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Mentorship in a Virtual World: How Remote Work Relates to Mentoring Relationships and Outcomes

Alyssa M. Lezcano
University of South Florida

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by

Alyssa M. Lezcano

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Major Professor: Tammy D. Allen, Ph.D.
Judith B. Bryant, Ph.D.
Georgia T. Chao, Ph.D.

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DEDICATION

I would like to dedicate this work first and foremost to my parents, without whose love and support I would not have gotten to this point in my education or become the person I am today. Mom, I share this achievement with you!

I also sincerely thank my advisor, Dr. Tammy Allen, for your continued guidance, feedback, and encouragement. I am incredibly grateful that I found myself working in your lab, and I can’t imagine where I would be without your support.

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ABSTRACT

In the context of an increasingly virtual workplace, it is critical to understand how remote and hybrid work arrangements relate to key developmental, interpersonal relationships at work, such as mentoring relationships. Guided by the existing mentoring literature as well as leader distance theory, the present study aimed to examine the mentorship experiences of early-career protégés who worked remote and hybrid hours. Three waves of data were collected to investigate the influence of remote work and mentor distance on protégés' perceptions of mentoring support received. Specifically, the study examined protégés' degree of remote work, perceptions of social and spatial distance between them and their mentor, the frequency with which they interacted with their mentor, as well as perceptions of both career-related and psychosocial mentoring support using path analysis. Overall, the results and supplementary analyses provide partial support for the proposed model, primarily highlighting the potential influence of perceived social distance and interaction frequency as dimensions of mentor distance that are most relevant for perceptions of mentoring support in a virtual context. Theoretical implications for the application of leader distance theory to the remote work and mentoring literatures, as well as practical implications regarding the efficacy of virtual mentorships in organizations are discussed.

CHAPTER 1: INTRODUCTION

Over the past few decades and particularly amid the COVID-19 pandemic, a growing number of employees have shifted to remote work, or telecommuting. As a result of the changes made to adapt during this time, the percentage of individuals in the United States who work from home on workdays nearly doubled from 22 percent in 2019 to 42 percent in 2020 (U.S. Department of Labor, 2021). Further, it is projected that the growth rate of full-time remote work over the next five years will nearly double from 35 to 60 percent (Ozimek, 2020). Looking ahead, it is therefore imperative to continue investigating features that distinguish virtual work from traditional, in-person work arrangements. Remote work involves working a portion, or all, work hours away from the central workplace and requires the use of information and communication technologies (ICTs) to facilitate the completion of work-related tasks via email, video-chat, and similar channels (Allen et al., 2015; Messenger & Gschwind, 2016). Remote workers not only complete tasks using ICTs but also use these means to create and maintain work relationships, develop professionally, and learn on the job (Ahuja & Galvin, 2003). While relationships play a key role in how individuals experience work (Eby & Allen, 2012), we have little information on how remote work relationships may differ from those that occur in person.

One type of workplace relationship particularly important to consider in this new work context is mentorship. Mentorships are common learning relationships, with significant implications for early-career professionals, women, and underrepresented minorities in the workforce (e.g., Beech et al., 2013; Ibarra et al., 2010; Zambrana et al., 2015). Mentorships are working relationships that foster learning and can be invaluable in supporting employee career

advancement (Allen et al., 2004; Eby et al., 2008; Eby et al., 2013). Mentoring relationships occur through a process of reciprocal activities and the provision of both career-related and psychosocial support to aid the personal and professional development of both parties (Kram, 1985). Career-related support involves the mentor guiding their protégé via coaching, exposure, and the provision of challenging assignments. Psychosocial support includes counseling, role modeling, and friendship. Together, both types of support aid the protégé in developing a professional sense of self as well as their skills and network. In addition to support, one of the main goals of mentoring is to pass knowledge, wisdom, and skills to the less experienced protégé (Kram, 1985). These crucial learning relationships foster the transfer of knowledge and skills between the mentor and protégé as well as within the organization (Allen et al., 2017; Kram, 1985), and can be particularly helpful in promoting employee socialization as well as supporting the interpersonal skills and organizational awareness needed for fast-paced learning and regular change in the modern workplace (Hall, 1996; Higgins & Kram, 2001).

Protégés are commonly early-career professionals guided by more experienced, senior-level mentors in an organization (Wanberg et al., 2003). Mentorship for early-career professionals can be especially important as developmental experiences during this time are considered to have long-term impacts on career progression (Whitely et al., 1992). Mentors are defined as influential individuals who have "advanced experience and knowledge and [are] committed to providing upward mobility and support to the career of an individual" (Ragins et al., 2000, p. 1182). While mentorships can be intra- and extra-organizational, the present study focuses on mentorships in which both parties are employed by the same organization. Protégés who work in the same organization as their mentors report greater perceptions of career and

psychosocial support from their mentors than do protégés whose mentors work in different employment settings (Baugh & Fagenson-Eland, 2005).

Mentorship is associated with a variety of positive outcomes (Eby et al., 2008), as protégés report more positive objective and subjective career outcomes as well as higher perceptions of job satisfaction and commitment than their non-mentored peers (Allen et al., 2004; Seibert et al., 2001). Providing mentoring support is linked with higher job satisfaction, organizational commitment, performance, and perceived success for mentors (Ghosh & Reio Jr., 2013; Allen et al., 2006; Bozionelos, 2004). Being a mentor is also significantly related to promotion and salary (Allen et al., 2006; Bozionelos, 2004). On a larger scale, a higher proportion of mentored employees is related to greater organization-level learning (Allen et al., 2009), and creates a positive social environment that promotes greater organizational effectiveness (Griffith & Sawyer, 2006).

The benefits of mentorship may be even more critical for remote workers, as it has previously been shown that this group experiences social and professional isolation via limited professional development and opportunities to form these crucial relationships (Cooper & Kurland, 2002). Moreover, as noted by Bell and Kozlowski (2002), when face-to-face interaction is limited, it is more difficult to mentor, coach, and develop individuals. Virtual mentoring and remote communication have been topics of interest in both the academic and professional spheres (Ensher et al., 2003). Remote mentoring, also referred to as e-mentoring or virtual mentoring, has been broadly defined as mutually beneficial mentoring relationships conducted, to some extent, via ICTs (Chong et al., 2020; Hart, 2016).

While there is potential to cultivate positive relational dynamics and connectedness in a virtual environment (Lee et al., 2020), there is much that still needs to be investigated regarding

how remote work and the degree of virtuality affect the processes and outcomes that comprise mentorships (Ensher et al., 2003; Ensher & Murphy, 2011). Given the limited but growing research on remote work and distance in mentorships, the mentoring literature lacks a comprehensive theoretical approach to understanding the impact of this kind of work arrangement on mentoring relationships. Therefore, the present study draws from the leadership literature, specifically leader distance theory, to explain the effects of remote work on mentoring in organizations. Leader distance theory (Antonakis & Atwater, 2002) centrally argues that three dimensions of distance – physical distance, perceived social distance, and perceived interaction frequency – may potentially hinder the effectiveness of a leaders' influence and can precede positive leadership outcomes. In the current study, I investigate these spheres of distance as applied to mentoring relationships.

My overall objective in the present study is to build and test a model that incorporates degree of remote work, mentor distance, and mentorship outcomes. Specifically, I develop the argument that remote work is related to increased mentor distance which, in turn, relates to lower perceived career-related and psychosocial support for protégés, outcomes extensively researched in the in-person mentoring literature (e.g., Allen et al., 2017; Eby et al., 2008). I test these direct and indirect effects, visualized in Figure 1, using a three-wave, one-month lagged study with a sample of early-career protégés.

Given that the future of work is predicted to be increasingly remote, it is critical to understand how such work designs relate to interpersonal relationships such as mentorships. The current study makes multiple contributions to the literature. First, the study applies leader distance theory where there is a dearth of theory in the existing mentorship literature that helps to explain the impact of remote work on mentoring relationships and mentorship outcomes.

Previous mentoring research has applied or suggested the use theories such as social presence (Ensher, 2013) or media richness theory (Daft & Lengel, 1986; Lewis-Iley, 2021), concepts that mostly focus on one aspect of virtual communication or remote work. The leadership literature, by contrast, provides the idea of leadership at a distance which aims to explain the impact of distance on the overall influencing process. Leader distance theory has previously been applied to leaders and teams working away from a central location (Brunelle, 2013; Collinson, 2005; Meirovich & Goswami, 2021; Napier & Ferris, 1993). Thus, the present study will bridge the leadership and mentoring literatures to examine mentorship in a remote context.

A second contribution of this study is that it examines the proposed dimensions of leader distance theory. Distance has been conceptualized in multiple ways (Collinson, 2005), including social distance (Shamir, 1995), spatial distance (Kerr & Jermier, 1978), and in terms of hierarchical leadership (Bass & Avolio, 1993). Antonakis and Atwater's (2002) conceptualization attempts to be more comprehensive by including multiple forms of distant leadership. However, there are limited studies that account for each dimension of leader distance (e.g., Balwant, 2019; Griffith et al., 2018).

Third, the study contributes to the existing literature on remote work and mentoring by specifically examining how varying degrees of remote work relate to mentorship and mentoring outcomes among remote workers. Previous studies of virtual mentorship have focused solely on the comparison of traditional, face-to-face mentorships and mentorships that are fully mediated by technology (e.g., Bierema & Hill, 2005; Neely et al., 2017; Smith-Jentsch et al., 2008). However, for remote workers, the extent that these relationships occur via ICTs may vary according to preferences and necessity, resulting in a blended or hybrid approach that involves both the use of ICTs and face-to-face communication (Chong et al., 2020; Neely et al., 2017).

While the use of a blended approach has been suggested as a future avenue of research (Ensher et al., 2003), more data are needed to understand mentorship within a remote work environment (Chong et al., 2020; Haggard et al., 2011).

Finally, the study also has potential practical implications. By establishing links between remote work, mentor distance, and key mentoring outcomes, the present study can inform future practical interventions as organizations and early-career professionals look for ways to promote fruitful mentorships via remote communication. Thus, the study will benefit the growing population of remote workers, who may be more likely to rely on virtual means of professional development. Little guidance currently exists due to lack of research on how remote work influences mentorship outcomes.

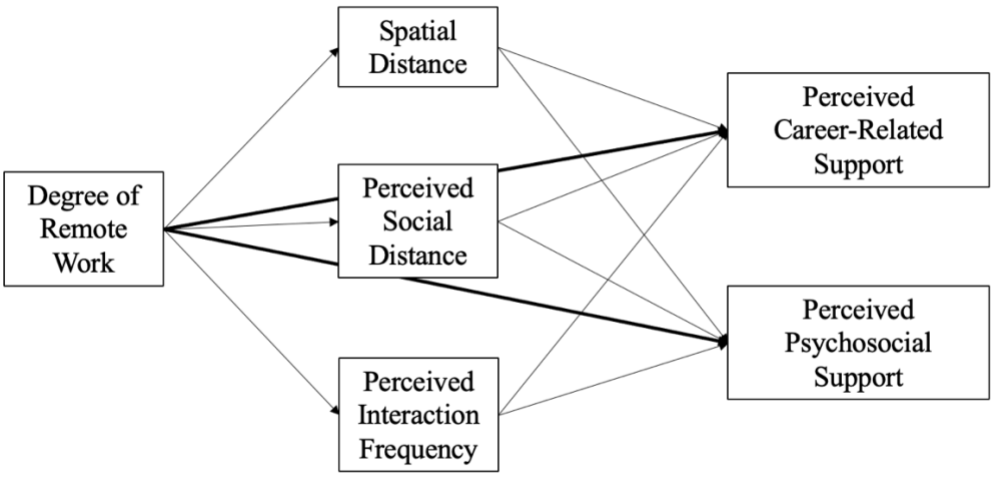

Figure 1. *Full Hypothesized Path Model*

Theoretical Foundation

The central idea of Antonakis and Atwater's leader distance theory (2002) is that total leader distance helps to explain the leader's influencing process. They propose that leader

distance, or the configural effect of spatial distance, perceived social distance, and perceived interaction frequency, can impact a leader's influence and relationship with subordinates. The model suggests that the success of leadership relies on actively managing the degree of leader-follower distance according to the context they are in. Specifically, more distant leaders are characterized as being both physically and relationally distant as well as maintaining infrequent contact with followers. Overall, mismanagement of these forms of distance could result in a reduction in influence, which can contribute to negative relationship outcomes such as follower dissatisfaction (Collinson, 2005).

In applying leader distance theory to mentorship is important to note that mentors can be anyone within the organization, and they do not have to be in a supervisory or leadership position to mentor others. Mentorships, like leader-follower relationships, can be characterized by the spatial and relational distance between the more experienced mentor and the protégé. Mentor-protégé pairs interact to varying degrees, may be located physically close or far to each other, and may perceive varying amounts of social distance between them. Mentors influence protégés through functions such as the provision of support and role modeling (Kram, 1985). Just as leader effectiveness can be hindered by leader distance, mentor effectiveness may be reduced by greater mentor distance.

According to the proposed leader distance model, remote work creates the opportunity for individuals to act as either virtually close or as virtually distant leaders (Antonakis & Atwater, 2002). As such, their respective levels of distance may vary depending on more specific characteristics of the relationship, such as how often they choose to communicate with followers. In a similar manner, mentors may face additional obstacles in creating and maintaining quality relationships, providing career and psychosocial support, and sharing knowledge when remote

work arrangements necessitate more distant relationships. The dimensions of leader distance theory may thus be helpful in disentangling the relationship between remote work and mentoring relationships. Although Antonakis and Atwater (2002) suggest that distance can either contribute to or detract from influence effectiveness, I argue that mentor distance in the context of remote work will relate to lower mentor effectiveness and ultimately has a negative relationship with protégés' perceived mentoring support. Heightened spatial and relational distance between the mentor and protégé in a virtual context can potentially result in increased difficulties regarding the social exchanges that are key to quality relationships and mentors successfully providing support and information to protégés.

The present study is intended to investigate the relationships among remote work, mentor distance, and perceived mentoring support. The following literature review draws from leader distance theory and the broader literatures on mentoring, leadership, and remote work to guide my hypotheses.

Literature Background

Context of Remote Work

Over time, a variation in how remote work is conceptualized has arisen in the literature. Some previously used terms include telework, telecommuting, flexible work arrangements, and e-work. Remote work is broadly defined as a practice that involves employees working away from the central workplace for a portion of or all of their work hours (i.e., varying degrees of remote work) (Allen et al., 2015). This commonly requires workers to operate primarily from home and to use ICTs such as smartphones and laptops. ICTs have revolutionized how work is conducted and allow communication and work-related tasks to be completed independently of

location and time via computer programs, email, and video-calls (Messenger & Gschwind, 2016).

As these technologies are developed and implemented, it is necessary for the remote workforce to adapt along with them. Remote workers must therefore possess the abilities to perform in virtual settings, as the necessary knowledge, skills, and abilities differ from the traditional workplace and require accommodation to more rapid change (Wang & Haggerty, 2009). In addition to these adaptations, there are also career detriments for remote workers. An experiment with non-remote employees and employees working from home found that, after controlling for performance, remote workers were promoted less frequently than non-remote employees (Bloom et al., 2015). Remote workers may also experience lower salary growth than non-remote workers (Golden & Eddleston, 2020). Golden and Eddleston (2020) further provide evidence that the extent to which employees work remotely is negatively related to promotions and salary growth, suggesting that the degree of remote work is key in affecting career success.

Remote work also affects social and relational opportunities in the workplace, as these employees are more "out of sight, out of mind". Thus, telecommuting employees face an increased likelihood of social and professional isolation (Marshall et al., 2007). The feeling of social isolation may result from a lack of perceived emotional support and intimacy with coworkers (Mann et al., 2000). The extent that work occurs remotely is also related to increased emotional exhaustion via low emotional support from colleagues (Vander Elst et al., 2017). Regarding professional isolation, a qualitative report of remote workers found that they perceived limited access to interpersonal networking and informal professional development opportunities such as mentoring relationships (Cooper & Kurland, 2002). Relatedly, workplace

social support is a key predictor of organizational identification for remote workers (Wiesenfeld et al., 2001).

Degree of Remote Work and Perceived Support

Previous research on mentoring and remote work has generally examined electronic mentoring and concentrated on virtual communication and technology as the key variables at play (Neely et al., 2017). More specifically, previous studies have primarily focused on the form of communication media used (e.g., Merritt & Havill, 2016) and comparisons of fully remote and fully in-person mentorships (e.g., Smith-Jentsch et al., 2008) to examine mentoring relationships in a virtual context. However, for mentoring research, the intensity of remote work may be more salient than a dichotomous comparison of remote versus in-person work arrangements. As previously mentioned, the degree of remote work can affect career and relational outcomes such as promotion, salary growth, and relational support from coworkers (Golden & Eddleston, 2020; Vander Elst et al., 2017). The extent to which an employee works remotely may thus play an important role not only in remote workers' careers but also in the development of workplace relationships. The current study is therefore focused on mentoring relationships within the broader context of remote work design.

Key mentorship outcomes that may be affected by remote work arrangements are the career and psychosocial support that protégés perceive. Broadly, support from a mentor aids protégés' personal and professional development. There is an extensive body of research that has shown that protégés reap an array of positive benefits from this support (e.g., Allen et al., 2004; Eby et al., 2012; Wanberg et al., 2003). Mentoring support can ultimately relate to protégé attitudinal, behavioral, career-related, and health-related outcomes such as situational satisfaction, turnover intent, perceived career success, self-efficacy, and strain, among others

(Eby et al., 2012). The two primary forms of support provided by mentors are psychosocial support and career-related or instrumental support (Kram, 1985). Psychosocial support involves the more relational components of support such as counseling, role modeling, and friendship (Kram, 1985). This form of support primarily aids a protégé in developing a sense of competence, identity, and effectiveness in their role. Career-related support, according to Kram (1985), involves a mentor guiding their protégé via coaching, exposure, and the provision of challenging assignments to foster protégé career development. Career-related support also includes career sponsorship, which involves a mentor providing advice, publicly acknowledging protégé accomplishments, and employing their influence to advocate on behalf of the protégés career interests (Ibarra et al., 2010; NASEM, 2019). This support also facilitates protégé networking behaviors, allowing them to develop relationships with superiors and are predictive of income, hierarchical position, and career satisfaction (Blickle et al., 2009; Kram, 1985).

Importantly, there are also drawbacks for remote workers in mentoring relationships, particularly in terms of how these mentorships function, that may relate to opportunities for support. Indeed, employees who work 2.5 or more days per week remotely report lower quality coworker relationships than their peers (Gajendran & Harrison, 2007). Employees who work remotely 3 days or more per week, called high-intensity-teleworkers (Fonner & Roloff, 2012), differ from traditional workers in their use of communication media (Wiesenfeld et al., 1999) and experience less information exchange (Fonner & Roloff, 2010). Interpersonal communication can become more complicated in distributed environments due to factors such as increased physical distance and temporal dispersion. Additionally, in the extant knowledge literature, remote work can potentially decrease the opportunities for the protégé to learn and

develop common language, shared mental schemes, and narratives both with their mentor and within the larger organization (Taskin & Bridoux, 2010).

Protégés who work remotely may interact with their mentors in-person, via videoconferencing, telephone, instant messaging, or other ICTs. Challenges to online mentoring relationships, as posed by Ensher et al. (2003), also include miscommunication and slower development of relationships as well as technological problems, privacy, and an increased need for proficient writing and technical skills. These challenges may reduce opportunities for strong relationships to be formed that are conducive to greater perceived support. Additionally, because protégés often learn through watching their mentors in their respective roles, Ensher and colleagues (2003) propose that mentors who communicate to a greater degree remotely may be less effective than in-person mentors at providing psychosocial support via role-modeling. Thus, greater degrees of remote work create additional obstacles for the communication of career-related support, such as the provision of career advice, as well as for psychosocial functions such as counseling and friendship. Accordingly, I hypothesize the following:

Hypothesis 1: The degree of protégé remote work will relate negatively to protégé reports of psychosocial support.

Hypothesis 2: The degree of protégé remote work will relate negatively to protégé reports of career-related support.

Degree of Remote Work and Mentor Distance

The challenges that remote work poses to mentoring relationships, such as miscommunication and slower developing relationships (Ensher et al., 2003), also touch upon the three components of mentor distance: physical distance, perceived social distance, and

interaction frequency. Protégés with a higher degree of remote work have fewer opportunities and options to interact with their mentor both in the physical and relational sense. Therefore, it is plausible that a greater degree of remote work will relate to greater mentor distance, as defined by its three dimensions. The proposed relationships between degree of remote work and each dimension of mentor distance are further discussed below.

Spatial Distance. The first component of mentor distance is spatial distance, or how close or how far mentors are located from protégés. Individuals who work to a greater extent remotely are likely to observe increased physical distance from their mentor as a direct consequence of their work arrangement. For example, a protégé who only works five of their forty hours a week in-person may only have those five hours to potentially be in the same physical location as their mentor. Remote work also creates the possibility for employees within the same organization to work from vastly different physical locations. As such, this form of distance also contributes to perceptions of how spatially separated mentors and protégés are, or the extent that a protégés job and work tasks are completed away from or without direct contact with a superior or, in this case, their mentor (Kerr & Jermier, 1978). I thus propose the following:

> **Hypothesis 3a:** The degree of protégé remote work will relate positively to protégé reports of spatial distance with a mentor.

Perceived Social Distance. The second component of mentor distance is social or psychological distance. This form of distance is defined in leader distance theory as "perceived distances in status, rank, authority, social standing, and power that affect the degree of social intimacy and social contact that develops between followers and their leaders" (Antonakis & Atwater, 2002, p. 682). Earlier conceptions of social distance also include power distance and the

perceived similarity between a leader and subordinate (Napier& Ferris, 1993; Rothaus et al., 1965). Essentially, social distance is a perception of similarity and a close relationship between the mentor and protégé. A higher degree of remote work necessitates greater use of ICTs, which can limit verbal and nonverbal cues, increase opportunities for miscommunication, and slow the speed with which protégés get to know and build relationships with mentors (Ensher et al., 2003). Remote work may also provide limited opportunities for interactions that involve discovery and disclosure between mentors and protégés, thought to drive the process of identification within mentorships (Humberd & Rouse, 2016). This may maximize differentials in status and power between mentors and protégés and hinder the protege's ability to communicate and find similarities with their mentor. Therefore, I propose the following:

> **Hypothesis 3b:** The degree of protégé remote work will relate positively to protégé social distance with a mentor.

Perceived Interaction Frequency. The third component of mentor distance is perceived interaction frequency. Although this dimension does not necessarily signify distance, it does affect how "close" a protégé may be with their mentor (Antonakis & Atwater, 2002), and is independent of social and physical distance. Interaction frequency may vary depending on individual preferences, the state of the relationship, and the goals set within the mentorship (Chong et al., 2020). In leader distance theory, infrequent contact with followers is suggested to contribute to leader-follower distance. Although ICTs can potentially support mentor-protégé interaction for remote workers, these individuals are, by nature of their physical distance from mentors, much less likely to benefit from commonplace, informal interactions that may occur in-person, such as running into a mentor in the hallway or during breaks. These spontaneous,

informal encounters play a role in the development of emotionally close, quality relationships (Cropanzano & Mitchell, 2005). Accordingly, I propose the following:

> **Hypothesis 3c:** The degree of protégé remote work will relate negatively to protégé interaction frequency with a mentor.

Mentor Distance and Perceived Support

Following the propositions of leader distance theory (Antonakis & Atwater, 2002), mentor distance may ultimately relate to less interpersonally "close" relationships and reduced mentor support. A sense of oneness and emotional attachment is integral to the creation and sustainment of effective mentoring relationships (Kram, 1985; Sluss & Ashforth, 2007). This effect on interpersonal closeness has been delineated in the existing literature on teams. For example, the development of interpersonal relationships can be hindered in virtual teams, since their interactions often lack nonverbal cues necessary for this development (Weisband & Atwater, 1999), pointing to increased physical and psychosocial distance. Remote teams have also been argued to potentially be less effective as a result of their difficulty cultivating trust through computer-mediated communication (Handy, 1995; Parker et al., 2020). Previous mentoring research has argued that mentorships are unlikely to result in positive protégé outcomes without these strong interpersonal connections (Rhodes, 2005). It follows that greater mentor distance and reduced influence effectiveness may manifest for protégés as lower perceived career-related and psychosocial support. The proposed relationships between the dimensions of mentor distance and perceived mentoring support are discussed below.

Spatial Distance. Spatial distance may make it more difficult for mentors to provide support to protégés by making frequent mentor-protégé interactions more complex, as well as by

making it more challenging to be inspirational or to role model, a key psychosocial function of mentorship (Ensher et al., 2003; Kram, 1985). While role modeling may not be impossible in a remote work context, the limitations of modern technology make it difficult to replicate the observation that would naturally occur in-person. In the leadership literature, authors have argued that physical distance decreases opportunities for leaders to directly influence followers (Liden et al., 1997; Napier & Ferris, 1993). In turn, a protégé has fewer opportunities to directly observe and evaluate their mentor. Through potentially reduced and more complex mentor-protégé interactions, spatial distance may interfere with providing career-related and psychosocial support to protégés. I thus propose the following:

> **Hypothesis 4:** Protégé reports of spatial distance will relate negatively to (a) career-related support and (b) psychosocial support.

Perceived Social Distance. A reduction of face-to-face interactions and physical proximity may also harm the social exchanges necessary to build strong relationships, exacerbating the impact of perceived differences in power and status (i.e., social distance). As previously discussed, greater social distance can be characterized by protégés feeling less able to adequately communicate with a mentor. According to research and developing theory on distance in organizations, employees who perceive themselves to be less similar to their supervisor may also experience a poorer working relationship with the supervisor (Napier & Ferris, 1993). In mentorships, these poor working relationships can be considered those with limited support for protégés. Relatedly, deep-level similarity, or similarity in attitudes, beliefs, values, and other personal characteristics, has been shown to consistently relate positively to both perceived career-related and psychosocial support (Eby, 2012; Eby et al., 2013). Thus, protégés who perceive greater amounts of social distance between themselves and their mentor

and cannot comfortably and effectively communicate with their mentor may perceive less mentoring support. I therefore propose the following:

> **Hypothesis 5:** Protégé social distance with a mentor will relate negatively to (a) career-related support and (b) psychosocial support.

Perceived Interaction Frequency. The frequency of mentor-protégé interactions is often discussed as a component in protégé development, satisfaction, relationship quality, and, importantly, perceptions of support (Allen et al., 2006; Ayoobzadeh, 2019; Eby et al., 2013; Merritt & Havill, 2016). Protégés may, for example, feel closer to mentors when communication is more frequent, particularly in the initiation stage of the mentorship when the relationship is started, and more frequent meetings allow for the building of trust and rapport (Kram, 1985). Eby and colleagues' (2013) meta-analysis provides evidence that interaction frequency is positively related to both perceived instrumental or career-related support ($\rho = .29$) and perceived psychosocial support ($\rho = .25$). Accordingly, I propose the following:

> **Hypothesis 6:** Protégé interaction frequency with a mentor will relate positively to (a) career-related support and (b) psychosocial support.

Indirect Effects of Degree of Remote Work on Perceived Support

I also investigate the indirect effect of degree of remote work on mentoring support as it may be that the relationship between remote work and mentoring support is transmitted through mentor distance. For instance, a protégé who works to a greater degree remotely may report greater mentor distance, which may lessen opportunities for them to observe their mentor acting as a role model, ultimately decreasing perceived psychosocial support. Similarly, a protégé who works remotely may interact less frequently with a mentor, providing fewer opportunities for the

mentor to influence via the provision of career-related support. Thus, the dimensions of mentor distance may act as explanatory mechanisms for the expected relationships between degree of remote work and perceived mentoring support. I therefore propose the following:

Hypothesis 7: The degree of protégé remote work will be indirectly and negatively related to psychosocial support via (a) spatial distance, (b) social distance and (c) interaction frequency.

Hypothesis 8: The degree of protégé remote work will be indirectly and negatively related to career-related support via (a) spatial distance, (b) social distance and (c) interaction frequency.

CHAPTER TWO: METHOD

Participants

Participants were early career remote and hybrid workers who had a mentor who worked in their same organization. Similar to the definition used by Allen and Poteet (1999), mentors were defined as influential individuals who have guided, sponsored, or otherwise had a positive and significant influence on the professional career development of a protégé. To be included in the study, participants had to work a minimum of 32 hours per week for pay and work remotely at least 2 days (16 hours) per week. Participants were also early career (<12 years of experience) professionals. Individuals in both formal and informal mentorships were included. Participants were recruited from multiple online and organizational sources within the United States, with the most successful being direct emails to the member directories of young professionals' organizations and recent college alumni groups. A smaller proportion of participants were recruited via social media posts to remote working or young professionals' groups on Facebook and LinkedIn as well as through personal contacts. Every 20th participant up to the first 200 participants per wave was compensated $15 for completion of waves 1 and 2, and $20 for completion of the wave 3 survey.

A total of 2,084 respondents completed the first survey. However, 1,843 participants were flagged by the Qualtrics system as potential bots due to providing multiple responses that were deemed low quality or nonsensical. Additionally, 14 responses were removed when the participant could not provide logical responses in English to an open-ended response item that

asked them to describe their mentor using three adjectives. Ultimately, 337 eligible responses remained at Wave 1.

For those who were not initially removed in this process, two attention check items were used in the survey: “I have never used technology,” and “I was born on planet Earth.” These and similarly worded items have low false positive and false negative rates and are considered strong items for attention checks (Curran & Hauser, 2019). Nine participants were removed at this stage in Wave 1. Next in the data cleaning process, participants who, on average, took less than two seconds to answer each item were flagged for careless responding (Huang et al., 2022). No participants were removed at this step. Finally, responses were flagged for careless responding through long strings of identical responses. This was done by using the longstring function of the careless package in R (Yentes & Wilhelm, 2023) after reverting previously reverse-scored items to their original format. Participants were flagged if their number of repeated, identical responses could be categorized as upper outliers (i.e., longstring values > 11, where the upper outlier 11 = Q3 + (1.5 x IQR)). A total of 31 participants were removed at this stage. After the data cleaning process, 297 participants remained in the Wave 1 sample.

The current data were downloaded from Qualtrics on November 1, 2023, at which time a total of 337 participants had been contacted to participate in Wave 2. A total of 165 completed the second survey and 14 responded but indicated they were no longer in a mentorship and were therefore ineligible to continue. Participants who were no longer in mentorships most often reported that their reasons for ending the mentorship were that they had met their goals, they or their mentor had moved organizations, or their needs/priorities had changed. Thus, 158 participants did not respond to the invitations or reminders to participate in the second survey. At Wave 3, 165 participants were contacted. Only two participants responded that they were no

longer eligible due to no longer having the same mentor from Waves 1 and 2. Thus, an additional 41 participants did not respond to invitations to finish the final survey. It is notable that the response rate was higher for individuals who completed Wave 2 to take the Wave 3 survey (75%) compared to the response rate for Wave 2 (53%).

The same data cleaning methods were used to flag careless respondents in the Wave 2 and Wave 3 data. There were 165 eligible responses to the second survey, and 5 were removed for failing the two attention check items. As with Wave 1, no participants were removed for too quickly answering survey items in either Wave 2 or Wave 3. An additional 6 participants were removed from Wave 2 for long strings of identical responses (i.e., longstring values > 16, where the upper outlier 16 = Q3 + (1.5 x IQR)), leaving a total of 154 observations for the second survey. There were 122 eligible observations at Wave 3. Two responses were removed for failing attention checks and 5 were removed for being longstring careless responders (i.e., longstring values > 18.5, where the upper outlier 18.5 = Q3 + (1.5 x IQR)). Thus, the final sample participants who responded to all 3 surveys was 114, and this sample was used to test the hypothesized path model.

In the final sample, the majority of participants were female (73%) and ranged from 20 to 57 years old, with an average age of 32.58. The majority (62%) were white. On average, most participants had at least a bachelor's degree; 52% had a bachelor's degree, 33% had a master's degree, and 10% had a professional or doctoral degree. Participants primarily worked in industries including educational services (18%), finance (11%), healthcare (14%), management (17%), real estate (12%) and other industries (17%). On average, the sample worked a total of 41.62 hours per week and 73.67% of their weekly work hours were remote. In terms of their mentorships, 38% of respondents indicated their mentoring relationship was informal as opposed

to part of a formal mentoring program. Additionally, 48% reported that their mentorship started via remote means, 19% started their mentorship in-person, and 32% indicated their mentorship started via both in-person and remote means. A further breakdown of demographic characteristics can be found in Table 1.

Procedure

Three waves of data were collected using a one-month lagged approach. Wave 1 captured demographic characteristics and work arrangement, including weekly work hours and hours worked remotely. The dimensions of mentor distance, including physical distance, perceived social distance, and perceived interaction frequency were captured at Wave 2. Finally, Wave 3 captured perceptions of career-related and psychosocial support. The use of multiple timepoints was aimed at limiting potential effects of common method bias (Podsakoff et al., 2003).

In addition to email invitations to participate in surveys 2 and 3, each eligible participant received a thank-you email immediately upon successful completion of the Wave 1 survey. For instances in which a participant did not respond to the first notification of either the Wave 2 or Wave 3 survey, an initial, personalized reminder email was sent within 24-48 hours of the time they were scheduled to complete the survey. If there still had been no response to the first reminder, final reminders were sent one week after the original invitation email to complete the survey.

Measures (see Appendix for full scales)

Degree of Remote Work.

Participants reported the number of hours they worked per week as well as the amount of those hours they worked remotely (i.e., via ICTs, away from a central workplace). The degree of remote work was operationalized as the percentage of hours worked remotely.

Spatial Distance

Spatial distance was measured using an adapted form of Kerr & Jermier's (1978) scale made specific to mentors. Participants were asked to indicate their level of agreement with three items (e.g., "The nature of my job is such that my mentor is seldom around me when I'm working") on a five-point scale that ranged from 1 ("almost always untrue or almost completely untrue") to 5 ("almost always true or almost completely true"). Higher scores indicate greater amounts of spatial distance ($\alpha = 0.81$).

Perceived Social Distance

Perceived social distance was measured using seven items from Torres and Bligh's (2012) scale ($\alpha = .86$) created specifically to measure leader distance according to Antonakis and Atwater's (2002) dimensions. Participants rated the extent that they agreed with each statement (e.g., "I feel like I can talk about non-work-related subjects with him/her" (reverse-scored)), on a five-point scale that ranged from 1 (strongly disagree) to 5 (strongly agree). Higher scores indicate greater amounts of perceived social distance ($\alpha = 0.87$).

Perceived Interaction Frequency

Interaction frequency was measured using an adaptation of Fonner and Roloff's (2012) scale. Participants were asked how frequently they communicate with their mentor (rather than the original reference of supervisor or colleagues) using face-to-face communication, videoconferencing, phone, instant messaging, and email. Responses ranged from "never" to "very often" on a 5-point scale. Total communication was computed by summing responses to the five items. Higher scores indicate greater total amounts of interaction via the five forms of communication media.

Perceived Career-Related and Psychosocial Support

Perceived amount of career-related support was measured using 6 items from Scandura's (1992) widely used mentoring functions questionnaire, created by Scandura & Ragins (1993) ($\alpha = 0.87$). A sample item is "My mentor takes personal interest in my career." Perceived psychosocial mentoring was measured with 8 items from Scandura (1992) and Noe's (1988) mentoring function scale that capture psychosocial and role modeling functions ($\alpha = 0.84$). Sample items include "I share personal problems with my mentor" and "I try to model my behavior after my mentor." Responses to each item were made on a 5-point scale that ranged from 1 (strongly disagree) to 5 (strongly agree), with higher scores indicating more perceived support.

Potential Control Variables

I considered mentorship type (formal vs. informal) and mentorship duration as potential controls, depending on their observed relationships with the model variables (Carlson & Wu, 2012). Based on prior research, these mentorship-related variables can affect mentorship

outcomes (e.g., Chao et al., 1992; Fagenson-Eland et al., 1997; Ragins & Cotton, 1999; Ragins & McFarlin, 1990). Mentorship type was assessed dichotomously (coded as informal = 1 and formal = 2) (Allen & Eby, 2003). Mentorship duration was measured as the length of the mentoring relationship in months.

Table 1.

Participant Demographics and Descriptive Variables

Variable	Mean or %	SD
Race		
White	62.28%	
Hispanic, Latino/a or Spanish origin of any race	5.26%	
Asian	2.63%	
Black or African American	15.78%	
Native American or American Indian	0.01%	
Mixed race	12.28%	
Prefer not to disclose	0.01%	
Education		
Some College	1.75%	
Trade/Technical/Vocational Training	0.01%	
Associate's degree	1.75%	
Bachelor's degree	51.75%	
Master's degree	33.33%	
Professional degree	2.63%	
Doctorate	7.89%	
Industry		
Accommodation or food service	0.01%	
Admin, support, waste management, or remediation services	2.63%	
Educational services	18.42%	
Finance or insurance	11.40%	
Health care or social assistance	14.03%	
Information	2.63%	
Manufacturing	3.50%	
Other services (except public administration)	0.01%	
Management of companies or enterprises	17.53%	
Real estate	12.28%	
Retail trade	0.01%	
Utilities	1.75%	
Wholesale trade	0.01%	
Other	17.54%	
Age	32.58	7.69
Gender		
Female	73.68%	
Male	23.68%	
Nonbinary/Genderqueer	3.51%	
Total Weekly Work Hours	41.64	6.42
Remote Weekly Work Hours	30.28	11.86
Start Location		
In-Person	19.29%	
Virtual	49.12%	
Hybrid	32.45%	
Formality Type		
Formal	38.59%	
Informal	62.28%	
Occupational Tenure (in years)	6.10	3.73
Job Tenure (in years)	4.87	9.86
Salary	$68,400	$40,000

Note: The mean and standard deviation of salary was calculated by assigning numerical values to the ordinal categories of income (e.g., 3 = $40,000 – $59,000) prior to converting the mean and standard deviation to income values by taking the first value of the range associated with the mean and multiplying the remainder by the length of the range.

CHAPTER THREE: RESULTS

Examination of Variables

Prior to testing hypotheses, I examined the distribution and normality of the endogenous variables. The measures of interaction frequency and physical distance exhibited skew values less than |1| and had kurtosis values less than 3, as well as relative bell curve distributions. Social distance was positively skewed (1.7) and leptokurtic (kurtosis value = 6.3), indicating that a greater number of values fall within the lower tail than in the normal distribution. Thus, most participants indicated quite low amounts of social distance between them and their mentor.

Both measures of mentoring support, career-related and psychosocial support, were negatively skewed (-1.78 and -1.2, respectively) with kurtosis values greater than 3 (7.6 and 5.7). Specifically, these measures were leptokurtic, and their histograms confirm that most observations for support were on the higher end of each scale. Previous research has not found issues with the normality of these variables (e.g., Scandura & Ragins, 1993).

Descriptive statistics for all the variables used in the study as well as zero-order correlations can be found in Table 2. The correlations provide some initial support for the proposed hypotheses. The degree of remote work related positively to spatial distance (r = 0.37, $p < .001$) but was not significantly related to social distance or interaction frequency. Of the three forms of distance, social distance was strongly and negatively related to career-related and psychosocial support (rs of -0.28 ($p < .001$) and -0.49 ($p < .001$), respectively). Interaction frequency related positively to both forms of support (rs of 0.21 ($p < .05$) and 0.17 ($p > .05$)),

though these correlations were not significant. Spatial distance did not have significant directional relationships with either form of support. Career-related and psychosocial support were strongly correlated ($r = 0.45$, $p < .001$). Additionally, correlations between potential control variables and variables included in the study were examined to determine if they should be included in subsequent analyses. Of note, neither formality type nor mentorship duration had significant relationships with any of the other variables included in the model. Therefore, these variables were not included as controls in the tested model.

Finally, I examined the factor structure of the two mentoring support measures as well as perceived social distance, given the often-high correlations between measures of support and the potential overlap of the social distance items with both forms of support. The correlations between career-related support, psychosocial support, and perceived social distance were all significant and the constructs had strong enough correlations to warrant further analysis. Specifically, career-related support and psychosocial support were strongly correlated ($r = 0.64$, $p<.001$), and perceived social distance had strong negative relationships with both career-related support ($r = -0.28$, $p<.001$) and psychosocial support ($r = -0.49$, $p<.001$). To examine whether these measures did in fact represent three separate constructs, I conducted exploratory and confirmatory factor analyses.

The exploratory factor analysis included all items from each of the three measures and provided support for a three-factor structure. This analysis was conducted using the principal factor solution factoring method and oblimin rotation. Factor correlations between each of the three factors were -0.27, -0.29, and 0.37, indicating that the constructs are correlated but are capturing distinct information. This was further confirmed by the scree plot, which indicated 3 factors emerging from the data.

I then conducted two confirmatory factor analyses, one with a unidimensional structure and one with three separate factors. The unidimensional model had a scaled $\chi 2$ value of 279.18 ($p < .01$), a comparative fit index (CFI) of 0.529 and Tucker-Lewis index (TLI) of 0.47. The CFI and TLI values are below the traditionally suggested values of 0.95 as indicators of good model fit. Additionally, the root mean square error of approximation (RMSEA) was 0.07 and the standardized root mean square residual (SRMR) was 0.14 for the unidimensional model. These values also fall outside of the 0.05 cutoff indicating good model fit. I then ran a confirmatory factor analysis for a model with three factors (career-related support, psychosocial support, and social distance). The three-factor model had a scaled $\chi 2$ value of 227.86 ($p = .02$) and CFI and TLI values of 0.78 and 0.75, respectively. The RMSEA was 0.04 and the SRMR was 0.09, both improved when compared to the unidimensional model. Overall, the three-factor model indicated improved model fit over the unidimensional model ($\Delta\chi^2 = 16.103$ (3), $p < .001$) and was in keeping with the exploratory factor analysis results, indicating that career-related support, psychosocial support, and social distance in the current data are related but distinct factors.

Hypothesis Testing

To test the proposed hypotheses, I outlined the proposed model in Figure 1 and tested it using the lavaan package in R (Yves, 2012), which is appropriate for testing mediation hypotheses. The results and fit statistics are reported in Table 3. It should be noted that in testing the full hypothesized model, there are no degrees of freedom due to the direct paths from the exogenous variable to each endogenous variable. Thus, the model is just-identified and the fit statistics cannot be properly calculated. Specifically, given zero degrees of freedom, the chi-square test of fit value is zero, with CFI and TLI indices of 1. The RMSEA and the SRMR returned values of zero.

I applied leader distance theory (Antonakis & Atwater, 2002) specifically to relationships relating DRW to the dimensions of mentor distance (Hypotheses 3 and 4), those relating mentor distance to mentoring support (Hypotheses 5 and 6), and the indirect paths relating DRW to mentoring support via mentor distance (Hypotheses 7 and 8). The propositions of leader distance theory do not specifically propose a direct relationship between the contextual variable of remote work to specific relational outcomes (Hypotheses 1 and 2), but rather emphasize the influence of the context as increasing the opportunities for greater mentor distance and subsequently hindering relational outcomes. In considering only the propositions made by leader distance theory, a fully mediated path model relating DRW to mentoring support is an appropriate alternative model.

I first examined the direct relationships between DRW and mentoring support. The direct paths from degree of remote work to both career-related and psychosocial support were essentially zero and nonsignificant. Therefore, I test and report the full hypothesized model as well as a model with only indirect paths that is in greater alignment with the propositions made by leader distance theory. Both models are reported in Table 3.

For the indirect path model, visualized in Figure 2, the chi-square test of fit is nonsignificant, χ^2 (2) = 0.179, p = 0.91. The CFI is 1.0 and the TLI is 1.12, and SEM research suggests that values above the cutoff criterion of 0.95 suggest adequate fit (Hu & Bentler, 1999). The RMSEA is 0 and the SRMR is 0.008, both of which are under the recommended 0.05 cutoff value. I also examined the standardized residuals, looking for residuals greater than |2|. For the indirect path model, all residuals were near zero, with the exception of the residuals between degree of remote work and career-related support and psychosocial support, with residuals of 0.42 and 0.23, respectively.

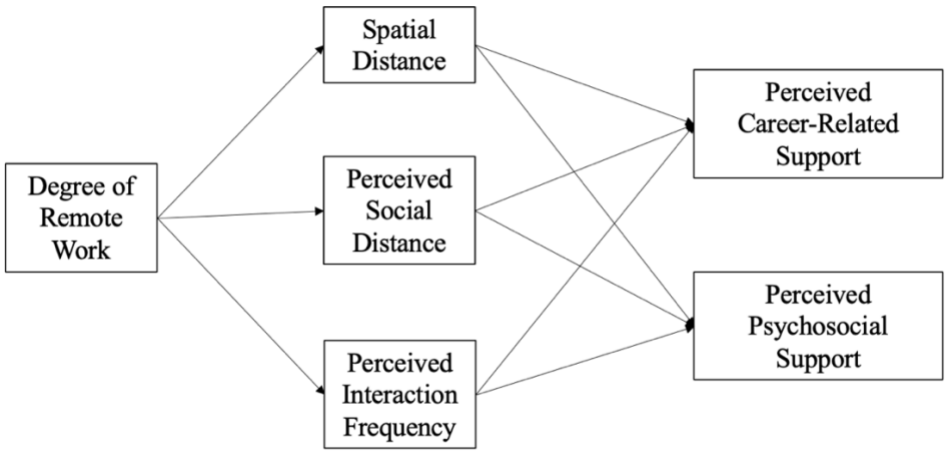

Figure 2. *Indirect Path Model*

Hypotheses 1 and 2 stated that the degree of protégé remote work (DRW) would relate negatively to protégé reports of psychosocial support and career-related support. The standardized path coefficient from DRW to psychosocial support in the full hypothesized model was $\beta = 0.00$, $p = 0.81$ and the path coefficient from DRW to career-related support was $\beta = 0.00$, $p = 0.69$. Therefore, the first two hypotheses were not supported.

The following report of Hypotheses 3-8 are based on the indirect path model. Hypotheses 3a and 3b stated that DRW would relate positively to (a) physical distance between a mentor and protégé as well as (b) social distance. The standardized path coefficient from DRW to spatial distance was $\beta = 0.016$, $p = 0$, providing support for Hypothesis 3a. However, the path coefficient from DRW to social distance was $\beta = 0$, $p = 0.84$ so Hypothesis 3b was not supported. Hypothesis 3c stated that DRW would relate negatively to interaction frequency between a mentor and a protégé. This was also not supported, as the path coefficient was $\beta = 0$, $p = 0.97$.

Hypothesis 4 stated that protégé reports of spatial distance would relate negatively to (a) career-related support and (b) psychosocial support. Although the path coefficient was in the hypothesized direction, spatial distance was not significantly related to career-related support ($\beta = -0.05$, $p = 0.44$) and Hypothesis 4a was not supported. Further, Hypothesis 4b was not supported as the path coefficient from spatial distance to psychosocial support was $\beta = 0$, $p = 0.05$.

Hypothesis 5 stated that protégé reports of social distance would relate negatively to (a) career-related support and (b) psychosocial support. Both path coefficients relating social distance to mentoring support were significant, providing support for Hypotheses 5a and 5b. Specifically, the coefficient from social distance to career-related support was $\beta = -0.36$, $p = 0.04$ and the path from social distance to psychosocial support was $\beta = -0.49$, $p = 0.0$. Both estimates had 95% confidence intervals that excluded zero [-0.74, -0.08] and [-0.80, -0.26], respectively.

Hypothesis 6 stated that protégé' reports of interaction frequency with their mentor would relate positively to (a) career-related support and (b) psychosocial support. Both path coefficients were in the hypothesized positive direction but were not significant. Specifically, the path from interaction frequency to career-related support was $\beta = 0.13$, $p = 0.13$, and the path from interaction frequency to psychosocial support was $\beta = 0.09$, $p = 0.19$.

Finally, Hypothesis 7 stated that DRW would be indirectly and negatively related to career-related support via (a) physical distance, (b) social distance and (c) interaction frequency. Hypothesis 8 also stated the same indirect effects for psychosocial support. None of the hypothesized indirect effects were significant, all had p values above 0.05, and all had standardized coefficients that were essentially zero.

Supplementary Analyses

Separating In-Person and Virtual Types of Interaction Frequency

To further examine some of the findings of the present study, I conducted additional analyses. First, I compared the hypothesized model with a plausible alternative that more specifically captures the type of interactions between a mentor and protégé. More specifically, I separated the interaction frequency measure into two separate measures capturing interactions that occurred in-person and all others that occurred via remote means (i.e., email, videoconferencing, phone calls, IM). This model is visualized in Figure 3. The $\chi 2$ value was 0.09, p = 0.96, with a CFI of 1 and TLI of 1.12. Additionally, the RMSEA and SRMR were both 0.00. All standardized residuals in this model were also less than |2|.

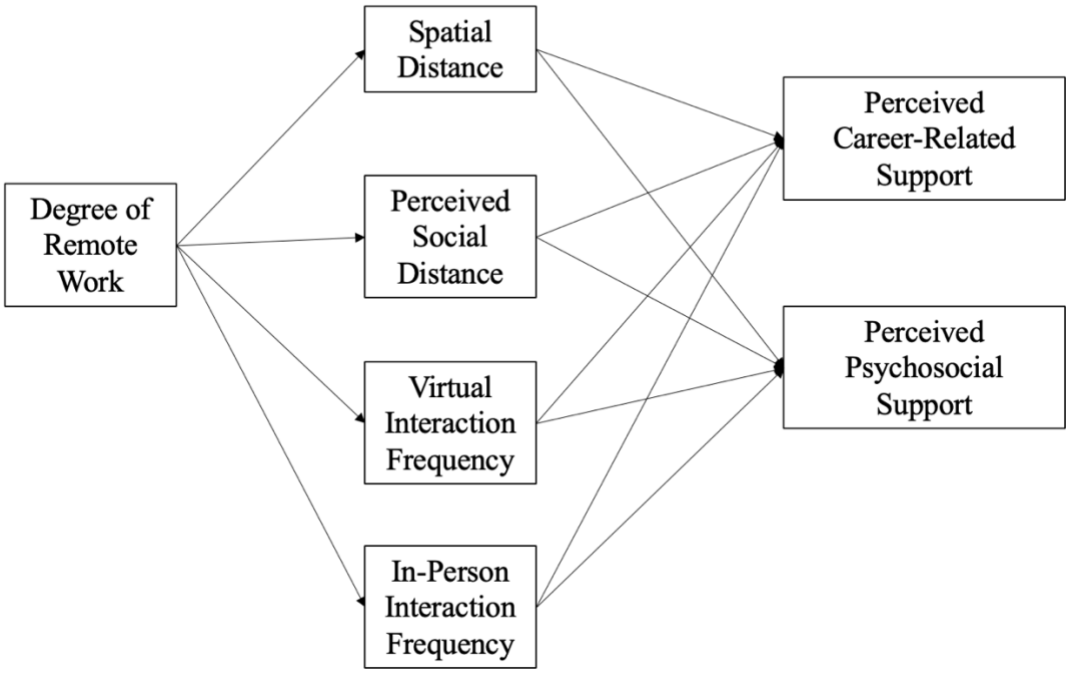

Figure 3. *Alternative Interaction Frequency Path Model*

All path coefficient estimates for the alternative interaction frequency model can be found in Table 4. The path from DRW to in-person interaction frequency was small though significant at $\beta = -0.02$, $p < .001$ and in alignment with the hypothesized negative direction. The standardized coefficient from DRW to interaction frequency via virtual means was $\beta = 0.0$, $p=0.04$. The relations between both types of interaction frequency and career-related support remained nonsignificant. Specifically, in-person interaction frequency was not significantly related to career-related support ($\beta = 0.0$, $p = 0.98$), and virtual interaction frequency related positively to career-related support ($\beta = 0.12$, $p = 0.14$), though this was also not significant. Both forms of interaction frequency related similarly to reports of psychosocial support. In-person interaction frequency had a nonsignificant standardized coefficient of $\beta = -0.0$, $p = 0.99$ and virtual interaction frequency had a standardized coefficient of $\beta = 0.09$, $p = 0.19$. Thus, separating mentor and protégé interaction frequency according to whether they occurred in-person or virtually did not provide significant evidence of relationships between interaction frequency and either form of mentoring support.

Path Model Tested with Wave 1 Data

As a second supplement, I conducted a path analysis of the indirect path model using only the cross-sectional data from Wave 1. Given that the lagged analyses were underpowered, an analysis using the larger sample may help to further illuminate the relationships within the data. It must be noted, however, that the use of the cross-sectional data has the potential for inflated relationships among the variables of interest due to them being measured at the same point in time (Podsakoff et al., 2003). After data cleaning procedures, there were 297 eligible responses at Wave 1.

The indirect path model using only Wave 1 data exhibited good overall model fit. The chi-square fit statistic was $\chi 2 = 0.59$ ($p = 0.74$), with a CFI and TLI of 1.0, indicating good model fit. The RMSEA and SRMR values were both less than 0.01, also indicating that the model fit the data well. The standardized path coefficients for the Wave 1 only model can be found in Table 5. The path coefficients between protégé DRW and both perceived social distance and interaction frequency were nonsignificant. The relation between DRW and spatial distance was significant but not in the hypothesized positive direction ($\beta = -0.01$, $p < 0.001$), although the effect size was quite small. In terms of the path coefficients relating the three forms of mentor distance to career-related support, all three relations were significant and in the hypothesized directions. Specifically, spatial distance ($\beta = -0.06$, $p = 0.03$) and social distance ($\beta = -0.51$, $p < .001$) related negatively to career-related support. Interaction frequency was positively related to career-related support ($\beta = 0.28$, $p < .001$). The paths between the mentor distance variables and psychosocial support were in the hypothesized directions, though not all significant. Spatial distance was negatively related to psychosocial support, though the coefficient was not significant ($\beta = -0.03$, $p = 0.25$). Social distance was negatively and significantly related to psychosocial support ($\beta = -0.54$, $p < .001$), and the path between interaction frequency and psychosocial support was positive and significant ($\beta = 0.21$, $p < .001$). All the indirect paths from DRW to both forms of support were nonsignificant.

Overall, the path model with increased power from the Wave 1 sample had good model fit as well as illuminated stronger and more significant path coefficients than the model using the lagged data. Of note, the relation between DRW and spatial distance remained significant, although the path model using the original lagged data observed a positive relationship ($\beta = 0.02$, $p < .001$) and the Wave 1 path model resulted in a negative relationship ($\beta = -0.01$, $p < .001$).

Further, the relations between all three forms of mentor distance and both career-related and psychosocial support were in the same, hypothesized direction as they were in the original path model, and all relationships were stronger in the Wave 1 model. Indeed, the model using Wave 1 data resulted in three additional significant relationships when compared to the lagged model. In particular, the paths from spatial distance to career-related support, from interaction frequency to career-related support, and from interaction frequency to psychosocial support were all significant and in the hypothesized directions.

Table 2.

Means, Standard Deviations, Correlations with Confidence Intervals, Skew and Kurtosis of Potential Confound and Study Variables

Variable	*M*	*SD*	1	2	3	4	5	6	7	8
1. DRW (W1)	73.41	27.65								
2. Spatial Distance (W2)	4.05	1.10	.37** [.20, .52]							
3. Social Distance (W2)	1.57	0.67	.05 [-.14, .24]	-.08 [-.26, .11]						
4. Interaction Frequency (W2)	3.33	0.70	.01 [-.18, .19]	-.18 [-.35, .01]	-.12 [-.30, .07]					
5. Career-Related Support (W3)	4.29	0.70	-.03 [-.22, .16]	-.16 [-.33, .03]	-.28** [-.45, -.10]	.21* [.03, .39]				
6. Psychosocial Support (W3)	4.09	0.67	-.03 [-.21, .16]	-.01 [-.19, .18]	-.49** [-.62, -.33]	.17 [-.02, .35]	.64** [.51, .74]			

Table 2.

(Continued).

7. Formality Type (W1)	1.60	0.49	.03	-.05	.02	-.02	-.09	-.01		
			[-.16, .21]	[-.23, .14]	[-.17, .20]	[-.21, .17]	[-.27, .10]	[-.20, .17]		
8. Mentorship Duration in Months (W1)	35.64	46.76	-.10	.12	.09	-.02	.24*	.11	-.27**	
			[-.28, .09]	[-.07, .31]	[-.10, .28]	[-.21, .17]	[.05, .41]	[-.08, .30]	[-.44, -.09]	
Skew			-0.47	-1.02	1.71	-0.02	-1.78	-1.24	-0.48	2.34
Kurtosis			1.69	3.11	6.38	2.27	7.66	5.76	1.23	9.07
Possible Range			0-100.00	1.00-5.00	1.00-5.00	1.00-5.00	1.00-5.00	1.00-5.00	1.00-2.00	0-360
Observed Range			11.10-100.00	1.00-5.00	1.00-4.63	1.60-4.80	1.00-5.00	1.00-5.00	1.00-2.00	1.33-257.63

Note. N = 114. DRW refers to protégé degree of remote work. Formality Type (1 = Formal, 2 = Informal). Gender (1 = Male, 2 = Female). *M* and *SD* are used to represent mean and standard deviation, respectively. Values in square brackets indicate the 95% confidence interval for each correlation. * indicates $p < .05$. ** indicates $p < .01$.

Table 3.

Path Estimates of Hypothesized Path Model and Indirect Path Model

	Full Hypothesized Path Model			Indirect Path Model		
		95% CI			95% CI	
	β (SE)	LL	UL	β (SE)	LL	UL
DRW & Mentoring Support						
CS ~ DRW	0.00 (0.00)	-0.00	0.01			
PS ~ DRW	0.00 (0.00)	-0.00	0.01			
DRW & Mentor Distance						
Spat Dist ~ DRW	0.02** (0.00)	0.00	0.01	0.02** (0.00)	0.00	0.02
Soc Dist ~ DRW	0.00 (0.00)	-0.00	0.01	0.00 (0.00)	-0.00	0.01
Int Freq ~ DRW	-0.00 (0.00)	-0.01	0.01	-0.00 (0.00)	-0.01	0.01
Mentor Distance & CS						
CS ~ Spat Dist	-0.06 (0.08)	-0.21	0.09	-0.05 (0.07)	-0.17	0.09
CS ~ Soc Dist	-0.36* (0.17)	-0.77	-0.09	-0.36* (0.17)	-0.74	-0.08
CS ~ Int Freq	0.13 (0.09)	-0.05	0.31	0.13 (0.09)	-0.03	0.33
Mentor Distance & PS						
PS ~ Spat Dist	-0.00 (0.05)	-0.10	0.09	0.00 (0.05)	-0.09	0.09
PS ~ Soc Dist	-0.50** (0.14)	-0.81	-0.26	-0.49** (0.14)	-0.80	-0.26
PS ~ Int Freq	0.09 (0.08)	-0.05	0.25	0.09 (0.08)	-0.06	0.25
Indirect Effects: CS						
DRW*Spat Dist	-0.00 (0.00)	-0.00	0.00	-0.00 (0.00)	-0.00	0.00
DRW*Soc Dist	-0.00 (0.00)	-0.00	0.00	-0.00 (0.00)	-0.00	0.00
DRW*Int Freq	-0.00 (0.00)	-0.00	0.00	-0.00 (0.00)	-0.00	0.00
Indirect Effects: PS						
DRW*Spat Dist	-0.00 (0.00)	-0.00	0.00	0.00 (0.00)	-0.00	0.00
DRW*Soc Dist	-0.00 (0.00)	-0.00	0.00	-0.00 (0.00)	-0.00	0.00
DRW*Int Freq	-0.00 (0.00)	-0.00	0.00	-0.00 (0.00)	-0.00	0.00

Note: N = 114. DRW refers to protégé degree of remote work. Spat Dist refers to spatial distance. Soc dist refers to social distance. Int freq refers to total interaction frequency. * = $p < 0.05$. ** = $p < 0.01$.

Table 4.

Path Estimates of Alternative Interaction Frequency Path Model

	Interaction Frequency Alternative Path Model		
		95% CI	
	β (SE)	LL	UL
DRW & Mentor Distance			
Spat Dist ~ DRW	0.02** (0.00)	0.01	0.02
Soc Dist ~ DRW	0.00 (0.00)	-0.00	0.01
In-Person Int Freq ~ DRW	-0.02** (0.00)	-0.03	-0.01
Virtual Int Freq ~ DRW	0.01(0.00)	-0.00	0.01
Mentor Distance & CS			
CS ~ Spat Dist	-0.06 (0.08)	-0.23	0.08
CS ~ Soc Dist	-0.36* (0.18)	-0.80	-0.09
CS ~ In-Person Int Freq	0.00 (0.07)	-0.13	0.13
CS ~ Virtual Int Freq	0.16 (0.08)	-0.04	0.26
Mentor Distance & PS			
PS ~ Spat Dist	-0.01 (0.06)	-0.13	0.10
PS ~ Soc Dist	-0.50** (0.15)	-0.82	-0.26
PS ~ In Person Int Freq	-0.00 (0.06)	-0.11	0.11
PS~ Virtual Int Freq	0.09 (0.07)	-0.05	0.21
Indirect Effects: CS			
DRW*Spat Dist	-0.00 (0.00)	-0.00	0.00
DRW*Soc Dist	-0.00 (0.00)	-0.00	0.00
DRW*In-Person Int Freq	-0.00 (0.00)	-0.00	0.00
DRW*Virtual Int Freq	0.00 (0.00)	-0.00	0.00
Indirect Effects: PS			
DRW*Spat Dist	-0.00 (0.00)	-0.00	0.00
DRW*Soc Dist	-0.00 (0.00)	-0.00	0.00
DRW*In-Person Int Freq	0.00 (0.00)	-0.00	0.00
DRW*Virtual Int Freq	0.00 (0.00)	-0.00	0.00

Note: N = 114. DRW refers to protégé degree of remote work. Spat Dist refers to spatial distance. Soc Dist refers to social distance. Int Freq refers to total interaction frequency. * = $p < 0.05$. ** = $p < 0.01$.

Table 5.

Path Estimates of Indirect Model using Wave 1 Data

	Wave 1 Only Path Model		
		95% CI	
	β (SE)	LL	UL
DRW & Mentor Distance			
Spat Dist ~ DRW	-0.01** (0.00)	-0.02	-0.01
Soc Dist ~ DRW	0.00 (0.00)	-0.00	0.00
Int Freq ~ DRW	0.00 (0.00)	-0.00	0.01
Mentor Distance & CS			
CS ~ Spat Dist	-0.06* (0.03)	-0.11	-0.00
CS ~ Soc Dist	-0.51** (0.06)	-0.63	-0.40
CS ~ Int Freq	0.28** (0.06)	0.17	0.39
Mentor Distance & PS			
PS ~ Spat Dist	-0.03 (0.03)	-0.08	0.02
PS ~ Soc Dist	-0.54** (0.05)	-0.63	-0.45
PS ~ Int Freq	0.21** (0.05)	0.11	0.30
Indirect Effects: CS			
DRW*Spat Dist	0.00 (0.00)	0.00	0.00
DRW*Soc Dist	-0.00 (0.00)	-0.00	0.00
DRW* Int Freq	0.00 (0.00)	-0.00	0.00
Indirect Effects: PS			
DRW*Spat Dist	-0.00 (0.00)	-0.00	0.00
DRW*Soc Dist	0.00 (0.00)	-0.00	0.00
DRW* Int Freq	0.00 (0.00)	-0.00	0.00

Note: N = 297. DRW refers to protégé degree of remote work. Spat Dist refers to spatial distance. Soc Dist refers to social distance. Int Freq refers to total interaction frequency. * = $p < 0.05$. ** = $p < 0.01$.

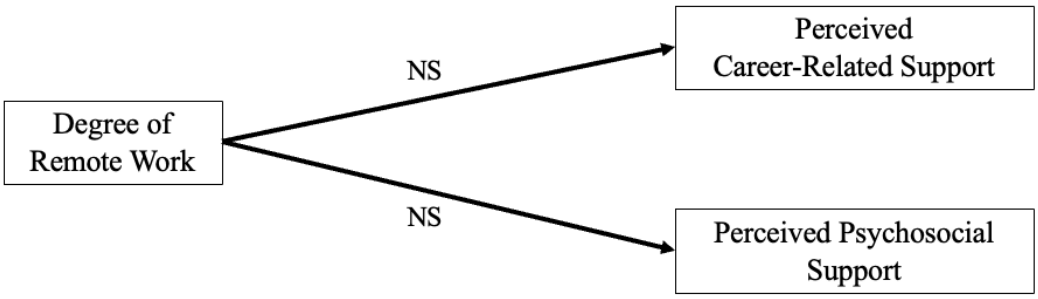

Figure 4. *Direct Path Results*

Note: Results are from full hypothesized model. NS = nonsignificant.

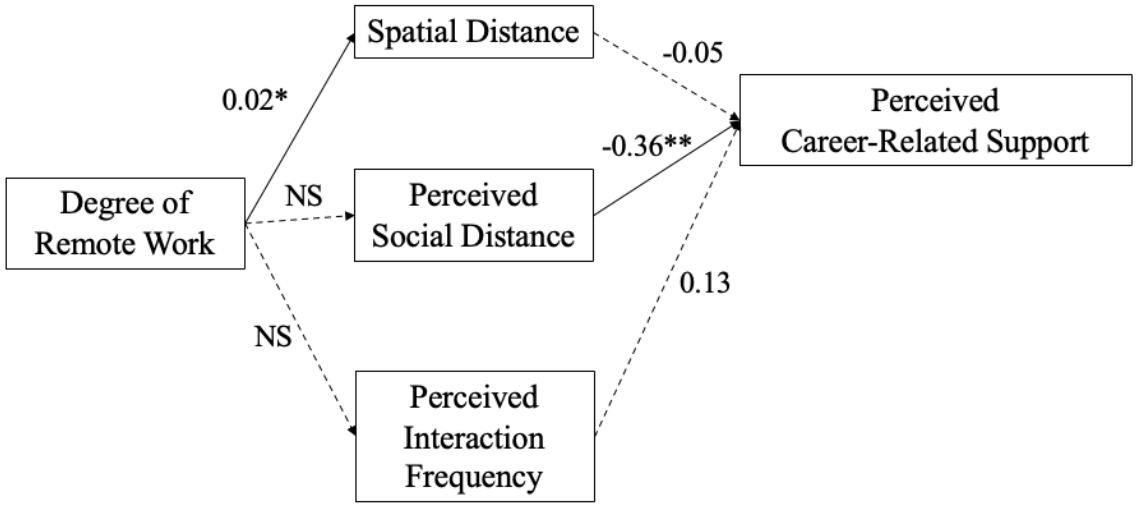

Figure 5. *Indirect Path Model Results: Perceived Career-Related Support*

Note: NS = Nonsignificant. Dotted arrows indicate nonsignificant paths. Solid arrows indicate significant paths. Model Fit: χ^2 (2) = 0.179, p = 0.91; CFI = 1; TLI = 1.12; RMSEA = 0; SRMR = 0.008.

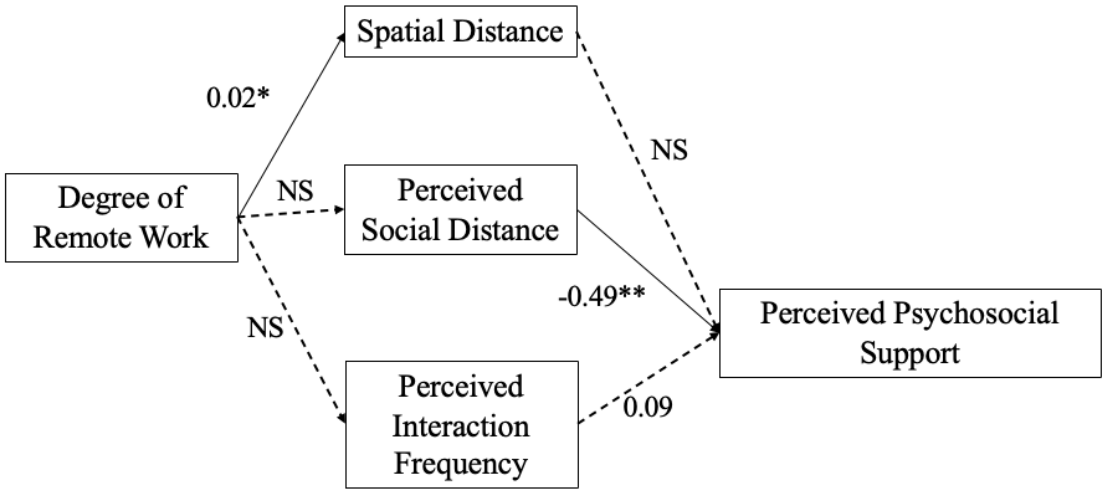

Figure 6. *Indirect Path Model Results: Perceived Psychosocial Support*

Note: NS = Nonsignificant. Dotted arrows indicate nonsignificant paths. Solid arrows indicate significant paths. Model Fit: χ^2 (2) = 0.179, p = 0.91; CFI = 1; TLI = 1.12; RMSEA = 0; SRMR = 0.008.

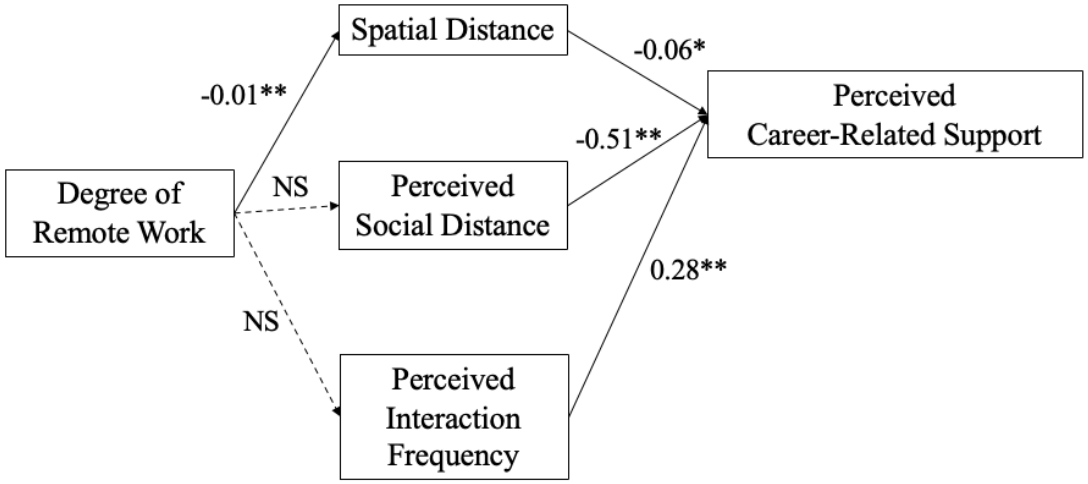

Figure 7. *Indirect Path Model Resuls: Perceived Psychosocial Support (Using Wave 1 Data Only)*

Note: NS = Nonsignificant. Dotted arrows indicate nonsignificant paths. Solid arrows indicate significant paths. Model Fit: χ^2 (2) = 0.59 p = 0.74; CFI = 1; TLI = 1.12; RMSEA & SRMR < 0.01.

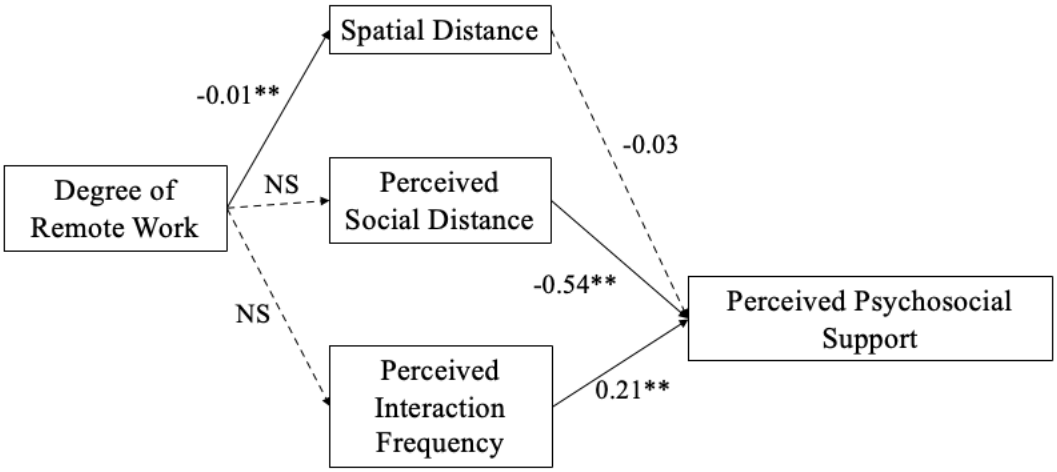

Figure 8. *Indirect Path Model Results: Perceived Career-Related Support (Using Wave 1 Data Only)*

Note: NS = Nonsignificant. Dotted arrows indicate nonsignificant paths. Solid arrows indicate significant paths. Model Fit: χ^2 (2) = 0.59 p = 0.74; CFI = 1; TLI = 1.12; RMSEA & SRMR < 0.01.

CHAPTER FOUR: DISCUSSION

The purpose of the present study was to build and test a model that incorporated protégé degree of remote work, mentor distance, and mentorship outcomes. Specifically, I proposed that perceptions of career-related and psychosocial support would be lower for individuals with a greater extent of remote work and thus greater amounts of mentor distance. The existing mentorship literature has extensively investigated career-related and psychosocial support outcomes in the traditional, in-person context (e.g., Allen et al., 2017). However, virtual relationships present additional challenges, such as greater perceived barriers in terms of access to mentorship as well as more difficult communication with other organizational members (Cooper & Kurland, 2002; Fonner & Roloff, 2010). I contribute to the telecommuting and mentorship literatures by capturing the experiences of protégés in remote and hybrid mentoring relationships and attempting to understand how telecommuting may influence their evaluations of mentorships and their outcomes. Further, by using a blended approach to remote work that accounts for varying degrees of in-person work and work that occurs via ICTs, I answer calls to deepen our understanding of mentorship within a remote work environment (Ensher et al., 2003; Chong et al., 2020).

In addition to capturing varying degrees of protégé remote work, I contribute to the mentorship literature in two ways. First, I bridge the leadership and mentoring literatures to examine mentoring relationships in a remote work context. Given the insufficient theory in existing mentoring research that can explain the relationships between remote work arrangements and distance between mentors and protégés, I draw from leader distance theory

(Antonakis & Atwater, 2002), which aims to explain the impact on various forms of distance on the overall influencing process. Second, I account for multiple dimensions of distance between a mentor and protégé that may play a role in a mentor's ability to successfully influence their protégé. Although there have been multiple conceptualizations of distance in the leadership literature to date (e.g., Kerr & Jermier, 1978; Shamir, 1995), the inclusion of multiple dimensions of distance, specifically spatial distance, interaction frequency, and social distance, provides a more in-depth test of Antonakis and Atwater's (2002) model as well as a comprehensive examination of these forms of distance in a remote mentorship context.

In the present study, I followed a sample of remote and hybrid workers in their early careers who had a mentor at work. I measured the degree to which they worked remotely, the extent to which they perceived social and spatial distance between them and their mentor, the frequency with which they interacted with their mentor, as well as their perceptions of career-related and psychosocial support received from their mentor. I tested the path model visualized in Figure 1 using a sample of 114 protégés who had completed all three waves of the lagged study. The initial hypothesized model in Figure 1, which included direct paths between DRW and both career-related and psychosocial support, was just-identified, and thus did not allow for model comparison. However, the theoretical foundation for the model, leader distance theory (Antonakis & Atwater, 2002), did not specifically propose direct relations between the virtual context and relationship outcomes. It instead provides a rationale for a fully mediated model, in which protégé DRW only relates to support outcomes via its relationships to the three dimensions of mentor distance (displayed in Figure 2). Additionally, the results of the full hypothesized model revealed no direct relationships between DRW and either form of mentoring support. Thus, protégé remote work arrangements did not directly relate to perceptions of career-

related support nor psychosocial support, and the first two hypotheses were not supported. The results indicate that extent of remote work on its own is not sufficient to relate to any differences in perceived mentoring support. Rather, DRW may only influence mentoring support outcomes via its relationships with other explanatory variables. Therefore, my discussion of results from this point forward is in regard to the fully mediated path model in Figure 2.

With respect to the relations between protégé DRW and each dimension of mentor distance via the fully mediated path model, the results broadly did not support the hypotheses that DRW would relate to increased mentor distance. The supplemental analysis using the larger, cross-sectional sample from Wave 1 further supports these findings. Although the hypothesized paths were not supported, the descriptive statistics still offer a deeper understanding of protégés' perceptions of mentor distance within a remote and hybrid work context. Indeed, the only significant relationship was between DRW and spatial distance and, although this was in the hypothesized positive direction, the effect size was near zero. This finding was surprising given that the sample reported a high average amount of perceived spatial distance between them and their mentors (M=4.05 on a Likert-type scale that ranged from 1 to 5). While participants perceived that their jobs and work tasks occurred, to a great extent, away from the physical presence of their mentors, this was not related to the degree to which they worked remotely. Additionally, the relationships between DRW and both perceived social distance and interaction frequency were nonsignificant. Of note, the average level of perceived social distance was 1.57 (on a scale that ranged from 1 to 5). In the proposed model, and in keeping with leader distance theory, I had hypothesized that DRW would relate positively to perceptions of social distance, such that remote and hybrid protégés would experience greater amounts of relational distance between them and their mentor. The low amounts of social distance reported by participants may

indicate that protégés in virtual mentorships can have socially and relationally close mentorships, which have been shown to relate positively to mentorship outcomes in the in-person mentoring literature (Eby et al., 2013). Finally, DRW did not significantly relate to the frequency with which protégés reported interactions with their mentors. After conducting a supplementary analysis that separated interaction frequency based on interactions that occurred in-person and interactions that occurred via remote means, the relationships remained nonsignificant.

The next portion of the hypothesized path model proposed associations between each dimension of mentor distance and career-related support. In the analyses based on the lagged data, only the path from social distance was significantly related to career-related support and indicated that social distance was strongly (Bosco et al., 2015) and negatively related to perceptions of career-related support as hypothesized. The paths from spatial distance and interaction frequency were nonsignificant, although both were in the hypothesized directions. Specifically, spatial distance related negatively, and interaction frequency related positively to perceptions of career-related support. In the supplemental analysis based on the larger sample of Wave 1 data only, all three paths relating to career-related support were in the hypothesized directions, and all were significant. Although the path coefficients from the supplemental analysis were cross-sectional and must be interpreted with caution due to susceptibility to common method bias, the results overall provide initial support for the proposed model. Spatial and social distance between a mentor and protégé related negatively and interaction frequency related positively to protégés perceptions of career-related support.

The proposed path model also mapped relations between each dimension of mentor distance and psychosocial support. As with career-related support, spatial distance and interaction frequency were not significantly related to psychosocial support and had effects of a

very small magnitude, although the coefficients were in the hypothesized directions. Social distance, however, was strongly and negatively related to psychosocial support. In the supplemental analysis using the Wave 1 data with greater power, both social distance and interaction frequency were significantly related to psychosocial support as hypothesized. Further the negative relationship between social distance and psychosocial support and the positive relationship between interaction frequency and psychosocial support were also significant in the model with higher power, though again this was using cross-sectional data. Spatial distance remained nonsignificant in its association with psychosocial support.

Finally, I examined the hypothesized indirect relationships between DRW and both career-related and psychosocial support via the three dimensions of mentor distance. In both the model tested based on the lagged data and the model based on the cross-sectional data from Wave 1, neither of the indirect paths from DRW to career-related nor to psychosocial support were significant. This is not surprising given the nonsignificant associations between DRW and the dimensions of mentor distance in all analyses. It does, however, suggest that perhaps the extent to which a protégé works remotely is not a sufficient contextual variable to explain individual differences in terms of perceptions of mentor distance and mentorship outcomes, particularly career-related and psychosocial support.

Overall, the results indicate that protégés experienced high amounts of spatial distance, low amounts of social distance, and still interacted frequently with their mentors, suggesting that they were able to adapt their mentorships to be successful in this context. It is plausible that there are additional moderators that could explain these relationships that were not accounted for in the present study. For instance, a mentor's degree of remote work and its alignment with their protégé's work arrangement, individual differences such as level of comfortability using various

ICTs, or organizational context, such as whether the organization is fully remote or has a climate that supports remote work arrangements, may aid in clarifying the relationships observed in the present study. I elaborate on the overall findings below.

Theoretical Implications

The proposed path model, and specifically the hypotheses linking the dimensions of mentor distance to perceptions of career-related and psychosocial support, were driven by leader distance theory and the existing mentoring and remote work literatures. While not all hypotheses were supported, the various types of analyses conducted did clarify which aspects of the leader distance model were supported in a mentoring context. First, protégé DRW did not have significant direct relationships with any of the dimensions of mentor distance. As previously mentioned, it is possible that there are moderators or confounding variables that were not accounted for in the present study that may explain these findings. It may also be the case that DRW is not a predictor of mentor distance, as suggested in the model, but rather a contextual variable that is most relevant for participants' reports of high amounts of spatial distance between them and their mentors.

Secondly, the results support the practice of separating mentor distance into multiple dimensions and independently accounting for their influence on key mentoring outcomes. Overall, of the three forms of leader distance examined, only social distance was significantly associated with both career-related and psychosocial support. These paths were large in magnitude (Bosco et al., 2015) and indicate how harmful a strained interpersonal relationship can be for the protégé perceptions of career-related and psychosocial support. The results from both the model based on lagged data and the model based on cross-sectional data highlight the importance of low social distance in maintaining positive interpersonal relationships in a remote

setting as well as support its inclusion as a dimension of mentor distance to be accounted for in future research. These findings are also in keeping with evidence in the mentorship literature that greater similarity between mentors and protégés relates positively to perceptions of mentoring support (Eby, 2012; Eby et al., 2013).

Interaction frequency, as hypothesized, related positively to both forms of mentoring support, particularly in the model using Wave 1 data. This further supports the notion that interaction frequency is key for mentors to be able to successfully develop strong relationships with their protégés and provide them with career-related and psychosocial support (Allen et al., 2006; Merritt & Havill, 2016). A supplemental analysis separating in-person and virtual communication found no significant associations between either form of communication and mentoring support, nor were there large differences in the relations according to the mode through which communication occurred. The results provide evidence that frequent communication of any kind may be beneficial for mentoring support received and support existing meta-analytic evidence of these relationships (Eby et al., 2013).

The observed associations between spatial distance and both forms of mentoring support were not significant, although the average amount of perceived spatial distance was relatively high. It is plausible that despite not working in the same physical location as one another, mentors and protégés in virtual mentorships have adapted in their relationships such that mentors are still able to role model, counsel, and generally provide career-related and psychosocial support to their protégés. These nonsignificant relationships suggest that spatial distance may not be a salient form of mentor distance as it relates to mentoring support, and that there are perhaps other dimensions of distance and the influencing process as delineated by Antonakis and Atwater (2002) that may be more relevant, such as the trust between a mentor and protégé.

Thus, the relations between social distance, interaction frequency and mentoring support provide supporting evidence for the tenets of leader distance theory. However, the nonsignificant results for the associations between spatial distance and career-related and psychosocial support suggest that protégés can have close relationships and observe their mentors despite not only directly interacting with them in-person. These results suggest that, contrary to the propositions in leader distance theory, direct, face-to-face interactions between a mentor and protégé may not always be necessary for relational and professional development if the dyad is still meaningfully interacting even via remote means.

Future research applying leader distance theory to either the leadership or the mentoring literature should continue specifying multiple dimensions of distance to better clarify its relationships with key relational outcomes. Perceptions of the dimensions of mentor distance were, in the present study, more relevant to perceptions of career-related and psychosocial support than to contextual factors such as DRW, mentorship duration, and whether the mentorship was formally or informally developed. Given the limited research on mentoring relationships in a virtual context, more empirical work is necessary to further delineate the relationships between dimensions of mentor distance and key mentoring and relational outcomes, as well as when remote and hybrid work arrangements may potentially hinder the development of these key professional relationships. Finally, given the mixed support of the propositions of leader distance theory applied to the mentoring context, it is possible that the differences in how leadership and mentoring relationships are conceptualized in their respective literatures may have influenced the observed results. Additional investigations are needed which further test the efficacy of applying leader distance theory to virtual mentorships.

Practical Implications

In addition to the implications for mentor distance theory, the present study has multiple practical implications for both protégés and mentors in remote and hybrid relationships as well as organizations aiming to support workplace mentorships in a remote context. First, this study provides evidence that employees in remote and hybrid mentoring relationships can still observe the benefits of career-related and psychosocial support from their mentors. Given the limited evidence and concerns for mentorships in this context (e.g., Ensher et al., 2003), one key takeaway from the study is that remote and hybrid protégés did report high average levels of both career-related and psychosocial mentoring support. Therefore, remote and hybrid mentoring relationships may be viable options for individual employees and organizations alike who wish to foster these relationships but perhaps do not have the in-person work structure or means for mentors and protégés to interact in the traditional, in-person manner.

Second, perceived social distance between a mentor and protégé had the strongest negative relationships with both perceptions of career-related and psychosocial support. Both mentors and protégés in virtual mentorships should be cognizant of the potentially negative impact a socially distant relationship may have on the efficacy of the mentor's efforts to provide support and the protégés ability to perceive it. If a protégé perceives that they are not similar and do not have a close interpersonal relationship with their mentor, this may be particularly harmful when the relationship occurs primarily via remote means. Specifically, remote communication may significantly harm the process of identification within mentorships (Humberd & Rouse, 2016), with negative implications for mentoring support outcomes. Organizations wishing to develop strong formal mentorship programs for their employees should carefully consider how they match mentors and protégés. The concept of matching mentors and protégés based on

surface and deep level similarities is not novel (Deng et al., 2022). However, in a remote or hybrid context, greater emphasis should be placed on the development of the interpersonal relationship between a mentor and protégé.

Third, interaction frequency was, particularly in the cross-sectional supplemental analysis, moderately and positively related to both forms of mentoring support. In keeping with the existing literature (Eby et al., 2013), remote workers and their mentors should be encouraged to communicate with one another often. Of note, the type of communication (i.e., in-person or virtual) may not be as much of a hindrance as previously thought (Ensher et al., 2003). Employees looking to create stronger relationships with their mentor and get more out of their mentorship should be encouraged to communicate more frequently with their mentor. The present study's results indicate that whether this communication occurs in-person, via email, video-call, etc. may not be as important as whether the communication actually happens on a frequent basis. While some forms of virtual communication are richer than others in terms of the information and social cues they allow (Daft & Lengel, 1986), it is possible that employees in virtual mentorships have adapted such that they are able to successfully provide or receive mentoring support through the means which are available to them. Organizations with formal mentoring programs can easily promote this in guidelines or trainings for their mentors and protégés.

Finally, for employees already engaged in virtual mentoring relationships, interventions specifically targeted toward decreasing perceptions of social distance and increasing the frequency with which mentors and protégés interact may be the most fruitful methods of improving relationships in which protégés are experiencing low amounts of mentoring support. For instance, mentors could be given training specific to skills relevant for developing more

close, interpersonal relationships with the people that they mentor. Additionally, since mentoring relationships are reciprocal (Kram, 1985), protégés could also be given training related to communicating with their mentor as an intervention within a formal mentorship program. Broadly, the results of the current study suggest that remote and hybrid mentorships can still provide early-career employees with key mentoring support, as long as individual employees and organizations are aware of the potential influence of mentor distance. These practical contributions are particularly salient given that there is little current guidance specific to this area in the existing literature.

Limitations and Future Directions

The present study is not without limitations. First, the lagged relationships analyses were underpowered. According to the power analysis run prior to data collection, I estimated that a Wave 1 sample of 345 participants would likely result in a final, lagged sample of 250 participants at Wave 3 when accounting for 15% attrition between each wave. With a final sample of 114, there was much greater attrition between the survey waves than was expected. With few hypotheses being fully supported in the initial testing, there is a possibility of Type II error. The supplemental analysis using the large sample from Wave 1 attempted to provide a clearer picture of how results may differ according to an increase in data points, and results of the supplemental analysis did provide more significant evidence and stronger support for parts of the hypothesized model. Overall, the study is limited by the current sample size.

A second limitation of the study is its use of a lagged data set. Lagged data help rule out spurious mood effects and the timing of each survey wave was chosen to provide participants with greater time and opportunities to interact with their mentor between the reporting of their work arrangement, mentor distance, and mentoring support, respectively. However, causal

relationships still cannot be established using lagged data. Future research could take alternative approaches. For instance, an intervention designed to alter either the degree of protégé remote work or perceptions of mentor distance may be useful in providing evidence of causal influences.

Third, the results of the study were also limited by characteristics of the sample used. Specifically, the DRW variable was restricted in range due to the eligibility requirement that participants work at least 16 hours per week remotely. This criterion was chosen to ensure that there would be at least some hours worked remotely and enough variance to run the path analyses with DRW as a predictor. Additionally, the sample was recruited primarily via convenience sampling, and the individuals who participated essentially self-selected into the study. As previously mentioned, the participants in the current study reported high average amounts of both perceived psychosocial and career-related support. It is possible that the individuals who chose to participate may indeed have been more likely to have positive reflections regarding their mentorships and their remote work experiences than non-participants.

Fourth, the analyses in the present study rely on self-report data. Self-report measures are commonly criticized for being vulnerable to common method bias, inflated relationships, and social desirability responding (Chan, 2009). However, the use of self-report measures to capture mentor distance variables (e.g., perceived social distance) as well as career-related and psychosocial support was appropriate given their perceptual nature. Additionally, the degree of remote work variable was calculated using protégé reports of their total weekly work hours and the hours per week worked remotely. Future research could rely on more objective reports of employee work arrangements, such as those provided directly by an organization, as well as compare the ratings of distance and mentorship outcomes to other sources knowledgeable about the mentorship, the mentors.

A final limitation of the study is its primary focus on mentor distance and mentoring support from the perspective of the protégé. Mentor and protégé perceptions of mentor distance and of the amount of support in a mentoring relationship may vary. Additionally, the mentor's work arrangement and degree of remote work may, in addition to the protégés degree of remote work, further influence their ability to be physically present for their protégé as well as potentially help or hinder their ability to connect with the protégé and how often they interact with them and via what means. For instance, if a protégé with a low degree of remote work has a mentor who works fully remotely, they may still experience greater amounts of mentor distance and experience its effects in terms of their perceived career-related and psychosocial support. Future research should account for these possibilities by including greater context in terms of mentors' degree of remote work or by using a dyadic approach to data collection to better capture and compare remote mentoring experiences from the perspective of both the mentor and protégé.

Conclusion

The aim of the present study was to use a multi-wave, lagged design to capture the mentorship experiences of early-career protégés and investigate the influence of remote work and mentor distance on their perceptions of mentoring support received. Three waves of data were collected on protégés degree of remote work, perceptions of social and spatial distance between them and their mentor, the frequency with which they interacted with their mentor, as well as perceptions of both career-related and psychosocial mentoring support. The results and supplementary analyses provide partial support for the proposed model, particularly underscoring the potential influence of perceived social distance and interaction frequency as dimensions of mentor distance that are most relevant for perceptions of mentoring support in a

virtual context. Overall, the study provides theoretical implications for the application of leader distance theory to the remote work and mentoring literatures, as well as practical implications regarding the efficacy of virtual mentorships in organizations.

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Appendix A: List of Study Measures

Construct	Items	Rating Options	Directions
Degree of Remote Work	Calculated from total weekly work hours and amount of weekly remote work hours.		
Spatial Distance (adapted from Kerr & Jermier, 1978)	• The nature of my job is such that my mentor is seldom around me when I'm working. • On my job my most important tasks take place away from where my mentor is located. • My mentor and I are seldom in actual contact or direct sight of one another.	• Likert scale from 1 to 5 • 1 (Almost always untrue or almost completely untrue) • 2 (Usually untrue, or untrue to a large extent) • 3 (Sometimes true, sometimes untrue or true to some extent) • 4 (Usually true, or true to a large extent) • 5 (Almost always true or almost completely true)	Please indicate how true the following statements are.
Perceived Social Distance (Torres & Bligh, 2012)	• I feel like I can talk about non-work-related subjects with him/her. (Reverse scored) • I feel like I can use humor in my interactions with him/her. (Reverse scored) • I feel uncomfortable when he/she approaches me. • I feel that I can fully express myself when interacting with him/her. (Reverse scored) • I feel that I can fully understand him/her when we interact. (Reverse scored)	Likert scale from 1 (strongly disagree) to 5 (strongly agree)	Please rate how strongly you agree with the following statements

	• I can communicate effectively when interacting with him/her. (Reverse scored) • I usually avoid interacting with him/her.		
Perceived Interaction Frequency (Fonner & Roloff, 2012)	How frequently do you communicate with your mentor: •face-to-face? •via videoconferencing? •via telephone?: •via instant messaging? •via email?	Likert scale from 1 (not at all) to 5 (very often)	Please rate how frequently you communicate with your mentor
Career-Related Support (Scandura,1992)	• My mentor takes a personal interest in my career • My mentor has placed me in important assignments • My mentor gives me special coaching on the job • My mentor advised me about promotional opportunities • My mentor helps me coordinate professional goals • My mentor has devoted special time and consideration to my career	Likert scale from 1 (strongly disagree) to 5 (strongly agree)	Please rate how strongly you agree with the following statements

Psychosocial Support (Noe, 1988; Scandura, 1992)	• I share personal problems with mentor • I exchange confidences with my mentor • I consider my mentor to be a friend • I admire my mentor's ability to motivate others • I respect my mentor's ability to teach others • I try to model my behavior after my mentor • My mentor has discussed my questions or concerns regarding feelings of competence, commitment to advancement, relationships with peers and supervisors or work/family conflicts • My mentor has conveyed feelings of respect for me as an individual	Likert scale from 1 (strongly disagree) to 5 (strongly agree)	Please rate how strongly you agree with the following statements
Demographics, Work & Mentoring Background Variables:			
Gender	How would you describe your gender?	•Male, •Female • Non-binary / genderqueer • Prefer to self-describe (open-ended), • Prefer not to say Male = 1, Female = 2, Non-binary/Genderqueer = 3	

Race/Ethnicity	How would you describe yourself?	• Hispanic, Latino/a, or Spanish of any race • Native American or American Indian • Asian • Black or African American • Native Hawaiian or Other Pacific Islander • White • Other • Prefer not to say	Please select as many that apply.
Age	What is your age?	• Open-ended (in years) • Prefer not to say	
Education	What is the highest level of education you have completed?	• Less than high school • High School degree • Some college • Trade /technical/vocational training • Associate's degree • Bachelor's degree • Master's degree • Professional degree • Doctorate	
Compensation	What is your current total annual salary including all forms of compensation (e.g., bonuses, profit sharing)?	Drop-down (open-ended)	Please select the total amount in thousands (U.S. dollars).
Total Work Hours	How many total hours do you work per week (both in-person and remotely)?	Open-ended (number of hours)	Please round to the nearest whole number of hours.
Remote Work Hours	On average, how many hours per week do you currently work remotely?	Open-ended (number of hours)	Please round to the nearest whole

			number of hours.
Occupation Tenure	How long have you been working in your current **occupation**? Please select the number of years and months.	Open-ended (number of years and months)	As previously mentioned, a **job**, such as that of a middle school science teacher, is a single, paid position in an organization. **Occupation** refers to the larger field within which jobs are embedded such as education. Individuals can change jobs (the science teacher becomes a principal) or change occupations (the science teacher becomes an accountant).

Job Tenure	How long have you been working in your current **job**? Please select the number of years and months.	Open-ended (number of years and months)	
Industry	Which of the following industries most closely matches the one in which you are employed?	1=Admin, support, waste management or remediation services 2= Arts, entertainment or recreation 3 = construction 4 = Educational Services 5 = Finance or insurance 6 = Forestry, fishing, hunting or agriculture support 7 = Health care or social assistance 8 = Information 9 = Management of companies or enterprises 10 = Manufacturing 11 = Mining 12 = Other services (except public administration) 13 = Professional, scientific or technical services 14 = Real estate or rental and leasing 15 = Retail trade 16 = Transportation or warehousing 17 = Utilities 18 = Wholesale trade 19 = Other (open-ended)	
Mentorship Formality Type (Allen & Eby, 2003)	Was your mentorship initiated informally (based on mutual attraction/spontaneously developed) or formally (based on an assignment made by someone else in your organization)?	Informal (1) or Formal (2)	Please select the response that best reflects your mentoring relationship.

Mentorship Duration	Please report the length of your mentorship.	Open-ended (number of years and months)	Please round to the nearest month.
Mentorship Start Location	When your mentorship began, would you describe it as beginning primarily in-person (face-to-face) or primarily remotely (through technology)?	Virtually (1), In-person (2) or (3) Hybrid (Both in-person and remotely)	Please select the response that best reflects your mentoring relationship.

Appendix B: Sample Recruitment Materials and IRB Documentation

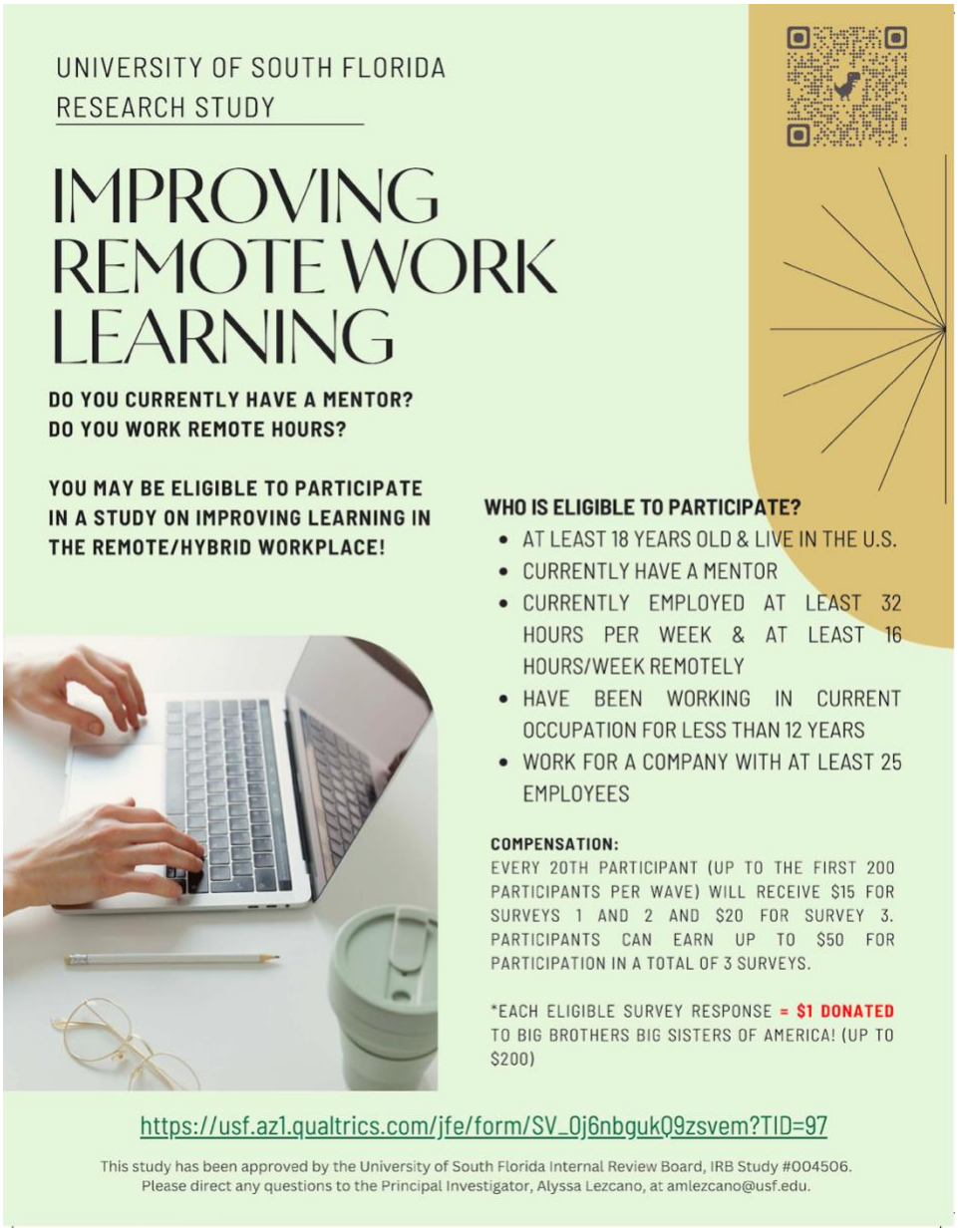

Figure A1. *Sample Recruitment Flyer*

Subject: Research Study Alert: Improving Remote Work Learning

Body:

Hello [name/organization],

My name is Alyssa Lezcano, and I am a doctoral student at the University of South Florida. I'm currently in the process of collecting data for my master's thesis on mentorships and remote/hybrid work.

I am inviting you to participate in a study that examines the **experiences of mentoring relationships for remote and hybrid workers** and how they relate to work and career-related outcomes. My intention is to use an online survey to inform practical guidance for employees and organizations as well as further our understanding of how to support and maximize the benefits of mentorship in a remote setting.

Study participation simply involves taking three online surveys, four weeks apart. Each survey takes approximately 15 minutes or less to complete. For every eligible response to the first survey, $1 will be donated to Big Brothers Big Sisters of America (up to $200). Additionally, participants may be compensated for their time via gift cards from the university. (Every 20th participant up to the first 200 participants per wave will receive a $15 gift card for completion of surveys 1 and 2, and $20 for completion of survey 3).

You are eligible for this study if you meet the following criteria:

- You are over 18 years old
- You have a mentor
- You work at least 32 hours per week for pay (commission counts)
- You work at least 16 hours per week remotely
- You work for a company with at least 25 employees
- You have been working in your current occupation for 12 years or less

You can access the survey here: https://usf.az1.qualtrics.com/jfe/form/SV_0j6nbgukQ9zsvem?

Participation is voluntary and you can withdraw from the survey at any time. Also, if you are not eligible or wish to help in another way, I would greatly appreciate any sharing of the link above via email or social media.

If you have any questions about this study, please feel free to contact me at usfremotementor@gmail.com. Thank you so much for your support!

This study has been approved by the USF Internal Review Board, IRB Study #004506.

Figure A2. *Sample Recruitment Email #1*

Subject Line: Research Partnership Opportunity: Improving Remote Work Learning

Email Content

Hello [insert name/company/group],

My name is Alyssa Lezcano and I am a doctoral student at the University of South Florida. I am reaching out because I am conducting a study as a part of my master's thesis on mentoring relationships and remote/hybrid work, and I am looking for individuals who currently have a mentor, who work at least 32 total hours/week and at least 16 hours/week remotely who might be interested in participating. Given this intended sample, I am hoping that you might be willing to partner with me by sharing information on my study with your [employees/clients/members].

My study may be of interest to you and your organization as it focuses on remote and hybrid work arrangements and how they may impact mentoring relationships, learning, and career outcomes. Despite the growing population of remote and hybrid workers and the known benefits of mentorships, there is little research on how remote work and distance influences these relationships and their outcomes. Thus, this study could have implications in terms of practical guidance for employees and organizations as well as further our understanding of how to support and maximize the benefits of mentorship in a remote setting.

With these goals in mind, I am hoping that you and your organization would be willing to help us gather data on this important topic and share this study with your [employees/clients/members], whether it be via email, newsletter and/or posts made to your organization's social media. Study participation simply involves taking three online surveys, four weeks apart. Furthermore, participants may be compensated for their time via gift cards from the university, and donations will be made to Big Brothers Big Sisters of America on behalf of eligible survey responses. I have attached a flyer that contains more specific information. Beyond this benefit to individuals, in exchange for this partnership, I would like to create a research report that outlines the results of the study and that you could share with your [organizational members, leadership and/or clients].

If you have any questions, concerns, or have an interest in partnering, please feel free to contact me at any time at my email: amlezcano@usf.edu. Thank you for your time, and I hope to partner with you!

Best regards,
Alyssa Lezcano

Figure A3. *Sample Recruitment Email #2*

UNIVERSITY of SOUTH FLORIDA

EXEMPT DETERMINATION

July 15, 2022

Alyssa Lezcano
[redacted]

Dear Alyssa Lezcano:

On 7/13/2022, the IRB reviewed and approved the following protocol:

Application Type:	Initial Study
IRB ID:	STUDY004506
Review Type:	Exempt 2
Title:	Mentorships and Remote/Hybrid Work
Protocol:	• Protocol Version #1, 7.7.22.docx;

The IRB determined that this protocol meets the criteria for exemption from IRB review.

In conducting this protocol, you are required to follow the requirements listed in the INVESTIGATOR MANUAL (HRP-103).

Please note, as per USF policy, once the exempt determination is made, the application is closed in BullsIRB. This does not limit your ability to conduct the research. Any proposed or anticipated change to the study design that was previously declared exempt from IRB oversight must be submitted to the IRB as a new study prior to initiation of the change. However, administrative changes, including changes in research personnel, do not warrant a modification or new application.

Ongoing IRB review and approval by this organization is not required. This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these activities impact the exempt determination, please submit a new request to the IRB for a determination.

Sincerely,

Jennifer Walker
IRB Manager