

TELEWORK AND CONTEXTUAL PERFORMANCE: HOW AFFECTIVE
REACTIONS TO TELEWORK INFLUENCE THE RELATIONSHIPS BETWEEN
TELEWORK, LMX, AND OCBS

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A Dissertation submitted in partial fulfillment of the requirements for the degree of
Doctor of Philosophy at George Mason University

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DEDICATION

This is dedicated to my loving husband, Joe; my unconditionally supportive parents, Harriet and Alan; and my dog George.

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I would like to thank the many friends, relatives, and colleagues who have helped make this happen by providing advice and support. My committee members, Drs. Zaccaro, Kaplan, and Kuykendall, offered invaluable guidance throughout this process. I would also like to thank the organizations that participated in my data collection effort.

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ABSTRACT

TELEWORK AND CONTEXTUAL PERFORMANCE: HOW AFFECTIVE REACTIONS TO TELEWORK INFLUENCE THE RELATIONSHIPS BETWEEN TELEWORK, LMX, AND OCBS

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Telework is a common practice, with about 70% of U.S. organizations allowing for telework in some form, and its prevalence is expected to continue to increase. However, opinions in both research and practice remain mixed on the overall effects and implications of telework. Little to no research has examined the relationship between this work arrangement and important organizational outcomes. This study looks at the relationships between extent of telework, LMX, and OCBS through a social exchange theory lens, proposing two similar, yet distinct, affective reactions to telework (gratitude and indebtedness) as mediators of these relationships and trait gratitude and benefit appraisals as moderators. Employees and their direct supervisors were surveyed multiple times over the course of four months. Results offered limited support for these propositions; extent of telework was related to the affective reaction of gratitude, and the

affective reaction of indebtedness was related to subsequent LMX. Implications for both research and practice are discussed.

**TELEWORK AND CONTEXTUAL PERFORMANCE: HOW AFFECTIVE
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In the past several decades, flexible work arrangements, such as telework, have become increasingly popular in the workforce. Though the term was coined in 1973 (Allen, Golden, & Shockley, 2015), the practice truly took off in the 1990s, with the passing of the Clean Air Act coinciding with vast improvements in technology and a changing nature of work. As a greater number of workers engaged in work with a primary emphasis on intellectual capital (i.e., knowledge work), the requirement for workers to be in one central location dissipated. Knowledge workers became increasingly able to complete their work at a distance, communicating through virtual means.

Currently, teleworking is a common practice in organizations throughout the country and world. Nationally, a 2018 survey regarding the strategic use of benefits found that 70% of U.S. organizations allow for some form of telework (e.g., full-time, ad-hoc), up from 62% in 2016. Ad-hoc telework particularly rose from 54% in 2014 to 68% in 2018 (Society for Human Resource Management, 2018), with much of the increase occurring recently, as only 59% of organizations offered this benefit in 2017. However, despite its increasing availability, actual participation in telework arrangements is relatively low. For example, a 2017 survey from Global Workplace Analytics found that

between 20-25% of workers telework frequently, while the Bureau of Labor Statistics found that 24% of employed people completed some or all of their work from home in 2015.

Actual participation in telework policies has not reached the level expected by researchers; in 1991, researchers projected that telecommuting would grow to between 12 and 25 million people by 2002, but by 1993, the estimate for 2002 was down to 7.5 to 15 million (Weinbaum, Triezenberg, Meza, & Luckey, 2017). In 1995, researchers explicitly highlighted this gap between expectations and reality, calling for “deeper analysis as to why people refrain from telecommuting, even when seemingly offered the opportunity to do so” (Weinbaum et al., 2017).

One potential reason for the disconnect between availability and use of telework arrangements may be that opinions regarding the costs and benefits of telework remain mixed. Although employees tend to view telework favorably (e.g., 80-90% of the U.S. workforce has expressed a desire to telework part-time (Global Workplace Analytics)), many supervisors and organizational decision makers remain skeptical, wary of potential negative effects on quality of work and other organizational outcomes (Peters & den Dulk, 2003). For example, due to the disruption telework poses to the traditional nature of work by separating managers from their subordinates, managers often fear a loss of productivity and an increase in distractions from work for teleworkers (Scholefield & Peel, 2009), which, over time, can lead to declining organizational performance. Thus, though an organization may technically allow for telework, direct supervisors or other

important organizational personnel may be able to indirectly discourage use of this benefit.

Research conclusions regarding telework are largely mixed as well. Reviews of telework research to this point (e.g. Gajendran & Harrison, 2007; Allen, Golden, & Shockley, 2015) have concluded that the overall main effect of telework as either positive or negative remains unknown. For example, though telework has been found to positively relate to job satisfaction (Gajendran & Harrison, 2007), it has also been found to relate to increased professional isolation which, over time, has been shown to lead to poorer job performance and a greater intent to leave the organization (Golden, Veiga, & Dino, 2008). Additionally, though Gajendran & Harrison's (2007) meta-analysis found that telework is positively associated with supervisor-rated and objectively measured job performance, the correlation between telework and self-rated job performance was not significant. Such inconsistent findings illustrate the need not only for additional research, but also for the examination of moderators and mediators of the proposed relationships, to gain a clearer picture of when these relationships hold true, and why.

Much of the prior research in the telework realm has focused on the effects of telework on the teleworker. For example, the effect of telework on a teleworker's work-family balance has been the most popular topic of study in this area (Allen, 2012), as telework has long been promoted as a mean for improving work-life balance. However, little empirical evidence has supported this arrangement as an effective way to reduce conflict between these two areas of life (Allen et al., 2015). In a similar vein, many studies have looked at the effect of telework on teleworkers' life satisfaction, stress, and

career progression (e.g., Baruch, 2000; Mann & Holdsworth, 2003; Virick, DaSilva, & Arrington, 2010).

Less research has focused on how telework affects professional relationships, such as those with coworkers or supervisors, or outcomes more directly related to the organization, such as task and contextual performance (Kane, 2014). However, relationships with these outcomes are important to examine, as both outcomes represent critical organizational constructs that are likely affected by the growing popularity of flexible work arrangements like telework. As the practice of telework physically separates coworkers from each other and from management and leadership, how do the relationships among these parties change and how do these changes affect more distal outcomes like employee task and contextual performance? Additionally, how can organizations help these changes be positive changes? The current study aims to answer these questions by looking at the relationships between telework and two constructs that are crucial for organizational success, yet for which there is little to no existing research regarding their relationship to telework: leader-member exchange quality (LMX), and organizational citizenship behaviors (OCBs). Additionally, the study looks at moderators and mediators of these relationships to examine how and why they occur. These variables can help shape organizational policies and procedures regarding teleworking to help ensure that any consequences of this work arrangement are overall positive for both the teleworker and the organization.

Telework

The concept of teleworking first emerged in the 1970s as an attempt to “move the work to workers,” in order to reduce traffic and energy consumption, in response to the oil crisis. As companies began to implement this work arrangement, it became apparent that teleworking could also be used to help address workplace issues, such as obtaining in-demand staff and increasing work-family balance. As technology continued to improve, with the introduction of personal computers in the 1980s and cell phones in the 1990s, the extent of telework increased. As these technologies have advanced further, decreasing in size and price but increasing in capabilities, more and more workers now have the ability to work outside the office.

Additionally, the 1990s saw the revision of the Clean Air Act, requiring states to develop employee commute option programs to improve the environment. Telework was one such option that met the requirement. Finally, as the number of workers engaging in work with a primary emphasis on intellectual capital (i.e., knowledge work) has increased, an increasing number of jobs are viewed as amenable to the telework arrangement, with work able to be completed away from one central location.

Although the general idea of telework as working away from a central location is widespread, there are vast differences in the specific definitions used throughout the literature and an assortment of different terms used to describe similar or identical concepts. For example, the concept of working away from the office has been referred to as: telework, telecommuting, remote work, virtual work, and flexible work, among others. In the current research, we use the term telework exclusively, and adopt the

definition provided by Allen and colleagues (2015): *Telecommuting is a work practice that involves members of an organization substituting a portion of their typical work hours (ranging from a few hours per week to nearly full-time) to work away from a central workplace – typically principally from home – using technology to interact with others as needed to conduct work tasks.*

Another difference throughout the telework literature is found in what researchers choose to be the independent variable of interest. Early telework studies most often focused on comparing teleworkers with non-teleworkers, examining between-group differences. However, it has more recently been accepted that telework is rarely an “all-or-nothing” practice. As noted in the above discussion of telework prevalence rates, most telework occurs on an ad-hoc basis, as opposed to full-time. Therefore, more recently, researchers have begun to focus on extent of telework as the key variable, examining differences in outcomes based on how often one teleworks. The current study uses “extent of telework” as the independent variable of interest.

Past research has demonstrated that employees view being granted the ability to telework as a privilege, (e.g., Morganson et al., 2010; Sparrow, 2000) as well as a demonstration of organizational support and consideration for the employee and his or her wellbeing (e.g., Shockley & Allen, 2007; Sparrow, 2000). Thus, in the current work, social exchange theory (Thibaut & Kelley, 1959) is used as a conceptual framework to hypothesize the relationship between telework and organizational outcomes, as well as the potential mediating mechanisms and moderators of these relationships.

Social exchange theory is based on the notion that social interactions involve the exchange of tangible and/or intangible resources between the parties involved (Homans, 1961). This exchange of resources can be defined as either economic or social. Economic exchanges are typically of tangible resources and they create specific obligations on the part of the recipient. On the other hand, social exchanges involve a party acting in a way that benefits the other, but does not create a specific or formalized obligation for the recipient, but rather a desire to reciprocate (Casimir, Ng, Wang, & Ooi, 2014). This reciprocity, over time, can evolve the relationship into trusting, loyal, and mutual commitments (Cropanzano & Mitchell, 2005). Social exchange theory has been used to explain both LMX and OCBs, which are described in more detail next.

Leader-Member Exchange (LMX)

LMX is a leadership theory based on the notion that the appropriate unit of analysis for leadership processes is the leader/member dyad, as opposed to a leader's average behavior across subordinates (Hughes, 1997). LMX contends that leaders have unique relationships with each follower, and these relationships can range from low to high in terms of quality, depending on the resources exchanged between the leader and follower. Because leaders have limited resources, such as time and rewards, they are forced to differentiate among their followers in terms of the quality and quantity of resources exchanged. This differentiation most often occurs on the basis of who the leader feels he or she can trust (Graen & Cashman, 1975).

Leaders differentiate followers based on a number of factors, including competency, motivation, similarity, and personal compatibility (Niedle, 2012). Research

has shown that the more similar followers are to their leader, the higher chance they have of being trusted and categorized into that leader's "in-group" (Engle & Lord, 1997; Vecchio & Brazil, 2007; Waismel-Manor, Tziner, Berger, & Dikstein, 2010). These in-group members have high quality LMX relationships with their leaders, based on a social exchange of resources. In other words, these followers tend to go beyond formal job duties and contractual obligations, and have relationships with their leader based on respect, mutual trust, and liking (Schriesheim, Castro, & Cogliser, 1999). These followers are granted increased responsibilities and autonomy, and, as they meet or exceed expectations, they receive more attention, support, and special privileges over time, thus continually increasing the quality of their LMX relationships.

Followers who are not members of the "in-group" form the "out-group," whose members have low-quality relationships with leaders. These followers perform the tasks dictated by the formal job description and have relationships characterized by downward influence, role distinctions, social distance, contractual obligations, and distrust (Barling, Christie, & Hopton, 2011). LMX quality has been found to be predictive of a variety of outcomes, having positive relationships with overall job satisfaction and organizational commitment and negative relationships with role conflict and turnover intentions (Gerstner & Day, 1997).

In relation to telework, LMX has been proposed to be an antecedent of telework allowance. In other words, managers are more likely to allow a subordinate to telework when they have a high-quality LMX relationship with that subordinate (Poelmans & Beham, 2008). Indeed, managers have been shown to be more supportive of work-life

policies in general for followers with whom they have high-quality relationships (Major & Morganson, 2001; Shockley & Allen, 2007).

Though LMX has been shown to be an antecedent of telework, LMX relationships are also likely affected by telework. Although some researchers have argued that telework may have a negative effect on the LMX relationship quality due to the lack of face-to-face interactions, little research has examined this hypothesis. Of the relevant research that exists, significant relationships were not found (e.g., Spilker, 2014). In the current work, social exchange theory is used to hypothesize the relationship between extent of telework and LMX. The construct of LMX is largely based on social exchange theory with the suggestion of a consistent back-and-forth granting of resources and reciprocation to improve and sustain the quality of the relationship. As mentioned above, telework is largely viewed as a favorable working condition, a privilege, and an indication of organizational support for well-being (Morganson et al., 2010; Shockley & Allen, 2007). Thus, it follows that the greater one's extent of telework, the higher the degree of reciprocity toward the supervisor who granted the ability to telework, thus increasing the quality of the LMX relationship.

Hypothesis 1: Extent of telework will be positively related to LMX.

Organizational Citizenship Behaviors (OCBs)

The concept of OCBs was developed to account for the fact that existing models of job performance (e.g., Campbell's taxonomy; Campbell, McCloy, Oppler, & Sager, 1993) did not account for behaviors that are not technically part of the formal job description, yet contribute to job performance. Organ (1988) defined OCBs as "behaviors

that are discretionary, not directly or explicitly recognized by the formal reward systems, and that in the aggregate promote the effective functioning of the organization” (p. 4). While the majority of this definition remains in the current literature, it has now become accepted that OCBs may be acknowledged and rewarded during the performance appraisal process (Kane, 2014).

Little research has focused on the relationship between teleworking and OCBs, and the research which does exist has theorized contradictory relationships and has largely yielded inconsistent results. For example, some researchers have predicted a positive relationship between telework and OCBs, because several of the most-cited benefits of telework (e.g., job satisfaction, organizational commitment; Fonner & Roloff, 2010; Kelliher & Anderson, 2010) have been shown to be antecedents of OCBs (Podsakoff, MacKenzie, Paine, & Bachrach, 2009). Lambert (2000) found that employees’ use of work-life balance benefits was positively related to interpersonal helping behaviors. However, this research was not a test of telework. Work-life balance benefits in this study included any benefits intended to help employees balance their work and family duties, such as on-site child care, emergency care for children and the elderly, fitness centers, and psychological counseling. Flexible work arrangements were not one of the benefits offered in this particular study. However, because the most-cited aim of flexible work arrangements is to improve work-life balance, it follows that the underlying theory explaining the relationship between work-life balance benefits and OCBs should hold when telework is conceptualized as an example of these benefits.

Other researchers, however, have theorized a negative relationship between telework and OCBs based on the notion that the physical space between a teleworker and his or her organization and the professional isolation that may result, will cause a teleworker to feel less connected to the organization and, thus, less willing to engage in OCBs. Some research has supported this idea. For example, Ganesh and Gupta (2010) found a negative relationship between team virtualness and group OCBs, such that the more a team used virtual technology to communicate among members, the lower team members rated their group's level of OCBs.

While the studies cited above provide support for both potential directional relationships between telework and OCBs, none were direct tests of these relationships. Of the research that has looked at telework and OCBs directly, no significant relationships have been found (e.g., Lautsch, Kossek, & Eaton, 2009; Redman, Snape, & Ashurst, 2009). These inconclusive findings may be partly due to the lack of attention given to the explanatory mechanisms of the relationship, as well as variables that may alter the direction or strength of the relationship (Kane, 2014). As described earlier, the current work uses social exchange theory to hypothesize the relationships between telework and organizational outcomes and test potential mediators and moderators of the relationship. Social exchange theory has been widely used as an explanatory framework for OCBs, with the notion that employees respond to favorable working conditions by behaving in ways that benefit the organization and/or other employees (i.e., OCBs; Dalal, 2005; Konovsky & Pugh, 1994). Because, as mentioned above, telework has been shown to be viewed as a favorable working condition granted to an employee by his or her

supervisor and/or organization (e.g., Morganson et al., 2010; Sparrow, 2000), it follows that a greater extent of telework should increase the frequency of an employee's behaviors that reciprocate and benefit the granting organization.

Hypothesis 2: Extent of telework will be positively related to OCBs.

LMX has been shown in previous research to relate to various dimensions of follower performance, both task and contextual. Followers in a high-quality LMX relationship tend to feel obligated to reciprocate for their favorable treatment, and often do so by putting additional effort into their work, thus increasing both task and contextual performance. Specifically related to the constructs in this study, many empirical studies and meta-analyses have found that LMX is positively related to OCBs (e.g., Dulebohn et al., 2012; Ilies, Nahrgang, & Moregeson, 2007; Martin et al., 2016; Rockstuhl et al., 2012).

Hypothesis 3: LMX will be positively related to OCBs.

Synthesizing the above hypotheses, LMX may act as a mediator of the relationship between telework and OCBs. However, because there are likely other mechanisms that explain the relationship between extent of telework and OCBs, only partial mediation is proposed here.

Hypothesis 4: LMX will partially mediate the relationship between extent of telework and OCBs.

Affective Reactions to Telework

Social exchange theory functions as a theoretical framework based on the affective reactions that individuals experience after being granted a benefit. These

affective reactions generally take the form of a combination of indebtedness and gratitude, both of which evoke a desire in the beneficiary to repay the benefactor and/or reciprocate the behavior (Casimir et al., 2014). Both LMX and OCBs represent ways in which the beneficiary may repay the benefactor. Therefore, telework extent will have a positive relationship with both gratitude and indebtedness, and both emotions will have positive relationships with LMX and OCBs.

Hypothesis 5: Extent of telework will be positively related to (a) gratitude and (b) indebtedness.

Hypothesis 6: Gratitude (a) and indebtedness (b) will be positively related to (i) LMX and (ii) OCBs.

Taken together, the above relationships demonstrate that the affective reactions of gratitude and indebtedness will mediate the relationship between telework extent and OCBs and LMX. However, because there are likely additional mechanisms that explain the relationship between telework extent and outcomes such as LMX and OCBs (e.g., professional isolation, autonomy), partial mediation is hypothesized here.

Hypothesis 7: Gratitude (a) and indebtedness (b) will partially mediate the relationship between extent of telework and (i) LMX and (ii) OCBs.

Thus far in the discussion of social exchange theory, gratitude and indebtedness have been talked about as a combination of affective reactions to being granted a privilege. Though these two emotions have long been considered interchangeable, more recent research (Watkins, Scheer, Ovnicek, & Kolts, 2006) has indicated that these reactions should be disentangled, as they are experienced differently and lead to different

outcomes. Gratitude is defined as “a feeling of thankful appreciation for favors received” (Guralnik, 1971, p. 327) and is largely considered to be a “happy state” (Gallup, 1998).

In contrast, indebtedness is defined as “a state of obligation to repay another” in the context of the receipt of a benefit from another (Greenberg, 1980, p. 4) and has been shown to be perceived as an “unpleasant state” (Greenberg, Bar-Tal, Mowrey, & Steinberg, 1982). When indebtedness is experienced, it is often accompanied by an emotional state of arousal and discomfort which people are motivated to reduce. Via a manipulation of gratitude versus indebtedness, Watkins and colleagues (2006) found that gratitude was associated more strongly with broad prosocial thought and action tendencies.

Other research has also supported the relationship between gratitude and prosocial behavior. For example, Tsang (2006) found that participants who experienced gratitude after believing they had received a favor from an individual repaid this individual more than those participants who believed they received the favor by chance. In other words, those who felt grateful toward an individual were motivated to act in a prosocial manner toward that individual.

Since the decoupling of gratitude and indebtedness, much of the relevant research has focused on empirical examinations of gratitude, with less work investigating the experience of indebtedness (Algoe, Gable, & Maisel, 2010). Of the existing research that includes indebtedness in its investigations, most has found non-significant relationships between indebtedness and prosocial tendencies. For example, in their 2006 study, Watkins and colleagues demonstrated a correlation of .44 ($p < .05$) between gratitude and

prosocial tendencies, but a non-significant correlation ($r = .08$) between indebtedness and these same prosocial tendencies. Similarly, in a study of gratitude and indebtedness in romantic relationships, Algoe and colleagues (2010) found that previous-day gratitude predicted positive change in next-day relationship quality, while indebtedness had no predictive power for relationship quality. Therefore, in the current context, the relationship between gratitude and LMX and OCBs should be stronger than the relationship between indebtedness and LMX and OCBs.

Hypothesis 8: The relationship between the affective reaction of gratitude and (a) LMX and (b) OCBs will be more strongly positive than the relationship between the affective reaction of indebtedness and (a) LMX and (b) OCBs.

Benefit Appraisals

As the differences between indebtedness and gratitude are clear, the question follows what leads employees to react with one emotion dominating over the other after receiving a benefit. Though individuals tend to respond to receiving a benefit by experiencing a combination of both gratitude and indebtedness, factors generally lead one emotion to dominate over the other (Mathews & Shook, 2013). The social-cognitive model of gratitude (Wood et al., 2008) offers a theoretical explanation for the experience of gratitude over indebtedness.

This model suggests that after receiving a benefit, the beneficiary makes several attributions about the nature of the benefit. These attributions together form a “benefit appraisal,” which influences the extent of gratitude experienced as a result. Three attributions have been shown to combine to form a benefit appraisal: the value of the

benefit; how much the benefit cost the benefactor to provide; and to what extent the benefactor genuinely wanted to help the beneficiary, as opposed to having ulterior motives (Lane & Anderson, 1976; Tesser, Gatewood, & Driver, 1968; Wood et al., 2008). The social-cognitive model of gratitude suggests that gratitude should be elicited to a greater extent when individuals view a given benefit to be of high cost to the benefactor, of high value to the beneficiary, and given out of a genuine desire to benefit the beneficiary (Wood et al., 2008). Together, these attributions form a positive benefit appraisal, which has been shown to be the proximal causal agent of state gratitude (Lane & Anderson, 1976; Tesser et al., 1968).

Prior research has found support for the social-cognitive model of gratitude. For example, Tesser and colleagues (1968) gave participants vignettes to read which described a hypothetical situation in which they were aided by another person. These vignettes were manipulated to provide low, medium, or high perceptions of (a) the cost of the help to the benefactor; (b) the value of the help to the participant (i.e., the beneficiary); and (c) to what extent the benefactor genuinely wanted to provide the help. These manipulations led to differences in the gratitude reported by the participant, such that higher levels of cost, value, and genuineness led to increased gratitude.

Wood and colleagues (2008) also used a vignette methodology to test the social-cognitive model of gratitude. In their study, all participants read the same three vignettes, each of which was followed by four questions. Each vignette described a situation in which the participant was helped by another person. In this study, however, the vignettes were designed to be ambiguous with regard to any benefit attribution. After each

vignette, participants answered questions regarding the sincerity of the benefactor's intentions; the cost to the benefactor; the value of the help to the participant; and the extent of gratitude experienced as a result of being helped. These three attributions were shown to be good indicators of a latent benefit appraisal, which explained about 83% of the variance in state gratitude.

This model has also been tested in an organizational context. Bridger and Wood (2016) created fictional descriptions of six organizations. Each of the six was manipulated to elicit either a high or low benefit appraisal for the organization's services. Participants read one version of each of the six vignettes, then indicated their gratitude toward each organization and their behavioral intentions toward the organization (i.e., how likely they would be to recommend each organization to peers). Results indicated that the extent to which an organization was depicted as providing services high in cost to the organization, high in value to the beneficiaries, and provided out of genuine intentions had a significant effect of participants' behavioral intentions regarding the organizations, which were mediated by the gratitude participants felt for the organization's services.

Together, this previous research suggests that employees will experience more gratitude, as opposed to indebtedness, as a result of receiving a benefit (i.e., being allowed to telework) when that benefit is perceived as costly toward the organization, beneficial to the employee, and provided out of a genuine desire to help the employee.

Hypothesis 9: Benefit appraisals of telework will moderate the relationship between extent of telework and (a) gratitude and (b) indebtedness, such that:

- a. The relationship between extent of telework and gratitude will become stronger as benefit appraisals become more positive.
- b. The relationship between extent of telework and indebtedness will become weaker as benefit appraisals become more positive.

Trait Gratitude

Thus far, the discussion of gratitude and indebtedness has focused on these emotions as affective reactions to particular situations. However, emotions can also be conceptualized at the trait level (Rosenberg, 1998), where emotions are characterized by “individual differences in the average frequency with which affects and moods are experienced in daily life” (Wood et al., 2008, p. 3). Research has shown that higher levels of trait gratitude are positively related to the frequency and intensity of reactions of gratitude in daily life (McCullough, Tsang, & Emmons, 2004).

Research has also shown that this relationship is mediated by benefit appraisals. For example, in a series of studies, Wood and colleagues (2008) found that trait gratitude led individuals to make more positive benefit appraisals, which then led to the experience of increased state gratitude. In other words, the authors offer support for the notion that “people who feel a lot of gratitude in life have specific appraisal tendencies which lead them to characteristically appraise the benefits of help-giving situations more positively than less grateful people” (p. 5). Participants high in trait gratitude were more likely to perceive a benefit as costly to the benefactor, valuable to the beneficiary, and provided

based on sincere intentions. In each of three studies, trait gratitude was found to substantially or completely mediate the relationship between trait and state levels of gratitude (Wood et al., 2008). Therefore, those higher in trait gratitude will be more likely to experience the affective reaction of gratitude when teleworking, as opposed to the reaction of indebtedness.

Thus, when trait gratitude is high for an individual, I propose that the dominant reaction to being granted the privilege to telework will be gratitude over indebtedness, because of the benefit appraisals that are made. In other words, benefit appraisals will mediate the relationship between trait gratitude and the affective reaction of gratitude. Based on previous findings that indicate benefit appraisals fully mediate the relationship between trait and state gratitude (e.g., Wood et al., 2008), full mediation is proposed here:

Hypothesis 10: Trait gratitude will be (a) positively related to the affective reaction of gratitude and (b) the affective reaction of indebtedness.

Hypothesis 11: The relationship between trait gratitude and the affective reaction of gratitude will be more strongly positive than the relationship between trait gratitude and the affective reaction of indebtedness.

Hypothesis 12: Trait gratitude will be positively related to benefit appraisals of telework.

Hypothesis 13: Benefit appraisals of telework will mediate the relationship between trait gratitude and (a) the affective reaction of gratitude and (b) the affective reaction of indebtedness.

Taken together, it follows that:

Hypothesis 14: Benefit appraisals of telework will mediate the moderating effect of trait gratitude on the relationship between extent of telework (a) the affective reaction of gratitude and (b) the affective reaction of indebtedness, respectively.

The overall model being tested is found in Figure 1.

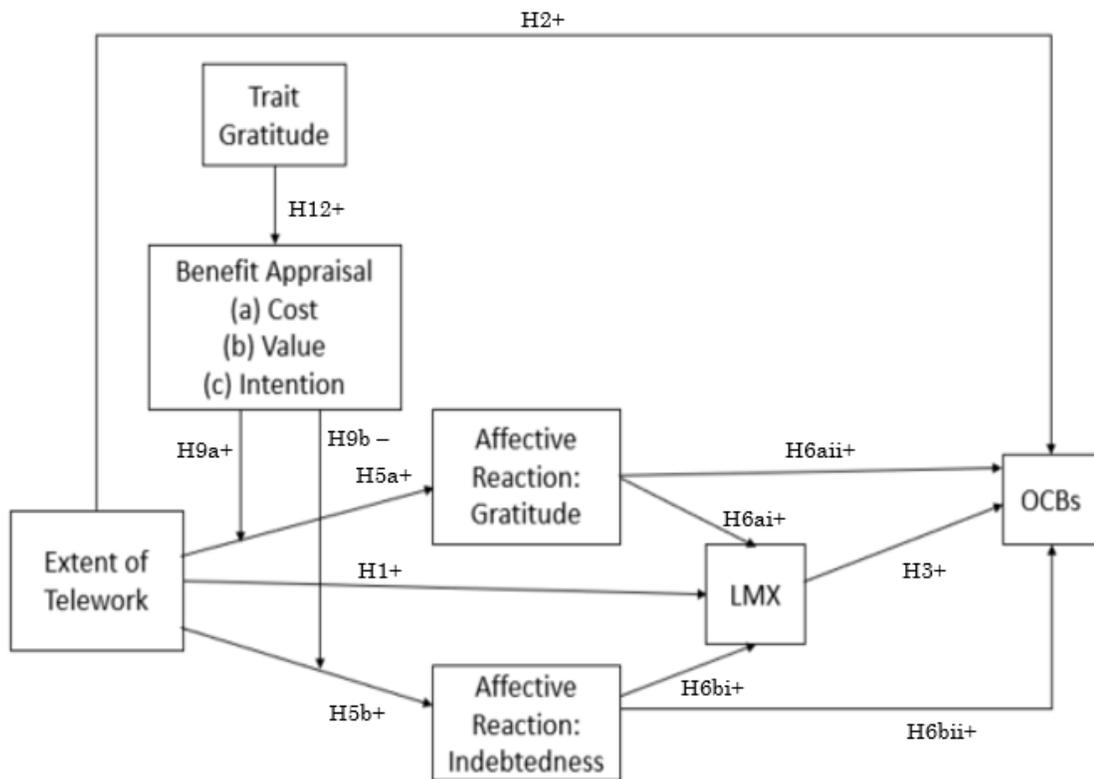


Figure 1. Theoretical Model

METHOD

Participants and Procedure

Participants were 443 employees from four different organizations. Of the constructs of interest in this study, the organizations demonstrated significant group differences only on Telework Frequency and supervisor-rated OCBs. Therefore, the organization variable was used as a control variable in all analyses.

Each participating organization has a central office (i.e., not all employees are remote) and allows for some degree of telework. Participants were required to work more than 30 hours per week and be over the age of 18 years. The sample was 56.9% between the ages of 31 and 50 years old, 70.2% female, and 81.0% white, with an average organizational tenure of 6.96 years ($SD = 6.42$) and an average telework tenure of 3.16 years ($SD = 3.56$).

Participants were administered three electronic surveys over the course of four months (i.e., two months in between each survey). From the first timepoint to the second timepoint, the attrition rate was 23.5% (104 participants), and from the second to the third timepoint, the attrition rate was 5.9% (20 additional participants). Surveys included demographic (e.g., age, race) and other background (e.g., telework tenure, organizational information) measures, as well as the measures of trait gratitude, affective reactions to telework, LMX, and OCBs. All constructs, with the exception of demographic questions,

background information, and trait gratitude were assessed in all surveys. Participants who completed all three surveys were entered into a raffle to win one of three \$50 Amazon gift cards.

Participants were also asked to provide the name and email of their direct supervisor. These supervisors were then contacted to participate in the study as well, by completed two surveys – the first survey was administered one week after the second employee survey was closed, and the second supervisor study was administered one week after the third and final employee survey was closed. Supervisors who completed both surveys were entered into a raffle to win one of two \$50 Amazon gift cards.

The supervisor sample consisted of 112 supervisors, responsible for 227 of the participating employees. The supervisor sample was 61.6% between the ages of 41 and 60 years old, 63.4% female, and 80.4% white, with an average organizational tenure of 10.13 years ($SD = 7.32$) and an average telework tenure of 4.08 years ($SD = 3.83$). This sample represents the supervisors who filled out the second survey, as that was the measurement used in the analyses (see discussion in subsequent sections). Supervisor surveys consisted of similar demographic and background information, as well as measures of LMX and OCBs.

Measures

Employee Surveys

As described above, all measures, with the exception of demographic variables and trait gratitude, were assessed at each of the three employee survey timepoints. All items and scales that were adapted from existing measures were pilot tested with a group of 26

working professionals who offered feedback on wording and clarity. Items and scales were revised accordingly.

Extent of Telework

Extent of telework was measured with a single-item, asking “how often do you telework?” Answers were provided on a scale of 0 to 6 (0 = Never, 1 = Less than once a month, 2 = Once a month, 3 = 2-3 times a month, 4 = Once a week, 5 = 2-3 times a week, 6 = Daily).

Trait Gratitude

Trait gratitude was measured using the Gratitude Questionnaire–6 (GQ–6; McCullough, Emmons, & Tsang, 2002). The GQ–6 is a six-item self-report measure with items rated on a scale from 1 = *strongly disagree* to 7 = *strongly agree*. Two items are reverse scored. Items measure how frequently people feel gratitude (e.g., “Long amounts of time can go by before I feel grateful to something or someone” [Reverse-scored]); the intensity of gratitude experienced (e.g., I feel thankful for what I have received in life”), and the range of events or people that elicit gratitude (e.g., “I feel grateful to a wide variety of people”). Alpha for this scale was 0.79.

Benefit Appraisals

Benefit appraisals of telework were measured using three questions adapted from Wood and colleagues’ (2008) test of the social-cognitive model of gratitude. One item assessed perceptions of the organization’s genuine helpfulness. The original item (Wood et al., 2008) asked “How much was this person motivated by a sincere desire to help you?”. The item was adapted to ask, “How much of your organization’s decision to allow

you to telework was motivated by a sincere desire to help you?” and was rated on a scale of *1 = none* to *7 = a great deal*. A second item assessed the perceived cost of teleworking. The original item asked, “How much did it cost the person to help you (in terms of time, effort, financial cost, etc.)?”. The adapted item asked, “How much does it cost your organization to allow you to telework (in terms of financial cost, resources, productivity, etc.)?” and was rated on a scale of *1 = nothing* to *7 = a great deal*. Finally, a third item assessed the perceived value of teleworking. The original item asked, “How valuable do you think that this person’s help was to you?”. The adapted item asked, “How valuable is teleworking to you?” and was rated on a scale of *1 = not at all valuable* to *7 = extremely valuable*. Alphas for each time point were: Time 1: 0.12, Time 2: -0.01, Time 3: 0.22. Discussions of the low reliabilities and subsequent analyses will be described in more detail in following sections.

Affective Reactions

Affective reactions to teleworking were assessed using a measure adapted from Watkins and colleagues’ (2006) study of gratitude and indebtedness, combined with Fisher’s (2002) measure of affective reactions at work. Watkins and colleagues (2006) asked participants, after reading a vignette, to rate the extent of their emotional response from *1 = mild* to *4 = extreme*. Participants were asked about both gratitude and indebtedness (defined for participants as “feeling obligated to repay”). Participants in the current study were asked to indicate the extent of both gratitude and indebtedness (defined as in Watkins et al., 2006) they feel when teleworking, on a scale of *1 = not at all* to *5 = a great deal*. However, in order to make the goal of the present study less obvious to

participants, additional work-related emotions (borrowed from Fisher's (2002) measure of affective reactions at work) were added to the scale. Employees were asked to indicate the extent to which they experience the following emotions when teleworking: Happy, Frustrated, Grateful, Worried, Proud, Indebted, Angry, and Content.

LMX

LMX from the employee perspective was measured using the LMX-7 measure (Graen & Uhl-Bien, 1995). This measure consists of seven items assessing various aspects of the working relationship between a supervisor and a subordinate. Employees were asked to rate their agreement with each item on a scale of *1 = strongly disagree* to *7 = strongly agree*. Example items include "My supervisor understands my problems and needs" and "My working relationship with my supervisor is effective". Alphas for each timepoint were: Time 1: 0.93, Time 2: 0.94, Time 3: 0.94.

OCBs

OCBs were assessed using an aggregate of two scales – a 5-item supervisory-focused OCB scale (Malatesta, 1995) and an 8-item organization-focused OCB scale (Lee & Allen, 2002). Participants were asked to rate their frequency of engaging in various behaviors in their current job on a scale of *1 = never* to *7 = always*. An example supervisory-focused behavior is "help your supervisor when he or she has a heavy work load" and an example organization-focused behavior is "show pride when representing the organization in public." Alphas at each of the three timepoints were 0.90.

Supervisor Surveys

All constructs were assessed at both supervisor timepoints.

LMX

LMX from the supervisor perspective was measured using the LMX-7 measure (Graen & Uhl-Bien, 1995), with items re-worded to be answered from the leader's perspective. Example items include "I think that I understand my employee's problems and needs" and "My working relationship with my employee is effective". The Alpha for Time 1 was 0.90 and the Alpha for Time 2 was 0.88.

OCBs

OCBs were assessed using an aggregate of two scales – a 5-item supervisory-focused OCB scale (Malatesta, 1995) and an 8-item organization-focused OCB scale (Lee & Allen, 2002). Supervisors were asked to rate how often their employee engages in various behaviors on a scale of *1 = never* to *7 = always*. An example supervisor-focused behavior is "helps you when you have a heavy work load" and an example organization-focused behavior is "shows pride when representing the organization in public." Alpha at Time 1 was 0.92 and Alpha at Time 2 was 0.94.

Data Analysis

Data analyses were conducted using Structural Equation Modeling via the lavaan package in R (Rosseel, 2012). To handle missing data, Full Information Maximum Likelihood (FIML) was used, which directly estimates parameters of interest from the incomplete data matrix. This technique aligned with best practices provided by Newman (2014) and has been found to be superior to other missing data methods in the estimation of most different types of parameters in an SEM format (Olinsky, Chen, & Harlow, 2003). Because mediation and moderation are both present in the current model,

bootstrapping was used to increase the accuracy of the analyses ($k = 2000$; Preacher, Rucker, & Hayes, 2007). The proposed interaction terms were measured by all possible cross products of the mean-centered indicators of the components (Kenny & Judd, 1984).

Though the constructs of interest were assessed at various time points and from various perspectives, particular time points and perspectives of measurement were identified for each construct for use in hypothesis testing. A summary of these decisions is found in Table 1. For all analyses, the demographic variables of age group, gender, and organization were entered as controls. Though including the control variables did not significantly change the resulting effect sizes, some significance levels were changed with their inclusion.

Table 1. Time Point and Perspective Decisions for Each Construct

<i>Construct</i>	<i>Time Point</i>	<i>Perspective</i>
Extent of Telework	Time 1	Teleworker self-report
Trait Gratitude	Time 1	Teleworker self-report
Benefit Appraisal	Time 1	Teleworker self-report
AR: Gratitude	Time 2	Teleworker self-report
AR: Indebtedness	Time 2	Teleworker self-report
LMX	Time 3	Teleworker self-report
OCBs	Supervisor Time 2	Supervisor

NOTE: AR = Affective Reaction

RESULTS

Descriptive Statistics

The means, standard deviations, and correlations among the hypothesized variables are presented in Table 2, with reliabilities represented on the diagonal. Though a latent-variable approach was used in the analyses, composite reliabilities for each variable were first calculated (Fornell & Larcker, 1981). All composite reliabilities were above the threshold of .70, with the exception of Benefit Appraisals. Due to the low correlations among the items in the Benefit Appraisal scale, subsequent analyses that included the Benefit Appraisal construct were conducted using only the item most theoretically relevant to the current work and most strongly correlated with other constructs in the study. This item was Item 3, asking how valuable teleworkers considered the ability to telework.

Table 2. Descriptive Statistics, Correlation Coefficients, and Reliabilities

<i>Variable</i>	<i>N</i>	<i>M</i>	<i>SD</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>	<i>6</i>	<i>7</i>	<i>8</i>	<i>9</i>	<i>10</i>
1 Gender	443	NA	NA	NA									
2 Age Group	443	NA	NA	-.03	NA								
3 Organization	443	NA	NA	-.18**	-.17**	NA							
4 Extent of Telework	443	5.25	1.84	.12**	.11*	.03	NA						
5 Trait Gratitude	439	6.25	.67	.16**	.07	-.05	.15**	.79					
6 Benefit Appraisal	439	3.27	.62	.10*	-.02	-.01	.38**	.26**	.12				
7 AR: Gratitude	327	4.31	.98	.18**	-.07	.04	.19**	.24**	.32**	NA			
8 AR: Indebtedness	327	2.39	1.36	.01	.16**	-.05	.11*	.09	.22**	.38**	NA		
9 LMX	319	5.87	1.00	-.03	.00	.03	.09	.17**	.22**	.14*	.18**	.94	
10 OCBs	230	5.51	1.00	.01	.02	-.02	.04	.08	.05	.03	.08	.34**	.94

NOTE: AR = Affective Reaction

* $p < .05$; ** $p < .01$

Measurement Model

Prior to testing the hypothesized model in Figure 1, a confirmatory factor analysis (CFA) was conducted to ensure that the measurement model fit the data. The CFA included four latent variables (trait gratitude, LMX, supervisor-focused OCBs, and organization-focused OCBs), with one higher-order construct, total OCBs. There were 26 indicators: six items for trait gratitude, seven items for LMX, five items for supervisor-focused OCBs, and eight items for organization-focused OCBs. The single-item measures of extent of telework, affective reaction of gratitude, affective reaction of indebtedness, and Benefit Appraisal were not included in the CFA. The measurement model yielded the following fit statistics: $\chi^2_{[325]} = 3354.76, p < .001, RMSEA = .08, SRMR = .09$. Although not ideal, these values suggest acceptable fit, with RMSEA values no higher than .08 and SRMR values no higher than .10 (Hu & Bentler, 1999). Additionally, no specific items were shown to be particularly problematic, nor was there a theoretical rationale for making additional changes.

Hypothesis Tests

Main effects and mediation effects were first tested without moderators included (Hayes & Preacher, 2013). Extent of telework was not found to be significantly related to LMX ($b = .03, p = .16$) or OCBs ($b = .01, p = .79$); therefore, Hypotheses 1 and 2 were not supported. In support of Hypothesis 3, and confirming results of prior work, LMX was found to have a significant, positive relationship with OCBs ($b = .46, p < .05$).

Though there was not a significant total effect or direct effect of extent of telework on OCBs, LMX was still examined as a potential partial mediator of the

relationship, as mediation is still possible due to potential low power for tests of total and direct effects (Kenny & Judd, 2014). However, the indirect effect of extent of telework on OCBs through LMX was not found to be significant ($b = .02, p = .22$).

In partial support of Hypothesis 5, extent of telework was significantly related to the affective reaction of gratitude ($b = .10, p < .01$), though the relationship between extent of telework and the affective reaction of indebtedness was not significant ($b = .07, p = .13$). Regarding Hypothesis 6, neither the relationship between the affective reaction of gratitude and LMX ($b = .07, p = .29$) nor between the affective reaction of gratitude and OCBs ($b = -.05, p = .65$) was significant. However, the affective reaction of indebtedness was significantly related to LMX ($b = .08, p < .05$), but not OCBs ($b = .01, p = .89$). Thus, Hypothesis 6 was partially supported. The indirect effect of extent of telework on OCBs via the affective reaction of gratitude was not significant ($b = -.01, p = .68$), nor was the serial indirect effect of extent of telework on OCBs via the affective reaction of gratitude and LMX ($b = .00, p = .39$). Similarly, the indirect effect of extent of telework on OCBs via the affective reaction of indebtedness was not significant ($b = .00, p = .68$), nor was the serial indirect effect of extent of telework on OCBs via the affective reaction of indebtedness and LMX ($b = .00, p = .32$). Thus, Hypothesis 7 was not supported.

Hypothesis 8 proposed that the relationship between the affective reaction of gratitude and (a) LMX and (b) OCBs will be more strongly positive than the relationship between the affective reaction of indebtedness and (a) LMX and (b) OCBs. This

hypothesis was not supported, as only the relationship between the affective reaction of indebtedness and LMX was significant.

Hypothesis 9 introduced the potential moderator of benefit appraisals on the relationship between extent of telework and (a) the affective reaction of gratitude and (b) the affective reaction of indebtedness. However, Benefit Appraisal (as assessed via Item 3, as discussed above) did not have a significant moderating effect on the relationship between extent of telework and the affective reaction of gratitude ($b = -.01, p = .90$) or the relationship between extent of telework and the affective reaction of indebtedness ($b = .07, p = .26$).

Because Benefit Appraisal did not display any moderating effects as hypothesized, it was removed from further analysis. The model being tested moving forward is displayed in Figure 2.

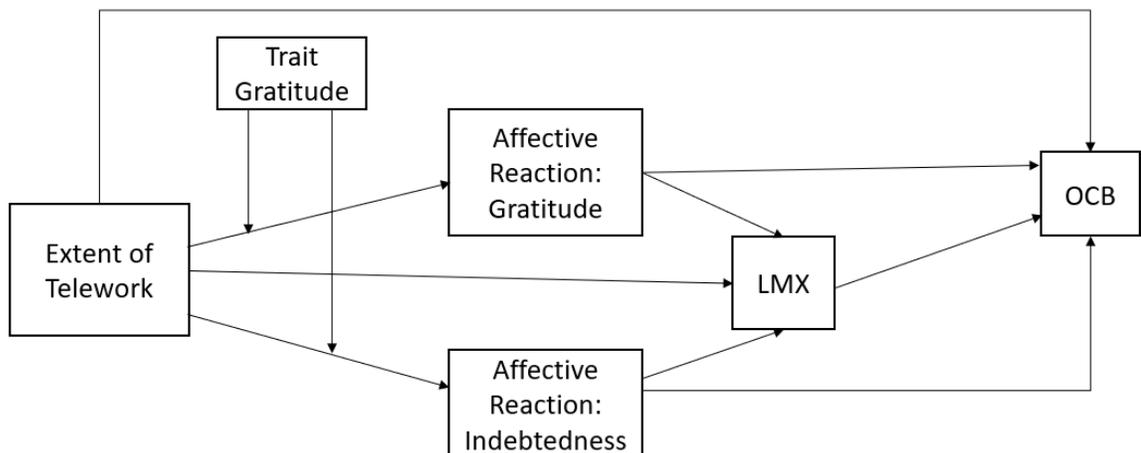


Figure 2. Revised Model

With the removal of Benefit Appraisal, the moderating effect of trait gratitude directly on the relationship between extent of telework and the affective reaction of gratitude and between extent of telework and the affective reaction of indebtedness was now tested. Neither the effect on the relationship between extent of telework and the affective reaction of gratitude ($b = .15, p = .09$), nor the effect on the relationship between extent of telework and the affective reaction of indebtedness ($b = .09, p = .46$) was significant

Finally, overall moderated mediation was tested to determine if trait gratitude moderated the indirect effect of extent of telework on (a) LMX and (b) OCBs through the affective reactions of gratitude and indebtedness. To test for moderated mediation, effect sizes of the indirect effects at different levels of the moderator (1 standard deviation above and below the mean) were examined (Edwards & Lambert, 2007; Holland, Shore, & Cortina, 2016). Indirect effect sizes at different levels of the moderator are listed in Table 3. While there were some slight differences in effect sizes depending on the level of the moderator, none of the effect sizes reached significance.

A summary of the results for the tested model are presented in Figure 3.

Table 3. Indirect Effects at Different Levels of Trait Gratitude

<i>Effect</i>	<i>Trait Gratitude Level</i>	<i>Estimate</i>	<i>Significance Level</i>
Indirect effect of Extent of Telework on OCBs through AR: Gratitude and LMX	-1 SD	.00	.85
	+1 SD	.01	.39
Indirect effect of Extent of Telework on OCBs through AR: Gratitude	-1 SD	.00	.92
	+1 SD	-.01	.63
Indirect effect of Extent of Telework on OCBs through AR: Indebtedness and LMX	-1 SD	.00	.91
	+1 SD	.00	.36
Indirect effect of Extent of Telework on OCBs through AR: Indebtedness	-1 SD	.00	.97
	+1 SD	.00	.92
Indirect Effect of Extent of Telework on OCBs through LMX	NA	.02	.23
Direct Effect	NA	.01	.81
Total Effect	-1 SD	.03	.55
	+1 SD	.03	.55

NOTE: AR = Affective Reaction; SD = Standard Deviation

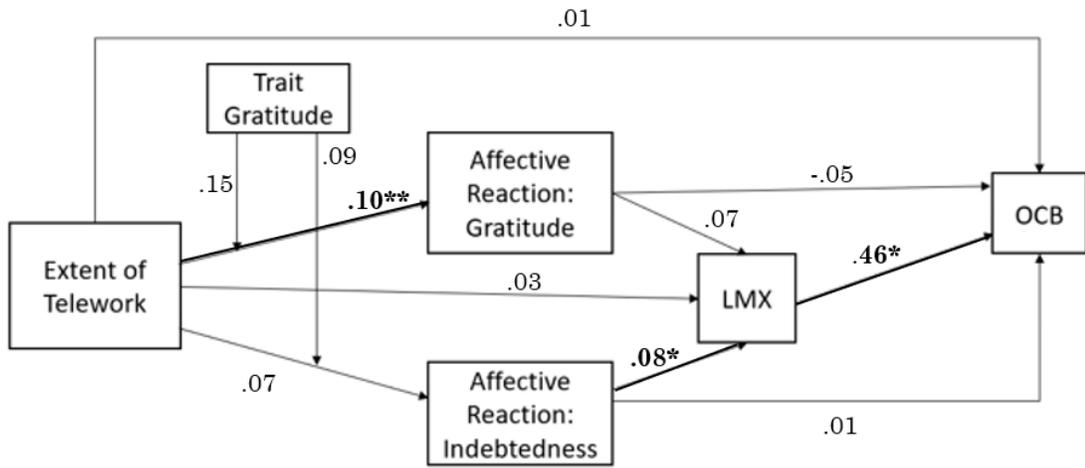


Figure 3. Model Results

Post-Hoc Analyses

Because of the non-significant relationships between the affective reactions of gratitude and indebtedness and OCBs, post-hoc analyses were conducted to test potential moderators of these relationships. Organizational tenure was explored as one potential moderator. Past research has found organizational tenure to influence employee attitudes and job performance, in line with social impact theory (Latané, 1981). This theory suggests that the extent of the influence an individual has over another is a function of factors, including the proximity in time between the relevant parties (i.e., immediacy). For example, Agarwal and Bhargava (2013) found that organizational tenure moderated the effects of psychological contract breach on affective commitment, such that the negative effects of contract breach on employees' affective commitment were stronger for employees with shorter organizational tenure. Thus, as the authors conclude, the longer employees remain in an organization, the more they become attached to it, which can then attenuate the intensity of reactions to particular situations.

In the current work, organizational tenure was shown to moderate the relationship between the affective reaction of gratitude and LMX ($b = .14, p < .05$; see Figure 4), but not between the affective reaction of gratitude and OCBs ($b = -.07, p = .35$). Additionally, organizational tenure did not moderate the relationship between the affective reaction of indebtedness and LMX ($b = -.05, p = .37$) or OCBs ($b = .06, p = .47$).

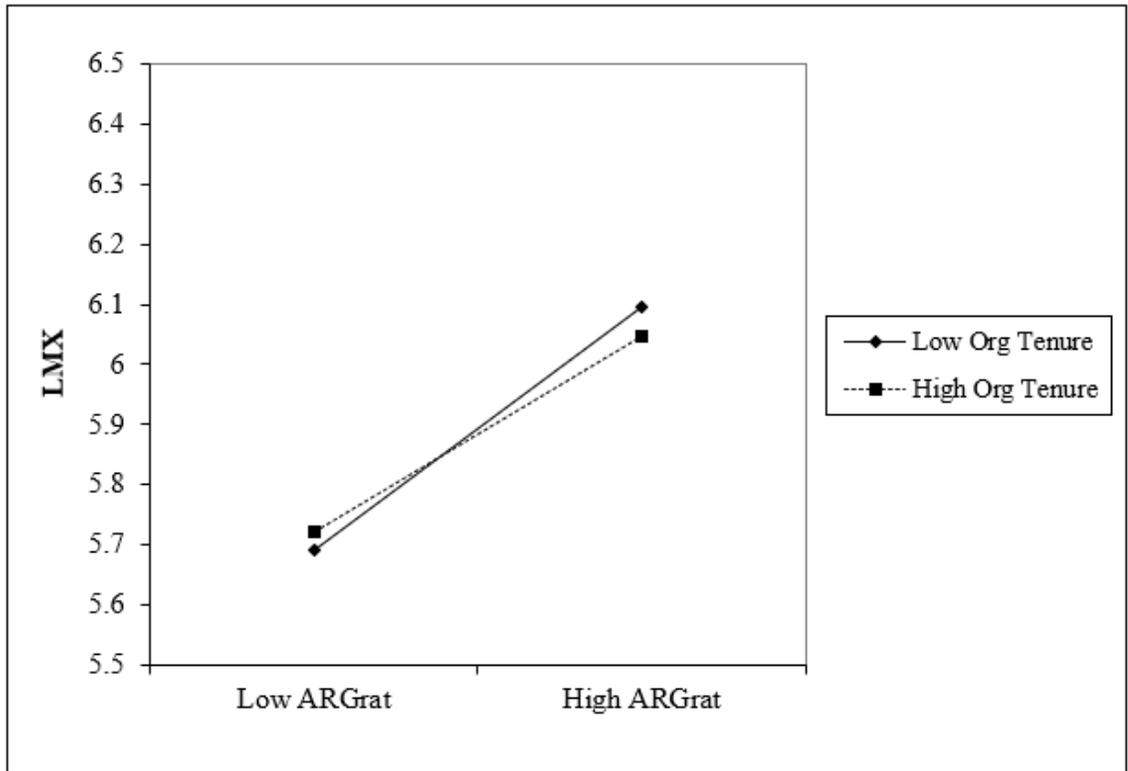


Figure 4. The Relationship between the Affective Reaction of Gratitude and LMX, as Moderated by Organizational Tenure

DISCUSSION

Summary of Findings and Explanation of Unexpected Findings

Extent of telework was examined as a predictor of LMX and OCBs, partially mediated by two potential affective reactions of telework: gratitude and indebtedness. Overall, there was weak support for this idea. Extent of telework did not have a significant relationship with LMX or OCBs, but extent of telework did predict the affective reaction of gratitude. Interestingly, however, indebtedness was the affective reaction to predict subsequent perceptions of LMX, not gratitude. While surprising given prior research showing that gratitude as a reaction is more likely than indebtedness to predict prosocial responses, this finding makes sense when considering the social psychological phenomenon that negative emotions are felt more strongly than positive ones, and, therefore, may have stronger effects on resulting behaviors (e.g., Baumeister, Bratslavsky, Finkenauer, & Vohs, 2001). Because indebtedness has been conceptualized as a mildly uncomfortable emotional state, this reaction may push an individual more strongly toward reconciling the reaction by reciprocation, which can take the form of increasing LMX quality.

Supporting findings from previous studies (e.g., Martin et al., 2016), LMX was found to be a strong predictor of OCBs. Followers in high-quality LMX relationships likely, at least in part, “repay” their favorable treatment by putting more effort into

citizenship behaviors aimed at both their direct supervisor and the organization as a whole.

The relationships between the affective reactions of gratitude and indebtedness and OCBs were found to be much weaker than the relationships between those reactions and LMX. This may be due, in part, to who employees consider as the decision-makers for telework allowance. As one of the background questions on the employee surveys, employees were asked to indicate who makes the telework decision at their organization. They were given a choice among their direct supervisor, the HR department, a combination of the HR department and direct supervisor, or something else. Approximately 41% of employees answered, “direct supervisor” and 43% answered “a combination of HR and direct supervisor,” while only 2% answered “HR department” only. Therefore, it follows that outcomes likely associated with affective reactions to being allowed to telework would be more relational and go through the direct supervisor who is considered to be the telework decision-maker. In other words, due to the attribution of the supervisor as critical to the granting of the telework privilege, it makes sense that the resulting reactions would more strongly predict an outcome directly related to repaying the supervisor (i.e., LMX) than one more indirectly related (i.e., OCBs).

The non-significant relationships between the affective reactions of gratitude and indebtedness and OCBs may also be partially explained by the co-occurrence of other affective reactions when teleworking. For example, telework frequency was more strongly correlated with the affective reactions of happiness ($r = .23, p < .001$) and pride ($r = .24, p < .001$) than it was with gratitude ($r = .19, p < .001$) or indebtedness ($r = .11, p$

< .05). Additionally, these reactions were positively correlated with both gratitude (happiness: $r = .49, p < .001$; pride: $r = .43, p < .001$) and indebtedness (happiness: $r = .25, p < .001$; pride: $r = .34, p < .001$). Prior research has shown happiness and pride to be two emotions that are related to gratitude, but which have low prosocial action tendencies as subsequent behaviors, whereas gratitude has a high prosocial action tendency (Fehr, Fulmer, Awtrey, & Miller, 2017). Therefore, the affective reaction of gratitude would likely have had a stronger effect on prosocial tendencies (e.g., OCBs) if it was the sole affective reaction to telework, as opposed to being so highly correlated with other, related reactions.

Additionally, the nature of the OCB questions may not have strongly applied to the participating organizations, as these organizations are becoming increasingly matrixed. Several participating employees responded to the survey with qualitative feedback that the individual they identified as their direct supervisor may not be someone with whom they frequently conduct day-to-day work activities. Therefore, some of the questions regarding OCBs directed at the supervisor (e.g., accepts added responsibility, or assists supervisor with work), were not easily answered. While the LMX questions were largely still applicable to a supervisor who may be more administrative than work-related, the OCB questions were less so, which potentially offers an additional explanation as to the weaker relationships found between affective reactions and OCBs as compared to LMX.

Interestingly, post-hoc analyses found that organizational tenure moderated the relationship between the affective reaction of gratitude and LMX, suggesting that effects

of these affective reactions likely matter more for employees who are newer to their employing organization. This finding is in line with existing research showing that longer organizational tenure dampens the effects of particular situations and reactions on outcomes (e.g., Agarwal & Bhargava, 2013). Indeed, additional past research has found that continuance commitment, defined as “a perceived obligation to remain in an organization” (Allen & Meyer, 1990), increased with organizational tenure (Allen & Meyer, 1993). In the context of the current work, perhaps newer employees have a less-established relationship with their supervisor and overall commitment to their supervisor and organization, thus making that relationship more influenced by affective reactions to particular situations (e.g., teleworking).

Benefit appraisals were proposed as a potential moderator of the relationship between extent of telework and affective reactions. However, the items intended to capture the three established components of a benefit appraisal were not correlated with each other, and therefore could not be used to represent this construct. It may be that the existing items to measure benefit appraisal do not apply as clearly to the teleworking context. For example, asking employees to estimate the costliness of teleworking to the organization or the sincerity of the organization’s motives likely is not as straightforward as asking these appraisals in other benefit situations (e.g., a friend lending you money).

Though benefit appraisal did not show the expected moderating effects, the construct, as assessed via Item 3, was strongly correlated with telework extent, as well as with the affective reactions of both gratitude and indebtedness. Item 3 asked employees to evaluate how valuable they consider telework. These correlations are in line with

expectancy theory, with the value benefit appraisal item conceptualized as a measure of valence of telework (Vroom, 1964). In other words, telework represents a work outcome that employees will aim to obtain the more they value that outcome. The perceived value of telework could thus be conceptualized as an antecedent to telework extent.

Additionally, the affective reactions of gratitude and indebtedness were positively correlated with perceived value of telework, as employees likely experience these reactions after being granted a valued and desired benefit.

Finally, the moderating effect of trait gratitude on the relationship between extent of telework and the affective reaction of gratitude was marginal, lending some support to the idea that those higher in trait gratitude may be more likely to respond to receiving a benefit with the reaction of gratitude.

Implications

The findings from this study have both theoretical and practical implications. While much existing telework research focuses on the effect of teleworking on the individual employee (e.g., with regard to job satisfaction, work engagement, organizational commitment), this work takes a broader perspective regarding possible relational and organizational outcomes influenced by telework. In keeping with some existing literature (e.g., de Vries, Tummers & Bekkers, 2018, Greenberg, Roberge, Ho, & Rousseau, 2004), the current work uses social exchange theory to make predictions regarding telework, but, unlike prior studies, the current work aims to disentangle two similar, yet distinct, affective reactions that are often experienced after receiving a benefit. For example, findings from the current study indicate that the affective reaction of indebtedness has a

stronger positive effect on LMX quality than gratitude. However, this does not necessarily mean that indebtedness is the reaction to encourage for employees. Previous research has shown that while indebtedness can predict prosocial tendencies, it also has been shown to have a positive relationship with antisocial tendencies, due to the discomfort and uneasiness associated with that reaction (Mathews & Shook, 2013, Watkins et al., 2006).

Finally, the findings regarding organizational tenure highlight the fact that affective reactions to situations may have a stronger effect on outcomes for employees who are newer to the organization. The relationships and behaviors of more tenured employees may be more stable than those of newer employees, and less susceptible to change based on affective reactions to particular situation, whereas these reactions likely play a bigger role in shaping a new employee's general perception of the organization and, thus, have a larger effect on resulting outcomes and behaviors.

Strengths, Limitations, and Future Directions

The use of multiple time points in the current study follows important guidelines that mediation, including both parallel and serial mediation, is best tested via a longitudinal approach (e.g., Mathieu, DeShon, & Bergh, 2008). Additionally, the use of multiple perspectives in the measurement of the key constructs, instead of relying solely on self-report, helps prevent again concerns of common method bias (e.g., Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). The study design also followed best practices and guidelines to help obtain high response rates. These practices included personal distributions of survey invitations, using anonymous identification numbers, and noting

University sponsorship of the survey research (Anseel, Lievens, Schollaert, & Choragwicka, 2010).

Despite these strengths, there were several limitations to the current work. Although the data were collected over a period of time, it, unfortunately, was not possible to conduct a pre- and post- test of a telework intervention, which likely would have yielded stronger effects and would have served as a better test of the overall question of the effect of telework frequency on relationships such as LMX and behaviors such as OCBs. In other words, following employees during the process of them being first granted the benefit to telework in their organization would have been a more powerful examination of how their work relationships and behaviors can change as telework frequency increases. Such a design would also have allowed for a more complete picture of the relationship between LMX and telework, as LMX has been proposed as an antecedent of the telework decision, as well as an outcome of the telework arrangement. A pre- and post-intervention design would allow for the examination into how the LMX relationship changes once the telework benefit is granted.

Additionally, such a design would have likely yielded stronger relationships between telework and affective reactions and between these affective reactions and the outcomes of interest. Research has shown that people acclimate the benefits they receive, eventually causing any initial affective reactions to transfer into indifference, or, sometimes, a feeling of being entitled to that privilege (e.g., Fehr et al., 2017; Frijda, 1988). Thus, after employees have been permitted to telework, they will eventually have weaker reactions to the telework experience and, instead, may come to feel that telework

is a “right” or a working condition to which they are entitled, more than as a benefit that has been granted. Thus, future research should focus on employees before and after obtaining the allowance to telework.

An additional limitation of the current work is the matrixed nature of the participating organizations. Because many employees do not participate in day-to-day work activities with the same supervisor who is in charge of more administrative decisions (e.g., granting teleworking privileges), the relationships between extent of telework and OCBs, especially those OCBs focused on the supervisor, were likely weaker than if the supervisor making the administrative decisions was also a key player in the employees’ work activities. It would be helpful for future research to ensure this arrangement before identifying participating organizations in order to better examine the relationships proposed in this study, particularly those that may be impacted by the extent to which an employee attributes their teleworking ability to his or her supervisor.

Conclusion

While the idea of teleworking is not new, conclusions from both a research and an applied perspective remain mixed regarding its consequences. The current research examined the effects of extent of telework on LMX and OCBs, using a social exchange theory framework and exploring the role of two similar, yet distinct, affective reactions that may result from being granted the benefit of telework. While the data collected in this study did not provide strong support for the proposed ideas, this study offers a way of conceptualizing possible effects of telework that can be used in future research. As technological advances continue to improve, making it easier to separate the worker from

the workplace, we must continue studying telework in order to understand its effects and help establish best practices for its implementation and continued maintenance.

APPENDIX A

Proposal Literature Review

Telework

The concept of teleworking first emerged in the 1970s as an attempt to “move the work to workers,” in order to reduce traffic and energy consumption, in response to the oil crisis. As companies began to implement this work arrangement, it became apparent that teleworking could also be used to help address workplace issues, such as obtaining in-demand staff and increasing work-family balance. As technology continued to improve, with the introduction of personal computers in the 1980s and cell phones in the 1990s, the extent of telework increased. As these technologies have advanced further, decreasing in size and price but increasing in capabilities, more and more workers now have the ability to work outside the office.

Additionally, the 1990s saw the revision of the Clean Air Act, requiring states to develop employee commute option programs. Telework was one such option that met the requirement. Finally, as the number of workers engaging in work with a primary emphasis on intellectual capital (i.e., knowledge work) has increased, an increasing number of jobs are viewed as amenable to the telework arrangement, with work able to be completed away from one central location.

Although specific prevalence rates of telework vary depending on the definition of telework used, as well as the population sampled, the data indicate that telework is a prevalent work arrangement, and is continuing to grow. A 2014 SHRM survey found that 59% of U.S. employers allowed for some form of telework; 54% responded that their organizations offered ad-hoc telework, while 29% offered part-time telework, and 20% offered a full-time telework option. Internationally, a 2013 WorldatWork survey found that 88% of organizations offered telework in some fashion, with 83% offering it ad-hoc and 34% offering it as a full-time option. Finally, 2017 research from Global Workplace Analytics and Flexjobs suggests that the number of employees utilizing a telework arrangement is growing, as “regular telework” has grown by 115% in the last decade.

Although the general idea of telework as working away from a central location is widespread, there are vast differences in the specific definitions used throughout the literature and an assortment of different terms used to describe similar or identical concepts. For example, the concept of working away from the office has been referred to as: telework, telecommuting, remote work, virtual work, and flexible work, among others. In the current research, we use the term telework exclusively, and adopt the definition provided by Allen and colleagues (2015): *Telecommuting is a work practice that involves members of an organization substituting a portion of their typical work hours (ranging from a few hours per week to nearly full-time) to work away from a central workplace – typically principally from home – using technology to interact with others as needed to conduct work tasks.*

There are two important aspects of the above definition to highlight. First, teleworkers refer to employees who substitute time typically spent in the central office with time spent working from a different location. This does not include workers who carry out tasks or respond to emails from home, outside of normal business hours but after a full day in the office (i.e., supplementers). Second, teleworkers are a part of a larger organization. This population does not include independent contractors or employees who are part of an outsourced labor pool.

Another difference throughout the telework literature is found in what researchers choose to be the independent variable of interest. Early telework studies most often focused on comparing teleworkers with non-teleworkers, examining between-group differences. However, it has more recently been accepted that telework is rarely an “all-or-nothing” practice. As noted in the above discussion of telework prevalence rates, most telework occurs on an ad-hoc basis, as opposed to full-time. Therefore, more recently, researchers have begun to focus on extent of telework as the key variable, examining differences in outcomes based on how often one teleworks. The current study uses “extent of telework” as the independent variable of interest.

In the following sections, I offer a review of several of the most common outcomes studied in relation to telework.

Performance. Telework has been linked to various aspects of both job and organizational performance. For example, Gajendran and Harrison (2007) found in their meta-analysis that teleworking was positively associated with supervisor-rated or objectively measured job performance. Similarly, Gajendran and colleagues (2014) found

both supervisor-rated task performance and supervisor-rated contextual performance to be higher for teleworkers than non-teleworkers. Finally, a 2014 study of Chinese call-center employees used an experimental methodology and found that employees randomly assigned to telework were more productive based on objective data (Bloom, Liang, Roberts, & Ying, 2014).

The relationship between teleworking and self-rated performance has been less conclusive. Gajendran and Harrison (2007) found a non-significant relationship between teleworking and self-rated job performance in their meta-analysis. However, a 2015 study used a within-subjects design to further investigate self-rated performance, and found that employees reported higher self-rated performance when teleworking as opposed to working in the office (Vega, Anderson, & Kaplan, 2015).

Indicators of firm performance have suggested that telework is largely beneficial for organizations that choose to adopt this arrangement. For example, a 2008 study of 156 Spanish firms indicated that the intensity of telework adoption was positively related to firm performance, measured by financial performance, innovation, and relational quality with employees, customers, and suppliers (Martínez-Sánchez, Pérez- Pérez, Vela-Jiménez, & de-Luis-Carnicer, 2008). A study based in the U.S. found that the amount of participation in flexible work programs, such as telework, was positively related to firms' operating income (Meyer, Mukerjee, & Sestero, 2001).

The majority of the research investigating the relationship between telework and performance has focused on task performance. However, research now strongly supports the idea that contextual performance is an important element of overall job performance

and has meaningful influences on individual and organizational outcomes (e.g., Van Scotter, 2000). Below, I discuss two elements of contextual performance: Organizational Citizenship Behaviors (OCBs) and Counterproductive Work Behaviors (CWBs). I offer a brief definition and review of each construct before describing its relationship with telework.

Organizational Citizenship Behaviors. The concept of OCBs was developed to account for the fact that existing models of job performance (e.g., Campbell's taxonomy; Campbell, McCloy, Oppler, & Sager, 1993) did not account for behaviors that are not technically part of the formal job description, yet contribute to job performance. Organ (1988) defined OCBs as "behaviors that are discretionary, not directly or explicitly recognized by the formal reward systems, and that in the aggregate promote the effective functioning of the organization" (p. 4). While the majority of this definition remains in the current literature, it has now become accepted that OCBs may be acknowledged and rewarded during the performance appraisal process (Kane, 2014).

Multiple OCB dimensions have been proposed since the first conceptualization of this construct. For example, Smith and colleagues (1983) separated OCBs into two dimensions: altruism and generalized compliance (Smith, Organ, & Near, 1983). Altruism referred to general helping behaviors at work, such as helping coworkers who have been absent, or helping onboard new hires. Generalized compliance, on the other hand, is more indirect, referring to behaviors that an ideal employee should exhibit, such as punctuality, presenteeism, and the performance of additional work.

Organ (1988) proposed a five-factor model of OCBs, which added the dimensions of courtesy, sportsmanship, and civic virtue to the existing dimensions of altruism and generalized compliance. Organ proposed altruism as alleviating or solving a problem for colleagues, while courtesy reflected by actions that aim to prevent work-related problems for others. Sportsmanship refers to tolerating less-than-ideal circumstances without complaining, and civic virtue refers to taking an active interest in the organization.

Finally, Williams and Anderson (1991) proposed a two-dimension model of OCBs, which separates the construct into those behaviors directed toward the organization (OCBOs) and those directed toward other individuals (OCBIs). OCBOs include actions such as defending the organization to others and offering ideas to improve organizational functioning. Examples of OCBIs include assisting coworkers with their duties and making a clear effort to make coworkers feel included and welcomed in the work group. Both Organ's (1988) and Williams and Anderson's (1991) conceptualizations are widely used in contemporary literature regarding OCBs.

The most widely studied antecedents of OCBs are employee characteristics, such as attitudes, dispositions, and emotions (Kane, 2014). For example, job attitudes, such as job satisfaction, organizational commitment, and perceptions of justice have been shown to be positively related to OCBs (Organ & Ryan, 1995; Podsakoff, MacKenzie, Paine, & Bachrach, 2000). The theoretical support for these relationships stems from social exchange theory (Thibaut & Kelley, 1959) which argues that employees will reciprocate for their satisfaction or other positive job attitudes by engaging in OCBs. Social exchange theory will be discussed in greater detail later in this section.

In terms of dispositional factors, trait positive and negative affect have consistently been shown to relate to OCBs. More specifically, positive affect is positively related to OCBs and negative affect is negatively related to OCBs (Dalal, 2005; Kaplan, Bradley, Luchman, & Haynes, 2009). State-level emotions, such as state positive affect and other discrete positive emotions, such as joy, pride, contentment, and affection have also been shown to positively relate to OCBs (Shockley, Ipsas, Rossi, & Levine, 2012).

Additionally, leadership behaviors have been explored as antecedents to OCBs. Podsakoff and colleagues (2000) found that transformational leadership behaviors have significant positive relationships with OCBs. Similarly, LMX quality, discussed later in this introduction, has been shown to be positively related to OCBs (Podsakoff et al., 2000).

OCBs have been shown to relate to both individual and organizational outcomes. For example, a 2009 meta-analysis found positive relationships between OCBs and managerial evaluations of employee performance and reward allocation decisions (Podsakoff, Whiting, Podsakoff, & Blume, 2009). Additionally, this meta-analysis found OCBs to be negatively related to both turnover intentions and actual turnover. On the organizational side, Podsakoff and colleagues (2009) found the level of OCBs aggregated to the unit level to be positively related to organizational performance indicators such as productivity, efficiency, and profitability.

Little research has focused on the relationship between teleworking and OCBs, and the research which does exist has theorized contradictory relationships and has largely yielded inconsistent results. For example, some researchers have predicted a

positive relationship between telework and OCBs, because several of the most-cited benefits of telework (e.g., job satisfaction, organizational commitment; Fonner & Roloff, 2010; Kelliher & Anderson, 2010) have been shown to be antecedents to OCBs (Podsakoff et al., 2009). Lambert (2000) found that employees' use of work-life balance benefits was positively related to interpersonal helping behaviors. However, this research was not a test of telework. Work-life balance benefits in this study included any benefits intended to help employees balance their work and family duties, such as on-site child care, emergency care for children and the elderly, fitness centers, and psychological counseling. Flexible work arrangements were not one of the benefits offered in this particular study. However, because the most-cited aim of flexible work arrangements is to improve work-life balance, it follows that the underlying theory explaining the relationship between work-life balance benefits and OCBs should hold when telework is conceptualized as an example of these benefits.

Other researchers, however, have theorized a negative relationship between telework and OCBs based on the notion that the physical space between a teleworker and his or her organization and the professional isolation that may result, will cause a teleworker to feel less connected to the organization and, thus, less willing to engage in OCBs. Some research has supported this idea. For example, Ganesh and Gupta (2010) found a negative relationship between team virtualness and group OCBs, such that the more a team used virtual technology to communicate among members, the lower team members rated their group's level of OCBs.

Other studies have found no significant relationship between telework and OCBs (e.g., Lautsch, Kossek, & Eaton, 2009; Redman, Snape, & Ashurst, 2009). These inconclusive findings may be partly due to the lack of attention given to the explanatory mechanisms of the relationship, as well as variables that may alter the direction or strength of the relationship (Kane, 2014). In the current study, social exchange theory (Thibaut & Kelley, 1959) is used to propose and explore potential mediating mechanisms and moderators of the relationship between telework and OCBs.

Social exchange theory is based on the notion that social interactions involve the exchange of tangible and/or intangible resources between the parties involved (Homans, 1961). This exchange of resources can be defined as either economic or social. Economic exchanges are typically of tangible resources and they create specific obligations on the part of the recipient. On the other hand, social exchanges involve a party acting in a way that benefits the other, but does not create a specific or formalized obligation for the recipient, but rather a desire to reciprocate (Casimir, Ng, Wang, & Ooi, 2014). This reciprocity, over time, can evolve the relationship into trusting, loyal, and mutual commitments (Cropanzano & Mitchell, 2005).

In an organizational setting, social exchange relationships can occur between a worker and several different parties, including his or her supervisor, coworkers, and employing organization (Cropanzano & Mitchell, 2005), with the same overarching idea that as two parties mutually benefit each other, the relationship evolves. This theory has been used as an explanatory framework for OCBs, with the notion that employees

respond to favorable working conditions by behaving in ways that benefit the organization and/or other employees (i.e., OCBs; Dalal, 2005; Konovsky & Pugh, 1994).

Telework is an example of a favorable working condition; research has shown that employees view being granted the ability to telework as a privilege (e.g., Morganson et al., 2010; Sparrow, 2000) as well as a demonstration of organizational support and consideration for the employee and his or her wellbeing (e.g., Shockley & Allen, 2007; Sparrow, 2000). Thus, social exchange theory offers a theoretical mechanism for a positive relationship between telework and OCBs.

Counterproductive Work Behaviors. In contrast to OCBs, CWBs are defined as voluntary, intentional acts which violate organizational norms and negatively impact the wellbeing of employees and the organization (Robinson & Bennett, 1995). Such actions can vary in terms of their severity. For example, intentionally working slower than possible or coming to work late would be minor CWBs. Engaging in theft, violence, or sabotage are more severe CWBs.

Similar to OCBs, researchers have debated the dimensionality of the CWB construct. Hollinger and Clark (1983) categorized CWBs into two dimensions: property deviance and production deviance. Property deviance refers to behaviors performed that cause harm to items owned by an organization. Theft and property damage are two examples of property deviance. Production deviance refers to behaviors that negatively affect one's ability to do one's job, such as intentionally working slowly, or arriving to work late.

Robinson and Bennett (1995) expanded the CWB framework by including interpersonal behaviors. This inclusion led to two dimensions of CWBs: behavior target (organizational v. interpersonal) and behavior severity (minor v. serious). The cross of these two dimensions led to four quadrants or categories of CWBs: Property deviance (organizational, serious); production deviance (organizational, minor); personal aggression (interpersonal, serious); and political deviance (interpersonal, minor). However, based on construct validity research, Bennett and Robinson (2000) recommended dropping the severity dimension in favor of distinguishing CWBs only by the target of the behavior (i.e., CWBOs and CWBIs). Behaviors in each category can range from mild to serious offenses (Bennett & Robinson, 2000).

Much of the research focusing on predictors of CWBs have focused either on personality or on characteristics of the job and/or the work environment. In terms of personality, the traits of impulsivity (Henle, 2005), trait anger (Fox & Spector, 1999), trait negative affect (Dalal, 2005) and narcissism (Penney & Spector, 2002) have been found to positively relate to the frequency of CWBs. In terms of the Big Five personality traits, agreeableness, conscientiousness, and emotional stability have all been shown to negatively relate to CWBs (Berry, Ones, & Sackett, 2007). Regarding aspects of the job and/or work environment, research has found that individuals who perceive a lack of organizational justice (including distributive, procedural, and interactional justice) are more likely to engage in CWBs (Fox, Spector, & Miles, 2001; Henle, 2005). Additionally, the more that individuals experience stressors in their jobs, the more likely

they are to engage in CWBs (Fox & Spector, 1999; Chen & Spector, 1992; Fox et al., 2001).

Social characteristics of the work environment, including work group norms and coworker support have also been found to relate to CWBs. Specifically, CWBs occur more frequently when supervisors and work group accept or condone these behaviors (Greenberg & Scott, 1996). Additionally, researchers have found that greater coworker support is associated with higher levels of CWBs (Liao, Joshi, & Chuang, 2004; Monnastes, 2010).

CWBs, both interpersonal and organizational, have been found to have significant effects on outcomes at both the individual and organizational level. For example, CWBIs have been found to negatively relate to targets' emotional wellbeing, affective commitment, and turnover intentions (LeBlanc & Kelloway, 2002). Additionally, CWBIs have been shown to negatively influence team performance and team viability (Aubé & Rousseau, 2001), as well as job satisfaction and performance (Herscovis & Barling, 2010). CWBOs have been shown to negatively affect organizational outcomes such as performance and safety. For example, employee theft has been shown to lead to significant financial losses (Winbush & Dalton, 1997), and intentional tardiness has been shown to influence the functionality and performance of an organization (Bowling, Burns, & Beehr, 2010). Finally, substance abuse in the workplace, another type of OCBO, has been shown to influence both work performance as well as the overall safety of the environment (Frone, 1998).

Similar to OCBs, there is a lack of research that focuses on the relationship between telework and CWBs. Although many managers mention the fear of CWBs (e.g., goofing off when out of sight from one's manager) when explaining their reluctance to allow telework, these fears are not supported nor refuted by empirical research. One explanation for this lack of research is the applicability of traditional CWB scales to the telework environment (Holland, Simpson, Dalal, & Vega, 2016). Because, by definition, telework occurs away from the central office, certain CWBs (e.g., hitting a coworker) may be impossible to do when teleworking. Thus, Holland and colleagues (2016) developed a CWB scale specific to the teleworking context, eliminating items not applicable to teleworkers and adding in telework-specific items (e.g., faking an illness to justify teleworking). However, to my knowledge, this scale has yet to be used to empirically study the relationship between teleworking and CWBs.

Social exchange theory can be used to offer a potential theoretical explanation for a negative relationship between telework and CWBs. As teleworkers should respond to being granted the privilege of teleworking by behaving in ways that benefit the organization, teleworkers should also respond by refraining from behaviors that would negatively affect the organization and other employees.

For a more complete understanding of telework, I now discuss other outcomes associated with telework: work-life balance, job satisfaction, and organizational commitment.

Work-Life Balance

Telework has long been promoted as a means for improving work-life balance, and the relationship between telework and work-life balance has been the most popular topic of study in this area (Allen, 2012). The idea of telework as an effective arrangement to increase work-life balance stems from conservation of resources theory (Hobfoll, 1989), which argues that individuals feel stress when their resources are used and/or lost, such as through the competition between work and other life roles. As telework provides some amount of flexibility, discretion, and choice in how employees allocate their resources to balance both roles, telework should decrease the conflict between them. Additionally, telework is thought to provide more free time to the teleworker, by drastically decreasing the amount of time spent commuting (Desrosiers, 2001).

However, little empirical evidence supports the notion that telework is an effective way to mitigate work-family conflict (Allen et al., 2015). Though Gajendran and Harrison (2007) found significant negative relationships between telecommuting and work interference with family (WIF) as well as family interference with work (FIW), the effect sizes for both were small (WIF: $r = -.16$; FIW: $r = -.15$). In a more recent meta-analysis, Allen and colleagues (2013) reported an even smaller effect of teleworking with WIF ($r = -.08$) and found a nonsignificant effect of telework on FIW.

Several moderators have been shown to be important in the understanding of these relationships. For example, Gajendran and Harrison (2007) found telework intensity to be a moderator; the negative relationship between telework and work-family conflict was only significant for employees who teleworked 2.5 or more days per week. In

another study, Golden and colleagues (2006) focused on telework intensity and differentiated between its effects on WIF and FIW. They found that extent of telework was negatively associated with WIF, yet positively related to FIW. Experience with telework has also been shown to be a significant moderator of the relationship between telework and work-family conflict. Gajendran and Harrison (2007) found that the negative relationship between telework and work-family conflict was stronger for employees who had been in a teleworking arrangement for over a year.

Taken together, research shows that while telework may improve one's work-life balance, the extent of this effect is rather small. A potential explanation for this small effect size is that while telework offers the employee more flexibility in allocating his or her resources, it may also increase that employee's family expectations and tasks. As the boundaries between work and home are increasingly blurred with teleworking arrangements, it may become harder to focus on and allocate resources to either exclusively, even when seemingly having the flexibility to do so.

Job Satisfaction. Job satisfaction is the work-related attitude that has been studied most extensively in its relationship with teleworking (Allen et al., 2015). Job satisfaction is defined as “a positive or negative evaluative judgment of one's job or job situation” (Weiss & Cropanzano, 1996, p. 2), and is considered one of most important variables of interest to organizations and individuals (Desrosiers, 2001). Much telework research and discussion assumes a positive relationship between telework and job satisfaction, due to the positive relationship between telework and perceived autonomy (Desrosiers, 2001; Hone, Kerrin, & Cox, 1998). Autonomy increases job satisfaction

because it increases employees' feelings of responsibility for their work outcomes as well as their feelings of work adjustment (the level of congruence between an individual's needs and the extent to which those needs are met on the job; Pierce, Newstrom, Dubham, & Barber, 1989).

In their meta-analysis, Gajendran and Harrison (2007) reported a small, but significant, positive relationship between teleworking and job satisfaction ($r = .09$). Similar to the relationship between teleworking and work-family conflict, telework intensity has been found to moderate the relationship between telework and job satisfaction. For example, Golden and Veiga (2005) found a curvilinear relationship between telework extent and job satisfaction: satisfaction and telework extent were found to be positively related at lower levels of teleworking, but the relationship plateaued at higher telework levels (around 15.1 hours per week). Finally, a within-subjects design (Vega, et al., 2015) found that employees reported higher ratings of job satisfaction on days during which they were teleworking.

There are several moderators and mediators that have been proposed to help further explain and understand the relationship between teleworking and job satisfaction. For example, the nature of the teleworker's job has been examined as a moderator; the curvilinear relationship was shown to be flatter for employees with jobs high in discretion and interdependence (Golden & Veiga, 2005). Additionally, personality traits of the teleworker have also been examined; the curvilinear relationship has been shown to be flatter for individuals higher in performance-outcome orientation (Virick et al., 2010).

Gajendran and Harrison (2007) looked at work-family conflict and coworker relationship quality as potential mediators in their meta-analysis. Support was found for both constructs as partial mediators of the relationship between telework status and job satisfaction. Similarly, Golden (2006) found evidence for LMX, team-member exchange (TMX), and work-family conflict as partial mediators of the relationship between telework extent and job satisfaction. Finally, perceived job autonomy has been found to be a mediator of the relationship between the amount of time spent teleworking and overall job satisfaction (Desrosiers, 2001).

Organizational Commitment. Organizational commitment, defined as employees' attitudinal attachment to their employers, is another work-related attitudinal variable that has been examined for its relationship with teleworking, though to a lesser extent than job satisfaction (Desrosiers, 2001). A 2012 meta-analysis of eight studies (Martin & MacDonnell) found a small positive relationship between telework and organizational commitment ($r = .10$). Similarly, Golden (2006) found a small, positive relationship between telework extent and organizational commitment, partially mediated by work exhaustion. However, other studies (e.g., Desrosiers, 2001; Elder & Smith, 1999; Olson, 1989; Ramsower, 1985) have found no significant relationship between teleworking and organizational commitment.

These inconsistent findings are unsurprising, given the competing theories that exist regarding the relationship between telework and organizational commitment. While some researchers assume a positive relationship, because teleworking gives employees the opportunity to have a desired work arrangement (Desrosiers, 2001), others argue that

the physical distance between the teleworker and the office may decrease the teleworker's psychological attachment to the office and the organization as a whole (Feldman & Gainey, 1997). The research examining these theories remain sparse, and, thus, results remain inconclusive.

Leader-Member Exchange (LMX)

The leadership theory of LMX can be viewed as both an antecedent to and an outcome of telework, as well as a mediator of the relationship between telework and other outcomes. Though I propose LMX as a mediator in the current study, I will describe its other potential relationships with telework below. I offer a brief definition and review of the construct before outlining its relationship with telework.

LMX is a leadership theory based on the notion that the appropriate unit of analysis for leadership processes is the leader/member dyad, as opposed to a leader's average behavior across subordinates (Hughes, 1997). LMX contends that leaders have unique relationships with each follower, and these relationships can range from low to high in terms of quality, depending on the resources exchanged between the leader and follower. Because leaders have limited resources, such as time and rewards, they are forced to differentiate among their followers in terms of the quality and quantity of resources exchanged. This differentiation most often occurs on the basis of who the leader feels he or she can trust (Graen & Cashman, 1975).

Leaders differentiate followers based on a number of factors, including competency, motivation, similarity, and personal compatibility (Niedle, 2012). Research has shown that the more similar followers are to their leader, the higher chance they have

of being trusted and categorized into that leader's "in-group" (Engle & Lord, 1997; Vecchio & Brazil, 2007; Waismel-Manor, Tziner, Berger, & Dikstein, 2010). These in-group members have high quality LMX relationships with their leaders, based on a social exchange of resources. In other words, these followers tend to go beyond formal job duties and contractual obligations, and have relationships with their leader based on respect, mutual trust, and liking (Schriesheim, Castro, & Cogliser, 1999). These followers are granted increased responsibilities and autonomy, and, as they meet or exceed expectations, they receive more attention, support, and special privileges over time, thus continually increasing the quality of their LMX relationships.

Followers who are not members of the "in-group" form the "out-group," whose members have low quality relationships with leaders. These followers perform the tasks dictated by the formal job description and have relationships characterized by downward influence, role distinctions, social distance, contractual obligations, and distrust (Barling, Christie, & Hopton, 2011).

LMX quality has been found to be predictive of a variety of outcomes. For example, a 1997 meta-analysis (Gerstner & Day) found LMX quality to be positively correlated with affective constructs such as satisfaction with supervision, overall job satisfaction, and organizational commitment. Additionally, LMX quality was found to be negatively related to role conflict and turnover intentions. A 2016 meta-analysis examined the relationship between LMX quality and a number of work-life balance variables (Litano, Major, Landers, Streets, & Bass). LMX quality was shown to be

negatively related to both WIF and FIW; however, the relationship with WIF was the stronger of the two.

LMX has also been shown to relate to various dimensions of follower performance. For example, Martin and colleagues found LMX to be related to task, citizenship, and CWBs in their 2016 meta-analysis (Martin, Guillaume, Thomas, Lee, & Epitropaki). Specifically, there was a significant positive correlation between LMX and task performance ($\rho = .30$). This finding is consistent with previous meta-analyses (e.g., Dulebohn, Bommer, Liden, Brouer, & Ferris, 2012; Rockstuhl, Dulebohn, Ang, & Shore, 2012). Additionally, Martin and colleagues (2016) found LMX to be related to contextual performance; a corrected correlation of .34 was found for OCBs and a corrected correlation of -.24 was found for CWBs. These findings were also consistent with previous meta-analyses (e.g., Dulebohn et al., 2012; Ilies, Nahrgang, & Moregeson, 2007; Rockstuhl et al., 2012).

In relation to telework, LMX has been shown to be an antecedent of telework allowance. In other words, managers are more likely to allow a subordinate to telework when they have a high-quality LMX relationship with that subordinate (Medvin, Zaccaro, & Goldberg, in preparation). These high-quality LMX relationships are defined by trust and respect, which presumably lead to a manager's faith that the subordinate will be productive even when away from the manager's direct supervision.

Though LMX has been shown to be an antecedent of telework, the LMX relationship is also affected by telework, in a way similar to OCBs and CWBs. Because LMX is based on social exchange theory, it follows that employees granted the privilege

of telework will repay this privilege by putting more resources into the LMX relationship, continuing to increase the quality of that relationship. Thus, LMX may be an outcome of telework, as well as an antecedent. Finally, as LMX has been shown to positively relate to OCBs, LMX may also act as a partial mediator of the relationship between telework and OCBs.

Affective Reactions to Telework

Thus far, social exchange has been used as a theoretical framework, based on the notion that being allowed to telework is a privilege that teleworkers will feel the need to reciprocate or repay. However, this argument conflates two similar, yet distinct, affective reactions to being granted a privilege: gratitude and indebtedness. Though these two emotions have long been considered interchangeable, more recent research (Watkins, Scheer, Ovnicek, & Kolts, 2006) has indicated that these reactions should be disentangled, as they are experienced differently and lead to different outcomes.

Gratitude is defined as “a feeling of thankful appreciation for favors received” (Guralnik, 1971, p. 327) and is largely considered to be a “happy state” (Gallup, 1998). In contrast, indebtedness is defined as “a state of obligation to repay another” in the context of the receipt of a benefit from another (Greenberg, 1980, p. 4) and has been shown to be perceived as an “unpleasant state” (Greenberg, Bar-Tal, Mowrey, & Steinberg, 1982). When indebtedness is experienced, it is often accompanied by an emotional state of arousal and discomfort which people are motivated to reduce. Via a manipulation of gratitude versus indebtedness, Watkins and colleagues (2006) found that gratitude was

associated with broad prosocial thought/action tendencies, as well as the inhibition of antisocial tendencies.

Other research has also supported the relationship between gratitude and prosocial behavior. For example, Tsang (2006) found that participants who experienced gratitude after believing they had received a favor from an individual repaid this individual more than those participants who believed they received the favor by chance. In other words, those who felt grateful toward an individual were motivated to act in a prosocial manner toward that individual. Additionally, research has shown that feelings of gratitude act as inhibitors toward antisocial behavior. Baron (1984) demonstrated that participants who were made to experience gratitude indicated a preference for constructive resolutions toward a previous conflict (e.g., collaboration) as opposed to destructive, antisocial resolutions (e.g., avoidance).

Since the decoupling of gratitude and indebtedness, much of the relevant research has focused on empirical examinations of gratitude, with less work investigating the experience of indebtedness (Algoe, Gable, & Maisel, 2010). Of the existing research that includes indebtedness in its investigations, most has found non-significant relationships between indebtedness and prosocial tendencies. For example, in their 2006 study, Watkins and colleagues demonstrated a correlation of .44 ($p < .05$) between gratitude and prosocial tendencies, but a non-significant correlation ($r = .08$) between indebtedness and these same prosocial tendencies. Similarly, in a study of gratitude and indebtedness in romantic relationships, Algoe and colleagues (2010) found that previous-day gratitude

predicted positive change in next-day relationship quality, while indebtedness had no predictive power for relationship quality.

Instead, indebtedness has been shown to have a positive relationship with antisocial tendencies, due to the other negative emotions, such as discomfort and uneasiness, which accompany indebtedness. While gratitude increases subjective wellbeing (e.g., Fredrickson, 2004; McCullough, Emmons, Tsang, 2002; McCullough, Tsang, & Emmons, 2004), indebtedness causes anxious thoughts and feelings regarding the obligation to the benefactor, and negative emotions about how to repay (Mathews & Shook, 2013). For example, in their 2006 study, Watkins and colleagues found that indebtedness was positively associated with the number of antisocial motivations endorsed toward the benefactor. Similarly, Gray and colleagues (2001) found that indebtedness was associated with self-reported avoidance motivations, whereas gratitude was associated with prosocial motivations.

These findings indicate that the emotional state one predominantly experiences after being granted a benefit, such as telework, will dictate the behavioral outcomes that occur as a reaction to this benefit. Those who predominantly experience gratitude will be likely to respond with exclusively prosocial thoughts and actions, behaving in ways that benefit the granter of the benefit. On the other hand, those who predominantly experience the negative emotion of indebtedness from being allowed to telework will be more likely to also respond with antisocial tendencies.

As the differences between indebtedness and gratitude are clear, the question follows what leads employees to react with one emotion dominating over the other after

receiving a benefit. Though individuals tend to respond to receiving a benefit by experiencing a combination of both gratitude and indebtedness, factors generally lead one emotion to dominate over the other (Matthews & Shook, 2013). The social-cognitive model of gratitude (Wood, Maltby, Stewart, Linley, & Joseph, 2008) offers a theoretical explanation for the experience of gratitude over indebtedness.

Benefit Appraisals. The social-cognitive model of gratitude (Wood et al., 2008) suggests that after receiving a benefit, the beneficiary makes several attributions about the nature of the benefit. These attributions together form a “benefit appraisal,” which influences the extent of state gratitude experienced as a result. Three attributions have been shown to combine to form a benefit appraisal: the value of the benefit; how much the benefit cost the benefactor to provide; and to what extent the benefactor genuinely wanted to help the beneficiary, as opposed to having ulterior motives (Lane & Anderson, 1976; Tesser, Gatewood, & Driver, 1968; Wood et al., 2008). The social-cognitive model of gratitude suggests that gratitude should be elicited to a greater extent when individuals view a given benefit to be of high cost to the benefactor, of high value to the beneficiary, and given out of a genuine desire to benefit the beneficiary (Wood et al., 2008). Together, these attributions form a positive benefit appraisal, which has been shown to be the proximal causal agent of state gratitude (Lane & Anderson, 1976; Tesser et al., 1968).

Prior research has found support for the social-cognitive model of gratitude. For example, Tesser and colleagues (1968) gave participants vignettes to read which described a hypothetical situation in which they were aided by another person. These vignettes were manipulated to provide low, medium, or high perceptions of (a) the cost of

the help to the benefactor; (b) the value of the help to the participant (i.e., the beneficiary); and (c) to what extent the benefactor genuinely wanted to provide the help. These manipulations led to differences in the gratitude reported by the participant, such that higher levels of cost, value, and genuineness led to increased gratitude.

Wood and colleagues (2008) also used a vignette methodology to test the social-cognitive model of gratitude. In their study, all participants read the same three vignettes, each of which was followed by four questions. Each vignette described a situation in which the participant was helped by another person. In this study, however, the vignettes were designed to be ambiguous with regard to any benefit attribution. After each vignette, participants answered questions regarding the sincerity of the benefactor's intentions; the cost to the benefactor; the value of the help to the participant; and the extent of gratitude experienced as a result of being helped. These three attributions were shown to be good indicators of a latent benefit appraisal, which explained about 83% of the variance in state gratitude.

This model has also been tested in an organizational context. Bridger and Wood (2016) created fictional descriptions of six organizations. Each of the six was manipulated to elicit either a high or low benefit appraisal for the organization's services. Participants read one version of each of the six vignettes, then indicated their gratitude toward each organization and their behavioral intentions toward the organization (i.e., how likely they would be to recommend each organization to peers). Results indicated that the extent to which an organization was depicted as providing services high in cost to the organization, high in value to the beneficiaries, and provided out of genuine

intentions had a significant effect of participants' behavioral intentions regarding the organizations, which were mediated by the gratitude participants felt for the organization's services.

Together, this previous research suggests that employees will experience more gratitude, as opposed to indebtedness, as a result of receiving a benefit (i.e., being allowed to telework) when that benefit is perceived as costly toward the organization, beneficial to the employee, and provided out of a genuine desire to help the employee.

Trait Gratitude

Thus far, the discussion of gratitude and indebtedness has focused on these emotions at the state level, involving “temporary affects or longer duration moods, which may have associated thought and action tendencies” (Wood et al., 2008). However, all emotions can be conceptualized at both the state and trait level (Rosenberg, 1998). At the trait level, emotions are characterized by “individual differences in the average frequency with which affects and moods are experienced in daily life” (Wood et al., 2008, p. 3). The state and trait level of emotions are distinct and lead to different outcomes, however often times they are related.

For example, research has shown that higher levels of trait gratitude are positively related to the frequency and intensity of state gratitude in daily life (McCullough, et al., 2004). Wood and colleagues (2008) demonstrated that trait gratitude has a strong, indirect relationship with state gratitude, mediated by the benefit appraisals discussed previously. In a series of studies, Wood and colleagues (2008) found that trait gratitude led individuals to make more positive benefit appraisals, which then led to the experience of

increased state gratitude. In other words, the authors offer support for the notion that “people who feel a lot of gratitude in life have specific appraisal tendencies which lead them to characteristically appraise the benefits of help-giving situations more positively than less grateful people” (p. 5). Participants high in trait gratitude were more likely to perceive a benefit as costly to the benefactor, valuable to the beneficiary, and provided based on sincere intentions. In each of three studies, trait gratitude was found to substantially or completely mediate the relationship between trait and state levels of gratitude (Wood et al., 2008).

Although trait indebtedness, one’s disposition to experience indebtedness in response to receiving a benefit, has not been studied to the extent that trait gratitude has, several studies have found that trait gratitude and trait indebtedness are negatively correlated (e.g., Matthews & Green, 2010; Matthews & Shook, 2013; Van Gelder, Ruge, Brown, & Watkins, 2007). Additionally, researchers have put forth the notion that trait indebtedness may act as an inhibitor to state gratitude, as one disposed to feeling an obligation to repay any debt may not be able to experience the enjoyment of the benefit (Solom, Watkins, McCurrach, & Scheibe, 2016). Overall, it seems one’s trait level of gratitude (and, consequently, trait level of indebtedness) will influence the state affective reaction experienced as a result of being granted a privilege, such as telework, through the resulting benefit appraisal.

APPENDIX B

All Survey Items

Employee Surveys

Trait Gratitude (1 = strongly disagree to 7 = strongly agree)

Please indicate how much you agree with each of the following statements.

1. I have so much in life to be thankful for.
2. If I had to list everything that I felt grateful for, it would be a very long list.
3. When I look at the world, I don't see much to be grateful for.
4. I am grateful to a wide variety of people.
5. As I get older I find myself more able to appreciate the people, events, and situations that have been part of my life history.
6. Long amounts of time can go by before I feel grateful to something or someone.

Benefit Appraisal

1. How much of your organization's decision to allow you to telework was motivated by a sincere desire to accommodate your needs? (*1 = none to 7 = a great deal*)
2. How much do you think it costs your organization to allow you to telework (in terms of financial cost, resources, productivity, etc.)? (*1 = nothing to 7 = a great deal*)
3. How valuable is teleworking to you? (*1 = not at all valuable to 7 = extremely valuable*)

Leader-Member Exchange (1 = strongly disagree to 7 = strongly agree)

Please indicate how much you agree with each of the following statements.

1. I usually know where I stand with my supervisor.
2. My supervisor understands my problems and needs.
3. My supervisor recognizes my potential.
4. Regardless of how much power he/she has built into his/her position, my supervisor would be personally inclined to use his/her power to help me solve problems in my work.
5. I can count on my supervisor to “bail me out,” even at his or her expense, when I really need it.
6. My supervisor has enough confidence in me that he/she would defend and justify my decisions if I were not present to do so.
7. My working relationship with my supervisor is effective.

Affective Reactions to Telework (1 = not at all to 5 = a great deal)

Please indicate the extent to which you experience the following emotions when teleworking.

1. Happy
2. Frustrated
3. Grateful
4. Worried
5. Proud
6. Indebted (i.e., owing the organization)
7. Angry
8. Content

Organizational Citizenship Behaviors toward Supervisor (1 = never to 7 = always)

Please indicate how often you engage in the following behaviors in your current job.

1. Accept added responsibility when your supervisor is absent
2. Help your supervisor when he or she has a heavy work load
3. Assists your supervisor with his or her work, without being asked
4. Take a personal interest in your supervisor
5. Pass along work-related information to your supervisor

Organizational Citizenship Behaviors toward Organization (1 = never to 7 = always)

Please indicate how often you engage in the following behaviors in your current job.

1. Attend functions that are not required, but that help the organizational image
2. “Keep up” with developments in the organization
3. Defend the organization when other employees criticize it
4. Show pride when representing the organization in public
5. Offer ideas to improve the functioning of the organization
6. Express loyalty toward the organization
7. Take action to protect the organization from potential problems
8. Demonstrate concern about the image of the organization

Supervisor Surveys

Leader-Member Exchange (1 = strongly disagree to 7 = strongly agree)

Please indicate how much you agree with each of the following statements.

1. I usually let my employee know where he or she stands with me.
2. I think that I understand my employee’s problems and needs.
3. I think that I recognize my employee’s potential.
4. Regardless of how much power I have built into my position, I would be personally inclined to use my power to help my employee solve problems in his or her work.
5. I would be willing to “bail out” my employee, even at my own expense, if he or she really needed it.
6. I have enough confidence in my employee that I would defend and justify his or her decisions if he or she were not present to do so.
7. My working relationship with my employee is effective.

Organizational Citizenship Behaviors toward Supervisor (1 = never to 7 = always)

Please indicate how often this employee engages in the following behaviors in his or her current job.

1. Accepts added responsibility when you are absent
2. Helps you when you have a heavy work load
3. Assists you with your work, without being asked
4. Takes a personal interest in you
5. Passes along work-related information to you

Organizational Citizenship Behaviors toward Organization (1 = never to 7 = always)

Please indicate how often this employee engages in the following behaviors in his or her current job.

1. Attends functions that are not required, but that help the organizational image
2. “Keeps up” with developments in the organization
3. Defends the organization when other employees criticize it
4. Shows pride when representing the organization in public
5. Offers ideas to improve the functioning of the organization
6. Expresses loyalty toward the organization
7. Takes action to protect the organization from potential problems
8. Demonstrates concern about the image of the organization

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BIOGRAPHY

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