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Relationship Between Transformational Leadership, Employee Satisfaction and Job Performance of Virtual Workers

Alice Miller
Walden University

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Walden University

College of Social and Behavioral Sciences

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Alice Miller

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Walden University
2020

Abstract

Relationship Between Transformational Leadership, Employee Satisfaction
and Job Performance of Virtual Workers

by

Alice Miller

MS, Indiana University, 2003

BS, Indiana University, 2000

Dissertation Submitted in Partial Fulfillment

of the Requirements for the Degree of

Doctor of Philosophy

Psychology

Walden University

November 2020

Abstract

The effects of leaders on virtual employees job satisfaction and job performance is essential to virtual team success. As virtual workplaces continue to evolve, there is a need to focus research on how leaders affect virtual employees. Previous research has indicated that understanding the relationship between perceived leadership and job satisfaction is crucial as it helps create a motivated and effective workforce. However there remains an essential gap in current literature regarding leadership effectiveness on job satisfaction and job performance of virtual workers. The population group for this study consisted of 70 randomly selected virtual employees. Participants of the study answered questions from 3 different surveys. Linear regressions and mediation analyses were conducted to determine if a statistical relationship existed among the variables. The results of the regression with transformational leadership predicting job performance was significant, $F(1, 68) = 5.50, p = .022, R^2 = .075$ and transformational leadership predicting job satisfaction (mediator) was also significant, $F(1, 68) = 3.99, p = .005, R^2 = .055$. Multiple linear regression was conducted with transformational leadership and job satisfaction (mediator) predicting job performance, results of the regression was significant, $F(2, 67) = 13.56, p < .001, R^2 = .288$. Results from this study indicated that job satisfaction was a significant mediator for the relationship between transformational leadership and job performance. Finding from this study would be an important contribution to the existing literature and enhance social change inventiveness by providing information that could be essential to virtual organization leaders, virtual employees, organization success, and impact society as a whole.

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Dedication

I first want to give thanks to my Lord and Savior Jesus Christ. I know that without prayer, strength, His mercy, and grace this accomplishment would not have been possible. Next, I would like to express my overwhelming, heart filled love and thanks to my children, Tamara, Takeya, David and Da'von, who have been my biggest cheerleaders through it all. I love you all and I am blessed to have you all in my life. I give much love and gratitude to my mother, Dortha, for without you, I would not be.

I also want to give much thanks to my siblings for your support and love. My sister Francine, who is no longer with us, to celebrate this accomplishment with me; I love you. My two brothers in heaven, Charles and Carl, your memories have always pushed me to do better, so I know you've been with me through this journey because you both were always my rock.

I want to thank all my grandchildren, nieces and nephews; love you all and thank you for all your love and support. To my lifelong friends who have supported me, mentored me, and pushed me when I just wanted to give up; thank you for your support. To my new Walden friends, who began this journey with me and walked with me as we continued to encourage one another that we could do this. I am forever grateful for all your support.

Last, but not least, I want to thank the man in my life, Michael, for being there for me no matter what. For understanding the late nights, for the encouragement, for the push, and for your forever dedication to my beliefs and dreams; love you dearly.

. "It does not matter how slowly you go as long as you do not stop."
— Confucius

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“You can only become truly accomplished at something you love. Don't make money your goal. Instead pursue the things you love doing and then do them so well that people can't take their eyes off of you.”

Maya Angelou.

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Chapter 1: Introduction to the Study

Introduction

The workplace is no longer just a building with offices; going to the office to work has changed. The virtual workplace, in which employees operate remotely from each other and managers, is real and all indications show that it will become more prevalent in the future. A recent survey suggests that approximately 66% of multinational organizations use virtual teams and 80% of companies surveyed believe this number will continue to grow (Gilson, Maynard, Young, Vartiainen, & Hakonen, 2014). Likewise, research conducted by Forrester Research (2011) indicated that working virtually is not new, but the growth is rapid. The research estimates that by the year 2016, 63 million Americans will be working virtually, up from 2010s 34 million (Moore, Rhodes, & Stanley, 2011).

As virtual workplaces continue to evolve, there is a need to focus research on how leaders can be more effective in managing employees that they cannot see or interact with face-to-face. Research has shown that there are virtual teams that are highly self-organized; however, researchers consent that managerial guidance would assist virtual teams in improving their performance (Hertela, Geisterb, & Konradt, 2005). Wakefield, Leidner, and Garrison (2008) found that there is a limited amount of research that examined the virtual team leader even though the importance of virtual team leaders has been acknowledged. Researchers have studied leaders' impact on the behavior of virtual teams and the nature of leadership in this environment to help with understanding virtual

leadership; however, this research is minimal compared to the amount of research on virtual teams as a whole (Schmidt, 2014).

In this study, I sought to examine leadership effectiveness as it relates to job satisfaction and job performance of employees working virtually. As companies move from employees working in the traditional workplace to working from remote locations or home, researchers have begun to look at the effectiveness of leaders who supervised employees (followers) that they cannot see (DeRosa 2009). As organizations continue to expand the use of virtual teams, team leadership will play an increasing role in driving the effectiveness of these teams (DeRosa, 2009).

The importance of leadership to the success of organizations has been identified in many settings; however, there is a gap in the literature as it pertains to leadership effectiveness when leading virtual teams. Anantatmula and Thomas (2010) found that serious gaps exist in research on the development of future virtual team leaders regarding leadership strategies when dealing with cultural and geographical differences. I conducted this study to assist in narrowing the gap by adding information about the role of leaders when individuals work virtually that could be essential to positive social change and the future of virtual work team leaders and employees.

This chapter consists of the introduction and background of the study. Secondly, it provides information about the problem statement, the purpose of the study, the significance of the study, as well as the nature of the study. Additional information provided includes the questions and hypotheses that guided this research. Last, the

chapter presents the nature of the study, the theoretical framework, and the study's assumptions, limits, and delimitations followed by the chapter's summary.

Background of the Study

The place where employees go to work has changed. Employees now find themselves working from home, in coffee shops, or someplace other than the main office; these individuals are referred to as virtual employees. Virtual employees, who may also be referred to as teleworkers, are individuals that work in places other than the traditional office (Bartel, Wrzesniewski, & Wiesenfeld, 2012). The most revolutionary change in the daily experience of work is the range of original work arrangements used in organizations today. Whether termed virtual work, remote work, telecommuting, telework, or distributed work, a key feature of these alternative work modes is their departure from employees working in a central office alongside coworkers and in view of supervisors (Bartel et al., 2012; Allen, Golden, & Shockley, 2015).

The virtual workplace has given organizations the ability to work globally using employees across space and time to meet organization needs. Today's global workplace demands collaboration beyond the office walls. It is believed that companies no longer just need to think outside the box; American businesses need a new slogan: think outside the office (Meyers, 2011). Virtual teaming is no longer a nice-to-have, but a necessity for organizations to thrive across space and time boundaries (Ubell 2010). Likewise, research by DeRosa (2009) found that virtual teams have become an important element of organizations' ability to achieve their business objectives. Further, the development of

new technologies has contributed to the rise of virtual work teams offering businesses greater flexibility in coping with new market challenges (Guinaliu & Jordon, 2016).

As employees move from going to the traditional brick and mortar building to performing their work from home or remote locations, research has shown that these employees face certain challenges. These challenges include the lack of trust amongst team members and feelings of isolation which could result in a lack of job satisfaction and employee job performance (Nydegger & Nydegger, 2010). The reduced trust could interfere with work performance, increase turnover, resulting in lower support of management, and an employee's ability to adapt to the virtual work environment (Nydegger & Nydegger, 2010).

Leaders also face challenges such as trying to manage employees they cannot see and the ability to trust that these employees are completing the assigned task; these challenges can be different than leaders in face-to-face environments which is a concern when leading virtual teams. The lack of physical interactions is one of the main challenges when managing virtual teams than traditional teams (Nydegger & Nydegger, 2010). Researchers have examined the challenges of virtual work on both employees and managers, the differences in managing virtual teams versus face-to-face teams, and the role of technology in the virtual workplace; however, there is limited research on the effects of leadership on virtual employees as it relates to job satisfaction and performance of virtual workers (Nydegger & Nydegger, 2010). Although much research has been conducted regarding the role of leadership for traditional teams and organizations,

relatively little research has examined the effect of leadership on virtual teams (Tyran & Tyran 2008).

Studies related to leadership in the virtual workplace have found that leadership is an essential tool when employees work virtually. Research indicates that one of the most critical challenges facing organizations is developing leaders with the requisite skills to succeed in this global and complex work environment (Dennis, Meola, & Hall, 2013).

In this present study, my focus was on leadership, specifically transformational leadership, and its effect on individuals' job satisfaction and job performance when working virtually, an area in which more research is needed.

Problem Statement

The research on the effectiveness of leaders when leading employees and teams who are working virtually is limited. There is limited research that has been directed toward virtual team leadership (Kirkman, Gibson, & Kim, 2012). Past research has focused on technology and its role in the increase of the virtual work environment, as well as the challenges facing virtual team workers such as lack of trust, feeling of isolation, ways to enhance the success of these teams, and the advantages and disadvantages of virtual teams. However, relatively limited attention has been directed toward virtual team leadership, the role of leaders in the virtual team setting, or skills needed to lead teams that are geographic dispersion (Hoch & Kozlowski, 2014; Malhotra, Majchzak, & Rosen, 2007; Mukherjee, Lahri, Mukherjee, & Billing, 2012). One key reason virtual work has remained unsatisfactory is that the leadership aspect of this work has been underestimated, if not completely forgotten (Caulat & Pedler, 2012). Through

their research, Ziek and Smulowitz (2014) emphasized that previous work describes at length the functions of virtual team leadership and the importance of developing proficiency in certain skills; however, there are still gaps regarding which leadership competencies relate to virtual team effectiveness.

As organizations transition to partial or fully virtual environments, it is important to find the best way leaders can effectively manage and assist employees when face-to-face interaction is no longer an option. Identifying the role of the leader will be vital to virtual workplace success. I sought to narrow the research gap related to leadership styles and characteristics required to effectively lead when working virtually. I further sought to provide information that current and future leaders can use to gain a better understanding of how their role overall affects the job performance and job satisfaction of virtual employees. Understanding the desired effective leadership characteristics of virtual team leaders can help future leaders understand what techniques and managerial styles are most effective when leading virtual teams (Anantatmula & Thomas, 2010).

Purpose of the Study

This quantitative study's purpose was to examine the effectiveness of leadership (specifically transformational leadership style) on job performance and job satisfaction when employees work virtually. Over the last few decades, there has been an increase in organizations moving to employees working at home or a location outside of the main facility. A telework study conducted by WorldatWork in 2011 found that 45% of the U.S. workforce holds a job that is compatible with at least part-time telework. The research also found that among companies, traditional telecommuting grew by 61% between 2005

and 2009, and the same research by WorldatWork (2011) predicted that due to the current trend, with no growth acceleration, regular telecommuters will total 4.9 million by 2016, which accounts for a 69% increase from the current level (Moore et al., 2011).

Leaders' ability to manage employees working virtually is seen as one of the biggest challenges as they find it difficult to manage employees they cannot see (Moore et al., 2011). Leaders must trust that employees are performing the required work to meet the goals of the organization. Barriers include management's fear of trusting employees and ensuring that employees are conducting the work needed to meet the organization's goals (Moore et al., 2011). As leaders find it difficult to manage individuals they cannot see, employees who work virtually also find themselves facing challenges such as feelings of isolation, lack of face-to-face contact with coworkers, and lack of job satisfaction (Moore et al., 2011). I sought to add to the literature and assist in providing information that could be beneficial to leaders whose roles are to influence employees' job performance and job satisfaction when working virtually, as they seek to collaborate across time, space, and boundaries to meet organizational goals.

Research Questions and Hypotheses

The nature of this quantitative study was to examine the relationship between leadership, specifically transformational leadership style (independent variable), and its effects on individuals who work virtually regarding job performance and job satisfaction (dependent variables).

RQ1: To what extent does job satisfaction mediate the relationship between transformational leadership and job performance of virtual workers?

*H*₀1: Job satisfaction does not significantly mediate the relationship between transformational leadership and job performance.

*H*₁1: Job satisfaction significantly mediates the relationship between transformational leadership and job performance.

RQ2: To what extent does job satisfaction mediate the relationship between idealized influence (attributes) and job performance of virtual workers?

*H*₀2: Job satisfaction does not significantly mediate the relationship between idealized influence (attributes) and job performance.

*H*₁2: Job satisfaction significantly mediates the relationship between idealized influence (attributes) and job performance.

RQ3: To what extent does job satisfaction mediate the relationship between idealized influence (behaviors) and job performance of virtual workers?

*H*₀3: Job satisfaction does not significantly mediate the relationship between idealized influence (behaviors) and job performance.

*H*₁3: Job satisfaction significantly mediates the relationship between idealized influence (behaviors) and job performance.

RQ4: To what extent does job satisfaction mediate the relationship between inspirational motivation and job performance of virtual workers?

*H*₀4: Job satisfaction does not significantly mediate the relationship between inspirational motivation and job performance.

*H*₁4: Job satisfaction significantly mediates the relationship between inspirational motivation and job performance.

RQ5: To what extent does job satisfaction mediate the relationship between intellectual stimulation and job performance of virtual workers?

H₀₅: Job satisfaction does not significantly mediate the relationship between intellectual stimulation and job performance.

H₁₅: Job satisfaction significantly mediates the relationship between intellectual stimulation and job performance.

RQ6: To what extent does job satisfaction mediate the relationship between individualized consideration and job performance of virtual workers?

H₀₆: Job satisfaction does not significantly mediate the relationship between individualized consideration and job performance.

H₁₆: Job satisfaction significantly mediates the relationship between individualized consideration and job performance.

A mediation analysis was conducted to assess each research question. The notion of mediation concerns the extent to which the effect of one variable on another is mediated by some possible intermediate variable (VanderWeele & Vansteelandt, 2009). The following continuous-level mediating, individual variables were assessed by the Multifactor Leadership Questionnaire (MLQ):

- Transformational leadership (RQ1).
- Idealized influence (attributes; RQ2).
- Idealized influence (behaviors; RQ3).
- Inspirational motivation (RQ4).
- Intellectual stimulation (RQ5).

- Individualized consideration (RQ6).

For each RQ, job satisfaction was the continuous-level mediating variable of the analysis, measured by the Job Satisfaction Survey (JSS) and job performance was the continuous-level dependent variable of the analysis, measured by the Role-Based Performance Scale (RBSP).

Theoretical Framework

Transformational leadership was the theoretical framework of this study. The theoretical framework supports the thought process in regards to how the researcher understands and plans to research their topic (Grant & Osanloo, 2015). The term transformation leadership was first used by James MacGregor Burns in 1978 (Allen, Moore, Moser, Neill, Sambamoorthi, & Bell, 2016). Burns uses the term to describe how leaders and followers helped one another advance to higher levels of moral and motivation (Allen et al., 2016). Researcher Bernard M. Bass extended Burns's ideas and changed it to what is now referred to as Bass's Transformational Leadership Theory (Choi, Goh, Adam, & Tan, 2016). Bass defined transformation leadership based on its impact on followers suggesting transformational leaders bring about trust, respect, and admiration from those that follow them (Chio et al., 2016).

Bass described four different components of transformational leadership (1) Intellectual stimulation: transformational leaders not only challenge the status quo; they also encourage creativity amongst those that follow them. They also encourage followers to explore new ways of doing things and new opportunities to learn; (2) Individualized consideration: involves transformational leaders offering support and encouragement to

foster supportive relationships. Transformational leaders keep open lines of communication making it easy for followers to feel free to share ideas allowing leaders to offer direct recognition of the unique contributions of each follower; (3) Inspirational motivation: transformational leaders are able to articulate their clear vision to followers and help followers experience the same passion and motivation to fulfill goals; and (4) Idealized influence: transformational leader serve as a role model, because followers trust and respect the leader, they imitate this individual and take on his or her ideals. (Bass & Riggio, 2008).

Transformational leadership theory was chosen as the theoretical framework for this research based on previous research that found that groups led by transformational leaders have higher levels of performance and satisfaction than groups led by other types of leaders (Bass & Riggio, 2008). Transformational leadership theory has been applied to job satisfaction and job performance of face-to-face employees and work teams; however, there is limited research that applies to transformational leadership theory's relationship to job satisfaction and job performance when working virtually (Caillier, 2014;Tiri, Ogollah, & Mburu, 2015).

One of the first empirical studies of groups working virtually was conducted by Sosik and Megerian (1999). The researchers' focus was on transformational leaders and its influence on the group's performance. The researchers found that groups working virtually with high transformational leaders were more productive, had more questions, originality, and clarity as it pertained to problem solving. Further results showed that the

groups working virtually under high transformational leadership seem to report greater levels of performance, put in more effort, and approved of leadership.

More recent research has also identified and documented the positive association between Transformational leadership and follower attitude, behaviors, and performance.

Breevaart, Bakker, Hetland, Demerouti, Olsen, and Espevik (2014) conducted a study to examine the daily influence of transformational leadership, contingent reward, and active management-by-exception on followers' daily work engagement. The study required that 61 naval cadets complete a daily questionnaire for a total of 34 days. The researchers used multilevel regression analyses which results showed that after controlling the followers' work engagement on the previous day, followers were more engaged on days that their leader showed more transformational leadership and provided contingent reward. The researchers found that their prediction that transformational leader and contingent reward contributed to a more favorable work environment (more autonomy and support) was supported. Active management-by-exception resulted in a less favorable work environment (less autonomy).

Paracha, Omar, Mirza, Hassan, and Waqas (2012) conducted a study to determine if the leader's style (transformational or transactional leadership) had an impact on employee performance and if job satisfaction had a mediating effect or not. The sample group for this study consisted of employees of a private school. The research distributed 250 questionnaires and received 124 (49%) back. The result of this study showed that both transformational and transactional leadership styles were positively

correlated with employees' performance; however, transactional leadership style showed a higher correlation.

The study also showed that job satisfaction did not create a role of mediating variables between transactional leadership and employee performance; that is job satisfaction is not a cause of performance if transitional leadership is adopted (Paracha et al., 2012). However, job satisfaction does play a role of mediating variable between transformational leadership and employee performance; thus, job satisfaction is a cause of employees' performance if Transformational leadership is adopted (Paracha et al., 2012). It should be noted that some researchers have found that the mediating path that links leadership style to performance has not yet been fully examined in transformational leadership (Li & Hung, 2009).

Research has also been conducted on the Transformational leadership theory as it relates to leadership effectiveness. Most researchers have found that Transformational leadership is highly related to leadership effectiveness, followers' job satisfaction, motivation, and organization performance. Yang (2009) conducted a study to examine the effect of transformational leadership on employee intrinsic and extrinsic job satisfaction. Yang (2009) believed that transformational leadership would have a positive influence on job satisfaction. The study was conducted with a sample group of sales managers and employees of four large life insurance firms, which included 234 female and 135 male sales employees and 42 female and 135 male managers. Findings from this study showed that transformational leadership had a significant influence on interaction behaviors and employee's job satisfaction.

Nature of the Study

The nature of this quantitative study was to use an electronic survey to examine the relationship between leadership, specifically transformational leadership style (independent variable), and its effects on individuals who work virtually job performance and job satisfaction (dependent variables). Quantitative research is a means for testing objective theories by examining the relationship among variables (Creswell, 2009). These variables, in turn, can be measured, typically on instruments, so that numbered data can be analyzed using statistical procedures (Creswell, 2009). Quantitative approaches to research help in providing large representative samples of communities, as well as reliable assert cause-and-effect relationships among constructs and confirm or disconfirm theoretical hypotheses (Fassinger & Morrow, 2013). Quantitative studies further provide concise data in ways that are clear and persuasive to leaders and policy makers (Fassinger & Morrow, 2013).

In a study conducted by Cokley and Awad (2013), the researchers identified quantitative research methods as designs that are correlational, quasi-experimental, and experimental. The researchers found that correlational designs include utilizing surveys, classification and data reduction techniques, and the assessment of relationships amongst variables. Research by Creswell (2009) noted that the survey design method allows the researcher a quantitative or numeric description of the trends, attitudes, and opinions inherent in his or her study.

Definition of Terms

Various terms have been used throughout this study. To assist with understanding the meaning of these terms, definitions follow:

Face-to-Face: Team members who work in close physical proximity and communicate primarily face-to-face (Souza & Calarelli, 2010).

Job Performance: Job performance is used to refer to the individual's ability to be creative, innovative, inspiring, and take on a challenging task to achieve organizational goals for the greater good (Walumbwa & Hartnell, 2011).

Job Satisfaction: A combination of positive or negative feelings that workers have towards their work (Aziri, 2011). An attitudinal variable that reflects how people feel about their job overall, as well as various aspect of the jobs (Spector, 2012)

Leadership: The process whereby one individual influences others toward the attainment of defined group or organizational goals (Greenberg, 2011).

Telework (also known as telecommuting): The use of distance communication technologies to participate in the workforce (McNaughton, Rackensperger, Dorn, & Wilson, 2014).

Traditional Workplace: Centralized offices or places where teams work in close proximity (Ouye, 2011).

Transformational Leader: A mechanism that moves leadership to the next level while inspiring followers to share their visions and goals and to be innovative problem solvers while at the same time developing them into leaders (Northouse, 2010).

Virtual Teams: When the members of a virtual group interact with each other to accomplish common goals (Ebrahim, 2015).

Virtual Workplace: Where members work geographically dispersed, but must collaborate with one another to get work done with minimal face-to-face interaction (DeRosa, 2009; Malhotra et al., 2007).

Assumptions

The initial assumption was that participants of this study would provide open and honest answers based on the anonymous nature of data collection and the fact that participation was voluntary. The second assumption was that the variety of data collected from the participants would provide enough data to achieve the desired outcomes. The final assumption was that participants would meet the criteria described in this research as it relates to the participation pool and that only individuals meeting that criteria would complete the electronic surveys.

Scope

The scope of this quantitative study was to use an electronic survey to collect data to examine the effect of leaders (with a focus on transformational leadership) as it relates to job performance and job satisfaction of individuals who work in the virtual workplace. The Multifactor Leadership Questionnaire (MLQ) is an instrument used to measure leadership styles including transformational leadership (Muenjohn and Armstrong, 2008). The instrument provides individuals with the opportunity to look at how they see themselves as leaders and measure those specific leadership behaviors. According to Muenjohn and Armstrong (2008), the MLQ is the most widely used instrument to assess

transformational leadership theory and is considered the best-validated measure of transformational and transactional leadership.

Spector developed the JSS to measure job satisfaction in public, human services, and private organizations. The JSS is a scale that assesses eight popular facets of job satisfaction. The norms are based on job satisfaction scores of 36,380 employees from 100 organizations throughout the United States (Spector, 2012).

The Role Based Performance Scale (RBPS) was developed by Welbourne. It was developed through a large research project that focused on the determinants of long-term firm performance (Welbourne, 2007). The study was based on theories and prior work on what employers need from employees and employer rewards. The model was validated with results obtained from numerous within firm studies. The core ideas behind use of the model was that firms win in the market when they develop human resources in a way that is not easily replicated by their competition (Welbourne, 2007).

Limitations

In this study, I examined the effects of leadership (transformational) as it relates to employees' job satisfaction and job performance when working virtually. There were several limitations that need to be considered as it pertains to this quantitative study. One limitation was that the participation pool consisted only of individuals and leaders who work virtually. I defined the virtual workplace using the definition used by DeRosa (2009), teams in which team members work is geographically dispersed, (at least one-third of the team members work in different locations) but must collaborate with one another to get work done, and part of the definition provided by Malhotra et al. (2007)

with minimal face-to-face interaction; thus, the results found in this study may not expand to other agencies that employ virtual employees depending on the organizations structure.

Another limitation was related to the study of leadership. For many years quantitative research methods and the use of questionnaires has been associated with leadership research; however, researchers have begun to criticize and find limitations as it pertains to using only quantitative data (Boje, Pullen, Rhodes & Rosile, 2011). Some suggested limitations of quantitative research include adopting defective definitions of measurement, thinking that measurement is simply the assignment of numbers to objects and events based on specific rules and that statistical analysis may not always allow for meaningful theoretical interpretations due to the vagueness of information encoded in variable and because of intrinsic limitations of statistical procedures (Boje et al., 2011; Gelo, Braakman, & Benetaka, 2008). Limitations related to quantitative research are also said to exist due to ontology and epistemology of variables having been a fundamental issue which has often been ignored by quantitative research (Gelo et al., 2008).

Additionally, there have been limitations associated with quantitative research related to data collection. Researchers may find challenges in conducting quantitative research with gaining access to marginalized populations and getting a sufficient number of the population to participate (Cokley & Awad, 2013). Quantitative research relies heavily on the researcher's ability to generalize from an adequate sample (randomly select a sample to minimize or eliminate bias), making sampling methods and data collection very important; however, random selection is sometimes difficult to achieve (Cokley &

Awad, 2013). Limitations may have existed due to data collections consisting of completion of electronic survey tools and the fact that participants may or may not answer questions truthfully.

Significance of the Study

The significance of this current quantitative study was its focus on leadership and the virtual workplace, specifically Transformational leaders' effect on virtual employees' job performance and job satisfaction when working from home or a location other than their team members and leaders. It is believed that in traditional teams involving face-to-face interaction, leadership has a strong influence on team performance and individual team member' satisfaction (Hambley, O'Neill, & Kline, 2007). This could indicate that leadership in the virtual workplace has the same influence and is essential to the success of virtual teams. Because leadership is important in traditional work teams, it is reasonable to expect that leadership is also an important factor for virtual work teams.

Additionally, Hambley et al., (2007) indicated that virtual team leadership is considered highly important to virtual team performance. No matter what type of work environment, employees perceived leadership as a critical factor in geographically distributed team success (Hambley et al., 2007).

Significance of Social Change

The popularity of virtual teams has resulted in growth of virtual teams over the last decades. From 2005 to 2012 telecommuting grew by approximately 80% and, in a recent survey of 5,000 information workers, 66% worked remotely (DuFrene & Lehman, 2017). As virtual teams continue to grow, there is a need to identify and understand the

best traits and skills leaders need to effectively manage teams across space and time.

Gilson et al. (2014) identified leadership as the most pressing themes in research on virtual teams and noted that gaps exist in the understanding of leadership effectiveness in virtual teams.

This current research could contribute to positive social change for organizations that have transitioned to or may be planning to transition to virtual workplaces in the future by providing information that can help in understanding what traits and skill are most effective when leading virtual teams and how effective leadership can assist in increasing productivity and satisfaction of virtual employees. Because the number of virtual teams is growing rapidly, understanding the relationship between leadership styles and successful virtual teams may have a real and significant social impact (Meyer, 2011). Furthermore, organizations may be successful in identifying the needed traits to support leaders of virtual workplaces in producing more successful employees and work teams.

Leaders with the appropriate leadership styles that fit the structure of virtual teams will offer the best outcome for his or her teams. Implementation of the right style of leadership with their virtual teams will result in teamwork and trust being formed more rapidly amongst the members of the team (Anantamula & Thomas, 2010).

Research has shown that while virtual workplaces offer many advantages, such as the ability to hire the best employees no matter where they are located, virtual leaders and virtual employees face many challenges, including difficulties managing individuals the leader is unable to see or employees feeling isolated and not important due to lack of face-to-face interactions (Caulat & Pedler, 2012). Findings from my study could assist in

reducing many of the challenges virtual teams and team leaders face and contribute to better opportunities for success. Knowing what is needed to develop and maintain high performing virtual teams has become a critical competitive advantage. Organizations' understanding of the traits of effective virtual leaders as it pertains to employees' ability to perform better and to find more satisfaction in their work can result in better changes for success than failure (Caulat & Pedler, 2012). Knowing the correct leadership strategies to apply to their teams could result in leaders improving virtual teams' efficiencies (Eissa, Fox, Webster, & Kim, 2012). Additionally, the results found from my study could contribute to existing information on virtual leaders and assist in supporting positive social change by applying the identified traits and strategies to improve virtual team leadership and build cohesiveness amongst said leader and team member to improve job satisfaction and job performance resulting in better team outcomes.

Research on virtual teams suggests that organizational success greatly depends on leadership. However, it remains unclear what kind of leaders, and more specifically, which leadership skills, behaviors or practices contribute to effective virtual teams (Liliana, 2014). Adding knowledge on the virtual workplace and information to help fill the research gap on what kinds of leaders and leadership skills contribute to effective virtual teams could have a substantial impact on social change.

Summary

The content of Chapter 1 introduced the framework for this study which focused on leadership in the virtual workplace by providing an overview of research on the topic of leadership, leadership traits, and definitions used to define leadership and leaders.

Leadership styles, efficiency, and skills were also introduced in this chapter. The chapter included information about leadership effectiveness as it relates to job satisfaction and job performance of followers. The chapter also provided background on the virtual workplace and virtual employees from past research on the subject.

Chapter 2 contains the literature review of research related to the problem statement to include leadership, transformational leadership, the virtual workplace, job performance, and job satisfaction. Chapter 3 consists of the research method, the sample size and population (participants) targeted for this study. Chapter 4 provides the results and analysis of the research as it relates to each question and hypothesis. Chapter 5 provides the conclusion, which consists of the summary, findings from this study, recommendations for future research, and the conclusion.

Chapter 2: Literature Review

Introduction

The research on the effectiveness of leaders when leading virtual employees and teams is limited (Kirkman et al., 2012). Past research has focused on technology and its role in the increase of the virtual work environment, as well as the challenges facing virtual team workers such as lack of trust, feeling of isolation, ways to enhance team success, and the advantages and disadvantages of virtual teams (Moore et al., 2011). One key reason virtual work has remained unsatisfactory is that the leadership aspect of this work has been underestimated, if not completely forgotten (Caulat & Pedler, 2012).

Ziek and Smulowitz (2014) emphasized that previous work describes at length the functions of virtual team leadership and the importance of developing proficiency in certain skills; however, there are still gaps about which leadership competencies relate to virtual team effectiveness.

This chapter contains the findings of the literature review and consists of information about the growth of the virtual workplace to include definitions used to define the virtual workplace. It also provides information about employees and leaders who work virtually, as well as the challenges both face. Sections on leadership and leadership theories with a focus on transformational leadership, which represents the theoretical framework of this study. Additional information pertains to job performance, job satisfaction (dependent variables), and the relationship of transformational leadership theory to these two variables as it pertains to individuals working virtually.

Literature Search Strategies

The context for this current research was obtained through peer-reviewed literature pertinent to the study of the virtual workplace, leadership, leadership styles, and theories, job performance, and job satisfaction. Information was obtained through use of the EBSCO research database system (Academic Search Premier), Walden University library, other libraries, ProQuest Central, ProQuest Dissertations, ABI/INFORM Complete, Business Source Complete, PsycINFO, Emerald Management, Sage PREMIER, Academic Search Complete, Walden University Dissertations, additional scholarly journals, Google Scholar, and published books. A literature review excel sheet was used to assist with organizing research documents.

Literature I reviewed covered topics related to leadership, definitions of leadership and major theories of leadership. My main focus was on transformational leadership; however other leadership theories were examined such as transactional leadership theory. My review of current literature also focused on leadership theories as they related to employees' job satisfaction and job performance. Additional reviews consisted of existing literature on virtual employees and the challenges virtual employees' experience, leadership in the virtual workplace, and the challenges leaders of virtual employees experience, as well as the success of virtual work teams. I also reviewed existing literature on my chosen research methodology and design and the tools used to measure the relationships: multifactor leadership questionnaire, job satisfaction survey, and the role-based performance scale.

The topic of virtual team leadership has begun getting the attention of researchers and practitioners alike. However, the issue of leadership in virtual teams remains a practical as well as a theoretical challenge (Mukherjee et al., 2012). Researchers have begun to examine ways virtual teams can be enhanced. One aspect of teamwork that has conventionally had an important impact on team performance is team leadership (Tyan & Tyran, 2008). Leaders can facilitate effective task performance by assigning those individuals with the skills, knowledge, and ability to perform best to the correct task. Leaders also can significantly increase the effectiveness and efficiency of teams, as well as motivate, coach and mentor team members towards higher levels of performance (Tryran & Tryran, 2008).

In the past, it was assumed that leaders were born, not made, and attempts were made to identify the traits of great leaders (Adler, 2008). Although every society has had its great leaders, research found no consistent set of traits differentiating leaders from other people (Adler, 2008). It is also believed that leadership performance is dependent on the situation. Often leaders and managers become the leaders of virtual teams without having the needed knowledge to do so (Caulat & Pedler, 2012). They often do not comprehend that developing high-performance virtual teams require different leadership and management skills (Caulat & Pedler, 2012).

Several Multiple theories have evolved over the years that examine approaches to understanding leadership; several of those approaches are provided throughout this literature review. Past research has focused on leadership theories that examine the relationship between leaders' style, the characteristics of the subordinates, the work

setting, and leadership traits that are said to make leaders more effective (Guinaliu & Jordon, 2016); however, most research has not focused on the effects of these traits when managers and employees interactions are not face-to-face. I sought to examine the effects of leadership (transformational leadership style) when employees work virtually.

The specific skills needed to lead virtual employees in the virtual workplace are essential to success; however, this is an area that is limited in research (Malhotra et al., 2007). Some research on virtual team leadership styles exists; however, there is relatively little research on how leadership affects virtual team interaction and performance (Hambley et al., 2007). To examine the effects of virtual leadership, I explored the virtual workplace, virtual employees, as well as challenges virtual employees and managers face. Further examinations consisted of leadership theories (specifically transformational leadership), job satisfaction and job performance.

Virtual Employees

There are many definitions used to define virtual employees. Malhotra et al. (2007) defined virtual teams as teams whose members are geographically distributed but are required to work together through electronic means with minimal face-to-face interaction. Nicholas (2016) identified virtual employees as someone who works at home on a computer and communicates with their office, team members, or customers by telephone, fax, or email. Additional definitions include teams who are interdependent and share responsibility for the teams' outcomes (Tyson & Tyson, 2008). Members of the team are usually geographically dispersed and depend on technology-mediated communication instead of face-to-face communications to complete their work (Tyson &

Tyson, 2008). While several researchers have different definitions for individuals who work virtually, for this study, DeRosa's (2009) definition was used along part of the definition provided by Malhotra et al. (2007) as stated in Chapter 1.

The global workplace demands collaboration beyond the office walls (Ubell, 2010). Virtual teaming is no longer a nice-to-have, but a necessity for organizations to thrive across space and time boundaries. Likewise, research by DeRosa (2009) found that virtual teams have become an important element of organizations' ability to achieve their business objectives. Guinaliu and Jordon (2016) noted that in recent years, based on the development of new technologies, virtual work teams have arisen as a new organizational format that offers businesses greater flexibility and adaptability in coping with new market challenges. To further understand the role of leadership in the virtual workplace, I also sought to identify challenges faced by individuals that work virtually.

Employees' Challenges in the Virtual Workplace

Individuals who work virtually are led by leaders that they rarely see. Most communication is conducted through phone calls, emails, and the use of computer technology. They work alone; their coworkers are no longer in the office next door or down the hall for them to communicate. They may feel isolated at times as they are now using technology to communicate and perform their work in their home environment or an environment that may not have all the conveniences of the main office (Dennis et al., 2013). These challenges could result in low employee performance and or job satisfaction (Dennis et al., 2013).

It may seem like a dream come true to work in the comforts of home or the local coffee shop and never see the boss; however, satisfaction fluctuates wildly among virtual workers (Dennis et al., 2013). Researchers have identified several challenges that employees face in this type of working setting, resulting in employment dissatisfaction. Dennis et al. (2013) conducted a study and found that 46% of employees who work virtually report a sense of isolation due to a lack of face-to-face contact with team members. Time zone differences and using global clocks effectively were also stated as reasons for employee dissatisfaction.

The researchers also noted that performance declined as virtual distance accrued. Further finding identified that innovation behavior declined by 93%, trust fell by 83%, satisfaction in the job declined by 80%, clarity of one's role/goals declined by 62%, project results and leader effectiveness declined by 50% or more, and organization citizenship behavior declined by 47% (Dennis et al., 2013).

Additional challenges identified through research range from information and communication technology issues to employees feeling that they are no longer an important piece of the organization. Nunamaker, Reining, and Briggs (2009) noted that the biggest challenge for virtual team members is competing demands for attention, ambiguity of remote communication, establishment of personal relationships, and the need for accessible, stable, and user-friendly technology. The lack of face-to-face interaction could also result in mistrust among team members. Researchers believe that without trust among the virtual team members, the result could be unsuccessful. Bergiel,

Bergiel, and Balsmeier (2008) concluded that trust is at the foundation of all successful relationships and for virtual teams to succeed.

Understanding virtual employees' challenges can assist leaders in finding ways to effectively lead. While employees face many challenges, the individuals that manage these employees must identify ways to assist employees in their work despite the challenges. A look at the traits needed to be successful in leading virtual teams will be discussed as I explore virtual team leadership.

Leadership in the Virtual Workplace

When society thinks of leaders, they consider many different individuals, for example, the president of the United States, presidents or CEOs of organizations, managers, supervisors, or a person who leads others through a project. Leaders are said to differ from managers and supervisors (Greenberg, 2011). Managers and supervisors are seen more as administrators whereas leaders are innovators and the individuals responsible for ensuring that the goals and outcomes of the organization are obtained; however, many of the responsibilities are the same (Greenberg, 2011). For this research, supervisors and managers will be included in the leader title.

Greenberg (2011) defined leadership as the process whereby one individual influences others towards the attainment of defined group or organizational goals. Psychological theorists view leadership as a social influence process in which leaders use interpersonal behaviors to motivate followers to contribute to group goals (Kaiser, McGinnis, & Overfield, 2012). Over the decades, there have been many definitions defining leadership traits or theories. Most researchers have moved away from the trait

theory and began to describe leaders based on different leadership theories that may include specific traits or characteristics (Rosenbach, Taylor, & Youndt, 2012). Also, throughout the last decade, there has been a substantial increase in inquiries and methodologies to understand the leadership processes that influence the effective and efficient functioning of team members within organizations (Rosenbach et al., 2012).

Research has moved away from the old myths that suggest there is one best leadership style, that there are individuals that are born to be leaders, and that training and experience have no effect on leadership skills. What has been learned from recent leadership research is that there is no one best way to lead; the most effective leadership style is dependent upon the organization's culture, the characteristics of the followers, the external environment, and the personal traits of the leader (Rosenbach et al., 2012). Researchers now believe that leaders are different from others and that their uniqueness plays a role in their ability to be successful. The success of individual careers and the fate of organizations are determined by the effectiveness of leaders' behavior. (Lussier & Achua, 2010). Researchers believe that leaders of virtual teams must develop different skills to be successful. New skills of creating a high-performance group across diverse boundaries are necessary (Kerfoot, 2010).

Barnwell, Nedrick, Rudolph, Sesay, and Wellen (2014) conducted what the authors referred to as a "lessons learned" approach to clarify their findings through empirical research. The authors examined leadership with the focus on multinational and virtual team environments. They outlined the drivers and necessity for effective leadership in international projects due to the need for project managers to be attuned to

cultural differences and the impact these can have on team building. The research intent was to discuss difficulties when teams operate in different locations around the globe; they also examined the leader's influence on project performance, team building, and the supervision of virtual teams. Some challenges that arise in project teams when operating across cultures can consist of ethnic differences, varying levels of technological tools, and communication barriers (Barnwell et al., 2014). The authors identify traits they believed team members needed to overcome these challenges to include high-quality technical skills, political and general sensitivity, strong-problem and goal orientations, and high self-esteem (Barnwell et al., 2014).

In 2007, Hambley et al. conducted a study to assist in improving the understanding of leadership of virtual teams. The authors noted that virtual teams require new ways of working across boundaries through systems, processes, technology, and people which require effective leadership. The authors pointed out that the purpose of their study was to expose exact virtual team leadership actions that could assist in guiding future research and build on leadership theories (Hambley et al., 2007). The study was conducted using semi structured interviews. To conduct their study, the authors used an inductively based qualitative approach as their method to obtain a thorough understanding of leadership of virtual teams.

The researchers interviewed nine leaders (seven men and two females) or individuals that were in leadership roles from six organizations (Hambley et al., 2007). All interviews were taped and transcribed except for two where the authors took detailed notes for their use. Participants were asked a variety of open- and closed-ended questions.

Data analysis consists of analyzing specific statements and phrases which the authors referred to as subthemes.

Results of the study identified what Hambley et al. (2007) four findings: (a) the necessity of strong leadership, (b) effective virtual team meetings, (c) personalizing virtual teamwork, and (d) the need for virtual leaders and team members to know how to use different media effectively. The authors found that strong leadership of virtual teams was an essential criterion identified throughout the interviews (Hambley et al., 2007). The authors stated that interviewees emphasized the need for leaders to develop virtual teams and possess defined virtual team leadership skills that are qualitatively different when leading face-to-face teams.

Mukherjee et al., (2012) conducted research to identify leadership capabilities as it relates to what they identify as the different lifecycle stages of virtual teams. The researchers contended that virtual teams consist of five lifecycle phases: preparations, launch, performance management, training and team development, and disbanding (Mukherjee et al., 2012). The research was conducted by examining the literature on virtual team leadership. The researchers' results found that virtual leaders' capability plays an essential role in the overall success of the teams and noted that for effective virtual team leadership to happen it is important to understand the specific set of capabilities that contribute to successful management of a particular virtual team stage (Mukherjee et al., 2012). The authors also emphasized the need for leaders to choose the right personnel, design tasks, put the right reward system in place, and select the appropriate technology (Mukherjee et al., 2012).

Understanding the traits needed to effectively lead virtual teams have shown to be important to the success of virtual teams (Mukherjee et al., 2012). Leaders must also overcome the challenges they face when leading virtual teams. To understand the leaders' ability to be effective, it is also vital to understand the challenges that leaders face as they work to manage employees they cannot see. (Mukherjee et al., 2012). An understanding of these challenges could be essential to leadership effectiveness as it pertains to employee job performance and job satisfaction when employees work virtually.

As organizations continue to adopt virtual teams as the main way to structure work and the recent growth in utilization continues to surpass theory and research on virtual teams. The explosive growth in virtual team use by organizations and the inherent challenges of virtual teams emphasizes the need for theory and research to inform organizations in designing, structuring and managing virtual teams (Dulebohn & Hoch, 2017).

Leadership Challenges in the Virtual Workplace

Individuals who work in the virtual workplace are no different from individuals who work in the traditional office; however, the virtual work is different and requires employees to look at their roles differently to be successful (Mukherjee et al., 2012). Research by Nunamaker et al. (2009) agreed, noting that virtual teamwork is different from face-to-face teamwork in many ways, in that it takes overt and explicit efforts to design new work processes to gain success. Likewise, Golden, Veiga, and Dion (2008) noted that although employees' general responsibilities and tasks often remain the same,

virtual work essentially changes the work environment and the ways that employees engage with the organization and interact with other members.

Leaders of virtual employees face many challenges; however, leaders are seen vital to the success of these workers (Kerfoot, 2010). When employees work away from leadership, leaders will need to develop ways to assist them with staying on task and getting the job done, and ways to ensure to some extent that employees are satisfied with their work (Kerfoot, 2010). If the people side of virtual organizations is not addressed, virtual leaders will not be successful (Kerfoot, 2010).

Malhotra et al. (2007) expressed various boundaries virtual team leaders will need to overcome to be successful such as finding ways to organize barriers that occur when team members are detached from one another due to distance and time and with different cultural backgrounds and languages. Team leaders will also need to assist in eliminating the barriers that occur when the team members have few opportunities to identify communality that would assist them in building trust and team unity along with many other challenges that have been identified with virtual work (Malhotra et al., 2007).

Another challenge identified by the authors that virtual team leaders will need to overcome the struggling commitment of the teams to its project and work to build a unified team, as well as establish processes for collaboration and team knowledge sharing (Malhotra et al., 2007). Furthermore, the authors believed virtual team leaders would need to work to motivate members of the teams to ensure they remain, above all, committed to the mission of the team (Malhotra et al., 2007).

Managers of teleworkers must motivate and inspire out of sight workers and provide authentic information sharing from managers to workers and among work teams (Nicholas, 2016). It has been made clear that leaders of virtual teams face challenges when trying to supervise, mentor, and coach employees over boundaries of space (Nicholas, 2016).

Researchers have conducted several studies to identify the skills and traits needed to be an effective virtual team leader (Hambley et al., 2007). Their theories describe characteristics or traits of leaders that are believed to identify what specific leadership characteristics result in better performance and outcomes from followers (Hambley et al., 2007). My focus in this study was on leadership effectiveness (specifically transformational leadership theory) as it relates to job satisfaction and job performance of virtual employees. To gain an understanding of transformational leadership theory, both transformational and transactional leadership theories were focused on as the two are often contrasted.

Theoretical Foundation

Leadership Theories

To provide an example of different traits researchers have identified different leadership theories, I provided an overview of both transactional and transformational leadership theories; however, the main focus of this research was on transformational leadership theory.

Transactional Leadership Theory

In today's research, it is rare that transactional and transformational leadership theories are not discussed together. The two theories are different; however, researchers have continuously contrasted the two when examining the effects of leadership in different areas (Northouse, 2010).

Psychology and economics are supportive of reinforced reward or compensation in return for the desired behavior, whereas leadership was seen more as a relationship of exchange (Northouse, 2010). To show some differences in transformational leadership and transactional leadership, Northouse (2010) offered two factors related to transactional leadership (a) contingent reward, which he describes as "an exchange process between leaders and followers in which efforts by followers is exchanged for specified rewards; and (b) management-by-exception, which he describes as leadership that involves corrective criticism, negative feedback, and negative reinforcement. Friedman (2016) noted that transactional leadership involves an exchange, whereby employees/subordinates are motivated by a system of rewards and punishment. Transactional leaders focus on the relationships that require exchange between themselves and their followers. That is they make clear what individuals can expect in return for their compliance with certain performance criteria (Hamstra, Van Yperen, Wisse, & Sassenberg, 2014).

Lai (2011) defines transactional leadership as more of a 'give and take' working relationship where rapport between leader and follower is established through exchange, such as a reward system for meeting particular objectives. As stated, despite the

differences in transactional and transformational leadership theories, these two concepts are often discussed together in nearly all research (Northouse, 2010).

Lai (2011) found that over the past twenty-five years, a large body of research has emerged around transformational-transactional leadership theory. As researchers continue to contrast and focus on the two theories, it is important to note that the characteristics of the two are very different. Transformational leadership produces greater effects than transactional leadership; whereas transactional leadership results in expected outcomes, transformational leadership results in performance that goes beyond what is expected (Northouse, 2010).

Transformational Leadership Theory

Eisbeiss, Knippenberg, and Boerner (2008), noted that transformational leadership is made up of four components: (a) idealized influence which is related to charismatic role modeling behavior of transformational leaders; (b) inspirational motivation which means that transformational leaders provide meaning to followers' work by articulating an appealing or evocative vision for the team or the organization; (c) intellectual stimulation which is leaders encouraging followers to challenge existing assumptions, to reframe problems, and to approach old situations in new ways; and (d) individualized consideration which relates to coaching and mentoring behavior of transformational leaders.

Transformational leadership is proposed to highlight the necessity of change and to promote creativity. Leaders who are considered to be transformational never settle for what is current; they vision the future and behave in unconventional and creative ways

(Eisbeiss et al., 2008). Transformational leaders are seen as special people who make things happen (Greensberg, 2011). Transformational leaders have also been defined as those who serve as role model and encourage those under them to adopt an explorative thinking style, by enhancing followers' self-efficacy and intrinsic motivation, transformational leaders also enable followers to reach future states (Eisenbeiss et al., 2008; Wallis, Yammarino, & Feyerherm, 2011).

The theories provide an overview of the different leadership styles, and characteristics leaders may possess, as well as how the styles might affect followers. I do not propose that one theory is a better fit for individuals working virtually than another. I suggest that all may have traits that can be vital to the success of virtual employees.

The overall focus of this study places emphasis on the transformational leadership theory and how components of the theory are believed to provide characteristics that are believed to be most effective for employees who work virtually (Wallis, et al., 2011). I chose transformational leadership style as the theoretical framework for this study because it has shown positive results as it pertains to job satisfaction and job performance. Literature suggests that transformational leaders positively influence job satisfaction that in turn, promotes lower turnover (Wells & Peachy, 2011).

Findings from research conducted by Kovjanic, Schuh, and Jonas (2013) noted that transformational leadership is one concrete way to foster employees' needs, satisfaction, and consequently, work engagement and performance. Characteristics associated with transformational leaders have been found to influence the leader–employee relationship and increase the employee's motivation (Ziek & Smulowitz, 2014).

The Transformational Leaders

Research has shown that leaders have the challenge of identifying and utilizing leadership characteristics that are the best fit to meet the subordinates' motivational needs (Northouse, 2010). To accomplish this, leaders will need to function in a manner that complements or supplements what's missing in the subordinates' work setting. Many theories have derived as to what makes a good leader (Northouse, 2010). There are many leadership theories presented by scholars; however, transformational leadership theory seems to be favored by many (Northouse, 2010). One of the most popular approaches to leadership that has been the focus of much research since the early 1980s is the transformational approach (Northouse, 2010). It has been concluded that transformational leadership meets the needs of today's work groups and that numerous scholars are studying transformational leadership which is believed to hold a central place in research on leadership (Northouse, 2010).

Much research has been conducted on the transformational leadership theory as it relates to leadership effectiveness. Most researchers have found that transformational leadership is highly related to leadership effectiveness, followers' job satisfaction, motivation and organization performance (Northouse, 2010). Lai (2011) noted a study that examined a meta-analysis of 626 correlations to relate transformational, transactional, and laissez-faire leadership characteristics. The results supported a link between effective leadership and all dimensions of transformational leadership (idealized influence, inspirational motivation, intellectual stimulation, and individualized

consideration), as well as a single dimension of transactional leadership, contingent reward (Lai, 2011).

In a study conducted by Eisenbeiss et al. (2008), the authors set out to examine the role of transformational leadership in team innovation. They found that two main factors contributed to team innovation, support and a climate for excellence. The authors projected and examined the role of transformational leadership as it related to team innovation that included support for innovation as a mediator and climate of excellence as a moderator (Eisbeiss et al., 2008). Three hypotheses were tested in the study: (a) transformational leadership has a positive relationship to support of innovation; (b) climate of excellence moderates the relationship amongst support of innovation and team innovation only under high levels of climate of excellence; and (c) transformational leadership influenced team innovation through its relationship with support of innovation, also only under high levels of excellence (Eisbeiss et al., 2008). The results found transformational leadership to be positively related to support of innovation, which also fostered high levels of climate for excellence. However, the findings also showed that transformational leadership was not sufficient to stimulate team innovation but may be instrumental in team innovation (Eisbeiss et al., 2008).

Transformational leadership has been found to be positively related to some variables and not always sufficient to others. However, research has found that the leaders with the characteristic of transformational leaders theory or more effective leaders (Northouse, 2010). Transformational leaders exert influence on their followers by communicating an idealistic vision of the future; they recognize followers' individual

needs and abilities and stimulate their intellectual development (Hamstra et al., 2014). Transformational leadership is suffused by idealism. Leaders listen to subordinates to effect change and transform the organization. Leaders listen to subordinates who are inspired and motivated by a vision communicated by the leader; subordinates are encouraged to seek different solutions to problems and innovate; creativity is encouraged (Friedman, 2016; Bass & Bass, 2008; Northouse, 2013).

It should be noted that weaknesses have been identified in the transformational leadership theory. Northouse (2013) discussed several drawbacks as it relates to transformational leadership theory. The weaknesses include lack of conceptual clarity, which is believed to be due to the many characteristics and activities associated with the leadership theory, which makes it difficult to identify the exact parameters of transformational leadership (Northouse, 2013). In this study, I examined transformational leadership theory and its effect on employee's job performance and job satisfaction when working virtually (Northouse, 2013). The specific hypothesis was that transformational leadership theory will be positively related to job performance (productivity) and with job satisfaction as the mediator of individuals who work in the virtual workplace.

Review of the literature found transformational leadership to be highly related to leadership success in the virtual workplace. A study conducted by Ruggieri (2009) focused on leadership in virtual teams comparing transformational and transactional leadership. Results of the study indicated transformational leadership as more satisfying, specifically that transformational style is more satisfying than transactional style and that transformational leader is judged to be better than a transactional leader (Ruggieri, 2009).

Research on transformational leadership shows a strong relationship as it relates to job performance (Northouse, 2013). While there have been numerous studies conducted on transformational leadership and its effect on employee's job performance, there is a limited amount that focus on the two variables relationship when leaders and followers work virtually (Ziek & Smulowitz, 2014).

Although research on transformational leadership has constantly noted that there is a fundamental process through which transformational leaders exhibit their influences on their followers' development and eventually facilitate team performance, surprisingly comparatively little research has explored this topic especially in project team settings (Tiri, Ogollah, & Mburu, 2015). The authors further explained that the review of studies indicates that transformational leadership influences performance of teams and that little has been done to determine influence of transformational leadership on virtual project team performance (Tiri et al., 2015). Based on previous research, I sought to fulfill the gap as it pertains to transformational leadership and virtual project team performance. In this study, I examined the effects of leadership (transformational leadership style) as it relates to employee job performance, and job satisfaction when working virtually.

Literature Review Related to Key Variables

Job Performance

The positive association between transformational leadership and follower attitude, behaviors, and performance is well documented in research (Northouse, 2013; Ruggieri, 2009; Ziek & Smulowitz, 2014). However, researchers have argued that in research on transformational leadership the important mediating path that links leadership

style to performance has not yet fully been examined (Li & Hung, 2009). In this study, I focused on leadership style as it relates to job performance when individuals work virtually.

When society thinks of job performance, it relates to an individual's ability to perform the required duties of their particular job (Li & Hung, 2009). Walumbwa and Hartnell (2011), refers to job performance as the individual's ability to be creative, innovative, inspiring, and take on a challenging task to achieve organizational goals for the greater good. Various studies have examined the relationship of leadership theories and the effect they have on individual and team performance. In this study, I focused on transformational leadership theory's effect on followers' performance when working virtually.

Ghafoor, Qureshi, Khan, and Hijazi (2011) conducted a study to examine the relationship between transformational leadership, employee engagement, and employee performance utilizing a questionnaire and a sample of 270 employees and managers. Results of the study found that the relation between transformational leadership, employee engagement, and employee performance was significant (Ghafoor et. al, 2011). Llang and Chi (2011) also studied the link between transformational leadership and job performance. The authors argued that transformational leadership has been regarded as a prominent leadership approach to better understand employees' attitudes, behaviors, and performance. Llang and Chi's (2011) sample included subordinates and their immediate supervisors of a Taiwanese military and had a response rate of 68%. The results showed a significant relationship between transformational leadership to job performance.

A study conducted by (Tiri et al., in 2015 examined the influence of transformational leadership on the performance of virtual project teams in Safaricom Company. The study consisted of 78 employees who worked in TelePresence and Digital City projects. Questionnaires were used to gather both quantitative and qualitative information. Results from the study showed a positive relationship between the influence of transformational leadership style and virtual team performance that was statistically significant (Tiri et al., 2015).

Jandaghi, Martin, and Farjami (2009) compared transformational leadership in successful and unsuccessful companies. The researchers reviewed the mean of transformational aspect in successful and less successful companies to examine if the mean of transformational leadership aspects in successful companies is higher than less successful ones (Jandaghi, et al., 2009). The findings showed successful companies were highly significant in transformational leadership. Transformational leadership proved to have a significant relationship to job performance and several other variables in numerous studies and settings (Jandaghi, et al., 2009). In this study, I went beyond the research of transformational leadership and job performance of employees who work in the traditional workplaces and examined how transformational leadership theory affects job performance when individuals work in the virtual workplace. Research focusing on the effectiveness of transformational leadership within the context of virtual teams is relatively scarce (Hambey et al. 2007).

As research has shown transformational leadership can play a significant role in individuals' ability to perform, research has also shown that transformational leadership

can positively affect employee's satisfaction (Northouse, 2013). Previous reviews of literature have established that transformational leadership characteristics have a significant relationship to employee job satisfaction.

Job Satisfaction

Long, Yusof, Kowang, and Heng (2014) conducted a study from a government-linked company in Malaysia on transformational leadership to determine if the four characteristics (idealized influence, inspiration motivation, intellectual stimulation and individualized consideration) affected employees' satisfaction. The research consisted of 378 employees from six different departments; of the 378 surveys provided, 67% were returned. The findings from their research showed that one of the characteristics of transformational leadership theory had a significant relationship with job satisfaction. Characteristics of individualized consideration were found to contribute most to job satisfaction (Long et al., 2014).

Researchers have studied the effects of leadership styles with job satisfaction in many settings as well as transformational leadership and its effect on job satisfaction. Arzi and Farahbod (2014) noted that the findings from many studies demonstrated significant impact of transformational leadership on job satisfaction of subordinates.

Gaviria-Riveral and Lopez-Zapata (2019) conducted a study to analyze how transformational leadership's role and relationship influences job satisfaction and organizational climate of work teams. The study participants consisted of 185 leaders and work team collaborators from Colombian companies. Results from this study showed that transformational leadership had a positive effect on job satisfaction and organizational

climate. The findings further showed that job satisfaction was a positive influence to organization climate and that both transformational leadership and job satisfaction positively influenced team performance (Gaviria-et al., 2019). Implications from this study suggested that organizations that promote the leadership style of transformational leadership in their leaders could result in enhancement of the performance of their work teams and higher job satisfaction levels (Gaviria-et al., 2019).

Hanaysha, Khalid, Kamariah, Mat, Sarassina, Rahman, and Zakaria (2012) conducted a study to explore the effects of transformational leadership characteristic on followers' job satisfaction. Results of their study also showed that individualized consideration, as well as intellectual stimulation affected followers' job satisfaction. Yang (2009) conducted a study to examine the effect of transformational leadership on employee intrinsic and extrinsic job satisfaction. Yang believed that transformational leadership would have a positive influence on satisfaction. The study was conducted with a sample group of sales managers and employees of four large life insurance firms that included 234 female and 135 male sales employees and 42 female and 135 male managers (Yang, 2009). Findings from this study showed that transformational leadership had significant influence on interaction behaviors and employee's job satisfaction (Yang, 2009).

Likewise, a study conducted by Bodla and Nawaz (2010) with a population of faculty members in higher education institutions/universities found a significant and positive relationship between transformational leadership style and job satisfaction. A study by Gill, Flaschner, and Bhutani (2010) with managers and employees (218 total)

working in an Indian restaurant focused on transformational leadership, empowerment, and job satisfaction. The study results showed a positive relationship between employees' perceived transformational leadership used by managers and employees' perceived job satisfaction (Gill et al., 2010).

Risambessy, Swasto, Thoyib, and Astuti (2012) conducted their research by interviewing "105 respondents in a hospital". Their research focused on the influence of transformational leadership style as it pertained to motivation, burnout towards job satisfaction, and job performance. The results showed transformational leadership style with ideal indicators, the influence of leaders' behavior, intellectual stimulation, and consideration of the individuals, had a significant and positive influence towards motivation and transformational leadership style has significant influence and positive toward job satisfaction (Risambessy et al., 2012).

Ghorbanian, Bahadori, and Nejati (2012) conducted a study to explore the relationship between managers' leadership styles and emergency medical technicians' job satisfaction. The authors believed that leadership played a very important role in various professions, especially in challenging positions that result in stressful working conditions (Ghorbanian et al., 2012). They believed that due to stressful conditions, the importance of job satisfaction is magnified in this profession. The authors conducted a cross sectional study with participation from 21 managers and 87 emergency medical technicians from 23 workstations in Iran. The authors examined the relationship of transformational leadership, transactional leadership, and laissez-faire leadership styles as they relate to job satisfaction (Ghorbanian et al., 2012). The result showed that both transformational

and transactional leadership style had a positive relationship with job satisfaction; laissez-faire leadership style had no significant relationship with job satisfaction (Ghorbanian et al., 2012). The authors noted that the highest mean for the leadership style of managers belonged to the transformational management style and the lowest mean was observed for the laissez-faire management style (Ghorbanian et al., 2012). The authors concluded that because transformational leadership created a higher level of job satisfaction on medical emergency staff, it would be their recommendation that policy makers in the health sector provide the basis for the implementation of transformational leadership style (Ghorbanian et al., 2012).

Job satisfaction is also seen as important factors as it relates to the function of organizations (Long et al., 2014). To allow organizations to achieve goals, it is crucial to understand the relationship between perceived leadership and job satisfaction as it helps in crafting a motivated and efficient workforce (Long et al., 2014). Research has shown that virtual work can be both rewarding and challenging for the leaders, the followers, and the organizations (Nydegger & Nydegger, 2010; Moore et al., 2011; Caulat & Pedler, 2012). There is little research that shows the effect of leadership style as it relates to job satisfaction when individuals work virtually. The empirical association between telework and work effort, as well as how this relationship is mediated by job satisfaction, is lacking in the literature (Caillier, 2014). In this study, I sought to provide information towards filling this gap; the study's focus was on transformational leadership theory and its effect on virtual workers' job performance and job satisfaction.

Summary

Chapter 2 provided information from the review of scholarly literature pertaining to the virtual workplace, advantages and disadvantages of working in the virtual workplace, and challenges when working virtually for employees and leaders. Chapter 2 also provided information on leadership, leadership styles, and theories as well as how leadership styles affect job satisfaction and job performance. Additional information in Chapter 2 pertained to the gap in present research which is identified as a lack of empirical studies on leaders' effectiveness in the virtual workplace and the impact this present research contributed to positive social change for organizations that presently employ virtual employees or organizations planning to move to virtual employment in the future.

Chapter 3 provides detailed information related to the methodology that was used to examine transformational leadership and its relationship to employee's job performance and job satisfaction.

Chapter 3: Research Method

Introduction

This quantitative study examined the effectiveness of leadership (specifically transformational leadership style) on job performance and job satisfaction when employees work virtually. Over the last few decades, there has been an increase in organizations moving to employees working at home or a location outside of the main facility. A telework study conducted by WorldatWork in 2011 found that 45% of the U.S. workforce holds a job that is compatible with at least part-time telework. The research also found that among companies, traditional telecommuting grew by 61% between 2005 and 2009, and the same research by WorldatWork (2011) predicted that due to the current trend, with no growth acceleration, regular telecommuters would total 4.9 million by 2016, which accounts for a 69% increase from the current level (Moore et al., 2011).

In this present study, I sought to examine the relationship between transformational leadership, employee job satisfaction, and job performance in the virtual workplace. The results of this study show there is a positive relationship between transformational leadership and employees' job satisfaction and job performance of individuals who work in the virtual workplace. The study involved randomly sampling employees, from different organizations, who work at locations other than the main office and rely on technology such as emails, teleconferencing, live meetings, telephones, or other electronic tools to communicate and interact with one another to perform their work with minimal face-to-face interactions. This chapter provided information about the research approach and design, the population/sample group, data collection procedure,

and data analysis, along with the tools and procedures used to determine if the hypotheses are accepted or rejected.

Research Design and Rationale

This quantitative study examined the relationship between leadership, specifically transformational leadership style (independent variable), and its effects on job performance and job satisfaction (dependent variables) of employees working virtually.

RQ1: To what extent does job satisfaction mediate the relationship between transformational leadership and job performance of virtual workers?

RQ2: To what extent does job satisfaction mediate the relationship between idealized influence (attributes) and job performance of virtual workers?

RQ3: To what extent does job satisfaction mediate the relationship between idealized influence (behaviors) and job performance of virtual workers?

RQ4: To what extent does job satisfaction mediate the relationship between inspirational motivation and job performance of virtual workers?

RQ5: To what extent does job satisfaction mediate the relationship between intellectual stimulation and job performance of virtual workers?

RQ6: To what extent does job satisfaction mediate the relationship between individualized consideration and job performance of virtual workers?

Quantitative research is a means for testing objective theories by examining the relationship among variables. These variables, in turn, can be measured, typically on instruments, so that numbered data can be analyzed using statistical procedures (Creswell, 2009). Quantitative research has been used as a method for studying

leadership by numerous researchers. Parry, Mumford, Bower, and Watts (2014) noted that quantitative analysis of quantitative data is the traditional practice in leadership research, with surveys and experiments as the most favored methods and quantitative practices usually reflect a positivist stance to inquiry. The authors further found that quantitative analysis of qualitative data is the preferred qualitative practice in leadership research; however, in this study I used the quantitative methods only. The use of the quantitative research method was chosen solely based on the surveys type instruments that were used to analyze the data.

Howell (2013) stated that a correlational design is an appropriate design when assessing the strength of relationships between variables of interest. According to Creswell (2009), a survey design provides a quantitative or numeric description of trends, attitudes, or opinions of a population in that it studies a sample of that population. In this study, I used three different surveys to examine the relationship of transformational leadership to job satisfaction and job performance.

Methodology

Population

The population group for this study consisted of individuals who work in the virtual workplace. As stated in Chapter 2, I defined the virtual workplace using the definition used by DeRosa (2009) teams in which team members work is geographically dispersed, (at least one-third of the team members work in different locations) but must collaborate with one another to get work done and part of the definition provided by Malhotra et al. (2007) with minimal face-to-face interaction.

Sample and Sampling Procedures

To assess the hypotheses, linear regressions and mediation analyses were conducted. The mediation analyses require the more stringent sample size. According to Frazier, Barron, and Tix (2004), the required sample size for mediation strongly depends on the correlation strength between the independent variable and the mediator. Conducting a mediation analysis reduces the effective sample size to be $E = N*(1-r^2)$, where N is the sample original sample size, E is the effective sample size, and r is the correlation coefficient between the independent variable and the mediator (Frazier, Barron, & Tix, 2004). Thus, to calculate the original sample size, the formula can be rearranged, $N = E/(1-r^2)$. According to G*Power 3.1.7, the required sample size for a regression with two predictors (the final mediation model) using a power of .80, alpha level of .05, and small effect size ($f^2 = .10$) is 100 participants. Using a medium correlational coefficient (0.30), the required sample size to have an effective sample size of 100 would be $100/(1-0.30^2) = 110$. Thus, at least 110 participants should be gathered; an additional 10% added in the case of unusable data bringing the total number to 121 participants.

Procedures for Recruitment, Participants and Data Collection

Participants were recruited by a letter of invitation. The letter was submitted via email to individuals in the United States who met the required criteria (team members whom work is geographically dispersed and at least one-third of the team members work in different locations but must collaborate with one another to get work done with minimal face-to-face interaction) inviting them to participate in the study by completing

the designated surveys. The letter provided informed consent information, background information related to the study, the fact that participation was strictly voluntary, ethical considerations, such as ensuring confidentiality, and privacy of the information gathered as it pertains to the name and type of employer, the participants name, and contact information for questions for the researcher, Walden chair information, risk and benefits, any compensation for participation, and statement of consent. Additional information was also collected on participants including age, race, gender, profession, social economic status, and tenure. This information was divided into various data groups and used to show the demographics of survey participants.

A hyperlink was provided to access the surveys using Survey Monkey.

Participants were asked to complete the survey within 2 weeks of the date of receipt of the hyperlink. A second correspondence was submitted as the number of participants did not meet the required sample size within the anticipated collection period of one month for all data. Participants of the study were asked to answer questions from three survey tools: the MLQ, the JSS, and the RBPS which are the tools that were used to measure outcomes.

Instrumentation

Multifactor Leadership Questionnaire (MLQ)

The MLQ was developed by Bass and Avolio in 1987. Many years of collaboration between Bass and Avolio led to the design and development of the relevant empirical tool, MLQ, whose latest version is MLQ5x. The questionnaire is used to assess the leadership behavior (Dimitrov & Darova, 2016).

The MLQ is an instrument used to measure leadership styles including transformational leadership (Muenjohn & Armstrong, 2008). The instrument provides individuals with the opportunity to look at how they see themselves as leaders and measure those specific leadership behaviors. The MLQ is the most widely used instrument to assess transformational leadership theory and is considered to be the best-validated measure of transformational and transactional leadership (Muenjohn & Armstrong, 2008).

Approval for use of the MLQ was granted through Mind Garden, Inc. (Appendix D). Mind Garden offers options for purchasing and administering the tool to include discounts for multiple licenses to reproduce. The MLQ is a well-established instrument in the measure of transformational leadership as well as being extensively researched and validated (Mind Garden, 2012). Evidence of the validity is shown in Avolio and Bass's MLQ manual. The MLQ has been used in thousands of research programs, doctoral dissertations, and master's theses, along with several constructive outcomes for transformational leadership (Mind Garden, 2012). Construct validity is also thoroughly explained with factor analyses which resulted in a six-factor model for the MLQ. Reliability scores for the MLQ subscales ranged from moderate to good (Mind Garden, 2012).

Rowold and Heinitz (2007) conducted a study to clarify likes and differences between transformational, transactional, and charismatic leadership. The authors further assessed the convergent, divergent, and criterion validity of the MLQ and another scale.

The results found that "transformational and charismatic leadership showed a high convergent validity" (Rowold & Heinitz, 2007).

In 2012, Shurbagi and Zahari (2012) conducted a study on the relationship between transformational leadership and job satisfaction. The researchers used the MLQ to measure transformational leadership. The researchers' study also focused on organizational culture and used the quantitative survey method. Results of this study indicated that organizational culture impacts the relationship between transformational leadership and job satisfaction and that the relationship between these variables was positively significant.

Job Satisfaction Survey (JSS)

Spector developed the JSS to measure job satisfaction in public, human services, and private organizations (Spector, 2012). The JSS is made up of a 36 item, nine facet scale that evaluates how employees feel about their jobs and aspects of their jobs. To develop the JSS, Spector began with a review of the literature on job satisfaction dimensions. He designed the tool specifically for nonprofit, public and human services organizations. Spector stated three reasons why he chose to develop a new scale: (a) scales that existed were developed for other types of organizations, (b) scales that existed did not cover areas of interest which Spector was interested in covering and (c) most of the existing scales were extensive; the JSS was designed with less than 40 items (Spector, 2012).

Spector collected his data from 3,148 participants who constituted 19 separate samples (Spector, 2012). All employees worked in either the human service, public, and

nonprofit organizations representing all levels from administrators and department heads to line and support staff. Spector included a nonhuman service sample to indicate discriminant and convergent validity (Spector, 2012). He used the JSS and the Job Descriptive Index (JDI) to examine the sample. Spector measured five areas: (a) organizational commitment utilizing the Organizational Commitment Questionnaire that measures employees commitment to their organization; (b) job characteristics, utilizing the Job Diagnostic Survey (JDS) which measured perceived characteristics of jobs; (c) leadership behavior, utilizing the Leader Behavior Description Questionnaire which is used to measure perceptions of supervisory consideration; and (d) employee withdrawal (measured as turnover either those who planned to quit the job or absenteeism) (Spector, 2012). Quitting the job was measured by individuals answering questions on how often they had seriously considered quitting their job; individual turnover and actual quitting was measured in two of the samples (Spector, 2012). The fifth area, absenteeism was collected by self-reporting and organizations' records. The results of these studies assisted in the development of the JSS. Reliability (coefficient alpha) was computed for each subscale and the total scale on a sample of 2,870 each were above the .50 minimum (Spector, 2012).

Permission was automatically granted by Spector for use of the JSS for noncommercial educational and research purposes in return for sharing the results. Spector uses the results as a means to continue updating his norms and bibliography. Spector did not require identification of the organization(s) or participants names. (Appendix F).

Validity correlations between the five common subscales and additional JSS from both instruments (underlined) were significantly larger than zero and of reasonable magnitude .61 to .80. Second, these values were all higher than correlations between noncorresponding subscales across instruments, shown in the hetero-method triangles. Third, the validity correlations were all higher than the intercorrelations among subscales within each instrument, with each instrument, as shown in the hetero-trait, mono-method triangle; and finally, the pattern of interrelationships among subscales for both instruments were reasonably consistent, with all but one correlation from each instrument ranging from .20 to .37 (Spector, 2012). The study also showed that validity correlations in all relationships between common subscale and additional JSS subscales were higher.

Astrauskaite, Vaitkevicius, and Perminas (2010) conducted a study to determine if the JSS was relevant for the assessment of job satisfaction in teachers. The researchers sampled 351 teachers; 142 questionnaires were provided to teachers from four secondary schools and collected the same day, and 230 teachers from four different schools were provided with the questionnaires in unsealed envelopes and asked to return them in sealed envelopes within a week, 219 were returned. Job satisfaction was measured using the JSS developed by Spector. Astrauskaite et al. (2010) stated that "results of the standard Confirmatory Factor Analysis of the teacher's sample did not support the existence of 9 facets, suggesting that some of the JSS's do not reflect teachers' job satisfaction" (Astrauskaite et al., 2010). The JSS was not found to be the right tool for their study as it related to teachers' job satisfaction; however, the JSS has proved to have consistent reliability and validity based on Spector's development of the tool.

Role-Based Performance Scale

The RBPS originator is Wellbourne. The RBPS is an instrument used to measure job performance that was originally developed using 10 Fortune 100 companies.

Wellbourne (2007) acknowledged that the role-based performance scale helps explain employee engagement by starting with the end goal in mind. The objective of all employee engagement initiatives is improved firm performance. Role-based performance scale helps identify the types of behaviors needed from employees to drive performance. The model defines five key roles that employees occupy at work: (a) core job-holder role (what's in the job description), (b) entrepreneur or innovator role (improving process, coming up with new ideas, participating in others' innovations), (c) team member role (participating in teams, working with others in different jobs), (d) career role (learning, engaging in activities to improve personal skills and knowledge), and (e) organizational member role (citizenship role or doing things that are good for the company).

Approval for usage of the RBPS was granted by Wellbourne (Appendix E). The role-based model was developed for a large research project that focused on the determinants of long-term firm performance. The study was based on theories and prior work on what employers need from employees and what they reward. The model was validated with results obtained from numerous within firm studies that were conducted by Wellbourne, Johnson, and Erez in 1997. The core ideas behind the use of the model are that firms win in the market when they develop human resources in a way that is not easily replicated by their competition (Wellbourne, 2007). As the RBPS has proved to be

a valid and reliable tool for measuring job performance, I used this scale to measure job performance.

Data Analysis

Data was entered into SPSS version 22.0 for Windows. Descriptive statistics were conducted to describe the sample demographics and the research variables used in the analysis. Frequencies and percentages were calculated for nominal data while means and standard deviations were calculated for continuous data (Howell, 2010).

Prior to conducting the mediation analyses, the assumptions of a linear regression were assessed linearity, normality, and homoscedasticity. Linearity assumes that the predictors and criterion variable has an approximate straight-line association. The linearity assumption was assessed by an examination of a scatterplot between the predictors and criterion variables. Normality assumes that the residuals (the difference between predicted values and observed values) have a normal bell curve distribution. The assumption of normality was assessed via examination of a normal P-P plot. The homoscedasticity assumption ensures that the scores are equally distributed about the regression line. Homoscedasticity was assessed by examination of a residuals scatterplot. The assumption was met as the scatterplot depicts a rectangular distribution, or there was no pattern in the spread of the data.

Data was screened for accuracy, missing data, and outliers. The presence of outliers was tested by the examination of standardized value. Standardized values represent the number of standard deviations the value is from the mean. Values greater than 3.29 were considered to be outliers and were removed from the data set (Tabachnick

& Fidell, 2012). Cases with missing data were examined for non-random patterns.

Participants who do not complete major sections of the survey were excluded.

RQ1: To what extent does job satisfaction mediate the relationship between transformational leadership and job performance of virtual workers?

H₀1: Job satisfaction does not significantly mediate the relationship between transformational leadership and job performance.

H₁1: Job satisfaction significantly mediates the relationship between transformational leadership and job performance.

To examine RQ1, a mediation analysis was conducted to assess if job satisfaction mediates the relationship between transformational leadership and job performance. The notion of mediation concerns the extent to which the effect of one variable on another is mediated by some possible intermediate variable (VanderWeele & Vansteelandt, 2009). In this case, transformational leadership was the continuous-level independent variable of the analysis, measured by the MLQ. Job satisfaction was the continuous-level mediating variable of the analysis, measured by the JSS. Job performance was the continuous-level dependent variable of the analysis, measured by the RBPS.

RQ2: To what extent does job satisfaction mediate the relationship between idealized influence (attributes) and job performance of virtual workers?

H₀2: Job satisfaction does not significantly mediate the relationship between idealized influence (attributes) and job performance.

H₁2: Job satisfaction significantly mediates the relationship between idealized influence (attributes) and job performance.

To examine RQ2, a mediation analysis was conducted to assess if job satisfaction mediates the relationship between idealized influence (attributes) and job performance. The notion of mediation concerns the extent to which the effect of one variable on another is mediated by some possible intermediate variable (VanderWeele & Vansteelandt, 2009). In this case, idealized influence (attributes) was the continuous-level independent variable of the analysis, measured by the MLQ. Job satisfaction was the continuous-level mediating variable of the analysis, measured by the JSS. Job performance was the continuous-level dependent variable of the analysis, measured by the RBPS.

RQ3: To what extent does job satisfaction mediate the relationship between idealized influence (behaviors) and job performance of virtual workers?

H₀₃: Job satisfaction does not significantly mediate the relationship between idealized influence (behaviors) and job performance.

H₁₃: Job satisfaction significantly mediates the relationship between idealized influence (behaviors) and job performance.

To examine RQ3, a mediation analysis was conducted to assess if job satisfaction mediates the relationship between idealized influence (behaviors) and job performance. The notion of mediation concerns the extent to which the effect of one variable on another is mediated by some possible intermediate variable (VanderWeele & Vansteelandt, 2009). In this case, idealized influence (behaviors) was the continuous-level independent variable of the analysis, measured by the MLQ. Job satisfaction was the continuous-level mediating variable of the analysis, measured by the JSS. Job

performance was the continuous-level dependent variable of the analysis, measured by the RBPS.

RQ4: To what extent does job satisfaction mediate the relationship between inspirational motivation and job performance of virtual workers?

H₀4: Job satisfaction does not significantly mediate the relationship between inspirational motivation and job performance.

H₁4: Job satisfaction significantly mediates the relationship between inspirational motivation and job performance.

To examine RQ4, a mediation analysis was conducted to assess if job satisfaction mediates the relationship between inspirational motivation and job performance. The notion of mediation concerns the extent to which the effect of one variable on another is mediated by some possible intermediate variable (VanderWeele & Vansteelandt, 2009). In this case, inspirational motivation was the continuous-level independent variable of the analysis, measured by the MLQ. Job satisfaction was the continuous-level mediating variable of the analysis, measured by the JSS. Job performance was the continuous-level dependent variable of the analysis, measured by the RBPS.

RQ5: To what extent does job satisfaction mediate the relationship between intellectual stimulation and job performance of virtual workers?

H₀5: Job satisfaction does not significantly mediate the relationship between intellectual stimulation and job performance.

H₁5: Job satisfaction significantly mediates the relationship between intellectual stimulation and job performance.

To examine RQ5, a mediation analysis was conducted to assess if job satisfaction mediates the relationship between intellectual stimulation and job performance. The notion of mediation concerns the extent to which the effect of one variable on another is mediated by some possible intermediate variable (VanderWeele & Vansteelandt, 2009). In this case, intellectual stimulation was the continuous-level independent variable of the analysis, measured by the MLQ. Job satisfaction was the continuous-level mediating variable of the analysis, measured by the JSS. Job performance was the continuous-level dependent variable of the analysis, measured by the RBPS.

RQ6: To what extent does job satisfaction mediate the relationship between individualized consideration and job performance of virtual workers?

H₀6: Job satisfaction does not significantly mediate the relationship between individualized consideration and job performance.

H₁6: Job satisfaction significantly mediates the relationship between individualized consideration and job performance.

To examine RQ6, a mediation analysis was conducted to assess if job satisfaction mediates the relationship between individualized consideration and job performance. The notion of mediation concerns the extent to which the effect of one variable on another is mediated by some possible intermediate variable (VanderWeele & Vansteelandt, 2009). In this case, individualized consideration was the continuous-level independent variable of the analysis, measured by the MLQ. Job satisfaction was the continuous-level mediating variable of the analysis, measured by the JSS. Job performance was the continuous-level dependent variable of the analysis, measured by the RBPS.

Mediation

In order to assess mediation, three linear regressions were conducted. The first analysis establishes the relationship between the independent variable and the dependent variable. The second analysis establishes the relationship between the independent variable and the mediator variable. The final analysis establishes the relationship between the mediator and the dependent variable (in the presence of the independent variable). As established by Baron & Kenny, for mediation to be met, (a) a significant relation of the independent variable to the dependent variable is required in equation one, (b) a significant relation of the independent variable to the hypothesized mediating variable is required in equation three, (c) the mediating variable must be significantly related to the dependent variable when both the independent variable and mediating variable are predictors of the dependent variable in equation two, and (d) the coefficient relating the independent variable to the dependent variable must be larger (in absolute value) than the coefficient relating the independent variable to the dependent variable in the regression model with both the independent variable and the mediating variable predicting the dependent variable. This causal steps approach to assessing mediation has been the most widely used method to assess mediation (MacKinnon, Fairchild, & Fritz, 2007). If any of the qualifications for mediation are not met, then mediation is not supported.

A Sobel test was used as a secondary test for mediation. The Sobel test assesses whether a potential mediator carries the influence of an independent variable to a dependent variable. Although the Sobel test enjoys some use, frequently it is used as a supplement to the Baron and Kenny approach rather than instead of it. An investigator

may first ask whether the analysis meets the Baron and Kenny criteria for establishing mediation and, if so, the analyst then conducts the Sobel test to attest to the validity of the conclusions reached without it (MacKinnon, Fairchild, & Fritz, 2007).

Table 1
Variables for Research Questions

Research Question	Independent Variable	Mediator Variable	Dependent Variable
1	Transformational leadership	Job satisfaction	Job performance
2	Idealized influence (attributes)	Job satisfaction	Job performance
3	Idealized influence (behaviors)	Job satisfaction	Job performance
4	Inspirational motivation	Job satisfaction	Job performance
5	Intellectual stimulation	Job satisfaction	Job performance
6	Individualized consideration	Job satisfaction	Job performance

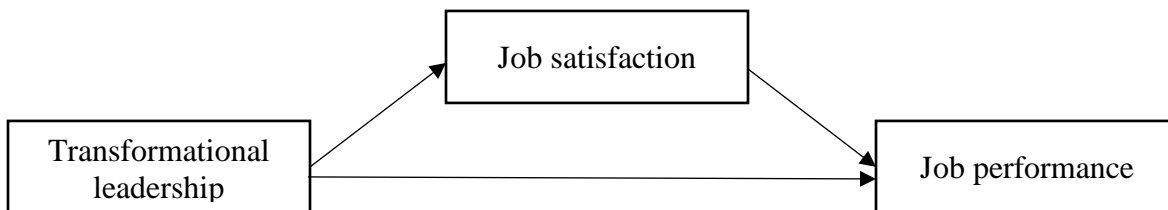


Figure 1. Job satisfaction as mediator between transformational leadership and job performance (RQ1).

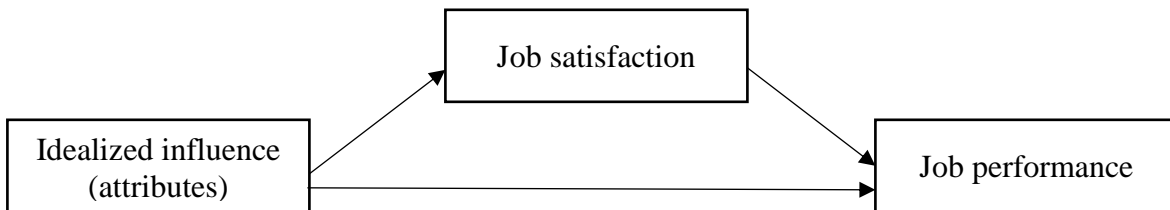


Figure 2. Job satisfaction as mediator between idealized influence (attributes) and job performance (RQ2).

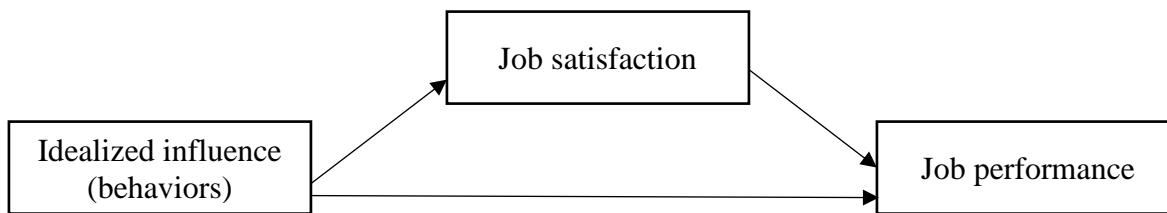


Figure 3. Job satisfaction as mediator between idealized influence (behaviors) and job performance (RQ3).

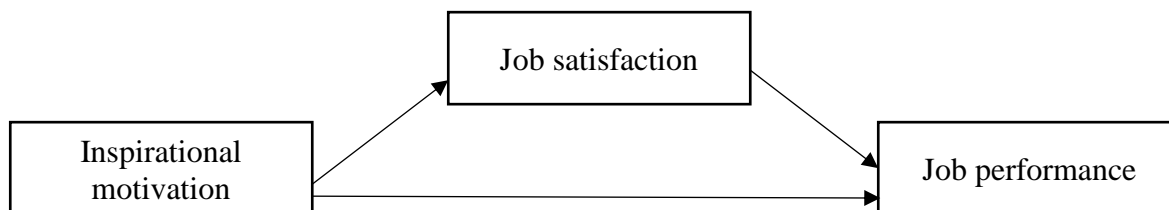


Figure 4. Job satisfaction as mediator between inspirational motivation and job performance (RQ4).

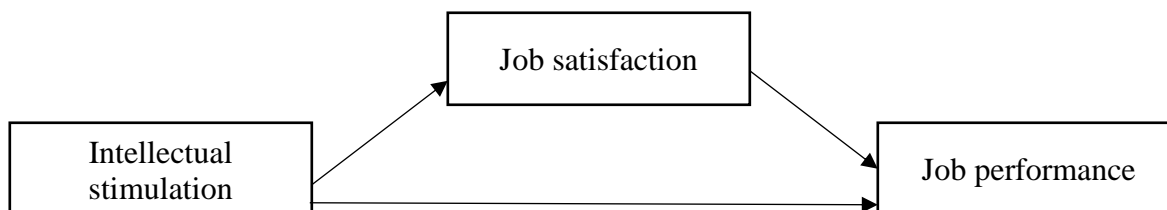


Figure 5. Job satisfaction as mediator between intellectual stimulation and job performance (RQ5).

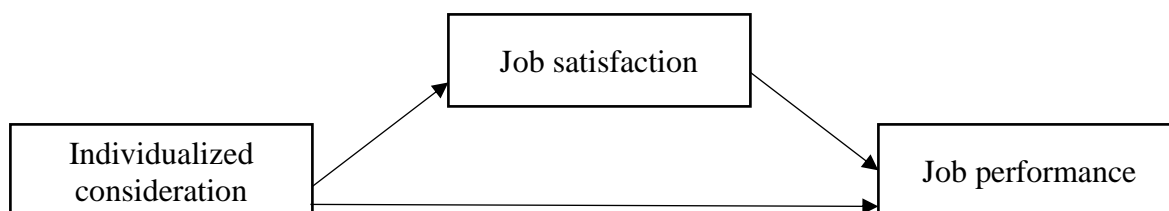


Figure 6. Job satisfaction as mediator between individualized consideration and job performance (RQ6).

Threats of Validity

Validity of research studies are based on how well the results between the participants of the study present the true findings of comparable individuals who did not participate in the study. The idea of validity applies to all types of experimental studies including studies related to frequency, societies, interventions, and analysis (Patino & Ferreira, 2018). The validity of a research study includes two domains: internal and external validity

Internal Validity

Internal validity is defined as the extent to which the studied results represent the truth in the population being studied and are not due to methodological errors. In my study example, I would need to be able to support that the internal validity showed that transformational leadership theory had a significant effect on job performance amongst virtual workers in all types of workplace environments when job satisfaction is the mediator. Threats to internal validity can occur based on many factors such as errors in measurement or in the selection of participants (Patino & Ferreira, 2018). Once researchers are able to validate internal validity of their study, they are able to make judgments regarding the external validity by examining if the study results apply to similar individuals in different settings; for example, individuals who do not work in virtual work settings (Patino & Ferreira, 2018).

External Validity

External validity refers to how well the outcomes of a study can be expected to apply to other settings; that is, how generalizable the findings are, do they apply to other people, settings, and situations (Cuncic, A., 2020). For example, using this current study, I could determine external validity by replicating this current study using different participants from different settings to validate if the findings are the same. External validity can also be determined based on if transformational leadership, the independent variable, is reliable by examining a large number of studies on the same topic; this is referred to as meta-analysis (Cuncic, A., 2020).

Construct Validity

Construct validity focuses on how well what is being proposed to be measured in reality has been measured. The assumption that simply because a researcher claims a survey has measured a certain social or other type of construct does not mean the measures have generated reliability or valid data (Lavrakas, 2011). To be precise, it does not mean that the constructs claimed to be measured by the researcher are the constructs that had been measured. In this current study, I examined the relationship between transformational leadership theory with job satisfaction as the mediator to job performance.

When focusing on the construct validity of survey variables it is best to see the wording formatting, and the questionnaire of the question or questions that were used to obtain the data on the construct. In this case the three survey tools the MLQ, JJS, and RBPS were used to gather data. Seeing the questionnaires allows for the opportunity to

determine how the question or questions were administered and if there is anything that could identify whether it would be doubtful that the respondents answered truthfully. This allows a researcher to exercise informed judgment on whether or not the questions are likely to have high construct validity (Lavrakas, 2011). In exercising this judgment, one should also consider how the questions were administered to the respondents and if there is anything about the respondents themselves that would make it unlikely for them to answer accurately (Lavrakas, 2011).

Ethical Consideration and Consent

Ethical standards as defined by the American Psychological Association (APA) and Walden University were followed during this study. Data was not obtained prior to the approval of Walden University's IRB. IRB approval was granted Creswell (2009) noted that as researchers anticipate data collection, they need to respect the participants and the sites for research and further those researchers need to have their research plans reviewed by the Institutional Review Board (IRB) on their college or university campuses.

Information obtained through the survey process was number coded for the purpose of data analysis. In an effort to protect the personal identity of individuals responding to the surveys, no identifying information such as names, employee identification information, supervisors' names, employer's names, or any other identifying information was disclosed. Individuals' personal identity remained anonymous. Consent from authorized persons was granted prior to beginning the research process.

Other ethical procedures during data collection involve gathering the agreement of individuals in authority (e.g., gatekeepers) to provide access to study participants at research sites (Creswell, 2009); these procedures were followed.

All potential respondents received a consent (via on-line communication) that outlines the purpose of the study and conditions related to their participation in this study. No persons were forced to participate in the study nor were there any monetary or promise of gifts offered as a condition for participation. Participation in this study was completely voluntary. I developed an informed consent form for participants to sign before they engage in the research; this form acknowledges that participants' rights were protected during data collection (Creswell, 2009). Creswell (2009) outlined elements of the consent form to include researchers identity and the sponsoring institution, process for selecting participants, the research purpose, benefits for participating, level and type of participation involved, any risk to participants, guaranteed confidentiality of participants, participants right to withdrawal at any point or time, and contact information of person or persons should participants have questions. All elements were present in the consent form provided to participants

Summary

This chapter outlined the methodological processes used to conduct this study to include the population sample group, the research approach and design and the data analysis process. The purpose of this study was to examine the relationship between transformational leadership, employee job satisfaction, and job performance as it relates

to individuals working in the virtual workplace which was measured utilizing the MLQ, the JSS, and the RBPS.

Ethical considerations of participants were also outlined in this chapter that ensured identity protection and strictly voluntary participation. Chapter 4 provides the information pertaining to data collection, frequencies and percentage of nominal variables, descriptive statistics of continuous variables, and the results and analysis of the research as it relates to each question and hypothesis.

Chapter 4: Results

In this chapter information pertaining to the participation pool, demographic data, data collection, and descriptive statistics of continuous variables is provided. Additional information includes the examination and results of the research questions, followed by a summary of the chapter

Introduction

The purpose of this quantitative study was to examine the effectiveness of leadership (specifically transformational leadership style) on job performance and job satisfaction when employees work virtually. In this chapter, the findings of the data analysis were presented and described. Descriptive statistics were used to examine the trends of the nominal-level and interval-level variables. Cronbach alpha test of internal consistency was used to assess the reliability of the scales. To address the research questions, a series of mediation analyses were conducted. Statistical significance was evaluated at the generally accepted level, $\alpha = .05$.

Data Collection

Walden University Review Board (IRB) approval was granted prior to data collection. The IRB number for this for this study is # 08-01-18-0154507. A total of 92 participants consented to participate in the study. However, 22 of these participants did not respond to any portion of the survey. Outliers were then examined with standardized values on the scales. No outliers were identified for any of the scales. Thus, the final sample consisted of 70 participants, which was higher than the power analysis calculated a minimum of 68 participants.

Frequencies and Percentages of Nominal Variables

The age of the participants was widely dispersed between 21 and older than 60 years old. Most of the sample were White ($n = 27$, 38.6%) and Black ($n = 31$, 44.3%). Time in position also had a wide distribution, less than one year and more than 20 years. Most of the sample had a total household income exceeding \$91,000 ($n = 24$, 34.3%). Frequencies and percentages for the demographical data are presented in Table 2.

Table 2

Frequencies and Percentages of Demographical Data

Demographic	<i>n</i>	%
Age		
21-29	4	5.7
30-39	20	28.6
40-49	21	30.0
50-59	13	18.6
60+	12	17.1
Ethnicity		
White	27	38.6
Black or African American	31	44.3
Asian	3	4.3
Latino	3	4.3
American Indian or Alaskan Native	2	2.9
Multiple races	4	5.7
Time in position		
Less than one year	20	28.6
2-5 years	19	27.1
6-10 years	13	18.6
11-20 years	13	18.6
More than 20 years	5	7.1
Household income		
Less than \$10,000	1	1.4
\$10,000-\$30,000	6	8.6
\$31,000-\$50,000	16	22.9
\$51,000-\$70,000	18	25.7
\$71,000-\$90,000	5	7.1
\$91,000+	24	34.3

Note. Due to rounding error, not all percentages may sum to 100.

Descriptive Statistics of Continuous Variables

Three surveys were administered for this research: the MLQ-5X, the JSS, and the RBPS. Composite scores were developed through computing an average of the items comprising each scale. While most of the scales met the acceptable level for reliability, a few factors were in the questionable range ($.62 \leq \alpha \leq .69$). These low Cronbach alpha values could be attributed to the low number of items comprising the scales.

Transformational leadership scores ranged from 2.45 to 4.95, with $M = 4.02$ and $SD = 0.56$. Idealized influence (attributes) scores ranged from 1.75 to 5.00, with $M = 3.89$ and $SD = 0.66$. Idealized influence (behaviors) scores ranged from 2.25 to 5.00, with $M = 3.97$ and $SD = 0.68$. Inspirational motivation scores ranged from 2.25 to 5.00, with $M = 4.08$ and $SD = 0.72$. Intellectual stimulation scores ranged from 2.25 to 5.00, with $M = 4.01$ and $SD = 0.64$. Individualized consideration scores ranged from 2.50 to 5.00, with $M = 4.13$ and $SD = 0.62$. Job satisfaction scores ranged from 2.06 to 5.92, with $M = 4.34$ and $SD = 0.80$. Job performance scores ranged from 1.65 to 4.95, with $M = 3.83$ and $SD = 0.71$. Means and standard deviations of continuous variables are presented in Table 3.

Table 3

<i>Descriptive Statistics of Continuous Variables</i>						
Composite Scores	<i>Min.</i>	<i>Max.</i>	<i>M</i>	<i>SD</i>	Number of items	α
Transformational leadership	2.45	4.95	4.02	0.56	20	.92
Idealized influence (attributes)	1.75	5.00	3.89	0.66	4	.64
Idealized influence (behaviors)	2.25	5.00	3.97	0.68	4	.73
Inspirational motivation	2.25	5.00	4.08	0.72	4	.81
Intellectual stimulation	2.25	5.00	4.01	0.64	4	.69
Individualized consideration	2.50	5.00	4.13	0.62	4	.62
Job satisfaction	2.06	5.92	4.34	0.80	36	.93
Job performance	1.65	4.95	3.83	0.71	20	.95

Results

Research Question 1

RQ1: To what extent does job satisfaction mediate the relationship between transformational leadership and job performance of virtual workers?

H₀1: Job satisfaction does not significantly mediate the relationship between transformational leadership and job performance.

H₁1: Job satisfaction significantly mediates the relationship between transformational leadership and job performance.

To examine RQ1, a Baron and Kenny mediation analysis was conducted to assess if job satisfaction mediates the relationship between transformational leadership and job performance. In this case, transformational leadership is the continuous-level independent variable of the analysis, measured by the MLQ. Job satisfaction was the continuous-level mediating variable of the analysis, measured by the JSS. Job performance was the continuous-level dependent variable of the analysis, measured by the RBPS.

The assumptions of normality and homoscedasticity were assessed visually through examinations of scatterplots. Normality was tested with a P-P scatterplot and the data closely followed the normal trend line, suggesting the assumption was met (see Figure 7). Homoscedasticity was tested with a residuals scatterplot and the random spread in the plot indicated that the assumption was met (see Figure 8).

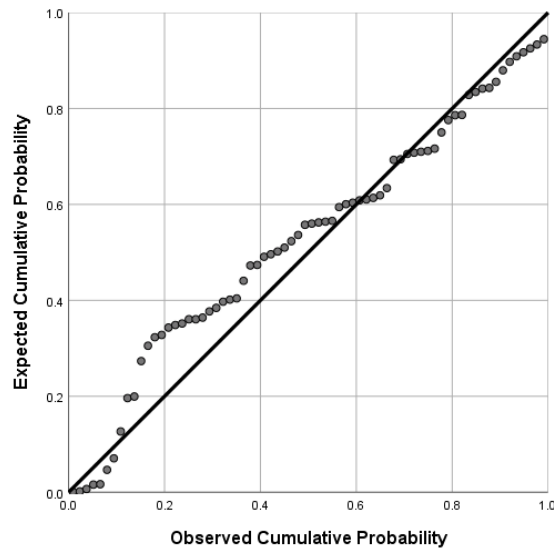


Figure 7. Normal P-P plot for regression with transformational leadership and job satisfaction predicting job performance.

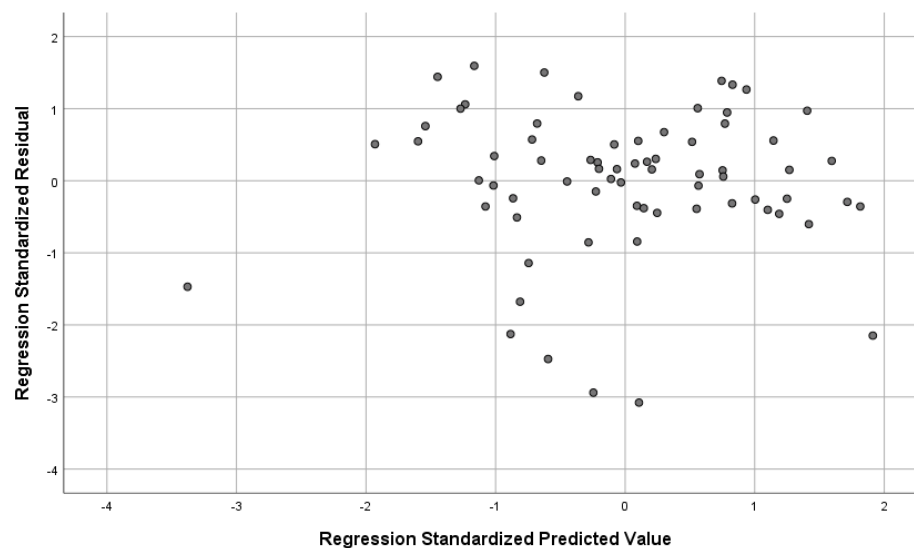


Figure 8. Residuals scatterplot for regression with transformational leadership and job satisfaction predicting job performance.

To assess for mediation, three regressions were conducted. For mediation to be supported, four items must be met:

1. The independent variable (transformational leadership) must be related to the dependent variable (job performance).

2. The independent variable (transformational leadership) must be related to the mediator variable (job satisfaction).
3. The mediator (job satisfaction) must be related to the dependent variable (job performance) while in the presence of the independent variable (transformational leadership).
4. The independent variable (transformational leadership) should no longer be a significant predictor of the dependent variable (job performance) in the presence of the mediator variable (job satisfaction).

First, the regression with transformational leadership (independent variable) predicting job performance (dependent variable) was conducted. The results of the regression were significant, $F(1, 68) = 5.50, p = .022, R^2 = .075$. This suggests that transformational leadership was statistically associated with job performance. The first item of the Baron and Kenny method was met.

Second, the regression with transformational leadership (independent variable) predicting job satisfaction (mediator) was conducted next. The results of the regression were significant, $F(1, 68) = 3.99, p = .005, R^2 = .055$. This suggests that transformational leadership was statistically associated with job satisfaction. The second item of the Baron and Kenny method was met.

Finally, the multiple linear regression was conducted with transformational leadership (independent variable) and job satisfaction (mediator) predicting job performance (dependent variable). The results of the regression were significant, $F(2, 67) = 13.56, p < .001, R^2 = .288$. This suggests that transformational leadership and job satisfaction

collectively predicted job performance. Job satisfaction ($B = 0.42, t = 4.48, p < .001$) was a significant predictor of job performance, while in the presence of transformational leadership. The third item of the Baron and Kenny method was met. Due to the transformational leadership ($B = 0.20, t = 1.53, p = .132$) not being a significant predictor in the presence of the job satisfaction, item 4 of the Baron and Kenny method was met. Because all four of the Baron and Kenny conditions were supported, the null hypothesis for research question one was rejected, indicating that job satisfaction was a significant mediator for the relationship between transformational leadership and job performance. The results of the regressions are presented in Table 4.

Table 4

Regression Results with Job Satisfaction Mediating the Relationship between Transformational Leadership and Job Performance

Dependent	Independent	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Regression 1:						
Job performance	Transformational leadership	0.34	0.15	0.27	2.35	.022
Regression 2:						
Job satisfaction	Transformational leadership	0.33	0.17	.24	2.00	.050
Regression 3:						
Job performance	Transformational leadership	0.20	0.13	.16	1.53	.132
	Job satisfaction	0.42	0.09	.48	4.48	<.001

Note. First regression: $F(1, 68) = 5.50, p = .022, R^2 = 0.075$

Second regression: $F(1, 68) = 3.99, p = .050, R^2 = 0.055$

Third regression: $F(2, 67) = 13.56, p < .001, R^2 = 0.288$

Research Question 2

RQ2: To what extent does job satisfaction mediate the relationship between idealized influence (attributes) and job performance of virtual workers?

H₀2: Job satisfaction does not significantly mediate the relationship between idealized influence (attributes) and job performance.

H₁2: Job satisfaction significantly mediates the relationship between idealized influence (attributes) and job performance.

To examine RQ2, a mediation analysis was conducted to assess if job satisfaction mediates the relationship between idealized influence (attributes) and job performance. In this case, idealized influence (attributes) was the continuous-level independent variable of the analysis, measured by the MLQ. Job satisfaction was the continuous-level mediating variable of the analysis, measured by the JSS. Job performance was the continuous-level dependent variable of the analysis, measured by the RBPS.

The assumptions of normality and homoscedasticity were assessed visually through examinations of scatterplots. Normality was tested with a P-P scatterplot and the data closely followed the normal trend line, suggesting the assumption was met (see Figure 9). Homoscedasticity was tested with a residuals scatterplot and the random spread in the plot indicated that the assumption was met (see Figure 10).

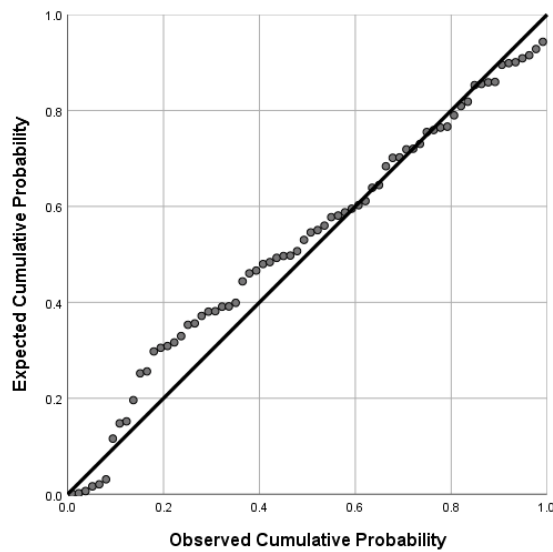


Figure 9. Normal P-P plot for regression with idealized attributes (influenced) and job satisfaction predicting job performance.

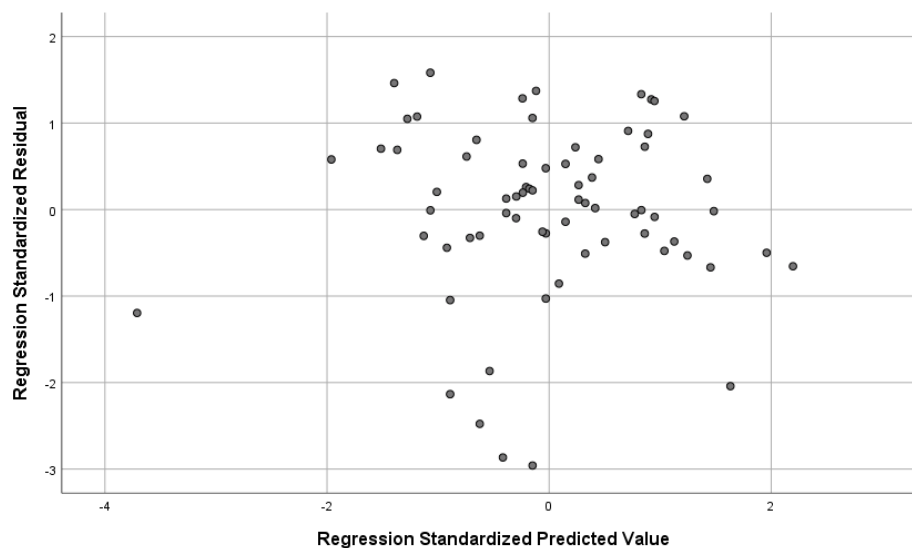


Figure 10. Residuals scatterplot for regression with idealized attributes (influenced) and job satisfaction predicting job performance.

To assess for mediation, three regressions were conducted. For mediation to be supported, four items must be met:

1. The independent variable (idealized attributes [influenced]) must be related to the dependent variable (job performance).

2. The independent variable (idealized attributes [influenced]) must be related to the mediator variable (job satisfaction).
3. The mediator (job satisfaction) must be related to the dependent variable (job performance) while in the presence of the independent variable (idealized attributes [influenced]).
4. The independent variable (idealized attributes [influenced]) should no longer be a significant predictor of the dependent variable (job performance) in the presence of the mediator variable (job satisfaction).

First, the regression with idealized attributes (influenced; independent variable) predicting job performance (dependent variable) was conducted. The results of the regression were significant, $F(1, 68) = 6.93, p = .010, R^2 = .092$. This suggests that idealized attributes (influenced) were statistically associated with job performance. The first item of the Baron and Kenny method was met.

Second, the regression with idealized attributes (influenced) (independent variable) predicting job satisfaction (mediator) was conducted next. The results of the regression were not significant, $F(1, 68) = 2.32, p = .133, R^2 = .033$. This suggests that idealized attributes (influenced) were not statistically associated with job satisfaction. The second item of the Baron and Kenny method was not met.

Finally, the multiple linear regression was conducted with idealized attributes (influenced) (independent variable) and job satisfaction (mediator) predicting job performance (dependent variable). The results of the regression were significant, $F(2, 67) = 15.01, p < .001, R^2 = .309$. This suggests that idealized attributes (influenced) and job

satisfaction collectively predicted job performance. Job satisfaction ($B = 0.42, t = 4.59, p < .001$) was a significant predictor of job performance, while in the presence of idealized attributes (influenced). The third item of the Baron and Kenny method was met. Due to the idealized attributes (influenced) ($B = 0.23, t = 2.11, p = .038$) being a significant predictor in the presence of the job satisfaction, item 4 of the Baron and Kenny method was not met. Because only two of the four Baron and Kenny conditions were supported, the null hypothesis for RQ2 was not rejected, indicating that job satisfaction was not a significant mediator for the relationship between idealized attributes (influenced) and job performance. The results of the regressions are presented in Table 5.

Table 5

Regression Results with Job Satisfaction Mediating the Relationship between Idealized Attributes (Influenced) And Job Performance

Dependent	Independent	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Regression 1:						
Job performance	Idealized attributes (influenced)	0.33	0.12	.30	2.63	.010
Regression 2:						
Job satisfaction	Idealized attributes (influenced)	0.22	0.14	.18	1.52	.133
Regression 3:						
Job performance	Idealized attributes (influenced)	0.23	0.11	.22	2.11	.038
	Job satisfaction	0.42	0.09	.47	4.59	<.001

Note. First regression: $F(1, 68) = 6.93, p = .010, R^2 = 0.092$

Second regression: $F(1, 68) = 2.32, p = .133, R^2 = 0.033$

Third regression: $F(2, 67) = 15.01, p < .001, R^2 = 0.309$

Research Question 3

RQ3: To what extent does job satisfaction mediate the relationship between idealized influence (behaviors) and job performance of virtual workers?

*H*₀₃: Job satisfaction does not significantly mediate the relationship between idealized influence (behaviors) and job performance.

*H*₁₃: Job satisfaction significantly mediates the relationship between idealized influence (behaviors) and job performance.

To examine RQ3, a mediation analysis was conducted to assess if job satisfaction mediates the relationship between idealized influence (behaviors) and job performance. In this case, idealized influence (behaviors) was the continuous-level independent variable of the analysis, measured by the MLQ. Job satisfaction was the continuous-level mediating variable of the analysis, measured by the JSS. Job performance was the continuous-level dependent variable of the analysis, measured by the RBPS.

The assumptions of normality and homoscedasticity were assessed visually through examinations of scatterplots. Normality was tested with a P-P scatterplot and the data closely followed the normal trend line, suggesting the assumption was met (see Figure 11). Homoscedasticity was tested with a residuals scatterplot and the random spread in the plot indicated that the assumption was met (see Figure 12).

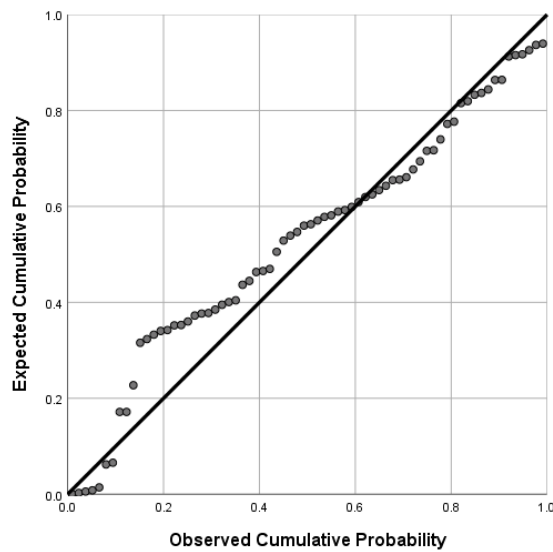


Figure 11. Normal P-P plot for regression with idealized attributes (behaviors) and job satisfaction predicting job performance.

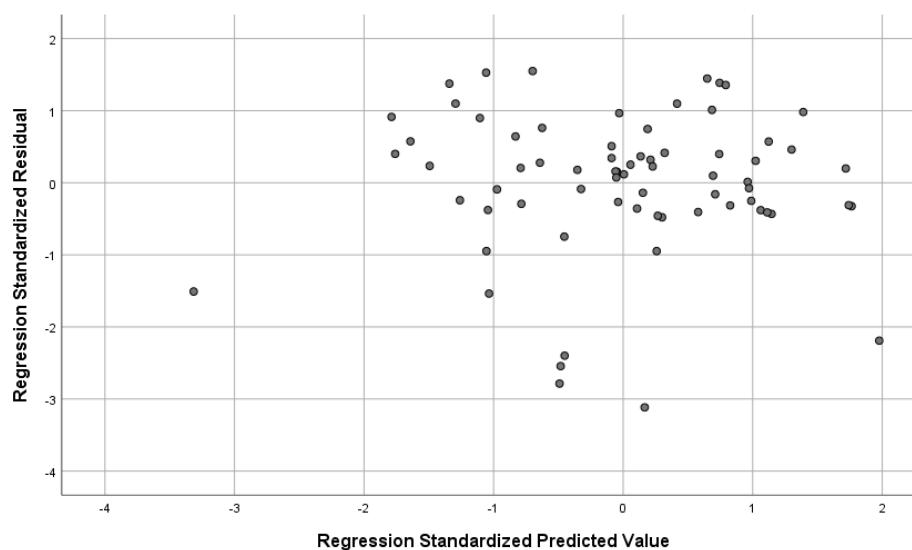


Figure 12. Residuals scatterplot for regression with idealized attributes (behaviors) and job satisfaction predicting job performance.

To assess for mediation, three regressions were conducted. For mediation to be supported, four items must be met:

1. The independent variable (idealized attributes [behaviors]) must be related to the dependent variable (job performance).

2. The independent variable (idealized attributes [behaviors]) must be related to the mediator variable (job satisfaction).
3. The mediator (job satisfaction) must be related to the dependent variable (job performance) while in the presence of the independent variable (idealized attributes [behaviors]).
4. The independent variable (idealized attributes [behaviors]) should no longer be a significant predictor of the dependent variable (job performance) in the presence of the mediator variable (job satisfaction).

First, the regression with idealized attributes (behaviors) (independent variable) predicting job performance (dependent variable) was conducted. The results of the regression were significant, $F(1, 68) = 5.47, p = .022, R^2 = .074$. This suggests that idealized attributes (behaviors) were statistically associated with job performance. The first item of the Baron and Kenny method was met.

Second, the regression with idealized attributes (behaviors) (independent variable) predicting job satisfaction (mediator) was conducted next. The results of the regression were not significant, $F(1, 68) = 3.84, p = .054, R^2 = .053$. This suggests that idealized attributes (behaviors) were not statistically associated with job satisfaction. The second item of the Baron and Kenny method was not met.

Finally, the multiple linear regression was conducted with idealized attributes (behaviors) (independent variable) and job satisfaction (mediator) predicting job performance (dependent variable). The results of the regression were significant, $F(2, 67) = 13.58, p < .001, R^2 = .288$. This suggests that idealized attributes (behaviors) and job

satisfaction collectively predicted job performance. Job satisfaction ($B = 0.42, t = 4.49, p < .001$) was a significant predictor of job performance, while in the presence of idealized attributes (behaviors). The third item of the Baron and Kenny method was met. Due to the idealized attributes (behaviors) ($B = 0.17, t = 1.54, p = .129$) not being a significant predictor in the presence of the job satisfaction, item 4 of the Baron and Kenny method was met. Because three of the four Baron and Kenny conditions were supported, the null hypothesis for research question three was partially rejected, indicating that job satisfaction was a partial mediator for the relationship between idealized attributes (behaviors) and job performance. The results of the regressions are presented in Table 6.

Table 6

Regression Results with Job Satisfaction Mediating the Relationship between Idealized Attributes (Behaviors) And Job Performance

Dependent	Independent	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Regression 1:						
Job performance	Idealized attributes (behaviors)	0.29	0.12	.27	2.34	.022
Regression 2:						
Job satisfaction	Idealized attributes (behaviors)	0.27	0.14	0.23	1.96	.054
Regression 3:						
Job performance	Idealized attributes (behaviors)	0.17	0.11	.16	1.54	.129
	Job satisfaction	0.42	0.09	.48	4.49	<.001

Note. First regression: $F(1, 68) = 5.47, p = .022, R^2 = 0.074$

Second regression: $F(1, 68) = 3.84, p = .054, R^2 = 0.053$

Third regression: $F(2, 67) = 13.58, p < .001, R^2 = 0.288$

Research Question 4

RQ4: To what extent does job satisfaction mediate the relationship between inspirational motivation and job performance of virtual workers?

*H*₀4: Job satisfaction does not significantly mediate the relationship between inspirational motivation and job performance.

*H*₁4: Job satisfaction significantly mediates the relationship between inspirational motivation and job performance.

To examine RQ4, a mediation analysis was conducted to assess if job satisfaction mediates the relationship between inspirational motivation and job performance. In this case, inspirational motivation was the continuous-level independent variable of the analysis, measured by the MLQ. Job satisfaction was the continuous-level mediating variable of the analysis, measured by the JSS. Job performance was the continuous-level dependent variable of the analysis, measured by the RBPS.

The assumptions of normality and homoscedasticity were assessed visually through examinations of scatterplots. Normality was tested with a P-P scatterplot and the data closely followed the normal trend line, suggesting the assumption was met (see Figure 13). Homoscedasticity was tested with a residuals scatterplot and the random spread in the plot indicated that the assumption was met (see Figure 14).

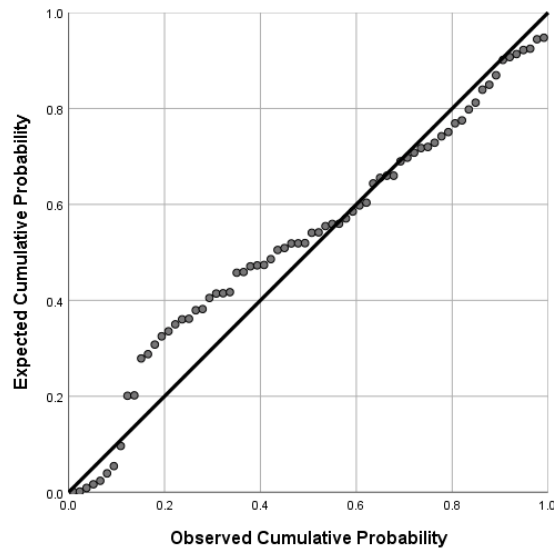


Figure 13. Normal P-P plot for regression with inspirational motivation and job satisfaction predicting job performance.

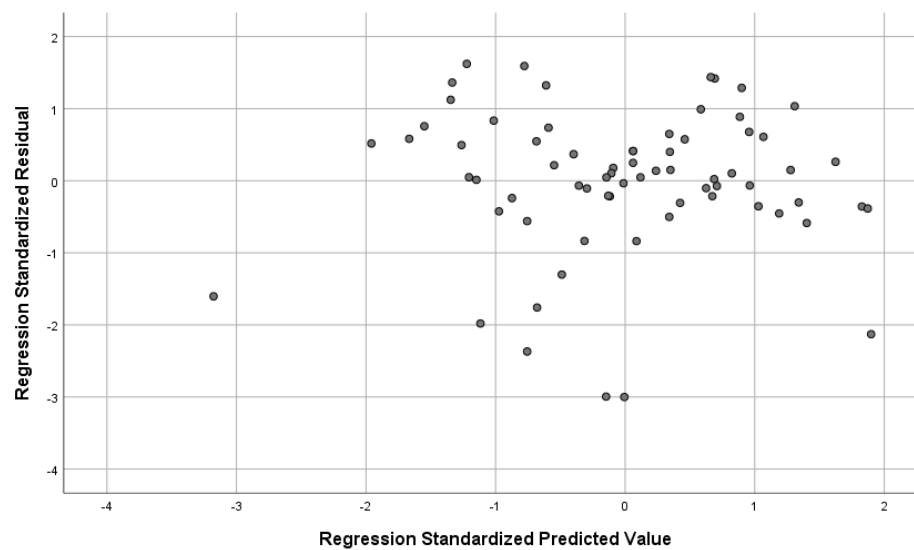


Figure 14. Residuals scatterplot for regression with inspirational motivation and job satisfaction predicting job performance.

To assess for mediation, three regressions were conducted. For mediation to be supported, four items must be met:

1. The independent variable (inspirational motivation) must be related to the dependent variable (job performance).

2. The independent variable (inspirational motivation) must be related to the mediator variable (job satisfaction).
3. The mediator (job satisfaction) must be related to the dependent variable (job performance) while in the presence of the independent variable (inspirational motivation).
4. The independent variable (inspirational motivation) should no longer be a significant predictor of the dependent variable (job performance) in the presence of the mediator variable (job satisfaction).

First, the regression with inspirational motivation (independent variable) predicting job performance (dependent variable) was conducted. The results of the regression were significant, $F(1, 68) = 5.35, p = .024, R^2 = .073$. This suggests that inspirational motivation was statistically associated with job performance. The first item of the Baron and Kenny method was met.

Second, the regression with inspirational motivation (independent variable) predicting job satisfaction (mediator) was conducted next. The results of the regression were significant, $F(1, 68) = 4.50, p = .037, R^2 = .062$. This suggests that inspirational motivation was statistically associated with job satisfaction. The second item of the Baron and Kenny method was met.

Finally, the multiple linear regression was conducted with inspirational motivation (independent variable) and job satisfaction (mediator) predicting job performance (dependent variable). The results of the regression were significant, $F(2, 67) = 13.35, p < .001, R^2 = .285$. This suggests that inspirational motivation and job satisfaction

collectively predicted job performance. Job satisfaction ($B = 0.42, t = 4.46, p < .001$) was a significant predictor of job performance, while in the presence of inspirational motivation. The third item of the Baron and Kenny method was met. Due to the inspirational motivation ($B = 0.15, t = 1.42, p = .160$) not being a significant predictor in the presence of the job satisfaction, item 4 of the Baron and Kenny method was met. Because all four of the Baron and Kenny conditions were supported, the null hypothesis for research question four was rejected, indicating that job satisfaction was a mediator for the relationship between inspirational motivation and job performance. Results of the regressions are presented in Table 7.

Table 7

Regression Results with Job Satisfaction Mediating the Relationship between Inspirational Motivation And Job Performance

Dependent	Independent	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Regression 1:						
Job performance	Inspirational motivation	0.26	0.11	.27	2.31	.024
Regression 2:						
Job satisfaction	Inspirational motivation	0.27	0.13	.25	2.12	.037
Regression 3:						
Job performance	Inspirational motivation	0.15	0.10	.15	1.42	.160
	Job satisfaction	0.42	0.10	.48	4.46	<.001

Note. First regression: $F(1, 68) = 5.35, p = .024, R^2 = 0.073$

Second regression: $F(1, 68) = 4.50, p = .037, R^2 = 0.062$

Third regression: $F(2, 67) = 13.35, p < .001, R^2 = 0.285$

Research Question 5

RQ5: To what extent does job satisfaction mediate the relationship between intellectual stimulation and job performance of virtual workers?

H₀₅: Job satisfaction does not significantly mediate the relationship between intellectual stimulation and job performance.

H₁₅: Job satisfaction significantly mediates the relationship between intellectual stimulation and job performance. To examine RQ5, a mediation analysis was conducted to assess if job satisfaction mediates the relationship between intellectual stimulation and job performance. In this case, intellectual stimulation was the continuous-level independent variable of the analysis, measured by the MLQ. Job satisfaction was the continuous-level mediating variable of the analysis, measured by the JSS. Job performance was the continuous-level dependent variable of the analysis, measured by the RBPS.

The assumptions of normality and homoscedasticity were assessed visually through examinations of scatterplots. Normality was tested with a P-P scatterplot and the data closely followed the normal trend line, suggesting the assumption was met (see Figure 15). Homoscedasticity was tested with a residuals scatterplot and the random spread in the plot indicated that the assumption was met (see Figure 16).

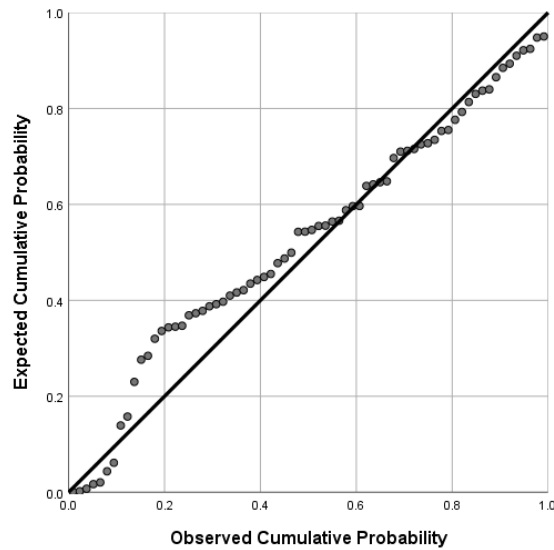


Figure 15. Normal P-P plot for regression with intellectual stimulation and job satisfaction predicting job performance.

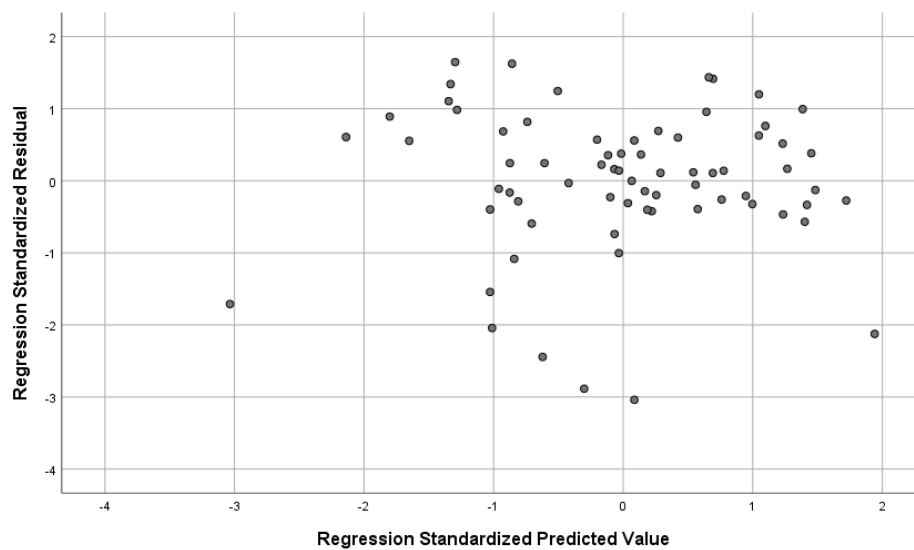


Figure 16. Residuals scatterplot for regression with intellectual stimulation and job satisfaction predicting job performance.

To assess for mediation, three regressions were conducted. For mediation to be supported, four items must be met:

1. The independent variable (intellectual stimulation) must be related to the dependent variable (job performance).

2. The independent variable (intellectual stimulation) must be related to the mediator variable (job satisfaction).
3. The mediator (job satisfaction) must be related to the dependent variable (job performance) while in the presence of the independent variable (intellectual stimulation).
4. The independent variable (intellectual stimulation) should no longer be a significant predictor of the dependent variable (job performance) in the presence of the mediator variable (job satisfaction).

First, the regression with intellectual stimulation (independent variable) predicting job performance (dependent variable) was conducted. The results of the regression were not significant, $F(1, 68) = 1.28, p = .262, R^2 = .018$. This suggests that intellectual stimulation was not statistically associated with job performance. The first item of the Baron and Kenny method was not met.

Second, the regression with intellectual stimulation (independent variable) predicting job satisfaction (mediator) was conducted next. The results of the regression were not significant, $F(1, 68) = 0.12, p = .725, R^2 = .002$. This suggests that intellectual stimulation was not statistically associated with job satisfaction. The second item of the Baron and Kenny method was not met.

Finally, the multiple linear regression was conducted with intellectual stimulation (independent variable) and job satisfaction (mediator) predicting job performance (dependent variable). The results of the regression were significant, $F(2, 67) = 12.80, p < .001, R^2 = .276$. This suggests that intellectual stimulation and job satisfaction

collectively predicted job performance. Job satisfaction ($B = 0.45, t = 4.89, p < .001$) was a significant predictor of job performance, while in the presence of intellectual stimulation. The third item of the Baron and Kenny method was met. Due to the intellectual stimulation ($B = 0.13, t = 1.10, p = .276$) not being a significant predictor in the presence of the job satisfaction, item 4 of the Baron and Kenny method was met. Because only two of the four Baron and Kenny conditions were supported, the null hypothesis for research question five was not rejected, indicating that job satisfaction was not a mediator for the relationship between intellectual stimulation and job performance. The results of the regressions are presented in Table 8.

Table 8

Regression Results with Job Satisfaction Mediating the Relationship between Intellectual Stimulation And Job Performance

Dependent	Independent	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Regression 1:						
Job performance	Intellectual stimulation	0.15	0.13	.14	1.13	.262
Regression 2:						
Job satisfaction	Intellectual stimulation	0.05	0.15	.04	0.35	.725
Regression 3:						
Job performance	Intellectual stimulation	0.13	0.12	.11	1.10	.276
	Job satisfaction	0.45	0.09	.51	4.89	<.001

Note. First regression: $F(1, 68) = 1.28, p = .262, R^2 = 0.018$

Second regression: $F(1, 68) = 0.12, p = .725, R^2 = 0.002$

Third regression: $F(2, 67) = 12.80, p < .001, R^2 = 0.276$

Research Question 6

RQ6: To what extent does job satisfaction mediate the relationship between individualized consideration and job performance of virtual workers?

*H*₀₆: Job satisfaction does not significantly mediate the relationship between individualized consideration and job performance.

*H*₁₆: Job satisfaction significantly mediates the relationship between individualized consideration and job performance.

To examine RQ6, a mediation analysis was conducted to assess if job satisfaction mediates the relationship between individualized consideration and job performance. In this case, individualized consideration was the continuous-level independent variable of the analysis, measured by the MLQ. Job satisfaction was the continuous-level mediating variable of the analysis, measured by the JSS. Job performance was the continuous-level dependent variable of the analysis, measured by the RBPS.

The assumptions of normality and homoscedasticity were assessed visually through examinations of scatterplots. Normality was tested with a P-P scatterplot and the data closely followed the normal trend line, suggesting the assumption was met (see Figure 17). Homoscedasticity was tested with a residuals scatterplot and the random spread in the plot indicated that the assumption was met (see Figure 18).

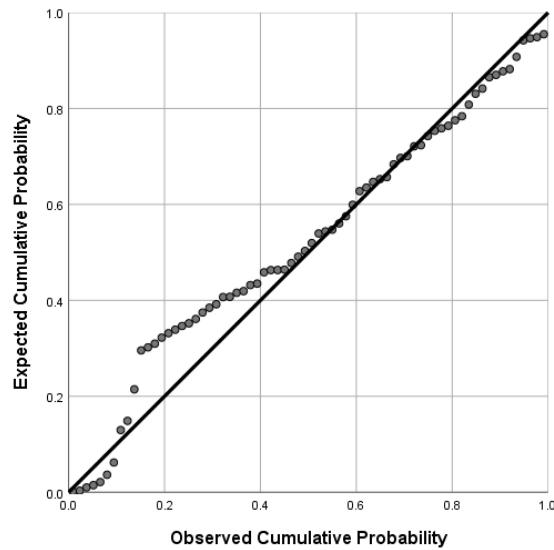


Figure 17. Normal P-P plot for regression with individualized consideration and job satisfaction predicting job performance.

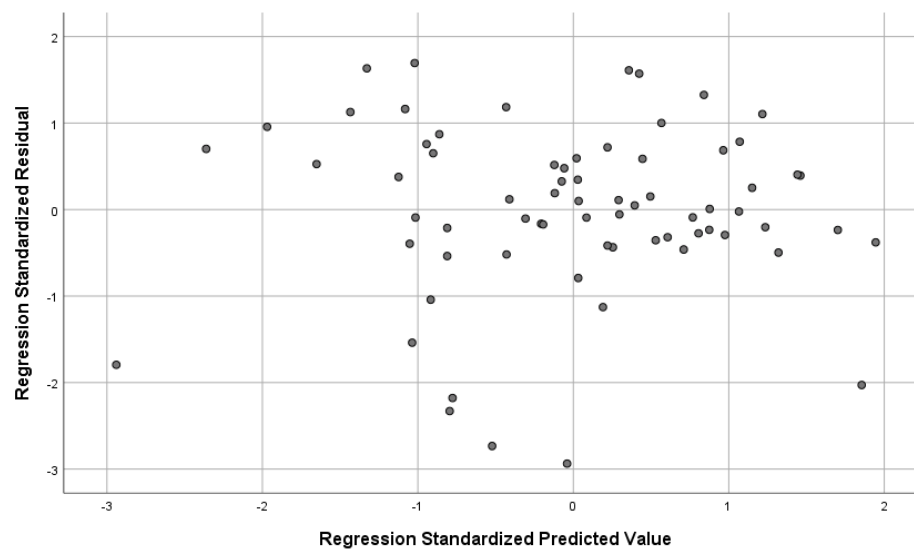


Figure 18. Residuals scatterplot for regression with individualized consideration and job satisfaction predicting job performance.

To assess for mediation, three regressions were conducted. For mediation to be supported, four items must be met:

1. The independent variable (individualized consideration) must be related to the dependent variable (job performance).

2. The independent variable (individualized consideration) must be related to the mediator variable (job satisfaction).
3. The mediator (job satisfaction) must be related to the dependent variable (job performance) while in the presence of the independent variable (individualized consideration).
4. The independent variable (individualized consideration) should no longer be a significant predictor of the dependent variable (job performance) in the presence of the mediator variable (job satisfaction).

First, the regression with individualized consideration (independent variable) predicting job performance (dependent variable) was conducted. The results of the regression were not significant, $F(1, 68) = 1.99, p = .163, R^2 = .028$. This suggests that individualized consideration was not statistically associated with job performance. The first item of the Baron and Kenny method was not met.

Second, the regression with individualized consideration (independent variable) predicting job satisfaction (mediator) was conducted next. The results of the regression were significant, $F(1, 68) = 6.35, p = .014, R^2 = .085$. This suggests that individualized consideration was statistically associated with job satisfaction. The second item of the Baron and Kenny method was met.

Finally, the multiple linear regression was conducted with individualized consideration (independent variable) and job satisfaction (mediator) predicting job performance (dependent variable). The results of the regression were significant, $F(2, 67) = 12.00, p < .001, R^2 = .264$. This suggests that individualized consideration and job

satisfaction collectively predicted job performance. Job satisfaction ($B = 0.45, t = 4.63, p < .001$) was a significant predictor of job performance, while in the presence of individualized consideration. The third item of the Baron and Kenny method was met. Due to the individualized consideration ($B = 0.02, t = 0.18, p = .855$) not being a significant predictor in the presence of the job satisfaction, item 4 of the Baron and Kenny method was met. Because three of the four Baron and Kenny conditions were supported, the null hypothesis for research question six was partially rejected, indicating that job satisfaction was a partial mediator for the relationship between individualized consideration and job performance. The results of the regressions are presented in Table 9.

Table 9

Regression Results with Job Satisfaction Mediating the Relationship between Individualized Consideration And Job Performance

Dependent	Independent	<i>B</i>	<i>SE</i>	β	<i>t</i>	<i>p</i>
Regression 1:						
Job performance	Individualized consideration	0.19	0.14	.17	1.41	.163
Regression 2:						
Job satisfaction	Individualized consideration	0.38	0.15	.29	2.52	.014
Regression 3:						
Job performance	Individualized consideration	0.02	0.13	.02	0.18	.855
	Job satisfaction	0.45	0.10	.51	4.63	<.001

Note. First regression: $F(1, 68) = 1.99, p = .163, R^2 = 0.028$

Second regression: $F(1, 68) = 6.35, p = .014, R^2 = 0.085$

Third regression: $F(2, 67) = 12.00, p < .001, R^2 = 0.264$

Summary

The purpose of this quantitative study was to examine the effectiveness of leadership (specifically transformational leadership style) on job performance and job satisfaction when employees work virtually. In this chapter, the findings of the data collection and analysis were presented. Descriptive statistics were used to examine the trends of the nominal and continuous variables. To address the research questions, a series of mediation analyses were conducted. Regarding RQ1, due to all four of the Baron and Kenny conditions being supported, the null hypothesis was rejected, indicating that job satisfaction was a significant mediator for the relationship between transformational leadership and job performance. Regarding RQ2, due to only two of the four Baron and Kenny conditions being supported, the null hypothesis for research question two was not rejected, indicating that job satisfaction was not a significant mediator for the relationship between idealized attributes (influenced) and job performance. Regarding RQ3, due to three of the four Baron and Kenny conditions being supported, the null hypothesis for research question three was partially rejected, indicating that job satisfaction was a partial mediator for the relationship between idealized attributes (behaviors) and job performance. Regarding RQ4, due to all four Baron and Kenny conditions being supported, the null hypothesis for research question four was rejected, indicating that job satisfaction was a mediator for the relationship between inspirational motivation and job performance. Regarding RQ5, due to two of the four Baron and Kenny conditions being supported, the null hypothesis for research question five was not rejected, indicating that job satisfaction was not a mediator for the relationship between intellectual stimulation

and job performance. Regarding RQ6, due to three of the four Baron and Kenny conditions being supported, the null hypothesis for research question six was partially rejected, indicating that job satisfaction was a partial mediator for the relationship between individualized consideration and job performance.

In the next chapter, the findings of the statistical analysis will continue to be explored in connection with the literature and theoretical framework. The summary and implications of the finding will be provided. Limitation of the study, recommendations for future research, implications for social change and the conclusion will also be discussed.

Chapter 5: Discussion, Conclusions, and Recommendations

Introduction

The purpose of this quantitative study was to examine the effectiveness of leadership (specifically transformational leadership style) on job performance and job satisfaction when employees work virtually. Research has shown that there is a gap in the literature as it relates to transformational leadership, the independent variable of this current study, and its effect on virtual employees. Tiri et al., 2015 found in their review of studies that while transformational leadership influences the performance of teams; little research has been done to determine the influence of transformational leadership on virtual project team performance. The dependent variables for this study were job performance and job satisfaction. I sought to add to the literature by providing information that could be beneficial to leaders whose roles are to influence job satisfaction and job performance of virtual workers.

In this chapter, I discussed the analysis and interpretation of the findings, along with the research questions and hypotheses. I also discussed study limitations and recommendations for future research as it pertains to the virtual workplace. Further discussion provided opportunities for the impacting social change and my conclusion.

To examine the influence of transformational leadership style on job satisfaction and job performance of virtual workers, a series of mediation analyses were conducted to address the six research questions.

RQ1: To what extent does job satisfaction mediate the relationship between transformational leadership and job performance of virtual workers?

*H*₀1: Job satisfaction does not significantly mediate the relationship between transformational leadership and job performance.

*H*₁1: Job satisfaction significantly mediates the relationship between transformational leadership and job performance.

RQ2: To what extent does job satisfaction mediate the relationship between idealized influence (attributes) and job performance of virtual workers?

*H*₀2: Job satisfaction does not significantly mediate the relationship between idealized influence (attributes) and job performance.

*H*₁2: Job satisfaction significantly mediates the relationship between idealized influence (attributes) and job performance.

RQ3: To what extent does job satisfaction mediate the relationship between idealized influence (behaviors) and job performance of virtual workers?

*H*₀3: Job satisfaction does not significantly mediate the relationship between idealized influence (behaviors) and job performance.

*H*₁3: Job satisfaction significantly mediates the relationship between idealized influence (behaviors) and job performance.

RQ4: To what extent does job satisfaction mediate the relationship between inspirational motivation and job performance of virtual workers?

*H*₀4: Job satisfaction does not significantly mediate the relationship between inspirational motivation and job performance.

*H*₁4: Job satisfaction significantly mediates the relationship between inspirational motivation and job performance.

RQ5: To what extent does job satisfaction mediate the relationship between intellectual stimulation and job performance of virtual workers?

H₀₅: Job satisfaction does not significantly mediate the relationship between intellectual stimulation and job performance.

H₁₅: Job satisfaction significantly mediates the relationship between intellectual stimulation and job performance.

RQ6: To what extent does job satisfaction mediate the relationship between individualized consideration and job performance of virtual workers?

H₀₆: Job satisfaction does not significantly mediate the relationship between individualized consideration and job performance.

H₁₆: Job satisfaction significantly mediates the relationship between individualized consideration and job performance.

Summary of the Findings

Study participants ranged in age from 21 to 60+ years, ethnicity varied across all participants 27 white, 31 black or African American, 3 Asian, 3 Latino, 2 American Indian or Alaska Native, and 4 multiple races. Most participants have been employed in their position for 2 to 20+ years; 29% of the participants were in their position less than a year; incomes ranged from less than \$10,000 to more than \$90,000 per year. Participants answered questions from three different surveys: the JSS, the RBPS, and the MLQ-5X. Linear regressions and mediation analyses were conducted to assess the hypotheses. The independent variable was transformational leadership; the dependent variables were job satisfaction and job performance.

The independent variable transformational leadership style has four influence factors that are essential. The four influence factors are idealized influence, intellectual stimulation, inspirational motivation, and individual consideration (Alsayed, Motaghi, & Osman, 2012). Three linear regressions were conducted to assess mediation: (a) the first analysis establishes the relationship between the independent variable and the dependent variable; (b) the second analysis establishes the relationship between the independent variable and the mediator variable, and (c) the third analysis establishes the relationship between the mediator and the dependent variable in the presence of the independent variable.

For mediation to be met, Baron and Kenny identified four conditions: (a) a significant relation of the independent variable to the dependent variable is required in equation one, (b) a significant relation of the independent variable to the hypothesized mediating variable is required in equation three, (c) the mediating variable must be significantly related to the dependent variable when both the independent variable and mediating variable are predictors of the dependent variable in equation two, and (d) the coefficient relating the independent variable to the dependent variable must be larger (in absolute value) than the coefficient relating the independent variable to the dependent variable in the regression model with both the independent variable and the mediating variable predicting the dependent variable (MacKinnon et al., 2007). All four qualifications for mediation must be met for mediation to be significantly supported.

Results of the analysis show that all four of Baron and Kenny's conditions were supported in RQ1 and RQ4; demonstrating that job satisfaction was a significant

mediator for the relationship between transformational leadership and job performance and the relationship between inspirational motivation and job performance. Results determined that job satisfaction was a partial mediator for the relationship between idealized attributes (behaviors) and job performance and the relationship between individualized consideration and job performance due to only three of Baron and Kenny's conditions being supported as it pertained to RQ3 and RQ6. Results further indicate that job satisfaction was not a significant mediator for idealized attributes (influenced) and job performance or for the relationship between intellectual stimulation and job performance as only two of Baron and Kenny's conditions were met in RQ2 and RQ5.

Interpretation of the Findings

Results from this current study found that job satisfaction was a significant mediator for the relationship between transformational leadership and job performance. As with this current study, a similar study conducted by Prabowo, Noermijati, and Irawanto (2018) examined the influence of transformational leadership and worker's motivation as it related to employee performance either with or without job satisfaction as a mediator. Study results matched the results of this current study and found that job satisfaction significantly mediates the influence of transformational leadership as it relates to employee performance.

Varies study have showed that job satisfaction is a significant mediator for the relationship between transformational leadership and job performance (Elgelal & Noermijati, 2015; Ngaithe, Aol, Lewa, & Ndwiga, 2016; and Paracha et al, 2012). Based on the findings of these previous studies, it can be concluded that the finding from this

current study are valid as it pertains to transformational leadership and job performance with job satisfaction as the mediator.

Transformational leaderships' four influences, idealized influence, intellectual stimulation, inspirational motivation, and individual consideration were also examined in this current research study; results determined that job satisfaction was a significant mediator for the relationship between inspirational motivation and job performance. Results further determined that job satisfaction was a partial mediator for the relationship between idealized attributes (behaviors) and job performance and the relationship between individualized consideration and job performance. Results further indicate that job satisfaction was not a significant mediator for idealized attributes (influenced) and job performance or for the relationship between intellectual stimulation and job performance.

The difference in the significance of the relationship between job satisfaction as the mediation and the four influencers of transformational leadership may be related to weakness identified in the transformational leadership theory. Northouse (2013) identified several weaknesses in transformational leadership. The weaknesses included a lack of conceptual clarity, due to the many characteristics of transformational leadership and the activities associated with the leadership theory, which the author stated makes it difficult to identify the exact parameters of transformational leadership style. Based on the finding of the current study and the weaknesses identified as it relates to transformational leadership style, it can also be concluded that the finding in this current research as it related to the four influencers of transformational leadership are valid.

Limitations of the Study

External Validity

I identified a number of limitations to this current study. One limitation was the sample pool for this study consisted only of individuals who work virtually based on a specific definition. I defined the virtual workplace using the definition used by DeRosa (2009), teams in which team members work is geographically dispersed, (at least one-third of the team members work in different locations) but must collaborate with one another to get work done combined with part of Malhotra et al. (2007) the definition with minimal face-to-face interaction.

A second limitation was the challenges found when using quantitative research as it relates to the sample size. Researchers, at times, find challenges in conducting quantitative research with gaining access to marginalized populations and getting sufficient numbers of the population to participate (Cokley & Awad, 2013). Quantitative research relies heavily on the researcher's ability to generalize from an adequate sample (randomly select a sample to minimize or eliminate bias), making sampling methods and data collection very important; however, random selection is sometimes difficult to achieve (Cokley & Awad, 2013).

A third limitation was the use of electronic survey tools. Limitations may exist due to data collections consisting of the completion of electronic survey tools and the fact that participants may or may not answer questions truthfully (Cokley & Awad, 2013).

Internal Validity

The final limitation was the method used to gather data as it relates to the study of leadership; I used the quantitative research method. Quantitative research is a means for testing objective theories by examining the relationship among variables. These variables, in turn, can be measured, typically on instruments, so that numbered data can be analyzed using statistical procedures (Creswell, 2009). Quantitative questionnaires have been associated with leadership research for several years; however, researchers have criticized and found limitations to using only quantitative data (Creswell, 2009). Suggestions of limitations of quantitative research include adopting defective definitions of measurement, thinking that measurement is simply the assignment of numbers to objects and events based on specific rules, that statistical analysis may not always allow for meaningful theoretical interpretations due to the vagueness of information encoded in variable and because of essential limitations of statistical procedures (Boje et al., 2011; Gelo et al., 2008).

Recommendations for Future Research

Several recommendations were identified for future research. The first recommendation would be for the present research to be repeated with a larger sample size of virtual workers. This current research included the minimum amount of samples required to conduct the statistical analysis; however, a more substantial number of virtual workers is recommended for future research.

The second recommendation would be to repeat this current research using a mixed-method design. Creswell and Clark (2017) define mixed-method designs as a

process that researchers or a team of researchers use to combine features of qualitative and quantitative research to get an extensive and deeper understanding and validation. The authors also state that mixed-method research helps connect strengths that offset the weaknesses of quantitative and qualitative research and answer questions that cannot be answered by quantitative and qualitative approaches alone (Creswell & Clark, 2017).

A third recommendation would be to repeat this current research with a focus on several leadership styles. Transformational Leadership style was the only leadership style examined in this study. Findings from research conducted by Kovjanic, Schuh, and Jonas (2013) noted that transformational leadership is one concrete way to foster employees' needs, satisfaction, and, consequently work engagement and performance.

Repeating this study examining multiple leadership styles could further define leadership styles and traits that correlate with employee job satisfaction and job performance when working virtually. Repeating this study focusing on several leadership styles could also help define additional traits that could be essential to virtual team success.

A fourth recommendation would be to focus on how demographics change the results of this current study. Conducting additional analysis using data that focus on how age, time in the position, cultural differences, and earnings could contribute to virtual employers recognizing ways to enhance job performance and job satisfaction based on demographics data.

The final recommendation for future research would be to examine how the current pandemic (Coronavirus) has impacted virtual work. The current pandemic has

increased the number of individuals working virtual and could bring additional challenges for leaders as they seek to manage employees who may be new to remote work, have children and other family members at home or a parent or parents that they care for finding it difficult to perform or maintain job duties. Christie (2020) states that in a matter of weeks the COVID-19(Coronavirus) pandemic changed the way most of the world works. Many organizations allow for flexible work arrangements; however, few have a fully remote team 100% of the time.

As the number of growing U.S. companies transition their offices and move to telework to prevent the spread of coronavirus, there is an important question around the short-term effect on businesses' success and the long-term impact of the virus may have on the world at work (Miller, 2020). Miller further states that many employers have followed the lead of companies such as Amazon, Apple, Twitter, Microsoft and Google and a large portion of these companies could seriously consider whether they will ever need a physical building for their business.

Based on the effects of their essential operations and on whether or not operations are drastically disrupted by telecommuting, many employers may choose to make this switch a permanent one (Miller, 2020). Such a change could essentially alter the American workforce, and simultaneously demand major changes to the way business leaders oversee their organizations (Miller, 2020).

Implications for Social Change

Based on current world events and the continued growth of virtual work, findings from this study have several implications for social change that could be beneficial to

employers, employees, organizational leaders, and society as a whole. Abrams (2019) found that between 2005 and 2015 more than 26 million Americans, (approximately 16% of the total workforce) work remotely at least part of the time, an increase of 115%.

Employers could benefit from the study results and impact social change by assisting organization leaders in defining and understanding specific leadership characteristics and traits that contribute to increasing virtual employee's job satisfaction and job performance that could lead to overall virtual team and organization success both locally and globally. Meyer (2011) states due to virtual teams' rapid growth, understanding the relationship between leadership styles and successful virtual teams may have a real and significant social impact.

The impact on social change as it relates to virtual employees and the finding in this study is the opportunity to work in virtual organizations that promote and work to increase job satisfaction that leads to increased work productivity. Researchers have shown that there are many challenges for virtual workers; challenges such as feeling isolation, working at homes or in environments that do not allow the conveniences of the office, time zone differences, and lack of face-to-face opportunities (Nydegger & Nydegger, 2010). These challenges have resulted in employees' lack of job satisfaction and job performance. Dennis et al. (2013) stated that working in the comforts of home may seem like a dream; however, it has been found that satisfaction fluctuates wildly among virtual workers. The authors' study of virtual workers found that a large number (46 percent) of employees who work virtually report a sense of isolation due to a lack of face-to-face contact with team members, time zone differences, and using global clocks

effectively as reasons for employee dissatisfaction (Dennis et al, 2013). The researchers also found that performance declined as virtual distance accrued, innovation behavior declined by 93%, trust fell by 83%, satisfaction in the job declined by 80%, clarity of one's role/goals declined by 62%, project results and leader effectiveness declined by 50% or more, and organizational citizenship behavior declined by 47% (Dennis et al., 2013). Results from this study could be resourceful to organizations both local and global as they implement strategies to engage with employees virtually.

The results of this study could also impact social change as it relates to organizational leaders. The finding can assist leaders in organizations with identifying the best individuals to manage virtual teams. As organizations struggle to find the right individuals to lead virtual teams towards meeting organization goals and outcomes, identifying individuals with transformational leadership traits could result in overall organizational goal achievement and virtual team satisfaction, performance, and success.

This research could further add to social change by assisting in establishing public policies that adopt workplace flexibility. In a study conducted by DuBois, Hanlon, Koch, Nyatuga, and Kerr (2015), the researchers noted that there had been substantial interest in public policies pertaining to telecommuting and flexibility encouraged by the notion that telecommuting could help individuals navigate work and family challenges. The ability to navigate work and family challenges could result in more satisfied employees thus increased job performance.

Lastly, the results can have a significant impact on society as a whole as it adds additional information to research on the virtual workplace that will help fill the research

gap on what kind of leaders and leadership traits contribute to effective virtual teams, virtual team success, virtual team satisfaction and virtual team performance as employees seek to collaborate across time, space, and boundaries to meet organizational goals.

Conclusion

The purpose of this study was to assist in narrowing the gap found in literature as it relates to leadership effectiveness and virtual teams' job satisfaction and job performance. Researchers have found gaps in previous research as it relates to leadership effectiveness when leading virtual teams as well as which leadership competencies transmit to virtual team effectiveness (Anantamula & Thomas, 2010; Caultat & Pedler, 2012; Ziek & Smulowitz, 2014). Researchers have also found that there is limited research to determine the influence of transformational leadership on project virtual team performance (Tiri, Ogollah, & Mburu, 2015).

Important conclusions to take from this study are: (a) transformational leadership was shown to be significantly related to job satisfaction; (b) while transformational leadership is not significantly related to job performance, job satisfaction is a significant mediator for the relationship between transformational leadership and job performance; and (c) based on these findings, it can be stated that with job satisfaction as the mediator when transformational leadership style is present, an employee's job performance increases.

Further, it should be noted that the four influence factors of transformational leadership (a) idealized attributes (influenced and behaviors); (b) inspirational motivation; (c) intellectual stimulation; and (d) individualized consideration and job

satisfaction collectively predicted job performance. Job satisfaction was shown to be a significant predictor of job performance, while in the presence of each of these four influence factors. These findings suggested that transformational leadership has a significant effect on job satisfaction and job performance of virtual workers.

Previous studies have shown that transformational leadership significantly influences job satisfaction (Elgelal & Noermijati, 2015; Ngaithe, Aol, Lewa, & Ndwiga, 2016; and Paracha et al, 2012). In this study, it was shown that job satisfaction is a significant mediator for the relationship between transformational leadership and job performance. Thus, it can be stated that leaders of virtual workers/teams who exhibit traits of the transformational leadership style can be conducive to virtual employees' job satisfaction and job performance. As organizations continue to transition to virtual work environments, knowing the most effective leadership traits for fostering employee's job satisfaction and job performance could certainly lead to increased virtual organization success.

References

- Abrams, Z. (2019, October). The future of remote work. *Monitor on Psychology, 50*(9), Retrieved from <https://www.apa.org/monitor/2019/10/cover-remote-work>
- Adler, N.J. (2008). *International dimensions of organizational behavior* (5th ed). Mason, OH: Thomson South-Western.
- Allen, G. P., Moore, W. M., Mosser, L.R., Neill, K. K., Sambamoorthi, U., & Bell, H. S. (2016). The role of servant leadership and transformational leadership in academic pharmacy. *American Journal of Pharmaceutical Education, 80*(7), 113. DOI: 10.5688/ajpe807113
- Allen, T. D., Golden, T. D., & Shockley, K. M. (2015). How effective is telecommuting? Assessing the status of our scientific findings. *Psychological Science in the Public Interest, 16*(2), 40-68. <https://doi.org/10.1177/1529100615593273>
- Alsayed, A.K., Motaghi, M. H., & Osman, I. B. (2012). The use of the multifactor leadership questionnaire and communication satisfaction questionnaire in palestine: A research note. *International Journal of Scientific and Research Publication, 2*(11), 1-9. <https://pdfs.semanticscholar.org/f751/23c27aa3cb61b71b734367b730c82e0c46a9.pdf>
- Anantatmula, V., & Thomas, M. (2010). Managing global projects: A structured approach for better performance. *Project Management Journal, 41*(2), 60-72. DOI: 10.1002/pmj.20168

- Astrauskaite, M., Vaitkevicius, R., & Perminas, A. (2011). Job satisfaction survey: A confirmatory factor analysis based on secondary school teachers' sample. *International Journal of Business and Management*, 6(41-49). DOI: 10.5539/ijbm.v6n5p41.
- Aziri B. (2011). Job satisfaction: A literature review. *Management Research and Practice*, 3(4), 77-86.
<https://pdfs.semanticscholar.org/136e/0e77dd3387e59954df73294d3e0114a08435.pdf>
- Barnwell, D., Nedrick, S., Rudolph, E., Sesay, M., & Wellen, W. (2014). Leadership of international and virtual project teams. *International Journal of Global Business*, 7(2), 1-8.
<https://content.ebscohost.com/ContentServer.asp?T=P&P=AN&K=97722072&S=R&D=bth&EbscoContent=dGJyMMv17ESep644v%2BvIOLCmsEieqK5Sr6q4Sq%2BWxWXS&ContentCustomer=dGJyMPGss0q1qK5IuePfgeyx43zx>
- Bartel, C. A., Wrzesniewski, A., & Wiesenfeld, B. M. (2012). Where you stand: Physical isolation, perceived respect, and organizational identification among virtual employees. *Organization Science*, 23(3), 743-757. DOI:10.1287/orsc.1110.0661
- Bass, B. M. & Bass, R. (2008). *The Bass handbook of leadership: Theory, research, and managerial applications* (4th ed.). New York, NY: The Free Press.
- Bass, B. M. & Riggio, R. E. (2008). *Transformational Leadership*. Mahwah, New Jersey: Lawrence Erlbaum Associates, Inc.

- Bergiel, B. J., Bergiel, E. B., & Balsmeier, P. W. (2008). Nature of virtual teams: A summary of their advantages and disadvantages. *Management Research News*, 31(2), 99-110. <https://doi.org/10.1108/01409170810846821>
- Boje, D. M., Pullen, A., Rhodes, C., & Rosile, G. A. (2011). The virtual leader. In A. Bryman, K. G. Collinson, B. Jackson, & M. Uhl-Bien (Eds.). *The Sage handbook of leadership* (pp. 518-528). Thousand Oaks, CA: Sage Publications Ltd.
- Bodla, M. A., & Nawaz, M. M. (2010). Transformational leadership style and its relationship with satisfaction. *Interdisciplinary Journal of Contemporary Research in Business*, 2(1), 370-381.
http://joc.hcc.edu.pk/faculty_publications/may10_IJCRB_2.pdf
- Breevaart, K., Bakker, A., Hetland, J, Demerouti, E., Olsen, O. K., & Espevik, R. (2014). Daily transactional and transformational leadership and daily employee engagement. *Journal of Occupational and Organizational Psychology*, 87, 138–157. <https://doi.org/10.1111/joop.12041>
- Caillier, J. G. (2014). Do role clarity and job satisfaction mediate the relationship between telework and work effort? *International Journal of Public Administration*, 37(4), 193-201. <https://doi.org/10.1080/01900692.2013.798813>
- Caulat, G. & Pedler M. (2012) *Virtual leadership: Learning to lead differently*. Oxfordshire, UK: Libri Publishing.
- Choi, S. L., Goh, C. F., Adam, M. B., & Tab, O. K. (2016). Transformational leadership,

empowerment, and job satisfaction: the mediating role of employee empowerment. *Human Resource Health*, 14(1), 73. doi:10.1186/s12960-016-0171-2

Christie, B. (2020). Remote work, talent sharing could expand beyond covid-19 a worldatwork report. *Future Look*, 1. <https://hr-vendor-directory.worldatwork.org/workspan/articles/remote-work-talent-sharing-could-expand-beyond-covid-19>

Cokley, K. & Awad, G. H. (2013). In defense of quantitative methods: Using the “master’s tools” to promote social justice. *Journal of Social Action in Counseling and Psychology*, 5(2), 26-41. DOI: <https://doi.org/10.33043/JSACP.5.2.26-41>

Creswell, J.W. (2009). *Research design: Qualitative, quantitative, and mixed methods approaches* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc.

Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research*. (3rd ed.). Thousand, Oaks, CA: Sage publications, Inc.

Cuncic, A., 2020. Understanding Internal and External Validity. <https://www.verywellmind.com/internal-and-external-validity-4584479>

Dennis, D. J., Meola, D., & Hall, M. J. (2013). Effective leadership in a virtual workplace. *American Society for Training & Development*, 47-52. <https://www.td.org/magazines/td-magazine/effective-leadership-in-a-virtual-workforce>

DeRosa, D. (2009). Virtual success: The keys to effectiveness in leading from a distance. *Leadership in Action*, 28(6), 9-12. <https://doi.org/10.1002/lia.1269>

- Dimitrov, D. Y., & Darova, S. S. (2016). Factor structure of the multifactor leadership questionnaire MLQ 5X. *Strategic Impact*, 58(1), 44-55.
- https://www.researchgate.net/profile/Dimitar_Dimitrov50/publication/324220801_FACTOR_STRUCTURE_OF_THE_MULTIFACTOR_LEADERSHIP_QUESTIONNAIRE_MLQ_5X/links/5c8772f5299bf1e02e289667/FACTOR-STRUCTURE-OF-THE-MULTIFACTOR-LEADERSHIP-QUESTIONNAIRE-MLQ-5X.pdf
- DuBois, M., Hanlon, J., Koch, J., Nyatuga, B., & Kerr, N. (2015). Leadership styles of effective project managers: techniques and traits to lead high performance teams. *Journal of Economic Development, Management, IT, Finance and Marketing*, 7(1), 30-46.
- https://d1wqtxts1xzle7.cloudfront.net/63813574/leadership_style_high_performance_team20200702-8081-1nifyl0.pdf?1593737460=&response-content-disposition=inline%3B+filename%3DLeadership_Styles_of_Effective_Project_M.pdf&Expires=1597110804&Signature=H-tv7NeXNpN3--sLcIWj7xG~HHYMF38GS6p0m-s75GZBovI77wjKFuNIXR2JR0gmBs4T1ERUMOdB~XQrhJAiah-I9pcOy5zsy5y~x7XHS7XnHnxUX56Tx-sRa-pNWE41hDijK43OMqHF0mIb5aQTUjKpNyIQ3z6QVZwCdSgGuRwCdLuOkH4mvmUCpoEf2cbnn2kutC92cDBsWVS3jcS-VoiW9Ajrv6CNVf~VDnLNqO8QhtwAI1o0sbJ14SooEfNp8FY1xTN5kMOANG

w2SCSsa9hSvPkxAxIoX2W8hkBn~T6CPE6YmAuP4EKuPD1q2nIUglKNjxr93
Z77i2FLYTg__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA

DuFrene, D. D. & Lehman, C. M. (2016). *Managing virtual teams* (2nd ed.). New York, NY: Business Expert Press, LLC

Dulebohn, J. H. & Hoch, J. E. (2017). Virtual teams in organizations. *Human Resource Management Review*, 1-6. <https://doi.org/10.1016/j.hrmr.2016.12.004>

Ebrahim, N. A. (2015). Virtual R&D Teams: A New Model for Product Development. *International Journal of Innovation*, 3(2), 1-28.

DOI: <https://doi.org/10.5585/iji.v3i2.43>.

Eisenbeiss, S. A., van Knippenberg, D. & Boerner, S. (2008). Transformational leadership and team innovation: Integrating team climate principles. *Journal of Applied Psychology*, 93(6), 1438-1446. http://kops.uni-konstanz.de/bitstream/handle/123456789/3982/2008_Boerner_Transformational_Leadership_and_Team_Innovation.pdf?sequence=1&isAllowed=y

Eissa, G., Fox, C., Webster, B. D., & Kim, J. (2012). A framework for leader effectiveness in virtual teams. *Journal of Leadership, Accountability and Ethics*, 9(2), 11-22. http://www.na-businesspress.com/JLAE/FoxC_Web9_2_.pdf

Elgelal, K. S. K., & Noermijati, N. (2015). The influences of transformational leadership on employees' performance: A study of the economics and business faculty employees at University of Muhammadiyah Malang. *Asia-Pacific Management and Business Application*, 3(1), 48-66.

<https://apmba.ub.ac.id/index.php/apmba/article/viewFile/167/175>

- Fassinger, R. & Marrow, S. L. (2013). Toward best practices in quantitative, qualitative, and mixed-method research: a social justice perspective. *Journal of Social Action in Counseling and Psychology*, 5(2), 69-83.
<https://pdfs.semanticscholar.org/3133/f34862794ea1e2e45dc21b67603aac368ada.pdf>
- Feser, C., Mayol, F., & Srinivasan, R. (2015). Decoding leadership; what really matters. *McKinsey Quarterly*, 1-4.
https://www.oasisadvantage.com/prospect_newsletter/wp-content/uploads/2015/06/Decoding-leadership-What-really-matters1.pdf
- Frazier, P.A., Barron, K. E. & Tix, A. P. (2004). Testing moderator and mediator effects in Counseling Psychology. *Journal of Counseling Psychology*, 51(1), 115-134.
DOI: 10.1037/0022-0167.51.1.115
- Friedman, H. H. (2016). Is Your Organization Run by the Right Kind of Leader? An Overview of the Different Leadership Styles. *Murray Koppelman School of Business*, 1-35. <http://dx.doi.org/10.2139/ssrn.2844519>
- Gaviria-Riveral, J. I. & Lopez-Zapata, E. (2019). Transformational leadership, organizational climate and job satisfaction in work teams. *European Research Studies Journal*, 22(3), 68-82.
<https://www.um.edu.mt/library/oar/bitstream/123456789/47882/1/Transformational%20Leadership%20Organizational%20Climate%20and%20Job%20Satisfaction%20in%20Work%20Teams.pdf>
- Gelo, O., Braakmann, D., & Benetka, G. (2008). Quantitative and qualitative research:

Beyond the debate. *Integrative Psychological and Behavioral Science*, 42(3), 266-290. DOI: 10.1007/s12124-008-9078-3

Ghafoor, A., Qureshi, T. M., Khan, M. A., & Hijazi, S. T. (2011). Transformational leadership, employee engagement and performance: Mediating effect of psychological ownership. *African Journal of Business Management*, 5(17), 7391-7403. DOI: 10.5897/AJBM11.126

Ghorbanian, A., Bahadori, M. & Nejati, M. (2012). The relationship between managers' leadership styles and emergency medical technicians' job satisfaction. *Australasian Medical Journal*, 5(1), 1-7. doi: 10.4066/AMJ.2011892

Gill, A., Flaschner, A. B., Shah, C., & Bhutani, I. (2010). The relations of transformational leadership and empowerment with employee job satisfaction: A study among Indian restaurant employees. *Business and Economics Journal*, 1–10.
https://www.researchgate.net/profile/Amarjit_Gill/publication/228903380_The_Relations_of_Transformational_Leadership_and_Empowerment_with_Employee_Job_Satisfaction_A_Study_among_Indian_Restaurant_Employees/links/55ca327a08aeca747d69e2d9.pdf

Gilson, L.L., Maynard, M. T., Young, N.C.J., Vartiainen, M. & Hakonen, M. (2014). Virtual team research: 10 years, 10 themes, and 10 opportunities. *Journal of Management*, 20(10), 1-25. DOI: 10.1177/0149206314559946

Golden, T. D., Veiga, J. F., & Dino, R. N. (2008). The impact of professional isolation on

teleworker job performance and turnover intentions: Does time spent teleworking, interacting face-to-face, or having access to communication-enhancing technology matter? *Journal of Applied Psychology*, 93(6), 1412.-1421. DOI: 10.1037/a0012722

Grant, C. & Osanloo, A. (2015). Understanding, selecting, and integrating a theoretical framework in dissertation research: Developing a 'blueprint' for your "house". *Administrative Issues Journal*. 4(12-26). DOI: 10.5929/2014.4.2.9

Greensberg, J. (2011). *Behavior in organizations*, 10th ed. Upper Saddle River, NJ: Prentice Hall.

Guinaliu, M & Jordan P. (2016). Building trust in the leader of virtual work teams. *Spanish Journal of Marketing-ESIC*, 20(58-70).
<https://doi.org/10.1016/j.reimke.2016.01.003>

Hambley, L. A., O'Neill, T. A., & Kline, T. J.B. (2007). Virtual team leadership: Perspectives from the field. *Idea Group Publishing*, 3(1), 40-64.
DOI:10.4018/jec.2007010103

Hambey, L. A., O'Neill, T. A., & Kline, T. J. B. (2007). Virtual team leadership: The effects of leadership style and communication medium on team interaction style and outcomes. *Organizational Behavior and Human Decision Process*, 103, 1-20.
doi:10.1016/j.obhdp.2006.09.004

Hamstra, M. R., Van Yperen, N. W., Wisse, B., & Sassenberg, K. (2014).

Transformational and transactional leadership and followers' achievement goals. *Journal of Business and Psychology*, 29(3), 413-425. DOI 10.1007/s10869-013-9322-9.

Hanaysha, J. R., Khalid, K., Kamariah, N., Mat. N. K. N., Sarassina, F., Rahman, M. Y. B. A., & Zakaria, A. S. B. (2012). Transformational leadership and job satisfaction. *American Journal of Economics*, 145-148.
DOI:10.5923/J.ECONOMICS.20120001.32

Hertela, G. T., Geisterb, S. & Konradt, U. (2005). Managing virtual teams: A review of current empirical research. *Human Resource Management Review*. 15, 69-95.
<https://doi.org/10.1016/j.hrmr.2005.01.002>

Hoch, J. E. & Kozlowski, S.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

Howell, D. C. (2013). *Fundamental statistics for the behavioral sciences* (8th ed.). Belmont CA: Brooks/Cole-Thompson Learning.

Howell, D.C. (2010). *Statistical methods for psychology*, 7th ed.. Belmont, CA: Wadsworth-Cengage Learning.

Humala, A. (2015). Leadership toward creativity in virtual work in a start-up context. *Journal of Workplace Learning*, 27(6), 426-441. DOI: 10.1108/jwl-08-2014-0059

Hunsaker, P. L. & Hunsaker, J. S. (2008). Virtual teams: A leader's guide. *Team Performance Management*, 14(1/2), 86-101.
<https://doi.org/10.1108/13527590810860221>

- Jandaghi, G., Martin, H. Z., & Farjami, A. (2009). Comparing transformational leadership in successful and unsuccessful companies. *International Journal of Social Sciences*, 4(3), 211-216.
<https://www.researchgate.net/publication/26587881>
- Kaiser, R. B., McGinnis, J. L., & Overfield, D. V. (2012). The how and the what of leadership. *Consulting Psychology Journal: Practice and Research*, 64(2), 119-135. DOI: 10.1037/a0029331
- Kerfoot, K. (2010). Listening to see: The key to virtual leadership. *Nursing Economics*, 28(2), 114-118.
<https://content.ebscohost.com/ContentServer.asp?T=P&P=AN&K=49802812&S=R&D=a9h&EbscoContent=dGJyMMvI7ESep644v%2BvIOLCmsEieqLBSr624TbeWxWXS&ContentCustomer=dGJyMPGss0q1qK5IuePfgex43zx>
- Kirkman, B. L., Gibson, C., & Kim, K. (2012). Across borders and technologies: Advancements in Virtual Teams Research. In S. W. J. Kozlowski (Ed.), *The Oxford Handbook of Organizational Psychology*. 2, 789-858. (Oxford Library of Psychology). New York: Oxford University Press.
- Kovjanic, S., Schuh, S.C., & Jonas, K. (2013). Transformational leadership and performance: An experimental investigation of the mediating effects of basic needs satisfaction and work engagement. *Journal of Occupational and Organizational Psychology*, 86, 543-555. <https://doi.org/10.1111/joop.12022>

- Lai, A. (2011). Transformational-transactional leadership theory. *AHS Capstone Projects*, 1-33. https://d1wqtxts1xzle7.cloudfront.net/37137653/Transformational-Transactional_Leadership_Theory.pdf?1427514696=&response-content-disposition=inline%3B+filename%3DTransformational_Transactional_Leadership_Theory.pdf&Expires=1597116218&Signature=GXRACBf8bDjJshltVwhByDtcfzsTHxU1xbCVDNpOOY3rTzhZzjBB5jAObP~U8p3H6Kl4nyEj~n9Qvbb4NsMA8GFpGEMCatp35CbJ3g3aGghsWbGAwwYgWeL4bATHqZc3H9uMlh9e9b~vuJDZVKZFiN6ecxmNVXYcmxYp-vdhIJcwda0QtoSbd6jkaK3TrA4fk8e5vL3Wnmi00rzc1Wxz7427wTD8A67Aw3Gou~K6m-ARrDvnG1noTNXOUETHPx8MohVWjqYTS9SWw~WMm1RMrp3VgXjwLxz~OvfXjOZGZtBWCtOFBihLS45iM~1IWa0M8-hV2Lzz5Ms5g0jc6hQQQ__&Key-Pair-Id=APKAJLOHF5GGSLRBV4ZA
- Lavrakas, P. J. (2011). Construct validity. *The Encyclopedia of Survey Research Methods* (pp. 135-138. Thousand Oaks, CA: Sage Publications Ltd. DOI: <https://dx.doi.org/10.4135/9781412963947>
- Li, C. & Hung, C. (2009). The influence of transformational leadership on workplace relationships and job performance. *Social Behavior and Personality*, 37(8), 1129-1142. DOI: 10.2224/sbp.2009.37.8.1129
- Liliana, S. C. (2014). Virtual teams: opportunities and challenges for e-leaders. *Procedia-Social and Behavior Sciences*, 110, 1251-1261. DOI: 10.1016/j.sbspro.2013.12.972

- Lister, K., & Harnish, T. (2011). The state of the telework in the U.S. *Telework Research Network*, 1-27. <https://www.shrm.org/ResourcesAndTools/hr-topics/technology/Documents/Telework-Trends-US.pdf>
- Llang, S. G., & Chi, S. C. S. (2011). Followers affect linking transformational leadership to job performance: A cross-level analysis. *Academy of Management Proceedings*, 2011(1), 1-6. DOI: 10.5465/AMBPP.2011.65869724
- Long, C. S., Yusof, W.M.M., Kowang, T.O., and Heng, L. H. (2014). The impact of transformational leadership style on job satisfaction. *World Applied Sciences Journal*, 29(1), 117. DOI: 10.5829/idosi.wasj.2014.29.01.1521
- Lussier, R., & Achua, C. F., (2010). *Leadership: Theory, application, & skill development* (4th ed.) South-Western Cengage Learning, OH: Cengage Learning.
- MacKinnon, D. P., Fairchild, A. J., & Fritz, M. S. (2007). Mediation analysis. *Annual Review of Psychology*, 58, 593-614.
doi:10.1146/annurev.psych.58.110405.085542
- Malhotra, A., Majchrzak, A., & Rosen, B. (2007). Leading virtual teams. *Academy of Management Perspectives*, 60-70. <https://doi.org/10.5465/AMP.2007.24286164>
- McNaughton, D., Rackensperger, T., Dorn, D., & Wilson, N. (2014). "Home is at work and work is at home": Telework and individuals who use augmentative and alternative communication. *Work*, 48(1), 117-126. DOI: 10.3233/WOR-141860
- Meyer, E. (2011). The four keys to success with virtual teams. *Forbes*. Retrieved from: <http://www.forbes.com/2010/08/19/virtual-teams-meetings-leadership-managing-cooperation.html>

- Miller, T. (2020). Coronavirus could transform the world of work: Are businesses ready? a worldatwork report. *Workspan Daily*, 1.
<https://www.worldatwork.org/workspan/articles/coronavirus-could-transform-the-world-of-work-are-businesses-ready>
- Mind Garden (2012). *Multifactor Leadership Questionnaire*. Retrieved from:
www.mindgarden.com
- Moore, B., Rhodes, M., & Stanley, R. (2011). Telework 2011 a worldatwork special report. *Tech. rep., The Total Rewards Association and Direringer Research Group Inc.* 1, 5. <https://www.worldatwork.org/docs/research-and-surveys/telework-2011-final-report.pdf>
- Muenjohn, N. & Armstrong, A. (2008). Evaluating the structural validity of the multifactor leadership questionnaire (MLQ), capturing the leadership factors of transformational-transactional leadership. *Contemporary Management Research*, 4(1), 3-14. DOI: 10.7903/cmr.704
- Mukherjee, D., Lahiri, S., Mukherjee, D., & Biling, T. K. (2012). Leading virtual teams: how do social cognitive and behavioral capabilities matter? *Management Decision*, 50(2), 273-290. <https://doi.org/10.1108/00251741211203560>
- Ngaithe, L., Aol, George K., Lews, P., & Ndwiga, M. (2016). Effect of idealized influence and inspirational motivation on staff performance in state owned enterprises in Kenya. *European Journal of Business and Management*, 8(30), 6-13.

https://pdfs.semanticscholar.org/210e/64f4bc1a3e83376c533a2a94c97823fae989.pdf?_ga=2.34819745.1421565667.1597105072-979008117.1597105072

- Nicholas, A. J. (2016). Management and Telework. *In Encyclopedia of Business Analytics and Optimization*, 1435-1445. DOI: 10.4018/978-1-4666-5202-6
- Northouse, P. G. (2013). *Leadership: Theory and practice* (6th ed.). Thousand Oaks, CA: Sage Publications, Inc.
- Northouse, P. G. (2010). *Leadership: Theory and practice*, 5th ed. Thousand Oaks, CA: Sage Publications, Inc.
- Nunamaker, J. F., Reining, B. A., & Briggs, R. O. (2009). Principles for effective virtual teamwork. *Communications of the ACM*, 52(4), 113-118.
<https://doi.org/10.1145/1498765.1498797>
- Nydegger, R. & Nydegger, L. (2010). Challenges in managing virtual teams. *Journal of Business & Economics Research*, 8(3), 69-82). DOI: 10.19030/jber.v8i3.690
- Ouye, J. A. (2011). Five trends that are dramatically changing work and the workplace. *Knoll Workplace Research*, 1-14.
https://www.knoll.com/document/1352940439324/WP_FiveTrends.pdf
- Paracha, M. U., Qamar, A., Mirza, A., Hassan, I. & Waqas, H. (2012). Impact of leadership style (transformational & transactional leadership) on employee performance & mediating role of job satisfaction. *Global Journal of Management and Business Research*, 12(4), 1-11.
[https://globaljournals.org/GJMBR_Volume12/6-Impact-of-Leadership-Style-\(Transformational\).pdf](https://globaljournals.org/GJMBR_Volume12/6-Impact-of-Leadership-Style-(Transformational).pdf)

- Parry, K., Mumford, M. D., Bower, I., & Watts, L. L. (2014). Qualitative and historiometric methods in leadership research: A review of the first 25 years of The Leadership Quarterly. *The Leadership Quarterly*, 25(1), 132-151.
<https://doi.org/10.1016/j.leaqua.2013.11.006>
- Prabowo, T. S., Noermijati, N., & Irawanto, D. W. (2018). The influence of transformational leadership and work motivation on employee performance mediated by job satisfaction. *Journal of Applied Management*, 16(1), 171-178.
<https://pdfs.semanticscholar.org/8eef/d36c626572c66e442ad28a9fe5dfc7859674.pdf>
- Risambessy, A., B., Swasto, A., Thoyib, A., & Astuti, E. S. (2012). The influence of transformational leadership style, motivation, burnout towards job satisfaction and employee performance. *Journal of Basic and Applied Scientific Research*, 2(9), 8833-8842.
<https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.1086.3961&rep=rep1&type=pdf>
- Rosenbach, W. E., Taylor, R. L., & Youndt, M. A. (2012). *Contemporary issues in leadership*. 7th ed. Boulder, CO: Westview Press.
- Rowold, J., & Heinitz, K. (2007). Transformational and charismatic leadership: Assessing the convergent, divergent and criterion validity of the MLQ and the CKS. *The Leadership Quarterly*, 18(2), 121-133.
<https://doi.org/10.1016/j.leaqua.2007.01.003>

- Ruggieri, S. (2009). Leadership in virtual teams: a comparison of transformational and transactional leadership. *Behavior and Personality*, 37(8), 1017-1022. DOI: 10.2224/sbp.2009.37.8.1017
- Schmidt, G. B. (2014). Virtual leadership: An important leadership context. *Industrial and Organizational Psychology*, 7(2), 182-187. DOI: 10.1111/iops.12129
- Shurbagi, A. M. A. and Zahari, I. B. (2012). The relationship between organizational culture and job satisfaction in national oil corporation of Libya. *International Journal of Humanities and Applied Sciences*, 1(3), 88-93.
https://pdfs.semanticscholar.org/f180/270348aee533abd75fb941b3375eac8f37cf.pdf?_ga=2.184764969.1421565667.1597105072-979008117.1597105072
- Silva, A. (2016). What is Leadership? *Journal of Business Studies Quarterly*, 8(1), 1-5. DOI:[10.1016/j.pedn.2006.10.002](https://doi.org/10.1016/j.pedn.2006.10.002)
- Souza, G. C. & Colarelli, S. M. (2010). Team member selection decisions for virtual versus face-to-face teams. *Computers in Human Behavior*, 26(4), 630-635.
<https://doi.org/10.1016/j.chb.2009.12.016>
- Spector, P. E. (2012). *Industrial and Organizational Psychology Research & Practice*, 6th ed. New Jersey: John Wiley & Sons
- Tabachnick, B. G. & Fidell, L. S. (2012). *Using multivariate statistics*, 6th ed. Boston, MA: Pearson.
- Tiri, G., Ogollah, K., & Mburu, D. K. (2015). Influence of transformational leadership

role on performance of virtual project teams in safaricom limited. *International Journal of Economics, Commerce and Management*, 3(2), 1-27.

https://profiles.uonbi.ac.ke/kogollah/files/ogollah_and_tiri_2015.pdf

Tyran, K. M. L., & Tyran, C. K. (2008). The role of leadership in virtual teams. *In Encyclopedia of E-Collaboration*, 540-546. DOI: 10.4018/978-1-59904-000-4.ch082

Ubell, R. (2010). Virtual team learning. *American Society for Training & Development*, 52-58.

<https://content.ebscohost.com/ContentServer.asp?T=P&P=AN&K=53158923&S=R&D=a9h&EbscoContent=dGJyMMv17ESep644v%2Bv1OLCmsEieqLFSsa%2B4S66WxWXS&ContentCustomer=dGJyMPGss0q1qK5IuePfgeyx43zx>

VanderWeele T. J., & Vansteelandt, S. (2009). Conceptual issues concerning mediation, interventions, and composition. *Statistics and Its Interface*, 2, 457-468.

<https://pdfs.semanticscholar.org/eb59/cf7717b6db35f54ad5b06e909c7d15e88dc1.pdf>

Vecchio, R. P., Justin, J. E., & Pearce, C. L. (2008). The utility of transactional and transformational leadership for predicting performance and satisfaction within a path-goal theory framework. *Journal of Occupational and Organizational Psychology*, 81, 71-82. <https://doi.org/10.1348/096317907X202482>

Wakefield, R. L., Leidner, D. E., & Garrison, G. (2008). A model of conflict leadership, and performance in virtual teams. *Information Systems Research*, 19(4), 434-455. DOI: 10.1287/isre.1070.0149

- Wallis, N.C., Yammarino, F. J., & Feyerherm, A. (2011). Individualized leadership: A qualitative study of senior executive leaders. *The Leadership Quarterly*, 22, 182-206. <https://doi.org/10.1016/j.leaqua.2010.12.015>
- Walumbwa, F. O., & Hartnell, C. A. (2011). Understanding transformational leadership-employee performance links: The role of relational identification and self-efficacy. *Journal of Occupational and Organizational Psychology*, 84, 153-172. DOI: 10.1348/096317910X485818
- Welbourne, T. M. (2007). Employee engagement: Beyond the fad and into the executive suite. *Executive Forum*, 45-51. <https://doi.org/10.1002/ftl.231>
- Wells, J. E., & Peachy, J.W. (2011). Turnover intentions: Do leadership behaviors and satisfaction with the leader matter? *Team Performance Management*, 1, 23-40. DOI: 10.1108/13527591111114693
- Yang, Y. F. (2009). An investigation of group interaction functioning stimulated by transformational leadership on employee intrinsic and extrinsic job satisfaction: An extension of the resource-based theory perspective. *Social Behavior and Personality: an international journal*, 37(9), 1259-1277. DOI:10.2224/sbp.2009.37.9.1259
- Ziek, P., & Smulowitz, S. (2014). The impact of emergent virtual leadership competencies on team effectiveness. *Leadership & Organization Development Journal*, 35(2), 106–120. DOI: 10.1108/LODJ-03-2012-0043

Appendix A: Multifactor Leadership Questionnaire (MLQ) – Form 5X

To obtain a copy of the Multifactor Leadership Questionnaire it must be purchased for use; therefore, only a sample of the questionnaire is shown below

Sample Items from the Multifactor Leadership Questionnaire (MLQ) Form 5X-Short
 These questions provide examples of the items that are used to evaluate leadership style. The MLQ is provided in both Self and Rater forms. The Self form measures self-perception of leadership behaviors. The Rater form is used to measure leadership. By thinking about the leadership styles as exemplified below, you can get a sense of your own belief about your leadership.

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

Transformational Leadership Styles

Idealized Influence I go beyond self-interest for the good 0 1 2 3 4 (Attributes) of the group.

Idealized Influence I consider the moral and ethical 0 1 2 3 4 (Behaviors) consequences of decisions.

Inspirational Motivation I talk optimistically about 0 1 2 3 4 the future.

Intellectual Stimulation I reexamine critical assumptions 0 1 2 3 4 to question whether they are appropriate.

Individualized I help others to develop 0 1 2 3 4. Consideration of their strengths.
 Transactional

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 Multifactor Leadership Questionnaire™ is a trademark of Mind Garden, Inc.

Appendix B: Role-based Performance Scale (RBPS)

The Role-Based Performance Scale*

JOB (doing things specifically related to one's job description)

1. Quantity of work output.
2. Quality of work output.
3. Accuracy of work.
4. Customer service provided (internal and external).

CAREER (obtaining the necessary skills to progress through one's organization)

5. Obtaining personal career goals.
6. Developing skills needed for his/her future career.
7. Making progress in his/her career.
8. Seeking out career opportunities.

INNOVATOR (creativity and innovation in one's job and the organization as a whole)

9. Coming up with new ideas.
10. Working to implement new ideas.
11. Finding improved ways to do things.
12. Creating better processes and routines.

TEAM (working with coworkers and team members, toward success of the firm)

13. Working as part of a team or work group.
14. Seeking information from others in his/her work group.
15. Making sure his/her work group succeeds.
16. Responding to the needs of others in his/her work group.

ORGANIZATION (going above the call of duty in one's concern for the firm)

17. Doing things that helps others when it's not part of his/her job.
18. Working for the overall good of the company."
19. Doing things to promote the company.
20. Helping so that the company is a good place to be.

* Use of this scale requires written permission from the first author of this paper.

Copyright, 1996.

** "The company" was replaced with the name of the firm being studied. The response format was a 1 to 5 Likert-type scale, with

- 1=Needs much improvement
- 2=Needs some improvement
- 3=Satisfactory
- 4=Good
- 5=Excellent.

Appendix C: Job Satisfaction Survey (JSS)

JOB SATISFACTION SURVEY Paul E. Spector Department of Psychology University of South Florida <small>Copyright Paul E. Spector 1994, All rights reserved.</small>							
PLEASE CIRCLE THE ONE NUMBER FOR EACH QUESTION THAT COMES CLOSEST TO REFLECTING YOUR OPINION ABOUT IT.		Disagree very much	Disagree moderately	Disagree slightly	Agree slightly	Agree moderately	Agree very much
1	I feel I am being paid a fair amount for the work I do.	1	2	3	4	5	6
2	There is really too little chance for promotion on my job.	1	2	3	4	5	6
3	My supervisor is quite competent in doing his/her job.	1	2	3	4	5	6
4	I am not satisfied with the benefits I receive.	1	2	3	4	5	6
5	When I do a good job, I receive the recognition for it that I should receive.	1	2	3	4	5	6
6	Many of our rules and procedures make doing a good job difficult.	1	2	3	4	5	6
7	I like the people I work with.	1	2	3	4	5	6
8	I sometimes feel my job is meaningless.	1	2	3	4	5	6
9	Communications seem good within this organization.	1	2	3	4	5	6
10	Raises are too few and far between.	1	2	3	4	5	6
11	Those who do well on the job stand a fair chance of being promoted.	1	2	3	4	5	6
12	My supervisor is unfair to me.	1	2	3	4	5	6
13	The benefits we receive are as good as most other organizations offer.	1	2	3	4	5	6
14	I do not feel that the work I do is appreciated.	1	2	3	4	5	6
15	My efforts to do a good job are seldom blocked by red tape.	1	2	3	4	5	6
16	I find I have to work harder at my job because of the incompetence of people I work with.	1	2	3	4	5	6
17	I like doing the things I do at work.	1	2	3	4	5	6
18	The goals of this organization are not clear to me.	1	2	3	4	5	6

	PLEASE CIRCLE THE ONE NUMBER FOR EACH QUESTION THAT COMES CLOSEST TO REFLECTING YOUR OPINION ABOUT IT. Copyright Paul E. Spector 1994, All rights reserved.	Disagree very much Disagree moderately Disagree slightly Agree slightly Agree moderately Agree very much
19	I feel unappreciated by the organization when I think about what they pay me.	1 2 3 4 5 6
20	People get ahead as fast here as they do in other places.	1 2 3 4 5 6
21	My supervisor shows too little interest in the feelings of subordinates.	1 2 3 4 5 6
22	The benefit package we have is equitable.	1 2 3 4 5 6
23	There are few rewards for those who work here.	1 2 3 4 5 6
24	I have too much to do at work.	1 2 3 4 5 6
25	I enjoy my coworkers.	1 2 3 4 5 6
26	I often feel that I do not know what is going on with the organization.	1 2 3 4 5 6
27	I feel a sense of pride in doing my job.	1 2 3 4 5 6
28	I feel satisfied with my chances for salary increases.	1 2 3 4 5 6
29	There are benefits we do not have which we should have.	1 2 3 4 5 6
30	I like my supervisor.	1 2 3 4 5 6
31	I have too much paperwork.	1 2 3 4 5 6
32	I don't feel my efforts are rewarded the way they should be.	1 2 3 4 5 6
33	I am satisfied with my chances for promotion.	1 2 3 4 5 6
34	There is too much bickering and fighting at work.	1 2 3 4 5 6
35	My job is enjoyable.	1 2 3 4 5 6
36	Work assignments are not fully explained.	1 2 3 4 5 6

Note: The JSS is copyright © 1994, Paul E. Spector, All rights reserved.

Appendix D: Permission to use the Multifactor Leadership Questionnaire (MLQ) Form

5X

The following email outlines the criteria for usage of the Multifactor Leadership Questionnaire ((MLQ)

From: Mind Garden

Date: Mon, Jul 11, 2016 at 1:43 PM

Subject: Re: [Mind Garden] Message from contact form - General Questions

Hello Alice,

In response to your inquiry about using the Multifactor Leadership Questionnaire (MLQ) in your research, please note:

The MLQ is a copyrighted instrument. A purchased license is required for each use.

Options for administering the MLQ include administration via the paper/pencil method (License to Reproduce) and via online surveys (Transform Survey Hosting Licenses and Remote Online Survey Licenses). Our pricing is set for the academic environment and we do offer volume discounts.

OPTION 1:

If you plan to administer the MLQ via the paper/pencil method, you would purchase the "License to Reproduce" (pdf-digital download) for the total number of times you plan to reproduce/administer the MLQ.

Note: A purchased license is required for each reproduction/administration of each use of the LEADER (Self-Rater) form and RATER form. The pdf includes one copy of the LEADER form, RATER form, Scoring Key and permission for the recipient to reproduce the MLQ in any combination of the LEADER and RATER forms for up to the total quantity purchased. Pricing starts at 50 licenses for \$100. For volume discounts, please [click here](#).

OPTION 2:

If you plan to administer the MLQ via an online survey for data collection and scoring (data output file = raw data and raw scores) using our Mind Garden Transform System, you would purchase the MLQ "Transform Survey Hosting Licenses" for either MLQ 360

Multi-rater Form (both Leader and Rater), MLQ Self Form (Leader only), or MLQ Rater Form (Rater only).

Transform™ Survey Hosting: Multi-rater Form

Transform™ Survey Hosting: Self Form

Transform™ Survey Hosting: Rater Form

Besides the ease of administering the MLQ as an online survey via our Mind Garden Transform System, you will have access to a data file. The data file will include one line of data for each participant that completes the MLQ. The data includes raw data (responses to each MLQ question) and raw scores (MLQ scale scores). The data file is a comma separated value (csv) file format and is compatible with SPSS.

Additionally, Group Reports - where we calculate and summarize average scores for a group - are available for each of these online surveys. Each Group Report is \$250.

Group Report: Multi-rater Form

Group Report: Self Only

Group Report: Rater Only

We offer customization services for a fee. [Click here](#) for more information.

OPTION 3:

If you plan to administer the MLQ via a NON-MIND GARDEN online survey system, you will need to purchase "Remote Online Survey Licenses" and complete an application form. Pricing starts at 50 licenses for \$100. For volume discounts, please [click here](#).

The MLQ manual is a great resource (pdf copy available for \$50). The manual includes detailed information about administration/scoring, reliability, validity, references, etc. The manual also includes a complete "for review only" copy of the MLQ and scoring key. With the purchase of the MLQ manual, we provide you permission to reproduce one copy of the MLQ (from the manual) for presenting in your proposal to your committee.

For more information about the MLQ, please [click here](#).

If you have further questions, please let us know.

Best regards,

Ken

Mind Garden, Inc.

On Fri, Jul 8, 2016 at 7:44 PM, <> wrote:

Appendix E: Permission to use the Role-Based Performance Scale (RBPS).

The following email was from Theresa M. Welbourne granting permission to Role-Based Performance Scale.

Re: Role-Based Performance Scale/Questionnaire

From: [Alice Miller](#)

Hello Dr. Wellbourne,

I am completing my dissertation based of how leadership affects job satisfaction and job performance of virtual employees. One of the tools I am seeking to use is the Role-Based Performance Scale and I am seeking your approval to do so.

Please let me know what information you need from me or anything additional you might need to obtain proper approval. I thank you in advance for your consideration and I look forward to hearing from you.

Most sincerely,
Alice Miller

From: [Theresa M. Welbourne](#) to you

You have my permission to use it. Best of luck with your work

From: [Alice Miller](#)

Thank you Dr. Wellbourne; your assistance is greatly appreciated

Appendix F: Permission to use the Job Satisfaction Survey (JSS)

The following outlines the criteria for usage of the Job Satisfaction Survey (JSS)

The JSS is a copyrighted scale. It can be used free of charge for noncommercial educational and research purposes, in return for the sharing of results. See the "Sharing of results" page above for instructions. The JSS is copyright © 1994, Paul E. Spector, All rights reserved. All reproductions of the JSS should include this copyright notice.

All of my scales are copyrighted. I allow free use under two conditions.

1. The use is for noncommercial educational or research purposes. This means no one is charging anyone a fee. If you are using any of my scales for consulting purposes, there is a fee.
2. You agree to share results with me. This is how I continue to update the norms and bibliography.

What Results Do I Need?

1. Means per subscale and total score
2. Sample size
3. Brief description of sample, e.g., 220 hospital nurses. I don't need to know the organization name if it is sensitive.
4. Name of country where collected, and if outside of the U.S., the language used. I am especially interested in nonAmerican samples.
5. Standard deviations per subscale and total score (optional)
6. Coefficient alpha per subscale and total score (optional)

I would love to see copies of research reports (thesis, dissertation, conference paper, journal article, etc.) in which you used the JSS. Summaries are fine for long documents (e.g., dissertation), and e-mailed documents are preferred (saves copy and mail costs). Be sure to indicate how you want the work cited in the bibliography.

You can send the material to me via email:

Last modified January 7, 2011.

Appendix G: Letter of Invitation

To: Prospective Research Participants

From: Alice Miller

Re: Research Study

My name is Alice Miller and I am a doctoral candidate at Walden University in the school of Psychology; Organizational Psychology program. As part of my program requirement, I will be conducting a research study on the effect of leadership on job performance and job satisfaction of virtual employees.

Participants of the study must be employed in a position where they and coworkers work virtually (at least one-third of the team members work in different locations), but must collaborate with one another to get work done with minimal face-to-face interactions. Participation in the study is strictly voluntary and requires answering questions online that will be provided in a link. Participants have the right to withdraw themselves from the study at any time without penalty or consequences.

A letter of Informed Consent is included with the email that can assist you in making your decision in regards to participation. If you decide to participate, please respond to the email by replying "I consent" in the body of the response email. Once you reply with "I consent", I will provide you with a link to the online questionnaire. As stated in the Informed Consent, your participation in the study is confidential and your personal and contact information will not be shared. All data and information will be stored in a password protected folder on my personal computer and backup drive; printed data will be stored in a locked file cabinet. All data/information received related to this study will be destroyed after five (5) years.

Also provided my personal contact information; please feel free to contact me with any questions. You can also contact Dr. Marlon Sukal, who is the chair of my dissertation committee; his email information is also provided. I want to thank everyone in advance for your consideration and/or participation in this doctoral study.

Most sincerely,

Alice Miller