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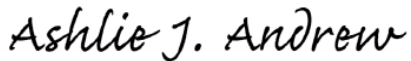
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TELECOMMUTING AND ITS ASSOCIATIONS WITH JOB SATISFACTION:
GOING THE EXTRA MILE

by

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ABSTRACT

Telework job arrangements have been touted as beneficial to both individuals and organizations, but outcomes have been inconclusive or paradoxical. Using multiple regression analysis and content analysis, this study empirically and phenomenologically examines job satisfaction for teleworkers concerning the quality of their relationships with leaders, support from their organizations, and conflicts between their work and household responsibilities. The findings indicate that extent of telecommuting is not a significant predictor of job satisfaction for teleworkers, but that it is the joint effects of supervisory and organizational support that best predict job satisfaction.

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CHAPTER 1: INTRODUCTION

“‘There’s tremendous value in having people spend time together. People will ultimately talk about work. But when people telecommute, you don’t have those conversations’” (Cooper & Kurland, 2002, p. 23). The elusive relationship between telework and job satisfaction has beleaguered scholars for years. Although the surge of research on this topic has abated somewhat in the past few years, present literature continues to pop up with reports of new theoretical and empirical developments. The line of inquiry began about three decades ago, when researchers among various fields began to investigate the nuances surrounding the increasing prevalence of virtual work (e.g. Nilles, 1975; Cooper & Kurland, 2002). What originated as the use of primitive technologies in organizationally dispersed environments during the 1980s and 1990s evolved into the use of complex technologies in geographically dispersed environments in the 2000s and following. This geographic disbursement while working is often referred to as telework (Dahlstrom, 2013; Fay & Kline, 2011). Telework is described broadly as “performing one’s work duties at a remote location” (Morganson et al., 2009, p. 578), the idea of bringing work to the worker rather than the worker to the work (Travis, 2003). The term has been used interchangeably with telecommuting, in addition to distributed work, home-working, and virtual, remote, or distance-based work, though there are distinctions in defining each.

Although the concept of telework has been around since the seventies when the terms “telecommuting” and “telework” were coined (Nilles, 1975) and has been studied extensively, this work arrangement is not yet fully understood by either researchers or practitioners (Allen et al., 2015) and there is no “standard transnational definition” (Perez et al., 2003, p. 750). Rather, telecommuting is a “nonstandard, customizable, and individually negotiated work arrangement” (Gajendran et al., 2015, p. 358). Based on a variety of arrangements that involve working away

from the employer's main office, it is estimated that more than two thirds of the worldwide workforce may participate in telework at least one day a week (Browne, 2018), making it worthy of research attention. The following sections of this chapter will introduce the research problem, the purpose of the study, the research questions, the theoretical framework, the context and significance of the study, as well as the limitations and delimitations therein.

Statement of the Problem

The introduction and growth of virtual work experiences comes with new leadership challenges (Ziek & Smulowitz, 2014). Despite growth in telecommuting, the literature offers mixed conclusions about the oft-claimed outcome of job satisfaction in this work arrangement (Golden, 2006). Working away from the office changes the way in which workers interact and therefore changes the quality of the relationships a teleworker has with leaders, coworkers or subordinates, and even his or her own family—which in turn has a correlational effect on job satisfaction (Golden, 2006). There has been a call to explore how varying degrees of virtual status relate to these variables of interest (Merriman et al., 2007) and much literature to date has determined that “the extent of telecommuting is related to the level of job satisfaction among those who telecommute” (Golden, 2006, p. 336).

Even though the Golden (2006) study found a correlation between extent of telecommuting and job satisfaction, it admitted several limitations and offered avenues for future research. In particular, the author noted the problem that generalizability of his findings may be limited due to the participant sample being employees from only one firm. He suggested that future research could target new workers with clearly defined roles to provide additional insights (Golden, 2006). In addition, interpretation of the results is problematic because there is no concrete understanding of what delineates a telecommuter or extent of telecommuting (Merriman

et al., 2007). That is, oft-cited researchers (e.g. Golden, 2006; Cooper & Kurland, 2002) do not offer distinctions or consistency in what qualifies as telecommuting. For example, the sample used by Golden (2006) averaged only 15 hours of working from home per week, which by some definitions (e.g. Dahlstrom, 2013) would not amount to “telecommuting.” Literature on telework is often critiqued for using samples with low frequencies of telecommuting (Crandall & Gao, 2005; Merriman et al., 2007), as presumably outcomes may be different among workers telecommuting two days per week versus five days per week. Indeed, “the opportunity to reintegrate with one’s organization and colleagues is more readily available to those who return to the office 2 or 3 days per week” (Morgan & Symon, 2002, p. 303). Similarly, few studies cite the frequency or extent of telecommuting at all (Allen et al., 2015), so this research seeks to address these gaps.

Purpose of the Study

Research in the area of teleworker job satisfaction has proliferated over the past 30 years, with the results often deemed paradoxical. In an attempt to discern the true nature of this relationship, the primary purpose of this concurrent nested design mixed methods study was to understand teleworkers’ isolation, work-life balance, and relationships with leaders and coworkers, and how those relate to job satisfaction, in order to inform leadership practice. The primary goal of this study was to extend portions of the Golden studies on the extent of telecommuting as it relates to telecommuter job satisfaction and isolation, utilizing the similar research questions and measures, but with new subjects in an updated context. Therefore, results may help to determine if the basic findings of the original research could be applied to other participants and current day contexts with modern technologies. The original research questions guiding the earlier studies are still important and can contribute to the body of knowledge on

leadership and telecommuting. The current study hoped to empirically support the results of the original study by extending its generalizability. In addition, a secondary purpose was to employ a phenomenological approach to identify and describe the lived experiences of teleworkers regarding satisfaction, isolation, and relationships and provide a rich description of the telework context. The overarching goal of this study was to inform organizational and leadership practices for telework settings. Specifically, the study was designed to answer the following research questions.

Research Questions

Research Questions 1. What is the relationship between the extent of telecommuting and job satisfaction?

Research Questions 2. What is the relationship between leader-member exchange quality and job satisfaction? In what ways does the supervisor/subordinate relationship affect job satisfaction of teleworkers? What can leaders do to improve the professional experiences of teleworkers?

Research Questions 3. What is the relationship between work-family conflict and job satisfaction? In what ways does working from home support or conflict with family relationships or household responsibilities?

Research Questions 4. What is the relationship between professional isolation and job satisfaction? In what ways does working from home affect job satisfaction?

Research Questions 5. What is the relationship between perceived organizational support and job satisfaction? How does the support of the organization affect job satisfaction of teleworkers? What can the organization do to improve the professional experiences of teleworkers?

Extent of telecommuting and leader member exchange has already been associated with job satisfaction (e.g. Golden, 2006; Gajendran & Harrison, 2007; Golden et al., 2008).

Additionally, extent of telecommuting has been related to perceived organizational support (Bentley et al., 2016) and professional isolation (Golden et al., 2008). Of course, work family conflict is already a widely studied correlation of job satisfaction (e.g. Bruck et al., 2002).

Because each of the independent variables has already been linked to job satisfaction or telework, it makes sense that the variables would contribute together but uniquely to predict job satisfaction for teleworkers in a regression model.

Primary Research Question. Is there a significant relationship between job satisfaction and the teleworker's extent of telecommuting, leader-member exchange quality, work-family conflict, organizational support, and isolation?

Alternative Hypothesis. There is a significant relationship between job satisfaction and the teleworker's extent of telecommuting, leader-member exchange quality, work-family conflict, organizational support, and isolation.

Theoretical Framework

The most appropriate lens through which to ask the research questions are the various theories of computer-mediated communication (CMC). CMC is defined as a synchronous or asynchronous communication between a sender and one or more receivers, involving a computer or some kind of information communication technology (ICT) on both sides (Fischer & Manstead, 2004). The seminal literature on CMC dating from the 1970s is still very applicable today even though technologies have evolved. Research has shown that CMC is not neutral, but influences communication patterns (Fulk & Collins-Jarvis, 2001). CMC differs from face-to-face communication and, though it can be limited in synchronicity, it can overcome

dependencies on time and space (Rice & Gattike, 2001). Knowing that technology affects communication is an essential lens through which to inquire about relationships in virtual environments.

The theories of CMC include information or media richness theory and social presence theory, among others. The main idea in social presence theory is the degree of salience in interpersonal interactions in CMC (Short, Williams, & Christie, 1976). Media richness theory, on the other hand, is a contingency theory that assumes the impact of CMC depends on the context, and that media vary in their suitability for accomplishing tasks (Trevino, Lengel, & Daft, 1987). Both of these are important assumptions as teleworkers require the use of CMC to interact with their leaders or colleagues in virtual work arrangements. Golden (cited in 2006) relies on Daft and Lengel's (1986) information richness theory as the theoretical lens through which to study the role of relationships in understanding telecommuter satisfaction since he said, "relationships are altered due to the changed informational cues available" (p. 320). The present study draws from and furthers past research, therefore the information and media richness theories will similarly guide this study on telecommuter satisfaction.

In thinking about the theoretical framework of information or media richness, one must consider how the richness of the available communication media or technology has changed over the years. When telework research was in its infancy in the 1970s and 1980s, so was communication media, with technologies as simple as telephone and fax. During another wave of research in the 90's, communication technology had become richer, with the advent of email and instant messaging from desktop computers. The 2000s saw the introduction of videoconferencing, with tools such as Skype. Presently, in the late 2010s, technology is fully integrated into the daily lives of many first world people, with these rich, instant technologies

available on smartphones, and cloud-based computing available for synchronous or asynchronous collaborative work. Recently, it has been reported that being accessible through the use of these advanced technologies is a successful strategy in overcoming telework challenges (Greer & Payne, 2014). Though the potential benefits of telecommuting are not inherent in the technology itself but in the way it is implemented (Travis, 2003), it is important that the research questions of years past are reinvestigated considering that media richness has significantly evolved.

Significance of the Study

This study treats telecommuting as a continuous rather than dichotomous variable. Methodologically, this study is significant in that it measures extent of telecommuting on a six-point frequency scale, which accommodates those who telecommute exclusively, an arrangement known as high intensity telecommuting (Gajendran & Harrison, 2007). This differs from studies that either use days-per-week counts or that do not report extent or frequency at all. In addition, this study considers perceived organizational support as a moderating variable in teleworker job satisfaction, a variable that has been mostly absent from telework literature. Furthermore, this study offers a phenomenological approach in understanding high intensity telework experiences, the depth of which cannot be elicited solely by quantitative methods.

Definition of Terms

Telecommuting. Based on widely adopted conceptualizations reviewed in the literature, a meta-review of telecommuting offers the following definition (Allen et al., 2015, p. 44):

Telecommuting is a work practice that involves members of an organization substituting a portion of their typical work hours (ranging from a few hours per week to nearly full-time) to work away from a central workplace—typically principally from home—using

technology to interact with others as needed to conduct work tasks.

Telecommuting is used interchangeably with telework in this paper.

Leader-Member. While some literature differentiates between the semantics of terms like follower, member, employee, or subordinate, for this paper they are used interchangeably. Similarly, while much leadership research focuses on executive level administration when referring to leaders, in leader-member exchange (LMX), the leader usually refers to the direct supervisor over the member (Martin et al., 2010).

Isolation. Professional isolation is defined as “the belief that one lacks sufficient connection to ‘critical networks of influence and social contact’ without regard to the extent of contact with coworkers” (Golden, Veiga, & Dino, 2008, p. 1413).

Limitations

A major limitation of studying telecommuting is that there is not a universal definition. Despite the Merriman et al. study of 2007 having empirically developed a multidimensional classification scheme for virtual employment relationships, it does not appear well utilized in recent extant literature. This study relies on the definition offered by Allen et al. (2015), which is based on widely adopted conceptualizations in the literature. A second limitation is that there was no control for organizational culture, which could be a confounding factor since whether organizational culture is supportive, indifferent, or rejecting of the telework arrangement will change the treatment of telecommuters (Harrington & Santiago, 2006). Lastly, the results will not be representative of those who chose not to respond to the survey.

Delimitations

This research was confined by various delimitations. Firstly, workers who telecommuted from their home residence were included in this study. Teleworkers from other sites such as

satellite locations or call centers were excluded. Similarly, self-employed workers, such as those in direct sales, were also excluded. These delimitations are aligned with the definitional distinctions offered by Allen et al. (2015) that specify telecommuters to be part of a larger organization who work principally from their home and do so for a portion of their regular work time, substituting time typically spent in a central office. In general, the occupational profile of teleworkers are highly educated workers in professional, technical, or managerial occupations (Perez et al., 2003). This means that another delimitation of the study is that the sample had a weakened external validity because of the purposive rather than random approach, but greater internal validity because it is studying what the researcher intends to study. Similarly, a delimitation is that snowball sampling will limit external generalizability. Lastly, due to the cross-sectional design, longitudinal effects cannot be studied.

Summary

Though the research on telecommuting is pervasive, outcomes have been inconclusive or paradoxical and results have been difficult to interpret because of the frequency or lack thereof in the sampled populations of teleworkers. In addition, communication technologies have become richer over the years, suggesting that previous lines of inquiry warrant updated investigation. The following chapters seek to provide a comprehensive review on telework literature to date, as well as the methods for data collection and analysis, to be followed by results and a subsequent discussion.

CHAPTER 2: REVIEW OF LITERATURE

The emergence of flexible work arrangements piqued the interest of organizational scholars to investigate whether these job designs were beneficial to employees or organizations. A topic of considerable interest has been the relationship between telework and employee attitudes, such as job satisfaction. In order to keep pace with this ever-expanding volume of research, several meta-analyses and meta-reviews have appeared, both from an empirical approach and a theoretical viewpoint. Though one such meta-analysis of 28 primary studies on telecommuting reported a positive association with job satisfaction (Gajendran & Harrison, 2007), not all frequencies of telecommuting relate likewise (Allen et al., 2015). The curvilinear relationship between extent of telecommuting and job satisfaction is moderated by several variables, including leader member exchange quality and professional or social isolation (Golden, 2006; Golden et al., 2008). The purpose of this literature review is to summarize prior research on telework, job satisfaction, and moderating variables, which will later be used to inform interpretation of the results.

Telework

The research on telework dates back to the 1970s and 1980s in the transportation planning and information science fields. The term “telecommuter” originated with the work by Nilles (1975) on the tradeoff between telecommunications and transportation. While these early years focused on transportation issues, travel time or distance of commute has not been found to be a motivator or predictor of telecommuting in the United States (Bailey & Kurland, 2002), though the transportation perspective is currently being revisited by researchers in Eastern countries such as Vietnam (Akbari & Hopkins, 2018). Research on telecommuting since the seventies has spanned a variety of fields over the years such as communication, human

resources, leadership or management, information technology, organizational psychology, labor studies, and even ergonomics. Indeed, a recent meta-analysis confirmed that the body of scientific findings on telecommuting is divergent and conflicting (Allen et al., 2015).

Not only is the scholarly literature divergent and conflicting, but so are the public statistics regarding telecommuting. The American Time Use Survey by the Bureau of Labor Statistics reports that the number of teleworkers *dropped* two percentage points from 2015 to 2016 (Spector, 2017). Conversely, the State of the American Workplace poll by Gallup found that remote working was 43 percent in 2016, *up* from 39 percent in 2012 (Spector, 2017). Additionally, companies such as Yahoo and IBM are eliminating their telecommuting policies at the same time that flexible work arrangements are in high demand by the millennial workforce (Spector, 2017). Noticeably, telecommuting is a complex phenomenon that requires comprehensive examination. The following presents a chronological review of telework research conducted over the past 20 years.

In 1999, Kurland and Egan focused their attention on the adoption of telecommuting as a job design, which they defined as working outside of the conventional workplace. Already at this time, telecommuting had been touted as a way to increase employee productivity, as a reward for trustworthy employees, or even as a reasonable accommodation for disabled employees (Rocco, 2014); yet commonly cited disadvantages were remote monitoring challenges and employee isolation (Kurland & Egan, 1999). So, the authors examined ($n=191$) the relationship between telecommuting, remote monitoring strategies, and perceptions of organizational justice. Their results suggested that telecommuters perceived their supervisors to treat them fairly and evaluate their outcomes fairly, but that telecommuting was not related to employee perceived deserved outcomes. Kurland and Egan (1999) suggested, therefore, that

future research should investigate whether being isolated affects telecommuters being recognized for their efforts by peers or supervisors.

Stemming from this avenue for future research, a seminal research study by Cooper and Kurland (2002) was one of the first substantive qualitative approaches to understanding telework and strongly influenced later developments, even to this day. The authors employed a grounded theory methodology to investigate how or why isolation may impact employee demand for telecommuting and to compare this impact between employees of private organizations and public (government) organizations. They found that telecommuters in private organizations were isolated from interpersonal networking, informal learning, and mentoring. Public sector telecommuters were not found to be isolated due to the *infrequency* of telecommuting as well as the greater reliance on formal sources of information and skill development (Cooper & Kurland, 2002). Their findings offered a rich description of how context and frequency play an important role in determining the impact of isolation for telecommuters, and those findings continue to be cited in current research.

Around this same time Bailey and Kurland (2002) conducted a review of telework research to date at that point. They were specifically interested in who telecommutes, especially considering the lack of a definition of telecommuting, as well as why they telecommute, and what happens when they do. They found that, unlike popular depictions or connotations, the teleworking population as a whole does not work remotely on a full time basis, but rather only five to six days per month. The key finding in their review was that despite telework frequency being a strong moderator for work outcomes, frequencies were low among the populations studied—indicating that attention had been funneled to the wrong variables, such as isolation (Bailey & Kurland, 2002). Similarly, they found little evidence that job satisfaction or

productivity is increased as a result of teleworking, as had often been proclaimed. Moreover, they found it difficult to determine the type of employees who telework considering the difficulty in surveying this population, but that research had suggested that individual job details rather than general job traits were more likely to lend toward telework. Because of the atheoretical nature of most telework research to date, they signaled the need for future research to move toward theory-building (Bailey & Kurland, 2002).

In one of the few longitudinal rather than cross-sectional studies on telecommuting, Noonan and Glass (2012) found, like the aforementioned study, low frequencies in telecommuting. Using a sample of 16,298 from the National Longitudinal Survey of Youth (NLSY) from 1998-2004 and 50,452 from the US Census Current Population Survey (CPS) from 1997-2004, the authors found that the average number of hours spent telecommuting was approximately only six hours per week. The number of hours spent telecommuting did not increase over the period studied, nor did the number of telecommuters. Notably, however, they discovered that telecommuters worked more hours per week overall than non-telecommuters, thereby *expanding* the workweek hours rather than *replacing* the onsite workweek hours (Noonan & Glass, 2012). Additionally, highly educated professional workers were found to be more likely to telecommute than other types of workers, which Noonan and Glass speculate to be due to their autonomy of schedule and types of tasks they perform, but leading to increased penetration of job tasks into home or family time.

Similar to Cooper and Kurland (2002), Harrington and Santiago (2006) identified that telecommuters are not part of the informal communication with peers or managers, and that isolation is both a professional and social concern. Furthermore, the authors point out that even though teleworkers have a great deal of autonomy in their work lives, they still report lower

quality of life. Akin to prior studies, they define telecommuting as the use of computer equipment to do work while off-site from the traditional location, but do not explicate the extent or frequency (Harrington & Santiago, 2006). The goal of their study was to determine the relationship between the aforementioned negative outcomes and the organizational culture, specifically hierarchical values versus rational values. A major finding was that a rational culture was more likely to adopt telecommuting, but that telecommuters reported less professional isolation and higher quality of life in hierarchical cultures. Harrington and Santiago (2006) concluded that trust, role clarity, formalized procedures, and fairly-distributed, outcomes-based rewards improves work life attitudes for telecommuters.

Although Cooper and Kurland (2002) and others have indicated that the advantages of telecommuting may not outweigh the disadvantages, others have shown that telecommuting is positively related to job satisfaction and other outcomes. Research by Golden (2006) on telecommuting and job satisfaction is not the first, but it is important because it found correlations between a number of variables and the extent of telecommuting. Again, the key finding here is *extent* of telecommuting. In their meta-analysis on telework ($n=9,852$), Gajendran and Harrison (2007) refer to the amount of scheduled time away from the central work location as telecommuting intensity. Telecommuting intensity had been overlooked in much of the literature to this point by treating telecommuting as an undifferentiated process rather than a work arrangement with structural distinctions (Gajendran & Harrison, 2007). High intensity telecommuters are those who spend a majority or all of their workdays away from a central location whereas low intensity workers spend less than 50 percent of time away from the office (Gajendran & Harrison, 2007). The intensity plays a moderating role on outcomes, enough so that some have argued that low intensity work would not count as telecommuting (e.g.

Dalhstrom, 2013), making it difficult to offer a universal definition. Definitional issues are indeed a concern in the literature, as another meta-analysis highlighted a sample of 14 publications, each with similar but unique definitions and with six different terms including telework, telecommuting, virtual team, remote work, flexible work, and distributed work (Allen et al., 2015).

Because of the mounting concern in the literature regarding professional isolation at this point in time, Golden, Veiga, and Dino (2008) empirically examined its impact on work outcomes, specifically job performance and turnover intentions. Contrary to expectations, the authors found that isolation reduces turnover intentions, but as expected, does negatively impact job performance. Although the previously mentioned study by Gajendran and Harrison (2007) and others (e.g. Bailey & Kurland, 2002) suggest that telecommuters are more productive, Golden et al. (2008) advised that this outcome does not ensue for teleworkers who already feel professionally isolated. In line with previous studies, isolation was more severe the more time spent telecommuting. However, it is important to note that, on average, the participants in this study teleworked 60% of their workweek, meaning 40% of their time was spent present in the main office.

A unique contribution from this study was the development of a measure for professional isolation. Using qualitative work as a basis (e.g. Cooper & Kurland, 2002) in addition to semi-structured interviews, the authors used exploratory factor analysis to develop a single construct with seven items. They assessed convergent validity by correlating the measure to a well-established scale as well as conducted confirmatory factor analysis to provide an overall alpha score of .89 for the isolation measure (Golden et al., 2008) which will be used in this study.

Isolation was investigated again in 2010 by Morganson, Major, Oboron, Verive, and Heelan, who were interested in the differences in inclusion, job satisfaction, and work life balance between work locations. Using a quasi-experimental approach the authors compared workers ($n=752$) with different work locations in a single organization. Main office workers reported significantly lower isolation than home-based workers. Yet, after controlling for isolation, home-based workers reported higher job satisfaction than office-based workers. Interestingly, home-based workers also reported similar work life balance to main office workers. The authors suggest that this may be due to the paradoxical nature of telework, which has counteracting advantages and disadvantages.

Of these disadvantages is the reliance on electronic tools for interaction and knowledge sharing. Therefore, and stemming from calls for research by Bailey and Kurland (2002) and Gajendran and Harrison (2007), in 2010 Golden and Raghuram studied whether relational qualities of teleworkers impact knowledge sharing, defined here as “the giving and receiving of ‘know-how’” (p. 1062). Particularly, the authors looked at trust, interpersonal bond, and organizational commitment. The results indicated that these variables do contribute to knowledge sharing among teleworkers, which highlights the importance of affective connections especially given the lack of opportunity for impromptu encounters with coworkers. A key takeaway was that in relationships exhibiting high trust, the extent of CMC use was not as important. In addition, the findings suggested the impact of the relational factors on knowledge sharing is moderated by technology support, electronic tool use, and extent of face-to-face interactions.

That same year Fonner and Roloff (2010) also investigated the importance of knowledge sharing, labeling it information exchange. They questioned whether face-to-face interaction was

as advantageous as prior studies indicated and suggested that instead it was frequent high-quality exchanges of information that lead high intensity teleworkers—defined here as those who work at least three days per week from home—to greater job satisfaction and lower isolation.

However, while teleworkers reported a lower *frequency* of information exchange, which affects job satisfaction, it was not lower *quality*. The authors found that while remote work may impede connectedness, it also allows employees to “disconnect purposefully” (p. 353). The results explain that the commonly reported satisfaction associated with telework is due to working away from the stress of the workplace. Furthermore, their findings validate the Gajendran and Harrison (2007) research, linking high intensity telework to lower work-life conflict.

Given the continued uncertainty regarding isolation and satisfaction for high intensity telecommuters, shortly thereafter Fay and Kline (2011) sought to determine the buffering effect of coworker relationships and informal communication. Of the three forms of informal communication practices they studied, only “complaining talk” related to job satisfaction for teleworkers. Coworker liking also related positively to job satisfaction and commitment for teleworkers. Their findings suggest that when informal complaining is done with a well-liked colleague, thereby clarifying and managing work roles, teleworkers become more committed. This was the first study to directly address the informal communication from which teleworkers report feeling isolated (e.g. Bailey & Kurland, 2002). Yet, Fay and Kline (2011) did not find clarity on what “types of informal communication are important to consider in high-intensity telework, especially as they relate to creating satisfying bonds with coworkers” (p. 157), suggesting, like Fonner and Roloff (2010), that the connectivity avoidance may be intentional.

In addition to extent of telecommuting as far as time spent away from the office using computer mediated communication (CMC), another measure of frequency is the extent of

exchange synchronicity therein (Jawadi, 2013). Even though telecommuters are often reliant on information communication technologies (ICT), there is a dearth of empirical research in the telecommuting literature about the effects of synchronous or asynchronous electronic exchanges with leaders and coworkers. In general, dependence on ICT limits the effects of a lack of face-to-face meetings if the interactions are frequent (Jawadi, 2013).

Like Cooper and Kurland (2002), Wilton, Paez, and Scott (2011) investigated the social dimension of telecommuting using a qualitative approach to hear rich narratives attached to these circumstances. The authors were specifically interested in how social influence can shape decisions about telecommuting and their analysis was organized into themes related to drivers or constraints of such. However, this study did not delineate extent of telecommuting. Four themes emerged from their analysis: work life, home life, the individual, and the commute. They found that work productivity was the number one reason people chose to telecommute and that the arrangement is typically dependent on the nature of the job. Their results also indicated that social contact has a “subtle but non-trivial” (p. 4) role in the decision to telecommute, which again speaks to the isolation issue noted by Cooper and Kurland (2002). The findings of Wilton et al. (2011) validated the motivators to telecommute posited by Mokhtarian and Salomon (2002).

The following year Bartel, Wrzesniewski, and Wiesenfeld (2012) studied *physically* isolated employees, which they defined broadly as not being “collocated with fellow organization members” (p. 744) whether that meant at home, at a client site, at a coffee shop, or elsewhere. They hypothesized that physical isolation would be negatively related to organizational identification, the degree to which an employee considers oneself a member of the organization. Organizational identification is a key motivational resource prompting increased

effort and job performance that leads to organizational welfare (Bartel et al., 2012). Indeed, the employees in their two studies suffered the negative consequences of being assessed in relation to the central office prototypical “organization man” as “higher degrees of physical isolation were negatively associated with respondents’ perceived respect and, in turn, their organizational identification” (p. 750). The hypothesis was confirmed in both of their studies with participants of differing tenure, even where physical isolation was, on average, only 29% and 38% of employee work time. Their findings suggest that virtual employees may not be regarded as prototypical members of the organization, and therefore may be regarded as marginal members (Bartel et al., 2012).

In 2012 Sardeshmukh, Sharma, and Golden identified that research on burnout and exhaustion had been limited to traditional work modes without considering how telework affects those outcomes. Using a job demands and resources (JD-R) framework, the authors linked telework to both exhaustion and engagement. That is, Sardeshmukh et al. (2012) found that teleworkers have different JD-R resources available to them, which affects exhaustion and engagement in a complex manner. Specifically, positive effects were that telework reduced role conflict and increased autonomy, but negative effects were that telework reduced support and feedback and increased role ambiguity, a stressor that has been associated with low job satisfaction (Sardeshmukh et al., 2012). The authors argue that increasing clarity in job design and using richer communication media is needed to mitigate these negative effects.

Despite some seemingly negative outcomes for individuals who telecommute, telework has been found to have positive outcomes at the organizational level. A 2012 meta-analysis (n=32) of empirical research on organizational outcomes confirmed a small but positive relationship between telework and four organizational outcomes including productivity,

retention, commitment, and performance (Martin & MacDonnell, 2012). Like the 2007 meta-analysis by Gajendran and Harrison which found telecommuting to be a good thing for individuals, this meta-analysis finds telework to be a good thing for organizations too, as there were no negative relationships in the variables that were analyzed (Martin & MacDonnell, 2012). Though there are complexities involved in telework work modes, the authors contend that for organizations looking to make informed decisions regarding implementation of telework programs, these are important findings.

Due to the continuing contradictory findings in literature, and especially because of the limitations of research methodologies and lack of theoretical bases in the research, in 2013 Belanger, Watson-Manheim, and Swan attempted to develop a conceptual model of telecommuting. A unique contribution from their work was the consideration of telecommuting as an *aspect* of work rather than as the *context* of work, as they focus on telecommuting as the use of information communication technology (ICT) to substitute for traditional office work. The authors honed in on the time-dependency of telecommuting that had been lacking in prior research and identified their sample to include workers who telecommute at least one day per week, but not full time. They relate telecommuting to the work system described in the subsystems from socio-technical systems (STS) theory, considering technology related factors for the technical subsystem, social factors for the personnel subsystem, and work processes in the organizational subsystem (Belanger et al., 2013). This proposed multilevel model of telecommuting was designed to help explain work outcomes that prior research could not, but these theoretical relationships do not appear to be well utilized in recent literature.

That same year a report came out from the civil and transportation engineering field that revisited the importance of the frequency of telecommuting. Using a sample of 2,563 workers

from the 2009 National Household Travel Survey, Singh et al. (2013) found the mean frequency of telecommuting to be six days per month. In addition, the authors focus not only on the preference or demand for telecommuting, but on the choice or option to telecommute. In the sample they used, 582 were given the option to telecommute, but only 394 chose to telecommute. They argue that ignoring the option dimension will lead to incorrect findings, noting that, methodologically, ignoring “option” transfers the effect to “choice”. For example, their bivariate methods found gender to have no effect on telecommuting choice, but their multivariate findings suggest that “women are less likely to have the option of telecommuting, but are more likely to choose to telecommute when they have the opportunity” (Singh et al., 2013, p. 380). Though their model was designed for transportation planning, the empirical results have implications for other fields as far as worker retention, recruitment, and productivity. Likewise, it should be noted that their references comprised solely of civil engineering literature, as opposed to the authors or studies from organizational fields that are commonly referenced here.

Regarding these authors and studies from organizational fields, in 2015 a meta-review was published on telecommuting, specifically concerning its effectiveness and overall assessing the status of scientific findings. Much of the literature in the meta-review is the same literature that has been aforementioned here, but organized thematically rather than chronologically. To start, Allen, Golden, and Shockley (2015) address the definitional challenges as, as previously noted in chapter one, there have been numerous terminologies that overlap or similar terminologies with different conceptualizations. The authors found in all definitions a common premise of working away from a central office. Similarly, there are challenges in interpreting the extent of telecommuting, also referred to as frequency or intensity. Until recently, few studies

reported the intensity; but telecommuting outcomes are different, for example, between workers who do so one day per month versus several days per week (Allen et al., 2015). The authors observed that telecommuting has been studied related to a number of themes including the nature of work (autonomy, task interdependence), work and family interface, work outcomes (job satisfaction, organizational commitment, stress, performance, career potential, turnover, organizational metrics), relationships (isolation, workplace relationships, knowledge sharing, innovation), organizational culture, transportation, and legislation. In sum, “the multivariate impact of telecommuting is complex, with the potential for simultaneous benefits and drawbacks” (p. 60), suggesting that these tradeoffs should be acknowledged and considered and that a multifaceted approach is needed in the success of telecommuting for both individuals and organizations. Where research is lacking, the authors discover, is in health-related outcomes, such as ergonomics or physical activity contributing to worker wellness.

It is fitting, then, that the following year a study was published in *Applied Ergonomics*, exploring the role of organizational support in teleworker wellbeing. However, rather than related to health per se, the “wellbeing” that was examined was actually in regards to isolation, psychological strain, and job satisfaction. Utilizing the same STS framework as Belanger et al. (2013), Bentley et al. (2016) studied organizational measures that contribute to both organizational and individual outcomes. It is important to note that only six percent of their 804 respondents worked more than three days per week, so the majority of the sample were considered low intensity teleworkers (Bentley et al., 2016). They found that organizational support was negatively related to psychological strain, positively related to job satisfaction, and overall reduced social isolation, contending that opportunities for face-to-face interaction are necessary to reduce isolation and increase satisfaction for teleworkers (Bentley et al., 2016).

With intensity or extent of telecommuting an important variable and a continuing lack of health related outcomes in the literature, Henke et al. (2016) studied the influence of telecommuting intensity on employee health. In a longitudinal assessment from 2010 to 2011, the authors used various indicators of health risk status, including obesity, physical inactivity, tobacco use, and others. Using a sample of over 2000 telecommuters and over 800 non-telecommuters from a database of employees with medical enrollment, Henke et al. (2016) found that non-telecommuters were at greater overall risk than telecommuters, but that it was moderate intensity telecommuters with lowest risk. This supports the curvilinear relationship noted by Golden (2006) and others in that telecommuting outcomes are best when it is done occasionally rather than full time.

In another longitudinal rather than cross-sectional design, Masuda, Holtschlag, and Nicklin (2017) found that employees were more engaged at the end of the year if the opportunity to work from home was available to them. That is, this study did not study telecommuters intrinsically, but studied the effects of the availability of telecommuting, though the intensity does not appear to be defined. In addition to engagement, the availability of telecommuting was also positively related to perceptions of supervisor support (Masuda et al., 2017). The authors contend that telework can be adopted as a way to increase employee engagement.

In the most recent research to date, oft-cited telework authors Golden and Gajendran come together to investigate the impact of telecommuting intensity or extent on job performance as they identified a gap in literature that had previously considered telework to be a dichotomous variable or had mainly sampled low intensity workers (Golden & Gajendran, 2018). In addition, they investigated whether the nature or characteristics of the work itself plays a role since a change of the work environment does not mean a change to the work responsibilities. Notably,

the authors found that the extent or intensity does not negatively affect performance. In fact, high intensity telecommuting proved beneficial to performance for highly complex jobs (Golden & Gajendran, 2018). Similarly, telecommuters in highly interdependent jobs did not suffer from higher extents of telecommuting. However, it is important to note that most telecommuters in this study worked from home only part of the week, with a mean extent of 36 percent (two days) of the workweek, suggesting there continues to be a gap in understanding more exclusive work-from-home arrangements.

As Gajendran and Harrison (2007) observe, telework encompasses a “paradox of mutually incompatible” (p. 1526) outcomes. It is clear that despite the chronological nature of this review, certain conceptual themes are apparent in the literature. In addition to extent of telecommuting and job satisfaction, the aforementioned themes include isolation, relationships with leaders and coworkers, and work-life balance. The remainder of this chapter seeks to review the literature on these topics.

Isolation and Organizational Support

Like telework, isolation is a topic that has been studied in various contexts and with varying terminologies. These terms include alienation, access, inclusion, exclusion, and even organizational structure (Miller, 1975), ranging from nuanced variances to entirely dissimilar streams of literature. The areas in which a scholarly query for “isolation” offers the most results are regarding teachers and principals, and rural medical practitioners. While teleworkers do report feeling isolated *socially*, such as the loss of casual time with colleagues after work (Hilbrecht et al., 2013), this research is primarily concerned with organizational or *professional* isolation, which is a belief that one is out of the loop in the workplace or that attempts to be connected have been impeded, whether or not there is a physical separation (Golden et al., 2008).

Specifically, professional isolation has been defined as the extent one believes they are lacking connection to “critical networks of influence and social contact” (Miller, 1975, p. 261). For example, workers can be alienated from interactions with people in authority or decision makers, friends, or coworkers (Miller, 1975), even if they are collocated with these people.

In qualitative studies, teleworkers commonly report feeling left out of opportunities for career enhancement or mentoring, missing emotional support or face-to-face contact with coworkers, and just missing informal interaction in general (Golden et al., 2008; Cooper & Kurland, 2002). In a longitudinal study, the authors report, “it was noticeable by the second interview that isolation was actually increasing; indeed, some discussed how they were beginning to feel abandoned” (Morgan & Symon, 2002, p. 307). Likewise, a virtual employee commented, “I felt less like an employee and much more like a consultant” (Bartel et al., 2012, p. 746). As mentioned in the previous section, isolation is significantly associated with low performance (Golden et al., 2008). Informal interaction leads to the social capital that is important for performance (Fayard & Weeks, 2007; Golden et al., 2008). Social interaction is an important context for communicating identity-related perceptions such as respect (Bartel et al., 2012).

Missing out on informal learning or interaction is one of the ways in which telecommuters report feeling isolated from professional developmental opportunities or interpersonal networking (Cooper & Kurland, 2002). Indeed, “in organizations where informal decision-making processes are customary, greater physical isolation disrupts participation in these normative activities” (Bartel et al., 2012, p. 746). Telecommuters are physically absent from the informal opportunities to express questions or concerns, leading to greater perceived unfairness because of their lack of say in resource allocations (Thatcher & Bagger, 2011).

Managers have trouble keeping their telecommuters informed and admit to even simply forgetting about them at times (Thatcher & Bagger, 2011).

Telecommuters perceive that being invisible to their peers and leaders translates into decreased recognition and being overlooked for promotions (Kurland & Cooper, 2002). Conversely, if telecommuters are satisfied with the status quo and are not seeking to be promoted, or even prefer to fly under the radar, those employees perceive lower professional isolation (Kurland & Cooper, 2002). This is to say that expectations matter, as will be expounded upon in the section on job satisfaction. Regardless of whether one perceives to be isolated or not, the more frequently one is proximally removed from interpersonal networking that face-to-face interaction affords, the more a telecommuter relies on the manager as the “lifeline to the organization” (Kurland & Cooper, 2002, p. 120). In fact, “a telecommuting employee said of this supervisor, who engaged in extensive helping behaviors, that ‘the morale on [his] team is excellent’ and that he isn’t isolated because he is ‘constantly talking and emailing’ with everyone at work” (Lautsch et al., 2009, p. 812).

Therefore, it is not just telecommuters who report challenges with isolation, but also their managers, who find it difficult to communicate with them. Supervisors of telecommuters have concerns that their subordinates are out of touch with what is going on, especially in organizations where most communication is informal rather than through official memos or meetings (Kurland & Cooper, 2002). Furthermore, managers find it difficult to promote cohesion or synergy among work groups when not every employee can participate in face-to-face interaction (Kurland & Cooper, 2002). Lautsch et al. (2009) agree, stating that “supervisors also face the complexity of managing blended workgroups comprising virtual and non-virtual members, which creates challenges for coordinating and motivating employees” (p. 796).

Indeed, it is work relationships that deliver the detailed or contextual information necessary for working with complex situations or personalities in order to perform well (Golden et al., 2008). Likewise, if performance cannot be linked directly to measurable outputs, managers have concerns about productivity and telecommuters have concerns about being excluded from professional advancement, even though focusing on results only is also isolating (Kurland & Cooper, 2002). One manager shared, “I think not knowing for sure if you’re getting 40 hours [from somebody is a drawback]” (Thatcher & Bagger, 2011, p. 257).

Telecommuters are correct to be worried about isolation as Kurland and Cooper (2002) report that managers do professionally isolate telecommuters in that they are less likely to consider them for promotions, but most consider this to be a tradeoff for the flexibility afforded to them. For example, one supervisor noted, “It’s easy to overlook someone doing good work if all you get is an email” (Bartel et al., 2012, p. 746). Likewise, Thatcher and Bagger (2011) recall a manager admitting, “while it was never said out loud, telecommuters had a smaller chance of being promoted” (p. 257).

In a substantive review of telecommuting practices, Travis (2003) found that while telecommuting has the potential to increase positive outcomes, in practice employers have used it to reinforce existing power structures, relegating workers to second-class citizens and ultimately leading to “flexibility at the price of marginalization” (p. 266). Bartel et al. (2012) confirm that “employees whose perceived respect is lower because they are more physically isolated are more likely to feel that they are peripheral or marginal members of the organization” (p. 747). This is especially true for working mothers (Travis, 2003), as will be expounded in the section on work-family conflict.

While physical environments can be manipulated to foster informal interactions,

prescriptions for virtual environments are lacking, especially considering “informal” connotes spontaneity (Fayard & Weeks, 2007; Cooper & Kurland, 2002). But, where proximity for informal learning is lacking, the opportunities for legitimacy for informal interaction can be afforded. For example, while waiting one’s turn at a photocopier offers a legitimate opportunity for informal interaction for collocated employees (Fayard & Weeks, 2007), telecommuters may or may not have related legitimate experiences. One of the ways in which leaders have afforded this legitimacy is to offer an “open door policy” through the use of personal or office smartphones (Yun et al., 2012). That is, while an open door policy in a physical office means that colleagues can stop by unannounced for work-related or social conversations, so telecommuters can use smartphones for synchronous informal interactions such as texting, instant messaging, or videoconferencing (Yun et al., 2012). However, this can lead to blurred boundaries between home and work, which will be explicated upon in later sections.

Another area of isolation that is frustrating for both telecommuters and their managers is mentoring, or rather the lack thereof. Among other things, mentors help advance their mentees’ career mobility, provide feedback, facilitate development that is mutually beneficial to the organization and the individual, and participate in informal exchanges (Kurland & Cooper, 2002). It is a challenge to mentor from a distance since actions cannot be observed and therefore mentors are less able to coach and counsel, which leads to inhibiting of development (Kurland & Cooper, 2002). Again, where proximity is lacking, opportunities for mentoring can still be afforded. For example, while mentoring is traditionally seen as a one-on-one experience, one company adapted its mentoring program for its nontraditional workforce. That is,

Using a reverse mentoring approach, the organization implemented a voluntary...

program... that convened monthly. Participants could attend the meetings in-person or

join via conference call...; Participants—not leaders—generated the meeting topics and timing. The participants also chose subject matter experts to present at each meeting. (Little, 2011, p. 80).

Without intentional exchanges of this nature, teleworkers operate at a disadvantage in that they must complete work activities with “limited insights, information, and feedback” (Golden et al., 2008, p. 1413). In addition, the lack of inclusion frustrates feelings of belongingness (Bartel et al., 2012). Supervisors must be inclusive by being actively supportive of their telecommuting subordinates (Lautsch et al., 2009) and should “consider how physically isolated employees can be given opportunities to interact with others in prototypical ways and have experiences that affirm their status as valued members” (Bartel et al., 2012, p. 755).

The notion of being actively supportive applies to both leaders and organizations at large. While isolation is the extent to which one lacks connection to networks of influence, perceived organizational support (POS) is the extent to which the worker believes the organization values their contributions and cares about their well-being (Eisenberger et al., 1986). While teleworkers have reported feeling peripheral, marginalized, insignificant, or unimportant (Travis, 2003), very few studies have attempted to link telecommuting with POS. Bentley et al. (2016) appear to be the first to identify that perceived support is positively related to job satisfaction for teleworkers, although their sample was comprised mainly of low intensity teleworkers.

POS is the assurance that the organization is willing to extend itself to help the worker perform his or her job (Eisenberger, 1986). This is crucially important to teleworkers, who report a lack of access to relevant or time-sensitive information necessary for completing their jobs (Thatcher & Bagger, 2011). Telecommuting is a knowledge-based context requiring information sharing in order for work to be completed, meaning perceptions of exclusion ensue

when access to valuable information is limited (Thatcher & Bagger, 2011). POS also comprises the actions organizations take that affect worker satisfaction, well-being, use of talents, consideration of goals and opinions, and a myriad of employee supportive measures (Eisenberger et al., 1986). Telecommuting is a work arrangement that may or may not be officially endorsed by an organization, yet even when there is a formal policy, it may not be distributed equally or equitably (Thatcher & Bagger, 2011). These types of distributive justice behaviors are antecedents to perceived organizational support that affect both telecommuters and their non-telecommuting coworkers alike (Thatcher & Bagger, 2011). Other antecedents include recognition, autonomy, and training (Shropshire & Kadlec, 2012), which, as mentioned above, also play a role in professional isolation. Outcomes of high POS include commitment, job involvement, and performance, whereas outcomes of low POS include anxiety and turnover (Shropshire & Kadlec, 2012). Said differently, based on their perceptions of organizational support, workers will feel obliged to reciprocate good support with superior performance and commitment.

Clearly, there is a need for supportive actions and rich communication exchanges between and amongst telecommuters and their employers, leaders, and peers. Perceived organizational support is correlated to perceived supervisor support, but is shown to be a distinct construct (Rhoades & Eisenberger, 2002). The following seeks to illuminate the effects and significance of these reciprocal relationships.

Leader-Member and Member-Member Exchange

Leader-Member Exchange

In Graen and Uhl Bien's (1995) seminal work—which was introduced as Vertical Dyad Linkage by Graen and others in the 1970s—they offer a relationship based approach to

leadership entitled leader member exchange (LMX) theory. Indeed, the major contribution to leadership theory by LMX was identifying that leaders adopt different leadership styles with different subordinates (Martin et al., 2010). While many of the paradigms in leadership theory depict a top-down or bottom-up process, LMX theory emphasizes a reciprocal relationship and examines the quality of that relationship (Martin et al., 2010). That is, while traditional leadership theories usually refer to the leadership style of the leader toward a team of followers utilizing transformational or transactional behaviors, LMX refers to a dyadic level of leadership in which mutual trust, commitment, and respect are enjoyed (Graen, Hui, & Taylor, 2006).

This theory builds on social exchange theory by emphasizing the importance of the quality of the relationship between a leader and subordinate, positing that effective leadership ensues as a result of quality dyadic relationships (Graen & Uhl Bien, 1995). The leader member relationship develops through exchanges of effort, support, and resources, such as a leader offering autonomy and the member reciprocating with increased engagement (Volmer et al., 2011). Indeed, the effort made is related to the quality of relationship that the dyad develops, with more effort correlated with higher LMX and low effort associated with lower LMX (Maslyn & Uhl-Bien, 2001).

The one-on-one leader-subordinate relationship exists on a continuum of high quality to low quality, with the high quality dyads exhibiting high degrees of trust and respect and the low quality dyads characterized by obligatory compliance with work roles (Loi, Chan, & Lam, 2014). Put more succinctly, LMX “is (a) a system of components and their relationships (b) in both members of a dyad (c) involving interdependent patterns of behavior and (d) sharing mutual outcome instrumentalities and (e) producing conceptions of environments, cause maps, and value” (Scandura, Graen & Novak, 1986, p. 580). In sum, the leader-member relationship can be

described as the lens through which one perceives his or her work experience (Gerstner & Day, 1997).

Volmer et al. (2011) points out that ensuring a high quality LMX relationship has positive implications for employee well-being and performance. Considerable LMX literature reveals both positive *correlations* between LMX and job satisfaction, in addition to a few longitudinal studies also finding LMX as a *predictor* of job satisfaction (Volmer et al., 2011). Similarly yet conversely, job satisfaction has been found to be a predictor of LMX quality (Volmer et al., 2011). From another perspective, it has also been found that organizational citizenship behavior by employees enhances LMX quality, thereby leading to increased job satisfaction (Lapierre & Hackett, 2007). Likewise, employees having a proactive personality was also associated with high quality LMX, the quality of which was associated with higher levels of job satisfaction (Li et al., 2010). This is reminiscent of aforementioned findings by Maslyn and Uhl-Bien (2001) who determined that the effort put in by either leader or subordinate was related to the quality of the relationship.

Fix and Sias (2006) found that the person-centeredness of leader exchanges increases the quality of leader-member relationships. Specifically, “the more person-centered employees expected their supervisors to be in communicating with them, the higher overall job satisfaction” (Fix & Sias, 2006, p. 41). They define *person-centeredness* as the extent an exchange considers the perspective of others as opposed to *position-centeredness*, which discourages feelings and refers to rules (Fix & Sias, 2006). Essential skills required of leaders who work in technology-mediated environments include the ability to receive or mediate emotions, leading to the success of interactions (Savolainen, 2014). These communication strategies directly influence teleworker job satisfaction (Ilozor et al., 2001).

The literature is not conclusive on whether demographic variables such as sex, race, and age are related to LMX but offers mixed results. What is more conclusive is that similarity in work values is positively related to high quality exchange relationships as well as job satisfaction (Dose, 1999). In general, the quality of LMX has been linked to performance, job satisfaction, and commitment (Merriman et al., 2007). In fact, predictors of job satisfaction include specific leadership behaviors such as warmth and rapport among employees (Belias & Koustelios, 2014). Similarly, relational behaviors by leaders including delegating, supporting, recognizing, and consulting are correlated to high quality exchanges (Yukl et al., 2009). It is the social-emotional rewards, such as impromptu praise, that teleworkers often miss out on (Thatcher & Bagger, 2011).

The relationship between leaders and virtual members has been identified as critical to the success of telework contexts (Merriman et al., 2007). It is often the supervisors who decide who can or cannot have access to telecommuting arrangements, and the recipients of these special arrangements often feel obligated toward those supervisors, meaning they reciprocate with enhanced performance or job dedication (Gajendran et al., 2015). These arrangements are often awarded to those members who already have high LMX relationships with supervisors (Gajendran et al., 2015). When there is limited opportunity for interaction, as telecommuters do not have as much opportunity for relationship-building exchanges as conventional employees, this becomes an antecedent for low quality LMX relationships (Merriman et al., 2007). In these cases, telecommuters have been found to have low trust in their leaders and low perceptions of managerial support (Merriman et al., 2007). Likewise, the reduced opportunity for interpersonal communication between leader and teleworker leads to a deterioration of the relationship, negatively influencing job satisfaction and contributing to turnover (Ilozor et al., 2001).

This limited opportunity for interaction is, in part, why there is a significant association between remote work and impression management. “When organizational visibility is constrained and spontaneous opportunities to demonstrate one’s capabilities and accomplishments are limited, individuals may be strongly motivated to manage others’ impressions of them because they may fear that others are unaware of their...performance” (Barsness et al., 2005, p. 402), and do so more assertively than their non-telecommuting colleagues. Ostensibly, it is harder to demonstrate competence when one is physically isolated from their organization (Bartel et al., 2012). Indeed, telecommuters note the importance of communicating with their supervisors regarding expectations and progress as a successful strategy in overcoming telework challenges (Greer & Payne, 2014). However, the more time a worker spends telecommuting, the more likely they will perceive their leaders to be less accessible (Golden et al., 2008). Likewise, virtual workers perceive they are treated differently and are less valued than their collocated colleagues (Bartel et al., 2012).

In a case study in Finland, Savolainen (2014) found that a successful technology-mediated context requires antecedents of trust such as investments of time in building relationships, as well as more frequent face-to-face interaction. Indeed, it is a paradox that the “more virtual the relationship, the more face-to-face contact is needed” (Morgan & Symon, 2002, p. 304). Trust develops through task-related behaviors (Jawadi, 2013), and in the virtual context, preexisting work relationships help build trust between managers and virtual workers (Harrington & Santiago, 2006). Therefore, the literature recommends that leaders set goals and provide role clarification for their teleworkers, as defining goals was found to have a significant positive impact on trust building (Jawadi, 2013).

Conversely, Jawadi (2013) found that behavioral control mechanisms should not be used by leaders toward teleworkers because they generate a decline in trust. Said differently, where workers are required to keep track of time in an authoritarian manner is not beneficial (Lautsch et al., 2009). Rather, social aspects should be considered when using ICT, such as expression of opinions, consideration of feelings, or awareness of cultural differences (Jawadi, 2013).

In a study of 90 dyads, it was found that “telecommuters benefit from equity in monitoring practices, as well as from increased contact with their supervisors related to information sharing” (Lautsch et al., 2009, p. 817). This frequency of communication strategy is not simply a one-way authoritarian dynamic but “focuses on two-way information where work issues are discussed, problems are solved, and work is coordinated” (p. 820). Supervisors who have retained valued employees by permitting a telecommuting arrangement may question the value in engaging in these more actively supportive behaviors and strategies. Why should they go to greater lengths for someone to whom they have already given a perceived perk? Of what benefit is it? The value is that supervisory style over remote subordinates affects both telecommuters and non-telecommuters alike. Frequent contact from supervisors “significantly increases employee helping behaviors from telecommuters,” leading to lower work-family conflict for non-telecommuters (Lautsch et al., 2009, p. 812).

Leadership researchers Bell and Kozlowski (2002), who focused their studies toward teams with the absence of proximal or collocated work, are frequently cited for their presentation of a theoretical framework for understanding virtual teams. Members of organizationally or globally dispersed virtual teams rely on technologies for communication (Bell & Kozlowski, 2002) and, in that way, can be considered teleworkers by some definitions. The authors identify the necessity to distribute leadership functions across members in virtual contexts. Likewise, it

is critical to “make telecommuters a natural participant in meetings” and engage in extensive helping behaviors (Lautsch et al., 2009, p. 812). If supervisors treat teleworkers differently than traditional workers, telecommuters feel excluded or even penalized (Lautsch et al., 2009). Likewise, virtual workers may interpret such behaviors “as a signal that they risk losing their in-group status” (Bartel et al., 2012, p. 753).

Team Member Exchange

As a parallel to leader member exchange, team member exchange (TMX) refers to the exchange relationships that exist among a work unit peer group, the quality of which is measured by an individual’s perception of that relationship (Seers, 1989). Though TMX is based on LMX (Dose, 1999), research is limited as to the relationship between them. Also sometimes referred to as member-member exchange (MMX), the need for dyadic relationships or friendships at the peer level is well documented (Graen et al., 2006), though it is not clear if an employee's time is better used in developing vertical relationships between supervisors and subordinates or on horizontal relationships between coworkers (Banks et al., 2014).

Like LMX, TMX is characterized by trust and respect (Farmer et al., 2015). Trust is important for the formation and constancy of interpersonal relationships and is essential in building successful interactions (Jawadi, 2013). Rooted in social exchange theory, social identity theory, role theory, and others, TMX is a reciprocal relationship involving ideas, information, help, and recognition, in addition to trust and affect, that addresses the role making process of coworkers (Liu et al., 2011). The idea of help exchanges is also highlighted by Farmer, Van Dyne, and Kamdar (2015), who noted that higher quality TMX relationships lead to helping behaviors as well as sense of belonging. Banks et al. (2014) concluded that TMX shows

incremental validity beyond LMX for job satisfaction, but that LMX showed greater relative significance across several outcomes.

TMX can be long term and involves reciprocal social-emotional benefits and obligations, with high quality TMX in the workplace characterized by a willingness to share information, support, and recognition, but not particularly related to skill training (Liu et al., 2011). Whereas low quality LMX is limited to contractual obligations, so low quality TMX would be considered basic economic rather than social exchange (Liu et al., 2011). Coworkers frequently interact in organizational life and it has been found that high quality TMX amplifies organizational identification and citizenship behavior performance, meaning there are interrelations between identification and exchange and that leaders should place a value on TMX (Liu et al., 2011). In the virtual context especially, the leader role is important in fostering trusting relationships between remote members (Jawadi, 2013).

The effects of virtuality on relationship-building are understudied, but physical proximity and face-to-face interaction with coworkers makes it easier to develop and maintain relationships and provides access to informal networks (Gajendran & Harrison, 2007). Kerber and Buono (2004) highlight the fact that a lack of face-to-face contact is a centrifugal dynamic that pulls members apart and many studies consider the virtual context to be an obstacle to building trust (Jawadi, 2013). The virtual environment relies on CMC and therefore a lack of “face-to-face interactions, physical proximity, verbal cues and facial expressions which contribute to interpersonal relational development” (Jawadi, 2013, p. 18). The rich connection with peers is diminished when the frequency of these interactions is decreased, making it difficult to transmit personalized cues and giving credence to the adage of “out of sight, out of mind” (Gajendran & Harrison, 2007).

In addition, office-based coworkers of telecommuters may feel jealous or resentful because they cannot easily see the contributions of the telecommuters (Gajendran & Harrison, 2007) or because they did not receive the same special treatment (Gajendran et al., 2015). Thatcher and Bagger (2001) report that non-telecommuters perceive unfairness when coworkers are permitted to telecommute and are in a “forced exchange relationship” (p. 249). In fact, job satisfaction among the office-based coworkers decreases as telecommuting becomes more prevalent (Gajendran et al., 2015). Lautsch, Kossek, and Eaton (2002) reported that virtual and non-virtual members are “very aware of each other’s status and treatment” (p. 810), noticing and resenting when they are supervised differently, especially as non-telecommuters perceive the change to mean a greater workload for those in the office. Greater workload is not just a perception, as managers admit to passing over teleworkers to give projects to office workers, which telecommuters sense as a cost to promotion opportunities (Kurland & Cooper, 2002). Consequently, teleworkers and their non-teleworking colleagues are both “sources and recipients of unfairness” (Thatcher & Bagger, 2011, p. 249).

This is why trust is a key component in successful virtual collaboration and interaction in computer-supported cooperative work (Jawadi, 2013). Indeed, telecommuters are likely to work harder to minimize the criticism from coworkers (Gajendran et al., 2015). As noted previously regarding impression management, teleworkers have reported the need to be extra productive in order to manage how other employees perceive them (Greer & Payne, 2014). One teleworker reported, ““When I’m sick, they still expect me to get work done since I don’t have to come into the office”” (Lautsch et al., 2009, p. 816). Yet another commented, ““I feel like I need to prove myself even more”” (Bartel et al., 2012, p. 746). In general, virtual workers care deeply about how their work arrangement influences their perceived value in the workplace (Bartel et al.,

2012).

A comprehensive, inductive case study about one virtual team at an information company suggested that the use of “robust social routines enacted during co-location” (Dixon, 2017, p. 148) contributes to an environment of trust necessary for team learning. Developing these member-member peer relationships is so important that workers with little satisfaction of their job duties may remain in their positions because they like their coworkers (Graen, Hui, & Taylor, 2006).

Paradoxically, trust has also been found to develop more quickly between virtual members than with traditional members (Jawadi, 2013). This is because in a virtual context, members do not often have enough time or access to assess others’ behaviors, so they must simply assume the other members are trustworthy (Jawadi, 2013).

Job Satisfaction

Job satisfaction is multidimensional and is one of the most widely studied occupational phenomena in the world (Belias & Koustelios, 2014). Described as a pleasing affective state stemming from the appraisal of one’s job, job satisfaction is one of the original constructs in organizational behavior literature and is an established determinant of worker behavior and an indicator of worker well-being and professional outcomes such as motivation and turnover (Shropshire & Kadlec, 2012). In other words, “job satisfaction expresses the worker’s experienced preference for his job” (Levy-Garboua & Montmarquette, 2004, p. 137). Job characteristics can impose constraints on professional satisfaction and quality of life, so creating satisfactory working conditions results in motivation to perform well and be committed to the job (Belias & Koustelios, 2014). There is agreement in the literature that the relationship between job satisfaction and job commitment is reciprocal (Belias & Koustelios, 2014). The authors

explain that “enhancing perceived support and increasing job satisfaction can reduce the detrimental consequences of burnout and other aspects of occupational stress” (p. 144).

In a meta-analysis of job satisfaction, Belias and Koustelios (2014) found that organizational culture and leadership styles are significant antecedents of job satisfaction and job commitment. Job satisfaction has been described as the difference between expectations and reality that an employee has about job outcomes and usually increases as employees progress to higher job levels (Belias & Koustelios, 2014). That is, “the job satisfaction reported in questionnaires...indicates how one’s experienced sequence of jobs compares with mentally experienced alternatives” (Levy-Garboua & Montmarquette, 2004, p. 137). Factors in job satisfaction include “job involvement, cohesion among colleagues, support from superiors, and opportunities for autonomous action” (Belias & Koustelios, 2014, p. 140). It is this autonomy factor, in part, that makes job satisfaction a commonly reported outcome of telecommuting (Fonner & Roloff, 2010).

While the literature is inconclusive on whether job satisfaction leads to increased performance (e.g. Saari & Judge, 2004), it is an established antecedent to commitment, motivation, and turnover (Egan et al., 2004), which is an important financial concern for organizations. Similarly, a study of first year teachers found job satisfaction to be the most important influence on retention decisions (Stockard & Lehman, 2004). More importantly for service-based organizations or customer-facing “frontline” employees, empirical findings indicate that job satisfaction has a significant impact on service quality delivered (Malhotra & Mukherjee, 2004). That is to say, “the job satisfaction of employees is critical to delivering service quality, as satisfied customers can only be created by satisfied employees” (Malhotra & Mukherjee, 2004, p. 163). With job satisfaction an antecedent to customer-oriented behavior, it

is important for employers to understand what they can do to maintain or enhance satisfaction of their employees (Mahlhotra & Mukherjee, 2004).

The telework literature in general, and a meta-analysis by Gajendran and Harrison (2007), specifically, identify that teleworker job satisfaction is influenced by work-life conflict and the potential to be isolated from information or relationships. The following offers an overview of the contributing factors of work-life interface and organizational culture as it relates to job satisfaction and telework.

Work Family Conflict

Work family conflict is rooted in organizational behavior theory and is defined as the “degree to which an individual’s work and family lives are incompatible” (Grzywacz & Butler, 2008, p. 451) suggesting that the role pressures from each domain conflict. These role pressures are both transactional and psychological in nature and the literature has shown work family conflict to be associated with poor health, poor performance, and high turnover (Grzywacz & Butler, 2008). In addition, work family conflict is significantly related to job satisfaction among typical employees, with job satisfaction being the most widely studied correlate of work family conflict (Bruck, Allen, & Spector, 2002).

Research is not definitive on the advantages and disadvantages of telecommuting in regards to work-family conflict, but flexibility in general is highly valued for its potential to benefit the work and family interface (Gajendran et al., 2015). Whether telecommuting leads to positive effects on work-family conflict may be in how it is implemented (Lautsch et al, 2009). Working from home has been identified as a way to balance work and family, but also as a source of stress (Perez et al., 2003). In general, telecommuters have autonomy over their work lives and take fewer sick days (Harrington & Santiago, 2006). Telecommuters are able to escape

from on-site distractions and conduct their work on a schedule that accommodates their needs (Duxbury & Halinski, 2014). Golden et al. (2006) found telecommuting to lower work family conflict.

Nevertheless, ostensibly, working from home makes it easier for the work domain to encroach on family life due to occupying the same place, which is referred to as boundary permeability (Gajendran & Harrison, 2007). This occupying of the same space is of particular note in areas where available workspace is limited in private housing, such as urban areas or European cities (Perez et al., 2003). However, many telecommuters work beyond normal business hours—especially those for which the timing of work falls under the employee’s authority—which is referred to as boundary flexibility (Gajendran & Harrison, 2007).

Telecommuting has been found to be negatively related to work-family conflict and telecommuter-supervisor relationship quality (Gajendran & Harrison, 2007). For example, when supervisors adopt the same kinds of monitoring practices for both remote and in-office workers, this leads to lower work-family conflict for telecommuters (Lautsch et al, 2009). Lautsch et al., (2009) also found that telecommuting was associated with lower work family conflict and did not impact family-to-work conflict. Morganson et al. (2010) compared perceived work life balance and job satisfaction between differing primary work locations including main office, client location, satellite office, and home office using a sample of 578 participants. As hypothesized, they found that home-based workers reported higher work life balance support, as well as higher job satisfaction, and that main office workers reported significantly higher inclusion than home workers (Morganson et al., 2010). Contrary to their expectations, they found that main office workers reported similar work life balance support as home workers (Morganson et al., 2010). A surprising finding for Lautsch, Kossek, and Eaton (2009) was that

non-telecommuters actually experience *higher* work-family conflict when supervisors force telecommuters to separate their work and family boundaries. The non-telecommuters are affected by these leadership practices more strongly than telecommuters are (Lautsch et al., 2009).

While gender has not played a significant role in *who* teleworks, it does change *how* one teleworks, specifically as it relates to work-family balance. Due to the internal or external expectations of modern day parenthood, mothers tend to have more blurred boundaries between work and family life (Hilbrecht et al., 2013). For this group, “the significance of telework was not so much the idea of work-family ‘balance’, but rather the fulfilment of their parenting responsibilities..., even if this added to their sense of stress and time pressure” (Hilbrecht et al., 2013, p. 138). That is, the schedule flexibility afforded by telework is utilized as a way to be available for children (e.g., school activities, illnesses), even if it means working extra hours in evenings or on weekends to catch up for having rearranged their hours. Fathers, however, protect their business hours as a traditional workday. While they are willing to “help” by starting a load of laundry or picking up a gallon of milk when asked, they do not organize their work routines around their children (Hilbrecht et al., 2013). Fathers consider telework to offer family balance because they are able to spend time with their children in mornings and evenings that would have otherwise involved a commute. Some believe that telecommuting exacerbates the sex-based division of labor both in the workplace and at home (Travis, 2003). While it translates differently for each gender, both fathers and mothers are committed to fulfilling their paid work activities when working from home (Hilbrecht et al, 2013).

In a similar study in Australia, women were found to be more likely than men to use telework as a way to manage family responsibilities, especially childcare (Troup & Rose, 2012).

Though again telework was treated as a dichotomous rather than continuous variable, Troup and Rose (2012) discovered that telework was positively related to job satisfaction, especially when used informally as a way for women to juggle childcare responsibilities. Likewise, parents who spend at least a portion of their week telecommuting are not as likely to feel overloaded by their family roles as are parents who work full time at the physical office (Duxbury & Halinski, 2014). Conversely, using dedicated childcare to avoid distraction has been found to be a successful strategy in overcoming the challenges associated with telework (Greer & Payne, 2014). In fact, across many employers there is often a clear expectation that teleworkers will *not* be attending to childcare responsibilities during work hours (Lautsch et al., 2009).

According to a 2000 study done by the National Science Foundation's (NSF) Office of Information and Resource Management (OIRM), 93% of telecommuters reported a greater balance between their professional and personal lives and 100% of managers were found to be satisfied with the telecommuting alternative work arrangement (Harrington & Santiago, 2006). An updated NSF study of 1,200 workers in 2007 found that each teleworker saves \$1,201 and reclaims 62 hours of their lives each year by not commuting (National Science Foundation, 2008).

Organizational Culture

Organizational culture plays into telecommuter work life balance and satisfaction as well, as it is a primary antecedent to successful telework arrangements (Harrington & Santiago, 2006). Organizational culture is comprised of the shared core values that organizational members hold, and any beliefs, assumptions, or understandings therein (Harrington & Santiago, 2006). These values offer differing perspectives on organizational effectiveness, such as a commitment to rules and procedures versus a commitment to goal setting and outcomes (Harrington & Santiago,

2006). For example, if working long hours at the office is part of the culture for career advancement, working from home would be negatively perceived as it is a deviation from the rule (Perez et al., 2003). Conversely, in Singapore teleworkers are rated on performance output rather than in-office visibility (Perez et al., 2003). Human resources managers use telecommuting as a recruitment and retention tool for their most valued employees (Perez et al., 2003) and an organizational culture that supports employees in telecommuting arrangements has been found to influence job satisfaction positively (Belias & Koustelios, 2014).

Whether organizational culture is supportive, indifferent, or rejecting of the telework arrangement will change the treatment of telecommuters, and this is compounded by the fact that teleworkers are often outside of the organization's socialization process and isolated from the transmission of values, making it difficult to carry the culture into telework environments (Harrington & Santiago, 2006). Likewise, outcomes are different depending on the reason an employee is telecommuting. For example, it is perceived as more fair to non-telecommuters if a worker is asked or forced to telecommute rather than choosing or requesting to telecommute (Thatcher & Bagger, 2011).

Organizational use of information communication technologies (ICT) and company innovativeness are factors that are positively related to teleworking feasibility, in addition to employee involvement in task design (Perez et al., 2003). Ostensibly, there are logistical concerns in terms of CMC and information sharing (Thatcher & Bagger, 2011).

Cultural issues also play a role. Teleworkers in Italy were found to miss companionship with their fellows when working from home and also felt that working from home interfered with their family life (Perez et al., 2003). Similarly, telework in China was considered counter-normative due to the paternalistic culture and leadership styles in Asian culture (Raghuram &

Fang, 2014). In Spain, where family firms are already sensitive to work-life conflict, these family businesses perceive more problems with teleworking and prefer face-to-face interaction (Merono-Cerdan, 2017).

Summary

Telework research has been prolific over the past 30 years spanning numerous and varied fields, yet outcomes related to telecommuting and job satisfaction continue to be paradoxical. Telecommuting is seen as a human resource *benefit*, but benefits can be marginal without leader support (Thatcher & Bagger, 2011). Telework practices typically rely on leader discretion regarding access and implementation, leaving leaders with a responsibility for maintaining healthy communication and eliciting performance from their subordinates despite the fact that they are out of sight (Lautsch et al, 2009). Leadership practices are important to the practice of telework, especially leader-member exchange quality and the importance of communication and trust therein. In addition, telecommuting is associated with greater feelings of isolation leading to lower performance, lower work-family conflict but longer work weeks, and even relationships with non-telecommuting colleagues who may have resentful feelings. Because the extent of telecommuting has been unreported, treated as a dichotomous value, or has used low frequency samples, it is unclear whether these outcomes will persist when a more methodologically accurate count of telecommuting extent is employed, especially given the advancements in synchronous communication technologies. The following chapter will describe the specific methods used in data collection and analysis.

CHAPTER 3: METHODOLOGY

The purpose of this study was to collect practical and context-dependent data about telecommuters and the role of relationships in their job satisfaction. The aim was not to build theory but to uncover content about their real life relationships to guide future research or theory building. Understanding dynamic phenomena such as telecommuting requires empirical and comprehensive approaches and as such, a mixed methods research design was applied to this study.

This study involved multiple regression design to examine the relationship between extent of telecommuting, leader-member exchange, isolation, organizational support, work-family conflict, and job satisfaction of home-based telecommuting employees. Multiple regression offers statistical power in rejecting the null hypothesis when false (Green, 1991). Survey research is appropriate when conditions do not allow for variables to be controlled or manipulated (Creswell, 2009). Because this research is interested in the real life experiences of teleworkers, an internet-based survey method was used to collect data that examined the relationship between job satisfaction (independent variable) and relationships with leaders, coworkers, the organization, and family (dependent variables). The constructs were measured using multi-item scales that were already validated and drawn from the literature.

While the utilization of Likert-scale questions aids the quantification of attitudes or behaviors (Leedy & Ormrod, 2010), this method lacks valuable data that describes the essence of meaning behind participants answering the way they do. Therefore, open-ended questions were included to elicit insights and depth of the variables being measured and explore the beliefs, attitudes, and needs of telecommuters regarding relationships and job satisfaction. These questions in particular prompted anecdotes of lived experiences of the phenomena to find a

central meaning. The responses to these questions were qualitatively coded and then analyzed for patterns, during which themes were derived.

The methodological plan is visually described in Figure 1.

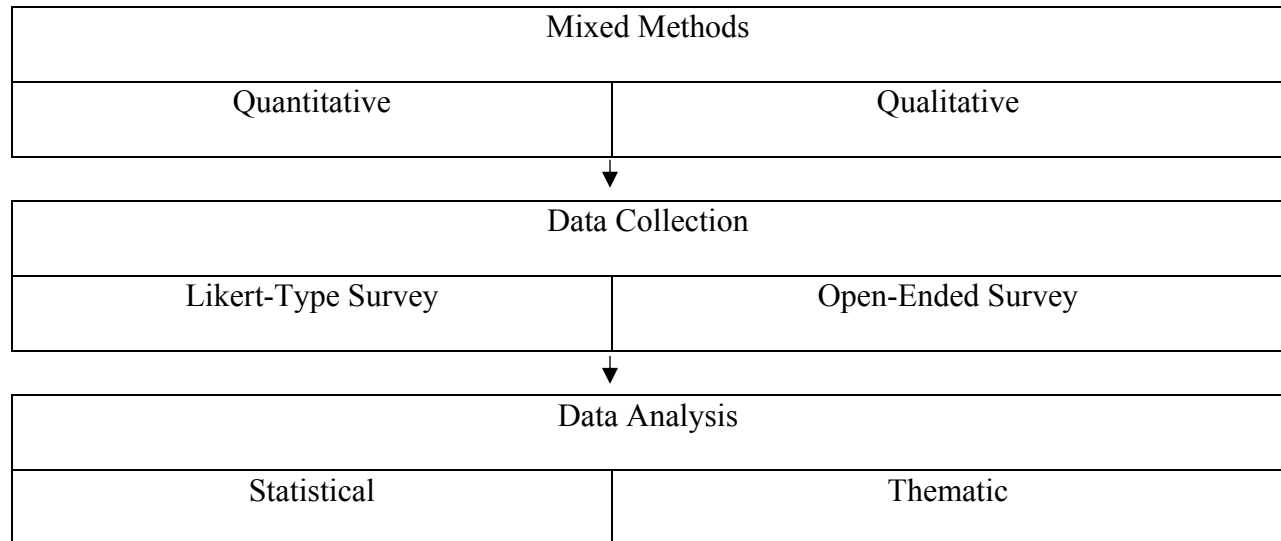


Figure 1. Methodology Design

The research design was developed to answer the following research questions.

Research Questions 1. What is the relationship between the extent of telecommuting and job satisfaction?

Research Questions 2. What is the relationship between leader-member exchange quality and job satisfaction? In what ways does the supervisor/subordinate relationship affect job satisfaction of teleworkers? What can leaders do to improve the professional experiences of teleworkers?

Research Questions 3. What is the relationship between work-family conflict and job satisfaction? In what ways does working from home support or conflict with family relationships or household responsibilities?

Research Questions 4. What is the relationship between professional isolation and job

satisfaction? In what ways does working from home affect your job satisfaction?

Research Questions 5. What is the relationship between perceived organizational support and job satisfaction? How does the support of the organization affect job satisfaction of teleworkers? What can the organization do to improve the professional experiences of teleworkers?

Primary Research Question. Is there a significant relationship between job satisfaction and the teleworker's extent of telecommuting, leader-member exchange quality, work-family conflict, organizational support, and isolation?

Null Hypothesis. There is no significant relationship between job satisfaction and the teleworker's extent of telecommuting, leader-member exchange quality, work-family conflict, organizational support, and isolation

Setting and Participants

The setting for distribution of the survey was through contacts at several large organizations with known teleworkers. The first was a global cloud computing company with over 6,000 employees, headquartered in Texas. The second was a provider of technology solutions for the financial services industry, headquartered in Missouri and employing over 6,000 workers. Third, an American multinational computer technology corporation headquartered in California, employing over 100,000 people. In addition, a small private liberal arts university in California in which there are numerous faculty and staff who work remotely. The survey was distributed to at least one telecommuter in each of these companies with the request that they forward it to their telecommuting colleagues. It was expected that the participants would be highly educated professionals who work full time for their organizations but do so from home for at least a portion of their workweek.

Sampling Procedures

Participants were recruited through both convenience sampling and snowball sampling by starting with one contact within a population of teleworkers and asking that participant to nominate others. This purposive sampling strategy aimed to target information-rich cases meeting particular criteria rather than providing a representative sample. These individuals were deliberately selected because they can inform an understanding of the phenomenon in the study (Creswell, 2013), which is the experience of working for an organization from one's home residence for at least a portion of the workweek. Employees who telecommuted from their home residence were included in this study, which were identified by self-reported responses on a survey. However, representation from a range of industries is inherent in the snowball approach, perhaps extending its generalizability. The appropriate sample size for regression analysis was determined by the formula offered by Green (1991), which states that for a medium effect N must be greater or equal to 104 plus the number of predictors. In this case, a sample size greater than 109 was obtained.

Instrumentation and Measures

Job satisfaction was measured using the Michigan Organizational Assessment Questionnaire, a widely used scale in a variety of research fields with a reliability range of 0.77 to .87 (Golden, 2006). This scale has three items measuring affective responses to respondent's job with a seven-point scale (Golden, 2006). Bowling and Hammond (2008) found "extensive evidence of the construct validity" (p. 72) and noted that it is a better assessment than other measures because of its short length and assessment of affective components of global satisfaction.

Leader-member exchange quality was captured through the use of the LMX 7 measure,

which according to Graen and Uhl-Bien (1995) and Gerstner and Day (1997) has been found to be the most sound and appropriate instrument to tap into the multidimensional nature and dyadic quality of LMX. These dimensions include trust, respect, and obligation and are measured with seven items on a five-point scale with a Cronbach alpha in the .80 - .90 range (Graen & Uhl-Bien, 1995; Gerstner & Day, 1997).

Work family conflict was measured with a five-item scale that assesses work interference with family on a five-point scale. This work family conflict (WFC) scale was developed by Netemeyer, Boles, and McMurrian (1996) and reports an average coefficient alpha of .88, showing “adequate levels of internal consistency, dimensionality, and discriminant validity across three samples” (p. 407).

Professional isolation was measured with an instrument established by Golden et al. (2008), which uses seven items and on a five-point scale to assess the frequency with which respondents experience professional isolation. In addition to exploratory factor analysis, confirmatory factor analysis revealed an alpha result of .89 and convergent validity assessment resulted in an average agreement level of 90 percent (Golden et al., 2008).

To assess teleworkers’ perceptions that their supervisors or organizations value their contribution and show concern for their well-being, four high-loading items (items 9, 10, 23, and 25) were selected from the scale of perceived organizational support developed by Eisenberg, Huntington, Hutchison, and Sowa (1986), with factor loadings, respectively, of .83, .80, .84, and .82. Adaptations such as these are well utilized in the literature (e.g. Eisenberger et al., 2002) and because the “original scale is unidimensional and has high internal reliability” (Rhoades & Eisenberger, 2002), the use of an abbreviated version for practical reasons does not appear problematic. The items included are, “The organization really cares about my well-being,” “The

organization is willing to extend itself in order to help me perform my job to the best of my ability,” The organization shows very little concern for me,” and “The organization cares about my opinions.” Respondents indicated their agreement with each item using a 5-point Likert-type scale.

Unlike many studies (e.g. Golden, 2006; Gajendran & Harrison, 2007) which have used days per week at home, extent of telecommuting was measured on a six-point frequency scale developed by Chudoba et al. (2005), but asked in a reverse manner, procuring time spent in the main office. The scale included the selections of “daily,” “weekly,” “monthly,” “quarterly,” “yearly,” and “never.” The methodological difference in using this scale of telecommuting frequency accommodates those who telecommute in an exclusive manner. Initially, raw counts per year or per month were going to be obtained, but a pilot study indicated that respondents had trouble understanding the question or reporting accurate numbers.

Reliability

In quantitative research, reliability and validity of the process and instruments are imperative for minimizing errors that might arise from measurement problems in the study (Creswell, 2009). Reliability refers to the accuracy and test-retest ability of a measurement instrument, meaning that a measure is replicable when administering it multiple times (Lochmiller & Lester, 2017). While reliability of a survey instrument can be obtained through pilot testing, in this study no pilot was necessary as the instruments for measurement had already been found reliable in published literature; the prior section indicates the reliability of each instrument.

In qualitative research, reliability can be enhanced through intercoder agreement in which there exists a stability of responses when multiple coders are analyzing data sets (Creswell, 2013). Using a peer reviewer with subject matter expertise to help code and analyze the text data

provided reliability. The researcher and peer independently coded and categorized, and then compared, discussing any differences in order to help meet consensus. Having a peer reviewer also contributed toward phenomenological bracketing, a suspending of judgement, which reduces the influence of researcher bias (Creswell, 2013).

Validity

One threat to the construct validity is mono-method bias, which refers to using only a single operationalized variable (McMillian & Schumacher, 2010). In this case, each variable is being measured by a single method even though there may be many ways to measure them. For example, using only the MOAQ Job Satisfaction Subscale to measure job satisfaction will limit inferences about its conceptualization (McMillian & Schumacher, 2010). However, it was chosen because it assesses the affective component of global satisfaction and has been found to have extensive construct validity (Bowling & Hammond, 2008).

The accuracy of the qualitative approach was validated using different sources, methods, and theories to provide corroborating evidence, a method known as triangulation (Creswell, 2013). One of the strategies for triangulation was controlling for telecommuting longevity (in years) to ensure that participants had enough experience in a virtual environment to provide meaningful data, making sure that the researcher measured what was intended to measure. A second strategy was to corroborate the inductive findings by comparing them to formerly developed theory and empirical results. The third strategy was to use different sources from a wide representation of industries in the sample.

Researcher Reflexivity

Reflexivity refers to the ways in which the researcher might affect the research or be affected by the research and is a practice in which the researcher does not consider oneself the

origin of understanding but allows oneself to develop using observation and reflection (Attia & Edge, 2017). More simply, the researcher recognizes and acknowledges that her experiences as a telecommuter contributed to the choice of research problem and those with whom she engaged in the research process. Using systematic procedures such as reflection, peer review, and phenomenological epoche, the researcher was able to reduce suppositions, biases, and influence over results.

Plan for Data Collection

The quantitative aspect of this study used a cross-sectional survey design with data collected at one point in time. The technique employed was a questionnaire derived in part from the various instrumentation used, which includes Likert-type self-assessment measures for job satisfaction, exchange relationship quality, and work family conflict. In addition, questions from the Golden et al. (2008) study on professional isolation were also included. This was electronically administered by email through the use of a web-based survey. The results of this survey were automatically populated into Google Forms and then manually transferred into Microsoft Excel.

The qualitative aspect of this study used open-ended questions on the survey. There was a total of four open ended questions, aligned to particular research questions. These questions are designed to elicit rich descriptions of the variables being studied and can be found in Appendix C.

Plan for Data Analysis

The quantitative data was initially analyzed descriptively, with means, standard deviations, correlations, and internal consistencies for each of the measures using StatPlus software. The primary research question was answered using multiple regression analysis, since

regression allows for making predictions based on multiple variables (Golden, 2006). While correlation analysis is used to determine if there is a statistically significant relationship between *two* variables and simple linear regression is used to make predictions based on the relationship between *two* variables, multiple regression is powerful for predicting a variety of outcomes based on many variables (Higgins, 2005). This research uses five independent variables to predict the value of the dependent variable, job satisfaction. These are also known as the predictor variables (independent) and the response variable (dependent). Checks for multicollinearity took place prior to running the regression to ensure there was good fit for the model.

The qualitative aspect focused on describing the results of the statistical tests obtained simultaneously on the quantitative survey. First, all open-ended survey question responses (text data) were organized into an Excel spreadsheet in which the columns will be labeled with participant code, researcher question, and participant response so that each row represents a single question and full response. Then the researcher and an assistant independently and iteratively coded the text using both an inductive open coding process and deductive conceptual coding to create descriptive codes. Content analysis was used to code the text responses to the open-ended questions with the help of qualitative research software. The unit of analysis for this data was at the phrase or statement level or complete idea, not necessarily single words. These ideas were grouped into subthemes, themes, and categories. A quantitative record of the number of participants who mentioned each subtheme were kept. Establishing these themes involved an integrated approach by being immersed in the responses to identify conceptual relationships as well as using pre-established themes from existing literature. Results of these inductive findings were compared to existing theory using a constant comparative technique.

Ethical Issues and Risks of Participation

Leedy and Ormrod (2010) indicate that web-based data collection is subject to the same ethical considerations as traditional data collection methods. This study was conducted in accordance with the parameters established by Concordia University's Institutional Review Board (IRB) to consider ethical protection of human subjects (see Appendix A). Data was therefore collected after IRB approval was granted (see Appendix B). Participation in this study was on a purely voluntary basis. Prospective participants received an e-mail that included the link to the survey and explained the purpose of the study. Respondents were required to complete the online survey with no identifiers collected. A consent statement was embedded in the text of the survey (see Appendix C), as well as information about how responses would be used and secured, risks to participants, estimated time it should take to complete the survey, and the age requirement for participation in the study.

Since respondent identification was not collected, there is little risk that participant answers can be connected to them in any way. No identifying values are collected and no IP addresses are collected or stored. Google Forms does not record the IP address of the Google Form respondent and Google does not have access to data owned by the researcher. There are no physical risks to the participant and it is unlikely to cause any psychological risks. Individual participants may benefit from this study to the extent that the findings provide information that lead to strategies for employers to enhance job satisfaction of employees who work from home.

The researcher cannot identify the subjects and does not know who participated. Any information provided by respondents will be kept in a password protected account to which only the researcher will have access to the records. Because the data is owned by the researcher, it is protected by Google's privacy policies. Further reducing risk was the process of

redacting any references that may identify the participant, such as aggregating all responses into one spreadsheet. Since research participants were not identifiable, this study fell under Concordia University's exempt review.

Summary

This chapter described the concurrent nested research design and the data collection and analyses procedures that were utilized to predict outcomes and answer the research questions. Data were collected electronically using a web-based survey comprised of the instrument scales for job satisfaction, organizational support, leader-member exchange, and professional isolation, as well as demographic information. In addition, the survey included open-ended questions designed to elicit in depth responses for the qualitative research questions. The validity and reliability of these methods was also described. The quantitative data were analyzed using regression analysis to test for mediation, while the qualitative portion used content analysis to find and describe themes within the phenomenon of working from home. The procedures to ensure ethical protection and anonymity of participants was also outlined. The following chapter will provide a detailed account of these analyses.

CHAPTER 4: RESULTS

The purpose of this concurrent nested design mixed methods study was to understand teleworkers' isolation, work-life balance, and relationships with leaders and coworkers, and how those relate to job satisfaction, in order to inform leadership practice. A purposeful snowball sample consisting of 223 participants were surveyed, with 205 meeting the study criteria to be included in the analyses. The following presents the results of the data that were collected, including descriptive statistics and demographic profiles, and the findings of the statistical and qualitative analyses for each of the research questions.

Descriptive Statistics and Demographic Profiles

Females represented 55% of the participants in this study. Fifty-six percent of respondents had children under 18 years old living in their household. A frequency distribution of the ages of participants are displayed in Figure 2.

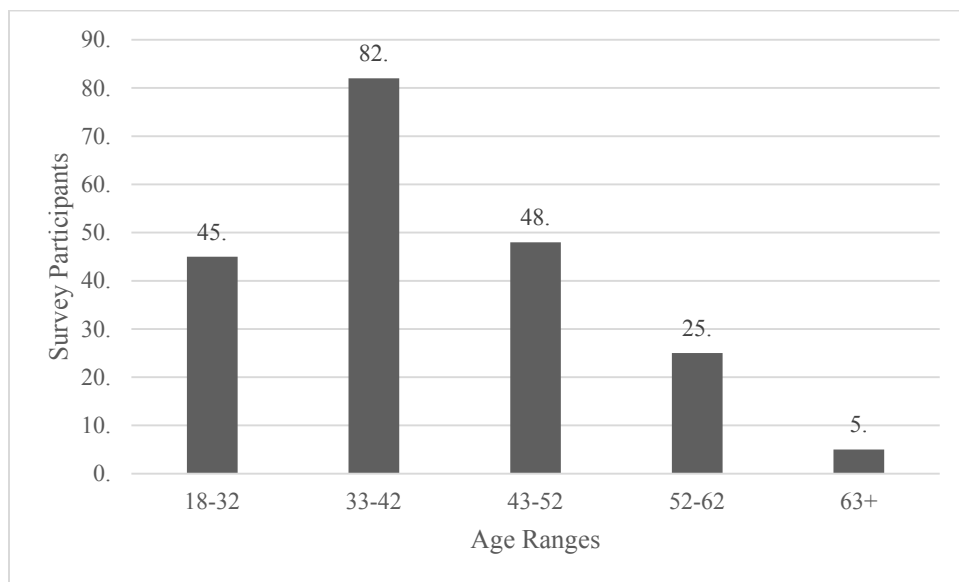


Figure 2. Ages of survey participants.

Eighty-five percent of workers were employed full time for their organizations. The top three industries represented were technology (44%), education (13%), and healthcare (10%). Eighty

percent of all participants indicated they work the majority of their time at their home, with 33% of participants never working at the main office at all. Figure 3 illustrates a frequency distribution of the extent of telecommuting for workers who participated in this study, represented by how often workers attend the main office location.

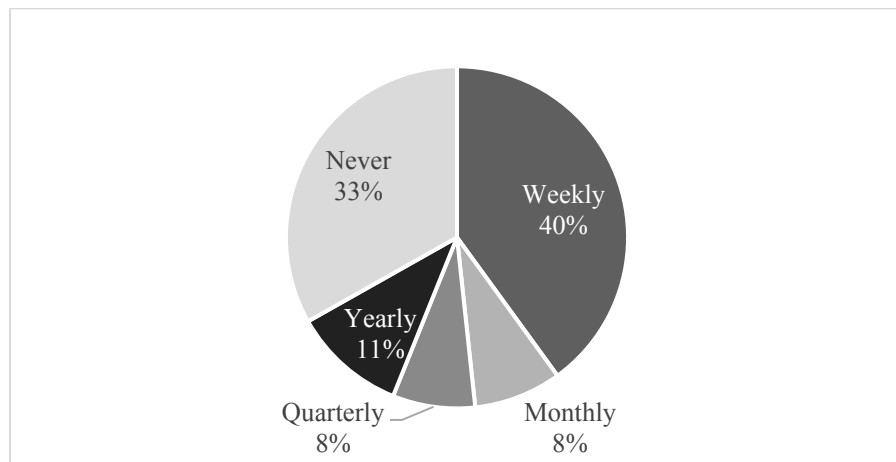


Figure 3. The frequency with which employees work on-site at the main office location.

The frequency distribution of the number of years that participants have been working remotely from their home is shown in Figure 4.

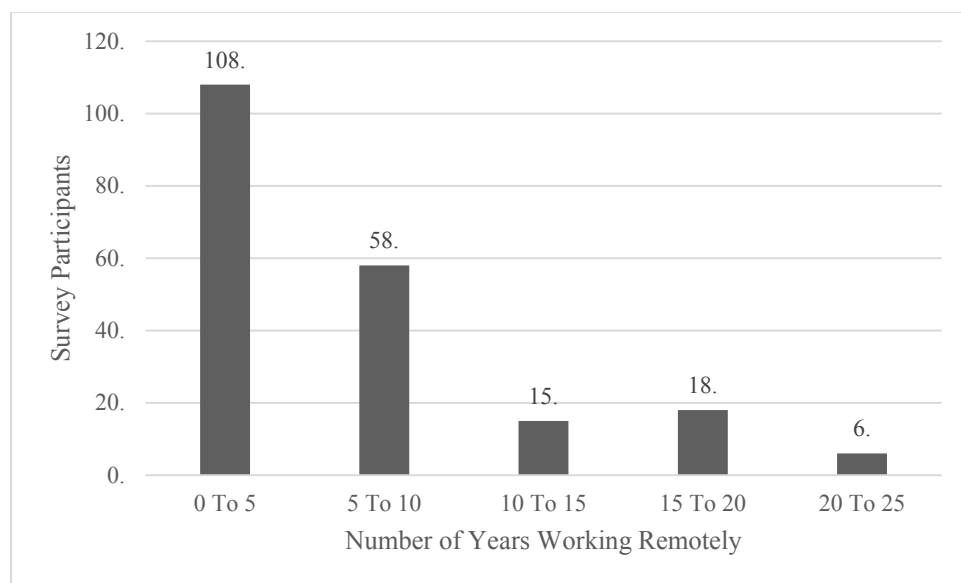


Figure 4. Years working from home.

Descriptive statistics, including mean, median, and standard deviation, for each of the measured variables are illustrated in Table 1, while correlations can be found in Table 2.

Table 1				
<i>Descriptive Statistics</i>				
Variable	<i>M</i>	Median	<i>SD</i>	Range
Job Satisfaction	5.74	6.00	1.25	1-7
Work Family Conflict	2.16	2.00	1.02	1-5
Organizational Support	3.60	3.75	1.03	1-5
Leader Member Exchange	4.02	4.14	0.84	1-5
Professional Isolation	2.29	2.20	0.99	1-5
Years Spent Telecommuting	5.83	4.00	5.04	1-25

Table 2										
<i>Correlations</i>										
	1	2	3	4	5	6	7	8	9	10
1. Age	1.00									
2. Frequency	-0.05	1.00								
3. Years	0.39*	0.04	1.00							
4. ICT	0.10	0.14*	0.10	1.00						
5. Synchronicity	-0.07	-0.06	-0.03	0.38*	1.00					
6. Isolation	-0.19*	0.01	-0.18*	0.02	-0.01	1.00				
7. LMX	0.05	-0.02	0.09	0.08	0.11	-0.41*	1.00			
8. Org Support	0.09	-0.01	0.14*	0.07	-0.04	-0.19*	0.45	1.00		
9. WFC	0.04	-0.19*	0.06	0.04	0.04	0.20*	-0.12	-0.20*	1.00	
10. JSS	0.15*	-0.04	0.22*	0.03	-0.01	-0.43*	0.60*	0.67*	-0.25*	1.00
<i>Notes. *=p<.05</i>										

Extent of Telecommuting

What is the relationship between the extent of telecommuting and job satisfaction?

To assess the relationship between the extent of telecommuting and job satisfaction, a Pearson correlation was conducted. Results of the Pearson correlation indicated that there was no significant association between extent of telecommuting and job satisfaction, as shown in Figure 5.

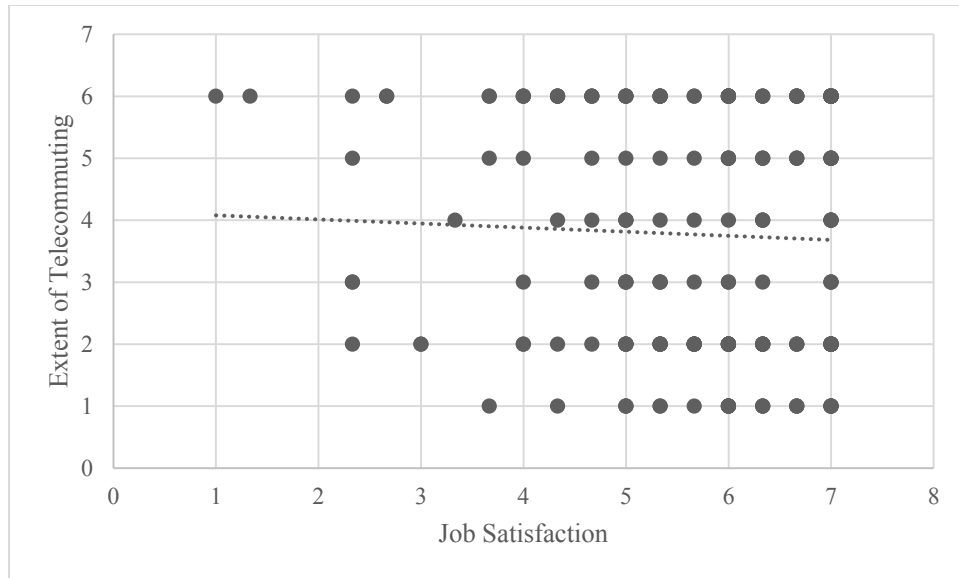


Figure 5. The correlation of extent of telecommuting and job satisfaction ($n=205$, $r=-.04$, $p=.54$).

Although the frequency with which one works remotely was not significantly correlated to job satisfaction, the number of years overall spent working remotely had a significant, positive, low correlation to job satisfaction. The results of the Pearson correlation are illustrated in Figure 6.

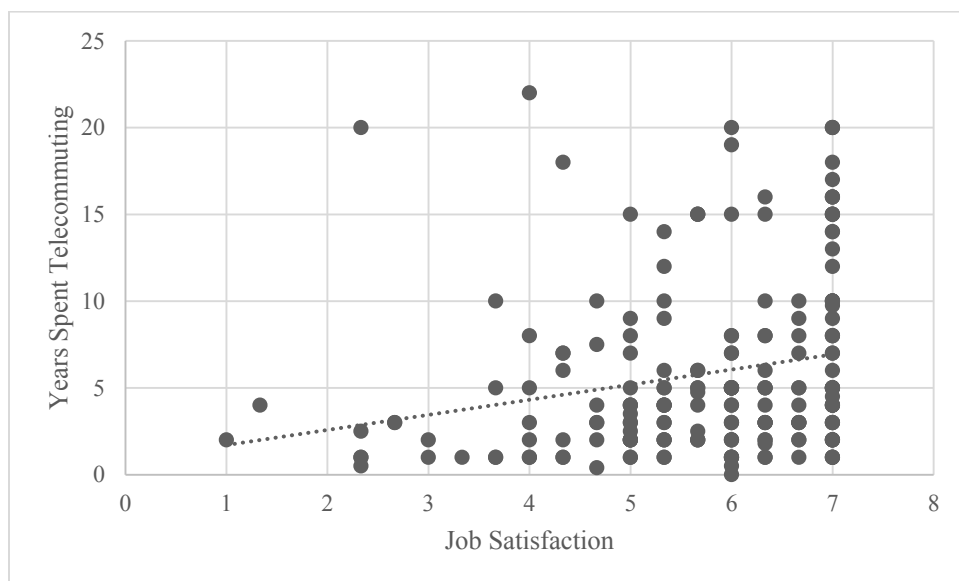


Figure 6. The correlation of years spent telecommuting and job satisfaction ($n=205$, $r=.22$, $p=.002$).

Leader Member Exchange Quality

What is the relationship between leader-member exchange quality and job satisfaction? In what ways does the supervisor/subordinate relationship affect job satisfaction of teleworkers? What can leaders do to improve the professional experiences of teleworkers?

To answer the research question, “What is the relationship between LMX and job satisfaction?” a Pearson correlation was conducted. The results of the Pearson correlation indicate that there is a significant, positive, moderate correlation between the two variables, as highlighted in Figure 7.

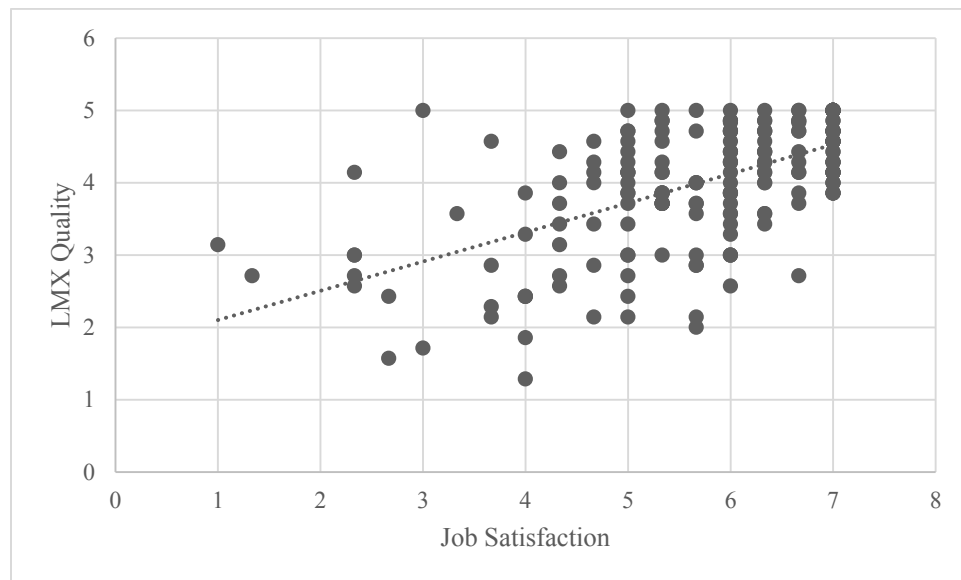


Figure 7. The correlation of leader member exchange quality and job satisfaction ($n=205$, $r=.60$, $p<.001$).

Within the open-ended questions, participants spoke candidly about their supervisor-subordinate relationships. The teleworkers commented frequently that the relationship they have with their bosses or leaders is positive. Many informants described increased job satisfaction when their leaders were supportive, communicative, approachable, and good at listening. Additionally, they described satisfying experiences when leaders are honest, trusting,

empowering, and an advocate for their needs. The experiences that led to decreased satisfaction highlighted concerns such as inexperienced managers, poor leadership behaviors such as micromanaging, lack of communication and direction, and being underappreciated by leaders.

Table 3 illustrates a small sample of informants' descriptions of the relationships with their leaders.

Table 3				
<i>LMX Responses</i>				
Gender	Industry	In-Office Frequency	Disposition	Comment
Female	Technology	Never	Supportive	My supervisor is a great person and a great leader for me. She is very willing to listen to my needs and ideas, as well as those of her other reports, and act on them. She has voluntarily advocated for my salary increases that I did not even have to request and has been working to communicate my needs and desires to other departments, with a level of authority that someone of my level can't quite have, in order to help improve the effectiveness of the whole team and company. She shows interest in my career and overall happiness.
Female	Education	Weekly	Supportive	We have a positive working relationship. We communicate in a variety of ways (text, call, email or IM) since we are rarely in the same space. He is very flexible, almost to a fault, since he has no problem cancelling, rescheduling or changing face to face meetings to virtual last minute. I would appreciate a little more structure.
Male	Technology	Never	Supportive	Have positive relationship with my leader, he actively works to understand the issues with people working remotely and works hard on bridging the gap. With tools like video conferencing we can communicate daily face to face besides just using other tools like Slack,

Male	Technology	Weekly	Supportive	We have instituted "mandatory" weekly or biweekly 1:1s between leaders and their reports, so everyone communicates. Many times the 1:1s are divided into 25% about work, 50% about personal things (building the relationship and the personal connection), 25% about issues, thoughts, and impressions that can be about anything (work, home, personal, etc.).
Female	Healthcare	Never	Marginalizing	I have a good working relationship with my boss primarily because of the years working together prior to telecommuting. I believe she'll do what she can to support me, however, it is clear that I will not be promoted while working from home. I am not completely confident that she does not "throw me under the bus" when things go wrong in the team. I was also given a lower annual raise due to the others on the team that step up to help in the office (printing, filing, scanning, etc.). I think it would be helpful for her to make more of an effort to fully understand the work that I do and the hours I work that would justify a higher raise and/or promotion.
Male	Technology	Yearly	Marginalizing	I only ever talk to my boss directly once a week. I get virtually no other direction or communication otherwise. They say I'm doing a great job, but I have no idea where they are basing that off of. I have virtually no personal relationship with any of my leaders. Most of the time while video conferencing, they'll be multitasking on their computer.
Female	Other	Quarterly	Supportive	My boss is one of the better that I have had in my professional working career. She is up front and honest and blunt about her expectations. I appreciate this as a subordinate.
Male	Technology	Weekly	Supportive	Reasonable, but with unwavering principles. Is always straight-forward and honest, going as far as telling us things we aren't supposed to know but should. He goes out and fights his boss on our

				<p>behalf. I know he has my back so I am highly likely to support any position he takes</p>
Male	Technology	Weekly	Supportive	<p>The relationship with my leader is one of mutual respect and honesty. There is transparency which I appreciate that allows me to grow and learn every day. I believe understanding what your subordinates are doing not only at the workplace, but outside better allows you to really know the person and how you can help them. Asking questions regarding goals and checking up on those goals moving forward helps keep them accountable and provides that mutual respect for growth</p>
Male	Technology	Never	Marginalizing	<p>I will often go months without speaking with my boss. He has very little insight into my day to day work. When I do speak with him he appears to be satisfied with the work I have been doing. To improve my professional experience, there would be more communication in both direction. To feel like I am remembered and appreciated would help in my confidence in my work.</p>
Male	Technology	Weekly	Supportive	<p>I value that my "boss" has enough confidence in me to trust me working from home. Without that trust it would make no difference even if I was in the office all the time.</p>
Female	Education	Weekly	Supportive	<p>We have a trusting and mutually respectful working relationship.</p>
Female	Education	Weekly	Supportive	<p>Full trust. He is transparent in decision-making, gives his team members the authority needed to care out their jobs, and will always back us up on the decisions we make.</p>
Female	Technology	Never	Supportive	<p>I think my boss and I have a decent understanding of what each others' goals are with respect to making our business work smoothly. We have a team huddle at the start and end of the shift over video conference and a one-on-one roughly</p>

				<p>monthly. I know I can call him anytime or reach him by other methods (Slack, asking for an impromptu video conference) if anything comes up. He's made clear that he will make time available whenever his team needs it and has followed through on that by being responsive, so I trust that if I need clarification on something I can get it. In turn I'm available through multiple communication mediums during my shift and let the team know if I'm stepping away, and so on</p>
Female	Technology	Quarterly	Supportive	<p>I would not always have had this positive of an answer and have had over 20 different bosses over the years I'm sure! But I am in an incredible place right now. Working for someone I greatly respect, who appreciates and understands exactly the work that I do. We are a great team and have known each other over 15 years, although I have only worked FOR him for the past 2. He is extremely competent, skilled, technical, yet very approachable, sensitive and likeable. His interests to help others succeed are obvious. I can confide fully in him. What he does that makes our relationship click is he believes in me, allows me to come up with my own solutions and implement, and stands behind me if I should have issues or needs. I don't need to excel further, be promoted or recognized at this point in my career to be happy. He knows a 'job well done' is enough for me and ensures others are aware of my performance as an advocate.</p>
Male	Technology	Weekly	Supportive	<p>Empowering and supportive - positive.</p>
Female	Technology	Never	Supportive	<p>My supervisor is a great person and a great leader for me. She is very willing to listen to my needs and ideas, as well as those of her other reports, and act on them. She has voluntarily advocated for my salary increases that I did not even have to request and has been working to</p>

Male	Education	Monthly	Supportive	<p>communicate my needs and desires to other departments, with a level of authority that someone of my level can't quite have, in order to help improve the effectiveness of the whole team and company. She shows interest in my career and overall happiness.</p> <p>My leader has a lot of trust in my work and provides me the creative space to manage myself on a daily basis. My leader is good at communicating important campus events/info/etc. on a weekly basis as well as directly communicating with me if a circumstance requires it.</p>
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Work Family Conflict

What is the relationship between work-family conflict and job satisfaction? In what ways does working from home support or conflict with family relationships or household responsibilities?

A Pearson correlation was conducted to answer the research question, "What is the relationship between WFC and job satisfaction?" The results of the correlation analysis indicated a significant, negative, low correlation between the two variables, illustrated in Figure 8.

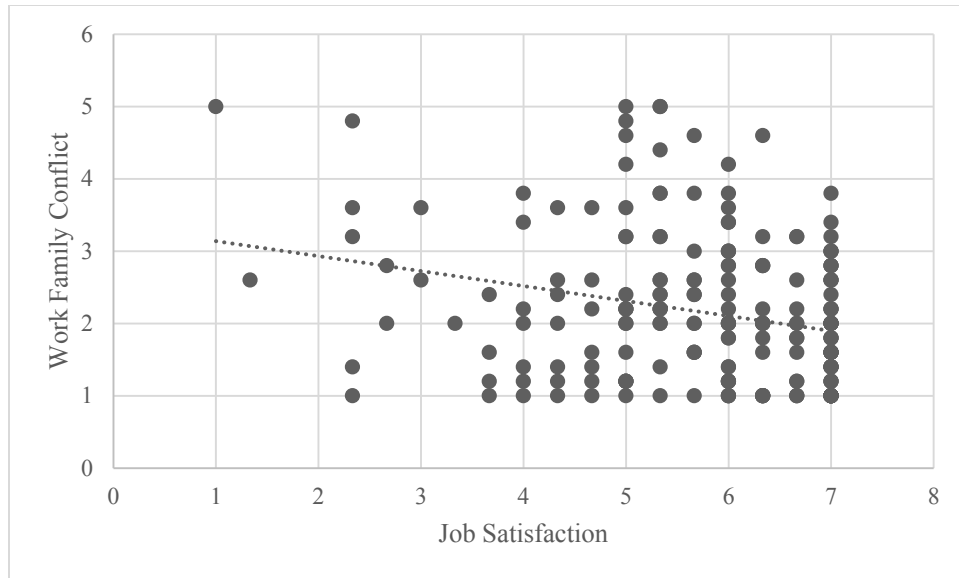


Figure 8. The correlation of WFC and job satisfaction ($n=205$, $r=-.26$, $p<.001$).

A common theme among respondents was appreciation for the flexibility or autonomy of time to allow for family or household responsibilities. By working from home, employees are able to use their break times to manage household duties such as laundry or cooking. Similarly, the autonomous schedule allows them to be present at school activities for their children, while perhaps making up asynchronous work after hours while children are in bed. Though one respondent described it as having “two jobs,” most agreed that the flexibility of their schedule allowed them to be more productive and efficient at *both*. Flexibility and autonomy to meet family needs comprised an overwhelming number of responses related to the question of how working from home *supports* family relationships and responsibilities. Other benefits included having no commute, having quiet time or being uninterrupted, and even having reduced incidences of viral infections or unpleasant office kitchen aromas.

However, a commonly reported challenge of working within the home was having boundaries between home and work hours. That is to say, because employees at home are more or less “always on” and find it “hard to turn off,” they end up working longer hours. In addition,

they feel that employers expect them to be always available and willing to do more, making them feel unrepresented but “over-accountable”. The need to manage their time and to have clear expectations with both their employer and their families was a recurrent concern. Still, even with these concerns in mind, the majority of responses were favorable in that working from home supports rather than conflicts with their needs and that the advantages outweigh any disadvantages.

Table 4 illustrates informants discussing the benefits and challenges of working from home.

Table 4				
<i>WFC Responses</i>				
Gender	Industry	In-Office Frequency	Disposition	Comment
Male	Technology	Yearly	Positive	My WFH [work from home] has given me more time to get stuff done at home. When I step away to take a break, I get do some household need. Taking breaks in the office does not give you that opportunity. Just because you're in the office does not mean, you're working. You can surf the web in the office. You can take smoke breaks at work and walk off after the break and be gone for longer period.
Male	Technology	Never	Positive	Benefits include: flexibility, focus on work, effective meetings. Challenges include: Work/life balance [working longer than average work day/week], less face to face interaction with colleagues, less opportunity for career advancement.
Female	Technology	Weekly	Positive	Challenges. Laundry and chores need to be done. Benefits. Laundry and chores GET done. :) It's a great experience.
Female	Healthcare	Never	Positive	I really have no conflicts between home and work. Rather than taking a coffee break at work, I toss a load of laundry in and refill my cup on my way back to my office. Instead of an hour lunch break, I

				have time to prep for supper, mop the floor, take a walk around my neighborhood or simply nap in my own bed.
Female	Education	Quarterly	Negative	Like all jobs it comes at a price, but it seems like there is a belief that working from home employees do not need representation in the major committees and have a higher workload-while being perceived as working less because they are not represented at crucial conversations.
Female	Finance	Never	Positive	Sometimes it is hard to "turn off" work when I am in the place where I normally get all of my work done. But at the same time, I love the flexibility working from home allows and how I can spend time with my children without having the demands of going into any office.
Male	Technology	Weekly	Positive	Working from home allows me much greater flexibility in my work day. I can use my breaks productively to accomplish small tasks around my home. I also save a fair amount of time on days where I work from home by not having to commute to the office. I also feel more comfortable at my home office than at my company's office, which I believe helps me be more productive overall. The biggest challenge of working from home is missing out on in-person interactions that businesses have come to rely on. It takes much more effort to engage in the business than it would if I were at the office.
Female	Technology	Never	Positive	My manager allows me to be autonomous, and I am comfortable making decisions on my own.
Female	Technology	Never	Positive	I love the autonomous nature of remote work.. I am extremely satisfied with my career. I will never work in an in-office position.
Female	Consulting	Never	Positive	I appreciate being autonomous
Female	Technology	Never	Mix	Benefits include lack of distractions and well defined expectations from management. Challenges include lack of face time for a quick response. Building professional relationships is almost

Female	Education	Never	Negative	impossible as a remote employee I work for a nonunion, charter school. The expectations were never explicitly stated. We are told to value and honor our weekends, holidays, and vacations, but we are also dinged for not responding to student/parent correspondence during that time. I work for an online high school and had two calls for classwork on Christmas Day. It is ridiculous. I feel many online schools act as though they are doing you such a great favor allowing you to work from home that they can walk all over you.
Male	Technology	Weekly	Positive	I feel the benefits of working from home far outweigh the need to be present in the office. You don't need to make special arrangements or take time off to see a doctor and to get something done at home. However the company needs to be structure in a way to support it. Also there needs to be clear rules and expectations set for yourself as well as the ones the company sets for you. Working from home should be a privilege, not a requirement.
Male	Technology	Weekly	Positive	Early in my career, these things did impact my home life. But I learned to set clear boundaries and expectations for both my employer and my family, and things improved dramatically.

Professional Isolation

What is the relationship between professional isolation and job satisfaction? In what ways does working from home affect job satisfaction?

A Pearson correlation analysis was conducted to answer the research question, “What is the relationship between professional isolation and job satisfaction?” The analysis indicated a significant, negative, moderate association between variables, as shown in Figure 9.

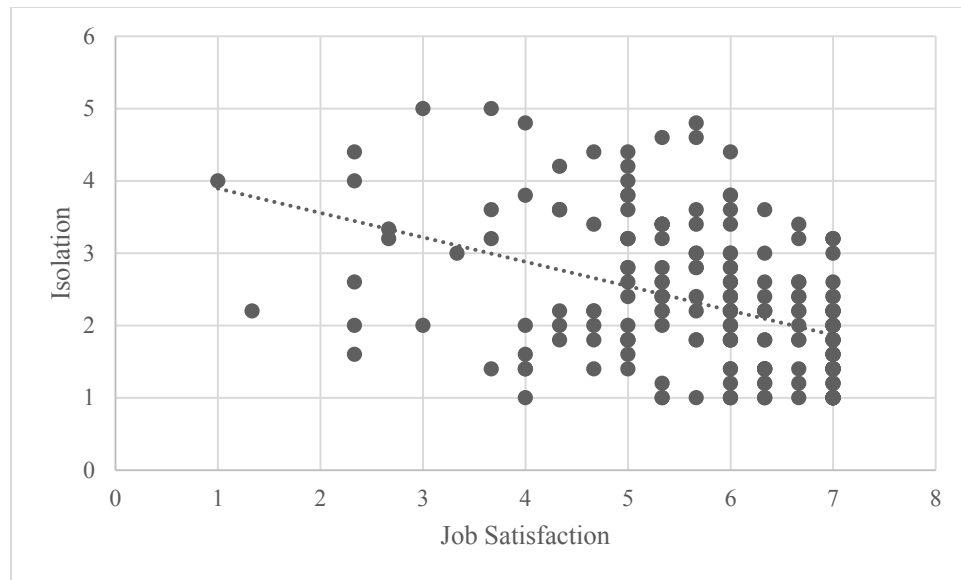


Figure 9. The correlation of isolation and job satisfaction (n=205, $r=-.43$, $p<.001$).

Many comments from the survey reflected that when employees are not in the office they miss interaction with others and feel undervalued, unmotivated, and uninformed, with one participant using the common expression, “out of sight, out of mind” and another who missed “potlucks.” In addition to comments about feeling isolated and lonely, many respondents were concerned about the perceived lack of opportunity for career advancement. Those who indicated they were satisfied with their arrangement highlighted the importance of frequent communication, but ultimately that the pros outweigh the cons of the situation, saying they feel the tradeoffs are worth it. Table 5 illustrates informants discussing how feelings of isolation, or lack thereof, affect their job satisfaction.

Table 5				
<i>Isolation Responses</i>				
Gender	Industry	In-Office Frequency	Disposition	Comment
Male	Technology	Yearly	Negative	It is extremely depressing for someone who's outgoing and gets energy from the people around them, like myself. I love the work that I do, but feel lonely, isolated,

Male	Technology	Monthly	Positive	<p>ignored, unappreciated, and left in the dark on many things.</p> <p>I feel like with communications tools like Slack or video conferencing I don't miss out much on the informal or face to face interactions. My company is also pretty good about providing remote only sessions for meeting with leadership.</p>
Male	Technology	Never	Negative	<p>Remaining engaged with management that does not identify and prioritize the fact that they have remote only employees can be difficult.</p>
Female	Technology	Quarterly	Positive	<p>I am SO thankful to work remotely from my team. I am MORE satisfied because I don't have have to have 'small talk' relationships with co-workers; we purely focus on the work we do when we collaborate. I prefer to have friendships outside of work with neighbors, church, etc. Much of this comfort is due to 'military family lifestyle' and the fact that the team that I work with/support is spread across every state in the US - so I have constant interaction via phone, email, video/conferencing software meetings with all of them. I have been mentored and mentored many 'remotely'. After so many years, you become really proficient at it! I truly believe if someone working remote feels left out or that career possibilities/growth are stunted, they don't spend significant time representing their presence in email, via documentation shared, or on conferencing meetings/software. Also, it depends on the age you are, the stage you are in your career, and how long you have worked for an entity/how well known you already are. It can be successfully done, and I can't imagine having to work in an office daily. Working remotely does have a place in a certain age group/life stage for sure. In my 20's without children, I would have NEVER wanted to work remote. Constant collaboration/interaction and socialization to understand the company, politics,</p>

Female	Education	Weekly	Positive	<p>culture etc was very important to me then. But working remotely now allows for better work / life balance to be a parent, employee and happy person!</p> <p>Working remote 2 days a week, in the office 3 days a week allows me to maintain interaction with coworkers, while at the same time, reap the benefits of working remotely.</p>
Female	Education	Monthly	Negative	<p>Often there is a sense of isolation. There is also the perception by others that you are not working all of the hours that you should.</p>
Female	Technology	Weekly	Negative	<p>Occasionally, it makes me more nervous or insecure that I may be let go which is totally unwarranted. I feel like my input isn't asked as often as those who are in the office. I feel like my relationship with the company, overall, is weaker.</p>
Female	Technology	Never	Positive	<p>I REALLY enjoy the 1-2 times per year when some of my coworkers and I gather in-person, either for a company party or a trade show, conference, etc. I enjoy the informal talking and casual brainstorming that spontaneously occurs. But we are a fully remote company, so I'm no more left out than anyone else is. I am very satisfied with my job and with working from home all the time (no commute, fewer distractions, ability to do chores or errands during breaks, etc.), but I would feel much less satisfied (I think) if I were working for a company where only some employees were remote and others were in the office more (it would likely lead to "FOMO" and miscommunications).</p>
Female	Education	Quarterly	Negative	<p>Communication is lacking and opportunities for growth are given to on onsite employees</p>
Female	Sales	Weekly	Negative	<p>[Isolation] affects my motivation on days when I'm not selling anything, could use encouragement and other ideas</p>
Female	Technology	Weekly	Negative	<p>I was unsatisfied missing so much communication at work so I chose to cut back to working from home only 1 day per week</p>

Female	Sales	Yearly	Mix	I love working from home however I often wonder if it is impacting my ability to be promoted or get to the next level because my company is HQ in Maryland and 3,000 miles away from me
Female	Other	Quarterly	Positive	I feel more connected with my coworkers actually! We have to call and chat with one another. My bosses will mentor as needed by phone and will have us come in more often as necessary
Male	Technology	Weekly	Negative	[Isolation] makes me less motivated to advance my career
Male	Technology	Yearly	Mix	I put up with [isolation] because the pros outweigh the cons.
Male	Technology	Yearly	Positive	I see the things I miss as a trade off of being able to be at home. The pros outweigh the cons, so it doesn't affect my satisfaction
Male	Technology	Yearly	Mix	I work with a team of 7. We have members in the UK, across the 4 time zones in the US. I felt out of the loop at first but I brought it up in our meetings and things improved quite a bit.
Male	Technology	Never	Mix	Im an outgoing guy, so working remote has hindered that trait of mine. The pros of working from home out weight going into an office though.
Female	Healthcare	Yearly	Positive	The benefits of wfh [work from home] still outweighs the interactions I miss with co-workers and mentorship opportunities.
Female	Agriculture	Monthly	Negative	Even when I was in the office I kept to myself quite a bit, but I miss just popping into someone's office and talking through a task. Out of sight, out of mind.
Male	Education	Weekly	Mix	Any dissatisfaction related to these feelings are overshadowed by the benefits of working remotely.
Female	Marketing	Never	Positive	The benefits to working at home override the other issues.

Organizational Support

What is the relationship between perceived organizational support and job satisfaction? How does the support of the organization affect job satisfaction of teleworkers? What can the

organization do to improve the professional experiences of teleworkers?

A Pearson correlation was conducted to answer the research question, “What is the relationship between perceived organizational support and job satisfaction?” The results of the analysis indicate a significant, positive, moderate correlation between variables, as illustrated in Figure 10.

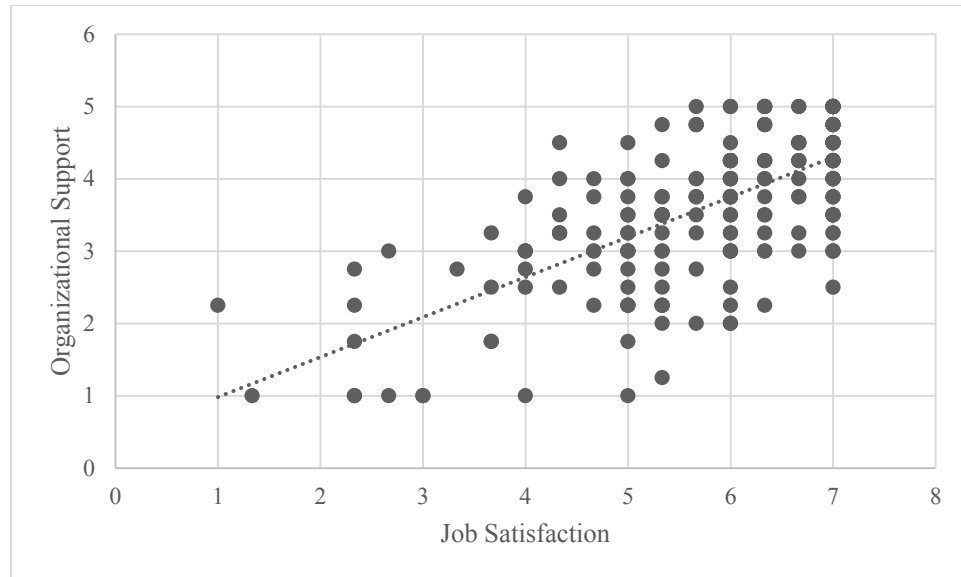


Figure 10. The correlation of organizational support and job satisfaction ($n=205$, $r=.67$, $p<.001$).

There was a clear difference in the qualitative responses regarding telecommuters’ descriptions of their supervisor-subordinate relationship versus their descriptions of support from the organization at large. While many described positive relationships with their leaders, informants here described frustrations with a lack of support for and understanding of the work from home model by their organizations. Organizations with high support for their workers were described as adaptive and transparent, where remote workers felt valued, leading to feelings of increased job satisfaction. Suggested ways to improve the professional experience for teleworkers included having timely and effective communication, being open to ideas, assistance with the tools and boundaries needed to do the job, as well as offering opportunities to grow or

advance within the organization. Especially for customer or client facing positions, participants identified a need for higher levels of support, suggesting that if they are unsupported they are not likely to do well supporting the customer. Whereas, respondents in more internal positions did not think it was necessary for the organization to go to great lengths for them. Again, a recurring theme was the idea that benefits outweigh the costs. Examples of the aforementioned themes in the responses are presented in Table 6.

Table 6				
<i>Organizational Support Responses</i>				
Gender	Industry	In-Office Frequency	Disposition	Comment
Female	Healthcare	Monthly	Unsupportive	The company needs to promote employees based on their merit and not on who they know.
Female	Healthcare	Never	Unsupportive	I am concerned that if I were to need or request additional accommodations to my working situation, I would potentially be let go. I try to work more hours to prove that I am not a liability and worth the investment.
Male	Technology	Monthly	Supportive	Since my organization is a multi-billion dollar company, it's difficult to feel that they care about me individually, but they do provide a good environment in which to work.
Male	Technology	Quarterly	Unsupportive	I have much more faith in my direct leadership than the broader organization to support me and my team.
Male	Technology	Weekly	Unsupportive	If I didn't get to WFH [work from home], I would leave because this place is terrible.
Male	Technology	Never	Supportive	My current organization is both mature and trusting relative to Remote/WFH employees/contractors. Over 50% of us are Remote; that includes senior managers and executives.
Male	Technology	Yearly	Mix	They seem to care about employee opinions and satisfaction through surveys, talks, etc. But I feel I miss out

Male	Technology	Never	Unsupportive	<p>on so many of these opportunities being remote. Whether they be employee benefits, or if I needed something personal, I feel like just another textual name in the chat program we use.</p> <p>The organization could really care less about us as individuals, it comes down to my direct manager and team that makes the difference. I know this method is common in the IT/technology industry. We are more of a number than a person. I completely disagree with this thought process of business first, people second. My organization pushes customer satisfaction and going above and beyond, I find it's contradictory to treat employees as a number and then turn around and demand customer loyalty. You can't have one without the other.</p>
Female	Education	Monthly	Mix	<p>On one hand it is great to work for a place that values you in many ways. Yet, if you are working remotely there is the feeling they would rather not have to deal with such things. An improvement would be to accept remote workers as a true member of the team instead of someone who is a problem because they are not in the room or on campus.</p>
Male	Sales	Weekly	Supportive	<p>The organization cares because a satisfied sales rep drives revenue.</p>
Male	Technology	Never	Supportive	<p>If a place doesn't show care and support for you, word gets around. Then you "suddenly" have a shortage of qualified help applying...</p>
Female	Technology	Never	Unsupportive	<p>New mandates are passed on to me that personally cost me money and they tell me that is the cost of working from home. I end up paying more for my technology even though it only benefits the company. I don't enjoy my job as much, but I work from the mountains in Colorado so I am happier overall.</p>
Male	Education	Weekly	Supportive	<p>It is hard to parse apart the organization from the people within the organization.</p>

Male	Technology	Never	Supportive	<p>The faceless "organization" feels disconnected and unconcerned with the plight of raising a family in a high cost of living area with low-income pay. However, the people I encounter within the organization are sympathetic and supportive, which makes the financial struggle bearable resulting from the sense of community and belonging.</p> <p>I understand I'm a small cog in the giant wheel from the organization perspective. I control what I can and not worry about the things I can't.</p>
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Primary Research Question

Is there a significant relationship between job satisfaction and the teleworker's extent of telecommuting, leader-member exchange quality, work-family conflict, organizational support, and isolation?

To answer the primary research question, a multiple regression analysis was performed using StatPlus. First, the researcher tested for multicollinearity among independent variables, extent or frequency of telecommuting (x_1), leader-member exchange quality (x_2), work-family conflict (x_3), organizational support (x_4), and professional isolation (x_5). The Pearson correlation analysis resulted in a several significant low to moderate relationships among several independent variables (see Table 7).

Table 7	
<i>Multicollinearity</i>	
Variable vs. Variable	<i>R</i>
Organizational Support vs. Leader Member Exchange	0.45*
Leader Member Exchange vs. Isolation	-0.41*
Organizational Support vs. Isolation	-0.19*
Work Family Conflict vs. Organizational Support	-0.19*
Work Family Conflict vs. Isolation	0.19*

Notes. $*=p<.05$

Because these independent variables were not highly correlated, all were retained to use in the regression analysis. Therefore, a multiple regression was used with extent or frequency of telecommuting (x_1), leader-member exchange quality (x_2), work-family conflict (x_3), organizational support (x_4), and professional isolation (x_5). The results of this regression indicated the five predictors explained 61% of the variance ($R^2 = .61$, $F(5,204)=61.62$, $p<.01$). The Beta, t-test, and p -value for each predictor are shown in Table 8.

Table 8			
<i>Regression Analysis I</i>			
Variable	β	t Stat	p -value
Work Family Conflict	-0.0964	-2.0521	0.0415*
Organizational Support	0.4816	9.5552	0.0000*
Leader Member Exchange	0.2914	5.4516	1.4682E-7*
Professional Isolation	-0.1962	-3.9722	9.9510E-5*
Extent of Telecommuting	-0.0492	-1.0839	0.2797
Notes. $*p<.05$			

As noted, extent of telecommuting was not a significant predictor in this model. Therefore, a best subsets regression was conducted and indicated that although the overall regressions were significant for all models, the p values were not significant for variables extent of telecommuting and work family conflict in the subsets with five and four variables, respectively, meaning they were not predictors of job satisfaction in those models. For a more parsimonious model, these two variables were subsequently eliminated as statistical power is greater with fewer predictors (Maxwell, 2000).

Multiple regression analysis was therefore used to test if organizational support, leader member exchange, and isolation significantly predicted participants' job satisfaction. The results

of the regression indicated the three predictors explained 60% of the variance ($R^2 = .60$, $F(3,204)=99.82$, $p<.01$), with the equation for predicting the dependent variable as follows:

$$y = 2.4638 + 0.6040 * \text{organizational support} + 0.4279 * \text{LMX} - 0.2704 * \text{isolation}$$

The Beta, t -test, and p -value for each predictor are shown in Table 9.

Table 9			
<i>Regression Analysis II</i>			
Variable	β	t Stat	p -value
Organizational Support	0.4989	9.9740	0.0000
Leader Member Exchange	0.2886	5.3662	2.2039E-7
Professional Isolation	-0.2138	-4.3672	2.0137E-5

CHAPTER 5: DISCUSSION

Imagine rolling out of bed on a workday without an alarm clock, turning on your laptop, and answering emails or phone calls while wearing pajamas and sipping fresh, hot coffee from your favorite mug. This may sound like a dream, but it is a reality becoming more pervasive in modern society. The research on remote work – work in technology-mediated organizational settings – is relatively outdated, surprisingly conflicting, either very broad or narrowly niched, and quite challenging due to the rapidly changing nature of technology.

Despite a considerable stream of literature on the topic, the conclusions are conflicting, inconsistent, or paradoxical, and so the variables surrounding telework continue to be studied ad nauseam. Presumably, this stems from the customizable nature of the job design, implying that individual circumstances in each teleworker's context shapes the experience of the phenomenon. From the use and synchronicity of ICT, to organizational culture, to managerial and coworker relationships, and even the particular nuances of what goes on in a telecommuter's home, and so much in between, there is seemingly no one-size-fits-all prescription for a successful telework experience.

Summary of the Study

Chapter one built an argument suggesting that previous lines of inquiry warrant updated investigation. Chapter two described how telework research has been prolific over the past 30 years spanning numerous and varied fields, yet outcomes related to telecommuting and job satisfaction continue to be paradoxical. The review of literature showed that leadership practices are important to the practice of telework and that telecommuting is associated with greater feelings of isolation leading to lower performance, but that the extent of telecommuting has been unreported or measured inappropriately. Chapter three described the concurrent nested research

design and the data collection and analyses procedures that were utilized to predict outcomes and answer the research questions. Chapter four presented the results of the data that were collected, including descriptive statistics and demographic profiles, and the findings of the statistical and qualitative analyses for each of the research questions. This chapter discusses said findings and answers within the context of each research question.

Extent of Telecommuting

To date, much research has examined the impact of the number of days per week spent telecommuting (e.g. Golden, 2006; Golden et al., 2008; Henke et al., 2016; Golden & Gajendran, 2018; Fay & Kline, 2011; Fonner & Roloff, 2010; Bentley et al., 2016), with “high intensity” telecommuting defined as three or more days per week (Gajendran & Harrison, 2007). In many of these studies, frequency was found to have a significant effect on various outcome variables, such as job satisfaction. Specifically, Golden (2006) identified a curvilinear relationship where at a particular threshold there becomes a point of diminishing returns, where the advantages of working remotely no longer outweigh the disadvantages. It is of profound note, therefore, that frequency was not correlated to job satisfaction and was not a predictor of job satisfaction in the regression model, when frequency was measured on a six point frequency scale rather than in days per week. This statistical finding is supported by the qualitative data in which participants repeatedly used phrases such as “the pros outweigh the cons.” Additionally, the mean score for job satisfaction was 5.74 on a scale of seven among the telecommuters in this study despite 33% of them *never* working onsite for their organizations. As a respondent in Table 4 emphasized, “I am extremely satisfied with my career. I will never work in an in-office position.” This is in direct contrast with the curvilinear relationship between extent of telecommuting and job satisfaction as identified by Golden (2006).

It is not productive for leaders and managers of full time telecommuters to simply conclude that they must increase face time to avoid the point of diminishing returns that has been identified by the curvilinear relationships in the literature. While there is some agreement that a moderate intensity telework experience has better outcomes than other extents (e.g. Golden, 2006; Henke et al., 2016), this study highlighted that the extent of telecommuting is *not* significantly related to job satisfaction, work-family conflict, organizational support, or leader member exchange quality.

To date, there has been no answer for how to maximize outcomes for telecommuters who do not have the option for increased collocated work. But, these findings suggest that it is more likely the support from the leader or organization—especially in the form of effective communication—that is more important than the frequency, or even duration, of time spent telecommuting. This is an important finding for both researchers and employers. Employers can now consider whether requiring face time is as imperative as once thought and can consider instead effective leadership and communication strategies when implementing or maintaining sustainable telework programs.

Researchers, on the other hand, should consider various methodologies when measuring telework. It cannot be overemphasized how important it is to measure frequency appropriately. Using a measure of days per week does not account for the nuances of employees who come to the office as rarely as monthly, quarterly, yearly, or never. Whereas frequency has been a major determining factor in many studies (e.g. Gajendran & Harrison, 2007), or has been criticized as a huge neglect when missing (e.g. Allen et al., 2015), frequency did *not* correlate to almost any of the measured variables in this study, showing surprisingly little value in the understanding of telework experiences.

Leader Member Exchange Quality

Whether or not Yahoo CEO, Marissa Mayer, made the right choice when she infamously reversed a telecommuting policy thereby requiring workers to be on site, she did so because she believed that communication and collaboration play a crucial role in organizational and employee success (Weise & Swartz, 2013). If leadership does not provide the opportunity for clear, open, honest, two-way communication and collaboration with remote employees, it leaves those workers at a disadvantage to do their jobs successfully. It was no surprise therefore, that one of the most highly correlated sets of variables in the study were leader member exchange quality and job satisfaction ($r=.60$). However, what Yahoo got wrong was assuming that communication and collaboration are part and parcel with being onsite.

Interpersonal communication is a key component of leader member exchange quality (Illozor et al., 2001) and while it may be more convenient to communicate in a face-to-face manner if workers are collocated, it is not impossible to have effective communication and high quality relationships when workers are remote. This is evidenced in part by the fact that the mean and medians scores for leader member exchange (LMX) were, respectively, 4.02 and 4.14 out of five and that LMX was correlated to job satisfaction. The qualitative responses provide some depth to understanding these high scores. Communication was the most frequently occurring theme related to leader member exchange quality, with high quality LMX participants highlighting frequent and effective communication and low quality LMX informants describing a lack of communication. These results are in alignment with prior theory indicating both positive correlations between LMX and job satisfaction, in addition to a few longitudinal studies also finding LMX as a predictor of job satisfaction (Volmer et al., 2011).

Gerstner and Day (1997) explain the leader member relationship as the lens through which an employee perceives their work experience. The leader member relationship develops through exchanges of effort, support, and resources (Volmer et al., 2011), with more effort correlated with higher LMX and low effort associated with lower LMX (Maslyn & Uhl-Bien, 2001). The first comment in Table 3 illustrates the support and effort that are needed for a positive leader member relationship:

My supervisor is a great person and a great leader for me. She is very *willing to listen* to my needs and ideas, as well as those of her other reports, and act on them. She has voluntary [sic] *advocated* for my salary increases that I did not even have to request and has been working to *communicate* my needs and desires to other departments, with a level of authority that someone of my level can't quite have, in order to help improve the effectiveness of the whole team and company. She *shows interest* in my career and overall happiness.

This comment is an example of high levels of effort—communicating, advocating, listening—and therefore higher LMX quality, which has positive implications for employee well-being since LMX is a predictor of job satisfaction (Volmer et al., 2011).

However, while Golden (2006) found the telecommuting context to offer indirect negative effects on job satisfaction through LMX, the extent of telecommuting did not lead to significant effects in this study. This is good news for practitioners in that any perceived consequences of the telecommuting context can be assuaged through frequent and effective communication strategies and intentional exchanges. Researchers should seek to identify specifically the most effective strategies for communicating and building relationships with remote workers.

Work-Family Conflict

Another finding that cannot be overstated is the overwhelming theme that any disadvantages of the telework context are outweighed by the advantages. As work family conflict decreases, job satisfaction increases, though it was slightly surprising that the correlation was not stronger ($r=-.25$) given that work family conflict is widely correlated with job satisfaction (Bruck et al., 2002). When workers are free to handle their household and family responsibilities on an autonomous and flexible schedule, they have fewer work-family conflicts and increased job satisfaction. Despite several statements regarding work never shutting off, conflict was low overall for the telecommuters in this study, with a mean score of 2.15 out of five. Some telecommuters even commented that they could not see themselves ever preferring to work in an office again. This aligns with prior research that found telecommuting to be associated with lower work family conflict while not impacting family-to-work conflict (Lautsch et al., 2009).

Even though telecommuters tend to work beyond normal business hours (Gajendran & Harrison, 2007), the literature is in agreement that telecommuting lowers work family conflict (e.g. Golden et al., 2006; Gajendran & Harrison, 2007; Gajendran et al., 2015) and leads to increased job satisfaction (Morganson et al., 2010). The pressures from work and household roles are both transactional and psychological in nature and the literature has shown work family conflict to be associated with poor health, poor performance, and high turnover (Grzywacz & Butler, 2008). This is why flexibility is highly valued for its potential to benefit the work and family interface (Gajendran et al., 2015). Telecommuters are able to escape from on-site distractions and conduct their work on a schedule that accommodates their needs (Duxbury & Halinski, 2014). The seventh comment in Table 4 is consistent with the literature and illustrates

the transactional and psychological pressures that are alleviated by working from home leading to decreased conflict and increased job satisfaction.

Working from home allows me much *greater flexibility* in my work day. I can use my breaks productively to *accomplish small tasks* around my home. I also *save a fair amount of time* on days where I work from home by not having to commute to the office. I also *feel more comfortable* at my home office than at my company's office, which I believe helps me be more *productive* overall. The biggest challenge of working from home is missing out on in-person interactions that businesses have come to rely on. It takes much more effort to engage in the business than it would if I were at the office.

In addition, the qualitative analysis found 23 instances where females noted the importance of flexibility to take care of household chores such as cooking, cleaning, and laundry. Whereas there were zero instances of males reporting likewise. Rather, eight men reported appreciation of the flexibility to be more available for their children. These results are similar to Hilbrecht et al. (2013) finding that women participate in telecommuting differently than men. Because telecommuters are satisfied with their arrangements in spite of the disadvantages, employers should continue to investigate remote work as a retention strategy. Indeed, results of the Pearson analyses confirmed the number of years spent telecommuting was positively correlated to job satisfaction. Overall, the findings of this research question support classic job design theories that show autonomy over work processes lead to improved employee attitudes (Kossek et al., 2006).

Professional Isolation

While professional isolation has been a commonly reported outcome of telecommuting (e.g. Cooper & Kurland, 2002), the telecommuters in this study did not report high levels of

isolation, with a mean score of 2.29. This is imperative to note, but not surprising when one takes into account the high levels of leader member exchange quality that were reported. When workers report high LMX including frequent and effective communication, isolation is destined to be low. Indeed, LMX and isolation had a moderate negative association. Congruent with the literature (e.g. Golden & Veiga, 2008), when isolation levels are high, job satisfaction is low. Ironically, even though many respondents were concerned about the perceived lack of opportunity for career advancement, they indicated that the tradeoffs are worth it to have the flexibility of working from home. This again is opposite of the curvilinear effect where there reaches a point of diminishing returns (Golden, 2006). Frequency or extent of telecommuting was not related to isolation, again showing that it is not the remote component in and of itself that affects isolation, but rather the supporting or marginalizing behaviors or exchanges from leaders toward telecommuters. Prior research has shown that main office workers report higher levels of workplace inclusion than remote workers (Morganson et al., 2009), so it was interesting to find that teleworkers in this study reported low levels on the isolation scale, but more complex opinions on the qualitative analysis.

Teleworkers commonly report feeling left out of opportunities for career enhancement or mentoring, and just missing informal interaction in general (Golden et al., 2008; Cooper & Kurland, 2002). Telecommuters are physically absent from the opportunities to express questions or concerns, leading to greater perceived unfairness because of their lack of say in resource allocations and managers have trouble keeping their telecommuters informed (Thatcher & Bagger, 2011), which is evident in this comment from Table 5: “Communication is lacking and opportunities for growth are given to on onsite employees.” Paradoxically, while the Pearson analysis showed a moderate negative correlation between isolation and job satisfaction,

and the participants in this study admit to these feelings of isolation that are consistent with the literature, ultimately they report that it does not matter. The 16th and 19th comments in Table 5 illustrate this paradox succinctly: “I see the things I miss as a trade-off of being able to be at home. The pros outweigh the cons, so it doesn’t affect my satisfaction” and “The benefits of wfh [work from home] still outweighs [sic] the interactions I miss with co-workers and mentorship opportunities.” Therefore, though the feelings of isolation reported in this study were in line with the literature (e.g. Golden et al., 2008; Cooper & Kurland, 2002), these reports contrasted with the literature in that teleworkers in this study did not find isolation to be diminishing enough to warrant returning to collocated work.

Practitioners should take note of the significance of their role in being inclusive and communicative with their remote workers. Additionally, while the scale for professional isolation does not measure loneliness per se, it continues to be a frequently cited issue in popular media (e.g. Young, 2019), so perhaps future research should consider or measure loneliness or other social aspects directly. While there are already recommendations that remote work should be limited to positions with measurable outputs (e.g. Harrington & Santiago, 2006), it may be interesting for researchers to pursue whether isolation has a significant effect on different types of roles. For example, for highly collaborative work, it may be more important for leaders to be communicative than in roles that are very independent such as writing code.

Organizational Support

Similar to leader member exchange, organizational support was associated with job satisfaction for telecommuters. This was the largest correlation of all variables ($r=.67$). Clearly, having the support of the organization is paramount to a successful telework experience. While teleworkers have reported feeling peripheral, marginalized, insignificant, or unimportant (Travis,

2003), surprisingly very few studies have attempted to link telecommuting with perceived organizational support (POS). Bentley et al. (2016) appear to be the first, and perhaps only, to identify that perceived support is positively related to job satisfaction for teleworkers, although their sample was comprised mainly of low intensity teleworkers. The findings of this study support that POS is positively related to job satisfaction for teleworkers, which is even more stirring given the number of “high intensity” participants in this study. While Bentley et al. (2016) contended these findings suggest the need for increased colocated interaction, the findings of this study suggest that organizations can be supportive of the remote needs and context unrelated to increasing face time.

With the instrument using statements such as, “The organization is willing to extend itself in order to help me perform my job to the best of my ability,” telecommuters agree that having the necessary structures in place—e.g. autonomy, technology, boundaries, communication—are essential to job satisfaction. The comments from Table 6 show contrasting feelings about whether the organizations extend themselves to help telecommuters perform their jobs. For example, one respondent says, “I am concerned that if I were to need or request additional accommodations to my working situation, I would potentially be let go.” Whereas another participant stated, “Since my organization is a multi-billion dollar company, it's difficult to feel that they care about me individually, but they do provide a good environment in which to work.”

The paradoxical feelings about telecommuting are summed up well in this participant's statement: “On one hand it is great to work for a place that values you in many ways. Yet, if you are working remotely there is the feeling they would rather not have to deal with such things.” For organizations that *are* willing to deal with such things, remote workers end up more satisfied and more willing to provide a satisfactory experience for the client, customer, or student. As one

respondent in Table 6 commented, “The organization cares because a satisfied sale rep drives revenue.” Similarly, “I find it's contradictory to treat employees as a number and then turn around and demand customer loyalty. You can't have one without the other.” This aligns with prolific literature indicating that job satisfaction has a significant impact on service quality delivered (Malhotra & Mukherjee, 2004). For organizations not willing to extend themselves (in ways such as offering livestreaming for plenary meetings or issuing synchronous technologies), it may be better to not offer remote work at all, otherwise risking disgruntled or underperforming workers. While outcomes of perceived organizational support include commitment, job involvement, and performance (Shropshire & Kadlec, 2012), this study now adds job satisfaction to the list, especially in the context of remote work.

Primary Research Question

It is professional isolation, leader member exchange, and organizational support working in concert that jointly and most successfully predict job satisfaction for teleworkers. Extent or frequency of telecommuting and work family conflict were not significant predictors in the regression model. This makes sense when one considers the aforementioned individual correlations among independent and dependent variables. This is summarized by one informant’s responses, “When I feel valued as an employee I perform better and I am willing to go the extra mile for my organization.” Likewise, one participant clarified,

I have tremendous respect for my boss, and the fact I feel the respect is mutual leads to trust that in turn allows for a healthy, functional, productive work life regardless of whether or not I'm working in the office or remotely. The best thing he can do, which he already does, is trust me to do my job regardless of location.

These qualitative findings support the quantitative analyses that it is not frequency of

telecommuting but both supervisory and organizational leadership that are most important for predicting job satisfaction of telecommuters. As Bailey and Kurland (2002) already figured out nearly two decades ago, attention has been funneled to the wrong variables. Rather than focusing on extent of telecommuting as a predicting or moderating variable, this study supports the conclusions reported by Harrington and Santiago (2006) that work life attitudes for telecommuters are better predicted by supportive leadership strategies such as quality communication, trust, role clarity, and formalized procedures.

Recommendations for Further Research

Given the compelling findings in this study, in addition to the limitations described in chapter one, there are several areas of study that warrant further investigation. Future research should reinvestigate previous lines of inquiry using updated measures of frequency. That is, studies that used a measure of days per week for extent of telecommuting (e.g. Golden, 2006; Gajendran & Harrison, 2007; Golden et al., 2008; Golden & Raghuram, 2010; Fay & Kline, 2011; Belanger et al., 2013; Bentley et al., 2016; Golden & Gajendran, 2018) should consider using a different scale such as the six-point frequency scale used in this study. Likewise, this scale could be utilized with various dependent variables, such as teleworker performance or organizational commitment. Alternatively, since frequency was not found to be a predictor, researchers might consider using information exchange or knowledge sharing (Golden & Raghuram, 2010; Fonner & Roloff, 2010) as a predictor instead. Additionally, extending the magnitude of the correlations, of which the Green (1991) formula was utilized for this study, future research ought to conduct a meta-regression with previously published studies in order to use small sample sizes combined to form a larger, more powerful analysis (Maxwell, 2000). Similarly, these topics should also be studied across industries, as much literature is limited to

only one organization per study.

Although gender has been found to play a role in work life balance for telecommuters (Hilbrecht et al., 2013), it was not a research question in this study and was not a significant factor when explored (see Table 10). Future research may want to investigate this further considering gender has been found to affect how one participates in telecommuting (Hilbrecht et al., 2013) or whether telecommuting is even an option (Singh et al., 2013).

Table 10						
<i>ANOVA p-values</i>						
	Job Satisfaction	Org Support	Isolation	LMX	WFC	Frequency
Gender	0.18	0.10	0.45	0.48	0.09	0.15

Likewise, job satisfaction was measured using a global satisfaction instrument rather than a composite satisfaction instrument. Since the relationship between work family conflict and job satisfaction has been found stronger when using composite versus global satisfaction (Bruck et al., 2002), future research may benefit from a different measure of job satisfaction. Moreover, future research should investigate how the teleworker role affects various employee or organizational outcomes. For example, those in customer-facing roles may require different kinds of support than more internal facing roles require for a successful telecommuting experience. Future research should continue to investigate leadership behaviors as perceived by telecommuters. In addition, since colleague support positively influences the attitudes of employees toward telecommuting (Iskan & Naktiyok, 2005) and team member exchange is related to job satisfaction (Banks et al., 2014), future research may want to consider the role of colleague support in telecommuter satisfaction.

The majority of participants in this study were in the technology industry, but industry was not a research question in this study and there was no significant covariance between

industry and job satisfaction when explored (see Table 11). Future research may want to further examine the role of industry in telework.

Table 11						
<i>ANOVA p-values</i>						
	Job Satisfaction	Org Support	Isolation	LMX	WFC	Frequency
Industry	0.13	0.09	0.70	0.74	0.18	0.01*
<i>Notes.</i> *= $p < .05$						

Additionally, most empirical studies have been in the USA or UK (Perez et al., 2003), with some recent studies in Eastern countries, so it may be of value to examine this topic in other countries and explore whether or how cultural factors contribute to these variables of interest. Furthermore, telework job designs allow for the inclusion of diverse workers outside of collocated populations. Future research may seek to address diversity issues within telework contexts.

Implications for Practice

For practitioners in organizations with telecommuting programs, this study supports the leadership strategies recommended by other researchers. These strategies include the supervisor considering the perspective of others (Fix & Sias, 2006) and the ability to receive or mediate emotions, leading to the success of interactions (Savolainen, 2014). In addition, increasing the opportunity for interpersonal communication (Ilozor et al., 2001), as well as trust building, goal setting and role clarification (Jawadi, 2013), are important actions that supervisors can take. Furthermore, relational behaviors by leaders including delegating, supporting, recognizing, and consulting (Yukl et al., 2009) are strategies that directly influence teleworker job satisfaction (Ilozor et al., 2001). The manager is often the “lifeline to the organization” (Kurland & Cooper, 2002, p. 120) and should engage in extensive helping behaviors, such as offering an open door

policy for communication (Yun et al., 2012). Increased communication within a situational leadership model has also been found as an effective leadership strategy for meeting the needs of telecommuters (Farmer, 2005). Likewise, teleworkers should be given opportunities for career enhancement or mentoring (Golden et al., 2008) and access to critical networks of influence (Miller, 1975). Reverse mentoring is a successful strategy for involving telecommuters in growth opportunities (Little, 2011). Organizations should officially endorse their telecommuting programs and should distribute opportunities equitably (Thatcher & Bagger, 2011). Overall, this study supports what was found by Fonner and Roloff (2010) in that it is frequent high-quality exchanges of information that lead teleworkers to greater job satisfaction rather than the amount of face-to-face interaction.

Conclusions

It is exciting news that telework is not the isolating, marginalizing, boundary encroaching phenomenon it was once thought to be. Leaders and organizations have within their power the ability and responsibility to effectively support their remote workforce. Rather than marginalizing telecommuters to a point of diminishing returns, leaders can, should, and *do* utilize the resources they have in their highly satisfied, retainable, and productive employees, as their support of the arrangement comprises the majority of the equation that leads to successful telework experiences. The importance of effective leadership and communication is not exclusive to collocated populations. Teleworkers thrive when they have the support of their supervisors and organizations. Indeed, when organizations and leaders go the extra mile for their teleworking employees, their employees will go the extra mile for them.

Summary

Because of the mixed conclusions about the oft-claimed outcome of job satisfaction for

teleworkers and the changes in technology since prior studies were conducted, this study used a concurrent nested research design to predict outcomes and answer the research questions in order to discern the true nature of the telework-job satisfaction relationship. Data were collected electronically using a web-based survey comprised of the instrument scales for job satisfaction, organizational support, leader-member exchange, work-family conflict, professional isolation, and frequency, as well as demographic information. In addition, the survey included open-ended questions designed to elicit in depth responses for the qualitative research questions.

Methodologically, this study was significant in that it measured extent of telecommuting on a six-point frequency scale, which accommodates those who telecommute exclusively, unlike prior studies who measured telecommuting dichotomously or in days per week.

The findings of the multiple regression and Pearson correlations confirmed that it is important to measure extent of telecommuting more accurately, as when done so the results indicated that frequency was not a significant predictor of job satisfaction. Rather, both the quantitative and qualitative findings suggested that it is the joint effects of supervisory and organizational support that best predict job satisfaction for telecommuters. Moreover, telecommuters are likely to remain in their positions as advantages such as flexibility and autonomy outweigh disadvantages such as being out of the loop or reduced opportunity for career development. Employers should take note of the valuable resources they have in the telecommuting population, and that their pool of highly skilled workers is ever growing when they consider that employees can work remotely.

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APPENDICES

Appendix A: NIH Certificate

Appendix B: IRB Approval



INSTITUTIONAL REVIEW BOARD DECISION

Review Date	03/25/19
IRB#	5106
Review Category	<input checked="" type="checkbox"/> Exempt 45 CFR 46.101 <input type="checkbox"/> Expedited 45 CFR 46.110 <input type="checkbox"/> Full Board 45 CFR 46.102
Title of Project	Telecommuting and its associations with job satisfaction
Name Principal Investigator's (PI)	Jill Swisher
PI's Email (use CUI email, if applicable)	jill.swisher@cui.edu

☐ **Approval as submitted**

Effective duration of the IRB Approval: 03 / 25 / 2019 to 03 / 24 / 2020

Comments:

Please note the following requirements in the CUI IRB Handbook.

- The IRB's approval is only for the project protocol named above. Any changes are subject to review and approval by the IRB.
- An annual report or report upon completion is required for each project. If the project is to continue beyond a twelve month period, a request for continuation of approval should be made in writing. Any deviations from the approved protocol should be noted.

☒ **Approval with revision**

Comments: Dear Mrs. Swisher your application has been approved under the condition that you use your personal email to send the surveys and that you send them to people personal email as well. The reason for this request is that some of your questions present a risk to employees if they are identified through their IPA address. For this reason we request that you do not use CUI or their employers email addresses.

☐ **Referral for revision and resubmission**

Comments:

☐ **Disapproval**

Comments:

Signature of IRB Member:  Digitally signed by Blanca Quiroz
Date: 2019.03.25 12:59:49 -0700 Date: 03/25/19

Printed Name of IRB Member: Blanca Quiroz

Appendix C: Survey

Each participant in this research was asked the following questions.

Job Satisfaction Survey

You must be at least 18 years of age to participate in this study. Your completion of the survey serves as your voluntary agreement/consent to participate in this research project and your certification that you are 18 or older. This survey is anonymous. No one, including the researcher, will be able to associate your responses with your identity. No personally identifiable information is captured unless you voluntarily offer personal or contact information in any of the comment fields. Additionally, your responses are combined with those of many others and summarized in a report to further protect your anonymity. Your participation is voluntary. You may choose not to take the survey or to stop responding at any time. Thank you for your participation. For more information, email jill.swisher@eagles.cui.edu.

* Required

Please describe yourself by answering the following demographic questions.

The survey should take under 5 minutes to complete.

1. Enter your age.

2. Are you a full time employee of an organization? * Mark only one oval.

- ☐ Yes, Full Time
- ☐ No, Part Time or Contract

3. Do you work from home for at least a portion of your work week? * Mark only one oval.

- ☐ Yes
- ☐ No
- ☐ No, but I work with someone who does.

4. Select the gender with which you identify.

Mark only one oval.

- ☐ Female
- ☐ Male
- ☐ Prefer not to say
- ☐ Other _____

5. In what type of industry is your organization?

12. How often do you use synchronous (real time) technologies to communicate with your leaders, coworkers, or subordinates? (e.g. videoconferencing, instant messaging, phone, etc.) *Mark only one oval.*

	1	2	3	4	5	
Less than 20% of the	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	10% of the

Select your level of agreement with each statement.

13. The demands of my work interfere with my home and family life. *Mark only one oval.*

14. The amount of time my job takes up makes it difficult to fulfill family responsibilities. *Mark only one oval.*

	1	2	3	4	5	
Strongly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly

15. Things I want to do at home do not get done because of the demands my job puts on me. *Mark only one oval.*

	1	2	3	4	5	
Strongly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly

16. My job produces strain that makes it difficult to fulfill family duties. *Mark only one oval.*

	1	2	3	4	5	
Strongly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly

17. Due to work-related duties, I have to make changes to my plans for family activities. *Mark only one oval.*

	1	2	3	4	5	
Strongly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly

18. If you work from home, describe the benefits and challenges of working in your home. Explain if or how work conflicts with or supports your household needs or vice versa.

Select your level of agreement with each statement.

19. I feel left out of activities and meetings that could enhance my career. *Mark only one oval.*

	1	2	3	4	5	
Rarely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Most of the

20. I miss out on opportunities to be mentored. *Mark only one oval.*

	1	2	3	4	5	
Rare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Most of the

21. I feel left out of the loop. *Mark only one oval.*

	1	2	3	4	5	
Rare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Most of the

22. I miss face-to-face contact with coworkers. *Mark only one oval.*

	1	2	3	4	5	
Rare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Most of the

23. I miss the emotional support of coworkers. *Mark only one oval.*

	1	2	3	4	5	
Rare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Most of the

24. I miss informal interaction with others. *Mark only one oval.*

	1	2	3	4	5	
Rare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Most of the

25. Explain if or how these feelings affect you.

Think about your immediate supervisor or departmental manager for the following questions.

26. Do you know where you stand with your leader? That is, do you usually know how satisfied your leader is with what you do? *Mark only one oval.*

	1	2	3	4	5	
Rare	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very

27. How well does your leader understand your job problems and needs? *Mark only one oval.*

	1	2	3	4	5	
Not a	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	A great

28. How well does your leader recognize your potential? *Mark only one oval.*

	1	2	3	4	5	
Not at	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Full

29. **Regardless of how much formal authority your leader has built into his or her position, what are the chances that your leader would use his or her power to help you solve problems in your work?**

Mark only one oval.

	1	2	3	4	5	
Non	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very

30. **Again, regardless of the amount of formal authority your leader has, what are the chances that he or she would "bail you out" at his or her expense?** *Mark only one oval.*

	1	2	3	4	5	
Non	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Very

31. **I have enough confidence in my leader that I would defend and justify his or her decision if he or she were not present to do so.** *Mark only one oval.*

		1	2	3	4	5	
Strongly		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly

32. **How would you characterize your working relationship with your leader?** *Mark only one oval.*

		1	2	3	4	5	
Extremely		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely

33. **Describe your relationship with your leader/boss. Describe whether or how this relationship affects you, either positively or negatively. Is there anything they can do to better meet your needs?**

Untitled Section

Indicate your level of agreement with each statement.

34. **The organization really cares about my well-being.** *Mark only one oval.*

		1	2	3	4	5	
Strongly		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly

35. **The organization is willing to extend itself in order to help me perform my job to the best of my ability.**

Mark only one oval.

		1	2	3	4	5	
Strongly		<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly

36. **The organization shows very little concern for me.** *Mark only one oval.*

	1	2	3	4	5	
Strongly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly

37 **The organization cares about my opinions.** *Mark only one oval.*

	1	2	3	4	5	
Strongly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly

38. **Explain if or how these feelings affect you.**

39. **All in all I am satisfied with my job.**

Mark only one oval.

	1	2	3	4	5	6	7	
Strongly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly

40. **In general, I don't like my job.** *Mark only one oval.*

	1	2	3	4	5	6	7	
Strongly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly

41. **In general, I like working here.** *Mark only one oval.*

	1	2	3	4	5	6	7	
Strongly	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Strongly