (2016), and Teng (2014). Mutual learning discussed by Grönroos and Ojasalo might also apply to supervisor-subordinate dynamics for increased productivity. Kämäräinen et al. also shared the negative effects of solely focusing on quantitative factors.

Kämäräinen et al. (2016) noted how leaders frequently cut costs, which can result in excessive labor input and poor resource allocation. Additionally, leaders that focus on maximizing output through greater efficiency often experience lower quality output. Calabrese and Spadoni (2013), Rousseau and Aube (2014), and Kämäräinen et al. attributed equal value to qualitative and quantitative components of productivity measurements. However, Calabrese and Spadoni questioned whether organizational leaders could reduce trade-offs between productivity and perceived quality and examined the effects that trade-offs had on profitability. They performed a retrospective

longitudinal study of 52 banking sites of a European financial center to help answer the research question. Calabrese and Spadoni confirmed that employees at the participating banking sites regularly made trade-offs between perceived quality and productivity. They identified a significant relationship between higher levels of productivity and higher employee incentives for meeting quality-based objectives, thereby balancing the productivity and quality needs of the organization. Kämäräinen et al. reiterated the use of quality indicators to avoid sacrificing quality over quantity. However, Kämäräinen et al. admitted that researchers should perform further analysis on the impact of quality indicators for overall productivity measures. Likewise, Kämäräinen et al. failed to provide significant discussion about virtual team productivity, which warrants further research because virtual team leaders must understand productivity in a virtual team context (Hamersly & Land, 2015).

Virtual leaders must understand virtual team environments, management, collaboration, efficiency, and team integration to increase productivity and effectiveness (Hamersly & Land, 2015). Leaders should also consider the degree of team virtuality, team context, mobility, and AIT when addressing team productivity (Foster et al., 2015; Gilson, Maynard, Jones Young, Vartiainen, & Hakonen, 2015). De Paoli (2015) stated that f2f collaboration among virtual teams could increase team productivity through goal, task, and role clarification. Additionally, the link between emotional intelligence, employee interactions, and commitment to virtual team productivity (Phipps et al., 2013; Singhal et al., 2014) may help to explain reduced productivity among virtual teams

containing members who feel isolated. Cogliser et al. (2013) promoted high-quality interactions among virtual team members to prevent member isolation, thereby preventing productivity and satisfaction declines. McCarthy, Trougakos, and Cheng (2016) identified a link between employee productivity, workplace anxiety, employees' emotional exhaustion, LMX, and coworker exchanges (CWX).

McCarthy et al. (2016) found a positive relationship between workplace anxiety and emotional exhaustion moderated by high levels of CWX. Similarly, McCarthy et al. identified a negative relationship between emotional exhaustion and job performance when moderated by high levels of LMX. Based on the study's results, McCarthy et al. suggested that continued workplace anxiety led to emotional exhaustion, which indirectly led to decreased productivity. Some ways to measure decreased productivity resulting from anxiety and emotional exhaustion could include levels of employee participation, improvement efforts, complaints, and staff attrition (McCarthy et al., 2016; Teng, 2014). Peer social support could indirectly influence individual productivity levels by moderating workplace anxiety through CWX (McCarthy et al., 2016). McCarthy et al. described a high-level LMX cycle, stating that employees who maintain high LMX with their supervisor perform consistently well despite exhaustion levels to maintain relationships and help the team meet productivity standards. Additionally, supervisors engaged in high LMX relationships will notice when subordinates experience emotional exhaustion and respond accordingly by providing additional resources (McCarthy et al., 2016; Vidyarthi et al., 2014), thereby aligning with emotional, social, and technical e-

leadership skills (Savolainen, 2015). McCarthy et al. illustrated how engaging in high-quality interactions in the workplace can contribute to individual and team productivity levels. McCarthy et al.'s views aligned with Breevaart et al.'s (2015) and Choy et al.'s (2016) views about high quality LMX, social support, and job performance and productivity. McCarthy et al. did not distinguish between virtual or f2f interactions, rather noting the importance of maintaining high-quality relationships with both leaders and peers. Evidently, the quality of interactions an individual has with their leader, peers, and customers in f2f and virtual settings impacts productivity levels (Grönroos & Ojasalo, 2015; Li & Liao, 2014; McCarthy et al., 2016).

Li and Liao (2014) designed a survey study to help them learn more about the relationship between LMX quality, LMX differentiation, role engagement, team coordination, individual performance, and team performance. Specifically, they aimed to examine how the quality of LMX impacted individual performance through customer service, and how LMX differentiation affected team productivity through financial measures. Like Calabrese and Spadoni (2013), Li and Liao examined the qualitative and quantitative measures of productivity in the banking industry, but examined the effects of using the leadership style, LMX, instead of one specific leadership strategy of using incentives. They also took a different approach than Calabrese and Spadoni regarding data collection. Li and Liao measured individual performance by using client ratings of their customer service experience with specific bank employees. They measured team performance by calculating quarterly team profits. In this manner, Li and Liao employed

both a qualitative and quantitative approach to measuring productivity and found a positive correlation between LMX quality, individual job performance, and role engagement. In other words, high-quality LMX indirectly contributed to increased member productivity through increased role engagement. Additionally, Li and Liao identified a negative correlation between team coordination and LMX differentiation, noting a positive correlation between team coordination and team performance. McCarthy et al. (2016) and Li and Liao demonstrated a clear link between high-quality LMX and individual and team workplace productivity. A review of the literature on productivity and virtual teams supports the need for specialized leadership strategies and use of LMX theory as a guiding lens (Hamersly & Land, 2015; Li & Liao, 2014; McCarthy et al., 2016).

Nonprofit service demands. The third and fourth sectors matter because (a) nonprofit and nongovernmental organizations comprise the third sector, and (b) a hybrid of the first three sectors, including nonprofit organizations, comprises the fourth sector (Sinuany-Stern & Sherman, 2014). Nonprofit operations maintain community stability by contributing to the economy, environment, and social well-being (McDonald et al., 2015). Hopkins, Meyer, Shera, and Peters (2014) noted that many nonprofit leaders fail to meet service demands despite sector growth and increased accountability. The reason lies in that leaders expect employees to produce more with fewer resources (Hopkins et al., 2014). Therefore, nonprofit leaders must find ways to meet increasing service demands. No existing evidence would indicate slowed nonprofit growth resulting from

increased competition for resources such as donors, grants, and government contracts (McDonald et al., 2015). Leaders cannot ignore the challenges presented by increased competition and limited resources. Instead, they must increase stakeholder value through more efficient practices (McDonald et al., 2015). Nonprofit approaches to managing increased demands include long-term, financially sustainable operations (McDonald et al., 2015). McDonald et al. explained that increasing stakeholder value requires process improvements and cost reductions to achieve greater efficiency and productivity, often obtained by using AIT.

McDougle and Lam (2014) conducted a telephone survey of 1,002 participants in Southern California and identified a positive relationship between nonprofit geographic density and public awareness of local nonprofit organizations. Further, McDougle and Lam found a positive relationship between public awareness about local nonprofit organizations and community members' level of confidence in the nonprofit sector. McDougle (2014) conducted a separate study focused on the San Diego Metropolitan area. Initially, McDougle found that more nonprofit organizations exist in wealthier neighborhoods than in lower income neighborhoods. Uneven geographic distributions of nonprofit organizations potentially reduced service efficiency and accessibility (McDougle, 2014). However, when McDougle adjusted the data for missing information, the difference in nonprofit service accessibility between wealthier and lower-income neighborhoods was significantly less than seen in previous research. Kim and Park (2015) examined the relationship between nonprofit density, socioeconomic diversity,

and political engagement in the community by evaluating 501c(3) nonprofits throughout 3,036 U.S. counties and suggested that nonprofit density remains positively related to socioeconomic inequality and political engagement. The geographic distribution of nonprofit agencies remains unclear (McDougle, 2014; McDougle & Lam, 2014); however, researchers have agreed that nonprofit organizations remain unevenly distributed throughout communities and question community members' abilities to access nonprofit resources equally (McDougle & Lam, 2014). Additionally, the nonprofit sector will continue growing with the continuation of socioeconomic inequality (Kim & Park, 2015) in an attempt to improve service delivery. Unequal distribution of nonprofit services justifies the use of virtual teams among nonprofit agencies to increase resource accessibility, thereby meeting service demands through increased productivity (Kim & Park, 2015; McDougle, 2014).

Hopkins et al. (2014) proposed the need for AIT and leaders who can adapt to creative, cost-efficient service delivery. A shortage of effective nonprofit leaders in the industry has continued because nonprofit leaders often accept managerial positions without the requisite skills, experience, and knowledge needed for the position (Hopkins et al., 2014). Hopkins et al. recommended a shift to adaptive leadership and generative leadership in the nonprofit industry. Adaptive leaders adjust their behaviors and approaches to maintain fluidity with changing social, economic, and technological needs (Hopkins et al., 2014). Generative leaders promote collective leadership to foster a new generation of technologically able nonprofit workers (Hopkins et al., 2014). Embracing

AIT strategies to improve virtual team productivity requires leaders to assess employees' abilities and needs (Hopkins et al., 2014). Using e-leadership skills (Savolainen, 2015), LMX, and CWX (McCarthy et al., 2016) in a nonprofit, virtual team setting could address Hopkins et al.'s claims about the need for adaptive and generative leadership. A link emerged throughout the literature between nonprofit service demands, leadership, productivity, and AIT (Hopkins et al., 2014; Kim & Park, 2015; McDonald et al., 2015), which further supported the need for this study regarding leadership strategies and nonprofit virtual team productivity.

Virtuality. Hajli and Sims (2015) discussed the IT productivity paradox, referring to the concept that economies of developed nations slowed over the past several decades despite increased AIT investments. The researchers examined secondary data for 21 globally developed nations for the period from 1995 to 2005. Even though they could not accept or reject the IT productivity paradox, Hajli and Sims found that AIT investments correlated with increased productivity in some industries. However, the level of productivity gains remained unclear for those industries based on the study's results. In fact, Chou, Chuang, and Shao (2014) supported the idea that leaders often invest in AIT to enhance organizational productivity, but increased productivity at organizational and individual levels remained unclear. Nevertheless, the United States has continued as a leader in AIT investments, totaling $1 trillion between 1995 and 2000, which represented 48% of all AIT investments of the study sample. Hajli and Sims illustrated the significance of AIT for contemporary productivity standards, especially in the United

States. In fact, more researchers have shown interest in social networking and virtual team productivity, a contemporary topic (Moqbel, Nevo, & Kock, 2013; Trees, 2015).

Trees (2015) examined the use of enterprise social networking in the United States to engage millennial employees in organizational learning and collaboration. Enterprise social networking refers to professional social networking platforms designed for the workplace, whereas examples of public social networking platforms include Facebook, Twitter, and LinkedIn (Moqbel et al., 2013; Trees, 2015). Throughout the study, Trees noted that older generations adapted to AIT, including enterprise social networks; however, they remained less engaged with online tools than millennials who demonstrated greater familiarity with social networking strategies. Also, younger employees more readily adopted enterprise social networking strategies than their older peers did (Trees, 2015). In contrast, older employees offered expertise and wisdom that younger employees could benefit from; therefore, AIT strategies for organizational communication must appeal to all age groups for successful implementation. Overall, the number of millennial new hires increased throughout organizations. Younger employees preferred online communication, teamwork, constant feedback, and social learning (Trees, 2015), but relied on public social networking platforms (Gannon, Rodrigo, & Santoma, 2016). Despite millennials' increased workforce presence and strong social networking skills, Gannon et al. (2016) could not support using social media as a primary communication method in virtual professional teams due to millennials' lack of

familiarity with professional social networking platforms. The effects of using social media as a virtual team productivity tool remain debated (Gannon et al., 2016).

Many leaders among Trees' (2015) study sample expressed concern about the negative impacts that enterprise social networking could have on employees' productivity, but most employees demonstrated how social networking in the workplace increased collaboration and efficiency among peers. In fact, Moqbel et al. (2013) noted how leaders worried about the potential relationship between presenteeism and the use of social networking on the job. They studied the impact of public social networking on job performance but found no direct relationship between them. Instead, Moqbel et al. found employee job satisfaction to be a mediator between public social networking in the workplace and job performance. Social networking in the workplace also helped link new hires and established employees in Trees' study sample whereby employees of all ages and seniority levels engaged in relationship building and knowledge sharing strategies for increased productivity. Managers often believe that social networking in the workplace decreases employee productivity (Moqbel et al., 2013; Trees, 2015). Nevertheless, employees with higher job satisfaction resulting from social networking interactions can show greater productivity (Moqbel et al., 2013). Moqbel et al. claimed that "happy workers work better" (p. 254) and urged organizational managers to consider using appropriate social networking platforms in the workplace. Gannon et al. (2016) did not agree with Moqbel et al.'s and Trees' position on social networking in the workplace despite the positive results of their studies. However, employees that work in virtual

environments could experience additional advantages to operating in a virtual team that potentially contribute to productivity (Gladden, 2014; Koplin, Schiffmann, Muller, Eirund, & Berninghausen, 2013).

Organizational advantages to using virtual teams include flexibility, reduced travel time, reduced expenses, resource accessibility from any location, and 24-hour workdays (Gladden, 2014; Koplin et al., 2013). In addition to financial and logistical benefits, using virtual teams can improve human resource capabilities through a broader talent pool (Iorio & Taylor, 2014). Gladden (2014) reiterated that two common virtual team themes include f2f interactions and communication. Interrupted communication can result in poor collaboration among virtual and f2f team members (Gladden, 2014). Because communication remains critical for virtual operations, virtual leaders must help team members overcome communication barriers. Some researchers argued that using social networking in the workplace could help employees overcome barriers for increased productivity (Moqbel et al., 2013). However, the extent of virtual team advantages highly depends on the degree of virtuality for each team (Gladden, 2014; Morgan et al., 2014).

Morgan et al. (2014) explained that the degree of virtuality ranges from colocated teams with high levels of f2f interactions to virtual teams without f2f interactions. They identified cooperation, trust, and shared understanding as major themes for team performance and relationship development. Organizational, spatial, temporal, and cultural distribution influence the degree of team virtuality and affect communication among team members and leaders (Morgan et al., 2014). Spatial, temporal, and cultural factors

sometimes lead to miscommunication and misinterpretation in virtual settings due to delayed feedback and a lack of body language (Morgan et al., 2014). Some leaders promote hybrid workspaces to help team members overcome challenges associated with virtual teams (De Paoli, 2015), as described by Morgan et al., by adjusting the degree of virtuality to the team's current needs (De Paoli, 2015). De Paoli (2015) conducted 10 semistructured interviews with virtual team leaders from different engineering companies and found that participants commonly described how shared, open workspaces facilitated more information sharing and transparency, thereby building trust that is otherwise difficult to establish in purely virtual environments. De Paoli's and Morgan et al.'s studies reflected common themes as communication and trust. Despite the challenges that virtual team members face with relationship-building (Chrisentary & Barrett, 2015), Morgan et al. found that team members could build relationships in virtual teams, albeit at a slower pace than f2f teams do. The frequency of communication rather than the mode of communication had the greatest effect on team performance, but Morgan et al. still recommended using periodic f2f meetings or teleconferencing to improve the quality of team processes and relationship building. Morgan et al. found that inconsistent communication among virtual team members negatively influenced trust and cooperation.

Similar to De Paoli (2015) and Morgan et al. (2014), Orhan (2014) explored virtuality, but differentiated between task virtuality and team virtuality. Orhan associated the degree of task virtuality with the level of technology required for task completion, and described team virtuality as the level of successful cooperation, collaboration, and

input from team members accomplished through AIT. Morgan et al. (2014) and Orhan agreed that some virtual teams require f2f interactions. In contrast, teams using high task virtuality do not necessarily represent virtual teams (Orhan, 2014). Leaders must distinguish between task and team virtuality to prevent diminished relationships among team members that often result from high task virtuality (Orhan, 2014) and could affect trust and cooperation (De Paoli, 2015; Morgan et al., 2014). Eliminating unnecessary task virtuality that does not contribute to virtual teamwork can help maintain the quality of communication and integrity of virtual teams (Orhan, 2014). Additionally, Orhan discussed the impact that task and team virtuality training can have on new hires.

Virtuality training. Given the extent of technology and task virtuality among traditional teams and the overall increase in virtual teams (Iorio & Taylor, 2014; Orhan, 2014; Wright, 2015), managers should consider providing virtuality training to traditional employees as well to reduce communication, cultural, and trust barriers (Orhan, 2014). Wright (2015) administered 100 online surveys to Department of Defense (DoD) and federal employees to examine barriers to virtual team effectiveness. In the study, Wright (2015) addressed knowledge sharing, trust, cohesion, performance, and satisfaction in the survey design. Sample demographics were as follows: (a) 64% male and 27% female, (b) 68% aged 45-54 years, 16% aged 35-44 years, and 5% aged 18-34 years. Approximately 69% of the sample received CTST through a combination of classroom, online, and webinar training (Wright, 2015). Participants of Wright's study reported a preference for online training. The most frequently used forms of communication among the

participants were e-mail and telephone, by 100% and 97% respectively (Wright, 2015). Wright's statistics support Tashiro et al.'s (2012) belief that e-mail continues as the most popular method of online communication in the workplace. Audio conferencing, text messaging, and web conferencing followed at 88%, 86%, and 80% respectively. Approximately half of Wright's study sample participated in videoconferencing (webcams), desktop sharing, GoTo meeting, instant messaging, white boarding, Skype, discussion forums, cloud storage, live chat, and electronic bulletin boards to communicate with team members (Wright, 2015). Wright supported Iorio and Taylor's (2014) claim that team members and leaders can no longer rely on f2f interactions regardless of the level of virtuality; thus, leaders should master AIT relevant to their teams to engage their employees.

Participants in Wright's (2015) study added that the training received enhanced their mastery of technology for increased productivity. Without training, employees risk decreased productivity due to unfamiliarity with the tools needed for their job role. Wright found that those participants who received CTST achieved greater knowledge sharing, trust, cohesion, performance, and satisfaction levels, which led to improved virtual team communication. Traditional training programs remain valuable, but fail to address technological factors; therefore, traditional training would not transfer adequately to virtual team management (Iorio & Taylor, 2014). In addition to the value of formal training, Iorio and Taylor (2014) found that prior experience with virtual teams regardless of AIT mediums used enhanced virtual team engagement, especially when leaders had

prior experience with relevant AIT. Iorio and Taylor revealed in their findings that leaders' virtual team engagement increased as they became more familiar with technology. Essentially, virtuality training should include audio, visual, and interactive strategies as well as direct contact to gain experience with virtual team operations and use of AIT (Iorio & Taylor, 2014; Koplin et al., 2013; Wright, 2015). Iorio and Taylor proposed a shared leadership model between younger, tech-savvy leaders and older age cohorts with traditional leadership training and work experience to maximize virtual team engagement. Finally, Iorio and Taylor suggested that leadership-training programs must change to accommodate evolving learning styles among leaders.

Gannon et al. (2016) noted that newness to working in virtual teams could become overwhelming, even among younger employees that display greater familiarity with AIT. Chang, Hung, and Hsieh (2014) recognized the need for leaders to maintain consistency in virtual team productivity by shifting their attention from established employees to new employee training. However, as new employees master basic skills and transition to more complex processes, they also begin mentoring newer employees that join the team (Salminen-Karlsson, 2014). Frequent communication and training support will likely decrease as new employees gain proficiency, thereby shifting attention from quantity to quality of communication between leaders and newer employees (Chang et al., 2014). Hart (2016) explored informal mentorship throughout virtual teams in the United States, Europe, and Asia, noting that the strongest mentors displayed excellent communication skills and did not hold supervisory roles. Supportive mentorship can help

newer members integrate and build trust with their peers (Hart, 2016). Virtual leaders should consider new employees' needs during integration into a new virtual team.

New employees. Tsai and Pai (2014) and Zhang, Liao, Yan, and Guo (2014) discussed the significance of integrating newcomers to existing teams. Tsai and Pai found that newcomers in virtual communities based in Taiwan seek to fulfill three psychological needs known as autonomy, relatedness, and competence to develop strong relationships and increase participation within their new virtual community. Participants of Tsai and Pai's study reported valuing autonomy higher than relatedness when developing relationships within the virtual community.

Based on Tsai and Pai's study results, it seems that at least for virtual communities, the need for autonomy might be equally important to Western and Nonwestern cultures even though most societies traditionally associated autonomy with Western cultures. However, Tsai and Pai did not address virtual work teams; instead, they included samples of public virtual communities established for special interest groups such as sports and travel. Zhang et al., on the other hand, examined the social integration of new employees among f2f teams in China. Zhang et al. noted that leaders play a role in new employees' autonomy and motivation by facilitating an environment that supports those values. New employees that feel highly supported by their leader take more proactive measures to integrate with their new team (Zhang et al., 2014). New employees that perceived strong leader support exhibited stronger organizational identification and met their performance expectations more frequently than those with low leader support. New employees who

felt avoided by their supervisors, which typically serve as resource and information gatekeepers, often suffered in their new roles despite proactive measures to integrate socially with their teams (Zhang et al., 2014). Some ways to increase new employee satisfaction in the United States include performance incentives, team bonuses, and training investments (Selden, Schimmoeller, & Thompson, 2013), which requires supervisor engagement. Similar to Tsai and Pai's study, Zhang et al. suggested that the results of their study generalized to Western and non-Western societies. The results of Zhang et al. and Tsai and Pai's studies show that non-Western research conducted on leadership and virtual teams apply to Western societies and add value to the literature review.

Conclusion

Leaders and researchers should continue using more than one conceptual framework to understand and address the range of needs among contemporary virtual teams (Hoch & Kozlowski, 2014). The basis of e-leadership and LMX frameworks remain useful when researchers explore the link between virtual work settings and productivity (Avolio et al., 2014; Cowan, 2014; Li & Liao, 2014; Preston et al., 2015; Ye & King, 2016). Dominant themes among e-leadership, LMX, and virtuality includes communication, trust, and relationships, whereby trust and high-quality relationships cannot appropriately develop without strong communication among team members (Avolio et al., 2000; Morgan et al., 2014; Quinn & Fitch, 2014; Savolainen, 2015). In fact, formal and informal LMX support through virtual communication and virtual

relationships can help reduce workplace anxiety and exhaustion for performance and productivity maintenance (Kim & Park, 2015). E-leaders' social and emotional skills described by Savolainen (2015) should complement LMX support in addressing Kim and Park's (2015) findings on workplace anxiety and exhaustion for increased productivity. Cowan (2014), Preston et al. (2015), and Wright (2015) offered an extensive list of technological communication strategies while not excluding f2f interactions in virtual teams for trust and relationship building. However, all new virtual team members or employees new to a particular AIT medium benefit from AIT training (Orhan, 2014). Practicing technical e-leadership skills aid in teaching virtual team members general how-to processes (Savolainen, 2015), including technological proficiency for increased productivity. Evidently, leaders using e-leadership and LMX strategies could effectively increase productivity among virtual team members, including new members on their team.

Transition

Section 1 includes the problem that I will address in this study. The problem is that nonprofit, midlevel supervisors lack leadership strategies for increasing productivity of virtual teams containing new employees. I outlined the research method and design in the nature of the study and developed interview questions designed to answer the research question. Further, I selected e-leadership and LMX theories for the conceptual framework to help me guide the research. The literature on the chosen conceptual framework revealed common themes between e-leadership and LMX. In the literature

review, I expanded upon the conceptual framework and contrasted it with transformational, transactional, and team leadership theories to justify my decision. I drew the following themes directly from the research question and background section for a comprehensive review of the topic: productivity, nonprofit service demands, virtuality, virtuality training, and new employees. Section 2 will include a breakdown of how I plan to conduct the study.

In Section 2, I will expand upon the nature of the study introduced in Section 1 by describing the chosen research method and design in more depth. Additionally, I will discuss the role of the researcher, participants, population and sampling, and ethical research. I will conclude Section 2 with a description of the data collection instruments and techniques, techniques for data organization, and the data analysis process. Findings of the study, professional implications, and recommendations will become available in Section 3.

Section 2: The Project

In Section 2, I outline key components of how to plan for and complete the research project. Discussion about the research project includes a reiteration of the purpose statement and a description of the role of the researcher and participants. Also, I explain the chosen research method and design, population, and sampling methods of this study. A discussion of ethical considerations follows and leads into an explanation about the data collection, organization, and analysis process. Section 2 concludes by establishing the reliability and validity of this study.

Purpose Statement

The purpose of this qualitative, single case study was to explore leadership strategies that nonprofit midlevel supervisors used to increase productivity of virtual teams containing new employees. The specific population consisted of midlevel supervisors from a nonprofit, case management agency in Colorado who used successful leadership strategies to manage new employees in virtual teams effectively and met increasing service demands. Implications for positive social change may include the potential for increased virtual team productivity and nonprofits' capabilities of meeting service demands in the community. Individuals receiving services from nonprofit organizations may directly benefit from improved productivity levels by receiving high-quality services. Additionally, successful management of virtual teams may enhance overall work experiences for employees who are new to the nonprofit sector and potentially increase employees' longevity in the nonprofit industry.

Role of the Researcher

The researcher's role in qualitative research involves developing the study design, data collection, and data interpretation to include identification of recurrent themes (Yin, 2013). In fact, Cope (2014) stated that qualitative researchers function as the research instrument. In this study, I acted as the primary data collection instrument.

The topic for this research study was leadership strategies used to increase productivity among virtual teams containing new employees. The study took place at a nonprofit, human services agency. I have 8 years of experience in the human services field, 4 years of which were with nonprofit organizations. Overall, I have 4 years of virtual team experience and 6 years of supervisory experience. My employment at the agency where data collection took place did not interfere with this study because I was not a member of the population, I operate in a separate department, and I do not have a supervisory role. Even though some participants had previous contact with me, the nature of the contact was not related to the themes identified in this research topic. I am housed by an external agency and have limited interactions with the population in question.

All researchers hold the ethical role and responsibility to protect human rights throughout the study (Yin, 2013) to include ethical management of the data collected (Cassidy, 2013). A plan for human rights protections is required for all studies involving human subjects and needs approval from the institutional review board (IRB) before commencing the study (Yin, 2013). According to the Belmont Report published in 1979, researchers must ensure respect, beneficence, and justice for participants as a measure to

prevent abusive behavior that earlier researchers displayed, which originally led to the development of the Belmont Report (U.S. Department of Health and Human Services, Office for Human Research Protections, 2015). Therefore, researchers must develop the study design and data collection methods in accordance with the Belmont Report (Yin, 2013). I completed the NIH Protecting Human Subject Research Participants training, certification number 1850090, as noted in Appendix A.

Although researchers cannot eliminate bias, they can minimize it (Yin, 2013). In particular, qualitative researchers who have direct contact with participants must mitigate bias to enhance the validity and reliability of the study (Malone, Nicholl, & Tracey, 2014). Patton (2014) suggested that researchers operate within an ethical framework to help them balance the integrity of the study with reportable ethical concerns as mandated by law. Cassidy (2013) and Cope (2014) noted that qualitative researchers should use reflexivity to maintain awareness of how their personal experiences and values could influence the study, thereby maintaining objectivity and the integrity of the study results. Additionally, implementing an interview protocol can help researchers mitigate bias by maintaining neutrality and remaining focused on the research question (Patton, 2014). Researchers often perform member checking to ensure capturing participants' perspectives rather than their perspectives (Cope, 2014; Houghton, Casey, Shaw, & Murphy, 2013). Reaching data saturation helps researchers to gain a full understanding of a complex phenomenon based on participants' perspectives (Cope, 2014; Elo et al., 2014). Morse (2015) noted that participants' perspectives included objective and

subjective data. Likewise, conducting triangulation helps the researcher to gain a comprehensive understanding of the phenomenon (Cope, 2014). Therefore, to mitigate bias, I used an interview protocol, performed member checking until I reached data saturation, and used methodological triangulation for this study. Cassidy (2013) and Cope (2014) recommended that researchers use reflexivity to maintain objectivity throughout the study. Therefore, I engaged in reflexivity to maintain awareness of my personal lens and how my assumptions influenced the research process to remain objective throughout the study.

Participants

Elo et al. (2014) and Morse (2015) suggested for researchers to interview experts or knowledgeable individuals regarding the phenomenon under study. In this study, the participant eligibility criteria included: (a) virtual team leaders who successfully increased team productivity, (b) virtual team leaders who had experience leading new employees, and (c) virtual team leaders who maintained midlevel supervisory duties. The executive director provided a site agreement for this study (see Appendix B). Zhu and Cheung (2014) experienced some difficulty accessing potential participants for their case study. Patton (2002) and Zakrison et al. (2015) recommended accessing participants by speaking to leaders or knowledgeable folks who could identify individuals that meet the eligibility criteria for the study.

Intensity sampling is a form of purposive sampling used by researchers to recruit participants that strongly exhibit a particular phenomenon (Patton, 2002); therefore, used

purposive sampling for this study. The executive director helped me gain access to participants by contacting upper management and asking them to identify team leaders that clearly met the participant eligibility criteria. Upon confirming a list of names, I followed up with potential participants through e-mail invitations. Department leaders identified 12 out of 18 virtual team leaders that met the criteria. I invited 11 out of 12 potential participants. One virtual team leader was not eligible for the study because she was my supervisor a few years ago. Out of 11 virtual team leaders, 7 leaders agreed to participate in the study, but 1 leader dropped out before the interview took place. The sample consisted of 6 virtual team leaders. Using snowball sampling could help researchers increase recruitment by following up with individuals repeatedly named by other participants (Patton, 2002). I planned to use snowball sampling to increase participant recruitment if purposive sampling yielded fewer than 5 participants. However, I did not need to use snowball sampling because I obtained more than 5 participants through purposive sampling. Participant recruitment did not begin until I received formal approval from the Institutional Review Board for the study.

Comi, Bischof, and Eppler (2014) shared how difficult it can be to establish a working relationship comprised of trust and understanding with participants. An informed consent process, in which the researcher greets the participant, clarifies the purpose and scope of the study, and reiterates the voluntary nature of participation can help researchers build rapport and establish a working relationship with the participant (Comi et al., 2014; Edlund, Hartnett, Heider, Perez, & Lusk, 2014). Further, Patton

(2014) stated that following an interview protocol helps researchers balance the need between neutrality and developing rapport; therefore, I followed the informed consent process and interview protocol (see Appendix C) to establish a working relationship with participants in this study. Researchers suggested speaking the same organizational language and wearing attire that is typical for that setting to help establish trust and rapport with the participants (Comi et al., 2014; Edlund et al., 2014). Comi et al. noted that the manner of speech and formal attire could help to alienate participants. I am confident that I was sensitive and respectful toward participants with my language and attire because I am familiar with the organizational culture of this setting.

Research Method and Design

Research Method

I selected a qualitative method for this study. Using qualitative methods facilitates exploratory research in natural settings by using theme identification to describe, compare, and explain exploratory data (Azimian et al., 2014; Yin, 2013). Further, researchers should use qualitative methods when appropriate to study human behavior, which is unpredictable (Johnson, Buehring, Cassell, & Symon, 2007). Thus, the exploration of virtual leadership strategies warranted a qualitative approach for this study. Phenomena explored in the natural environment are suited for constructivist epistemologies based on perceptions and interpretations (Sousa, 2014; Tumele, 2015). Qualitative researchers must attempt to understand subjective data to help answer the research question (Gog, 2015; Göttfert, 2015). Therefore, a qualitative approach best

suited this study to facilitate exploration of leadership behavior in business settings. To answer the research question, the researcher described leadership strategies used to increase virtual team productivity, which did not involve quantitative measurements; hence the need for a qualitative approach.

Researchers use the quantitative methodology to facilitate the examination of relationships and differences among variables through statistical analysis (Galinac Grbac et al., 2013), but can fail to address the complexities of the phenomenon. Positivistic and postpositivist epistemologies are well suited for the study of objective data (Tumele, 2015); therefore, the quantitative approach was inappropriate for exploring successful leadership strategies that nonprofit supervisors used to increase the productivity of virtual teams containing new employees. Conducting quantitative data analysis after qualitative data analysis would measure the effectiveness of identified themes (Myneni et al., 2015). Likewise, researchers could use qualitative data to help explain quantitative results (Parker, 2014) or as an exploratory strategy to help determine the direction of the quantitative approach (Johnson et al., 2007). Many researchers have expressed that quantitative and qualitative methods are complementary and equally rigorous (Johnson et al., 2007), yet researchers often haphazardly combine methods rather than integrate methods for rigorous research (Parker, 2014). Therefore, using the quantitative component of mixed methodology could minimize phenomena's complexity by reducing individual perspectives to numerical data. Parker (2014) suggested that researchers

provide a thorough explanation of the chosen research design to help increase the study's credibility.

Research Design

I selected the descriptive, single case study design for this study. Researchers use descriptive case studies to describe a phenomenon (Tumele, 2015), which applied to this study. Using case studies allow researchers to collect participants' perspectives on complex social phenomena that occur in business settings (Yin, 2013). Case studies have gained popularity in social science (Tumele, 2015). In particular, case studies have gained popularity in business management research (Gog, 2015; Parker, 2014). The increased use of case studies in these settings is partly due to the application of a contemporary phenomenon (Yin, 2013). Observation data for ethnographic studies (Zilber, 2014) would be difficult to obtain in virtual environments; thus, not appropriate for this study. Researchers use the phenomenological design to study the lived experiences of participants (Moustakas, 1994). Therefore, phenomenology was not suitable for this study to address the specific business problem because explored the strategies nonprofit supervisors used to increase the productivity of virtual teams containing new employees. Using a single case study design allowed me to narrow the sample through participant eligibility criteria and identify individuals who could best answer the research question.

Ensuring credibility and trustworthiness of the chosen research design requires that the researcher accurately describes the participants through rich descriptions and the

sampling methods used to increase opportunities for transferability of findings (Elo et al., 2014; Houghton et al., 2013). Researchers should define the unit of analysis to help determine the transferability of findings (Elo et al., 2014). Also, using triangulation methods and member checking enhances the credibility and trustworthiness of the study (Cope, 2014; Houghton et al., 2013). For this study, I ensured methodological triangulation by collecting data through semistructured interviews and documentary evidence as recommended by Cope (2014). I also performed member checking by reviewing and confirming that my interpretation of each participant's perspectives was accurate. I received confirmation from each participant that my interpretations accurately reflected their perspectives. The unit of analysis was individual participants because the organization under study represented the single case. Finally, achieving data saturation would indicate that themes are consistent across the data and new information no longer emerges (Morse, 2015), which could enhance credibility and trustworthiness of the study and increase the chance for transferability (Cope, 2014; Morse, 2015). Steps to achieve data saturation include performing preliminary analyses for theme identification (Jonsen & Jehn, 2009) and using a saturation grid to track emerging themes across participants (Fusch & Ness, 2015), which I used in this study. Further, the member checking process led to data saturation, which was evident through replication of themes across participants. I analyzed all available data from the interviews and documentary evidence to achieve triangulation. Researchers must observe replication of broader themes instead of details relevant to individuals only (Morse, 2015). Finally, Morse (2015)

recommended recruiting participants having expertise in the phenomenon studied. The participant eligibility criteria for this study met Morse's recommendation to have expert participants.

Population and Sampling

Elo et al. (2014) reiterated the importance of researchers to consider how well each participant will inform the study. Therefore, I used intensity sampling to recruit participants that met the recruitment criteria and provided rich information about the phenomenon. Patton (2002) described intensity sampling, which is a form of purposive sampling, as recruiting participants that strongly exhibit the phenomenon under study. For this study, I recruited participants that exceptionally meet the recruitment criteria as successful leaders. Zakrison et al. (2015) and Zhu and Cheung (2014) used snowball sampling as a secondary sampling method to help them increase participant recruitment when using purposive sampling did not yield sufficient participants. Using snowball sampling requires that researchers follow-up with individuals repeatedly named by other participants (Patton, 2002). Even though I planned to use snowball sampling as a secondary method if needed to achieve the desired sample size, I did not use snowball sampling because I achieved the desired sampling size through intensity sampling.

The study population consisted of approximately 18 midlevel virtual team leaders from a nonprofit organization in Colorado. Given the small population from which to recruit a sample that meets the participant eligibility criteria, I aimed for a sample size of 5 participants. Patton (2002) noted that qualitative case studies could contain a sample of

one participant per case, but recommended using such small samples for critical cases only. Boddy (2016) and Marshall, Cardon, Poddar, and Fontenot (2013) reported that qualitative case studies typically consist of 15 to 30 total interviews regardless of the sample size. Nevertheless, Boddy cautioned qualitative researchers with selecting a sample that was too large for the purpose of the study. In qualitative research, the process of obtaining data saturation should determine the final sample size (Marshall et al., 2013; Zakrison et al., 2015), meaning that the final sample could be larger than the desired sample size of at least 5 participants.

Boddy (2016) stated that researchers cannot obtain data saturation with only one interview and researchers typically need a minimum of three interviews for data saturation. Performing member checking (Cope, 2014) and conducting analyses promptly after each member check contributed to ensuring data saturation (Boddy, 2016; Elo et al., 2014). Promptly conducting analyses after each member check (Elo et al., 2014) helps the researcher to track recurrent themes and identify consistency of those themes across participants for data saturation (Morse, 2015; Zakrison et al., 2015).

Elo et al. (2014) suggested that qualitative, case study researchers should always establish criteria for selecting participants that will best inform the study. Addressing the role and duties of participants through the selection criteria helped to ensure that the sample aligned with the research question of this study. The research question for this study outlined the needed sample to consist of nonprofit, midlevel supervisors that led virtual teams. Additionally, addressing participants' tenure through the selection criteria

helped to ensure that only individuals who had direct experience with virtual team productivity and new employee dynamics participated. Recruiting participants identified as successful virtual team leaders aligns with the purpose of this study, which was to explore successful strategies used to increase productivity of virtual teams containing new employees. Interview settings affect the quality of communication between participants and the researchers (Whiting, 2008). Jamshed (2014) suggested using an audio-recorder during interviews to allow the researcher to focus on communicating with the participant. Likewise, a neutral setting without distractions could help the participants to focus on the interview (Doody & Noonan, 2013). Therefore, interviews took place in a reserved conference room at the agency. Conducting the interviews at the agency was the least disruptive to participants' schedules and the quality of the interview recording than meeting in the community. Additionally, the conference rooms at the agency had adequate lighting, a table and chairs, and window blinds. As noted by Zhu and Cheung (2014), keeping the interview within the allotted timeframe of an hour helps participants to manage their schedule appropriately. All interviews remained with the allotted timeframe of 30 to 60 minutes. One interview exceeded the 60 minutes because the participant's schedule cleared for the morning.

Ethical Research

The standard remains that research involving human participants cannot take place until the Institutional Review Board (IRB) has issued ethical approval following a rigorous review process (Gelling, 2016). I did not recruit participants nor begin data

collection until I received the Walden University IRB approval number for this study. Before starting data collection, I completed the informed consents process with each participant. Informed consent for this study covered information such as the voluntary nature of participation, withdrawal from the study, and the risks and benefits of participating in the study as McDermid, Peters, Jackson, and Daly (2014) recommended in their own discussion. Participants had opportunities to ask questions and request clarification about the study before signing the consent form. Due to the voluntary nature of participation established through the informed consent process (Patton, 2002; Yin, 2013), participants may withdraw from a study at any time (McDermid et al., 2014). I informed participants that they could withdraw from this study anytime by telephone, e-mail, writing, or in person. One participant withdrew from the study by e-mail. Whiting (2008) mentioned that offering incentives for participation in a study could be viewed negatively by others, even if the value seemed appropriate for the level of participation. I did not offer incentives as outlined in the informed consent form.

I obtained a site agreement from the agency that established permission for me to conduct research at this particular agency (see Appendix B). Key points outlined in the site agreement included: (a) participation in this study is voluntary, (b) participants may withdraw from the study at any time, and (c) the executive director may withdraw the agency from the study at any time. Participation in the study did not interfere with participants' employment at the agency. The statement of confidentiality in the site agreement was sufficient because I am the sole researcher for this study; therefore, I do

not need a confidentiality agreement. The executive director also signed a site agreement required by the IRB. I did not obtain an authorization to disclose protected health information (PHI) because I did not manage PHI for this study. Certificates of confidentiality are designed to protect participants from legal proceedings more common in sensitive research (Beskow, Check, & Ammarell, 2014; Check, Wolf, Dame, & Beskow, 2014). I did not pursue a certificate of confidentiality because this study was not considered sensitive research.

When research occurs at a participant's workplace, the participant becomes more averse to possible identification (McDermid et al., 2014). Morse and Coulehan (2015) noted how readers could use participants' demographics and pseudonyms to link results of the study to specific individuals. Due to the small qualitative sample size, I did not use pseudonyms to protect the organization and participants' names, thereby maintaining identities confidential. Instead, I assigned an ID number to each participant. Gelling (2016) recommended that researchers avoid asking sensitive questions unnecessarily. Therefore, I followed the interview protocol to refrain from asking sensitive questions that would otherwise help readers identify participants. To protect participants' confidentiality further, I was the only person that collected and analyzed data. During recorded interviews, I did not use participants' names and saved the file as the participant ID number. Bolte and Granger (2013) stated that researchers must ensure participant privacy by appropriately securing the data. Therefore, I will: (a) store the data on an encrypted thumb drive in a locked box, (b) store the ID list on an encrypted thumb drive

in a separate locked box, and (c) destroy both thumb drives after 5 years after completion of the study. Further, I received IRB approval before commencing the study. The IRB approval number is 03-02-17-0502653. Participants will receive a summary of the final study.

Data Collection Instruments

According to Cope (2014) and Peredaryenko and Krauss (2013), qualitative researchers decide which data will be collected and serve as the primary data collection instrument. As the researcher in this qualitative study, I decided which data was collected and served as the data collection instrument. Chiefly, I used semistructured interviews to include verbal data and some nonverbal data, archival documents, and member checking. Using interviews as the primary data collection method to explore a topic remains popular because the researcher can learn information that might not otherwise become accessible (Doody & Noonan, 2013; Jamshed, 2014; Peredaryenko & Krauss, 2013). Therefore, I conducted 30-60 minute semistructured interviews to explore leadership strategies used by midlevel supervisors to increase virtual team productivity. Onwuegbuzie and Byers (2014) took notes during interviews about nonverbal data to supplement verbal data. I will only collected nonverbal data by documenting notes in a journal during interviews if it helped to clarify verbal data. Details regarding nonverbal data collection are listed in Appendix C. I audio recorded the interviews as done by Jamshed (2014), and immediately transcribed all interviews verbatim as suggested by Whiting (2008) to ensure collection of all pertinent data (see Appendix C).

To increase the reliability and validity of the data collection process for this study, I used triangulation. Gorissen, van Bruggen, and Jochems (2013) used documents to triangulate data in their study. Latham (2014) noted the significance of electronic document reviews in the digital era for contemporary research. I used digitally archived agency leadership minutes to triangulate the data for this study. Using two forms of qualitative data, known as methodological triangulation (Gorissen et al., 2013; Heale & Forbes, 2013), could help increase the validity and reliability if themes converge across datasets (Carter, Bryant-Lukosius, DiCenso, Blythe, & Neville, 2014; Walsh, 2013). In fact, Carter et al. (2014) found that using methodological triangulation could help increase the understanding of a phenomenon.

In addition to methodological triangulation, I will perform member checking to increase the reliability and validity of the data collection process for this study. Harvey (2015) highly recommended the use of member checking due to the iterative nature of the process. Researchers use member checking through an iterative process to ensure the accuracy of their interpretations of a participant's account (Harvey, 2015; Koelsch, 2013). The iterative process involves conducting follow-up interviews to obtain clarification regarding participants' perceptions (Harvey, 2015). Performing member checking also allows the researcher to correct errors made during interpretation as well as reflect on personal bias (Koelsch, 2013). Koelsch (2013) and Walsh (2013) agreed that using methodological triangulation and member checking could help to increase the study's validity.

Data Collection Technique

Data collection must begin with a clear understanding of how the researcher will collect data, record data (Cairney & St Denny, 2015), and store data. For this study, I used semistructured interviews to collect verbal and nonverbal data. The interview process began with the identification of knowledgeable informants from which to collect data about the research topic (Whiting, 2008). I addressed Whiting's (2008) criteria for expert informants through the participant eligibility criteria. Using semistructured interviews permits the researcher to seek clarification from participants through probes and prompts, and explore newly emerging themes (Doody & Noonan, 2013; Whiting, 2008). As the researcher, I had possible probes and prompts for each predetermined interview question available to use as needed during f2f interviews. However, participants' responses also determined additional follow up questions asked. Audio recordings of interviews should allow researchers to focus on participants' responses and use prompts and probes appropriately for further exploration (Jamshed, 2014; Whiting, 2008). The process of member checking facilitates data collection to obtain a full account of a participant's perspectives regarding a topic (Harvey, 2015; Koelsch, 2013).Using member checking as a technique allowed me to collect additional data to ensure that I accurately captured the participant's perceptions. I used probes and prompts when asking clarifying questions during member checks as well. See Appendix C for details about the interview protocol.

The collection of nonverbal data warrants further discussion. Cairney and St Denny (2015) mentioned that taking notes during interviews is sometimes justified. I audio recorded all interviews; however, I took notes about nonverbal data that participants use to clarify their verbal accounts as Onwuegbuzie and Byers (2014) recommended doing in their own study. As noted by Onwuegbuzie and Byers, researchers could collect complex nonverbal data that carry multiple layers of meanings. In fact, Onwuegbuzie, Dickinson, Leech, and Zoran (2009) and Doody, Slevin, and Taggart (2013) recommended collecting as much nonverbal data as possible during interviews. However, for the purpose of this study, I only took notes about nonverbal data that replaced verbal or clarifies verbal communication. Onwuegbuzie and Byers stated that notetaking strategies could help to overcome the limitation of audio recordings during transcriptions. Further, Onwuegbuzie and Byers and Whiting (2008) agreed that using follow up questions to seek clarification about gestures is appropriate. I observed only minimal nonverbal data that was pertinent to this study. Petty, Thomson, and Stew (2012) suggested that audio recording is the best form of collecting interview data. According to Harvey (2015) and Onwuegbuzie and Byers, this technique allows researchers to address verbal and nonverbal data recorded in the transcript during member checking.

Gorissen et al. (2013) suggested using archival documents for methodological triangulation. I collected data from archival documents in addition to interviews for this study. Specifically, I collected digital leadership minutes that covered 27 months, from

January 2015 to March 2017. Patton (2002) and Zakrison et al. (2015) noted the need for researchers to obtain help in accessing data. I accessed digital leadership minutes through the executive director's assistant. The agency lost leadership minutes due to a server crashing in 2014 and had slightly over 2 years worth of data available. When reviewing leadership minutes, I analyzed the data to answer the research question for this study.

The major advantage of using the data collection techniques outlined for this study was to gain an understanding of leadership strategies used by midlevel supervisors to increase productivity in virtual teams containing new employees. Using interviews facilitates rapport building between researchers and participants, which begins to develop as early as the time of determining the participant's eligibility and the consent process (Gill, Stewart, Treasure, & Chadwick, 2008), which was an advantage of using interviews as a data collection technique. An advantage of using semistructured interviews, in particular, is that the researcher and the participant can clarify questions to explore complex phenomena further for richer quotes (Doody & Noonan, 2013). Some disadvantages exist to employing interviews as the primary data collection technique. For example, participants may feel that the interview process is intrusive and too lengthy (Doody & Noonan, 2013). However, I followed the interview protocol to help the participant feel more comfortable and complete the interview in a timely manner. Additionally, Doody and Noonan (2013) noted that researcher and participant bias could influence the results of the interview. As mentioned before, I performed member checking with each participant to ensure that my interpretations of the interview

accurately represented the participant's perspectives about the topic. Overall, the advantages of using semistructured interviews outweighed the disadvantages.

Data Organization Technique

Talanquer (2014) used computer assisted qualitative data analysis (CAQDAS) to maintain the study's data organized. Researchers can also document the audit trail in a journal (Cope, 2014). Using CAQDAS helped me to store and organize data and my audit trail in preparation for and throughout analysis. However, using a journal was valuable because I took notes during interviews and throughout the research process. McDermid et al. (2014) and Morse and Coulehan (2015) cautioned against the use of pseudonyms to represent participants in a study. Kraut et al. (2004) recommended using arbitrary ID numbers to identify participants. For this study, each participant received an ID number to help maintain confidentiality. Likewise, I named digital audio recordings of interviews according to the participant's ID number, electronically stored on a thumb drive, and secured in a locked box. For consistency with organizational methods, I scanned all notes taken during interviews for electronic storage and saved according to the participant's ID number on the same thumb drive. I shredded printed notes immediately after electronically storing them. Additionally, I saved digital leadership minutes on the same thumb drive. Bolte and Granger (2013) reiterated the need to secure digital and print data for participant confidentiality. Kraut et al. urged researchers to consider who needs access to the data and limit access to those particular individuals only. McDermid et al. would agree with Kraut et al. for maintaining participants' privacy and confidentiality. For this

study, all data was be stored on a thumb drive and secured in a locked box separately from the participant ID list. Consent forms remain in a locked filing cabinet along with the participant ID list. Only I have access to secured data for this study. I will destroy all data, consents, and the participant ID after 5 years.

Data Analysis

Methodological triangulation remains the most commonly used form of triangulation for case studies in social science research (Wilson, 2014). I used methodological triangulation for this study by exploring data collected through semistructured interviews and archived organizational leadership minutes. I saved both forms of data as electronic documents to ease the data analysis process.

Fusch and Ness (2015) and Talanquer (2014) discussed the significance of the iterative process used throughout qualitative data collection and analysis and noted that the iterative process of interpreting data, coding and reorganizing data, and member checking must continue until new information no longer emerges. Jonsen and Jehn (2009) explained how preliminary analysis aids the researcher in developing appropriate initial codes based on accurate interpretations of participants' perspectives. Petty et al. (2012) pointed out that thematic analysis is also an iterative process involving coding of the data, comparing codes throughout the data to find patterns, collapsing codes into themes, interpreting relationships among themes, and illustrating relationships through mapping. However, before analyzing the data, researchers must become familiar with the data, often achieved by transcribing interviews (Doody et al., 2013). I began the data

analysis process after completing member checks with all participants. First, I familiarized myself with interview data by transcribing all of the interviews. Second, I reviewed all interview transcripts and leadership minutes and wrote memos accordingly. Third, I coded and recoded data, and then collapsed codes into broader categories. Fourth, I collapsed categories into broader themes and identified relationships or patterns in the data. Fusch and Ness recommended the use of a saturation grid to track themes across data. Therefore, I used a saturation grid to determine the level of saturation for each theme. Fifth, I visually mapped themes and offer interpretations of the data.

Humble (2015) and Odena (2013) noted that using NVIVO software can facilitate data management across individual cases and across different data sources. I imported interview transcriptions and archived documents into NVIVO software for easier data management and analysis. I then reviewed all data and document memos accordingly within NVIVO. Odena suggested running word frequency queries that add value to reporting; however, St. Pierre and Jackson (2014) and Talanquer (2014) cautioned against using frequencies to determine codes and themes as that could detract from the contextual meaning. During data analysis, I used NVIVO to run word frequency queries to add value but did not depend on this query to develop codes and themes in this study. According to Humble and Talanquer, NVIVO has hierarchical coding structures to facilitate collapsing codes into broader themes and categories. The hierarchical coding feature of NVIVO eased the code and theme development process that I undertook after running the word frequency query. Note that I coded the data from all the interviews and

leadership minutes to identify themes and relationships. Using visual models can help researchers identify themes more easily (Hilal & Alabri, 2013; Talanquer, 2014). Therefore, I will use visual models through NVIVO during analysis to map relationships and offer in-depth interpretations of the data.

Using the saturation grid (Fusch & Ness, 2015) and visual models (Hilal & Alabri, 2013) can assist in determining key themes by visualizing theme consistency and relationships across cases and sources. Fusch and Ness (2015) and Odena (2013) urged researchers to offer alternate explanations if methodological triangulation does not reflect theme validation in the study. In addition to interpreting thematic consistencies, I reported thematic inconsistencies. Finally, I compared and contrasted the final themes obtained during analysis to the conceptual framework, e-leadership and LMX theories, including contemporary research from more recent publications about the framework.

Reliability and Validity

Reliability

Qualitative researchers consider the study's reliability as the level of dependability or stability of the data (Cope, 2014; Houghton et al., 2013) over time (Elo et al., 2014) and across separate but similar conditions (Cope, 2014; Elo et al., 2014). One could say that a study is dependable when the findings are replicated among a similar sample under similar conditions as the original study (Cope, 2014; Elo et al., 2014). Therefore, researchers must establish clear participant eligibility criteria so future researchers can create similar conditions and the potential for replication of data, thereby

increasing reliability and dependability of the study (Elo et al., 2014). Elo et al. (2014) further noted that readers could better assess transferability of the study's results by knowing the participant eligibility criteria. Researchers agree that the process of member checking and obtaining data saturation will increase dependability because the researcher can confidently report a full data set (Elo et al., 2014; Fey, Scrandis, Daniels, & Haut, 2014), meaning that the researcher can support the stability of the data across similar conditions. I outlined clear sampling methods and participant eligibility criteria, member checking processes, and steps to ensure data saturation for this study.

Validity

Houghton et al. (2013) stated that credibility refers to the trustworthiness of the data collection process and the findings of the study. Cope (2014) and Houghton et al. agreed that researchers must engage with each case long enough to fully understand the phenomenon, thereby obtaining a complete and accurate data set. Elo et al. (2014) recommended using member-checking processes to ensure a strong understanding of the phenomenon and obtain a complete dataset for enhanced credibility. Therefore, I obtained a complete data set that represented participants' perspectives by using methodological triangulation and member checking processes. Further, Patton (2002) suggested that using an interview protocol could help to ensure systematic data collection through interviews for complete and accurate data. Therefore, I followed the interview protocol when conducting interviews for this study. Cope shared that audit trails consist of materials that indicate how a researcher reaches conclusions based on the results of

their study. I maintained a clear audit trail by using interview transcripts, notes, memos, and data analyses documented through NVIVO. I will also save report drafts to track my decisions over time that led to the final findings of the study.

Confirmability refers to a researcher's ability to show that the findings represent participants' views rather than the researcher's perspectives (Cope, 2014; Elo et al., 2014). Houghton et al. (2013) explained that using NVIVO can help the researcher track the development of contextual codes and themes to ensure that the findings do represent participants' views. Cope (2014) added that researchers could enhance confirmability by including rich quotes in the findings to represent themes. In this study, I used NVIVO to track code and theme development and present rich quotes as applicable. Researchers perform member checking (Cope, 2014), obtain data saturation (Morse, 2015), and use methodological triangulation (Houghton et al., 2013) to ensure a comprehensive understanding of the phenomenon from participants' perspectives (Elo et al., 2014).

Transferability is how well the findings of the study will apply to other groups or settings, and how meaningful the findings will be to nonparticipants of the study (Cope, 2014; Houghton et al., 2013). Therefore, Elo et al. (2014) insisted that researchers must provide clear descriptions of the sample studied for others to assess the transferability of the findings to other groups. I described the sample, data collection site, context, and research methods by using thick descriptions as stated by Houghton et al. (2013). Also based on Houghton's recommendations, I presented raw data in the form of participant quotations for readers to assess the transferability of the study's findings to other groups

and settings. Further, I adhered to the interview protocol and the data collection and analysis techniques, which facilitated assessment of how well the findings could transfer to another setting. Finally, achieving replication by way of data saturation could positively influence other's assessment of this study's transferability (also see Fusch & Ness, 2015; Morse, 2015). I achieved data saturation by performing member checking until: (a) no new information emerged during interviews (Fusch & Ness, 2015; Zakrison et al., 2015), (b) themes that emerged were consistent across interviews (Morse, 2015), and (c) no further coding was warranted during data analysis (Fusch & Ness, 2015).

Transition and Summary

In Section 2, I discussed the role of the researcher, participants, population and sample size, research method and design, ethical guidelines, data collection, and data analysis techniques. I also discussed how reliability and validity would be established to enhance the trustworthiness of the study. I will discuss the findings, applications to professional practice, and implications for social change in Section 3. Additionally, I will present recommendations for action and further research. Finally, I will share my personal reflections about the study and myself as the researcher.

Section 3: Application to Professional Practice and Implications for Change

Section 3 includes the presentation of findings, applications of the study to professional practices, and implications for social change. Section 3 also contains recommendations for action and recommendations for further research. I also address my reflections about the research and include a conclusion of the study.

Introduction

The purpose of this qualitative, single case study was to explore successful strategies used by nonprofit, midlevel supervisors to increase productivity of virtual teams containing new employees. Data collection included f2f, semistructured interviews with six successful virtual team leaders. Additional data collected were the agency's executive leadership meeting minutes from January 2015 to February 2017. Three themes emerged from the data analysis: (a) formal and informal staff support improved productivity, (b) cohesive team dynamics improved productivity, and (c) effective virtual staff mobility facilitated fieldwork. Participants viewed staff support as a mix of coaching and f2f interactions to help build up team members' skills and abilities to become more productive. Likewise, participants used team integration and intentional communication strategies to maintain cohesive team dynamics, which they found helped to improve virtual team productivity. Participants further underscored the importance of resource availability to improve virtual team members' productivity by facilitating member connectedness during fieldwork.

Presentation of the Findings

The overarching research question for this study was as follows: What leadership strategies do nonprofit, midlevel supervisors use to increase productivity of virtual teams containing new employees? To answer the research question, I conducted thematic analysis of interview data from six virtual team leaders and the agency's executive leadership meeting minutes for triangulation. Executive leadership minutes spanned 25 months (January 2015 to February 2017) and averaged three meetings per month. Documentation of all meetings occurred via meeting minutes, resulting in data for 77 separate meetings. Executive leaders met on a weekly basis to address agency-wide initiatives and concerns. All agency employees had access to the electronically stored meeting minutes, which they could access on the shared drive or through a link in the weekly electronic newsletter. In January 2017, employees gained additional access to the meeting minutes through the intranet.

Theme 1: Formal and Informal Staff Support Improved Productivity

The first theme that emerged from analyzed data was formal and informal staff support improved productivity. Staff support was virtual team leaders' availability to provide team members with technical and emotional support to enhance members' competence. All of the participants used formal and informal elements of staff support in person and through advanced information technology (AIT) to help build up team members' skills and abilities necessary for improved productivity. Participants used the term *support* 75 times when describing their attempts to increase virtual team

productivity. Coaching and f2f interactions, which occurred formally and informally, were the subthemes that emerged (see Table 1). Even though participants found that coaching and f2f interactions were the most effective staff support strategies, they reiterated the value of incorporating f2f interactions with virtual support strategies throughout virtual teams to increase productivity (P1, P2, P3, P4, P5, P6). Further, the executive leadership team underscored the importance of support and discussed the value of offering staff support for improving productivity at 28 separate leadership meetings, as evidenced by the corresponding meeting minutes. Findings of the executive leadership meeting minutes also supported the subthemes, coaching and f2f interactions, for improved productivity.

Table 1

Nodes Related to Theme 1: Formal and Informal Staff Support Improved Productivity

Theme 1 nodes	Frequency
Coaching	60
F2f Interactions	59
Total	119

Coaching. All participants used coaching as the primary strategy for increasing virtual team productivity. Although some members used formal coaching sessions through scheduled meetings (P1, P2, P3), others preferred an open-door policy for informal coaching (P4, P5, P6). Regardless of which support strategy leaders endorsed, all participants indicated that coaching was critical to virtual team productivity and

should remain an ongoing strategy regardless of the formal or informal nature. Participants used informal leader-to-member coaching, informal peer coaching, and formal coaching strategies to increase virtual team productivity. Coaching often occurred through AIT due to the nature of virtual team settings, but participants preferred f2f coaching to support team members.

All of the participants in this study used informal leader-to-member coaching strategies to help team members overcome productivity challenges in a virtual environment that requires fieldwork. P2, P4, and P5 used informal leader-to-member coaching to help members problem solve through brainstorming and resource sharing. Several participants shared techniques for working with clients, time management, appointment scheduling, route planning, and geographical cluster scheduling to help members overcome productivity challenges (P2, P4, P5). Because informal, leader-to-member coaching only involved suggestions about how staff could do their job (P4, P5, P6), all participants combined leader-to-member coaching with peer coaching to enhance the effectiveness of training. Informal leader-to-member coaching involved having conversations in which the team members often developed their strategies and the leader offered suggestions rather than directives. Darics (2017) found that fostering an informal and collegial style of communication between virtual team leaders and team members helped support productivity by balancing directness with consideration for others. The coaching model that several participants described illustrated Darics's concept of a balanced communication style. Similarly, P2, P3, and P6 used verbal praise during

informal coaching, which helped team members feel supported by balancing a formal and informal style of coaching.

Several participants shared that new employees more willingly adopted techniques for improving productivity when informally shared through peer coaching (P4, P5) than leader-to-member coaching. P1, P2, and P3 noted the value of peer coaching to address different learning styles among members. Successful coaching required the availability of the team leader and peers for prompt and consistent feedback as well, which participants reported helped to meet practical needs and foster trust throughout the team (P1, P2, P3). Some researchers considered prompt feedback to be an indicator of team success (Gloor, 2016). Further, Dixon (2017) found that the use of learning routines among virtual teams promoted a deepening of peer trust over time, which further enhanced ongoing virtual team learning. The findings of this study aligned with Dixon's findings in that informal coaching was an ongoing teaching strategy for new and established team members, which helped to build overall team learning routines (P2, P4, P5, P6). Likewise, all of the participants valued the use of informal peer coaching as a learning routine that helped members become more productive. Although the participants shared strategies for increasing productivity, client behaviors such as cancellations negatively affected productivity (P4, P5, P6). P4 stated:

> When [clients cancel] at the last minute, you cannot fill that time [slot] with another [client]. That really impacts [employees' productivity]. If I was just to look at the bottom line, sometimes it does not give you the entire [context] of it.

In the last statement, P4 illustrated the need for virtual teams to understand the uncontrollable factors that affect productivity in nonprofit, virtual settings, and to coach new employees on how to be flexible in a virtual environment that requires extensive fieldwork. Using informal leader-to-member and peer coaching aided that process. However, participants also mentioned instances when formal coaching was appropriate and necessary to increase virtual team productivity.

P1, P2, P3, P4, and P6 used self-reflection when coaching team members who were new or displayed productivity challenges to identify formal coaching needs. All participants tried to evaluate the situation and ensure that they provided all possible staff support, including formal coaching, before using disciplinary action to address productivity challenges. In fact, most participants had not used disciplinary action to increase virtual team productivity; instead, they relied on support strategies. P2 stated, "If there are issues in productivity that we are noticing, then that reflects on us [supervisors] that we are not doing enough." P1, P2, P3, and P4 emphasized virtual team leaders' use of formal retraining to help members overcome productivity challenges while respecting individual learning curves. Also, when team members experienced productivity challenges, many virtual team leaders shifted to more frequent and formal leader-to-member coaching (P1, P2, P3, P5) to prevent serious productivity issues. The amount of training that team members needed to become productive varied among individuals (P1, P2, P3). Finally, P4 summarized the importance of providing formal and informal support

to increase productivity by stating, “I think that when people all-in-all feel good about their job and feel supported, then [they] are going to be more productive.”

Executive leadership meeting minutes illustrated how executive leaders supported virtual team leaders and encouraged a culture of support to help increase virtual team productivity. One document included the following note about the executive leadership team’s consensus regarding informal staff support: “we need to be certain to create a culture of support for employees.” Minutes from a separate meeting illustrated executive leaders’ intent to provide staff support by maintaining a “representative from the [executive] leadership [team] available to staff at all times.” The availability of executive leaders to virtual team leaders demonstrated that the coaching concept existed throughout all staff support levels and not only within the virtual team. The executive leadership team discussed a form of coaching at nine meetings, and the meeting minutes illustrated leaders’ belief in using a coaching style to support staff in becoming productive members. The minutes reflected coaching as “building staff’s fidelity to formal strategies.” Even though virtual team leaders and executive leaders encouraged the use of virtual and f2f coaching, all participants preferred f2f interactions whenever possible.

F2f interactions. Using f2f interactions enhanced formal and informal staff support strategies for increased virtual team productivity (P1, P2, P3, P4, P5, P6). The participants in this study indicated that the relationships established during f2f leader-member and peer interactions established a stronger base for when members needed virtual staff support to increase productivity. Participants used formal and informal f2f

interactions as a strategy to increase virtual team productivity, including f2f meetings, f2f trainings, and alternatives to f2f interactions.

F2f interactions among the virtual teams represented by the participants included f2f interactions through formal and informal meetings (P1, P2, P3, P4, P5, P6). Even though all of the participants led virtual teams that performed extensive fieldwork, they all preferred f2f meetings, which they found helped members become more productive than virtual meetings did. In fact, only three participants reported the occasional use of online meeting platforms, such as Zoom, to avoid cancellations (P3, P4, P5). Five participants reported barriers to virtual team meetings as disengagement, chaos, and potentially reduced morale among team members. All of the participants conducted weekly, f2f, mandatory team meetings, which occurred in on-site conference rooms or throughout the community. Five participants established regular, one-on-one, f2f meetings with each member, which were often informal; however, all participants scheduled formal meetings with new team members to ensure that they received the support needed to become productive in their new role. Van Wart, Roman, Wang, and Liu (2016) revealed that some members felt excluded and had unmet needs if they received insufficient individualized attention from their leader. Additionally, Omilion-Hodges and Baker (2017) noted that leaders' availability and attention to team members contributed to relationship development. All of the participants in this study used one-on-one and group f2f meetings to overcome barriers such as exclusion and to develop strong working relationships with team members. Often, virtual team leaders who had assigned

offices at the main building informally scheduled one-on-one meetings (P1, P2, P3), whereas virtual team leaders who did not have an assigned office at the main building preferred to formally schedule one-on-one meetings (P4, P5, P6). Adapting to formal or informal scheduling highlighted the need for leaders to evaluate team needs separately because virtual teams vary, even within the same organization. Participants' purposeful use of f2f meetings illustrated how some colocated virtual teams in the nonprofit human services sector prefer to interact for optimal productivity. Formal and informal training frequently occurred during f2f meetings, which also helped participants become more productive in their roles.

In this study, *training* referred to the process of equipping employees with the information and skills they needed to perform their job. Training involved different settings and platforms, but all participants reported f2f training as the preferred and most frequently used method. Dixon (2017) showed that virtual team members benefited from f2f interactions during training. The findings from this study also showed that virtual team members benefited from f2f trainings such as formal classroom training, formal and informal training during team meetings, formal and informal one-on-one trainings, and informal hands-on training that occurred on-site and off-site. This subtheme also included formal, leader-to-member shadowing where the leader evaluated an employee's competency (P1, P2, P4). Although virtual settings are appropriate for some training, participants of this study reported that f2f settings remained most appropriate for hands-

on training and shadowing practices to help increase virtual team productivity, especially with new team members.

All of the participants supported the need for f2f, peer training regarding technology and discipline-specific skills. Ford et al. (2016) recommended formal technology training to help team members increase productivity. In contrast, P5 noted that more technology did not necessarily help increase virtual team productivity. However, all of the participants agreed that virtual team members must display required technology skills to become productive. Otherwise, team members could not perform essential duties (P1, P2, P4). Jost (2016) and Krumm, Kanthak, Hartmann, and Hertel (2016) agreed that virtual team members should promptly adapt to virtual technologies to maximize the benefits of operating a virtual team. Similarly, the consensus among participants in the current study was that f2f technology training helped new members transition into the virtual environment.

P4, P5, and P6 used the Zoom platform as an alternative to f2f interactions for formal and informal virtual team meetings and training. Even though all three participants characterized Zoom as user-friendly and compliant with the Health Insurance Portability and Accountability Act (HIPAA), they only considered its use for training purposes in extenuating circumstances. In fact, P1 and P2 had not considered the use of online platforms for team meetings or team trainings. All of the participants agreed that online training platforms would exclude f2f, hands-on training and peer interactions that participants valued. However, P6 considered supplementing f2f training with online

training platforms for new employees with high virtuality. Many participants found that monitoring productivity with team members who lie on the virtual end of the spectrum was more challenging than with team members who facilitated f2f interactions (P4, P5, P6). Therefore, establishing an alternate virtual training plan could help virtual team leaders increase productivity among high virtual team members. In this study, leader participants' behaviors aligned with Van Wart et al.'s (2016) recommendation to combine AIT and f2f strategies throughout virtual teams.

A review of executive leadership meeting minutes showed that executive leaders recognized the value of using virtual platforms to supplement f2f training; however, the executive leadership team always held f2f meetings and highly encouraged f2f interactions throughout the agency. In fact, the executive director provided a video when unable to attend a meeting to help maintain a culture of f2f interactions, similar to the reason that several virtual team leaders valued the use of the Zoom platform. Most notably, this team ensured quarterly "All Staff" meetings with the intent to facilitate f2f interactions among all employees. This team formally discussed and planned for "All Staff Meetings" at 25 out of 77 meetings. Meeting minutes for one All Staff planning meeting was "[the executive director] will pre-record a message for the group since he will be out of town". The following meeting minutes indicated that the executive leadership team practiced self-reflection on improving all staff meeting formats and honoring the organizational preference for f2f interactions, "Comments and feedback were excellent. It was felt that we should continue having All Staff Meetings but need to

change the content and how and what is offered." Findings of the meeting minutes supported participants' consensus that f2f interactions helped to foster a supportive environment throughout the organization; therefore, leaders should incorporate f2f interactions across virtual teams.

Correlation to the literature. The findings related to Theme 1, formal and informal staff support improved productivity, aligned with Hart's (2016) findings that mentoring, or coaching, was a critical form of staff support whereby leaders and members developed trusting relationships through informal coaching. The findings of this study indicated that using informal coaching helped leaders and members to engage more freely with one another; thus, permitting members to seek out help to overcome productivity challenges. Further, Van Wart et al. (2016) found that virtual team support required combining virtual and f2f interactions. Participants in this study reiterated that virtual teams should use formal and informal support strategies to incorporate regular, f2f interactions despite the virtual environment, which could enhance relationship among team members for greater productivity. In fact, Omilion-Hodges and Baker (2017) stated that leader-member and peer support related to the affective dimension, which contributed to relationship development. Participants in this study used a variety of informal leader-to-member and peer support strategies, which aligned with Omilion-Hodges and Baker's findings, to help develop relationships among team members so that members benefited from a broader support network to help them overcome productivity challenges.

Correlation to the conceptual framework. Theme 1 relates to Savolainen's (2015) and Van Wart et al.'s (2016) framework on the e-leadership theory, particularly regarding technical, social, and emotional e-leadership skills. Technical skills referred to leaders' knowledge of the job, which included the ability to show team members how to perform job and operated technology (Savolainen, 2105). Findings of this study showed that leaders and peers offered technical job support to help increase new employees' job proficiency through formal and informal coaching and f2f interactions. According to Van Wart et al.'s perspective on the e-leadership theory, virtual leaders fail to utilize available AIT despite a virtual environment due to insufficient training and support. Savolainen and Van Wart et al. agreed that e-leaders must effectively use technology in virtual business settings. Even though participants in this study offered sufficient technical support needed for virtual team settings, they preferred f2f interactions to virtual interactions for improved leader-member and peer relationships. Hart (2016) found that emotional support among virtual teams could help develop stronger relationships. Participants in this study experienced how social and emotional skills practiced through f2f interactions helped to reinforce virtual relationships for ongoing staff support and productivity.

Theme 1 related to Graen and Uhl-Bien's (1995) framework on the LMX theory, in which theorists believe that positive leader-to-member relationships result in positive work outcomes. The use of informal leader-to-member and peer coaching as a staff support strategy in this study demonstrated relationship development strategies that

resulted in positive work outcomes such as improved productivity. According to the LMX theory, team members with stronger relationships have a broader support system (Graen & Uhl-Bien, 1995). Participants in this study found that members who engaged in the team support network were able to develop more relationships and achieve greater productivity than those who did not. However, participants reiterated that f2f interactions helped to establish leader-to-member and peer relationships that will carry over to virtual relationships more successfully. Relationships are a recurrent theme throughout the literature about LMX theory (Graen & Uhl-Bien, 1995) and an underlying theme throughout the findings of this study that lead to greater staff supports for improved productivity.

Theme 2: Cohesive Team Dynamics Improved Productivity

The second theme that emerged from analyzed data was cohesive team dynamics improved productivity. All six participants discussed the value of having cohesive team dynamics for virtual team productivity. Several participants agreed that members who felt comfortable with each other and worked together created a positive team dynamic that contributed to overall team productivity (P1, P2, P4). Findings of the study illustrated that team dynamics depended on how members communicated and physically interacted. Two subthemes emerged, intentional communication and team integration, which participants used to help develop cohesive team dynamics through relationship-building (see Table 2). Participants used the term *communication* or its relevant synonyms 94 times and *shadowing 49* times to describe how they attempted to develop cohesive virtual team

dynamics. Further, the executive leadership team discussed the relevance of cohesive team dynamics for productivity at 23 separate leadership meetings as evidenced by the corresponding meeting minutes. Findings of the executive leadership meeting minutes demonstrated executive leaders' actions that supported the subthemes, intentional communication and team integration for cohesive team dynamics.

Table 2

Theme 2: Cohesive Team Dynamics Improved Productivity

Theme 2 subthemes	Frequency
Intentional Communication	55
Team Integration	33
Total Frequency	88

Intentional communication. All of the participants agreed that team members' style of communication influenced overall team dynamics, which could further affect productivity. Due to the virtual nature of the team, several leaders used intentional communication to eliminate gaps in communication (P2, P4, P5, P6). When using intentional communication, leaders considered the quality of communications and the effect that some technologies had on intended communication.

According to executive leadership meeting minutes, the executive leadership team defined intentional communication as clear, direct, and consistent communication. Participants used clear, direct, and consistent communication to help lead members. Participants found that using intentional communication supported cohesive team

dynamics. All six participants agreed that intentional communication started by setting clear goals and expectations during the f2f, new employee training process, and then regularly following up to communicate about progress. Low-quality communication could become detrimental to team dynamics and productivity when there is a lack of direction, unclear expectations, and few opportunities for discussions (Van Wart et al., 2016). P2 experienced the criticality of communicating clear expectations after having delivered low-quality communication to employees that subsequently displayed poor productivity. P2 stated, "The hardest thing is when you are talking to someone who thinks that they have been doing everything right, and you have a laundry list of things that need to be corrected because you have not been [communicating]." Van Wart et al. (2016) noted that insufficient communication is a barrier to virtual communication. However, participants in this study addressed insufficient communication by using intentional communication throughout their virtual teams. P1 pointed out, "It is setup so that there should not be any surprises [of what] is expected of them." P4 and P6 described intentional communication as healthy, open door discussions in which leaders and members can explore strategies for overcoming productivity barriers. Having open discussions helped to build positive team dynamics, which in turn fostered more open discussions (P4). All the participants in this study indicated that intentional communication was direct, positive, and not punitive. Participants in this study also practiced intentional communication when communicating through AIT.

All of the participants in this study reported the use of e-mail throughout virtual teams to communicate immediately pertinent information such as scheduling or process changes, and request feedback that affected decision-making. P2 and P4 reiterated the importance of e-mail as their preferred virtual communication strategy for intentional communication. However, participants also supported the use of text messages to send a brief, meaningful communication, among peers and with clients. Darics (2017) noted that leaders must consider the context, such as the complexity of the message and respect for the person when choosing the most appropriate AIT for virtual team communication. P5 noted, "If it is longer than a sentence, then I think it should be a phone call, sometimes e-mail if it is between staff members." Three participants indicated that intentional communication regarding scheduling and processes with clients directly helped to maintain virtual team productivity; therefore, participants communicated those expectations with their team members. According to Van Wart et al.'s (2016) e-technological skill, virtual team leaders must understand AIT for virtual team productivity while underscoring the coupling of virtual with f2f interactions. Data from this study revealed that virtual team leaders should target the use of combined f2f and virtual intentional communication to enhance team integration for virtual team productivity. Participants also used intentional communication to monitor productivity as needed.

The findings of this study illustrated the complexity of monitoring productivity within nonprofit organizations and challenges faced by leaders attempting to do so. The

participants in this study viewed productivity in a variety of ways based on the nature of nonprofit services provided. Some participants defined productivity as the ratio of billable time through health insurance claims (P4, P5, P6), but P3 focused on other aspects of productivity such as timely services, complete and timely paperwork, and consistent client contacts. Even though P3's department tracked billable time, the Healthcare Policy and Finance Department of the State of Colorado set caps on allowable reimbursement units. Due to the unique funding stream, P1 and P2 based team productivity on the quality and quantity of services provided. The variety in productivity perspectives among participants in this study aligned with Ye and King's (2016) and Kämäräinen et al.'s (2016) claim that productivity involves qualitative outcomes and quantitative measures. P4, P5, and P6 admitted that they were unable to track team productivity consistently due to disparate software and tracking systems. Instead, many participants relied on intentional communication to identify productivity challenges and determine which members needed closer monitoring (P4, P5). Nevertheless, P5 noted that the department was working towards establishing appropriate software that would facilitate regular productivity monitoring. Implementation of productivity tracking software would still fail to address challenges with monitoring productivity with P1, P2, and P3, whose productivity included various nonfinancial components.

Executive leadership meeting minutes illustrated how executive leaders promoted intentional communication strategies for increased productivity by using the idea box with all employee levels and offering training to leaders about intentional

communication. Intentional communication between all staff levels and the executive team often occurred through the idea box, which 12 distinct meeting minutes reflected. Minutes from one particular meeting illustrated the significance of using the idea box for intentional communication, “There are no limitations on what people can put in the idea box. All submissions will continue to be reviewed by the leadership team, and, leadership meeting minutes will reflect discussion on all ideas submitted,” which remain accessible to all employees through the shared drive and electronic newsletter. Evidently, the executive leaders viewed the entire agency as one team that benefited from intentional communication. Further, executive leaders addressed intentional communication at 21 separate meetings. Minutes for five meetings, in particular, indicated in-depth conversations about intentional communication as part of the organizational strategic plan. Executive leaders noted that intentional communication should be clear, direct, and ongoing within teams and throughout the organization. In fact, meeting minutes reflected a discussion among the executive leadership team about offering training for staff “on communication styles and the need to offer professional development to assist staff when dealing with critical decisions and difficult conversations [with clients] and other staff.” Balancing the importance of leader-to-member communication and peer communication showed that executive leaders valued the positive effects of cohesive team dynamics.

Team integration. Team integration involved physical interactions and activities that helped virtual team members become familiar with one another. All participants in this study discussed general f2f activities, and specifically, peer shadowing, as effective

team integration strategies that helped to build cohesive team dynamics. As noted in Theme 1, formal and informal staff support improved productivity, participants preferred f2f interactions across virtual teams.

Participants used integration strategies, including f2f activities and peer shadowing, to ensure cohesive team dynamics that helped to improve productivity. P4 and P6 described f2f interactions as physical connections that helped team members integrate with one another and build relationships. All six participants relied on f2f shadowing to integrate new employees into the virtual team by acclimating them to team norms, relevant training, and relationship development. Other integration strategies frequently used were f2f celebrations and casual interactions (P1, P2, P3, P4). In Theme 1, formal and informal staff support, improved productivity and participants used f2f interactions to offer members support in doing their job. However, in Theme 2, cohesive team dynamics improved productivity and participants discussed using f2f interactions to help members build deeper connections for team integration. P4 and P6 noted that new team members who could not participate in f2f activities with their peers did not integrate as quickly with the team, thereby skewing the dynamics of the team. Omilion-Hodges and Baker (2017) found that using team integration strategies helped leaders and team members build relationships. In fact, the findings of this study showed that team integration strategies led to relationship development and maintenance of cohesive team dynamics.

Several participants explained that individual personalities affected team dynamics, such as shyness (P5) or not being a team player (P2, P3), which integration strategies such as peer shadowing helped to overcome. P4 elaborated by noting that team members were more readily recognized productivity challenges and requested assistance when they trusted their peers. Omilion-Hodges and Baker (2017) described professional trust as team members' ability to advise and collaborate with one another due to the confidence held among each other, in the job position, and with the organization. Likewise, in this study, peer shadowing helped members develop trust, which strengthened team dynamics and indirectly enhanced productivity. Sometimes, participants assigned formal mentors for peer shadowing (P3, P5); however, all the participants agreed that new employees should shadow as many peers as possible. The consensus among the participants was that doing so facilitated a shorter learning curve and faster integration for new team members to become more productive. Hart (2016) stated that virtual mentorship remains poorly understood by business leaders. Similarly, the participants in this study faced challenges regarding virtual mentorship and implemented f2f, peer shadowing to overcome inexperience with virtual mentorship and avoid a breakdown of team dynamics in a virtual environment.

A review of the executive leadership meeting minutes showed that executive leaders' behaviors supported cohesive team dynamics through team integration. Meeting minutes indicated the topic of team integration was ongoing. Executive leaders addressed team integration from three perspectives as follows: integration between the board of

directors and the executive leadership team, integration among executive team members, and integration between executive leaders and all other levels throughout the agency. According to meeting minutes, the executive leadership team asked each other, "How can we integrate the Board appropriately with Leadership Team?" The executive leaders integrated more closely by "reading educational books (one per quarter) to help the team grow," and integrated with other employee levels through "staff retreats." The consensus between executive leaders and participants in this study was that team dynamics could improve when using effective integration strategies that include all members.

Correlation to the literature. The findings related to Theme 2 aligned with Hart's (2016) notion that business leaders do not yet understand virtual mentorship because participants in this study relied on f2f integration strategies to overcome the challenges of working in a virtual environment. Additionally, Hart found that new team members benefitted most from having relationships with several informal mentors within the team. Participants in this study implemented peer integration strategies to maintain cohesive dynamics throughout the entire team. Further, Krumm et al. (2016) found that communicating clear goals with new members was necessary for successful virtual leadership. By communicating clear goals through intentional communication, participants in this study overcame challenges with monitoring productivity given the lack of appropriate software while enhancing team integration. The combined effects of intentional communication and team integration resulted in cohesive team dynamics by helping leaders and members overcome barriers associated with a virtual team

environment. By removing those barriers, virtual team members could work collectively on increasing productivity and maintain accountability of one another.

Correlation to the conceptual framework. Theme 2 related to Dansereau et al., (1975) and Graen & Uhl-Bien's (1991) LMX theory about in-groups and out-groups, team-making, and high-quality relationships, whereby participants in this study used intentional communication and integration strategies to build cohesive team dynamics through strong relationships. The findings of this study demonstrated how virtual leaders used team integration strategies to prevent out-groups and maintain the team's integrity. LMX theorists initially found that high quality leader-member interactions could positively influence organizational effectiveness (Dansereau et al., 1975; Graen & Uhl-Bien, 1991). Later, LMX theorists reported a correlation between employee productivity and co-worker exchanges (McCarthy et al., 2016). Participants in this study found that peer relationships and leader-member relationships were equally important for virtual team productivity, thereby, promoting cohesive team dynamics. According to the LMX theory, trust was an essential component of relationships and necessary to maintain high-quality relationships among virtual leaders and members (Breevaart et al., 2015; Casimir et al., 2014). The findings of this study indicated that leader-to-member and peer trust developed after integrating with other team members and practicing intentional communication, which led to stronger relationships and potentially improved productivity.

Theme 2 related to the relationship and trust themes of Avolio et al.'s (2000) and Savolainen's (2015) e-leadership theory, because intentional communication and team integration strategies used by participants in this study led to the development of trusting relationships. Intentional communication and team integration strategies used by the participants in this study further aligned with Van Wart et al.'s (2016) e-leadership competencies, e-social skills and team-building skills, respectively. The results of this study demonstrated that virtual leaders can foster relationships through integration and recognition of all team members through social and team-building activities. Van Wart et al. (2016) defined e-communication, a facet of the e-leadership theory, as the effective management of virtual communication flow to avoid "excessive communication" (p. 13). Analysis of the findings in this study indicated that practicing virtual intentional communication helped to minimize interruptions with productivity by eliminating excessive communication. The findings of this study also showed that using intentional communication in a supportive manner helped to develop leader-to-member and peer trust. According to the e-leadership theory, e-trustworthiness is "a sense of trust in the leader" (Van Wart et al., 2016, p. 14). However, the consensus among participants in this study was that team productivity would result from peer trust and overall team dynamics.

Theme 3: Effective Virtual Staff Mobility Facilitated Fieldwork

The third theme that emerged from analyzed data was effective virtual staff mobility facilitated fieldwork. Fieldwork, which participants referred to as a mobile work environment, was a major characteristic of virtual teams in this study. Participants

reiterated the need for team members to remain mobile with the aid of appropriate resources in order to maintain productivity standards during fieldwork. In fact, participants used the term *mobile* 67 times to describe their virtual teams. Virtual team members engaged in fieldwork spend most of their workday navigating the community that could include up to three counties. The participants' consensus was that virtual leaders must help to facilitate virtual staff mobility by: (a) adapting to members preferred traditional technologies for ongoing communication, (b) maintaining availability of mobile and virtual technologies, and (c) ensuring reliable workspace for members. Therefore, three subthemes that emerged were communication technology, mobile and virtual technologies, and workspace (see Table 3). The executive leadership team also identified strategies and underscored the value of ensuring appropriate resources for staff mobility to improve fieldwork productivity at 36 separate meetings, as evidence by the corresponding meeting minutes. Findings from participant interviews and meeting minute documentation indicated that virtual team members who performed fieldwork must have stable communication technologies, explore newer mobile and virtual technologies, and access reliable workspaces to become productive team members; further, the data indicated that lacking any of those three components would decrease productivity.

Table 3

Theme 3: Effective Virtual Staff Mobility Facilitated Fieldwork

(*table continues*)

Theme 3 subthemes	Frequency
Communication Technology	59
Mobile and Virtual Technologies	38
Workspace	28
Total	125

Communication technology. In this study, virtual teams relied on traditional communication technology despite a virtual environment to maintain productivity. Participants identified the communication technologies most commonly used by members, how leaders adapted to members' individuals communication technology preferences, and why members selected those methods. Leader flexibility regarding communication technology helped to facilitate productivity during fieldwork.

Establishing a consistent communication technology was critical due to lower f2f interactions during fieldwork. Frequencies for the three most highly used communication technologies were as follows: (a) *e-mail* was 53 times, (b) *phone* was 39 times, and (c) *text* was 39 times. E-mail is one of the most common virtual team communication methods in the workplace (Loeschner, 2017). All of the participants in this study agreed that e-mail was the most frequently used communication technology, followed by text messaging and phone calls. All six participants noted Lync instant messenger was available for virtual team communication but found that it was unreliable. Instead, P1 and P2 noted that using e-mail was just as easy to use as Lync and was already part of the team's routine. The stability of e-mail technology (Van Wart et al., 2016) and easy

storage of e-mail communications for employees' future reference (Krumm et al., 2016) contributed to the longstanding preference of e-mail technology across virtual teams.

Texting among peers and between team members and clients gained popularity (P3, P4, P5, P6); however, participants remained divided regarding how much text messaging was appropriate in the workplace. The consensus was that younger generations, including team members and clients, often preferred texting more than older individuals did. Texting was the least preferred method by some participants that held concerns about the associated informality of it (P2). Three participants also expressed that having phone calls with the younger generation was challenging, but older generations preferred talking on the phone. Fox, Short, Schoenberg, Coronges, and Bertozzi's (2016) suggested that older individuals displayed lower frequency of e-mail use due to greater reliance on using the phone and f2f communication. In fact, Darics (2017) pointed out that making a phone call is sometimes more appropriate than written communication. The findings of this study aligned with Fox et al. and Darics because P3 and P6 noted that the best communication strategy was to adjust to individuals' preferences as appropriate to facilitate the most efficient and productive use of a team members time. Even though P3 preferred texting, P3 adjusted to older team members that responded well to phone calls. On the other hand, P6 adjusted to team members' preference for texting to help minimize disruptions during fieldwork, thereby facilitating greater productivity. Further, P6 shared that virtual team leaders identified team members that experienced social challenges with the use of texting and e-mail. In those cases,

participants advised the team member on the most appropriate communication technology to use.

A review of the executive leadership meetings minutes indicated the use of e-mail as a primary communication technology throughout the agency, which confirmed the stability of e-mail as a team communication method. However, meetings minutes also indicated disadvantages of using email, such as poor inbox management related to excessive and nonessential e-mail messages. The executive leadership team received and acted upon the following comment received through the idea box, which represented the sentiment of numerous employees, "Can we please stop the 'happy birthday' announcements that are sent company-wide to each person? We are growing exponentially, and there are so many emails clogging our system, a little relief would be lovely!" Additional employee comments showed that the need to sort and respond to a high volume of emails interfered with employee productivity. Therefore, the executive leadership team discussed alternatives to using email and supported the exploration and adoption of virtual technologies that eased communication while maintaining HIPPA compliance.

Mobile and virtual technology. All participants noted that virtual teams depended on mobile equipment to conduct fieldwork. However, there remained inconsistency regarding the use of virtual technologies despite the recognized need for it. Leaders also recognized the need for reliable workspace to facilitate efficient fieldwork among virtual team members.

All six participants agreed that virtual teams relied on basic but critical resources such as proper equipment, internet connectivity, and access to the remote network to facilitate productivity during fieldwork. The participants reported that teams used mobile devices such as laptops, Surface Pros, iPads, and smart phones to work remotely (P1, P2, P3, P4, P5, P6). P4 stated, "One of the first things I tell them is to have their mobile connection to be able to log into the network." Members used a combination of personal and company issued equipment based on their needs and preferences (P5). Loeschner (2017) found that employees' willingness to use AIT depended on the availability of reliable equipment. Some new team members struggled with handling equipment and navigating the remote network (P1, P2, P3). P3 stated, "Staff in the younger generation are more at ease with technology and changes with technology, and the younger generation seem to better embrace a flexible and mobile work environment." Jost (2016) recognized that new members benefit from routines and supports that help them adapt to virtual teams. Likewise, all participants implemented training routines that facilitated new members adjusting to a virtual environment.

According to several participants in this study, team members selected technologies based on availability, user-friendliness, and HIPPA compliance (P2, P4, P5, P6). Participants did not identify a consistent communication technology used for virtual meetings. All participants noted that Skype for Business was available on all members' equipment, but five participants stated it was unreliable. In fact, P1 elaborated that connectivity depended on location (e.g., home, community, main office) and the server

logon. The inconsistency with which virtual team members could utilize Skype for Business led teams to explore other platforms for communication. However, they remained limited by the need for professional, secure, HIPPA-compliant technology. Shamsuzzoha, Toscano, Carneiro, Kumar, and Helo (2016) found that reliance on traditional communication technology no longer suffices in a competitive business environment, and recommended combining traditional and web-based communication technology. Nevertheless, Shamsuzzoha et al. observed the need for secure technology. Several leader participants in this study also observed the need for secure, web-based technology, such as the Zoom platform. Three participants reported positive experiences with the Zoom platform for virtual meetings within teams and with external parties, but had not yet established this communication technology as part of the team's routine (P4, P5, P6). Other participants were aware of Zoom, but had not begun to explore it, (P1, P2).

Participants reported the use of network drives, a file sharing platform, which was HIPPA compliant but not user-friendly. Team members often had difficulty accessing and navigating files as noted by P3, "All of our drives and different systems, it is a lot to navigate. I have been here 9 years and sometimes I cannot find something in our 5 [network] drives that we have, and then folders within folders within folders." Inefficient virtual technology meant members spent less time being productive (P1, P2, P3). Team members increased peers' workload when they failed to save or update electronic documents correctly (P1, P2, P3). File sharing platforms continue to evolve, and are considered valuable but not as stable as traditional technologies (Van Wart et al., 2016).

Participants explored various file sharing platforms for document management, such as electronic health records (EHR) to enhance business practice, but maintained network drives, a stable technology for document management.

A review of the executive leadership meetings minutes showed that executive leaders regularly assessed mobile equipment and virtual technology needs to help maintain virtual team productivity. Discussions regarding mobile or virtual technology occurred during 15 different meetings. Meeting minutes indicated that the executive leadership team supported virtual teams by ensuring appropriate equipment, digital file access, secure technology, back-up systems, and tech support. In fact, the leadership team demonstrated their support through actions, as discussed at one meeting:

> Leadership needs to be continually responsive to staffs' concerns regarding needs for upgrades to equipment, needing additional equipment, space issues, etc. There is concern that if staff does not know that we are working to attend to their needs and the needs of the agency, they may not perceive that we are working for them.

Executive leaders recognized that virtual team members could not perform work if they lacked the proper technology.

Reliable workspace. All of the participants underscored the importance of identifying reliable workspaces where team members could complete their work. Even though establishing a reliable workspace was challenging, leaders' involvement with ensuring reliable workspace for members eased pressures and enhanced members' ability to become more productive (P1, P5). Even though leaders' assistance in finding a reliable

workspace for virtual team members was important, team members themselves must understand the nature of a particular virtual team within a given organization and increase their awareness of the workspace resources available to them. The role of participants in this study was to ensure that members understood the nature of their assigned virtual teams and increase awareness of the workspace resources available to them.

The organization used the term *mobile teams* instead of virtual teams, because daily tasks involved extensive fieldwork. The term, mobile, confused some new employees because performing fieldwork in a mobile team did not automatically negate having assigned workspace. Possibly, because the organization had not embraced the term, virtual teams, the unavailability of assigned workspace became more confusing to employees, who might feel unwelcomed in a new work setting (P1, P3). The consensus among participants was the need to describe the virtual setting and mobile concept specific to the agency during the interview process by reiterating clear expectations of both parties.

Due to the high workload and fast pace experienced during fieldwork, having reliable workspaces and routines helped members navigate the community more efficiently, thereby enhancing their ability to remain productive (P4, P5, P6). Even though virtual team members in this study did not have an assigned workspace, the agency maintained common areas designated as workspaces. All of the participants agreed that it was important for team members to self-identify a reliable workspace that fit their routines. For instance, some team members maximized their weekly visits to the

main building by consolidating tasks that required onsite equipment (P4, P5). All of the participants agreed that strategic use of community sites was necessary to perform virtual team functions. P5 noted the reliability associated with having identified a consistent community location to meet with team members, "Sometimes, we just have to joke that that is my second office at Starbucks." All of the participants recognized how difficult it was for new team members to adjust to the mobile, virtual environment when they had not received a clear description of the virtual team setting at this agency. Participants clarified that their virtual teams worked in an unstructured, flexible environment, whereby members must create their schedule (P4, P5). Further, all of the participants indicated that the agency provided unassigned workspace at the main building to help team members balance their fieldwork, traveling, and other duties. Essentially, all participants agreed that identification of reliable workspaces could not occur until members truly understood the nature of their virtual teams.

A review of the executive leadership meetings minutes showed that executive leaders discussed workspace during six different meetings. Discussions surrounded the need to secure a larger building to accommodate more workspace for a growing organization and ensuring sufficient parking for all employees regardless of their status as a fixed or virtual team member. The leadership team's decision to move to a larger building demonstrated their commitment to offering workspace for virtual team members to use. Although the agency was not required to offer workspace, meeting minutes indicated that the executive leadership team understood the negative effects that

unreliable workspace could have on virtual team productivity, which would negatively affect clients. One employee communicated frustration regarding workspace to the executive leadership team through the idea box, “Can we make a rule that if you are leaving for longer than 15 to 30 minutes that you cannot park you stuff at a work station? This is a mobile environment, not meant to leave for hours and then expect to get a spot back. This is frustrating and a waste of my time when I come in to work for a while and have no place to sit because the same people constantly do this.” Evidently, the lack of reliable workspace interfered with employees’ ability to remain productive. Providing workspace, equipment, and technology demonstrated leadership’s commitment to facilitating virtual team members’ mobility within a virtual environment for increased productivity.

Correlation to the literature. The findings related to Theme 3 aligned with Krumm et al.’s (2016) findings that that members’ ability to take initiative and to behave autonomously were critical factors for working successfully within a virtual team. Likewise, maximizing virtual team advantages, such as scheduling and travel flexibility (Loeschner, 2017), depended on access to and proficiency with virtual team technology. Findings in this study aligned with Krum et al. and Loeschner in that participants enhanced members’ autonomy and maximized virtual team advantages by helping members to establish reliable communication appropriate technology and reliable workspaces. Loeschner (2017) and Krumm et al. found that the ability to use AIT and communicate through e-mail were critical needs of working in a virtual team. However,

Van Wart et al. (2016) noted other useful platforms in-between established and emerging technologies, which underscored the value of exploring and assessing different technologies in business settings. Mantymaki and Riemer (2016) found that the use of enterprise social networking could enhance brainstorming, task management, and problem-solving. Results from this study indicated that the leaders in this case study also supported the exploration of new technologies. However, a review of the results further demonstrated that virtual team members depended on remote connectivity, appropriate mobile technology, and reliable workspace to remain productive during fieldwork.

Correlation to the conceptual framework. Theme 3 related to Van Wart et al.'s (2016) e-leadership theory; particularly, regarding e-technological skills, by addressing AIT security and technology savvy. According to the e-leadership theory, e-technological skills involve ensuring technological security, maintaining abreast of relevant communication technology, using mixed virtual and traditional communication methods, and basic technology skills (Van Wart et al., 2016). The results of this study showed that participants addressed all competencies of Van Wart et al.'s e-technological skill. Specifically, participants encouraged the exploration of new technology that met criteria for HIPPA compliance, such as Lync, Skype for Business, and the Zoom platform. Despite the interest in exploring newer technologies, participants never devalued the use of traditional communication. Results of the study further indicated that virtual team success depended on team members' abilities to function well in a virtual environment

and leaders' capabilities to support a virtual environment that required extensive fieldwork by using basic technology skills.

Theme 3 related to Graen and Uhl-Bien's (1995) relationship theme in the LMX theory despite the emphasis on technology. Omilion-Hodges and Baker (2017) found that team member autonomy and leader flexibility contributed to leader-member communication exchanges for relationship building. Leaders from this study demonstrated LMX differentiation by individualizing communication exchanges that fostered relationships and helped to increase fieldwork productivity. Lee and Chae (2017) identified a u-shaped relationship between LMX differentiation and team performance, which supported that some LMX differentiation could enhance team performance, but too much could reduce team performance. All of the participants in this study used a variety of communication methods and resources to meet individual members' needs, however, they controlled LMX differentiation to prevent member exclusion and maintain productivity. Participants' willingness to individualize their leadership style to some degree helped them to maintain stronger relationships with team member in virtual settings.

Applications to Professional Practice

Nonprofit participants of the latest State of the Nonprofit Survey Sector (2015) noted a relationship between decreased government funding, increased demand for nonprofit services, and nonprofit challenges in meeting those increased community demands. Nonprofit leaders could implement the use of virtual teams to streamline their

resources by mobilizing services throughout the community. Efficiency measures through resources, costs, and revenues could help increase productivity by improving the ratio of outputs and inputs (Kämäräinen et al., 2016). Although implementing a virtual team structure has the potential to help nonprofit business leaders address business problems related to funding and service demands, as with this case study, leaders must invest and establish the proper foundation for virtual team operations.

Nonprofit business leaders who want to establish a new virtual team structure or improve an existing virtual team structure could benefit from the findings of this study. Virtual team leaders across businesses must ensure staff supports, cohesive team dynamics, and adequate technology. The findings of this study demonstrated that monitoring nonprofit productivity measures was more difficult in virtual settings than in f2f settings, partly due to the lack of appropriate software. Despite the variety in productivity measures (Kämäräinen et al., 2016), nonprofit virtual team leaders must define productivity as relevant to a particular department and identify a consistent method for monitoring productivity. In addition, virtual leaders could include informal peer support and intentional communication strategies to maintain accountability and address virtual productivity challenges. McCarthy et al. (2016) suggested the use of peer support; however, Hart (2016) found that business leaders lack an understanding of what peer support in virtual teams should entail. Therefore, business leaders could use the findings of this study to establish a strong foundation for virtual teams and assess for needed adjustments to meet their individual agency or team needs.

Implications for Social Change

Implications for positive social change related to meeting community service demands through virtual teams' enhanced work experiences. According to the 2015 State of the Nonprofit Sector survey, 52% of U.S. nonprofit agencies were unable to meet service demands (Nonprofit Finance Fund, 2015). Further, 71% of those agencies that reported they could not meet service demands stated that client needs remained unmet when they could not provide services. Teams in this case study were able to meet increased service demands in the community by transitioning to a virtual team setting. Khanna and Narula (2016) found that using mobile teams increased access to services by removing barriers for clients. In this study, the agency's ability to meet demands throughout the community largely related to established virtual teams that were mobile. Greater access to services is a direct implication of community social change in which community members had their needs met.

In nonprofit settings, increased productivity implies meeting service demands for the nonprofit mission, which effects social change at the community level. However, using effective virtual team leadership strategies could also enhance overall work experiences for many employees by providing a supportive environment and appropriate resources. Hart (2016) and McCarthy et al. (2016) recommended the use of mentoring and support in virtual team settings. The results of this study aligned with Hart and McCarthy in that new virtual team members that had mentoring, a broader support network, and appropriate resources became productive more quickly than new members

who felt less supported and lacked appropriate mentoring. Consequently, employees that have positive work experiences as new team members could return the favor to newer members who need support in adjusting to the nonprofit virtual setting, or ongoing support to members that face productivity challenges. Due to the nonprofit nature of the business problem in question, the implications for positive social change could reach a community, organizational, and individual level.

Recommendations for Action

Executive business leaders who oversee companies containing virtual teams would benefit from the findings of this study because their decisions affect the entire organization. Additionally, virtual team leaders and members could benefit from the findings of this study for practical, day-to-day use. Both leaders' and members' leadership strategies are critical to increasing virtual team productivity in nonprofit settings, as seen in this study's three major themes.

Developing relationships and trust throughout virtual teams could help to increase virtual team productivity. Virtual team leaders and members can facilitate relationship and trust development by providing formal and informal support to enhance team dynamics. Vatan and Temel (2016) recommended using formal, leader-to-member mentoring programs and Hart (2016) recommended using informal peer mentoring to increase team integration and dynamics. The findings of this study aligned with both Vatan and Temel and Hart because leaders periodically reassessed the leadership strategies used for increasing virtual team productivity, and adjusted accordingly to meet

the team's needs for formal or informal leader-to-member and peer mentoring. Virtual team leaders could apply the findings of this study by exploring the current state of their virtual teams, determine how to incorporate combined peer and leader support and combined formal and informal mentoring strategies to increase virtual team productivity. Virtual team leaders might also reconsider the value of using f2f interactions combined with appropriate technology in virtual teams, as recommended by Van Wart et al. (2016), to help support individuals and maintain desired team dynamics for virtual team productivity.

Virtual team leaders should periodically reassess their team's status regarding AIT use. The findings of this study showed that it is beneficial for virtual teams to explore new AIT strategies and assess how a particular strategy could facilitate virtual team members' mobility. Jost (2016) reiterated the benefit of establishing routines for learning virtual strategies. The findings of this study illustrated examples beneficial to readers; in particular, understanding that established routines for using new technologies could increase team members' learning and application. Leaders should establish criteria for evaluating the benefit of using a new technology, such as how the technology meets specific needs (e.g., HIPPA-compliance) and routine scenarios that will offer widespread use (e.g., virtual team meetings, distance training). Establishing criteria for technology exploration and evaluation could increase the likelihood of selecting technologies that will become stable within the team.

The agency in this case study will receive a copy of the findings so that leaders might discuss and further disseminate. The findings of this study will also be available in the ProQuest database. I will attempt to disseminate the findings of this study throughout the research community by submitting an article for publication in an appropriate journal.

Recommendations for Further Research

The focus of this study was to understand leadership strategies used to increase virtual team productivity within the nonprofit human services industry. The limitations of the study relate to the study design and location, a single case study in Colorado. Given the limited literature about nonprofit virtual team settings, future researchers could replicate this study across human services agencies throughout Colorado and the United States. Geographically expanding this study could result in broader data to increase the findings' transferability. Additionally, other researchers could use a multicase study to understand the virtual leadership strategies used to increase productivity across a spectrum of virtual team settings throughout the nonprofit sector. Further, due to organizational circumstances, archival documents analyzed for this study only included 25 months worth of data. Someone conducting future research on this topic should try to obtain a wider range of archival documents to help support interview data through triangulation. Additionally, future researchers should obtain different types of archival data, such as productivity reports, for stronger triangulation.

Hart (2016) and Vatan and Temel (2016) identified training as a major theme in their respective studies. The findings of Hart's study suggested that peer support was

more effective for team integration, but the findings of Vatan and Temel's study revealed that some organizations continue to rely on formal, leader-to-member support. Conducting a multicase study across virtual teams using different support strategies could help researchers compare and contrast different support systems within nonprofit, virtual team settings, to identify the unique needs of the human services industry.

The findings of this study indicated that AIT remains underutilized in many nonprofit organizations. The literature showed that e-mail communication was the most consistently used form of virtual team communication (Loeschner, 2017). Meanwhile, Gannon et al. (2016) noted ongoing debates regarding the use of public and enterprise social networking in the workplace (Gannon et al., 2016). The findings of this study demonstrated that e-mail remains critical to virtual team communication, but texting gained popularity among many participants. In this study, some leaders increasingly explored the value of newer AIT platforms while other leaders hesitated doing so. Future researchers should explore the appropriateness of texting and other enterprise social networking platforms as a professional communication strategy in the 21st century throughout nonprofit organizations.

Reflections

The process of completing the Doctor of Business Administration (DBA) doctoral study broadened my understanding of qualitative research methodology as I practiced conducting practitioner-scholarly research. Milano, Lawless, and Eades (2015) recognized the value of using insider-research to bridge the gap between professional

practice and academia. However, Tuesner (2016) acknowledged the need to use reflexivity and reflectivity continuously throughout the insider-research process. Reflections about the DBA research process pertained to personal bias, my effect, as the researcher, on participants, and changes to my thinking upon completing the study.

Tuesner (2016) suggested that insider-researchers' tacit knowledge facilitates an understanding of the organizational culture and the study's participants; however, this advantage also increases the risk of personal bias. Therefore, Tuesner recommended using reflexivity and reflectivity throughout the research process to ensure mitigating personal bias before and after interacting with each participant. I used reflexivity to consider my relationship with participants and their assigned departments, as well as my understanding of departmental processes before each interview occurred. I repeated the same process shortly after each interview; however I focused on my new or improved understanding of the processes used by participants. Using reflexivity and reflectivity helped me to separate my opinions and personal bias, which allowed me to focus on the participants' responses. I also considered how my effect on participants might affect response bias.

Tuesner (2016) considered how participants might withhold or modify responses based on their relationship status with the researcher. I did not have a current or previous supervisor-subordinate relationship with any of the participants in this study. In fact, I had a neutral relationship with three out of six participants because we had never worked for the same department, with limited informal interaction. Those participants had

prepared responses to the interview questions, which they followed closely. The other participants felt more comfortable with me, although we had never worked directly together, and were more willing to share information openly. Nevertheless, all of the participants assumed that they did not need to elaborate on some matters because I was an insider. Tuesner recommended using probes to obtain clarification that an external researcher might need. During the interview, I avoided assumptions by asking probes and follow up questions to obtain clarification as though I was an outsider. I explained this process to the participants to eliminate confusion. Finally, I used member checking to ensure that the accounts accurately reflected participant perceptions.

Completing this doctoral study helped to reshape my thinking in specific and broader terms about the research process. First, using the process of reflexivity, reflectivity, and obtaining clarification from participants allowed me to identify that the data did not support my preconceived notions. More broadly, I found that as an insider to the organization, I was still an outsider to some departments and needed to adjust accordingly to the advantages and disadvantages of my researcher role with each participant. Milano et al. (2015) found that students often miss learning opportunities because of program requirements to complete their research within a specified timeframe. In contrast, the DBA doctoral study process helped me to remain focused on learning instead of deadlines. Lifelong learning is inherent in research and must continue long after degree conferment.

Conclusion

In this study, I attempted to learn about the strategies that virtual team leaders from a nonprofit, human services agency used to increase virtual team productivity among new employees. Most notably, virtual leaders in this study used many of the same strategies with new and established team members. The most notable difference was that new team members experienced more f2f interactions and received more training with their leader and peers until they were ready to work independently. In fact, leaders reported using f2f strategies through formal and informal support for increasing productivity across all virtual teams more frequently than virtual strategies. Van Wart et al.'s (2016) conceptualization of the e-leadership theory validated the use of combined f2f and virtual interactions when leading virtual teams. Perhaps, the use of f2f strategies in this case study was due to the presence of colocated virtual teams, or perhaps because of the culture of the human services industry. However, Shamsuzzoha et al. (2016) reiterated a business need to broaden the use of AIT alongside traditional communication. Similarly, leaders in this study periodically reassessed their leadership strategies to guide their team toward greater productivity as effectively as possible, which included the exploration of newer technologies alongside traditional communication. Potentially, as virtual team leaders become more familiar with the virtual team environment in the nonprofit, human services industry, they might increase the exploration of virtual strategies as was evidenced in the findings of this study. The conclusion derived from this study is that nonprofit leaders must consider the individual support, team dynamics, and

fieldwork resources needed to enhance productivity among virtual team members that work in a mobile environment.

References

Adamik, A. (2016). The mechanism of building competitiveness through strategic partnering. *Management, 20*(1), 292–309. doi:10.1515/manment-2015-0040

Appelbaum, S. H., Degbe, M. C., MacDonald, O., & Nguyen-Quang, T. S. (2015). Organizational outcomes of leadership style and resistance to change (Part Two). *Industrial and Commercial Training, 47,* 135–144. doi:10.1108/ICT-07-2013-0045

Avolio, B. J., Kahai, S., & Dodge, G. E. (2000). E-leadership: Implications for theory, research, and practice. *Leadership Quarterly, 11*, 615–668. doi:10.1016/S1048-9843(00)00062-X

Avolio, B. J., Sosik, J. J., Kahai, S. S., & Baker, B. (2014). E-leadership: Re-examining transformations in leadership source and transmission. *Leadership Quarterly, 25*, 105–131. doi:10.1016/j.leaqua.2013.11.003

Azimian, J., Negarandeh, R., & Fakhr-Movahedi, A. (2014). Factors affecting nurses' coping with transition: An exploratory qualitative study. *Global Journal of Health Science, 6*(6), 88–95. doi:10.5539/gjhs.v6n6p88

Beskow, L. M., Check, D. K., & Ammarell, N. (2014). Research participants' understanding of and reactions to certificates of confidentiality. *AJOB Primary Research, 5*(1), 12–22. doi:10.1080/21507716.2013.813596

Blau, I., & Presser, O. (2013). E-Leadership of school principals: Increasing school

effectiveness by a school data management system. *British Journal of Educational Technology, 44*, 1000–1011. doi:10.1111/bjet.12088

Block, S. R., Wheeland, L., & Rosenberg, S. (2014). Improving human services effectiveness through the deconstruction of case management: A case study on the emergence of a team-based model of service coordination. *Human Service Organizations: Management, Leadership & Governance, 38*, 16–28. doi:10.1080/03643107.2013.853007

Boddy, C. R. (2016). Sample size for qualitative research. *Qualitative Market Research: An International Journal, 19*(4), 1–7. doi:10.1108/QMR-06-2016-0053

Bolte, J., & Granger, B. B. (2013). Monitoring the quality of clinical inquiry project. *AACN Advanced Critical Care, 24*(1), 78–81. doi:10.1097/NCI.0b013e318274ba13

Bonilla, M. (2015). Building resilience in small nonprofits. *OD Practitioner, 47*(1), 8–14. Retrieved from http://www.odnetwork.org

Breevaart, K., Bakker, A. B., Demerouti, E., & van den Heuvel, M. (2015). Leader-member exchange, work engagement, and job performance. *Journal of Managerial Psychology, 30*, 754–770. doi:10.1108/JMP-03-2013-0088

Burch, T. C., & Guarana, C. L. (2014). The comparative influences of transformational leadership and leader-member exchange on follower engagement. *Journal of Leadership Studies, 8*(3), 6–25. doi:10.1002/jls.21334

Cairney, P., & St Denny, E. (2015). Reviews of what is qualitative research and what is qualitative interviewing. *International Journal of Social Research Methodology*: *Theory and Practice*, *18*, 117–125. doi:10.1080/13645579.2014.957434

Calabrese, A., & Spadoni, A. (2013). Quality versus productivity in service production systems: An organizational analysis. *International Journal of Production Research, 51,* 6594–6606. doi:10.1080/00207543.2013.813985

Carter, N., Bryant-Lukosius, D., DiCenso, A., Blythe, J., & Neville, A. J. (2014). The use of triangulation in qualitative research. *Oncology Nursing Forum, 41*, 545–547. doi:10.1188/14.ONF.545.547

Casimir, G., Ngee Keith Ng, Y., Yuan Wang, K., & Ooi, G. (2014). The relationships amongst leader-member exchange, perceived organizational support, affective commitment, and in-role performance: A social exchange perspective. *Leadership and Organization Development Journal*, *35*, 366–385. doi:10.1108/LODJ-01-2012-0051.

Cassidy, S. (2013). Acknowledging hubris in interpretative data analysis. *Nurse Researcher*, *20*(6), 27–31. doi:10.7748/nr2013.07.20.6.27.e321

Chang, H. H., Hung, C. J., & Hsieh, H. W. (2014). Virtual teams: Cultural adaptation, communication quality, an interpersonal trust. *Total Quality Management, 25*, 1318–1335. doi:10.1080/14783363.2012.704274

Chang, W. L., & Lee, C. Y. (2013). Virtual team e-leadership: The effects of leadership

style and conflict management mode on the online learning performance of students in a business-planning course. *British Journal of Educational Technology, 44*, 986–999. doi:10.1111/bjet.12037

Charlier, S. D., Stewart, G. L., Greco, L. M., & Reeves, C. J. (2016). Emergent leadership in virtual teams: A multilevel investigation of individual communication and team dispersion antecedents. *Leadership Quarterly*, *27*, 745–764. doi:10.1016/j.leaqua.2016.05.002 1048-9843

Check, D. K., Wolf, L. E., Dame, L. A., & Beskow, L. M. (2014). Certificates of confidentiality and informed consent: Perspectives of IRB chairs and institutional legal counsel. *IRB: Ethics and Human Research*, *36*(1), 1–8. doi:10.1038/gim.2014.102

Chou, H. W., Lin, Y. H., Chang, H. H., & Chuang, W. W. (2013). Transformational leadership and team performance: The mediating roles of cognitive trust and collective efficacy. *Sage Open, 3*(3), 1–10. doi:10.1177/2158244013497027

Chou, Y. C., Chuang, H. H. C., & Shao, B. B. (2014). The impacts of information technology on total factor productivity: A look at externalities and innovations. *International Journal of Production Economics*, *158*, 290–299. doi:10.1016/j.ijpe.2014.08.003

Choy, J., McCormack, D., & Djurkovic, N. (2016). Leader-member exchange and job performance: The mediating roles of delegation and participation. *Journal of Management Development, 35*, 104–119. doi:10.1108/JMD-06-2015-0086

Chrisentary, J., & Barrett, D. (2015). An exploration of leadership in virtual communities of practice. *Management, 77*(1), 25–34. doi:10.7595/management.fon.2015.0027

Church, P. H. (2014). Assimilation of new hires in public accounting. *Current Issues in Auditing*, *8*(2), A25–A34. doi:10.2308/ciia50926

Cogliser, C. C., Gardner, W., Trank, C. Q., Gavin, M., Halbesleben, J., & Seers, A. (2013). Not all group exchange structures are created equal: Effects of forms and levels of exchange on work outcomes in virtual teams. *Journal of Leadership & Organizational Studies, 20*, 242–251. doi:10.1177/1548051812472370

Comi, A., Bischof, N., & Eppler, M. J. (2014). Beyond projection: Using collaborative visualization to conduct qualitative interviews. *Qualitative Research in Organizations and Management: An International Journal, 9*, 110–133. doi:10.1108/QROM-05-2012-1074

Connelly, C. E., & Turel, O. (2016). Effects of team emotional authenticity on virtual team performance. *Frontiers in Psychology, 7*, 1-11. doi:10.3389/fpsyg.2016.01336

Cope, D. G. (2014). Methods and meanings: Credibility and trustworthiness of qualitative research. *Oncology Nursing Forum*, *41*(1), 89–91. doi:10.1188/14.ONF.89-91

Cowan, L. D. (2014). E-Leadership: Leading in a virtual environment – Guiding principles for nurse leaders. *Nursing Economics, 32*, 312–322. Retrieved from http://www.nursingeconomics.net/cgi-bin/WebObjects/NECJournal.woa

Dansereau, F., Graen, G., & Haga, W. J. (1975). A vertical dyad linkage approach to

leadership with formal organizations: A longitudinal investigation of the role making process. *Organizational Behavior and Human Performance, 13,* 46–78. doi:10.1016/0030-5073(75)90005-7

Darics, E. (2017). E-leadership or "How to be a boss in instant messaging?" The role of nonverbal communication. *International Journal of Business Communication, 54,* 1-27. doi:10.1177/2329488416685068

De Paoli, D. (2015). Open plan offices – the response to leadership challenges of virtual project work? *Journal of Corporate Real Estate, 17*(1), 63–74. doi:10.1108/JCRE-08-2014-0020

Dixon, N. (2017). Learning together and working apart: Routines for organizational learning in virtual teams. *Learning Organization, 24,* 138-149. doi:10.1108/TLO-12-2016-0101

Doody, O., & Noonan, M. (2013). Preparing and conducting interviews to collect data. *Nurse Researcher, 20*(5), 28–32. doi:10.7748/nr2013.05.20.5.28.e327

Doody, O., Slevin, E., & Taggart, L. (2013). Focus group interviews part 3: Analysis. *British Journal of Nursing, 22,* 266-269. Retrieved from http://www.internurse.com/cgi-bin/go.pl/library/article.cgi?uid=97512;article=BJN_22_5_266_269

Edlund, J. E., Hartnett, J. L., Heider, J. D., Perez, E. J., & Lusk, J. (2014). Experimenter characteristics and word choice: Best practices when administering an informed consent. *Ethics & Behavior, 24,* 397–407. doi:10.1080/10508422.2013.854171

Ellwart, T., Happ, C., Gurtner, A., & Rack, O. (2015). Managing information overload on virtual teams: Effects of a structured online team adaptation on cognition and performance. *European Journal of Work and Organizational Psychology, 24*, 812–826. doi:10.1080/1359432X.2014.1000873

Elo, S., Kaariainen, M., Kanste, O., Polkki, T., Utriainen, K., Kyngas, H. (2014). Qualitative content analysis: A focus on trustworthiness. *Sage Open, 4*(1). doi:10.1177/2158244014522633

Fan, K. T., Chen, Y. H., Wang, C. W., & Chen, M. (2014). E-leadership effectiveness in virtual teams: Motivating language perspective. *Industrial Management and Data Systems, 114*, 421–437. doi:10.1108/IMDS-07-20130294

Fey, M. K., Scrandis, D., Daniels, A., & Haut, C. (2014). Learning through debriefing: Students' perspectives. *Clinical Simulation in Nursing, 10*, e249–e256. doi:10.1016/j.ecns.2013.12.009

Ford, R. C., Piccolo, R. F., & Ford, L. R. (2016). Strategies for building effective virtual teams: Trust is key. *Business Horizons, 59*(5), 1–10. doi:10.1016/j.bushor.2016.08.009

Foster, M. K., Abbey, A., Callow, M. A., Zu, X., & Wilbon, A. D. (2015). Rethinking virtuality and its impact on teams. *Small Group Research, 46*, 267–299. doi:10.1177/1046496415573795

Fox, E. W., Short, M. B., Schoenberg, F. P., Coronges , K. D., Bertozzi, A. L. (2016).

Modeling e-mail networks and inferring leadership using self-exciting point processes. *Journal of the American Statistical Association, 111,* 564-584. doi:10.1080/01621459.2015.1135802

Fusch, P., & Ness, L. (2015). Are we there yet? Data saturation in qualitative research. *Qualitative Report, 20*, 1408–1416. Retrieved from http://tqr.nova.edu/

Galinac Grbac, T., Runeson, P., & Huljenić, D. (2013). A second replicated quantitative analysis of fault distributions in complex software systems. *IEEE Transactions on Software Engineering*, *39*, 462–476. doi:10.1109/TSE.2012.46

Gannon, J., Rodrigo, Z., & Santoma, R. (2016). Learning to work interculturally and virtually: Developing postgraduate hospitality management students across international HE institutions. *International Journal of Management Education, 14*, 18–27. doi:10.1016/j.ijme.2016.01.002

Gelling, L. (2016). Applying for ethical approval for research: The main issues. *Nursing Standard*, *30*(20), 40–44. Retrieved from http://journals.rcni.com/journal/ns

Gill, P., Stewart, K., Treasure, E., & Chadwick, B. (2008). Methods of data collection in qualitative research: interviews and focus groups. *British Dental Journal*, *204*(6), 291-295. doi:10.1038/bdj.2008.192

Gilson, L. L., Maynard, M. T., Jones Young, N. C., Vartiainen, M., & Hakonen, M. (2015). Virtual teams research: 10 years, 10 themes, and 10 opportunities. *Journal of Management, 41*, 1313–1337. doi:10.1177/0149206314559946

Gilstrap, C., & Hendershot, B. (2015). E-leaders and uncertainty management: A

computer-supported qualitative investigation. *Qualitative Research Reports in Communication, 16*, 86–96. doi:10.1080/17459435.2015.1086424

Gladden, R. (2014). Leading virtual project teams: Adapting leadership theories and communications techniques to 21st century organizations. *Project Management Journal, 45*(4), e3. doi:10.1002/pmj.21439

Gloor, P. A. (2016). What email reveals about your organization. *MITSloan Management Review, 57*(2), 7-12. Retrieved from http://mitsmr.com/1Py5Q7s

Gog, M. (2015). Case study research. *International Journal of Sales, Retailing and Marketing*, *4*(9), 23–32. Retrieved from http://www.ijsrm.com/IJSRM/Home.html

Gorissen, P., van Bruggen, J., & Jochems, W. (2013). Methodological triangulation of the students' use of recorded lectures. *International Journal of Learning Technology, 8*(1), 20–40. doi:10.1504/IJLT.2013.052825

Göttfert, E. (2015). Embedding case study research into the research context. *International Journal of Sales, Retailing and Marketing*, *4*(9), 23–32. Retrieved from http://www.ijsrm.com/IJSRM/Home.html

Gracca, A. M., & Passos, A. M. (2015). Team leadership across contexts: A qualitative study. *Leadership & Organization Development Journal, 36*, 489–511. doi:10.1108/LODJ-08-2013-0114

Graen, G. B., & Uhl-Bien, M. (1991). The transformation of professional into self-

managing and partially self-designing contributors: Toward a theory of leadership making. *Journal of Management Systems, 3*(3), 25–39. Retrieved from http://www.aom-iaom.org/jms.html

Graen, G. B., & Uhl-Bien, M. (1995). Relationship-based approach to leadership: Development of leader-member exchange (LMX) theory of leadership over 25 years: Applying a multi-level multi-domain perspective. *Leadership Quarterly, 6*, 219–247. doi:10.1016.1048-9843(95)90036-5

Grönroos, C., & Ojasalo, K. (2015). Service productivity as mutual learning. *International Journal of Quality and Service Sciences, 7*, 296–311. doi:10.1108/IJQSS-03-2015-0035

Hajli, M., & Sims, J. M. (2015). Information technology (IT) productivity paradox in the 21st century. *International Journal of Productivity and Performance, 64*, 457–478. doi:10.1108/IJPPM-12-2012-0129

Hamersly, B., & Land, D. (2015). Building productivity in virtual project teams. *Revista De Gestão e Projetos, 6*(1), 1. doi:10.5585/gep.v6i1.305

Hart, R. K. (2016). Informal virtual mentoring for team leaders and members: Emergence, content, and impact. *Advances in Developing Human Resources, 18*(3), 352–368. doi:10.1177/152342231665886

Harvey, L. (2015). Beyond member checking: A dialogic approach to the research interview. *International Journal of Research & Method in Education, 38*, 23–38. doi:10.1080/1743727X.2014.914487

Heale, R., & Forbes, D. (2013). Understanding triangulation in research. *Evidence Based Nursing, 16*(4), 98. doi:10.1136/eb-2013-101494

Hilal, A. H., & Alabri, S. S. (2013). Using NVivo for data analysis in qualitative research. *International Interdisciplinary Journal of Education, 2*(2), 181–186. Retrieved from http://iijoe.org/index.htm

Hoch, J. E., & Kozlowski, W. J. (2014). Leading virtual teams: Hierarchical leadership, structural supports, and shared team leadership. *Journal of Applied Psychology, 99*(3), 390–403. doi:10.1037/a0030264

Holten, A. L., & Brenner, S. O. (2015). Leadership style and the process of organizational change. *Leadership & Organization Development Journal, 36*, 2–16. doi:10.1108/LODJ-11-2012-0155

Hopkins, K., Meyer, M., Shera, W., & Peters, S. C. (2014). Leadership challenges facing nonprofit human service organizations in a post-recession era. *Human Service Organizations: Management, Leadership, & Governance, 38,* 419–422. doi:10.1080/23303131.2014.977208

Houghton, C., Casey, D., Shaw, D., & Murphy, K. (2013). Rigour in qualitative case study research. *Nurse Researcher, 20*(4), 12–17. doi:10.7748/nr2013.03.20.4.12.e32

Humble, A. (2015). Review essay: Guidance in the world of computer-assisted qualitative data analysis software (caqdas) programs. *Forum: Qualitative Social*

Research, 16(2), 1-12. Retrieved from http://www.qualitative-research.net/index.php/fqs/index

Iorio, J., & Taylor, J. E. (2014). Precursors to engaged leaders in virtual project teams. *International Journal of Project Management, 33*, 395–405. doi:10.1016/j.ijproman.2014.06.007

Jameson, J. (2013). Special issue on e-leadership: Editorial. *British Journal of Educational Technology, 44*, 883–888. doi:10.1111/bjet.12106

Jamshed, S. (2014). Qualitative research method – interviewing and observation. *Journal of Basic and Clinical Pharmacy, 5*(4), 87–88. doi:10.4103/0976-0105.141942

Jawadi, N., Daassi, M., Favier, M., & Kalika, M. (2013). Relationship building in virtual teams: A leadership behavioral complexity perspective. *Human Systems Management, 32*, 199–211. doi:10.3233/HSM-130791

Johnson, P., Buehring, A., Cassell, C., & Symon, G. (2007). Defining qualitative management research: An empirical investigation. *Qualitative Research in Organizations and Management: An International Journal, 2*(1), 23–42. doi:10.1108/17465640710749108

Jonsen, K., & Jehn, K. A. (2009). Using triangulation to validate themes in qualitative studies. *Qualitative Research in Organizations and Management: An International Journal, 4*(2), 123–150. doi:10.1108/17465640910978391

Jost, R. M. (2016). Staff training and troubleshooting. *Selecting and Implementing an*

Integrated Library System [Elsevier B.V. version]. doi:10.1016/B978-0-08-100153-0.00012-5

Kämäräinen, V. J., Paulus, A. P., & Tallbacka, T. K. (2016). Measuring healthcare productivity – from unit to system level. *International Journal of Health Care Quality Assurance, 29*, 288–299. doi:10.1108/IJHCQA-04-2015-0050

Khanna, A. B., & Narula, S. A. (2016). Mobile health units: Mobilizing healthcare to reach unreachable. *International Journal of Healthcare Management, 9*, 58-66. doi: 10.1080/20479700.2015.1101915

Kim, C. Y., & Park, W. W. (2015). Emotionally exhausted employees' affective commitment: Testing moderating effects using three-way interactions. *Social Behavior and Personality, 43*, 1699–1714. doi:10.2224/sbp.2015.43.10.1699

Kirkwood, A., & Price, L. (2013). Examining some assumptions and limitations of research on the effects of emerging technologies for teaching and learning in higher education. *British Journal of Educational Technology, 44*, 536–543. doi:10.1111/bjet.12049

Koelsch, L. E. (2013). Reconceptualizing the member check interview. *International Journal of Qualitative Methods, 12*, 168–179. Retrieved from http://ijq.sagepub.com

Koplin, M., Schiffmann, J., Muller, S., Eirund, H., & Berninghausen, J. (2013). CCBM-TRAILS: Cross-cultural business and virtual team communication training platform. *Economics and Business, 24*, 37–45. doi:10.7250/eb.2013.005

Korzynski, P. (2013). Online social networks and leadership: Implications of a new online working environment for leadership. *International Journal of Manpower, 34*, 975–994. doi:10.1108/IJM-07-2013-0173

Kraut, R., Olson, J., Banaji, M., Bruckman, A., Cohen, J., & Couper, M. (2004). Psychological research online: Report of board of scientific affairs' advisory group on the conduct of research on the internet. *American Psychologist, 59*(2), 105-117. doi:10.1037/0003-066X.59.2.105

Krumm, S., Kanthak, J., Hartmann, K., & Hertel, G. (2016). What does it take to be a virtual team player? The knowledge, skills, abilities, and other characteristics required in virtual teams. *Human Performance, 29*, 123-142. doi:10.1080/08959285.2016.1154061

Latham, K. F. (2014) Experiencing documents. *Journal of Documentation, 70*, 554–561. doi:10.1108/JD-01-2013-0013

Lee, K. L., & Chae, Y. J. (2017). LMX differentiation, diversity, and group performance: Evidence for curvilinear and interaction effects. *Career Development International, 22*(2), 106-123. doi: 10.1108/CDI-11-2015-0154.

Li, A. N., & Liao, H. (2014). How do leader-member exchange quality and differentiation affect performance in teams? An integrated multilevel dual process model. *Journal of Applied Psychology, 99*, 847–866. doi:10.1037/a0037233

Li, V., Mitchell, R., Boyle, B. (2016). The divergent effects of transformational

leadership on individual and team innovation. *Group & Organization Management, 41*, 66–97. doi:10.1177/1059601115573792

Lloyd, K. J., Boer, D., & Voelpel, S. C. (2015). From listening to leading: Toward an understanding of supervisor listening within the framework of leader-member exchange theory. *International Journal of Business Communication, 52*, 1–21. doi:10.1177/2329488415572778

Loeschner, I. (2017). The technology mismatch paradox of mobile e-mail access: When changed norms of responsiveness meet technology undersupply. *Information Society, 33*, 133-164. doi:10.1080/01972243.2017.1294126

Malone, H., Nicholl, H., & Tracey, C. (2014). Awareness and minimisation of systematic bias in research. *British Journal of Nursing, 23*, 279–282. doi:10.12968/bjon.2014.23.5.279

Mantymaki, M., & Riemer, K. (2016). Enterprise social networking: A knowledge management perspective. *International Journal of Information Management, 36*, 1042-1052. doi:10.1016/j.ijinfomgt.2016.06.009

Marshall, B., Cardon, P., Poddar, A., & Fontenot, R. (2013). Does sample size matter in qualitative research: A review of qualitative interviews in IS research. *Journal of Computer Information Systems, 54*(1), 11–22. Retrieved from http://www.iacis.org/jcis/jcis.php

Marshall, C., & Rossman, G. B. (2014). *Designing qualitative research* (6th ed.). Thousand Oaks, CA: Sage.

McCarthy, J. M., Trougakos, J. P., & Cheng, B. H. (2016). Are anxious workers less productive workers? It depends on the quality of social exchange. *Journal of Applied Psychology, 101*, 279–291. doi:10.1037/ap10000044

McCord, A., & Franetovic, M. (2014). Toward a model of organization development: Values-based orientation, collaborative engagement, and affordance-based adoption of digital professional productivity systems. *Organization Development Journal, 32*(4), 37–52. Retrieved from http://www.isodc.org/page-1740221

McDermid, F., Peters, K., Jackson, D., & Daly, J. (2014). Conducting qualitative research in the context of pre-existing peer and collegial relationships. *Nurse Researcher, 21*(5), 28–33. Retrieved from http://journals.rcni.com/journal/nr

McDonald, R. E., Weerawardena, J., Madhavaram, S., & Mort, G. S. (2015). From "virtuous" to "pragmatic" pursuit of social mission: A sustainability-based typology of nonprofit organizations and corresponding strategies. *Management Research Review, 38*, 970–991. doi:10.1108/MMR-11-2013-0262

McDougle, L. M. (2014). The accuracy of the core files for studying nonprofit location: How many nonprofit are there? *Nonprofit and Voluntary Sector Quarterly, 44*, 609–624. doi:10.1177/0899764015573873

McDougle, L. M., & Lam, M. (2014). Individual- and community-level determinants of public attitudes toward nonprofit organizations. *Nonprofit and Voluntary Sector Quarterly, 43*, 672–692. doi:10.1177/0899764013479830

Milano, C., Lawless, A., & Eades, E. (2015). Insider research as part of a master's

programme: Opportunities lost and found within action learning sets. *Action Learning: Research and Practice, 12,* 317-324. doi:10.1080/14767333.2015.1094618

Moqbel, M., Nevo, S., & Kock, N. (2013). Organizational members' use of social networking sites and job performance. *Information Technology & People, 26*, 240–264. doi:10.1108/ITT-10-2012-0110

Morgan, L., Paucar-Caceres, A., & Wright, G. (2014). Leading effective global virtual teams: The consequences of methods of communication. *Systemic Practice & Action Research, 27*, 607–624. doi:10.1007/s11213-014-9315-2

Morse, J. M. (2015). "Data were saturated…" *Qualitative Health Research, 25,* 587–588. doi:10.1177/1049732315576699

Morse, J. M., & Coulehan, J. (2015). Maintaining confidentiality in qualitative publications. *Qualitative Health Research*, *25*, 151–152. doi:10.1177/1049732314563489

Moustakas, C. (1994). *Phenomenological research methods.* Thousand Oaks, CA: Sage.

Myneni, S., Fujimoto, K., Cobb, N., & Cohen, T. (2015). Content-driven analysis of an online community for smoking cessation: Integration of qualitative techniques, automated text analysis, and affiliation networks. *American Journal of Public Health, 105,* 1206–1212. doi:10.2015/ajph.2014.302464

Nienaber, A. M., Romeike, P. D., Searle, R., & Schewe, G. (2015). A qualitative meta-analysis of trust in supervisor-subordinate relationships. *Journal of Managerial*

Psychology, *30*, 507–534. doi:10.1108/JMP-06-2013-0187

Nonprofit Finance Fund. (2015). *State of the nonprofit sector* [Survey]. Retrieved from http://survey.nonprofitfinancefund.org

Odena, O. (2013). Using software to tell a trustworthy, convincing and useful story. *International Journal of Social Research Methodology*, *16*, 355–372. doi:10.1080/13645579.2012.706019

Olson, J. D., Appunn, F. D., McAllister, C. A., Walters, K. K., & Grinnell, L. (2014). Webcams and virtual teams: An impact model. *Team Performance Management*, *20*, 148–177. doi:10.1108/TPM-05-2013-0013

Omilion-Hodges, L. M., & Baker, C. R. (2017). Communicating leader-member relationship quality: The development of leader communication exchange scales to measure relationship building and maintenance through the exchange of communication-based goods. *International Journal of Business Communication*, *54*, 115-145. doi:10.1177/2329488416687052

Onwuegbuzie, A. J., & Byers, V. T. (2014). An exemplar for combining the collection, analysis, and interpretation of verbal and nonverbal data in qualitative research. *International Journal of Education*, *6*(1), 183–246. doi:10.5296/ije.v6i1.4399

Onwuegbuzie, A. J., Dickinson, W. B., Leech, N. L., & Zoran, A. G. (2009). A qualitative framework for collecting and analyzing data in focus group research. *International Journal of Qualitative Methods*, *8*(3), 1-21. Retrieved from http://ijqm@ualberta.ca

Orhan, M. A. (2014). Extending the individual level of virtuality: Implications of task virtuality in virtual and traditional settings. *Administrative Sciences, 4*, 400–412. doi:10.3390/admsci4040400

Parker, L. (2014). Qualitative perspectives: Through a methodological lens. *Qualitative Research in Accounting and Management*, *11*(1), 13–28. doi:10.1108/QRAM-02-2014-0013

Patton, M. Q. (2002). *Qualitative research & evaluation methods* (3rd ed.). Thousand Oaks, CA: Sage.

Patton, M. Q. (2014). *Qualitative research & evaluation methods* (4th ed.). Thousand Oaks, CA: Sage.

Peredaryenko, M. S., & Krauss, S. E. (2013). Calibrating the human instrument: Understanding the interviewing experience of novice qualitative researchers. *Qualitative Report*, *18*(85), 1–17. Retrieved from http://www.nova.edu/ssss/QR/QR18/peredaryenko85

Petty, N. J., Thomson, O. P., & Stew, G. (2012). Ready for a paradigm shift? Part 2: Introducing qualitative research methodologies and methods. *Manual Therapy, 17*, 378-384. doi:10.1016/j.math.2012.03.004

Phelps, K. C. (2014). "So much technology, so little talent"? Skills for harnessing technology for leadership outcomes. *Journal of Leadership Studies*, *8*(2), 51–56. doi:10.1002/jls.21331

Phipps, S. A., Prieto, L. C., & Ndinguri, E. N. (2013). Understanding the impact of

employee involvement on organizational productivity: The moderating role of organizational commitment. *Journal of Organizational Culture, Communications, & Conflict, 17*(2), 107–120. Retrieved from http://www.alliedacademies.org/journal-of-organizational-culture-communications-and-conflict

Pierre, E. A. S., & Jackson, A. Y. (2014). Qualitative data analysis after coding. *Qualitative Inquiry*, *20*, 715–719. doi:10.1177/1077800414532435

Preston, J. P., Moffatt, L., Wiebe, S., McAuley, A., Campbell, B., & Gabriel, M. (2015). The use of technology in Prince Edward Island (Canada) high schools: Perceptions of school leaders. *Educational Management Administration & Leadership, 43*, 989–1005. doi:10.1177/1741143214535747

Quinn, A., & Fitch, D. (2014). A conceptual framework for contextualizing information technology competencies. *Journal of Technology in Human Services, 32*, 133–148. doi:10.1080/15228835.2013.860367

Rousseau, V., & Aube, C. (2014). The reward-performance relationship in work teams: The role of leader behaviors and team commitment. *Group Processes & Intergroup Relations, 17*, 645–662. doi:10.1177/1368430214529465

Salminen-Karlsson, M. (2014). Enabling virtual communities of practice: A case-study of Swedish-Indian collaboration in IT development. *Electronic Journal Information Systems Evaluation, 17*(1), 60–70. Retrieved from www.ejise.com

Savolainen, T. (2015). Trust-building in e-leadership: A case study of leaders' challenges

and skills in technology-mediated interaction. *Journal of Global Business Issues, 8*(2), 45–56. Retrieved from www.jgbi.org

Selden, S., Schimmoeller, L., & Thompson, R. (2013). The influence of high performance work systems on voluntary turnover of new hires in US state governments. *Personnel Review, 42*, 300–323. doi:10.1108/00483481311320426

Shamsuzzoha, A., Toscano, C., Carneiro, L. M., Kumar, V., & Helo, P. (2016). ICT-based solution approach for collaborative delivery of customised products. *Production Planning and Control, 27*, 280-298. doi:10.1080/09537287.2015.1123322

Singhal, T. K., Garg, B., & Saxena, D. (2014). Organizational productivity through emotional intelligence. *Pranjana: The Journal of Management Awareness, 17*(1), 47–55. Retrieved from http://www.indianjournals.com/ijor.aspx?target=ijor:pr&type=home

Sinuany-Stern, Z., & Sherman, H. D. (2014). Operations research in the public sector and nonprofit organizations. *Annals of Operations Research, 221*, 1–8. doi:10.1007/s10479-014-1695-2

Sollitto, M., Martin, M. M., Dusic, S., Gibbons, K. E., & Wagenhouser, A. (2016). Assessing the supervisor-subordinate relationship involving part-time employees. *International Journal of Business Communication, 53*, 74–96. doi:10.1177/2329488414525462

Sousa, D. (2014). Validation in qualitative research: General aspects and specificities of the descriptive phenomenological method. *Qualitative Research in Psychology, 11*, 211–227. doi:10.1080/14780887.2013.853855

Talanquer, V. (2014). Using qualitative analysis software to facilitate qualitative data analysis. *Tools of Chemistry Education Research, 1166*, 83-95. doi:10.1021/bk-2014-1166.ch005

Tashiro, H., Lau, A., Mori, J., Fujii, N., & Kajikawa, Y. (2012). E-mail networks and leadership performance. *Journal of the American Society for Information Science and Technology, 63*, 600-606. doi:10.1002/asi.21667

Teng, H. S. S. (2014). Qualitative productivity analysis: does a non-financial measurement model exist? *International Journal of Productivity and Performance Management, 63*, 250–256. doi:10.1108/IJPPM-03-2013-0034

Trees, L. (2015). Encouraging millennials to collaborate and learn on the job. *Strategic HR Review, 14*, 118–123. doi:10.1108/SHR-06-2015-0042

Tsai, H. T., & Pai, P. (2014). Why do newcomers participate in virtual communities? An integration of self-determination and relationship management theories. *Decision Support Systems, 57*, 178–187. doi:10.1016/j.dss.2013.09.001

Tse, H. H. M. (2014). Linking leader-member exchange differentiation to work team performance. *Leadership & Organization Development Journal, 35*, 710–724. doi:10.1108/LODJ-09-2012-0119

Tuesner, A. (2016). Insider research, validity issues, and the OHS professional: One

person's journey. *International Journal of Social Research Methodology, 19*, 85-96. doi:10.1080/13645579.2015.1019263

Tumele, S. (2015). Case Study research. *International Journal of Sales, Retailing and Marketing, 4*(9), 68–78. Retrieved from http://www.ijsrm.com/IJSRM/Home.html

U.S. Department of Health and Human Services, Office for Human Research Protections. (2015). *The Belmont Report* (DHEW Publication No.78-0013). Retrieved from http://www.hhs.gov/ohrp/regulations-and-policy/belmont-report

van Knippenberg, D., & Sitkin, S. B. (2013). A critical assessment of charismatic–transformational leadership research: Back to the drawing board? *Academy of Management Annals, 7*(1), 1–60. doi:10.1080/19416520.2013.759433

Van Wart, M., Roman, A., Wang, X. H., & Liu, C. (2016). Operationalizing the definition of e-leadership: Identifying the elements of e-leadership. *International Review of Administrative Sciences, 82*, 1-18. doi:10.1177/0020852316681446

Vatan, F., & Temel, A. B. (2016). A leadership development program through mentorship for clinical nurses in Turkey. *Nursing Economic$, 34*(5), 242-250. Retrieved from http://www.nursingeconomics.net/cgi-bin/WebObjects/NECJournal.woa

Vidyarthi, P. R., Erdogan, B., Anand, S., Liden, R. C., & Chaudhry, A. (2014). One member, two leaders: Extending leader-member exchange theory to a dual leadership context. *Journal of Applied Psychology, 99*, 468-483. doi:10.1037/a0035466

Vogelsang, J., Brazzel, M., Gordon, A., Mayers, A., Royal, C., & Viets, A. (2015). Introduction to OD and the nonprofit sector. *OD Practitioner, 47*(1), 3–7. Retrieved from http://www.odnetwork.org

Walsh, K. (2013). When I say … triangulation. *Medical Education, 47,* 866–866. doi:10.1111/medu.12241

Wilson, V. (2014). Research methods: Triangulation. *Evidence Based Library and Information Practice, 9*(1), 74–75. Retrieved from http://ejournals.library.ualberta.ca/index.php/EBLIP

Whiting, L. S. (2008). Semi-structured interviews: Guidance for novice researchers. *Nursing Standard, 22*(23), 35–40. Retrieved from hhtp://www.nursing-standard.co/uk

Wright, S. L. (2015). Examining the impact of collaborative technology skills training on virtual team collaboration effectiveness. *Journal of Applied Learning Technology, 5*(4), 6–13. Retrieved from http://salt.org/salt.asp?ss=l&pn=jalt

Ye, J., & King, J. (2016). Managing the downside effect of a productivity orientation. *Journal of Services Marketing, 30,* 238-254. doi:10.1108/JSM-10-2014-0351

Yin, R. K. (2013). *Case study research*: *Design and methods* (5th ed.). Thousand Oaks, CA: Sage.

Zakrison, T. L., Cabezas, P., Valle, E., Kornfeld, J., Muntaner, C., & Soklaridis, S.

(2015). The perceived consequences of gold mining in postwar El Salvador: A qualitative study. *American Journal of Public Health, 105,* 2382–2387. Retrieved from http://ajph.aphapublications.org

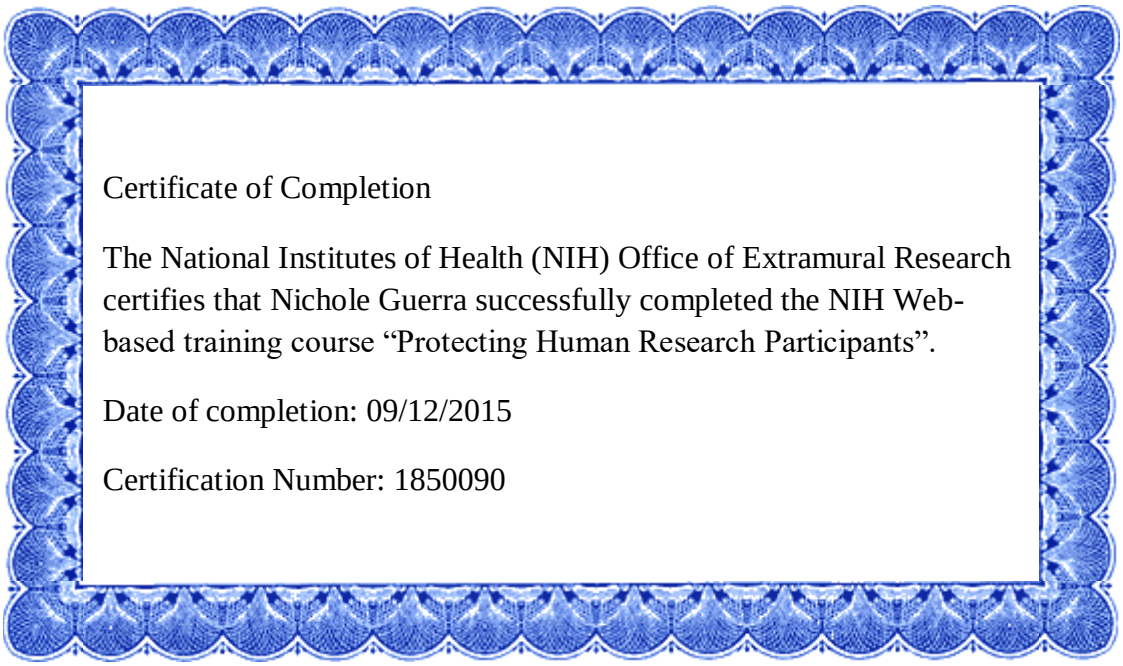
Zhang, Y., Liao, J., Yan, Y., & Guo, Y. (2014). Newcomers' future work selves, perceived supervisor support, and proactive socialization in Chinese organizations. *Social Behavior and Personality, 42,* 1457–1472. doi:10.2224/sbp.2014.42.9.1457

Zhu, W. J., & Cheung, M. (2014). Multiple relationship-management roles among communicators in not-for-profit organizations. *Human Service Organizations: Management, Leadership & Governance, 38,* 423–434. doi:10.1080/23303131.2014.943918

Ziek, P., & Smulowitz, S. (2014). The impact of emergent virtual leadership competencies on team effectiveness. *Leadership & Organization Development Journal, 35,* 106–120. doi:10.1108/LODJ-03-2012-0043

Zilber, T. B. (2014). Beyond a single organization: Challenges and opportunities in doing field level ethnography. *Journal of Organizational Ethnography, 3,* 96–113. doi:10.1108/JOE-11-2012-0043

Appendix A: NIH Certificate



Certificate of Completion

The National Institutes of Health (NIH) Office of Extramural Research certifies that Nichole Guerra successfully completed the NIH Web-based training course “Protecting Human Research Participants”.

Date of completion: 09/12/2015

Certification Number: 1850090

Appendix B: Site Agreement

February 10, 2017

The doctoral student, Nichole Guerra, is conducting a case study involving our organization and is therefore approved to collect interview data from leaders (which I will identify to the student) in support of that effort, in addition to analyzing internal, de-identified site records* that I deem appropriate to release for this purpose.

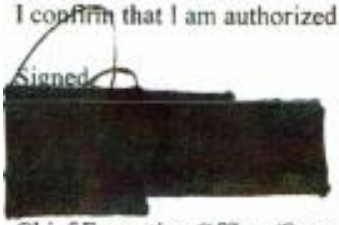
**At the discretion of site leadership, the student may analyze the partner organization's de-identified records, including: aggregate personnel/client records that have been de-identified before being provided to the doctoral student, other de-identified operational records, meeting minutes, digital/audio/video recordings created by the organization, training materials, protocols, manuals, reports, agreements, questionnaires that were collected under auspices of site as part of continuous improvement efforts, and other internal documents.*

I understand that, as per the student doctoral program requirements, the student will publish a scholarly report of this case study project in Proquest as a doctoral capstone (with site and individual identifiers withheld), as per the following ethical standards:

a. In all reports (including drafts shared with peers and faculty members), the student is required to maintain confidentiality by removing names and key pieces of evidence/data that might disclose an organization's/individual's identity or inappropriately divulge proprietary details. If the organization itself wishes to publicize the findings of this project, that is the organization's judgment call.
b. The student will be responsible for complying with our organization's policies and requirements regarding data collection (including the need for the site's internal ethics/regulatory approval, if applicable).
c. Via an Interview Consent Form, the student will describe to interviewees how the data will be used in the doctoral project and how all interviewee's privacy will be protected.
d. The doctoral student will not use these data for any purpose other than the project outlined in this agreement.

I confirm that I am authorized to approve research activities in this setting.

Signed



Chief Executive Officer/Executive Director

Appendix C: Interview Protocol

Interview Protocol	
What the researcher will do	**What the researcher will say—script**
Introduce the interview and set the stage	Script: Hello, my name is Nichole Guerra and I am a doctoral student at Walden University. I am conducting my doctoral study about leadership strategies used by midlevel supervisors to increase productivity among virtual teams containing new employees, which I will present in partial fulfillment of the requirements to complete my Doctor of Business Administration degree. I appreciate your participation in this study. Before we begin, I would like your permission to digitally record this interview in order to transcribe our conversation. Please let me know if you would like me to stop recording at any time during this interview. (At this time, I will begin recording and briefly repeat the request so that permission to record is recorded). All of your responses remain confidential. I will use your responses from today's interview to develop a better understanding of leadership strategies you use to increased virtual team productivity. Again, the purpose of this study is to learn about leadership strategies used by midlevel supervisors to increase productivity among virtual teams containing new employees. At this time, I would like to remind you of your written consent to participate in this study. I am the primary investigator, inviting you to participate in the doctoral study research project: E-leadership and leader-member exchange strategies for increasing nonprofit virtual team productivity. You and I have both

	signed and dated the written consent and I have provided you with a copy for your records. I will keep the other copy in a locked filing cabinet while I complete the study. Afterwards, a copy of the consent form will be secured in a locked box for 5 years, at which time I will destroy the consent form and all data. You understand that your participation in this interview is voluntary and that you may withdraw from the study at any time. Once we begin the interview, please feel free to stop me if you need to take a break or terminate the interview. Do you have any questions or concerns before we get started? With your permission, we will begin the interview now.
• Watch for non-verbal queues take notes accordingly for clarification during interview transcriptions • Paraphrase as needed • Ask follow-up probing questions to clarify or perform more in-depth exploration of the question	1. What leadership strategies have you used to increase virtual team productivity with new employees? 2. How did new team members respond to the strategies that you used for increasing work productivity? 3. How do you assess the effectiveness of your leadership strategies related to virtual team productivity? 4. How did you overcome productivity challenges that you experienced with new employees on your team? 5. How, if at all, do your leadership strategies for increasing work productivity differ between established employees and new employees on your team? 6. How do you integrate new employees with other members of your virtual team? 7. What additional information would you like to share regarding virtual team productivity strategies among new employees?

Wrap up interview thanking participant	Script: This concludes our interview for today. Thank you for taking time out of your day to participate. I would like to schedule a follow-up interview. But, before we do so, do you have any questions of me? If you have nothing else to share at this moment, then I will turn off the audio recorder.
Schedule follow-up member checking interview	Script: Now, I would like to schedule a follow up interview to verify that my interpretations of today's interview accurately reflect your perceptions. What date/time/location works for you within the next two weeks? (Agree on a specific date/time/location). Thank you. I will send you a confirmation e-mail regarding our appointment.
Introduce follow-up interview and set the stage	Script: Hello again, my name is Nichole Guerra and I am a doctoral student at Walden University. Just as a reminder, I am conducting my doctoral study about leadership strategies used by midlevel supervisors to increase productivity among virtual teams containing new employees, which I will present in partial fulfillment of the requirements to complete my Doctor of Business Administration degree. I appreciate your participation in this study. Before we begin, I would like your permission to digitally record this interview in order to transcribe our conversation. Please let me know if you would like me to stop recording at any time during this interview. (At this time, I will begin recording and briefly repeat the request so that permission to record is recorded). All of

	your responses will remain confidential. You understand that your participation in this interview is voluntary and that you may withdraw from the study at any time. Once we begin the interview, please feel free to stop me if you need to take a break or terminate the interview. Do you have any questions or concerns before we get started? With your permission, we will begin the interview now.
Share a copy of the succinct synthesis for each individual question	Script: Here is a copy of the synthesis that I wrote based on your responses from our last interview. I would like to review each question and corresponding synthesis one by one, and determine whether the synthesis whether the synthesis accurately reflects your answer or if additional information is needed. This process is called member checking. With your permission, we will begin.
Read each question and corresponding interpretation with the participant and ask: • What, if anything, did I miss? • What, if anything, would you like to add? Ask relevant probing questions based on information found throughout the study in accordance with IRB approval.	1. How did new team members respond to the strategies that you used for increasing work productivity? – provide synthesis of interpretation, preferably within one paragraph or as needed. 2. How do you assess the effectiveness of your leadership strategies related to virtual team productivity? – provide synthesis of interpretation, preferably within one paragraph or as needed. 3. How did you overcome productivity challenges that you experienced with new employees on your team? – provide synthesis of interpretation, preferably within one paragraph or as needed.

4. How, if at all, do your leadership strategies for increasing work productivity differ between established employees and new employees on your team? – provide synthesis of interpretation, preferably within one paragraph or as needed.
5. How do you integrate new employees with other members of your virtual team? – provide synthesis of interpretation, preferably within one paragraph or as needed.
6. What leadership strategies have you used to increase virtual team productivity with new employees? – provide synthesis of interpretation, preferably within one paragraph or as needed.