FROM A DISTANCE: A PHENOMENOLOGICAL STUDY OF THE LIVED EXPERIENCE OF TELECOMMUTERS WORKING REMOTELY IN VIRTUAL TEAMS

by

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ABSTRACT

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In this dissertation, the social and emotional experience of telecommuters working remotely in interdependent virtual teams is explored through their lived experiences. The problem this study addresses is a lack of understanding about the process by which individuals subjectively experience remote work in virtual teams. The research methodology for this study is phenomenological—drawing data from interviews of 10 participants. The participants for this study represented a variety of industries and organizations. They were telecommuters who worked remotely more than 80% of the time, had a minimum of one year's experience, and collaborated with others to develop a shared work product. This study drew directly from the words and expressions of the participants through in-depth, semi-structured interviews that were transcribed and thematically coded through a process of phenomenological reduction, using an analytical framework based upon the Learning in Work Life Framework (Illeris, 2011) and the Being There for the Online Learner Model (Lehman & Conceição, 2010).

The findings of this study contribute to the literature with five aspects of working remotely in virtual teams:

1. Telecommuters perceive time as an elastic, boundless aspect of how they work.
2. Telecommuters perceive increased effectiveness as a result of their work arrangements.
3. Individual initiative mediates the challenges of the social and emotional experience of telecommuting.
4. The social and emotional experience of telecommuting in virtual teams is impacted by the perception of others.
5. The emotional experience of presence is enhanced by informal interactions.

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My wife and sons for their support and inspiration

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ACKNOWLEDGMENTS

I would like to thank my major advisor, Dr. Simone C. O. Conceição, for her support and guidance throughout the process. She made me think deeper and work harder. Also, my gratitude to my committee members Dr. Larry Martin, Dr. Carol Colbeck, Dr. Jacques Du Plessis, and Dr. Cheryl Baldwin, for their insights, patience, and commitment.

CHAPTER 1: INTRODUCTION

On Monday morning, Margaret will begin a new job. She will commute from her bedroom to her home office downstairs. She will be a key contributor on complex software development projects, and work with a team whose members also telecommute. This is the first time Margaret will work entirely from a distance, and she is uncertain about what to expect. She will jump right into her first project with little training or preparation for remote work, and she is bursting with burning questions. First, will her technology perform as it should, or let her down? Will she be comfortable without the routine of heading into work and seeing and interacting with her co-workers? How will she develop relationships? How will she receive feedback from her manager? How do her team members prefer to communicate? Will the communication platforms have steep learning curves? How will her co-workers perceive her and her work? How will she learn the workflow? How will it impact her family life? And so on. It is exciting and a bit overwhelming, and come Monday morning she will begin the process of working remotely and collaboratively in a virtual team.

"Telecommuting is the future of work," declares a headline from Forbes Magazine (Biro, 2014). The article cites the desire of human resource managers to implement telecommuting as a solution to tap diverse talent while simultaneously satisfying a growing expectation on the part of employees for increased flexibility and work/life balance. A New York Times article echoes the sentiment, and explores the misperceptions about telecommuting and the folks that undertake work from a distance (Tugend, 2014)**.** The evidence for telecommuting's rapid expansion is more than anecdotal. Statistics highlight that the how and where of work is altering at an accelerating pace, and is driven by the preferences of employees seeking more flexible work

arrangements (Brotherton, 2012). In fact, one-third of American workers would choose a virtual work arrangement over a pay raise (Snyder, 2012). In the context of broader economic trends, globalization, and the pace of technological innovation and application, we are quite simply witnessing the decoupling of work from time and place (Pyoria, 2011).

For example, the percentage of all U.S. workers (including self-employed) who worked at least one day per week at home increased from 7.0% in 1997 to 9.5% in 2010, while during this same time period, the population working exclusively from home increased from 4.8% of all workers to 6.6% (Mateyka, Rapino, & Landiva, 2012). This expansion continues into the present decade, according to the Bureau of Labor Statistics (2013), 20% of workers did some or all of their work from home. The most recent estimates—leaving out the ranks of the self-employed and less frequent telecommuters to focus on employer trends—identify 3.7 million employees (2.5% of the U.S. workforce) that work from home at least half the time (Global Workplace Analytics, 2015). Estimates indicate that worldwide growth in virtual workers will top 1.3 billion in the next several years (Johns & Gratton, 2013).

These trends also have significant implications for how employees perform their work, with almost one-half of organizations (46%) employing virtual teams in their workplace (Society for Human Resource Management, 2012). The trends are clear; 64 million U.S. employees hold a job compatible for at least part-time telecommuting, that's 50% of the total workforce (Lister & Harnish, 2011). Some 79% of U.S. workers say they would like to work from home at least part of the time (WorldatWork Telework Trendlines, 2009) as do 88% of federal employees (Federal Viewpoint Survey, 2012). These numbers suggest that 50 million workers in the U.S. have compatible jobs and want to telecommute. According to the Society for Industrial and

Organizational Psychology which identified flexibility and the way work is done as the number five work place trend for 2017:

> As more organizations begin to embrace flexible work schedules and arrangements, telecommuting, and virtual teams, a greater emphasis will need to be placed on how these changes affect the way people get their work done, how they collaborate, and how to create meaningful, satisfying interpersonal interaction among remote workforces (SIOP Announces Top 10 Workplace Trends for 2017, 2016).

If the question is "so what, who cares?" then consider the potential benefits to the individual in increased opportunities when not limited to a single geographical job market. In addition to work/life balance, telecommuters can save between $2,000 and $7,000 a year in transportation costs (Lister & Harnish, 2011). The Americans with Disabilities Act permits work from home as a "reasonable accommodation" and some 316,000 disabled employees regularly work from home. Research indicates that telecommuting can work to reduce inequality, and directly benefit the rural poor (Kanellopoulos, 2011).

Benefits to organizations include the ability to employ geographically dispersed talent, as well as achieving substantial savings, as a typical business could save $11,000 per person per year (Lister & Harnish, 2011). Finally, there are important benefits for society as a whole. To take one example, estimates contend that the oil savings of increased telecommuting would equate to over 37% of our Persian Gulf imports (Lister & Harnish, 2011).

So just who is the average telecommuter? According to the Census Bureau survey the typical telecommuter is a 49-year-old college graduate who earns about $58,000 a year and works for a company with more than 100 employees (Mateyka et al., 2012).

There is a fundamental change occurring in the modern workplace, and it involves a new conception of time and place enabled by technology. This is a disruptive development with wide ranging personal, social, and economic implications for the modern workforce (Gajendran & Harrison, 2007). In spite of its increased prevalence, the experience and impacts of telecommuting and virtual teaming for both individuals and organizations remain unclear (Gilson, Maynard, Young, Vartiainen, & Hakonen, 2014).

Background of Study

Whether telework, remote work, distance work, or virtual work, all of the various labels placed on work that takes place at a distance from a central office and through technology have attempted to define a phenomenon that is both a context and an aspect of modern work (Bélanger, Watson-Manheim, & Swan, 2013).

Telecommuting

Though advances in technology have increased the opportunity for flexible work arrangements and telecommuting, it is not necessarily a "new" phenomenon (Whittle & Mueller, 2009). In the 1970s, public awareness was growing about the impact of commuting on the economy and the environment. Concerns about how to address a range of problems from energy insecurity to congested highways and pollution resulted in government investigations into the true cost of commuting. Research calculated the savings of reduced commuting, and envisioned a future enabled by new technologies in which people would be encouraged to work from home (Nilles, Carlson, Gray, & Hanneman, 1976). Yet, for much of the subsequent 25 years telecommuting grew only marginally, largely restricted to an elite class of managers and professionals (Pyoria, 2011).

Improved technology and changes in the economy spurred slow but steady growth of telecommuting through the final decades of the 20th century. The exponential growth of digital technology and its applications coincided with a shift from an economy dependent on industrial manufacturing to a new economy based on service and knowledge work. The personal computing technology of the 1980s provided opportunities for knowledge workers to complete more work from a distance (Allen, Golden, & Shockley, 2015). With the advent of the World Wide Web in the 1990s, opportunities for remote work continued to expand, and as the technology improved and became faster, more reliable, and more available, more organizations began to consider flexible work arrangements and telecommuting as a viable option (Jarvenpaa & Leidner, 1999). Through the first decade of the 21st century, developments in telecommunication and the emergence of smartphone technology have resulted in a more mobile workforce available from anywhere at any time (Wang & Haggerty, 2011).

Virtual Teams

A key development that has accompanied the spread of telecommuting is the use of virtual teams. Teams are a common working structure used in most enterprises, and are usually used when tasks are complicated and difficult for individuals to accomplish on their own (Geber, 1995). Increasingly, organizations are relying on collaborative workgroups to accomplish shared goals that cut across traditional silos of skill, knowledge, ability, and experience. The focus is on cooperation rather than competition (Workman, 2007). Successful teamwork requires a particular set of interpersonal and collaborative skills that are often ambiguous and difficult to acquire (Hemingway, 2004). The recent developments in technology have altered the means through which teams communicate and interact. The broader context for teamwork within organizations is complicated by the increasing de-centralization and globalization of work processes (Suh &

Shin, 2010). Many organizations have responded to the shifting landscape by introducing virtual teams. In virtual teams, members are geographically dispersed and coordinate their work predominantly with electronic information and communication technologies (Gilson, Maynard, Young, Vartiainen, & Hakonen, 2014).

Problem

Advances in technology have provided opportunities for individuals, teams, and organizations to alter traditional work arrangements. Organizations are challenged to enable team performance, increase creative output, and structure team interaction and collaboration through technological mediation and across time and space (Chang, 2011). There are strong business and social pressures driving the adoption of virtual teams (Gilson et al., 2014). Virtual teams are challenged to accomplish shared goals in a context that makes collaboration difficult. They experience constrained communication, and a lack of social cues and interactions that work to inhibit learning and coordination (Johnson, Bettenhausen, & Gibbons, 2009). Individuals working remotely and in virtual teams experience a unique set of context and learning factors that shape how they work (Ale Ebrahim, Ahmed, & Taha, 2009). In spite of broad interest in the topics of telecommuting and virtual teams, from a diversity of disciplines ranging from Management Science to Psychology, there is a surprising lack of attention paid to the lived experience of remote workers, and rarely are their actual voices captured. While the literature identifies correlates and factors relating to effective telecommuting and collaboration in virtual teams, the lived experience of individuals as they actually experience the process is conspicuously absent. The problem this study addresses is a lack of understanding about the process by which individuals subjectively experience, that is, how they individually, perceive, internalize, and make meaning of, the phenomenon of remote work in virtual teams.

Study Purpose

The purpose of this study is to increase knowledge and understanding of the lived experience of telecommuters working remotely in virtual teams with a focus on the social and emotional dimensions of the experience. The literature has identified many personal, economic, and social benefits for telecommuting (Allen et al., 2015). The trends are undeniable, and it is no longer a question of "if" telecommuting will become more prevalent, but "how" it will impact individuals and organizations, and how best to capitalize on its revolutionary possibilities (Gilson et al., 2014).

The benefits of remote work and virtual teaming demand a clearer understanding of the lived experience of telecommuting and virtual teaming in order to understand the subjective experience—to understand what is really going on. It is the lived experience of individuals telecommuting and working as members of virtual teams—and their voices—that can help us to understand these fast moving, far-reaching phenomena. Understanding can aid both individuals and organizations to develop methods and approaches that ensure remote work becomes a work arrangement of choice for employers and employees. Telecommuting and virtual teams are unique contexts for employees' work, requiring a particular set of motivations, skills, and knowledge explicit, tacit, and socially observed. To that end, this study is aimed squarely at the lived experience of telecommuters working in virtual teams.

The following question framed the study's methodology and approach: What is the social and emotional experience of working remotely in interdependent virtual teams?

Methodology of the Study

This study adopts a qualitative research methodology, focusing on the experiences and perceptions of individuals working remotely in virtual teams. The participants for this study are

telecommuters who collaborate with others to develop a shared work product. This study, in phenomenological tradition, draws directly from the words and expressions of the participants through the transcription and analysis of semi-structured in-depth interviews with participants.

Philosophical Viewpoint

This study is framed by a constructivist epistemology. The constructivist theory of knowledge holds that all knowledge is socially constructed and located in the individual (Lave & Wenger, 1991). Further, knowledge is contextual and developed through experiences with others (Merriam, 2014). It is the subjective experience of the individual in dynamic interaction with the environment—people, culture, norms, and history—from which meaning is made (Creswell, 2014). From this angle of approach, the phenomena of telecommuting and virtual teams are best understood through the personal experiences and perceptions of individuals living the phenomena. It is this assumption that informs the question posed by the study, and the methodology selected to access the experience and perceptions of participants. Further, this study assumes a Phenomenological stance, seeking understanding to develop context-based, process-oriented descriptions and explanations of phenomena (Myers, 1997).

Researcher Bias

Potential bias in this study might result from over-identification with the participants, or other unanticipated factors, such as personality conflicts with individual participants (Lincoln & Guba, 1985). According to Creswell (2014), the researcher's choices are guided by personal viewpoints arising from race, class, gender, and political orientations. Looking at my own positionality as a researcher, I would begin by identifying my epistemological and ideological stance, with the caveat that it is my own perception, and I am certain to be oversimplifying complexities of which I am only dimly aware. First, I do not accept that social science research

needs to aspire toward what Fine (1994) paints as a contrived scientific neutrality of universal truths and researcher dispassion. I do not look to the analysis of qualitative data with the intention to "wrest them from their humble origins and transform them into something grand enough to pass for science" (Wolcott, 1994, p.24). I am convinced that inquiry aids understanding of subjective experience and reveals how meaning is made and knowledge constructed. That said, I believe that there is an external reality "out there" that is knowable and verifiable.

My own ideological stance is harder to get a grip on. I believe that Marxist theories accurately identify constructs of class, struggle, and dialectic that have worked to shape industrial and post-industrial society. I believe that the ideology of supremacy, in various forms, is ever-present in society, and power seeks no justification beyond its will to be exercised, regardless of place and time and which group, class, or creed finds itself in ascendance. Ultimately, I believe that power plays out on economic levels. I see class structures and oppression as the upshot of economic systems designed to preserve the status quo and power for the powerful.

My own research interests revolve around organizations and individuals, and how each constructs knowledge. My epistemological and ideological stance would suggest that I empathize with the worker over management, with individual experience over generalized prescriptions, and with the idiosyncratic and situated over the universal and immutable. In the problems I hope my research can solve, and the questions that I choose to investigate, I believe that my epistemology and ideology are apparent.

In my view, power, race, class, gender, and culture are socially constructed, and this informs my research focus on social interaction and intersubjectivity. I am drawn toward

questions of modeling, norms, and social reproduction. For me, the actual lived experience of individuals within teams, workgroups, and organizations provide the best data for understanding a particular phenomenon related to the workplace. This makes me turn a skeptical eye towards analyses that arise from a positivist, instrumentalist perspective, in favor of deeper, more complex, and varied truths and realities.

Gilgun (2010) identifies reflexivity as a general awareness—an awareness of who we are as individuals and not just researchers. Awareness about ethics and accountability, and an acceptance that we can never be truly objective, or free ourselves from the social constructs that box us in. As I project how my emerging understanding of reflexivity might shape my own research, I feel confident that with just a touch of mindfulness, and a willingness to accept my own limitations, identify and acknowledge my biases, and constantly seek to check my assumptions, I will be able to rely on myself as the "human instrument" very much involved and shaping how I collect, analyze, and interpret research data. I am certain that reflexivity will be essential in every phase, and that my own socially constructed identity and understanding will frame all that I do. I accept that I will have to filter everything I do as a researcher through the various layers of my own identity and experience as a white male from a working-class background.

Limitations of the Study

This study is limited to telecommuters working in virtual teams on a >80% basis, and engaged in collaborative knowledge-based work. Participants are drawn from the continental United States. The voluntary nature of study participation may pull the data in the direction of individuals with strong opinions about their telecommuting and virtual teaming experience—

either positive or negative. Further, the study is limited to the lived experiences of individual participants, and presents a limited representation of a wider population.

Definition of Terms

In Table 1.1, I provide a definition of how the following key terms are utilized within this research.

Table 1.1
Definition of terms

Terminology	Definition
Telecommuting	Telecommuting is an alternative work arrangement in which employees perform tasks elsewhere that are normally done in a primary or central workplace, for at least some portion of their work schedule, using electronic media to interact with others inside and outside the organization (Turetken, Jain, Quesenberry, & Ngwenyama, 2011; Wiltona, Páezb, & Scott, 2011).
Virtual Teams	Groups of individuals who work together from different locations, perform interdependent tasks, share responsibility for outcomes, and rely on technology support for much of their communications (Curseu, 2006; Geber, 1995; Gilson et al., 2014).
Computer-Mediated Communication (CMC)	Technology enabled communication including email, virtual conferencing, instant messaging, and chat (Johnson, Bettenhausen & Gibbons, 2009; Tang, 2007).
Telecommuting Intensity	The frequency and amount of time an individual spends working from a distance (Gajendran & Harrison, 2007).
Individual Virtual Competence (IVC)	IVC consists of a cognitive, a skill-based, and an affective component. Building on virtual self-efficacy—a combination of remote work self-efficacy and computer self-efficacy—virtual media skill, and virtual social skill components (Wang & Haggerty, 2008).

Summary

The intent of this chapter was to provide a background and context for the research study and define the problem it addresses. Based on the problem, the research question was presented to frame and justify the methodology the study employs. I presented my philosophical

framework, along with my assumptions and biases for which I am aware, and the reflexivity that I intend to employ as a researcher. Finally, definitions for key terms were presented.

CHAPTER 2: LITERATURE REVIEW

Telecommuting while working in virtual teams is a new and evolving phenomenon for which standard models and ways of conceptualizing how individuals work, and how they collaborate and cooperate to achieve shared goals are inadequate (Gajendran & Harrison 2007; Greer & Payne, 2014). There is rich, abundant literature focusing on teamwork, groups, and group conflict in traditional, face-to-face teams. Studies have attempted to understand group conflict and identify the tensions inherent in collaborative work (Franz & Jin, 1995). Studies have long sought to understand group process, and the dynamics of team effectiveness (Tuckman, 1965), but social interaction, the establishment of norms, an individual's sense of being present, and group cohesion and group identity are much different through the lens of technological mediation (Bélanger & Collins, 1998; Bélanger, Watson-Manheim, & Swan, 2013).

Two main bodies of literature are relevant to understanding what is currently known about the experience of the phenomena of telecommuting and virtual teams:

1. Multi-disciplinary academic research literature addressing the experience of telecommuting, and
2. Multi-disciplinary academic research literature addressing virtual teams

I present the literature for telecommuting organized into the following themes:

- Factors in telecommuting work environment,
- Computer-mediated communication,
- Presence

The following themes emerged in the review of literature addressing virtual teams:

- Virtual team structure and process

- Teamwork and coordination
- Team technology
- Management and leadership for virtual teams
- Team experience

Literature Review Methodology

The literature review was conducted using electronic databases in management, psychology, international business, information systems, management science, logistics, engineering, sociology, and education for a time period between 2004 and 2015. Those databases included ABI/Inform, ProQuest, PsycINFO, Elsevier, Science Direct, Academic Ideal, EBSCO, ERIC, and JSTOR.

The materials returned included English language peer-reviewed journal articles, and dissertations, while conference paper proceedings were excluded. I eliminated titles that were over ten years old, but some of these titles that seemed particularly relevant I pursued. I did this by noting how many other articles used that original source. The most widely cited articles led me to many other useful articles, and I felt that they were therefore seminal and important for me to take a closer look. This allowed me to see how concepts and theories were proposed, tested, and revised over time.

The key words used to identify empirical studies and conceptual literature included: "telework," "telecommuting," "remote work," "distributed work," "virtual teams," "virtual," "virtuality," "virtualness," "telecommuting factors," "experience + telecommuting," "teamwork + telecommuting," "effectiveness + virtual teams." I also combined these key words to broaden the scope of search results returned.

Searching these key terms resulted in more than 3340 articles. Of which, a majority of titles dealt strictly with technology infrastructure and aspects of computing. I was able to eliminate these and focus on articles containing a human element. I further narrowed these results based on the research focus.

Studies have focused on the factors that are present in the telecommuting work environment and thought to affect outcomes ranging from effectiveness (Bélanger & Collins, 1998) to retention (Gajendran & Harrison, 2007). The centrality of technology in the telecommuting environment, and for collaboration in teams has led to studies designed to investigate it (Bosch-Sijtsema, Fruchter, Vartiainen, & Ruohomäki, 2011). Teamwork and coordination of tasks and process for virtual teams has also received a fair amount of attention in the literature (Workman, 2007). Likewise, management and leadership for telecommuters and virtual teams have been explored by a range of studies (Whitford & Moss, 2009).

Table 2.1 provides a summary overview of some studies conducted in the major categories of telecommuting and virtual teams.

Table 2.1
Major categories of studies conducted on telecommuting and virtual teams

Telecommuting	
Research categories	**Researchers**
Factors in telecommuting work environment	Baruch (2000); Bélanger and Collins (1998); Bélanger, Watson-Manheim, and Swan (2013); Gajendran and Harrison (2007). Dutcher (2012); Golden, Veiga, and Dino (2008); Greer and Payne (2014*)*; Kanellopoulos (2011); Raghuram, Tuertscher, and Garud (2010); Sieben (2007); Turetken, Jain, Quesenberry and Ngwenyama (2011). Venkatesh and Johnson, P. (2002). Whittle and Mueller (2009); Wiltona and Páezb (2011).
Computer-mediated communication	Anderson, McEwan, Bal, and Carletta, 2007; Curseu, Schalk, and Wessel (2008); DeSanctis and Monge (1999); Fonner and Roloff (2006); Jarvenpaa and Leidner (1999); Johnson, Bettenhausen, and Gibbons (2009) van der Kleij, Schraagen, Werkhoven, and De Dreu, 2009;

Presence	Biocca, Harms, and Burgoon (2003); Boyer, O'Leary, Wilson, and Metiu (2014); Kim (2011); Lehman and Conceição (2010); Lombard and Ditton (1997); Lowenthal (2010); Lowry, Zhang, Zhou, and Fu (2010); Mennecke, B. E., Triplett, Hassall, Conde, and Heer (2011); Ning Shen, and Khalifa (2008); Sallnäs (2005); Tu (2000); Tu and McIsaac (2002).
Virtual Teams	
Research categories	**Researchers**
Virtual Teams Structure and Process	Ale Ebrahim, Ahmed, and Taha, 2009; de Guinea, Webster, and Staples (2012); Hemingway (2004); Ilgen, and Johnson (2005); Jarman, R. (2005); Staples and Webster (2007).
Teamwork and Coordination	Bosch-Sijtsema, Fruchter, Vartiainen, and Ruohomäki, (2011); Cummings and Haas (2012); Espinosa, Slaughter, Kraut, and Herbsleb (2007); Hertel, Geister, and Konradt, 2005; Horwitz, Bravington, and Silvis (2006). O'Leary and Mortensen (2010); Suh and Shin (2010).
Team Technology	Anya, Tawfik, Nagar, and Amin (2010); Chang (2011); Curseu (2006); Manz and Stewart (1997); Lu, Xiang, Wang, and Wang (2011); Shin (2004).
Management and Leadership for Virtual Teams	Bligh, Pearce, and Kohles (2006); Carte, Chidambaram, and Becker (2006); Holtbrügge, Schillo, Rogers, and Friedmann (2011); Pyoria (2011); Walvoord, Redden, Elliott, and Coovert (2008); Whitford and Moss (2009).
Team Experience	Ardichvili (2008); Kirschner and Erkens (2013); Kreijns, Kirschner, and Vermeulen (2013); Lin, Chiu, Joe, and Tsai (2010); Rosen, Furst, and Blackburn (2007); Ortega, Sanchez-Manzanares, Gil, and Rico (2010); Prichard, Stratford, and Bizo, (2006)

Telecommuting Literature

Factors in Telecommuting Work Environment

The literature on telecommuting has attempted to identify the salient factors present in the telecommuting work environment in contrast with traditional work arrangements. Beginning with broad, generalized questions, the literature sought to define the role of remote work in the changing workplace (Baruch, 2000; Bélanger, Watson-Manheim & Swan, 2013; Kanellopoulos,

2011; Whittle & Mueller, 2009). For example, what outcomes do individuals, organizations, and society expect with the proliferation of distributed work arrangements? Bélanger and Collins (1998) appear at a relatively early point in the literature on technologically-mediated distributed work with an integrative view of research on distributed work arrangements and a proposed framework for exploring the impacts of these arrangements. According to Bélanger and Collins (1998), quantitative research on bivariate relationships between individual independent variables has been insufficient to understanding and explaining the phenomena of distributed work arrangements—a state of affairs that has not substantively altered over the ensuing years of research.

Bélanger and Collins (1998) present a definition for distributed work arrangements and three common forms based on the amount of time spent working from a distance. The literature review identifies a lack of empirical research and theoretical foundations. The authors build on the concept of "fit" and propose a framework based on the fit between organizational, individual, work, and technology characteristics, and the fit between these characteristics and outcomes on individual, organizational, and societal levels.

Quantitative research by Golden et al. (2008) examined the nature of telecommuting and the factors that influence work outcomes by first asking "does it matter"? That is, is there a meaningful difference in job performance and turnover rates based on where work is performed, the degree of social interaction, or the measures taken by an organization to facilitate work from a distance? Specifically, the researchers were interested in interrogating the concept of professional isolation and how it impacts performance and turnover intentions. Using survey data on a matched sample of 261 telecommuters and their managers, analysis revealed that social isolation had a negative impact on job performance, and at the same time, lowered intentions to

find a new job. The study reinforces the complexity of the social and emotional factors in telecommuting, and how there are many contradictory and counter-intuitive findings in the literature.

In a meta-analysis of 46 studies in natural settings involving 12,883 employees Gajendran and Harrison (2007) set out to see what answers the literature might present for the following questions: 1) Is telecommuting effective? 2) What are its predictable positive (and negative) consequences? The study's framework identifies psychologically mediating mechanisms of perceived autonomy, work-family conflict, and workplace relationship quality, as well as the individual outcomes of job satisfaction, turnover intention, role stress, and perceived career prospects. A final structural moderator is then considered: telecommuting intensity. That is, how often individuals telecommute. The quantitative analysis concludes that telecommuting is "mainly a good thing," and goes on to suggest attention to additional moderators such as the voluntariness of the telecommuting relationship, and task interdependence. Significantly, the study also calls attention to potential team-level moderators to contrast normative versus idiosyncratic adoption as "normative telecommuting should result in development of team communication routines, schedules, and methods of completing work that maximize the potential gains in autonomy from telecommuting" (p. 1536).

Turetken et al. (2011) researched the components of the process level of telecommuting by collecting quantitative data on 89 telecommuters. Specifically, the researchers wanted to understand how the characteristics of work and the discrete tasks of a job role relate to successful telecommuting. The factors they identified for closer examination included employee tenure, work experience communication skills, task interdependence, work output measurability, and task variety. These were measured against outcomes defining success such as telecommuter

productivity performance and satisfaction—with the interesting caveat that these were measured after taking into account the impact of communication technologies. The authors claim that the study's usefulness comes from the models it can provide managers for making decisions about which jobs and which employees are best suited for telecommuting. The research framework was the "fit" model—which I have encountered repeatedly in the literature—and aligns organizational, individual, work, and technology characteristics. Media Richness theory was also employed to analyze and understand communications, and operated to control the effect of technology on the results.

A mixed methods study by Greer and Payne (2014) conducted on 342 teleworkers and 181 supervisors in the accounting industry investigated physical and temporal boundaries and social exchange. A matched sample of supervisors and their employees allowed the researchers to rely on the supervisors to identify 108 high performers out of the 342 responses, and then the researchers to solicit task strategies from the 108. Using qualitative data to develop themes, the researchers moved on to a quantitative analysis of survey responses to identify specific strategies advocated by highly rated teleworkers. Results indicated that training programs for teleworkers should be focused on utilizing technology to facilitate work and communication while away from the office, and constructing physical, temporal, and psychological boundaries between work and home, while planning tasks to maximize daily productivity.

Dutcher (2012) completed an experimental lab design study to investigate the tasks that individuals complete virtually. Does it matter whether tasks are dull or creative? The study recruited 120 participants to complete either dull (typing) or creative (word association) tasks for piece-rate-pay, with half the participants in the lab and the other half telecommuting. The quantitative analysis showed that outside the lab dull tasks resulted in significantly lower

productivity, while outside the lab creative tasks significantly increased productivity. This result speaks to the nature of the task and the work itself, and what activities might be better suited to the factors of the telecommuting environment.

Wiltona et al. (2011) investigated telecommuting from the perspective of personal choice in commuting and travel. What factors influence people's decision to telecommute? They begin by considering workplace interactions to identify the social components that influence individual's choice to telecommute. The authors identify a lack of research on the influence of social norms, social factors, and the behavior of others, and ask how these may influence the decisions relating to telecommuting. The article presents the findings of a qualitative inquiry to explore social influence on telecommuting, highlighting the centrality of the social dimensions of telecommuting.

Among the challenges posed by telecommuting, there is the relative inability of telecommunication-mediated social interaction to replace face-to-face interaction. What role does a lack of social interaction play in decisions to telecommute? Wiltona et al. (2011) tap the perceptions and lived experiences of telecommuters and non-telecommuters. The authors make a persuasive case for the value of a qualitative approach by pointing out that "qualitative methods facilitate the elucidation of subjective meanings attached to social circumstances" (p.273). The study employed semi-structured interviews conducted with 32 respondents with a variety of experiences relating to remote work.

Finally, 15 years after initially proposing the "fit" framework for telecommuting, Bélanger et al. (2013) now frame telecommuting as both a context and an aspect of work, and argue that it is a multi-level, and time-dependent concept. They propose a multi-level model guided by socio-technical systems theory to understand the experience of telecommuting.

Research on telecommuters often fails to recognize multiple levels of analysis. Yet, outcomes for telecommuters have effect on and are affected by their co-workers', managers', teams' and subordinates' outcomes (Pearlson & Saunders 2010). Consequently, Perez et al. (2004), argue that research should investigate the multiple levels of effects of telecommuting.

In terms of the broad category of telecommuting research found in the literature review for this study, it is clear that the number of studies has diminished in recent years, as interest has moved toward more specific areas within the process of remote work. The technology available and employed by telecommuters has advanced rapidly and altered the context and environmental factors in telecommuting, but the research does not reflect these changes (Johns & Gratton, 2013). In addition, there remains much about the subjective factors present in the telecommuting environment that remains unaddressed (Greer & Payne, 2014).

Computer-Mediated Communication (CMC)

A consistent contextual issue identified in the literature as unique to the experience of telecommuting is the use of CMC and the degree to which communication is constrained (Curseu, Schalk, & Wessel 2008; DeSanctis & Monge, 1999; Fonner & Roloff, 2006; Jarvenpaa & Leidner, 1999). The lack of non-verbal cues and the qualities of in-person, face-to-face interaction, alter the experience of telecommuting and working in a virtual team, which creates a unique environment and context that researchers were eager to investigate further.

In a lab-based investigation of communication and context for virtual teams, Anderson, McEwan, Bal, and Carletta (2007) created a simulation of virtual meetings. The study began with field observations to identify key features to systematically explore in the lab, therefore creating an authentic task for study participants in keeping with in person experience. Seventy participants role-played collaboration on a series of design problems using videoconferencing,

IM, and shared applications. The task targeted communication skill and frequency; researchers recorded interactions and coded data as either "attention," "information," "task," or "technology**."** The quantitative analysis of team conversations highlighted that communication among virtual team members was influenced by the way communication technologies were implemented.

Johnson et al. (2009) conducted a quantitative study on 150 evening MBA students, in an attempt to discover if there was a tipping point at which reliance on CMC will have negative effects on team outcomes. The researchers targeted team member affect, affective commitment, and task and non-task effectiveness for analysis while controlling for centrality, team size, team tenure, and individual tenure. The analysis revealed that at 90% of communication occurring through computer mediation, there were, in fact, negative effects on team outcomes. The implication being that increased reliance on technology hurts communication and team effectiveness, and conversely, that increased opportunities for face-to-face interaction improve outcomes.

In a longitudinal design, van der Kleij et al. (2009) contrasted communication between virtual and face-to-face groups. Sixty-six participants were broken into teams of three people; half the teams were virtual and half face-to-face. The groups were challenged to work collaboratively to select a correct answer to a prompt from a set of 10 possible responses. The study focused on the dependent variables of communication patterns, satisfaction, and task performance. Not surprisingly, the quantitative analysis revealed that closer proximity was beneficial to communication. However, an interesting outcome of the study—and a result of the longitudinal design—was that the performance gap diminished with time. That is, the virtual teams adapted to the limitations of the communication environment. The teams were learning

and constructing norms for how to work best given the constraints. It remains an open question as to how they subjectively experienced this adaptation.

O'Leary, Wilson, and Metiu (2014) used a mixed methods approach to investigate proximity, but come to the conclusion that objective proximity (distance in miles) is less relevant than perceived proximity, which is a function of communications and identification, in telecommuters' experience of the quality of work relationships and team effectiveness.

Workman (2007) downplays the technical dimension in favor of a focus on how groups socialize, communicate, and cooperate and how this is correlated to performance, "when computers mediate social interaction, social identity is constrained" (p.357). As more teams are dispersed across space and time, computer mediated interaction challenges group performance and becomes an issue of increasing importance. For face-to-face teams these social processes occur in real time, but for groups whose interaction is mediated through technology, these processes are more difficult to accomplish. The establishment of norms and an individual sense of cohesion and group identity are much different in the context of technological mediation. Social identity concepts provide a framework to conceptualize group interaction and individual acquisition of group norms, expectations, and behavior.

Workman (2007) employed a quasi-experimental technique, drawing on theories of social identity, norms, and enculturation to examine how team performance is affected by the use of technology for group interaction and collaboration. Would there be a difference in performance for teams that were either more process, or more outcome oriented? What about teams that are more or less pragmatic, more or less normative, more or less loose or controlled? Finally, would openness have a positive impact across all configurations? Data were collected for 436 virtual team projects over a 27-month period. Results of analysis identified teams process focused

teams with more structure and control as more successful, as were more pragmatic teams, and openness mediated positively across all categories.

CMC consistently appears in the literature for both teams and individual telecommuters as a salient feature of the experience, creating a unique context for telecommuting. Yet, CMC has most often been framed by how it influences process and outcomes, and less often framed by how it is experienced by individuals. Research focusing on an individual's experience of being with others through CMC in the telecommuting environment—presence—speaks directly to the challenges identified in the CMC research.

Presence

Early investigations into the communication of socio-emotional cues through technological mediation by Short, Williams, and Christie (1976) defined social presence as the degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships. Simply put, the closer a communication is to being perceived as physically present—attached to an actual person—the greater the social presence evident in the interaction. When linked with social learning, social presence is the medium for establishing authentic social interaction and meaningful learning. Over the decades, the concept has grown to reflect developments in technology, taking embodiment into the context of virtual worlds and avatars (Schultze, 2010). Significantly, where Short et al. (1976) advanced the theory as a measure of the medium—a continuum ranging from face-to-face on one end to written communication on the other—social presence has advanced to encompass the presence of the other and a perception of engagement.

Various typologies have been forwarded to capture the factors of technology and illusion that add up to social presence (Slater, 1999; Sung & Mayer, 2012). According to Biocca, Harms,

and Burgoon (2003) social presence has three components: copresence, psychological involvement, and behavioral engagement. Copresence describes the sensory awareness of the other. Psychological involvement is the salience of interpersonal relationships and mutual understanding. Behavioral engagement is non-verbal, and it describes the actions and activities of individuals.

Social presence theory has evolved from Short et al.'s (1976) original conception as researchers have found new applications, and worked to more precisely define it in light of developments in Computer Mediated Communication (CMC) and online education (Lombard & Ditton,1997; Tu &McIsaac, 2002; Biocca et al., 2003; Lehman & Conceição, 2010). According to Lowenthal (2010), definitions of social presence can be viewed along a continuum. At one end, social presence is defined as an individual's perceptions of another person's being real or being there, and this definition looks at how people project themselves in the environment and whether others can perceive them. At the opposite end of the continuum, definitions focus on whether there is positive interpersonal and emotional connection between communicators. Lowenthal (2010) claims that the majority of definitions fall somewhere in the middle, and often overlook emotional and interpersonal connection.

Though Short et al. (1976) argued that social presence is a quality of the medium itself, Biocca and Harms (2002) challenge this and contend that mediated social presence is about people, not simply technologies. In addition, Biocca and Harms (2002) argue that social presence is not a general theory of social cognition, but rather a theory of how technology might influence, distort, and enhance certain aspects of social cognition. They proposed three different levels of social presence: perceptual level (co-presence of mediated others), subjective level (psycho-behavioral accessibility of the other), and intersubjective level (mutual social presence).

According to Biocca and Harms (2002), perceptual awareness is at the lowest level of social presence and is limited to spatial copresence of the embodied other and the automatic attributions of internal states. The second level of social presence is characterized by the subjective judgment of accessibility, on a psycho-behavioral level, of the other. At this level, four dimensions are proposed: 1) attentional engagement, 2) perceived emotional interdependence, 3) perceived comprehension, and 4) behavior interdependence. On the third level of mutual social presence or intersubjective social presence, the perceptions of the individual in relation to others becomes the focus. Social presence is thought to vary due to limitations in the media, the speed of mental modeling of internal states, and the nature of the task and environment. Indeed, this updated definition and theory makes significant advances in developing a more comprehensive theory of social presence.

In a cautionary note, social presence and interaction should be viewed not as static and stable attributes for specific communication media, but as characteristics of remote work and virtual teaming enabled by norms, social processes, patterns, and practices in their work environment and dispersed arrangement (Fonner & Roloff, 2006). Also, it is important to note that social presence is not based on physicality but on psychology; it is the perception of being there, what Lehman and Conceição (2010) call, "being there" and "being together" (p. 5).

Lehman and Conceição (2010) present a framework that captures the external contextual factors of the virtual environment in dynamic relation to the qualities of the learning experience, and most significantly for the purposes of this study, the interior world of the telecommuter, at the core. Learning through telecommuting and in virtual teams has at its core the internal perceptions of the individual team member. The internal processes of the individual on a psychological level mediate social interaction and presence. Here, the emotions, thoughts, and

behavior of the individual learning as they interact with the context of the virtual world and others.

Presence frames emotion, behavior, and environment, and provides angles for an understanding of the experience of telecommuting. Through the experience of presence, the reality of independent remote work and virtual teaming is contextualized in the virtual work environment. The concept of presence is germane to the experience of telecommuting and bridges the gap to the literature focusing on virtual teams

Virtual Teams Literature

The use of virtual teams is increasingly common across diverse economic sectors (Raghuram, Tuertscher, & Garud, 2010). Organizations are taking advantage of opportunities to call on talent to collaborate on complex projects free from the constraints of time and place. The tremendous potential of virtual teams has led to investigations seeking to identify how to best structure tasks, roles, and routines for effective teams.

It is important to contrast current state research against that of an era when the full implications of the technology of telecommuting were but dimly understood. An early study by Hofstede, Neuijen, Ohayv, and Sanders (1990) relied on an organizational culture framework consisting of six factors including process-/results-oriented, normative/pragmatic, employee/job factor, parochial/professional, the loose/tight control, and open/closed permeability. Data on 1,197 individual responses and 416 virtual team projects were gathered. Added to these a number of written documentation for procedures, job descriptions, regulations, and policies were triangulated with self-report responses. To measure "effectiveness," the study focused on defects and errors on the one hand and output productivity on the other.

Hofstede et al. (1990) concluded from the data that factors that inhibit teams in general could actually support team performance in a virtual context. For example, the data indicated that more successful virtual teams exhibit tighter controls and more formalized rules as an approach to handling increased ambiguity. The data revealed that the difference in context is more than a difference in degree between the types of teams, but is actually a difference in kind. What we know about groups, and the factors that can enhance group performance, are different for virtual teams. Increased procedural formality often inhibits traditional team performance, but Hofstede et al. (1990) concluded that it helps to overcome the constraints of technology, time, and distance. Research has examined how to facilitate collaboration, align technology, and provide management and leadership for the unique context in which virtual teams perform their work.

In the ensuing years, research has sought to investigate the current state of team structure and process and what makes it such a unique form of teamwork (Ale Ebrahim et al., 2009; Hemingway, 2004; Ilgen & Johnson, 2005; Jarman, 2005).

Virtual Team Structures and Process

Not all virtual teams are alike. Team structure and process is shaped by a number of designs and ad hoc arrangements, and influenced by multiple variable factors. The size, the geographic dispersion, the degree of interdependence, and the very nature of the task, are just some of the elements that conspire to create just how people work together on a given virtual team. But always in the background is the context and constraints of the enabling technologies.

de Guinea et al. (2012) conducted a meta-analysis on the concept of virtualness. Virtualness or virtuality is defined as the extent to which team members use virtual tools to coordinate and execute team processes. The massive analysis of several thousand participants was designed to examine cumulative knowledge, quantify the strength of relationships between

virtuality and team process and outcomes, and finally to understand some of the reasons behind the contradictory findings in the literature. The input-process-output (IPO) model was employed as a framework for input factors at the individual, team, and organizational levels, such as member characteristics and environmental factors at team and organizational levels. Process factors focused on communication and interpersonal and task-related processes. Finally, outcome factors of team effectiveness, performance, and satisfaction were analyzed. Analysis revealed that the more virtual the team, the greater the opportunity for conflict over tasks, and the increased likelihood of poor communication, knowledge sharing, performance, and satisfaction. The study suggests that virtuality, specifically at the group level, is a threat to the effectiveness of teams. The research echoed van der Kleij et al. (2009); however, in that effects appeared to decrease for teams over time. These studies suggest that the experience of telecommuting and working in virtual teams changes over time as individuals develop strategies for working alone and collaborating with a team. Increased familiarity, improved communication, and better coordination are elements linked to the process (de Guinea et al., 2012). A clearer understanding of how this process is experienced is needed to identify how individuals make meaning and cope with the unique context.

In a mixed methods study, Staples and Webster (2007) sought to identify best practices for working successfully on virtual teams. Activities and behavior at the individual level were studied. The research design did not use student teams, but rather 39 well established virtual teams of both employees and managers ranging in size from five to eight. Semi-structured interviews on the benefits and challenges of virtual teams were followed by the creation of a web-based survey administered to 511 team members, with a response rate of approximately half. The research was designed to test a self-efficacy framework based on social learning

theory, in which modeling, coaching, and organizational factors are antecedents to teamwork self-efficacy and result in increased effectiveness. The analysis indicated that supporting other team members, communicating effectively, and having a variety of specific skills increase performance, and that the relationship between self-efficacy and performance weakens as tasks become more complex. This study draws attention to how teamwork and coordination are structured, and how this structure is experienced and interacts with individual perceptions of skill and ability.

Teamwork and Coordination

Studies analyzing the elements of effective teamwork and the factors that work to inhibit or improve performance for virtual teams are well represented in the literature. Studies have looked at the antecedents and mitigating elements, and include meta-analysis of empirical studies completed to date (Hertel, Geister, & Konrad, 2005). But the studies that attempt to generate new models or theories for testing and validation struck me as having the greatest value. I noted a gap in models for generating theory and models applicable to practitioners.

In a quasi-experimental study of 62 undergraduate student teams of six members each, O'Leary and Mortensen (2010) investigated how the configuration of team members in geographic space impacts teamwork and coordination. The study design contrasted single and multiple site teams at the team and subgroup levels of analysis, with four distinct configurations of team members. Teams were either 1) entirely co-located, 2) only a single member from a distance, 3) distributed with a 3-2 imbalance, or 4) evenly distributed. Participants were provided with little guidance or structure, and tasked with the completion of a project. A background survey at the beginning of the project was followed up with an online survey upon completion. The survey instrument focused on identification, transactive memory, conflict, and coordination.

The results indicated that configuration significantly affects team dynamics, specifically the emergence of subgroups based upon co-location. Negative outcomes across all dependent variables were apparent, with team members in the minority subgroups experiencing the greatest difficulty. Though no teams were entirely remote, which is a configuration that is common, the implications for careful attention to the configuration of virtual teams in which some members are co-located is an important take-away.

Espinosa et al. (2007) investigated if different kinds of familiarity are more or less beneficial when the work has different types of complexity. Espinosa et al. (2007) identified task and team familiarity as interacting with task and team coordination to impact team performance. The researchers argue that task familiarity is more beneficial with more complex tasks, and that team familiarity is more beneficial when team coordination is more difficult. The argument seems valid on its face. The more that people must collaborate and coordinate to complete work, the more likely strong bonds of familiarity should be of a benefit. Meanwhile, mindless, simple, repetitive tasks with little complexity would seem to require less in the way of familiarity.

Espinosa et al. (2007) report out on a field study of geographically distributed software teams. The study utilized archival records rather than a real-time evaluation of actual teams. The authors argue, "archival research is well-suited to performance studies because the data are objective and are unaffected by response bias or response rates" (p.619). The study's findings prove to be a bit counter-intuitive, disconfirming some of the hypothesis the researchers laid out. It turns out, at least in this study, that the beneficial effects of task familiarity decline when tasks are more structurally complex and are independent of task size. Also, task familiarity improves team performance more strongly when team familiarity is weak. Finally, the benefit of team familiarity for team performance is enhanced the more geographically dispersed team members

are. The upshot is that in the experience of virtual teamwork, familiarity with tasks, task complexity, team dispersion, and team familiarity interact in ways that are not clearly understood.

Suh and Shin (2010) took a deeper look at familiarity, and compared virtual and traditional teams to examine the mechanisms of online social ties with a focus on knowledge sharing. The quantitative analysis of 186 participants: 84 on co-located teams and 102 on dispersed teams, integrated social capital theory and social cognitive theory, toward the development of a theoretical model that predicts individual knowledge sharing. The results indicate that the frequency of online interaction has no effect on knowledge sharing for traditional co-located teams, yet, plays a critical role on motivational factor (such as norms of reciprocity, trust, and outcome expectation) that effect knowledge sharing of dispersed teams. Also, online interaction positively influences trust of traditional teams and norms of reciprocity of virtual teams. The study highlights how in the absence of informal interactions common in traditional teams, virtual team members strive to build trust and norms of reciprocity. The researchers contend, "a clear practical message from this study is that managers of dispersed teams should encourage socio-emotional communication using diverse computer-mediated communication media to build online social networks among team members" (p.435).

Horwitz et al. (2006) sought to identify the importance of team dynamics, cross-cultural, team development, and other factors important for virtual team effectiveness. An online survey method obtained 115 responses. The following factors were identified for effective virtual team operation: 1) communication technology and communication quality, 2) clearly defined roles and responsibilities, 3) team member trust and relationships, and 4) cross-cultural understanding and organizational commitment.

Bosch-Sijtsema et al. (2011) present a framework based on five key factors that pose challenges to the performance and productivity of knowledge work performed in distributed teams. The framework is applied qualitatively in eight case studies at team level focusing on distributed collaboration. The study takes aim at the Input-Process-Output framework, with its lack of concern for contextual factors that is so prevalent in the literature on telecommuting. The study narrows its focus down to knowledge work in remote teams and defines knowledge work as the creation, distribution, or application of knowledge by highly skilled and autonomous workers using tools and theoretical concepts to produce complex, intangible, and tangible results.

Bosch-Sijtsema et al. (2011) point out that "distributed teams are often closely imbedded in a social system having fluid borders with other actors including customers and contingent workers and often a temporary structure" (p. 276). The framework extends and integrates traditional performance models of task, team structure, and work process, with context factors like workplace, organization policy, and information and communication technology infrastructure. The study identifies the five factors of organizational context: workplace, teamwork, teamwork processes, team structure, and team task.

The framework is applied in a qualitative comparative cross-case analysis to eight globally distributed teams in two companies. The cross-case method seemed ideal to compare and contrast and develop the model, and the finding that effective teams must adapt to changing contexts and readjust along the five identified factors. The study employed survey data, but interestingly, did not use the data for quantitative purposes; in fact, the Bosch-Sijtsema et al. (2011) state that survey data were only used qualitatively to inform observation points and participants to be shadowed. The article claims both theoretical and practical applications for the use of the framework developed through this study. Finally, Bosch-Sijtsema et al. (2011)

identify areas for future research on topics such as culture, trust building, and technology in distributed collaboration as well as the social workplace. The study highlights the continued need to understand the context and meaning of telecommuting and virtual teams.

It might be too easy to get the impression that virtual teams are a collection of members with a commitment and loyalty only to each other. Cummings and Hass (2012) noted a reality underlying virtual teams: members are not just on a single virtual team. Teams are often composed of members that are juggling the responsibilities of multiple projects and teams. Considering these multiple demands, time allocation seems a salient factor in how individuals perform their work in virtual teams. The research was drawn from a survey of 285 teams and identified two key dimensions of member time allocation that channel the attention of team members toward the focal team or away from it. The framework sought analysis on the individual and team levels. On the individual level, members with more responsibility for the team's outcomes allocated more time. At the team level, not surprisingly, teams that were the main focus of members performed better, but as is often the case with the literature on virtual teams, results include a bit of contradiction. Performance is also found to be higher for teams whose members are on multiple teams concurrently. What membership on multiple teams means for our understanding of virtual teaming is unclear. Do these individuals exhibit different behaviors, feelings, and attitudes? Do they approach their independent and team tasks with different strategies? Do they simply experience their work differently? These are open questions this study can shed light on.

Team Technology

Research has looked for technology-based solutions for improving coordination and communication for virtual teams, and often they begin with systems and work design. For

example, Anya et al. (2010) examine collaborative e-work to arrive at a systems based model to empower virtual teams by providing common grounds for decision-making. Designing context-aware systems to support decision-making in collaborative e-work is a technology-based solution that can impact virtual team performance almost immediately. Likewise, Chang (2011) investigates and proposes ways to improve creativity through structured interactions between team members, combined with empowerment towards self-direction. Focusing on Virtual Teams with Anonymity and Structured Interactions (VTASIs), the qualitative case study involving eight VTASI teams of a total of 72 graduate engineering students, who worked on the generation of new ideas in four specific projects, yielded factors that constrain or improve the quality of creative output, and factors associated with emergent leadership. Though these studies effectively highlight how technology enables teamwork, and how structure support communication and coordination, they minimize personal factors and the social experience of the process of virtual teamwork.

Research has also sought to examine the interaction of technical and human factors involved in virtual teams. For example, an exploratory study by Lu et al. (2011) proceeds from the theoretical basis that project performance is the result of the interactions and dynamics among team members. The study adopted a quantitative approach based on socio-technical theory and coordination theory. The study attempted to establish a model that includes technical and human factors impacting team performance. In addition, leadership and development team dynamics were considered. The research does not emphasize the technical dimension as much as the three general categories for effective teamwork in coordination, leadership, and collaboration on team level and individual levels. The study's inquiry pursued a research question on the human factors around management of teams. The behavioral perspective emphasizes the

importance of people and how they work together. According to Lu et al. (2011), "when a team faces and resolves problems, it accumulates and conserves expertise that can be used in the future" (p. 812). This finding may not speak directly to the experience of virtual teaming as opposed to that of traditional teams as it keeps technological factors in the background, but it does suggest that behavioral factors are critical to understanding emergent states in the construction of knowledge and leadership.

Management and Leadership

A central theme for understanding the experience of telecommuting and working in virtual teams is the impact that management has upon individual experience, as well as the forms that leadership will take—whether it is based upon the authority of a given role, or if it emerges in the dynamics of team interaction. Numerous studies have sought to identify the needs of virtual team members in relation to the skills and abilities that a leader is expected to display. Hertel et al. (2005) provide a meta-analysis of empirical research on leadership for virtual teams by dividing studies based on their own theoretical construct and framework for understanding leadership in virtual teams by phase. The lifecycle model proposes five phases that should be distinguished in the management of teams with high virtuality: Preparation, launch, performance management, team development, and disbanding. The review was most focused on quantitative research with existing virtual teams in organizational contexts. Specific examples of leadership constructs developed for the context of virtual teams includes Walvoord et al. (2008) and the concept of eLeadership as distinct from face-to-face contexts. In this conception, leadership focus needs to target intervention and prevention of virtual miscommunication.

The literature on virtual team leadership also examine concepts of emergence, and how complex interactions in a virtual context can have unanticipated outcomes, or can alter the

dynamic of what it means to be a leader and follower. For example, Curseu (2006) makes the link between human elements and technology to present a model of team effectiveness for virtual team interaction between three levels of dynamics: local, global, and contextual. Framed by Complex Adaptive Theory (CAS), the analysis of 42 teams employing virtual communication identified emergent states including: team cognition, cohesion, trust, and conflict. Other studies shifted to an internal focus on member behaviors rather than on external leadership. In a quantitative study of 22 virtual teams that completed a semester-long database class project in an undergraduate database course, Carte et al. (2006) analyzed leadership behaviors and types to make connections to Bandura (1977) social learning theory, and Manz (1986) self-leadership theory to conceptualize the influence behaviors external supervisors may exert on self-managed teams. The study proposes a model for leadership in the virtual context as Leaderplex, which is more shared and emergent, and the study concludes, "the limited potential impact of the externally imposed leader, we suggest that higher performing teams will rely more heavily on their internal communication competence" (p.326). Communication is indispensable for effective leadership in the virtual team setting, and the internal dynamics of team development deserve increased attention.

Bligh et al. (2006) approached leadership for virtual teams from a multi-level perspective. There is a focus on the self, the group, and the organization. The study attempted to understand how shared leadership and responsibility develops, or emerges in effective team processes. The researchers use the construct of shared leadership, as a "dynamic, interactive influence process among individuals in groups for which the objective is to lead one another to the achievement of group or organizational goals" (p.297). The authors propose a meso-level theoretical model that goes on to highlight how the influence processes involved in

shared leadership will include peer or lateral influence in addition to upward and downward hierarchical influence processes.

Whitford and Moss (2009) investigated transformational leadership in the context of virtual teams. A survey instrument was completed by 165 employees, to assess the leadership style of supervisors, along dimensions of regulatory focus, goal orientation, work engagement, and job satisfaction. Analysis revealed that the efficacy of transformational leadership style was negatively impacted by distance. Without face-to-face interaction, and experiencing the gestures and mannerisms that the researchers identify as "determinants of credibility," employees were likely to misapprehend behavior and demeanor. The perceptions of individuals' working remotely proved limited, and suggest that this impediment might call for unique leadership styles and approaches. The implication for the experience of telecommuting and virtual teams is that a constrained social context challenges leaders as well as team members, underscoring the need to better understand the experience for individual team members.

Team Experience

Studies have investigated aspects of the team experience in virtual teams, identifying emergent processes such as learning. For the individual team members in the context of telecommuting and communicating through CMC, learning how to perform their role and contribute to the establishment of norms remains an important open question relating to the experience. In addition, organizations are challenged to select and deploy appropriate supports and training, but often default to approaches that have been identified as effective in the face-to-face context of workplace learning.

Research exploring individual and team level learning in the context of telecommuting and virtual teams are relevant to understanding the meaning of the experience for individuals.

Learning is a central part of the experience, as the acquisition of knowledge, skills, and abilities in the constrained context of CMC provides useful concepts for framing the essence of the day-to-day lived experience of telecommuters in virtual teams (Gilson et al., 2014).

Ortega et al. (2010) investigated the impact of team learning on effectiveness, and team beliefs about the interpersonal context of virtual teams. Data from 144 undergraduate students in 48 teams performing a virtual consulting project were collected over four weeks. The study takes traditional team research as a point of departure to frame team learning behavior as a series of "behaviors that members of the team exhibit, including asking questions, seeking feedback, or unexpected situations" (p. 268). Ortega et al. (2010) hypothesized that team learning behavior would be positively related to effectiveness in terms of performance, satisfaction, and viability. The analysis also looked for relationships for interpersonal context factors of psychological safety and task interdependence. The results reinforce what is known about traditional teams, as learning behavior increased performance, satisfaction, and viability. Further, results provide support for the relationship between beliefs about the interpersonal context and team learning, are much the same for virtual teams as for face-to-face teams. The implications for the experience of individuals working in a virtual team suggest that strategies that have proven successful when individuals work in traditional teams are transferred effectively to the altered context of the remote workplace. What this means for individuals who find themselves frustrated by traditional approaches in the altered context of remote work remains unclear.

Rosen et al. (2006) conducted a survey of 440 training and development professionals to identify current organizational training practices aimed at preparing leaders and members for virtual team assignments to arrive at a set of best practices. Training format and content was

analyzed. The survey made it clear that insufficient attention and training interventions were being paid toward virtual team and their unique needs.

Argyris and Schön (1978) presented an enduring lens for organizational learning by contending that individual learning is a prerequisite for organizational learning and that people are the agents for organizational learning and action. Organizational learning literature provides three distinct perspectives for the how and why of learning in the workplace (Sense, 2011). The cognitive perspective holds to an information processing view of organizational learning, in which understanding and insight do not necessarily lead to actions. The behavioral perspective is on the lookout for actual changes in actions and behaviors as a direct result of learning. Finally, the sociological perspective is one of social construction and holds that learning is the product of individual and organizational social practice of interactions and interpretations (Tsang, 1997).

Drawing on Situated Learning Theory (Lave & Wenger, 1991), Sense (2012) argues for the mutual development of technical and social competencies and the construction and negotiation of meaning and identity in project teams as part of evolving practice. Sense (2012) positions knowledge and learning within practice, and identifies participation and interaction as crucial for learning. Finally, drawing on Weick (1995), Sense (2012) suggests that individuals contribute to and develop team practice through sense making activities, and places all of these activities and interactions within the bounded space of project work. In the context of virtual teams, all of these activities are fundamentally altered with socio-cultural factors constrained and warped.

Eraut (2007) treats socio-cultural and individual theories of learning in the workplace as complementary rather than at odds. Professional knowledge has a large and important tacit dimension (Eraut, 2000). Implicit learning is difficult for folks to articulate or identify, and

further, much of what is being learned is a by-product of the work itself (Eraut, 2007). Using Activity Theory, Eraut (2007) proposes a typology to classify learning processes according to whether their object was working or learning, that is, whether the learning was informal and emerged in the activity of performing a job, or was the result of more formal training and interventions. The typology presents three categories: 1) work-processes with learning as a by-product; such as problem-solving, 2) learning activities located within work or work processes; such as asking questions, and 3) learning process at/or near work; such as coaching and mentoring. We need a better understanding of how these activities play out in a virtual context.

In addition, Eraut (2012) advances a two-triangle model for the factors affecting learning in the workplace. The first triangle represents learning factors and is comprised of the perceived challenge and value of the work, along with feedback and support and finally confidence and commitment combined with personal agency and the desire to seek out learning opportunities. In the second triangle, contextual factors are framed out as the structure and allocation of the work, the encounters and relationships developed at work, and finally individual participation and expectations for performance and progress. These contextual factors directly influence the learning factors in Eraut's (2012) perspective, and how they occur virtually is rarely reported.

Kirschner and Van Bruggen (2004) approached understanding and learning at the virtual team level with attention to both a psycho-socio dimension and a learning dimension. Their model presents cognitive process, social interaction, and socio-emotional process in dynamic interaction influencing and reinforcing one another. Group learning is identified as an outcome leading to social and learning performance. Social interaction is the medium for learning and there is an emphasis how teams come together and the role of emotion. Kirshner and Van Bruggen (2004) also present a route from contribution to newly constructed knowledge that goes

through externalization, understanding, negotiation, and finally integration. Thus, the unshared knowledge of the individual team member becomes the common constructed knowledge of the team.

The experience of working in virtual teams has been defined by various factors involving the environment, behaviors, and emotions, but they are not fully understood. The process of learning to work independently as a telecommuter while simultaneously developing a set of norms and expectations for teamwork is a critical aspect of the experience that needs to be better understood from the perspective of those living the experience.

Across the categories of the literature review, key elements appeared with regularity, underscoring their salience for telecommuting and virtual teams. The key elements have been summarized in Table 2.2.

Table 2.2
Key elements repeated across categories

Element	**Short description**
Fit	Degree of alignment between organizational, individual, work, and technology characteristics with outcomes on individual, organizational, and societal levels
Social/emotional/psychological factors	Individual level factors in the telecommuting environment that impact performance, satisfaction, and other outcomes
Norms	Expectations for behavior and performance developed on a group level
Task	The work to be done, or the process that is followed
Interdependence	The degree to which team members are dependent upon the input, output, or collaboration of other team members
Training	Learning opportunities designed to develop individual knowledge, skills, and abilities for telecommuting or virtual teaming

Element	Short description
Self-efficacy	A person's beliefs in his or her ability to do a specific action. When it is high, then he or she will be more effective in doing the activity
Competence	Context-specific knowledge, skill, and beliefs
Team Cognition	Concerned with knowledge, understanding, and insights constructed through the interaction and reflection of individuals in a team and applied to collective behavior and decision making
Presence	"Being there," the degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships.

Gap in the Telecommuting and Virtual Team Literature

It is important to contrast the current state research against that of an era when the full implications of the technology of telecommuting were but dimly understood. An early study by Hofstede, Neuijen, Ohayv, and Sanders (1990) relied on an organizational culture framework consisting of six factors including process-/results-oriented, normative/pragmatic, employee/job factor, parochial/professional, the loose/tight control, and open/closed permeability. Data on 1,197 individual responses and 416 virtual team projects were gathered. Added to these a number of written documentation for procedures, job descriptions, regulations, and policies were triangulated with self-report responses. To measure "effectiveness" the study focused on defects and errors on the one hand and output productivity on the other.

Hofstede et al. (1990) concluded from the data that factors that inhibit teams in general can actually support team performance in a virtual context. For example, the data indicated that more successful virtual teams exhibit tighter controls and more formalized rules as an approach to handling increased ambiguity. The data revealed that the difference in context is more than a

difference in degree between the types of teams, but is actually a difference in kind. What we know about groups, and the factors that can enhance group performance, are different for virtual teams. Increased procedural formality often inhibits traditional team performance, but Hofstede et al. (1990) concluded that it helps to overcome the constraints of technology, time, and distance.

Many important questions have been posed and investigated, but many areas remain unexamined and questions unasked in the research on telecommuting and virtual teams. In part, this is the result of the rapid and explosive advances in telecommunication and Internet applications that have played out over the past 25 years. Whether telework, remote work, distance work, or virtual, all of the various labels placed on work that takes place at a distance and through technology, have attempted to define a phenomenon of expanding reach, and accelerating importance. Research has largely taken aim on a moving target, and questions that researchers previously didn't even know how to ask, now seem conspicuously absent from the literature. Rapidly advancing technologies coupled with accelerating globalization, have increased the prevalence and altered the context of telecommuting and virtual teams in unanticipated ways. There is also a tendency to apply traditional paradigms for studying worker productivity and teamwork—Input-Process-Output (IPO) models for example—which fail to take into account the altered context and complexity of the digital age (Mathieu, Maynard, Rapp, & Gilson, 2008).

The majority of studies present the results of survey instruments, experiments in laboratory settings, or research on student teams, and it often lacks authentic, real-world, implications, or practical application (Bligh et al., 2006; Ardichvili, 2008; Anya et al., 2010; Kirschner & Erkens, 2013). Often, the research reports results that read like the confirmation of

basic intuition or supposition, with little in the way of insight about how individuals experience the phenomenon. Further, when outcomes are surprising or noteworthy it is often because results contradict themselves or other studies. The research has been important in advancing knowledge about telecommuting and the rise of virtual teaming, and the basic questions about what is going on, how to define it, or what factors deserve attention, all have been addressed—though frequently with contradictory findings.

Significantly, the literature lacks qualitative inquiry on the lived experiences of remote workers, and the voices of actual remote workers are rarely reported. In fact, there has been little attention paid to individuals (Wang & Haggerty, 2011) and less to how individuals experience virtual teams (Kreijns, 2013) or how to teach or train effective team members (Gilson et al., 2013).

Summary

The studies identified in this section have presented the issues and factors relating to telecommuting and virtual teams including factors in the telecommuting environment, teamwork and coordination, management and leadership, learning, the application of social cognitive theory to the telecommuting context, and the role of presence in computer mediated communications and environments

In this chapter, I provided an overview of the methodology employed to identify studies relevant to telecommuting and working in virtual teams. I provided an analysis of studies grouped into themes including factors in the telecommuting work environment, computer-mediated communication, teamwork and coordination, management and leadership, and learning. I then identified gaps and areas for further inquiry presented in the literature.

In chapter 3, I turn my attention to the proposed methodology for my study.

CHAPTER 3: METHODOLOGY

The literature review identified areas in need of further inquiry. In particular, there is a lack of attention paid to the lived experience of telecommuters, and how they experience remote work and virtual teaming, and what meaning they derive from the experience. But just what is the meaning for individuals experiencing the phenomenon of working remotely in virtual teams? This is a complex question requiring the actual voices of those experiencing it to answer. While the literature identifies factors and correlates, the lived experience of actual telecommuters is largely absent. Further, studies have insufficiently addressed social and emotional aspects of telecommuting as they affect the process of remote work in virtual teams. To address these gaps, the following question guided this study. Major Research Question: What is the social and emotional experience of working remotely in interdependent virtual teams?

Research Design

Following Creswell (2012), the methodology for this study is shaped by my constructivist worldview, the problem identified, and an analysis of extant literature. In addition, the research question formulated is consistent with a qualitative methodology as the emphasis is on the lived experiences, perceptions, and meanings created by the participants. Focusing strictly on the perceptions of the participants, this study was interested in uncovering meanings, and assumed a phenomenological approach. Moustakas (1994) frames the phenomenological approach as a return to experience in order to obtain comprehensive descriptions that provide the basis for a reflective structural analysis that capture the essences of the experience. The central phenomenon under investigation is telecommuters' experience of working remotely and in virtual teams from the perspective of the participants themselves.

The data collected for this study were textual, presenting description, themes, and findings from interview transcripts. Data analysis was discovery-oriented, moving from a thorough review of the data, to organization of the data into themes and meanings, and finally to interpretation and synthesis. The intention of this research was to allow patterns and meanings to emerge from the faithful description and analysis of individual subjective experience.

In order to support validity and reliability, this study employed a number of measures including thick description and richness of detail in combination with transparency (Creswell, 2014). In this section, I map out the procedures this study adopted, and highlight the rationales that guided their selection.

Methodological Considerations

This research study aimed to capture the perceptions, experiences, emotions, and behaviors of participants working remotely in virtual teams. In order to collect and appropriately interpret and analyze this type of data, a phenomenological approach was utilized. In the following section, I present the elements of this study's phenomenological approach and justify its appropriateness for the purpose and research question of the study.

Phenomenological Method

According to Giorgi (1997) the phenomenological method encompasses three interlocking steps: 1) the phenomenological reduction, 2) description, and 3) search for essences. Phenomenological reduction involves the process of epoché—blocking out bias and checking assumptions. The specific technique of "bracketing" on the part of the researcher required surfacing personal bias and assumptions about the phenomena to be investigated, in order to approach the actual experience and perceptions of the participants without preconceptions. Essentially, as the researcher, I put aside past experience and preconceived notions relating to the

phenomenon under investigation—I worked to prevent my own subjectivity from shading the moment. Simply put, I identified and unpacked my personal baggage.

I, as the researcher, having experience as a telecommuter, chose a methodology that would allow me to bracket my own experiences, and allow the subjective experience and perceptions of the individual participants to emerge. In keeping with Merriam's (2014) and Giorgi's (1997; 2009) suggestion for the phenomenological researcher, I began by exploring my own experiences, knowledge, and perceptions surrounding the phenomena of telecommuting and virtual teaming through journaling. This process of epoché or "bracketing" allowed me insight into my personal assumptions and biases, so that I could surface them and set them aside in the process of data analysis (see Subjectivity Statement Appendix D). It was a deliberate and conscious effort on the part of the researcher throughout the reading, re-reading, coding, and analysis of the interview transcripts.

In the next step, description demanded that I witnessed with fidelity, and provided a complete and meaningful account. Giorgi (1997) points out that "what is critical is that the description be as precise and detailed as possible with a minimum number of generalities or abstractions" (p. 237). The description presents only the participant's concrete experience, and makes no objective claims about what actually occurred. Finally, the intention of the phenomenological method was to arrive at the essence of experience as described by the individuals engaged with the phenomenon (Creswell, 2014). For Giorgi (1997), essence as meaning is contextualized by the disciplinary perspective of the researcher.

Wolcott (1994) identifies three general phases that a qualitative researcher moves through in the process of "transforming" data into an account that captures the important themes and concepts that underlie what they have seen and heard in the process of a research project. These

phases are description, analysis, and interpretation. In practice, there were false starts, and recursive elements, but these phases suggest the linear process of moving from data collection into the creation of a narrative and description that supplies details of what participants have shared with the researcher. Next, I looked to analyze the data, to surface the factors that shape what has been observed. Finally, I attempted to provide an interpretation of what I observed, what factors were at work, and what both of these suggest. In more concise terms, Wolcott (1994) delineates these phases as: "What is going on here?" "How things work?" and finally "How does it mean, what does it mean?"

In the collection of data, the researcher used questions that were broad and open-ended, allowing the subject to express himself or herself fully, and to mention what they felt was most important. Naturally, recording and transcription of interview data follows. The goal was to arrive at a concrete, thick description of the participant's experience and actions (Giorgi, 1997).

In reading the data, the phenomenological approach is holistic, and required that I read all of the data first, without attempting to draw out any themes on the first pass (Sousa, 2014). In subsequent passes of slow rereading, I began to divide the data thematically with a focus on identifying meanings as they emerged. Giorgi (1997) refers to this iterative process as meaning discrimination, and the creation of meaning units. With repeated passes I arrived at meaning units that remained in the participant's own language. I adopted an attitude that was sensitive to both my discipline (adult and continuing education) and to the phenomenon under investigation. According to Giorgi (1997), meaning units do not exist in the descriptions by themselves, "rather, they are constituted by the attitude and activity of the researcher" (p. 242). It was critical that I remained open to the emergence of the surprising or unexpected rather than approaching with some sort of a priori notion of what I was looking to find.

Once the meaning units were established, they were examined, probed, and challenged, so that the value of each unit became clearer. I anticipated that participants would describe their concrete experiences from the perspective of' everyday life (Sousa, 2014).

In subsequent chapters, I present my findings, and summarize the data and the outcomes of my analysis so that it will be of use to other scholars investigating aspects of the lived experience of telecommuting and remote work in virtual teams.

Conceptual Framework

The conceptual framework for this research study employs a framework based on the Learning in Work Life Framework (Illeris, 2011) and the Being There for the Online Learner Model developed by Lehman and Conceição (2010), to frame the purpose of the study, its research question, and the phenomenon under investigation. Various frameworks are helpful for conceptualizing how individuals experience the unique context of virtual teams, and help identify critical factors for analysis (Curseu, 2006; Kreijns, et al., 2013; Lin, Chiu, & Tsai, 2010; Lu, Xiang, Wang, & Wang, 2011). The frameworks range from broadly applicable psychological frameworks to those very specific and particular to the factors relevant to the experience of telecommuting and learning in virtual teams. The Learning in Work Life Framework (Illeris, 2011) and Being There for the Online Learner Model (Lehman & Conceição, 2010) provided factors applicable to the lived experience of telecommuting and working in virtual teams which created a framework for analytically separating the dynamic and interdependent components of the experience.

This study seeks to understand how individuals experience personal, emotional, behavioral, social, and environmental factors in the context of telecommuting and teamwork, how they perceive individual and team factors, the emotional and social experience, their

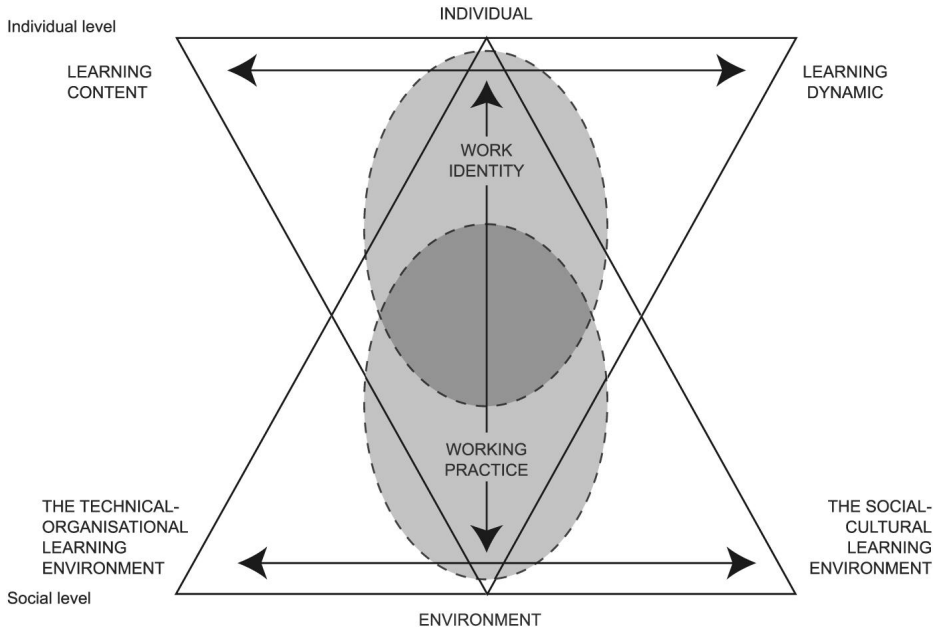
personal and workplace identities, and their experience of periods of being with coworkers through technology and the virtual workplace. In order to frame the experience, and analyze how individuals make meaning, both theories provide important constructs for this study.

Learning in Work Life Framework

Learning in working life is a construct building on the basic processes and dimensions of learning presented by Illeris (2011) as an inverted triangle with content and incentive on the individual level, and interaction with the environment on the social level. A separate model for workplace learning places the individual level at the top of the triangle and the social level of technical-organizational and socio-cultural environments at the base. In order to arrive at a more holistic approach, the model of learning in work life overlays the second triangle on the first providing for a double perspective on learning and the workplace.

The model posits an interaction between individual and social level dimensions of a workplace learning process as two independent but interrelated processes in a dynamic relationship to each other. The model identifies the external process in which the individual interacts with their social, cultural, and material environment, and an internal process of elaboration and integration (Illeris, 2004). The individual level consists of personal identity: emotion, cognition, experience, education, and the process of internal psychological acquisition. On the social level, Illeris (2011) identifies dimensions of the technical-organizational environment such as activities, tools, and technologies, as they interact with the socio-cultural environment of roles, relationships, and norms. At the core of the construct is the dynamic relationship of personal work identity, workplace practice, and personal identity.

Figure 3.1
Learning in work life framework



This construct is relevant to understanding interdependent work in virtual teams, and frames how the individual remote worker must navigate the multiple identities present in the context of telecommuting. Illeris (2014) underscores the centrality of work in the life of adults:

> It is immediately clear that the identity related to working life has a central importance for most adults. Therefore, it is closely connected to and in most cases more or less integrated into the personal identity. For employed people work will usually occupy a considerable part of the time they are awake, it will often involve contact with many other people and tasks in which they are engaged. (p. 76).

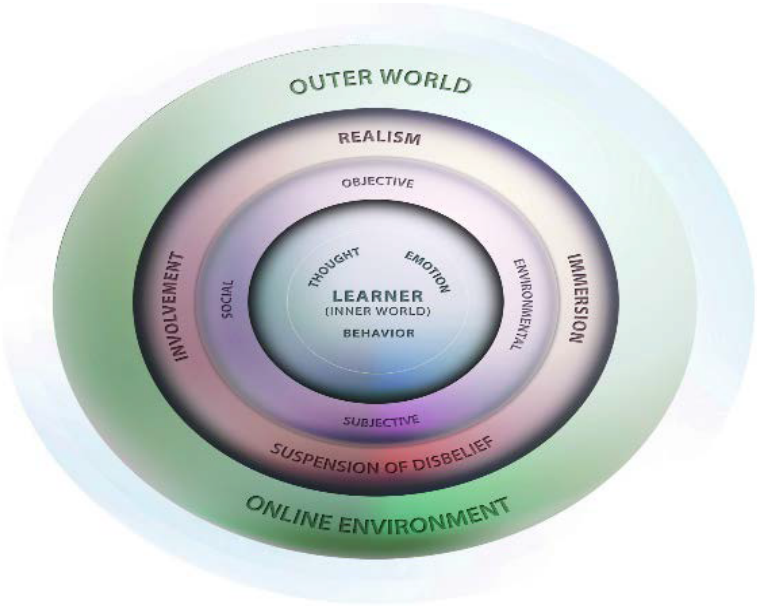
In the case of telecommuters, work life becomes more entwined with personal life, and the elements of work identity and personal identity are more fluid. Interaction is constrained by time and distance, and factors such as family and home are more salient (Sieben, 2007). The

model provides a structure to analytically separate social and individual level factors involved in the social and emotional experience of telecommuting and working in virtual teams.

Being There for the Online Learner Model

In order the come closer to the meaning of remote work and virtual teaming in the experience and perception of participants, this study employed the Being There for the Online Learner Model developed by Lehman and Conceição (2010). Though the model was specifically designed to frame the experience of online learners, it provides a conceptual approach for analyzing the experience of individuals interacting through computer media communication (CMC) while projecting themselves into a virtual world. The model is holistic in its approach to presenting the experience of an individual in an online environment, and specifically, the modes of presence provide insight into the factors that influence and shape the experience of interaction in a virtual space.

Figure 3.2
Being "There" for the Online Learner model



Lehman and Conceição (2010). Used with authors' permission.

The Model begins with the dimensions of the learner at its core, identifying their inner world of thought, emotion and behavior. On the next level, four individual means through which the learner experiences a sense of presence are identified. These include the subjective and objective experience of presence in addition to how social and environmental factors influence the experience (Lehman & Conceição, 2010).

Subjective experiences of presence occur in an individual's mind. It is the psychological perception of being physically present in another location, or a virtual world (Lehman & Conceição, 2010). This perception leads to moments when an individual has a sense of "being there" in an online or virtual environment. The objective experience takes it a step further, as an individual comes to feel that they are literally in another world, a separate space, that exists "out there" objectively.

Lehman and Conceição (2010) identify the social experience of presence, as instances when an individual senses that they interacting with others in a virtual environment. It is characterized by interaction, by a give and take by all of the individuals sharing the virtual space. Finally, there is the environmental experience of presence. The environmental experience speaks to the ability of the individual in an online or virtual environment to alter and control the environment. This allows them to complete work and to coordinate with team members.

Returning to the model, on the next ring, the modes of presence are situated. Learners experience a sense of presence through realism, immersion, involvement, and the suspension of disbelief (Lehman & Conceição, 2010).

According to Lehman and Conceição (2010), realism is the degree to which a particular medium, for example, web conferencing or instant messaging can create an environment in a virtual space that contains all of the elements of an in person setting. Realism occurs when

virtual interaction could be mistaken for the in person. Immersion can be a perceptual or sense experience. Immersion identifies instances when the learner perceives themselves through their senses as thoroughly submerged into a virtual environment, as is the case with virtual and augmented reality platforms. Involvement speaks specifically to the learner's experience of "being together with others" in an online space (Lehman & Conceição, 2010).

The final mode of presence is the willing suspension of disbelief. This is the ability of the learner to allow themselves to be transported by imagination into an online space and experience it as a physical place. It is similar to the effect experience while watching an engrossing film, in which you view the actors and events on the screen as real and actually occurring.

Employing the Being There for the Online Learner Model to analyze the experience of the telecommuters in this study provided critical insights into how the experience of presence was shaped by the modes and directly related to how they made meaning of the virtual work environment.

The meanings of the experience of remote work in virtual teams were analyzed in relation to their perception of presence in the virtual environment. When coupled with the Learning in Work Life Framework, the Being There for the Online Learner model identified personal factors, behavioral and environmental factors, combined with attention, emotion, comprehension, and behavioral interdependence, all of which contribute to and shape the meanings that participants construct for the experience of working remotely in virtual teams.

Design Considerations

Context

This research explored the perceptions and experience of telecommuters working independently in virtual teams. The understanding of meaningful concrete relations implicit in the original description of experience *in* the context of a particular situation is the primary target of phenomenological knowledge (Moustakas, 1994). The individual was the unit of analysis, and the study strived to capture their lived experiences as they perceive, describe, and make meaning of the phenomenon of telecommuting working in virtual teams.

Sampling

This research employed purposive sampling, identifying individuals that satisfied the criteria of telecommuting intensity (80%+), responsibility for a collaborative work product, and experience level (>1 year). Convenience sampling also shaped this research, as some participants were identified through personal contacts. In addition, I employed snowball sampling to allow participants to provide referrals, and help recruit additional participants.

Participant Recruitment

In addition to personal contacts with whom I currently had a rapport, and referrals through snowballing, the study sought to recruit additional participants through Workplace Analytics—a telecommuting research organization—via email from a variety of knowledge-based industries, with significant experience with remote work, who contributed towards a collaborative work product in virtual teams. The research design stipulated that if there should be insufficient respondents to the email, additional potential participants would be contacted via email. If there was further difficulty in securing participants, the target number of participants required would need to be reconsidered.

Sample Size

The intention of this study was to capture the experience of telecommuting and working in virtual teams, and selection of participants was chosen to generate rich, dense, and focused information on the research questions posed. Therefore, sample size was calibrated to focus on small numbers more intensely (Cleary, Horsfall, & Hayter, 2014). I conducted long interviews with 10 participants as is appropriate for a phenomenological study (Creswell, 2014). I collected data with a focus on depth over breadth from participants.

Data Collection

The researcher is the human instrument in qualitative research—collecting and recording all of the documentary evidence and data in the research (Creswell, 2014). According to Cooper and White (2011):

> As instruments of their own research, qualitative researchers rely on their judgment, experience, history, social contexts, and constructions of reality in order to generate new or to enhance existing perceptions of events and conditions in the real world. (p.7)

As an initial step, prior to data collection, in keeping with Merriam's (2014) and Giorgi's (1997; 2009) suggestion for the phenomenological researcher, I began by exploring my own experiences, knowledge, and perceptions surrounding the phenomena of telecommuting and virtual teaming through journaling. This process of epoché or "bracketing" allowed me insight into my assumptions and biases (see Subjectivity Statement, Appendix E), so that I could surface them and set them aside in the process of data collection. I formulated my reflection around what Moustakas (1994) terms as the two meaningful questions: 1) What have you experienced in terms of the phenomenon? 2) What contexts or situations have typically influenced or affected your experiences of the phenomenon? In addition, during the data collection phase, I maintained

field notes. I maintained four types of field notes: 1) observational notes to capture what happened, 2) theoretical notes to attempt to derive meaning, 3) methodological notes to track reminders and critiques, and 4) Analytical memos to summarize or review progress (Groenwald, 2004). During interviews, I kept notes in the margins of the interview protocol, and on a separate pad of paper to captures observational notes relating to participants' tone of voice, expressions, and non-verbal cues. After interview, I wrote out theoretical notes, identifying connections or contradictions with the literature. I also wrote out methodological notes, to debrief myself on how the interview went, what I should do more of, and what to avoid in subsequent interviews. Finally, I attempted to capture a summary of interview highlights and compare and contrast with other interviews in a brief analytical memo.

In this study, I gathered data through two primary approaches. First, I gathered demographic information via a chat prior to the main interview, to collect basic attribute data for individual participants and establish rapport. Next, I began an in-depth, semi-structured interview of approximately 45-75 minutes, in person or via web-conferencing based upon participant preference and availability.

Interview

Prior to interviews, participants received an informed consent form, and a verbal description of the contents and its meaning. Next, initial question prompts and subsequent probes were designed to explore participants' experiences and views about the phenomena of telecommuting and virtual teaming, and what factors related to the experience in the unique work context. Using Patton's (2003) typology for the questions, the interview protocol (See Appendix B) for this study attempted to capture participant perceptions and experiences across six categories: 1) experience and behavior questions that elicit what respondents do or have done; 2)

opinion and value questions that elicit what respondents do or have done; 3) feeling questions that elicit how respondents react emotionally to their experiences and opinions; 4) knowledge questions that elicit what respondents know about their worlds; 5) sensory questions that elicit respondents' descriptions of how they see, hear, touch, taste, and smell the world around them; and 6) background and demographic questions that elicit respondents' descriptions of themselves. Interviews were audio recorded, and transcribed after the interview. While transcribing the interview, all references to names of individuals, their leadership, and their companies were redacted. Once the transcription process was completed, I then listened to the recorded interview while reading the transcript to ensure accuracy following the suggestion of DiCicco-Bloom (2006). Once the final quality control was completed audio files were stored to be destroyed after two years.

Alignment of Research Questions with Interview Protocol

Appendix B presents the interview protocol for this study, with initial questions and potential follow-ups and probes. Table 3.1 below presents initial questions aligned to the conceptual framework guiding this inquiry.

Table 3.1
Interview questions by framework dimension

Question	Framework Dimension	Source
Describe your work area at home.	Technical-organizational environment	Learning in Work Life Framework (Illeris, 2011)
Tell me about your average workday?	Workplace practice Workplace identity Behavior	Learning in Work Life Framework (Illeris, 2011)
Describe to me what it was like when you first began working from a distance.	Emotional Social Structures	Being There for the Online Learner Model (Lehman & Conceição, 2010)

Question	Framework Dimension	Source
Tell me about your first interaction with the team?	Social Social Structures	Being There for the Online Learner Model (Lehman & Conceição, 2010)
Tell me about a time when you felt alone or cut off from your team members.	Social Emotional	Being There for the Online Learner Model (Lehman & Conceição, 2010)
Can you share an experience of "being there," or feeling that you are together with team members in the virtual environment even when you are not physically together?	Objective Subjective Social Environmental Realism Involvement Willing suspension of disbelief	Being There for the Online Learner Model (Lehman & Conceição, 2010)
Can you recall a moment—again, early on—when you felt that you had made a good choice, and that telecommuting and remote work in virtual teams suited you?	Emotional Personal Identity Workplace Identity	Learning in Work Life Framework (Illeris, 2011)
Can you identify a change you have made in the way you work during the time you have been telecommuting?	Cognitive Workplace Practice	Learning in Work Life Framework (Illeris, 2011)
Can you share a story of an incident or experience that captures the essence of telecommuting and working with virtual team members?	Emotional Cognitive Social	Being There for the Online Learner Model (Lehman & Conceição, 2010)
What have I overlooked? What part of your experience working remotely in a virtual team do you think deserves additional attention?		

Data Analysis

Phenomenological data analysis has five steps: 1) the researcher must begin with a description of his or her own experience with the phenomenon; 2) list significant statements and assign values; 3) cluster the statements into themes or meaningful units, eliminating repetitive or overlapping statements; 4) the researcher then reflects on the data seeking to uncover all possible meanings as well as divergent viewpoints; 5) the researcher then constructs meaning of the experience (Creswell, 2013). The final thick description serves two purposes: 1) to surface relationships between themes and 2) to present the essence of the meaning of participant's experiences.

The first 3 steps constitute the first phase of data analysis. I accomplished step one through the on-going process of journaling and memoing outlined above. After reading the transcript to capture a sense of the whole, I re-read the transcript with a focus on identifying significant statements as identified in step two. I continued the process of extracting and coding these significant statements into categories. Next, I focused on the categories for significant statements and organized them into clusters of themes and subthemes—eliminating the redundant and repetitive suggested in step three.

Step four as proscribed by Creswell (2013) constituted a new phase of data analysis in this study. In order to aid this reflective stage, I personally transcribed interview, hand coded, and created a comprehensive concept map of emerging codes (See Appendix D). According to Butler and Poldma (2010):

> concept mapping can be used as a way of conceptualizing emergent ideas before they take form by giving a visual sense to messy thoughts held in the mind during the analytic

process, and by helping researchers to represent visually ideas that emerge from the data being analyzed. (para. 18)

The concept map allowed for a graphical representation of themes and assisted my integration of ideas and meanings. The process allowed me to have a full view of ideas and their connections, and helped me to identify salient concepts related to the phenomena under investigation, as well as the gaps that required additional attention. In the final step identified by Creswell (2013), I employed exhaustive description to be reduced into a comprehensive, fundamental structure of the true meaning of the experience as described by the participants. To complete the fifth step, I returned to the participants to validate the description and fundamental structure. I sent a copy of the transcribed interview, concept map, and description via email, and ask them to read, review, and comment on points of agreement or disagreement with what I presented. This member checking activity supports validity and reliability (Creswell, 2104). Participants reviewed and verified their individual textural descriptions, individual structural descriptions, individual textural structural descriptions, and a composite textural-structural description.

Ethical Considerations

Research can be intrusive and participants need assurance that no harm will result from their participation. Privacy and anonymity are key components of this research study. I ensured that all participants remained anonymous, and did not share details or identifying information with other participants, their organizations, or within the analysis of data. Participant identifiers were removed, and pseudonyms employed. In addition, the organizations for which they work were also masked. I have not shared any of the data gathered with any other parties, be they

public or organizational. Participants were regularly verbally advised that their participation was voluntary and they could discontinue their involvement at any time.

The Institutional Review Board (IRB) ensures that all research abides by the code of conduct and ethical standards of an institution. The proposal overview, informed consent form, interview questions, were submitted to the UWM IRB Office for approval prior to data collection, and a waiver of signed informed consent was awarded.

Participants were presented with detailed information regarding this research and its intent. All transcripts and recordings that identify the participants have not been shared without the expressed consent of the participants. In order to ensure confidentiality and privacy, these data have not been publicly shared or archived. Data gathered and presented ensured participant anonymity through the assignment of pseudonyms, and redacting references to co-workers and organizations.

Validity and Reliability

Qualitative research must adhere to standards of validity and reliability (Lincoln & Guba, 2005). Inquiry is of value in itself, and qualitative research is adequate for the generation of valid scientific knowledge with clear criteria governing its monitoring, rigor, and quality assessment. This study may have valid and useful applications for people other than direct participants, stressing the intersubjective and social dimensions (Sousa, 2014). As a phenomenological study, this research presents the lived truth of the participants in the study. This research study presents thick detail, and the use of multiple data sources and multiple voices.

Lincoln and Guba (1985) suggest that a disinterested peer can analyze the data looking for inconsistencies or themes that a researcher may miss. This study employed a peer review

process for data analysis. A colleague with an earned doctorate served as a check on my own process by reviewing my concept mapping, and coded transcript (Creswell, 2104).

Throughout the research process, I established and maintained an audit trail. According to Guba and Lincoln (2005), an effective audit trail includes the raw data including transcripts and field notes. The summaries and notes of data analysis and reduction were also maintained. Documentation revealing the structures of categories including concept maps, findings, conclusions, and interpretations are presented in this study. Process notes on design, procedures, and rationales, are included to support credibility, dependability, and confirmability Transparency also insures that my personal biases are apparent and taken into consideration, I detailed every step of the process and frequently asked participants to review.

Summary

In this chapter, I presented the research methodology of phenomenology and why it is an appropriate approach to answer the research question posed and contribute to a clearer understanding of the problem identified. I then presented a conceptual framework based upon a synthesis of Learning in Work Life Framework (Illeris, 2011) and the Being There for the Online Learner Model (Lehman & Conceição, 2010) that guided the collection and analysis of data. Next, I describe participants, their recruitment, and the sampling methods employed. Finally, I describe data collection and data analysis methods that were used in the study.

CHAPTER 4: FINDINGS

The purpose of this phenomenological study was to capture the perceptions of telecommuters working in virtual teams, with particular focus on discovering the social and emotional dimensions of their lived experiences. This chapter presents the participant profiles, a summary of phenomenological reduction of data, a reporting of themes that emerged from the data analysis of transcribed one-on-one interviews with 10 participants, including broad themes, subthemes, and the connected elements shared by participants in this study.

Participant Profiles

This study included six women and four men, and their profiles are summarized in Table 4.1. They ranged in age from early 30s to early 60s, with high intensity (>80%) telecommuting experience ranging from two to eight years. Nine of the participants telecommuted from dedicated and formal home-based workspaces, while one participant conducted work from an informal workspace that doubled as a dining room. Participants represented a wide range of professional knowledge and service oriented industries and all work in interdependent teams which collaborate to create a shared work product. Nine of the participants in this study were classified, salaried employees, and one was compensated through billable hours. Five participants worked with a single team, while five split their time across multiple functional groups. Three of the participants had management responsibilities. None of the participants reported having had training specific to the process of telecommuting or working in virtual team.

Table 4.1
Participant profiles

Participant	Age	Years Experience Telecommuting	Single or Multiple Teams	Teammates that are remote	Industry	Training for Telecommuting
Pete	50s	4 years	Multiple	<half	Insurance	No
Lauren	40s	7 years	Single	None	Conference Planning	No
Sara	30s	5 years	Single	<half	Staffing	No
Tammy	60s	4 years	Multiple	100%	Executive Search	No
Elaine	30s	5 years	Multiple	>half	Consulting Firm	No
Valarie	40s	8 years	Single	<half	Training and Development	No
Erin	30s	3 Years	Multiple	>half	Video Production	No
Rick	50s	2 Years	Multiple	<half	Project Management	No
Ron	40s	5 Years	Single	>half	Software Sales	No
Alex	30s	3 Years	Single	>half	Instructional Design	No

Pete. Pete works in the insurance industry as an analyst. He is in his mid 50s and has been working remotely for four years. He did not actively seek a flexible work arrangement, but when his company closed a branch office, he had a choice to either work at corporate headquarters, which is located in another state, or to work from home. He chose to work from

home, but would prefer to go into the office if given the opportunity. Pete's children are grown, and his wife commutes to work each day, so he is alone during his work days.

Lauren. Lauren works as a conference planner for a non-profit. She is in her late 40s AND has been telecommuting for seven years, and actively sought out a flexible work opportunity. She was motivated to work from home by family responsibilities including a young child and aging parents. Avoiding the commute, and being available for her family were her main concerns. No other members of Lauren's team work full-time from a distance.

Sara. Sara works as staffing manager. She is in her late 30s and has five years of experience as a telecommuter. She first began working from home a few days per week, which allowed her flexibility to be home for her two young sons. When her husband took a new job three years ago, she became a full-time telecommuter when they relocated to another state.

Tammy. Tammy works as a director for an executive search firm. She is in her early 60s, and has been a full-time telecommuter for four years. She manages a team of 10 telecommuters, and was initially uncertain about managing from a distance. She has grown to love the arrangement, and is appreciative of the quality of life it affords her. She is married without children, and has an ageing parent whom lives with her. She is the only participant that was compensated through billable hours.

Elaine. Elaine works as a consultant for an international firm. She is in her late 30s and has been telecommuting full-time for five years. Elaine could commute to the office, but chooses to work from home to be available for her three young sons, all under the age of five. Elaine's team is international, with members as far away as Hong Kong.

Valarie. Valarie works as an instructional designer for a training and development organization. She was the most experienced telecommuter in the study, having worked remotely

for more than eight years. She relocated from her previous city in order to be closer to extended family, and was surprised that her employer accommodated her request. At the time that she began working from a distance, she was the only telecommuter in her organization. Now the work arrangement is common, and she has four team members who also telecommute full-time.

Erin. Erin works as an editor for a video production company. She started telecommuting three years ago, and was hired as a remote worker. All of her team, and most of her organization, works from a distance. She is unmarried, without children, and in her early 30s, and she was the youngest participant in this study.

Rick. Rick works as a project manager for a national construction company, and his work requires regular travel. He had the least amount of experience as a full-time telecommuter, having worked from home for just two years. Rick is in his early 50s, is divorced, and his children are college-aged and cares for an aging parent.

Ron. Ron works as a sales team lead for an enterprise software company. He is in his mid 40s and has five years of experience as a telecommuter. Ron began working from a distance when his wife was suffering from a long-term illness. His organization was very supportive, and recruited telecommuters to work on Ron's team. Ron has three daughters in their teens.

Alex. Alex works as an instructional designer for a training and development organization. He is in his late 30s and has three years of experience as a telecommuter. Alex began working from a distance as a contractor, but when he was hired on full-time, he continued to work from home. His team operates 100% virtually, though some members are co-located.

Themes

Following data analysis, two major themes emerged. 1) The social experience of telecommuting while working in virtual teams, and 2) The emotional experience of telecommuting while working in virtual teams. In addition, six subthemes, with attending connected elements were identified, including the social subthemes: the technical-organizational environment, the social structures in the telecommuting environment, and interdependence. As well as the emotional subthemes: personal identity, workplace practice, and presence, summarized in Table 4.2. The connected elements that emerged from data analysis are summarized in table 4.3.

Table 4.2
Themes, subthemes, and descriptions

Main themes and subthemes	Description
Social Experience	The objective, external, dynamic interaction of the individual with their work environment and coworkers.
a) Technical-organizational environment	The types of technology, the division of work, the content of work, as well as structural opportunities for autonomy and for social interaction.
b) Social structures	The cultural communities encountered in the work environment consisting of expectations, behaviors, and norms.
c) Interdependence	The degree to which team members are dependent upon the input, output, or collaboration of other team members
Emotional Experience	The subjective, individual, inner world of feelings, thoughts, and behaviors in dynamic relationship with the work environment.
a) Subjectivity	Subjectivity is the emotional and psychological perceptions that take place in an individual's mind.
b) Workplace practice	Our experience of ourselves as working individuals and the behaviors we adopt to complete tasks.
c) Presence	"Being there," the degree of salience of the other person in the interaction and the consequent salience of the interpersonal relationships.

Table 4.3
Connected elements and descriptions

Subthemes	Connected element	Description
Technical-organizational environment	Opportunity for Social Interaction	The degree of social affordance in the telecommuting work environment, providing opportunities for telecommuters to connect and build cohesion with team members.
	Communication Infrastructure	The tools and technologies available in the work environment for communicating with team members.
Social Structures	Perception of Others	The concern that telecommuting is stigmatized, and that co-located colleagues assume telecommuters are shirking, and doing less work.
	Inclusion	The degree to which telecommuters are provided with the means to be included, and to experience being a valued and integral part of the team.
	Maintaining Relationships	The efforts required to build and maintain relationships with colleagues, and to connect in personal and meaningful ways.
	Organizational Culture	The values, beliefs, and stories that an organization uses to define itself, and the norms, expectations, and behaviors that characterize them.
Interdependence	Interaction	Formal and informal communication and collaboration between team members.
	Delayed Feedback	The experience of uncertainty telecommuters reported when they did not receive timely communication and feedback on their performance and day-to-day activities.
	Manager Awareness	The degree to which telecommuters perceive that their manager is aware of their work and contributions.
Subjectivity	Personal Identity	Education, experience, background, and life situation that individuals perceive as constituting who they are as individuals.
	Blending	How telecommuters mix work and home responsibilities over the course of a day, while balancing responsibilities, and prioritizing obligations with less focus on time.
	Bright lines	The firm boundaries between work and home and hours available.
	Effective Communication	Unambiguous communication delivered through the appropriate medium for the message.

Presence	Involvement	Periods of presence when participants felt involved in the virtual space in meaningful ways, and experienced being together with others.
	Realism	The degree to which a particular medium, for example, web conferencing or instant messaging can create an environment in a virtual space that contains all of the elements of an in person setting.
	Social and Emotional Interaction	A feeling of connection and meaningful interaction that is informal and authentic and contributes to a sense of presence.

Social Experience

The social experience of working remotely in interdependent virtual teams was the first theme to emerge in the analysis of the data. The social experience reflected the dynamic interaction of the individual with their environment and their coworkers. In the unique context of telecommuting, the social experience was particularly salient for the participants in the study. Where participants reported that social dimensions were more or less taken for granted in co-located work, they became increasingly significant when individuals are separated in time and space from their team members. The external social level of the experience of telecommuting working in virtual teams consists of two environmental factors in dynamic relationship to each other. On the one hand, there is a technical-organizational environment. On the other hand, there is the social structures of the telecommuting environment. In order to analytically separate the dynamic components of the social experience, subthemes, and connected elements were identified from the participant's perceptions and lived experiences.

One participant in the study, Elaine, used a metaphor that nicely captured the essence of the social experience as reported by all of the participants in the study:

> When first starting out, working from home, I felt like I was looking through the wrong end of a telescope. Everything seemed so far off, every interaction was distorted. All of the technology felt clumsy to use, I had no confidence in it. But with time, and this wasn't so much of an ah-ha moment, but with time I came to realize that I was looking at things the wrong way around. And just by turning that telescope around everything was clearer and felt closer.

Technical-organizational environment. The technical-organizational environment describes the functional components of the work environment. It consists of externalities that constitute the work and how it is to be accomplished. It is comprised of the tools and tasks of everyday work, how they are arranged, and what affordances they provide the individual telecommuter in the process of achieving their goals. The connected elements of possibilities for social interaction, and communication infrastructure emerged during data analysis.

Possibility for social interaction. The possibility for social interaction loomed large in participant's social experience. For many, opportunities for face-to-face interaction improved their experience. Formal meetings on an annual basis, or at the kick-off of new projects provided opportunities to interact socially. Tammy described the social interactions with her team:

> I got a chance to interact with [the team] over a two-day period and it really just immediately established the relationship for me. And several of them, we kind of have a center of gravity here in [metropolitan area] so several of them were people that I have subsequently been able to spend other time with, we've had other convening both professional and more social. I feel like I have a really good sense of the people, and a relationship that's based on real life. It's been pretty seamless honestly.

Likewise, Pete identified opportunities to meet team members face-to-face, and to have interactions that were about more than work:

> I spent a week there—and I still go down there once a quarter and spend three, four days—there are a number of people that I work with that are in various different departments and I made an effort to schedule an hour meeting with each—and I still do when I go down. It was just to see them face-to-face, and even now, it doesn't have to be something specific, or to address a situation. It is more just to meet them and say "what's going on?" "what's changing with you."

Others reported a lack of such opportunities, and found ways to provide for social interaction on their own. Ron recalled how his team created virtual spaces outside of the workplace context: "We did set up Facebook, which let us set up non-work conversations where we share personal stuff, family photos, and it brings an element of fun, a way to know each other as more than just our positions."

Participant's with neither face-to-face nor social media enabled opportunities for social interaction relied instead on the communication infrastructure of the organization to enable social interactions.

Communication infrastructure. Participants commonly expressed the centrality of the communication infrastructure they were provided, and the degree to which it shaped their social experience of the technical organizational environment. For participants that were provided with internal networks for communication, and identified means and modes for communication, the infrastructure worked to enhance their experience and reduce anxiety. As Elaine explained, her organization provided what she needed:

> The company provides all of the basics as though I were in the office. So, I can pick up the phone, or we just get on Skype to have a chit chat conversation same as getting up from your desk at the office and go and see someone for coffee or something.

Web conferencing applications were identified as a means to connect with team members in a social capacity. Commercial video conferencing applications such as Google hangouts, Skype, and Lync were provided by the organization and were employed to interact in informal, social ways through the use of real-time audio, video, and screen sharing applications. Erin described how she used the platform for social purposes:

> I think [Google] hangouts has really helped because you don't miss out on the office gossip, or someone sending you a chat when someone gets a haircut that looks funny, you know things you take part in at the office that make your day go by so fast. Just that being with other people and laughing and people who are doing the same thing you do and just getting through the day. So, to answer your question, this software application has gone a long way to making me feel that I am still part of the team.

Other participants reported having to rely on their personal cell phones, and ad hoc solutions for their communication needs. Alex described the anxiety that this could cause:

> I think of a time when I didn't have a landline and had to use my cell phone. It was so anxiety provoking, because my service was spotty. Not a huge deal on one and one calls, you just dial back, and say sorry. Or when you are just a participant, you dial back into a conference call. But when you are the host, and 10 or 12 people are on, and the call drops, it is so embarrassing. I would find myself sweating it out the whole time, waiting for it to drop. I made it a major deal in my mind, but it really wasn't. And I think a lot of time that I made myself anxious, it was really a non-issue. It was just me winding myself

up for nothing. Lots of little things like that where you worry about how you look and what people will think, and you blow it out of proportion, because it really isn't life and death. But I still asked for a dedicated landline.

Sara experienced the same anxiety, and was reluctant to ask the organization to address it. She explained, "Sometimes, calling vendors, calling managers, and I get a lot of dropped calls with my cell—which causes me anxiety—and there is technology that can help but it is expensive, so I feel kind of odd going to my manager to ask for that."

Participants related how the tools and technology they used shaped the social context and shaped their experience of telecommuting in virtual teams far more than the process of completing individual tasks or projects. The social structures in the telecommuting environment that they encounter significantly impacted their social experience in both positive and negative ways.

Social Structures. The social structures are in dynamic interaction with the aligned social level experience of the technical-organizational environment. It encompasses the cultural communities that arise in organizations and virtual teams, and how they are experienced by individual telecommuters. The social structures in the telecommuting environment are where rules, roles, and expectations are formed, and the processes by which telecommuters receive implicit and explicit cues from their organizations and coworkers. For the participants in this study, the connected elements of perception of others, inclusion, maintaining relationships, and organizational culture were the most central to their experience of the social structures in the environment.

Perception of others. Participants identified a critical concern with the perception of others as central to their experience when telecommuting in virtual teams. This concern created feelings of uncertainty and fear for many. Lauren related how this fear influenced her work practice when she was starting out as a telecommuter:

> Maybe this was just my fear, but I was afraid of people's perception that I was just sitting down watching soap operas or something. When nothing could be further from the truth. But I do recall being mindful of having a presence at my computer most of the time, and watching the minutes when I would eat lunch to make sure I wasn't one minute over 30 minutes. I have really relaxed about that over the years, I'm not trying to abuse it, but when it takes me a couple of minutes extra, I just don't worry about it.

Likewise, Sara, echoed this concern, particularly when she was new in her role:

> I remember when I first started it was the...just being really kind of paranoid that everyone I work with was going to think that I was slacking off. We use [Google]Hangouts for chatting within the team and people we work with so I was always so paranoid to be away from my desk and not be there, because you think that if someone sends you a ping and you don't answer right away...what they must think you are doing. Watching TV doing all that stuff, so I think that is what I felt most strongly about when I started working...It was excitement because I was working from home that's always such a…such a privilege to have a position where you can work from home but also just that fear that...you need to make sure that everyone on your team knows that you're 100% available and that it's just like having you sitting right next to them.

Ron related a concern for the perception of others to broader communities beyond his own team to the context of his organization and his acquaintances outside of work, framing it in terms of the flexibility many suppose that he has:

> But that flexibility, for me, is very minimal. A lot of people that I talk to, when they hear that I work from home, expect that you are sitting around watching TV or doing the laundry…but that just doesn't happen.

Erin (the youngest participant in the study) also wondered what perceptions people had of telecommuters and felt that there was a general stigma against them:

> I think there is a stigma of people who work remotely and I think...it's probably a generational stigma, and I think you see less and less of it as you get closer to the millennials and certainly Gen Z's. But there are probably people-and I have not personally experienced it because our organization is so supportive of it but there are probably people who have flexibility arrangements at remote work locations that really feel like they need to prove that they are working. That they are doing just as much as their counterparts in an office is doing, even though they are not in an office.

Participants that had co-located coworkers expressed far more concern about the perception of others compared to those working in teams that were composed either entirely, or more than 50% of telecommuters. For those who were in the minority, concern relating to inclusion was an important aspect of their social structures in the telecommuting experience.

Inclusion. Inclusion was a common experience identified by eight of the participants in this study. These teams often had a higher percentage of co-located coworkers. Lauren recalled a particular incident that led her to feel that she was not included:

> The one that comes to mind was a [Major Company] project, and I still to this day have no idea what that was or is. But usually somebody would make reference to it and they'd quickly follow up, "well I think we all know about that one right?" And I'm thinking I don't know anything about this. And I remember picking up the phone and calling up another team member and saying what is this project they are talking about, and she was as equally in the dark as I was—another remote worker—but she was very tight part of the team and she didn't know anything about it either. So, there were times like that, where there is so much conversation that takes place in passing and on a day-to-day basis you miss out on. Unless someone makes a real effort to keep you in the loop, it's pretty easy to be left out. You are left out of all kinds of informal, casual conversations, that sometimes end up being pretty critical. And feeling like you are a valued member. I haven't always felt valued. When you don't see someone every day, it's easy not to think of them at all. I feel that way sometimes, particularly when we have all staff calls.

Pete had a similar experience when telecommuting was still a novelty at his organization. But things have changed, and for his team, telecommuters constitute the majority. He explained:

> But with our group, we are very together. There are four other teleworkers in our group, so when we have a meeting there are five teleworkers, when we have a unit meeting, so five teleworkers from a distance and maybe two other people in the room together. I feel very included in that, and my manager does a really good job, and we have been doing it

for a while and I feel very comfortable. They take the time to set up the video in the room and we turn our videos on.

Rick experienced a lack of inclusion that left him feeling hurt when he did not receive deserved recognition, but weighed it against the positives of his work arrangement. He explained:

> Do I have moments where I feel sad and alone? Of course, for example, we have a supplier that works in IT, which is my group. So, I [got] an invitation yesterday for a Supplier Sponsored dinner to honor me, because I'm the person they need to kiss up to, and I was unable to attend. And it felt kind of cruel and unusual being that they know I work remotely, but you know, those things are just not very important in the grand scheme of things. What is important is being here and having the opportunity to work in a really good position, in a job that still motivates me, and every day is a little different and then still have the priority on my home and my kids and my wife.

Participants also spoke about the importance of making a concerted effort to maintain relationships in the social environment of telecommuting and working in virtual teams. They addressed the role of actively maintaining relationships to avoid the perception of not being included.

Maintaining relationships. Maintaining relationships from a distance is challenging for telecommuters. Eight participants spoke about the need to be aware of the importance of relationships, and to take the initiative to actively reach out. Lauren spoke about her efforts to maintain relationships with her team mates:

> I think that you also have to be able to conduct a lot of outreach. If you are more comfortable walking over to someone's desk and talking with them face-to-face, this

work arrangement is going to be very challenging. You have to get used to picking up the phone, and maybe interrupting someone's work, or trying to reach them by email first to set up a phone call—and to be able to sort out what other people's communication preferences are.

Participants expressed a need to take the initiative to maintain relationships. Pete identified a specific change he had made to his work practice as a telecommuter to improve relationships with teammates:

I feel like I have a lot better of a connection with the people I work with now, and I didn't feel any connection when I started, and I am probably more of an extravert, or maybe an introvert/extrovert. But I do a lot of networking with coworkers and others in the company, and I'll have a lot of people I'll check with, and say "hey, you know I'm doing this" and it is about learning from them, but it is also about relationship building. So, I have people I can call up when I have questions or issues, and past coworkers who check in once and awhile. So, keeping relationships going whether it be virtually or outside of work, getting out.

Tammy also highlighted the importance of being intentional in her approach to relationships as a member of a virtual team:

I would say it would be about being much more intentional about communications and interactions. So, there is a lot you can take for granted in terms of relationship building in a physical environment. I think there is more effort and intentionality required to make, or to build those same relationships or the same trust in a virtual space. It's easy to sort of not do anything extra to make the relationships feel vibrant...so you don't make that extra effort, that can lead to a sense of isolation.

For telecommuters working in virtual teams, relationship building becomes a critical component of their experience. Given the context of constrained communication, and limited or no opportunities for informal social interactions, participants reported a need to be deliberate in cultivating and sustaining relationships with their team members. Participants also pointed to the culture of the organization and its ability to provide support, and legitimization for the flexible work arrangements.

Organizational culture. The value that is assigned to employee-focused work arrangements exerted a powerful influence on participants' perceptions of how they fit in, and how they were valued by their team, managers, and organizations. Pete felt that upper-level management was not wholly supportive of telecommuters. But noted that change was coming as virtual technologies improved and were adopted more widely across the organization even by co-located teams. Elaine was convinced that forward thinking organizations should come to embrace the arrangements. For her, it was a question of employee satisfaction, and recruiting and retaining top talent as she states:

> I mean the types of benefits that organizations can offer to remote employees make a very big difference in the satisfaction of the employee. You have to have the technology in place, and you have to have the infrastructure in place, not just through email, but being able to video conference, being able to Skype, in being able to print to any printer anywhere in our offices around the globe. Having a business support center so I have an electronic admin that books everything for me. We've got a lot of benefits here so they make it very easy to ensure that you are able to balance all of your personal needs and when I was first hired and I was going into the office every day, I remember having an interview with someone and saying if we weren't to continue living in this area "are there

mobility options?" and she said "I don't care if you do your job poolside Bermuda, it does not matter to me where you do your work as long as your work is getting done and your team members know that they can count on you and know how to get in touch with you if we need you that's what's important here." So, I think having that really open culture makes a huge difference, so, culture and the technology and the benefits.

Erin felt the same about the culture of her organization, and how it worked to empower individual telecommuters and enhance their social experience of telecommuting in virtual teams:

> The company is super supportive of flexible work arrangements. The culture is technology enabled, and global, and we all have the sense that we are part of a culture that is forward thinking, puts people first, and cares more about what you produce not how you produce it. And for our team, I think we feel empowered by that.

Eight participants identified the influence that organizational culture had on their day-to-day experience. The culture of the organization was the backdrop for how they viewed themselves in relation to their work that manifests itself in small ways and large, and directly enhanced or inhibited their feeling of belonging.

Interdependence. Interdependence, or the degree to which teams rely on each other to create a shared work product was an important theme that emerged from the majority of participants. They spoke about how they worked together with team members to navigate the unique challenges of being separated in time and space, while depending on each other to complete projects. Alex explained how interdependence shaped his experience as a telecommuter:

> I think that there is something about the substance of the work that makes the experience of telecommuting different for different folks. If I was working in isolation, completing

> this or that task without the need to collaborate with the team, I would feel more alone, or have a more difficult time motivating myself, or get bored. But the give and the take, the accountability to everyone else, and the sense that my contributions are valued, and important to everyone's success, makes me feel connected, and part of something. It took a while to appreciate this, but now I wouldn't want it different.

Participants were in agreement that the experience of interdependence intensified many aspects of telecommuting working in virtual teams. In particular, interaction with team members, the dangers of delayed feedback, and the role of management awareness were important factors in how they experienced interdependence telecommuting in virtual teams.

Interaction. Participants had mixed perceptions of interaction—both good and bad—with team members and managers. All participants noted a difference between individual tasks and interactions involving collaboration. For instance, Lauren was very vocal about how the lack of regular interaction made her work more challenging:

> When it came to telecommuting, I didn't have a burning need or strong desire, because I knew it would be challenging in terms of keeping myself mentally focused all day long. Because when you are not around your teammates, and you don't have those visual reminders all day long, and regular interaction, sometimes to have that sense of urgency that you have when you're in the office.

Ron felt the distance as a telecommuter when he tried to make meaningful contributions to his team, but without ongoing and regular interaction, he struggled to find ways to make his teammates and manager value what he brought to their projects. He explained how he felt about it:

> I'm kind of an introvert. So, I think I am a good listener. When face-to-face, I think people appreciate someone who is listening and not just thinking about the next thing they are going to say. But, from a distance, especially when it is just on the phone, I feel like, a bit nervous or something, A bit like I'm not [there], like I can't just pipe up, and [I feel] that the conversation is moving along, decisions are being made about who is doing what and when, and I'm not contributing. When I'm not interacting together, I worry that my contributions get lost.

Quality interactions were often cited as the basis for high functioning and productive teaming. Valerie valued having a process for interaction on projects that was well defined and understood by all:

> We interact through a lot and use tools such as OneNote or network drives to log status on the different tasks of the project. This way each stakeholder knows the status of her/his and others' tasks. For example, on one e-learning course, there were eight or nine people internal and external to the organization working collaboratively. We developed and used a detailed spreadsheet for each phase of the project, each step and every task. Every Friday, each of us had to update the spreadsheet that was shared on a known location.

Structured interaction was preferred by participants that required the effort and input of teammates to complete their tasks. In the virtual environment, participants experienced stress and strain when they faced delays in interaction in spite of the interdependent nature of the work.

Delayed feedback. Participants that were highly dependent on the work products, inputs, or outputs from teammates were the most concerned with the impact of delayed feedback on their day-to-day work. Erin recalled incidents when she was "in a holding position" waiting to hear back from team members, and feeling frustrated. Sara shared the frustration:

> I work so early in the morning there's nobody to ask so I sit here by myself and I have to make sure that I either research the question myself or wait until everyone gets online. That can be very frustrating and make you feel alone. If you shoot someone an email you can expect to have a long wait, and if they are not online, or they're doing calls, or meetings, you have no choice.

Rick felt that team meetings that were held once a week were not sufficient for the pace of project plans:

> In a virtual environment, the ball is just in the air for way too long. You know, you throw it out there and you can't do anything until someone catches it. I never like it when you share something that you need a decision on Tuesday and then have to wait until the following Tuesday to get feedback. It makes you want to go it alone sometimes, because the timeline isn't moving back, and we are trying to be really consensus driven and there are times when we just need to raise the issue, make a decision, and move on.

In these cases, participants spoke about manager awareness of the group process, and when they should step in. But six participants further reported that managers were often the greatest culprits of delayed feedback, and many had concerns that their managers were unaware of their contributions and day-to-day activity.

Manager awareness. Manager awareness represents the degree to which participants felt valued and recognized for their contributions. Erin expressed this sense of doubt that many participants reported:

> Sometimes, not always, but often enough, I feel like my manager has no idea what I do on a day-to-day basis. He is outcomes-oriented, and doesn't get into the weeds of the process, but I feel like a lot of what I do is completely under the radar, because he doesn't see it, and doesn't concern himself with it.

Pete framed manager awareness in terms of projects and workloads, and the things that fall through the cracks:

> So, this is something that may be true with any job, remote or not, where you're killing yourself with something that's a really big deal and you're so into that, and the back and forth with the team, and then you're done with that and you're back to doing things that maybe nobody even knows you do. You just have this doubt that your boss knows what you are up to now, and when you're not with your boss and you're not with your coworkers you experience all of those ups and downs by yourself.

Managing telecommuters requires a different approach to leadership according to the participants with management responsibilities. Tammy, discussed her first impressions and second thoughts when she took on a role leading a virtual team:

> I like to say at that point I don't know if I want to manage by email. It's just that there's a certain sense where if it's about motivating and inspiring people and building a team you do really need that in vivo, the virtual is just, its inadequate.

But she began to feel differently as she saw the importance of her awareness for the individuals in her team, and discovered approaches for recognizing team and individual achievements in the virtual environment:

> Initially, very first meeting doing a little go around and I said "I've figured out my role is going to be on day two, I said "I'm going to be sure we have fun, too!" Because you have to have that, you have to have the warmth the vitality, the things that, again, come more naturally when you are person to person with somebody, or at least they should I think. Focusing not just on the team, but on connecting on the individual level, one-on-one. Just that sense of being connected and engaged. In a virtual environment, it's...you have to mind that. You have to keep bringing it. And that's why our little chats, one-on-one, and I'm a little corny but, that's why that tickles me, you know Go! Go! And the sort of the creation of energy around we're accomplishing something together and everyone feels part of something bigger than themselves and that's...seems to me... that's what can be lost if you are not intentional about continuing to bring it forward.

The social experience of telecommuting was a difference in kind, and not just degree, according to the study participants. The individual's experience of the elements of the technical-organizational environment interacting with the social structures in the telecommuting environment, related to their experience of interdependence and shaped their workplace practice. These themes emerged from their interactions with the workplace environment on a social level. On the individual level, participants consistently identified the emotional experience of telecommuting in virtual teams and described the elements that shaped the experience.

Emotional Experience

The emotional experience of working remotely in interdependent virtual teams was a theme that emerged from the analysis of the transcripts of each participant. The emotional experience encompassed far more than the range of feelings—from fear and frustration to gratitude and joy—to encompass how they thought about themselves, how they behaved in the virtual environment, how they made meaning of the experience, and how they connected to their coworkers in an authentic way. The connected elements identified in the data analysis included personal identity, workplace practice, and the individual level experience of presence.

Subjectivity. In contrast to the social experience consisting of objective factors in the workplace, the subjective experience is emotional and personal for the participants in this study, and takes place in their minds. Participants had powerful responses to the role of intrinsic motivation, their feelings both fleeting and recurring, and their conception of their personal identity impacted the emotional experience of the phenomena.

Personal identity. Participants spoke about how and why they became telecommuters, and elements of their background, experience, and family life that they saw as defining their personal identity in opposition to the workplace identity. Nine participants identified family-related responsibilities, and feelings of obligation, as a major factor in their decision to pursue a telecommuting work arrangement. Five participants cited young children in the home, four participants spoke of aging parents, and all of ten participants described tensions in their lives made worse by long commutes. Lauren expressed the view of many participants on why a telecommuting arrangement became desirable:

> It was really for practical reasons, family matters, that we made this arrangement. In our case, we wanted to be closer to family and my parents who are getting older. Periodically,

one or the other would have health issues, and between juggling that and my daughter and daycare, and home responsibilities…I felt like this was a chance to bridge all those gaps.

Elaine also identified a need to establish a better work/life balance as decisive in her seeking to telecommute:

I live outside [metropolitan area] and we have quite a bit of traffic, so the commute would be 45 minutes on a good day up to an hour each way. So, in the morning I take the half an hour I can have for exercise and myself and then get right to it at work and then in the evening it's an extra 45 minutes or so that can be dedicated to work as opposed to having to get on the road to come home and pick up the children and have time after daycare for shopping, doing laundry, putting dinner on the table. Just so much run, run, run.

Pete was the single exception among the participants, as he had not actively sought out the work arrangement:

It's not that I sought out a position from home, what really generated it, was when my location closed, and I had an opportunity from a corporate standpoint. So, I am a corporate employee in this position instead of a field employee like I was before. You could say that my old job was proximity based, right, I needed to be where I was in order to do the job, but now where I am matters less, I could be at corporate, but they allow me to do it from home.

It is worth noting here that Pete was also the only participant to express frankly that he did not enjoy telecommuting in general, "I'd go back into the office tomorrow if it was still there."

Feelings. Participants experience a wide range of feelings as telecommuters. With regard to the work arrangement, eight participants reported feelings of gratitude and appreciation on the one hand, for being given the opportunity, and on the other hand, aspects of the arrangement elicited feelings of isolation and doubt. Rick spoke of a generalized sense of anxiety attached to lack of feedback and interaction: "I just start thinking that I'm missing out, or losing out on opportunities." Pete felt that isolation was a feeling that was inseparable from a telecommuting work arrangement: "I think you always feel a sense of isolation telecommuting, every day." Each participant experienced periods in which they felt isolated and alone, but related ways in which they were able to cope. Erin weighed the upsides of telecommuting against the times when she experienced a sense of isolation:

> Do I have moments when I feel sad and alone? Of course. But I get to the end of the day, and resolve to start fresh and new tomorrow […] Being home for the kids being here in the morning making lunches and seeing everyone off to work and without missing a beat, not missing anything in my position, those things would be lost if I was onsite at company.

Tammy equated her sense of isolation to nostalgia for her former positions, but captures the perceptions of many of the participants in focusing on what they gained versus what they had lost:

> I get up this little bit of nostalgia of yeah you know "I used to be an [important] player" and now I sit in my PJs. So, there is a bit of that... like I miss the grown-up-ness of the corporate environment. I think you have to take yourself very seriously and show up even if it is just you watching...you know what I mean? Show up for your job and it used to be a huge novelty to not have to get dressed up, and now it's a novelty to get dressed up.

> There are days where, I'm, again, a little nostalgic for that but I would not trade it for the world because this way I can have a fully balanced work life and community service and to me personal life, work, and community service are the three legs of the stool of life that I sit on. I would not be able to do anywhere near the amount of community service I do, not have the kind personal life that includes not just family but exercise and fun.

Gratitude was also a common feeling experienced by participants, with nine (Tammy, Sara, Erica, Alex, Ron, Rick, Elaine, Lauren, and Pete) identifying it is as the main emotion they experience as telecommuters. Elaine put it plainly: "I am very lucky to be in this position and do the family things that I do during the work day and still be able to cover everything at work." For some participants, the sense of being in a fortunate position provided them with the intrinsic motivation required to flourish in the virtual environment.

Motivation. All the participants identified the role of motivation in their emotional experience, specifically the need to find an internal means of motivation in a context in which they were not physically present with their coworkers. Ron characterized the experience as a "struggle":

> It can be such a struggle to get up and get focused and keep moving along when you are all by yourself. When a project ends is the worst. I found times [when] I was smoking cigarettes out in the garage, and when I went to the office I never smoked during the day. But you know…just kind of drifting when work was in a lull, and having a hard time ramping up for the next thing. It feels like it's all on you and you really have to find ways to motivate yourself.

Valerie also spoke about motivation as a challenging aspect of her experience. From her perspective, motivation sprang from having accountability and goals to achieve:

> There is a lot of autonomy in my role, and the flexibility of the work arrangement, need to be balanced against accountability—at least for me. I need some structure, routines, milestones. That's what keeps me motivated. My accountability to the team and hitting deadlines, and doing quality work.

The ability of participants to self-motivate and to balance the autonomy of telecommuting with the accountability toward the larger goals of the team directly impacted their day-to-day workplace practice.

Workplace practice. Participant's workplace practice encompasses the interaction of their personal and work identities in relation to the context for work consisting of technical-organizational and social structures. Their workplace practices were often informed by their emotional states, and promptings from their feelings. This was most pronounced in the elements of the work practice as telecommuters working in virtual teams, and directly related to how they created boundaries between work and home through bright lines. The vast majority of participants (Tammy, Sara, Erica, Alex, Ron, Rick, Elaine, Lauren, and Pete) identified a blending between work hours and home responsibilities. Erica shared the experience of multiple identities that characterized the emotional experience for the participants in this study:

> I have never really felt a conflict between my family and my work roles. I switch hats on and off throughout the day, and it feels pretty seamless. So, I'm managing people one moment, then I'm getting dinner prepped the next. I'm responding to an email from a client, then I'm throwing in a load of whites. I'm picking up the kids, and I'm in the grocery store on a conference call. But it's not like shape shifting from one to another, it's like having this single role with a bunch of hyphens in front of it…or my husband

likes to say when people ask what I do that I am an executive director slash chief cook and bottle washer…and that's literally true.

Bright lines. Participants consistently referenced the role of having bright lines between work and home, and hours on and hours off. There was variation in the extent to which participants pointed to the need for bright lines, with eight participants addressing it. For Sara, she felt she had to overcome her own perception that she needed to work longer because she was working from home. For her, it was a question of managing expectations and establishing routines:

> You need to be very careful working remotely since everything is online and ready to go and my hours are 7-4 central standard time but I always find myself online still at 4:30 central standard time sometime 4:45, so it's really hard to shut down for the day...more so than when you work in an office environment. Because you have to be home, so you shut it down and go home, you have that separation, but when you work remotely your job is always there, it's always on, you feel like you are expected to work more often and more frequently. Now for the end of the day, drawing bright lines between when to shut down, like I mentioned, is hard in my role with so many moving parts and pending things and if I were to not take action on something it could cause major stress and work for somebody else so there are things I stay on for, but I would tell someone interested in remote work to have a cut off time so if your time is 5 and its 5:15 then it's time, and it's not like there [are] heart surgeons working remotely most things are not life and death or can't wait to the next day.

Lauren spoke for other participants when she noted that she attempted to have bright lines, but also stay up on things to save themselves problems by missing anything important:

> For the most part I can draw a line and say this is the end of the day. But to kind of cover my butt, what I do is I'll leave the computer on, in case anything comes across, and at some point, I'll get back to shutting it down.

Tammy was unique in that she was paid by billable hours, so she felt more empowered than other participants with respect to when she was on and off, without worrying about keeping busy with "make work" to fill out the day:

> With the bleeding that's happened and especially I think really the last 15 years, I'd say that when it became really clear that everyone had email on their phones, you just really were always available. And so, there was a sense that the lines had just completely blurred, and now I feel like, because of this hourly pay thing, like you know there are just bright lines again which is lovely because then I don't feel guilty when I'm not working.

Participants whose work was more reactive to things that came up during the workday, or whose teammates maintain regular hours, were more concerned with establishing set hours, and having bright lines. While those whose work was more globally oriented and project-based, offered an alternative take on working hours and home and work divisions, favoring a blending of personal life with workplace identity and practice.

Blending. The concept of blending work and home life as well as work hours was expressed by many participants that attempted to structure their work alongside other personal responsibilities. Elaine related one of the most extensive views of blending in the study:

> There was a big realization for me—and I do think this is the case whether I'm in an office or not—It's not balance, I'll give you an example, I was getting really mad at myself because somebody gets sick in the middle of the day and you get called out of

work and you've got to go to pick them up and then you got to come home and that's my work time I'm supposed to be working from 8:30 to 5:30, that's when I get my work done, and now I've got family obligations. Or at night, I've got something that just taking me a little extra time, and it would be killing me because, to be on the computer and I want to be with family and that's my family time, so when I finally said: "you know what, it's not a matter of you've got 9 hours of work time and 5 hours of family time each day, it's really 24 hours in a day figure out how you're going to manage it, and blend it all together." It's not sunlight's out…I should be at work, ok, now it's evening and I should be at home. I think that perspective is maybe what enables me to be a successful remote worker. To have that full-on blend. So, I don't mind getting on at night if I've got to do something at night, because I did go do something for myself during the day. Or sometimes you just have to put in 12 hour or 13 hour days because you've got a big project and the ability to do that at home in my sweatpants after having been able to kiss my children good night first--is a nice thing. I think that might be a perspective thing.

Sara had a similar view on weaving together home and work responsibilities:

For me, a morning break would consist of sweeping the floor or cleaning the bathroom or taking the dogs out or vacuuming, so those will be like 5 minutes here 5 minutes there just to get up, just to step away, and I'll take my phone with me just in case some calls come in. I get to take care of my home and my family for those little stolen five minutes here and five minutes there is for my family so it creates a good work/life balance for me. Being here when the kids come home from school being here for...those things that people are frustrated about all the time when they're at the office you know, you've got someone coming to clean the chimney then they've got to go home and miss work and all

> those things still happen when I am here so people talk a lot about work life balance, and this is a strong balance for me every day I am very lucky to be in this position and do the things that I do during the work day and still be able to cover everything at work.

Erin represented nine of the participants who noted how the little opportunities to manage their homes was a huge benefit of telecommuting:

> I see a lot of benefits going in flipping over a load of laundry and getting all of those things done that otherwise I would have to find time somewhere else to do is so difficult. I often think, jeesh, if was in an office I couldn't, I would have to come home at night and do three loads of laundry, go grocery shopping, find time to exercise; it would be just…These are the things that I get the luxury of doing given my work situation.

Participants in this study were challenged to find means to understand and be understood in the context of constrained communication in the virtual space. Effective communication was an aspect of their workplace practice that participants worked to continuously improve.

Effective Communication. An important aspect of workplace practice for participants in this study related to the potential for misunderstandings between their teammates or with their managers. Constrained communication and the lack of non-verbal cues or tone in written communication was a factor that led many participants to devise deliberate strategies to overcome it. According to Erin, effective communication was a skill that develops as she stated during the interview:

> A lot of what I do is talking with people, so when I'm talking with people, a skill I think is critical is friendly communication that allows you to communicate with them and them to communicate with you without worry of making a mistake or, you can chat and work through things and come to mutual solutions. And I don't know that everyone has that

skill. I know there is a better word than friendly, but I'd say that type of open, putting people at ease when we have meetings or discussions and we are able to get a lot more accomplished that way. It's less formal.

Rick made a point to emphasize the realities of communicating to his team, and the possibilities for misunderstanding:

Thinking of written communication, and here is a discussion I've had with my group. That you can't hear tone. So, it's important to know that when you create email, or you create communication, and when you're reading it, don't read too much into it, because you can't get tone from it—and it might seem unprofessional, but emoticons help, or a just kidding, or can you believe this, it helps with the tone. It may not seem professional, yes, but you have to be careful how you use those things. When you're working those can help.

Pete's team systemized their approach for effective communication by employing multiple modes and confirming understanding:

So, communication is verbally and then in writing. Here's what happened, and here's what happens next in order to move whatever project we are working on forward. And that was a thing at the beginning, everyone would go off and when we came back together things weren't being accomplished because there was a lack of understanding.

Tammy provided a management perspective on how she was able to establish effective communication patterns when her team first came together:

I brought in a lot of Myers-Briggs stuff, and other exercises to really make sure that people understood the different styles, because when you are communicating remotely it's easy to misunderstand people's intent, and miscommunicate in other ways so I really

wanted to be intentional about what we understood about each other. So that people could comfortably work from a distance, and not take offense or be distracted by perceived slights and that kind of thing.

How participants felt about their workplace practice for telecommuting highlighted the many ways in which their personal identities and workplace identities interacted to shape their workplace practice. They were seeking balance, devising ways to blend all of the factors together, and focusing on communication. The factor most often cited for positively impacting how they felt about their work arrangements were periods in which the technology receded into the background of their interactions. They reported that distance and time became less relevant, and they experienced a very strong feeling that they were together with their coworkers in the virtual space.

Presence. Participants did not always have an exact word for it, but they often spoke of a feeling they had of being there in the virtual world. In those moments, they reported connecting with teammates in a way that made the technology transparent. Many experienced these feelings, enabled by software platforms, as the most meaningful interactions that they had with their teams. Particularly, interactions that contained a degree of informal interaction.

Involvement. Participants felt that they experienced periods of presence when they were involved in the virtual space in meaningful ways. Some participants struggled to articulate what this meant for them. For example, Ron knew when he felt really engaged with his teammates and the work, but captures the illusiveness of presence and involvement for other participants as well: “It’s like, there’s no one way I feel more or less involved, kind of hard to put a definition to, but remember what that judge said about obscenity—I know it when I see it.”

The majority of participants, seven out of ten, cited team meetings as instances of high involvement for them. Alex shared how his view of the meetings evolved as he began to appreciate a feeling of involvement with his teammates:

> Well, you might think that a weekly check in or accountability meeting would be a drag. But we all get together on Friday, and we pull up each project in our tracking form, and we walk through everything that is on deck, in process, and complete. I used to feel, and not just me, other team members gave me the same vibe, a bit defensive or something. Like taking it personal if something you working on goes to yellow from green kind of thing, like explain yourself. But I began to see how great it was to be in the real time with team members, to have a look at the high-level view of what's cooking, and to kind of commiserate with team members about challenges, slow responses on reviews from clients, cost overruns on contractors, unexpected issues that sort of thing. But the majority of the meetings is positive. We are a high performing team, and we are driving major revenue, so we all have a bit of swagger about it. We pump each other up about the week to come, and our graphics guys always find the time to present some embarrassing Photoshop pictures of team members, you know, heads pasted onto bodies in hilarious contexts, that sort of thing.

Web conferencing platforms were cited by all participants as times of increased involvement, in which they really felt together with teammates. Tammy expanded on this sense of fun, casual connection:

> So, we have Skype meetings that are not videoed, they are still pictures but we are all there, and there's a little mic that you can see when people are muted and you can see who's talking and some of us are just blue man profile but others have glamour shots

because these are young folks, and I've got to get my profile picture in there. I keep joking about it but it's like the older people don't have the profile but the younger ones are like wind swept, looking good, but what happens is we have live chats and these are bi-weekly workflow meetings, and so it's the President or VP talking and most of the rest of us listening, and I do some of the presenting sometimes and they've had a couple of times just run the meeting and there are four of us that are the leadership team and there's this running chat alongside the screen that is, when somebody says we got this close, and describe the close and you see: yeah "kudos" and there's all these woo-who emoticons and emojis going and everything it's so cute it's total virtual team, right? But people have really cute animated bitmojis and emoji's and it felt...I don't know...it felt fun to me, and it is fun.

Participants contrasted these experiences with instances where they felt marginalized on calls or meeting where other team members were co-located, leaving them feeling a lack of involvement with teammates. The web conferencing supported presence in which the technology became transparent, and participants felt that they were really together in real time in a virtual space.

Realism. Sara spoke about times in which she experienced a sense of realism in the virtual environment. These were moments when the virtual environment felt non-mediated, and the technology itself was less salient than the content of the interaction:

> For feeling like I am together with teammates, I like Skype for one-on-one chats, and Webex for the group meet-ups. When we collaborate on Webex and work on the same shared document, it is like we are in the same room. In fact, you kind of lose track of the fact that you are in this other space, or that it is all so dependent on the technology. It feels natural, it feels like your right there.

Tammy expressed the same view as other participants that had learned to select technology and modalities based on the character of the communication:

> At the beginning, I remember that sometimes I would get a text, sometimes I'd get an email and it would depend somewhat on the urgency, but it also...I've come to embrace it, it was never uncomfortable it was more like "why are we also using this mode? Why can't all communication be in one channel?" But then I began to love the multiple channels because it does add...it feels like another kind of communication. When someone IMs me it's like popping into my office, for a quick chat, versus we have a meeting and emails [are] a little more formal so it feels like there are different vibes going in the way we communicate different types of--and by the way--if someone just call me out of the blue without it scheduled, and it is rare that we do it that often time are schedules are so booked that it's usually an IM instead of a quick call but the call is an indication that there is something urgent so you see what I mean every different modality has a different vibe to it. I find it fun. I enjoy the chat emoticons.

Presence was enhanced when it accompanied real time interaction, enabled by technology that heightened a sense of realism for nine of the ten participants in the study. A further connected element linked to involvement and realism as informal interactions that afforded participant's opportunities to strengthen interpersonal connection and sense of presence in the virtual environment.

Social and Emotional Interaction. A final element connected to participants' sense of presence in the virtual environment was the role of informal social and emotional interaction. Social and emotional interactions were characterized by personal connection, beyond the scope of work role and work practice. Valerie said she felt the greatest presence in the virtual environment when simply chatting with teammates, and "sharing myself, not my work self, but my real self." Rick also stressed how important it was to have informal spaces for connecting with teammates in a manner wholly outside work talk:

> I'm a bit of a sports fiend, so I'm the commissioner of our fantasy football league, and our March madness pool—and everyone is involved, it's not a boy's club. I mean some of us take it more seriously, and some of us get on the discussion board and trash talk each other, but it's all in good fun, and just gives us this way to relate as people, and you feel you're there together.

Pat explained how informal interaction, even when it is ostensibly related to work, can help people build interpersonal connections:

> I actually now run a quarterly call for all the teleworkers including other virtual teams. We get together, and we call it a development and support group, and we'll share. I generally set up a few agenda items as far as things that I have found like videos or articles to read or things like that, but then we'll talk about some of the challenges folks

are facing, and then pull in some potential solutions that others might have. But it's informal and relaxed and you feel connection. For me, it's the equivalent of going out to grab a beer after work.

Presence was an important theme for participants in the study. The degree to which they felt that they were really there with their teammates was enabled by technology but took on very human elements as an experience characterized by involvement, realism, and was less formal in nature.

The themes, subthemes, and connected elements that emerged during data analysis provide a holistic account of the social and emotional experience of telecommuting working in virtual teams. The themes reflect the essence of the experience for the participants in this study, and represent their lived-experiences. All of the participants in this study addressed the subthemes identified in data analysis. Each connected element presented in this chapter was not experienced by every participant, but always a clear majority. Table 4.3 presents the subthemes surfaced in data analysis, along with the most commonly cited connected elements identified by participants. The overall percentage is identified, as well as which participants had experienced them.

Table 4.4

Subthemes and connecting elements by participant

Subthemes and connected elements	**Participant**										
	%	L	S	Er	Rn	A	T	P	El	V	Rk
Technical-organizational environment											
a) Opportunity for Social Interaction	100	X	X	X	X	X	X	X	X	X	X
b) Communication Infrastructure	90	X	X	X	X	X	X	X	X		X
Social Structures											
a) Perception of Others	90	X	X	X	X	X	X	X	X		X
b) Inclusion	80	X	X		X		X	X	X	X	X
c) Maintaining Relationships	80	X	X	X		X	X	X	X		X
d) Organizational Culture	80	X	X	X		X	X		X	X	X
Interdependence											
a) Interaction	90	X	X	X	X	X	X	X	X		X
b) Delayed Feedback	70		X	X	X	X		X	X		X
c) Manager Awareness	60	X	X	X	X			X	X		
Subjectivity											
a) Personal Identity	80	X	X	X		X	X	X	X		X
a) Feelings	80	X	X	X	X	X	X		X		X
b) Motivation	80	X	X	X	X	X	X		X	X	
Workplace Practice											
a) Blending	90	X	X	X	X	X	X	X	X	X	
a) Bright lines	80	X	X	X	X		X	X	X		X
b) Effective Communication	80		X	X	X	X	X	X		X	X

	Participants										
Subthemes and connected elements	%	L	S	Er	Rn	A	T	P	El	V	Rk
Presence											
a) Involvement	100	X	X	X	X	X	X	X	X	X	X
b) Realism	90		X	X	X	X	X	X	X	X	X
c) Social and Emotional Interaction	90	X	X	X	X	X	X	X	X		X

Key %-Total Participants Experienced L-Lauren S-Sara Er-Erin Rn-Ron A-Alex T-Tammy P-Pete El-Elaine V-Valerie Rk-Rick

Summary

This chapter presented participant background information, and an overview of the data analysis approach adopted in this phenomenological study. The chapter then described the two major themes identified in the analysis of transcribed participant transcripts 1) the social experience of telecommuting working in interdependent virtual teams and 2) the emotional experience of telecommuting working in virtual teams. Each major theme was analyzed for subthemes and connected elements to provide depth and detail to the elements that constituted the experience. The findings and answer the primary research question motivating this study. In the next chapter will present conclusions, implications, and recommendations.

CHAPTER 5: DISCUSSION, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS FOR FUTURE RESEARCH

This study examined the social and emotional experience of telecommuters working in interdependent virtual teams. The increasing prevalence of flexible work arrangements, remote work, and virtual teaming demand a clearer understanding of the lived experience of individuals experiencing the phenomenon. This study employed a qualitative methodology to increase knowledge and understanding of the process by which individuals subjectively experience the phenomenon of remote work in virtual teams. The participants for this study were telecommuters whom collaborate with others to develop a shared work product. This study, in phenomenological tradition, draws directly from the words and expressions of the participants through the transcription and analysis of semi-structured in-depth interviews with participants.

This study is limited to telecommuters working in virtual teams on a >80% basis, and engaged in collaborative knowledge-based work. Participants were drawn from the continental United States. The voluntary nature of study participation may have pulled the data in the direction of individuals with strong opinions about their telecommuting and virtual teaming experience—either positive or negative. The study did not consider the organizational perspective on the phenomenon under investigation. In spite of measures taken to assure a phenomenological stance through the bracketing of the researcher's previous experience and preconceptions of the phenomenon under investigation, researcher bias is a potential limitation. Further, the study is limited to the lived experiences of individual participants, and presents a limited representation of a wider population.

This chapter presents an interpretation of findings followed by conclusions drawn from an in-depth analysis of the data. Implications are then presented for individual, organizational,

and societal levels. Suggestions are presented for future research, and the chapter concludes with some final thoughts and personal reflection.

Discussion

Through a phenomenological lens, the emergent themes, subthemes, and connected elements identified in this study revealed the essence of the social and emotional experience of the participants in this study. The literature on telecommuting (Baruch, 2000; Bélanger, Watson-Manheim & Swan, 2013; Kanellopoulos, 2011; Nilles, et al., 1976; Whittle & Mueller, 2009). and virtual teams (Ale Ebrahim et al., 2009; de Guinea et al., 2012; Hemingway, 2004; Ilgen & Johnson, 2005; Jarman, 2005; Staples & Webster, 2007) guided this study. Learning in Work Life Framework (Illeris, 2011) and the Being There for the Online Learner Model developed by Lehman and Conceição (2010) served as the framework for analyzing the phenomenon. This study fills the gap in understanding of the social and emotional aspects experienced by telecommuters.

Key findings paint a complex picture of the day-to-day work-life of telecommuters in which telecommuting is not as much about where and when people work, as about how they get work done, echoing the contention of Belanger et al. (2013) that telecommuting is both a context and an aspect of work. The social experience was at once isolating and empowering, and shaped by communication infrastructure, opportunities for social interaction, and the collective norms and expectations of coworkers. The emotional experience was characterized by a melding of identities both personal and professional along with modes of presence that transported participants into a virtual space.

Theme 1: Social Experience

The social experience was identified by all participants as the most divergent aspect of their experience as telecommuters in contrast to working at a centralized office location. To recap, the social experience reflected the dynamic interaction of the individual with their environment and their coworkers. Participants referenced factors in the technical-organizational environment, and the communication infrastructure available as shaping their social interactions with coworkers.

Reinforcing findings from Golden et al. (2008), participants consistently identified the measures taken by their organization to support their remote work arrangements as a determinative factor in their social experience. This supports the contention of Anderson et al. (2007) that the manner in which communications technologies are implemented directly influenced the quality of communication. Providing the means for face-to-face interactions was identified by four participants as providing an important opportunity for social interaction, yet all of the participants pointed to access to communication enhancing technologies as compensating for a lack of face-to-face interaction, in contrast to Johnson et al. (2009) finding that telecommuting technology cannot replace face-to-face interaction. Participants consistently spoke about the ability of technology to fill the gap, and reported taking the initiative to go outside the organization's communication infrastructure to find solutions that created opportunities for social interaction.

The social structures in the telecommuting environment are in dynamic interaction with the aligned social level experience of the technical-organizational environment, and encompasses the cultural communities that arise in organizations and virtual teams. Rules, roles, and expectations both implicit and explicit impacted the experience of all of the participants in this

study. The findings indicate that the perception of others was a common concern for participants. Yet, there is little in the literature identifying this concern. Wiltona et al. (2011) identified the perception of others as influencing individuals' intentions to secure a telecommuting role, but not how this concern proves to be a common, day-to-day influence on the social experience of telecommuters. The findings in this study reveal that the perception of others, and a fear of being stigmatized was a consistent concern for telecommuters regardless of how long they had been working from a distance.

The degree to which participants felt a sense of inclusion with their coworkers was also a primary concern. This was a particular challenge in cases where not all coworkers worked remotely, supporting O'Leary and Mortensen's (2010) finding that team configuration impacted communication and effectiveness. But, once again, participants in this study described how they took the initiative to overcome instances where they experienced a lack of inclusion. This also included efforts that they made to maintain relationships with team members. The literature identifies the importance of managers taking measures to cultivate relationships (Hertel et al., 2005; Whitford & Moss, 2009), but the efforts of individual telecommuters to do the same is rarely noted. Participants in this study took initiative as individuals to build and sustain relationships without direction from management.

The data in this study supported findings from earlier studies identifying how organizational culture impacts the social experience (Belanger & Collins, 1998; Staples et al., 1999; Walvoord, et al., 2008). Organizational culture related to technologies and infrastructure, but also extended to encompass the degree to which participants felt supported and valued by the organization, as well as recognized and rewarded for their contributions.

When describing their experience of interdependence working in virtual teams, participants had mixed views on process versus outcome orientations. Eight of the participants specifically referenced increased effectiveness when telecommuting. Workman's (2007) findings that process oriented teams were more effective was contradicted by participants that reported a team-level focus on work product, while some participants relied on structure and process to complete their work. The data from this study supported findings by Gajendran and Harrison (2007), and Suh and Shin (2010) that highlighted normative telecommuting practices such as norms of reciprocity, trust, and outcome expectation. The data from this study also supported findings that identified delayed feedback and manager awareness as factors influencing the experience of telecommuters.

The wrong end of the telescope. Participants in this study spoke about their transition from a traditional office environment to a virtual context as—initially—very challenging. Elaine used the metaphor of looking through the wrong end of a telescope to capture the experience. When she first began to telecommute, she was looking through the wrong end, and everything in her work environment struck her as small a far off. She knew it was an exaggeration, and she wasn't as far off and removed as it appeared. In time, she became more comfortable and confident as she learned to navigate the environment. She began to locate and take advantage of the appropriate technologies for completing her work, communicating effectively, maintaining relationships, and collaborating with her team members. She had turned the telescope around, and now the distance was erased. The majority of participants experienced doubt about their abilities to make a remote work arrangement work for them, and focused on factors in the work environment that seemed to make it more difficult to effectively collaborate with team mates, to schedule their days, and to get things done. The gaps in communication, feedback, and

meaningful interactions, had led many to project their fears, and fill the gaps with doubts and uncertainties. The constraints placed on their ability to communicate, to develop relationships with coworkers, and to feel confident in how they were perceived by others, impacted their confidence and belief in their own self-efficacy as telecommuters. But with time and practice, they came to realize that this was a distorted view of themselves and their work arrangements, as they worked to overcome challenges, and solve problems.

Through the wrong end of the telescope telecommuters felt disempowered, and convinced that too many factors were beyond their control, out there, just beyond reach. As they progressed, they took the initiative to turn the telescope around, to make the communication and technological infrastructure work for their needs, or to find outside solutions that would. They found means to draw closer to their team mates, to collaborate more effectively, communicate more clearly, and connect with each other in ways that were authentic. The social experience of telecommuting in virtual teams is not an ideal environment for the passive employee, it requires taking an active hand in creating a culture, and a work environment that focused on the positives, and capitalized on the potentials of a unique work arrangement.

Theme 2: Emotional Experience

The emotional experience of participants in this study related to how individuals subjectively processed thoughts and feelings, and made meaning of their work as telecommuters. It was intimately linked to their personal identities, their backgrounds, experience, and reasons for seeking out a remote work arrangement. With the exception of one participant, each telecommuter in this study had actively chosen the work arrangement for a variety of personal, family, and quality of life reasons.

Emotion was an ever-present element in how participants related their experiences. While research has focused on the impact of technology on the affective and attitudinal dimensions of telecommuting (Johnson et al., 2009; Luse, Mennecke, & Triplett, 2013) the data for this study revealed much more of the personal, inner world of telecommuters, and how their feelings and impressions shaped their motivation and workplace practice. The workplace practice of the participants in this study demonstrated elements of learning behavior (Ortega et al., 2010) and teamwork and coordination (Bosch-Sijtsema et al., 2011; Cummings & Haas, 2012) but was also characterized by the initiative and individual problem solving ability.

Participants described their workplace practice as evolving over time, supporting the findings of de Guinea et al. (2012) that telecommuters can continuously improve their practice. Though studies have identified the need for boundaries between work and home for successful telecommuting, participants spoke about bright lines between the two worlds, but they also identified a willingness to blur those same lines. Time and work hours were less relevant to their workplace practice than the literature suggests. In fact, contrary to Greer and Payne (2014) contention that effective telecommuters concerned themselves with constructing physical, temporal, and psychological boundaries between work and home, participants in this study focused on approaches that spanned boundaries to find ways to blend work and home life. Blending was a theme identified by nine of the participants, and it was their ability to mix and match how they spent their work days, in order to balance work and family obligations.

Communication had an emotional dimension for the participants in this study. Eight of the participants identified effective communication as a feeling that directly impacted their workplace practice. Previous studies have identified trust as a necessary, though not sufficient, element in effective virtual teaming (Jarvenpaa & Leidner, 1999; Lowry et al., 2010). But the

emotional content reported by participants went beyond the establishment of trust and the development of cohesion with their teammates. For participants in this study, effective communication practices reduced isolation and anxiety, and increased their sense of competency and effectiveness They stressed authenticity and clarity as the hallmarks of effective communication. The findings supported Carte et al. (2006) conclusion that teams relied on their own internal communication competence rather than externally imposed structures or leadership.

The findings for this study support previous research identifying an emotional component in the experience of presence (Cleveland-Innes & Campbell, 2012; Lehman & Conceição, 2010; Samuels, 2016). Participants described presence as a feeling of being with teammates in an authentic, relaxed, and real way. Though the Being There for the Online Learner Model (Lehman & Conceição, 2010) is targeted to the online learning environment, it was effectively applied to the context of telecommuters and virtual team interactions in this study, revealing insights into the experience of participants in a virtual environment. The model presents the thoughts, emotions, and behaviors of an individual learner's inner world at the core and in interaction with the outer world and the online environment, which speaks precisely to the experience of telecommuters in this study. The types and modes of presence were apparent in all of the participant descriptions of being there with teammates. Realism was referenced by many as moments when they felt as though their interaction were just like real life. All ten participants identified involvement with team members as instances of meaningful interactions and collaboration in the virtual space. Involvement was most salient during synchronous interactions. Nine participants in this study described instances of realism in the virtual environment, or times in which they felt engrossed into the environment as though it were a real physical location and the technology itself became transparent, supporting the contention of Lehman and Conceição

(2010) that the technology must become transparent for the user. Rosselli (2014) finding that a mode of presence was experienced as the illusion of nonmediation, and contended that instances in which learners forgot about the technology was not only a means through which they experienced presence, but constituted a fifth mode of presence that should be added to the Being There for The Online Learner model.

In addition, participants identified instances of informal interaction that approximated real life as times when a sense of presence was most pronounced. Fay and Kline (2012) identified informal communication as a factor influencing telecommuters' organizational identification, and Samuel (2016) identified informal written communication as a key for online faculty to establish presence, but the findings for this study take informality a step further. Participants spoke of opportunities to interact in the virtual space in a manner that felt connected to their personal identities as instances of increased presence. In this case, the mode of presence involved the content of the communication not just its form. Participants were involved with each other in way that was not related to work, but through individual initiative, they created spaces to be together that addressed the personal interests and lives, and this allowed them to feel closer as real people. Participants were also aware of the multiple roles that presented potential conflict in their lives, but found ways to balance and prioritize.

Multiple identities and roles. Participants in this study reported their emotional experience of telecommuting as constituted by innumerable roles and responsibilities. Parent, child, spouse, boss, team mate, collaborator, these are just some of the identities that participants identified in this study. In rare cases, they identified their personal identities in opposition to their workplace identities, and spoke of tensions between the two, but more often spoke of their ability to switch back and forth among these multiple identities, and prioritize as a given

situation might demand. Sara referred to her home and work roles through the metaphorical job title of Executive director/chief cook and bottle washer, and time and time again each participant in this study spoke about their multiple roles in a given day.

Telecommuters navigate through a world of multiple identities and roles, each with its own set of expectations and obligations. The modern workplace is often characterized by a bleeding over of work life into personal life. Email and mobile devices have created expectations that workers are always available, even outside the office and after normal work hours. This is a trend that, on the surface, could cause more tension and role confusion for telecommuters. Yet, the participants in this study expressed a willingness to embrace a multitude of identities and to incorporate them into a single conception of who they were as individuals.

Study Contributions to the Literature

The findings of this study contribute to the literature with five aspects of working remotely in virtual teams:

1. Telecommuters perceive time as an elastic, boundless aspect of how they work.
2. Telecommuters perceive increased effectiveness as a result of their work arrangements.
3. Individual initiative mediates the challenges of the social and emotional experience of telecommuting.
4. The social and emotional experience of telecommuting in virtual teams is impacted by the perception of others.
5. The emotional experience of presence is enhanced by informal interactions.

Telecommuters Perceive Time as an Elastic, Boundless Aspect of How They Work

In opposition to the standard wage labor of the past, in which time was the currency of exchange between employee and employer, participants in this study described a blending of

home and work responsibilities throughout their days. The majority of participants were less focused on establishing and maintaining work hours, and more focused on getting the work done in a manner that coordinated with their personal lives and schedules.

In practice, this meant that they worked whatever hours or times of day they needed to in order to get their work done, and support their team members. But the flipside of this different perspective on time meant that they also felt empowered to attend to the other parts of their lives during conventional work hours. This conclusion speaks directly to changes in modern work life, where outcomes are valued above process, and where flexibility provides autonomy balanced by accountability (Wang & Haggerty, 2011). Telecommuting has already decoupled work from place and proximity, but participants in this study underscore that it has also altered perceptions of time and its importance (Pyoria, 2011).

Telecommuters Perceive Increased Effectiveness as a Result of Their Work Arrangements

The lack of distractions and opportunity to focus on their work was consistently identified across the majority of participants in this study. The exceptions speak directly to what Dutcher (2012) identified as the content of the work itself. While eight of the participants were engaged in creative and collaborative work with an outcomes orientation and perceived that they were able to accomplish so much more when not in an office environment, those who completed repetitive tasks did not specifically identify a sense that they were more productive from home.

The telecommuters in this study displayed a high degree of intrinsic motivation in their work practice. They identified personal strengths and weaknesses and sought out strategies to maximize their effectiveness. The degree of interdependence with their teams, combined with their ability to self-regulate, gave them a sense of self-efficacy while working in a virtual environment.

Individual Initiative Mediates the Challenges of the Social and Emotional Experience of Telecommuting for the Participants in this Study

Contextual factors in the social and emotional environment of telecommuting presented participants with numerous challenges. These challenges were often ostensibly beyond their individual control, in terms of organizational culture, communication infrastructure, and available technology. Yet, factors that participants felt they could impact, such as, inclusion, maintaining relationships, quality interaction, and effective communication were solved through ingenuity and personal initiative.

Telecommuters in this study found the ways and means to overcome isolation, the barriers of time and place, and the impact of constrained communication. In spite of calls for training for telecommuters (Holtbrügge et al., 2011; Horwitz, et al., 2006), none of the participants had received training on the process of telecommuting or collaborating in virtual teams, but had none the less adjusted their workplace practices, identified appropriate technology platforms, and actively engaged in the creation of shared understanding, the establishment of norms, and the enhancement of overall team culture.

The Social and Emotional Experience of Telecommuting in Virtual Teams is impacted by the perception of others.

Nine of the 10 participants in this study were concerned about how they were perceived as telecommuters. The perception of others, particularly coworkers who worked in a centralized location, was central to the social and emotional experience of day-to-day work from a distance in this study. Where organizational cultures were more supportive of flexible work arrangements, participants remained concerned about a stigma toward them as being privileged, or engaging in

social loafing. In fact, even outside of their organizations, participants in this study encounter frequent questions and incredulous reactions to the fact that they telecommuted.

Participant's perceptions of how they were perceived as telecommuters reflects the continued novelty of the work arrangement in spite of its increasing prevalence. Participants were proud of their work and grateful for the opportunity to telecommute, but felt defensive at times when they encountered false assumptions about how they work. Eight of the participants related how they channeled these feeling into motivation to excel in their work, but two participants found it demotivating and a negative aspect of the work arrangement.

Presence Manifest Itself as an Emotional Experience that was Enhanced by Informal Interactions

Participants in this study reported the experience of presence as emotional in nature. When they felt most present, and closest to their team members, they experienced it as a feeling that was difficult to explain. They felt close, connected, involved, and realism, a subjective emotional state rather than an objective reality enabled by technology.

When participants experienced authentic interactions in which they felt that they were able to project their real selves into the virtual environment they noted that it was strongest when it was informal. Participants engaged in informal interactions that involved their personal identities over their work identities. The modes of presence were experienced in work related interactions, but involvement in the virtual space in a manner that provided for connections on a social and personal level, increased their perceptions of being there. Examples included the establishment of fantasy football leagues, or scheduling regular meet ups to talk casually and share personal information.

Implications for Practice

Though the findings and interpretations of this study are not generalizable, they highlight factors of the social and emotional experience of telecommuting and working in virtual teams that deserve additional attention in the context of the modern, knowledge-based, technologically enhanced workplace. Implications of this study apply to individuals, organizations, and society.

Implications for Individuals

Individual telecommuters will benefit from a flexible, growth mindset in order to take full advantage of the benefits of their unique work arrangements. Telecommuters in this study reported being most satisfied with their work arrangements when they approached their workplace practice as an evolution over time, as was pointed out in an earlier study by de Guinea et al. (2012). The constraints of computer mediated communication, and the increased ambiguity resulting from a lack of physical proximity to interdependent team members demanded a willingness to experiment with new approaches. Participants in this study employed personal initiative to find technological and process solutions for the challenges inherent in the virtual environment.

Time has been identified by Cummings and Hass (2012) as challenge in the context of telecommuting, and participants in this study were able to re-conceptualize how they used their time, and to allocate it by prioritizing personal and work responsibilities rather than by the clock. Work/life balance is frequently identified as an advantage for telecommuters (Lister & Harnish, 2011), but for participants in this study, it is not a given, nor solely the result of the technical-organizational environment. It required active efforts on the part of individuals to negotiate the balance on their own.

Practical recommendations for individuals. Individuals interested in telecommuting work arrangements need to approach the opportunity with a growth mindset. That is, they have to be open to evolving their work practice over time, and to remain flexible in how they apportion their time. Finally, they need the ability to actively seek support from team members, and to identify and explore new process and technology solutions to meet the unique challenges they will experience in the role.

Implications for Organizations

The participants in this study identified areas in which organizations could contribute to the growth and effectiveness of telecommuters and virtual teams. The advantages are numerous for organizations, and range from the ability to tap diverse talent outside of the constraints of geography, to increased employee satisfaction and retention, to significant cost savings (Lister & Harnish, 2011). The move toward a virtual workforce is considered one of the major trends confronting organizations in 2017, demanding an intentional effort on the part of organizations to craft solutions to support flexible work arrangements (SIOP Announces Top 10 Workplace Trends for 2017, 2016).

Organizations can analyze and identify jobs that are particularly suited to the virtual environment, with an emphasis on outcomes over process. Training specific to the context of telecommuting and virtual teaming can reduce ambiguity and provide telecommuters with a set of skills that will allow them to prosper in the work arrangement. Training interventions can increase telecommuters' confidence and perceptions of self-efficacy, leading to improved performance (Staples et al., 1999).

Organizations should also focus on the technological and communication infrastructure provided to telecommuters. Providing multiple platforms and reliable networks can reduce

anxiety and support telecommuters in their day-to-day activities. This should include attention to social affordance, and creating opportunities and spaces in which telecommuters can interact socially and communicate informally, building trust and cohesion.

Practical recommendations for organizations. Organizations can benefit in a variety of ways through the use of telecommuters and virtual teams, but they should be willing to provide the infrastructure that these workers will require. This includes technologies and systems to support their use, as well as creating opportunities for telecommuters to feel valued and connected to their organizations. Most importantly, telecommuting and virtual teaming require a unique set of skills that go beyond mere technological know-how to include communication and interpersonal skills for the context of the virtual environment. Organizations need to provide thorough orientation and on-going training and development in order to ensure that their employees succeed at remote work.

Finally, and most fundamentally, organizations can foster a culture oriented to the modern paradigm of virtual teaming and flexible work arrangements (Bosch-Sijtsema et al., 2011). When an organization demonstrates the value that it places on telecommuters and a technologically enabled workforce, it can work to reduce stress and uncertainty for telecommuters within their organizations.

Implications for Society

Participants in this study represent a narrow slice of a much larger and expanding trend toward a new conception of working life. As a society, we are witnessing a fundamental change in how people work and live. In the new conception, time and place decrease in relevance, and a new set of skills grow in importance. These new skills relate to the use of technology to complete work, and the ability to learn and change as the context for working life alters. These trends

underscore the importance of education for 21st century skills and support for continuing and lifelong learning.

Expanding access to high-speed internet, and telecommunications infrastructure will ensure that more people are able to take full advantage of expanding opportunities for telecommuting work arrangements regardless of where they live. These opportunities will benefit people attempting to overcome the limitations of geography, disability, and family responsibilities (Kanellopoulos, 2011).

Telecommuting and virtual teams hold promise to ameliorate entrenched difficulties in modern society. Nilles (1976) undertook research into telecommuting, traffic congestion, and energy consumption to support the rationale for expanding opportunities for remote work arrangements. This is no less true today, and society as a whole stands to benefit with fewer cars on the road, less hours lost in commuting, and less carbon intensive transportation, reducing impacts on global climate change (Lister & Harnish, 2011).

Practical recommendations for society. The potential of telecommuting to revolutionize the way people work and live in a meaningful and positive way will require support from communities. To increase the prevalence of telecommuting opportunities, municipal, state, and federal governments need to invest in technological infrastructure and expand access for marginalized communities. High-speed wireless internet availability and access should become a basic component of infrastructure for the public good. Governments can also incentivize organizations to recruit and hire telecommuters through tax incentives and other cost savings. Finally, K-12 and higher education curriculums should entail 21st century literacies and skills that prepare students for a world of work where the skills associated with telecommuting will constitute digital citizenship and employability.

Recommendations for Future Research

This study provides understanding and insight into the social and emotional experience of telecommuters working in interdependent virtual teams. The findings, interpretations, and conclusions of this study support the need for further inquiry into the phenomenon. Specifically, 10 areas for future studies are recommended:

1. Research exploring the temporal dimensions of work and home for telecommuters and virtual teams. Telecommuters in this study reported a different conception of time in relation to the responsibilities of work and home. The implications of nonstandard work hours for employees raises many questions about impacts on individuals and organizations. Qualitative studies to target the temporal dimension of telecommuting could provide insight into the potential tensions that arise when workers find themselves always available, as well as potential benefits of flexible work hours.
2. Quantitative research measuring the perceived effectiveness of telecommuters and virtual teams in contrast to co-located teams. Effectiveness is a key concern for organizations considering telecommuting and flexible work arrangements for their employees. Participants in this study perceived that they were more effectiveness working away from the distractions of the office. Research taking a quantitative approach to objective measures of effectiveness could provide hard data on the differences between how well virtual teams perform against a baseline of those working together in the office.
3. Longitudinal studies to examine telecommuters' evolving work practices. The participants in this study had a minimum of one year of experience as telecommuters. Research that tracks telecommuters and their workplace practices over time could provide knowledge about the factors involved in moving from a novice to a proficient

telecommuter, and suggest appropriate training interventions and development opportunities.

4. Research to explore perceptions of telecommuters by centrally located coworkers. Participants in this study expressed doubts and stress about how they were perceived by their in-office counterparts. Studies that examine the perceptions of traditional in-office workers of telecommuting and telecommuters could add to our knowledge and understanding of the social components of flexible work arrangements.
5. Research utilizing the Being There for the Online Learner model (Lehman & Conceição, 2010) as a framework to analyze novel virtual contexts. The model was specifically designed to analyze the experience of online learners, but was effectively applied to the experience of telecommuters in this study. Research could explore the experience of individuals in augmented or virtual reality training or work settings using the model to investigate salient factors.
6. Research examining the transferability of online learning competencies to the world of work. The skills and abilities required for working from a distance correlate with those that are necessary for online learning. Studies could explore this correlation, and identify the skills acquired through online learning that directly connect to the modern workplace, and position individuals for increased opportunities in the modern workplace.
7. Research exploring potential generational differences in the experience of telecommuters. Generational differences in openness and ability to telecommute deserve additional attention. As the workforce ages and new generations that are more accustomed to digital communication and integrating technology enter the workforce, the literature would

benefit from a clearer understanding of these differences and how they impact the individuals and organizations.

8. Research to explore organizational-level perceptions and attitudes relating to telecommuters and virtual teams. This study did not consider the perspectives of organizations in terms of telecommuting and virtual teams. Case studies that explore how different organizations have implemented telecommuting, or moved away from offering the work arrangement, could identify the challenges to wider adoption by organizations.
9. Research to examine the experience of managers and supervisors in the context of telecommuting and virtual teams. Two participants in this study had supervisory responsibilities, but the analysis did not pursue how these effected the experience. Studies could limit the sample to individuals who manage and supervise others in virtual teams, and identify the salient factors of the experience.
10. Research exploring organizational social affordances for virtual teaming. The degree to which organizations provide opportunities for their virtual teams to interact and socialize through computer mediated communication could further understanding and knowledge of organizational awareness and commitment to enhancing the social experience of virtual teaming.
11. Research to investigate the impact of gender upon the experience of telecommuters. This study did not consider gender-specific aspects of telecommuting and virtual teams. Studies could explore the connection between gender, the decision to telecommute, and family obligations. There are also potential disparities between men and women telecommuters in terms of opportunity, compensation, and treatment by colleagues and management that deserve additional attention.

12. Research exploring the social-level cost and benefits of telecommuting. Studies could explore and quantify the impact of telecommuting on society. A clearer understanding of how telecommuting impacts issues from traffic congestion to employment opportunities for marginalized communities could increase knowledge about the importance of expanding telecommuting opportunities.

Final Thoughts

Technology has provided modern workers with unique and unprecedented opportunities for flexibility in their work lives. Telecommuting is no longer an aberration, or passing fad, it represents a fundamental change in how, when, and where people work. But it represents so much more for the participants in this study. It represents an opportunity to take control of their personal and home lives, while also succeeding in their careers.

But telecommuting is also a piece of a thoroughgoing change in how people learn and interact. Virtual worlds and spaces that exist through digital technology have the power to shape how we interact and understand one another, and how we experience being together and projecting ourselves and our personalities into a virtual space. Technology is breaking boundaries and flattening the world with each new development. It is critical that we understand these changes and how they will alter our basic understanding of ourselves and our communities, and that we take full advantage of the opportunities it affords while striving to ensure equity, and guarding against the potential of our work identities to invade all parts of our lives.

Finally, it was an extremely privileged position to have people share their personal and professional lives with me as a researcher. The openness and willingness to expose their vulnerabilities and intimate thoughts and feelings displayed by the participants in this study have

made a deep and profound impact on me. I have a new understanding, and sense of obligation as a researcher to ensure that their voices are heard, and that their experiences contribute to the ongoing dialogue about the modern workplace and its implications. The participants in this study represent the pioneering stages of what is sure to become a commonplace manner of work and life. They are not waiting for organizations, or those who study their processes and functions, to define what telecommuting is and what it takes to be successful. They are in the trenches, working day by day to balance and blend work and home, and to discover new ways to ensure that telecommuting becomes a work arrangement of choice for both employees and employers.

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Appendix A: Recruitment Email

Greetings,

I am seeking individuals to participate in a research study investigating the experience of telecommuters working in virtual teams. You are eligible to participate if you work from home at least 80% of the time, collaborate day-to-day with a team, and have at least one year of experience working remotely. This study will explore the social and emotional dimensions of the experience of working remotely in a virtual team. Data will be collected through a 45 to 60-minute-long interview via telephone or video conferencing.

The goal of this research is to capture perceptions and experiences, and to gain an understanding of what it is really like to work in virtual teams from a distance. Understanding the experience of remote work in virtual teams can aid both employees and organizations to develop methods and approaches that increase opportunities for effective flexible work arrangements.

Thank you for your consideration.

Damien Michaud
Doctoral Candidate
Department of Administrative Leadership
University of Wisconsin-Milwaukee School of Education
Tel.: 207-423-4443
michaud@uwm.edu

Appendix B: Interview Protocol

Participant Pseudonym:

Date:

Time:

Interview Location:

FROM A DISTANCE: A PHENOMENOLOGICAL STUDY OF THE LIVED EXPERIENCE OF TELECOMMUTERS WORKING REMOTELY IN VIRTUAL TEAMS

Interview Protocol

I would like to understand the day-to-day reality of what it is like for you to work remotely, while also contributing to a virtual team. The goal of this research is to capture your perceptions and experiences, and to gain a clearer understanding of what it is really like for you—both good and bad—to manage this unique work arrangement.

1. What is your current job role?
2. How long have you been working from a distance?
3. From what physical location do you complete your work?
4. To what extent would you say your current role requires working effectively with a team to accomplish shared goals?
5. Do you work with a single team or multiple teams?
6. How many projects would you say you have completed while working in a virtual team?
7. What sorts of projects have you completed working remotely in a virtual team? F
8. What, if any, training have you received on process and technology to enable you to collaborate with team members at a distance?
9. Does your organization have specific requirements for working at a distance?

1. Describe your work area at home.
2. Tell me about your average workday?
3. Describe to me what it was like when you first began working from a distance.
4. Tell me about your first interaction with the team?
5. In what ways do you rely on team members to complete your tasks? Can you give me an example?
6. Tell me about a time when you felt alone or cut off from your team members

7. Can you share an experience of "being there," or feeling that you are together with team members in the virtual environment even when you are not physically together?
8. Can you recall a moment, early on in your experience working remotely, where you second-guessed that the work arrangement would work for you?
9. Can you recall a moment—again, early on—when you felt that you had made a good choice, and that telecommuting and remote work in virtual teams suited you?
10. Can you identify a change you have made in the way you work during the time you have been telecommuting?
11. Can you share a story of an incident or experience that captures the essence of telecommuting and working with virtual team members?
12. What have I overlooked? What part of your experience working remotely in a virtual team do you think deserves additional attention?

Thank you so much for your time and willingness to participate in this research. For next steps, I will transcribe our interview and then ask that you review it and validate its accuracy.

Appendix C: Informed consent

Consent to Participate in Research Interview

Study Title: FROM A DISTANCE: A PHENOMENOLOGICAL STUDY OF THE LIVED EXPERIENCE OF TELECOMMUTERS WORKING REMOTELY IN VIRTUAL TEAMS

Person Responsible for Research:
Damien Michaud, Doctoral Candidate
Simone C. O. Conceição, Professor, School of Education,
Department of Administrative Leadership

Study Description: The purpose of this research study is to investigate how individual telecommuters perceive and experience the process of learning to work in virtual teams. Approximately 10-15 subjects will participate in this study. If you agree to participate, you will be asked to participate in an interview. This will take approximately 45-60 minutes of your time.

Risks / Benefits: Risks that you may experience from participating are considered minimal. There will be no costs for participating. Benefits of participating include an opportunity to reflect on your personal experience as a telecommuter working in a virtual team.

Confidentiality: Identifying information such as your name, professional title, and email will be collected for research purposes. The interview will be recorded. Your responses will be treated as confidential and all reasonable efforts will be made to ensure that. The research team will remove your identifying information after transcription and all study results will be reported without identifying information so that no one viewing the results will ever be able to match you with your responses. Data from this study will be saved on a non-networked, password-protected computer for two years. Only the researchers will have access to your information. However, the Institutional Review Board at UW-Milwaukee or appropriate federal agencies like the Office for Human Research Protections may review this study's records.

Voluntary Participation: Your participation in this study is voluntary. You may choose not to take part in this study, or if you decide to take part, you can change your mind later and withdraw from the study. You are free to not answer any questions or withdraw at any time. Your decision will not change any present or future relationships with the University of Wisconsin Milwaukee. There are no known alternatives available to participating in this research study other than not taking part.

Who do I contact for questions about the study: For more information about the study or study procedures, contact Damien Michaud at michaud@uwm.edu.

Who do I contact for questions about my rights or complaints towards my treatment as a research subject? Contact the UWM IRB at 414-229-3173 or irbinfo@uwm.edu.

Research Subject's Consent to Participate in Research:

To voluntarily agree to take part in this study, you must be 18 years of age or older. By signing the consent form, you are giving your consent to voluntarily participate in this research project.

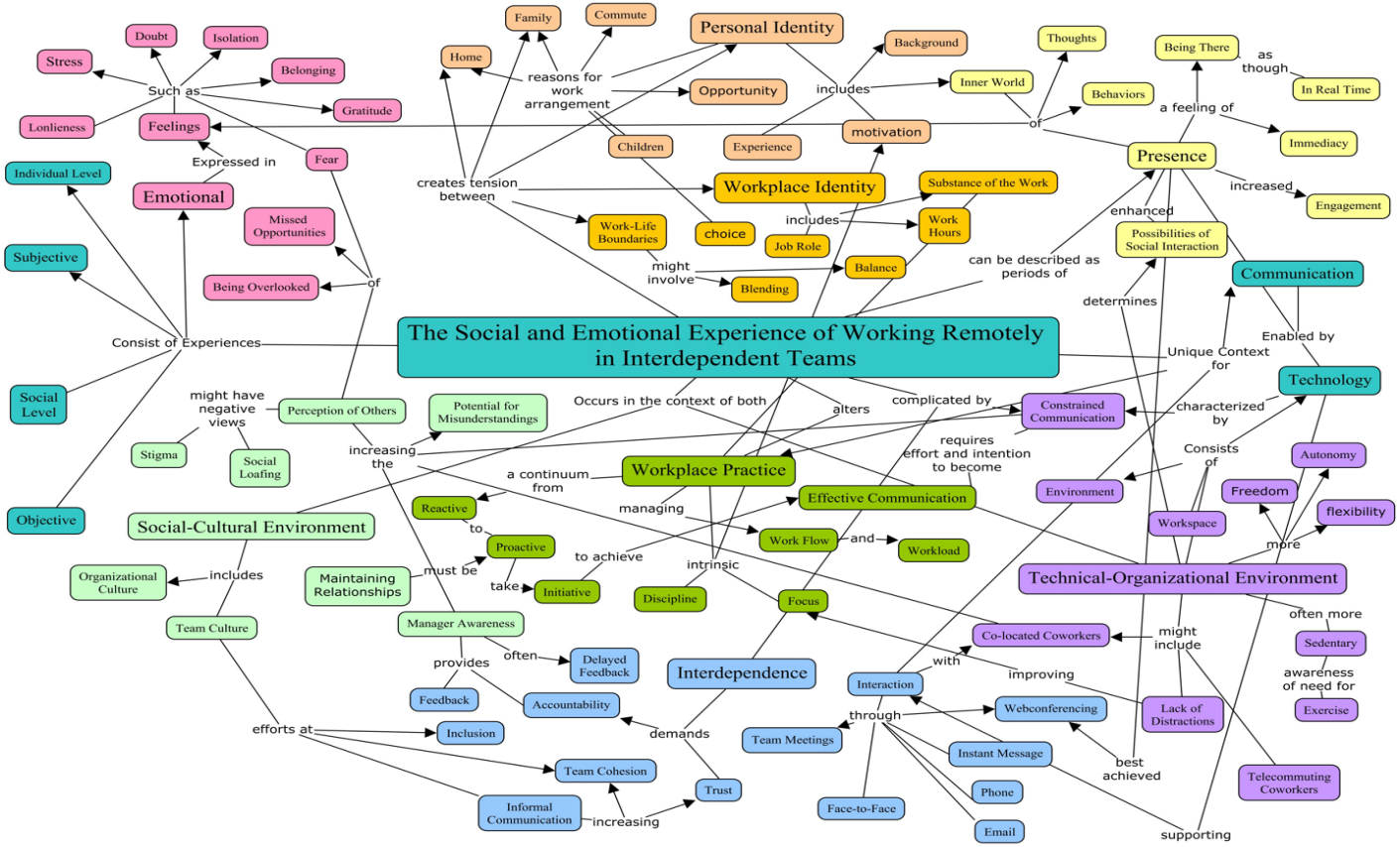
_____

Printed Name of Subject/Legally Authorized Representative

_____ _____

Signature of Subject/Legally Authorized Representative Date

Appendix D: Comprehensive Concept Map of Themes



Appendix E: Subjectivity Statement

It is critical to identify my positionality as a researcher through a careful examination of assumptions, experiences, values, and biases that I brought to this study. I have four years of experience as a telecommuter, working as an instructional designer for a nonprofit membership organization. I do not currently telecommute, but I occasionally work from home. As a telecommuter, I sometimes experienced a sense of isolation, or like I was missing out on things in the office. But this was balanced by the feelings of being autonomous, empowered, and extremely effective when working from a distance. I enjoyed not having to confront a long commute every day, and the opportunity to be available to pick my sons up from school, attend their functions, and manage household responsibilities.

As my doctoral studies progressed, I began to think deeply about how the world of work was changing, and what the implications might be for how adults work and learn. Academically, I was interested in virtual collaboration and researching how adults learn in working life. The combination of my personal experience and academic interests led me to research the experience of telecommuters, to help understand the phenomenon as it is lived by individuals.

I entered into this study with the assumption that telecommuting was a positive work arrangement beneficial to individuals, organizations, and society. I also entered with the assumption that telecommuting and virtual teams are unique contexts for employees' work, requiring a particular set of motivations, skills, and knowledge explicit, tacit, and socially observed

To counter the impact of my experience and subjectivity during this phenomenological

study, I incorporated the process of epoché of "bracketing" (Moustakas,1994). Through reflection and journaling, I surfaced my prejudgments and preconceptions about the phenomenon, and allowed myself to be completely open to new or contradictory information, and to listen with naivety to the participants as the discussed their personal experience.

CURRICULUM VITAE

DAMIEN CHE MICHAUD

EDUCATION

University of Wisconsin-Milwaukee
Ph.D. in Urban Education: Adult, Continuing, and Higher Education Leadership Specialization
Minor in Learning Technology
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University of Wisconsin-Milwaukee
M.S. in Administrative Leadership
Concentration: Adult & Continuing Education Leadership
Focus: Instructional Design 2011

Northwestern University
M.A. in American Studies
Distinguished Thesis Award 2008

Skidmore College
B.A. Honors in American Studies

WORK EXPERIENCE

University of Southern Maine
Learning Designer

American Society for Quality
Corporate Developer-Account Lead 2012– 2015
Instructional Designer 2010 - 2012

University of Wisconsin-Milwaukee
Graduate Assistant-Online
Fall 2011 – January 2015

TEACHING EXPERIENCE

University of Wisconsin- Associate Lecturer- "Survey of Exceptional Education" (Graduate Level) Fall 2014 – Spring 2015

Improved and enhanced curriculum for online environment

Associate Lecturer- "Exceptional Individual" (Undergraduate Level) Spring 2014
Developed course structure, interactions and administered grades

Teaching Assistant – "Survey of Exceptional Education" Fall 2011 - Fall 2013
Developed course content from face-to-face offering to entirely online in collaboration with faculty

RESEARCH AND SERVICE

Research Assistant

Enhancing College Preparation in Mathematics by Integrating Quality Management in Teacher Professional Development Plans.
University of Wisconsin System Growth Agenda Grant Program. 2010

Presenter

"Collaboration in Virtual Teams." Qualitative Research Seminar
Presented at University of Wisconsin-Milwaukee 2013

Member

UW-Milwaukee School of Education: Distance Education Committee 2011-2012
UW-Milwaukee Graduate School: Scholastic Appeals Committee 2012-2013

Judge

UW System Undergraduate Research Symposium 2014