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5-8-2023

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Telecommuting Intensity's Impact on Job Satisfaction and Burnout: A Moderated
Mediation Model of Work-Family Conflict and Emotional Intelligence

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Abstract

The purpose of this study was to examine whether emotional intelligence moderated the mediating effect of work-family conflict on the relationship between telecommuting intensity and job satisfaction and burnout. This study used a non-experimental, cross-sectional research design. A convenience sample of 369 faculty in higher education who lived and worked in the United States and responded to a recruitment message participated in this study. Participants accessed a survey in Qualtrics via a link provided in an email or accessible via electronic posting. We collected sociodemographic and job-related information in addition to information about telecommuting, work-family conflict, emotional intelligence, job satisfaction, and burnout. Results showed that telecommuting intensity had a significant predictive effect on work-family conflict and job satisfaction, exhaustion, and disengagement; work-family conflict played a mediating role in the relationship between telecommuting intensity and job satisfaction, exhaustion, and disengagement; emotional intelligence played a moderating role in the relationship between work-family conflict and disengagement, as well as the indirect negative relationship (via work-family conflict) between telecommuting intensity and disengagement. Findings from this study add to the research on the relationship between telecommuting intensity and job satisfaction, exhaustion, and disengagement. This study informs future research on the effects of telecommuting and provide ideas for workplace interventions to increase job satisfaction and reduce burnout among faculty in higher education.

Keywords: telecommuting, burnout, job satisfaction, work-family conflict, emotional intelligence

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Introduction

Nontraditional work environments have begun to slowly increase at a higher rate in recent years. This new form of working is known as telecommuting (Coate, 2021). Telecommuting has been defined as using technology and communication resources away from the office (Ye, 2012). In 2019, around 36 percent working in management and business said they worked from home (Coate, 2021). In March 2020, the Coronavirus disease 2019 (COVID-19) pandemic led to the shutdown of the United States, forcing people to engage in remote work to prevent the spread of COVID-19. Nonessential workers, in particular, had to suddenly adapt and make changes necessary to successfully work from home, such as learning how to work with new technological tools (e.g., video conferencing devices and setting up audio and videos; Rudnicka et al., 2020).

Remote work has been found to be associated with stress in individuals who work in education and can impact an individual's perception of burnout and job satisfaction (Heiden et al., 2020). A survey created by the office of sustainability at George Mason University examined how higher education institutions were approaching telecommuting because of COVID-19 (Auger, 2021). Auger (2021) found that 94 percent of higher education employees from various Virginia institutions transitioned to telework during the spring semester of 2020. However, 24 percent of employees indicated that, although they had the option to work onsite, they preferred to telework; 14 percent indicated that they had no preference (Auger, 2021).

Faculty in higher education are often expected to fill a variety of roles, depending on the type of position they hold (e.g., tenure track/tenured vs. adjunct vs. research) and the Carnegie Classification® of the institution in which they are employed (e.g., R1:

Doctoral Universities, M1: Master's Colleges and Universities, Associates Colleges, Special Focus Institutions, Tribal Colleges; The Carnegie Classification of Institutions of Higher Education, n.d.). For example, in addition to teaching, faculty may be expected to oversee an active research agenda, participate in service activities, and complete administrative tasks. Possessing multiple roles often leads to increased job demands, impacting both job satisfaction and burnout. Mohamed and colleagues (2021) found that, compared to non-academic staff, academic staff reported greater levels of burnout. In addition, faculty in higher education reported greater levels of depression, anxiety, stress, and lower levels of job satisfaction than non-academic staff (Mohamed et al., 2021). Therefore, examining factors that impact job satisfaction and burnout among faculty in higher education is important.

Numerous studies offer support that academic professionals experience burnout. Around 30 percent of academic faculty from Uganda reported symptoms of burnout (Kabunga, 2020). Yoleri and Bostanci (2012) specifically found that male professors scored high on emotional exhaustion and depersonalization compared to female professors. Ngalagou and colleagues (2019) also found that 15.2 percent of academic professionals reported emotional exhaustion, 32.1 percent reported depersonalization, and 22.1 percent reported a loss of personal accomplishment. Unlike Yoleri and Bostanci's findings, Kitchel and colleagues (2012) found that high school agriculture teachers did not report high levels of depersonalization; they did, however, report higher levels of emotional exhaustion.

Research supports the relationship between job satisfaction and burnout amongst academic faculty. Coetzee and colleagues (2019) found that, when academics had high

levels of burnout, they also had lower levels of job satisfaction. More specifically, when academic professionals experienced high depersonalization (a dimension of burnout), they were more likely to report low job satisfaction (Coetzee et al., 2019; Nagar, 2012). Faculty in higher education may find handling multiple tasks (e.g., lecturing, advising, mentoring) challenging; therefore, some faculty may begin to experience depersonalization leading to deterioration in their relationships with students, believing they are being asked to do too much with limited time (Nagar, 2012).

Overall, telecommuting has impacted individuals by increasing stress and levels of burnout amongst educators. For faculty in higher education employed by brick-and-mortar institutions, who were already experiencing burnout and diminished job satisfaction, telecommuting forced them to tread uncertain territory when faced with the need to deliver instruction virtually and work remotely. In a study sponsored by Fidelity, The Chronicle of Higher Education conducted a nationwide study of 1,122 academic faculty members to examine how COVID-19 affected academic faculty (Tugend, 2020). In the study, 35 percent of faculty in higher education reported wanting to change careers and leave the higher education field. Many faculty reported that they felt they were doing worse in many domains of their jobs. Among female respondents ($n = 717$), 57 percent reported doing worse in research and publishing, 33 percent reported doing worse in mentoring students, and 34 percent reported worse in teaching. Meanwhile, among male educators ($n = 405$), 54 percent reported doing worse in research, 42 percent reported doing worse in mentoring students, and 39 percent reported doing worse in teaching (Tugend, 2020). Therefore, it is important to examine the impact that telecommuting has

on burnout and job satisfaction among faculty in higher education and to identify how other factors influence and explain these relationships.

Telecommuting may lead to increased work-family conflict, a potential mediator when examining telecommuting intensity, employee burnout, and job satisfaction (Sandoval-Reyes et al., 2021). Some faculty in higher education have reported benefits associated with telecommuting, such as reduced commute times, decreased environmental impacts, and enhanced employee well-being (Auger, 2021). However, Ng (2006) found that one downfall to telecommuting was that academics reported higher levels of over-working because they had trouble separating their work duties from their family duties.

That said, the negative impact of telecommuting on burnout and job satisfaction may be moderated by emotional intelligence. The rapid shift to a telecommuting environment may have impacted individuals' mental health and coping mechanisms. Telecommuting removes the opportunity for in-person, face-to-face interaction, which may negatively impact individuals' emotions by causing them to feel lonely, overwhelmed, and disconnected (Shipman et al., 2021), and research has shown that individuals who experience job-related stress have are less able to down-regulate negative emotions and therefore more susceptible to burnout (Jackson-Koku & Grime, 2019). In their review of the literature on emotion regulation and burnout in doctors, Jackson-Koku and Grime (2019) concluded that improving emotion-regulation skills (improving emotional intelligence) may help individuals cope with negative emotions and reduce burnout. Additionally, Gao et al. (2013) found that emotional intelligence weakened work-family conflict's effect on job satisfaction.

The current study examined whether emotional intelligence moderated the mediating effect of work-family conflict on the relationship between telecommuting intensity and job satisfaction and burnout. In the following sections, literature on the impact of telecommuting intensity on job satisfaction and burnout, as well as the roles of work-family and emotional intelligence, is discussed. First, literature on worker well-being, job satisfaction, and burnout is discussed. Second, Job Demands-Resources (JD-R) theory, as the theoretical framework for developing job satisfaction and burnout, is introduced and discussed. Third, the mediating role of work-family conflict on the relationship between telecommuting intensity, burnout, and job satisfaction is discussed. Last, the literature on emotional intelligence to explain potential moderating effects on job satisfaction and burnout is reviewed.

Job Satisfaction and Burnout: Indicators of Worker Well-Being

Well-being has been defined as the state of an individual's mental, physical, general health, and overall satisfaction with their work (Danna & Griffin, 1999). In most cases, worker well-being has been reviewed as work-related instead of a general holistic approach. Recently, the National Institute for Occupational Safety and Health conceptualized worker well-being as a holistic approach that assesses worker well-being in multiple dimensions, including an individual's physical and mental health status, situations outside of work, and the quality of life (Chari et al., 2018). Worker well-being is an important topic among organizational researchers because it has been associated with various work-related outcomes, such as job satisfaction and burnout (Kuoppala et al., 2008; Lizano, 2015).

Job Satisfaction

Job satisfaction has been conceptualized in many different ways within the literature. Locke (1976) described job satisfaction as being in a positive state from receiving work appraisals. Wright and Cropanzano (2000) state that job satisfaction is often viewed as an attitude that can be affective or cognitive. For example, Brief (1998) described job satisfaction as “an internal state expressed by affectively and/or cognitively evaluating an experienced job with some degree of favor or disfavor” (p. 86).

Others have examined global and composite forms of job satisfaction. Spector (1997) described global job satisfaction as examining satisfaction as an individual's overall reaction to their job. Meanwhile, composite job satisfaction examines the pattern of an individual's attitudes toward various characteristics of their job (e.g., job conditions, coworkers, compensation). According to Spector, one reason job satisfaction is broken up into different facets is individual differences. For example, a person may report being satisfied with their coworkers but dissatisfied with the overall job environment. A global assessment of job satisfaction does not allow the examination of individual differences and the degree to which employees are satisfied with various job facets.

Low job satisfaction can have positive and negative consequences for the individual and the organization. One consequence is that individuals experience a lower sense of organizational commitment (Nagar, 2012). Nagar studied job satisfaction amongst 255 university professors at the University of Jammu in India and found that individuals with low satisfaction reported often stressed and did not devote as much time to the organization as individuals with high job satisfaction. Additionally, Nagar (2012) concluded that job satisfaction could be related to turnover; low job satisfaction

and burnout could lead to higher turnover rates due to stress. Research does support a positive relationship between job satisfaction and job performance, wherein higher levels of job satisfaction are associated with higher levels of job performance (Kouppala et al., 2008; Wright & Cropanzano, 2000).

Examining job satisfaction in organizational research is important because it indicates worker well-being. Job satisfaction has a strong positive correlation with worker well-being; those who report higher levels of job satisfaction also report higher levels of worker well-being (Cannas et al., 2019). Bowling and colleagues (2010) conducted a meta-analysis and found that the effects of well-being on job satisfaction were stronger than the effects of job satisfaction on well-being. This means that worker well-being leads individuals to experience certain emotions, such as happiness influencing their satisfaction regarding their work.

Although job satisfaction has been found to positively correlate with worker well-being, examining global (general) vs. composite (facet) job satisfaction can influence the strength of the relationship between job satisfaction and worker well-being; using one type of measure can yield different results when examining worker well-being. For example, Bowling and colleagues (2010) found a stronger relationship between job satisfaction and worker well-being when examining job satisfaction as a global versus composite measure. Overall, worker well-being is part of a hierarchy that sits at the top as a broad construct. Under the construct of worker well-being lies global job satisfaction, as a sub-dimension that can be further broken down into composite job satisfaction. Job burnout is another sub-dimension that lies below the broad construct of worker well-being.

Job Burnout

Burnout has been conceptualized in many ways. Freudenberger (1974) was one of the first to introduce burnout by stating that burnout is the emotional depletion of individuals when individuals over-exert themselves. In Freudenberger's examination of burnout, he stated that some consequences of burnout are related to an individual's well-being. Those who experienced burnout may also start engaging in risk-taking behaviors and may act or look more depressed (Freudenberger, 1974).

Later, Maslach and Jackson (1981) conceptualized burnout as a psychological outcome in response to chronic stressors and identified three dimensions of burnout: emotional exhaustion, depersonalization, and personal accomplishment. Emotional exhaustion happens when individuals feel as if they have run out of emotional resources, feeling emotionally worn out (Maslach & Jackson, 1981; Maslach et al., 2001). Depersonalization occurs when a person feels detached from work, leading to a detached perception of others. Personal accomplishment describes one's negative perception of themselves regarding their competence and successful performance at work (Maslach & Jackson, 1981).

Similar to low levels of job satisfaction, burnout can lead to negative individual and organizational consequences. Organizational commitment is once again affected by burnout; higher levels of burnout are associated with lower levels of organizational commitment (Chowdhury, 2018). Burnout also leads to higher turnover rates and decreases in job performance and an individual's sense of effectiveness (Chowdhury, 2018). On the individual side, burnout acts as a threat to workers' well-being. When personal resources are depleted, they experience a deterioration of their affective,

physical, and psychological states (Lizano, 2015). Emotional exhaustion, which occurs when individuals feel they have lost job resources due to stressors, is negatively related to worker well-being (Lizano, 2015). Burnout has been associated with depression and anxiety (Denning et al., 2021).

Although many ways to conceptualize burnout exist, we will use Demerouti and colleagues' (2010) conceptualization of burnout. One reason for this is that, unlike Maslach and colleagues (1981), Demerouti et al. (2010) expanded the dimension of exhaustion to acknowledge aspects of cognitive and physical exhaustion. In their conceptualization, exhaustion is defined as "a consequence of intensive physical, affective, cognitive strain, a long-term consequence of prolonged exposure to certain job demands" (p. 210). Meanwhile, disengagement describes how individuals identify with their job and whether they are thinking about leaving their job or are willing to stay (Demerouti et al., 2010).

Understanding what a job demand is and how it can lead to burnout is important. Canu and colleagues (2021) conceptualized a job demand as problems at work which can be broken down into more specific concepts such as work environment, stressful work schedule, difficulty adjusting, etc. One theory that helps explain why these job demands can lead to decreased job satisfaction and increased burnout is JD-R theory.

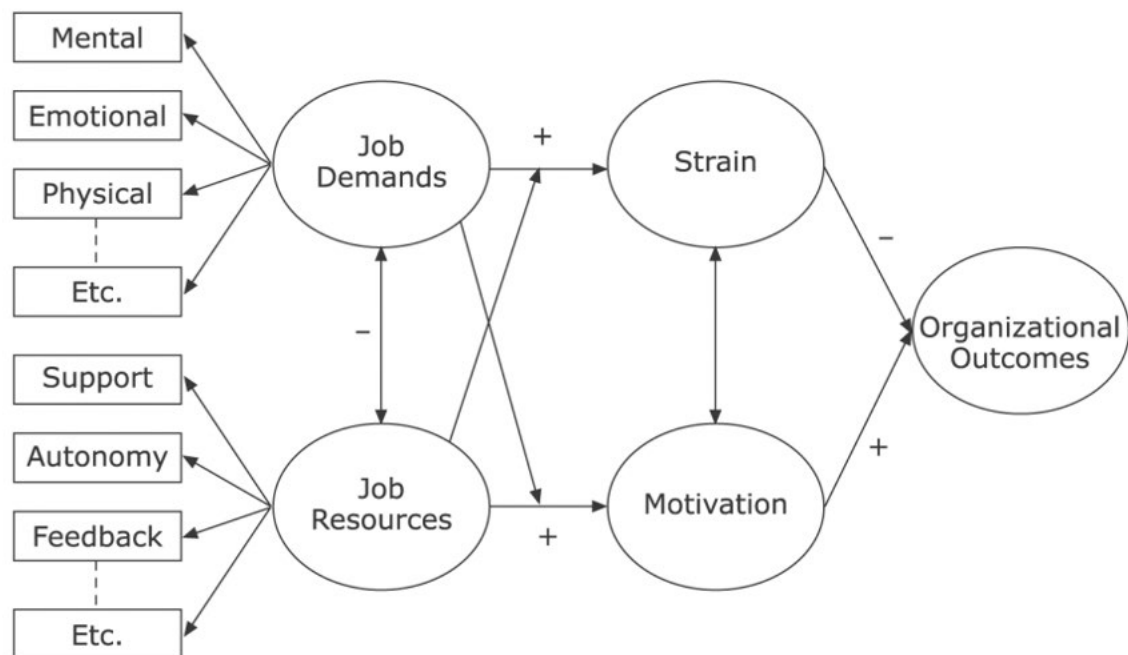
Job Demands-Resources Theory

JD-R theory was developed to explain occupational stress (Demerouti et al., 2001). Bakker and Demerouti's (2007) JD-R model (Figure 1) illustrates the role of job demands and resources on the motivational and health impairment processes within JD-R theory, along with the impact each has on individuals and organizations outcomes. In

their model, Bakker and Demerouti refer to job demands as physical, social, or psychological aspects of one's job that require physical or psychological skills. Meanwhile, a job resource refers to the physical, social, or psychological aspects of one's job that help achieve work goals, reduce job demands, or help with personal growth. According to the JD-R model, high job demands lead to higher strain levels, which leads to negative individual and organizational outcomes. On the other hand, sufficient job resources lead to higher motivation levels, which leads to positive individual and organizational outcomes. Job resources are used to help cope with job demands and can help alleviate strain. However, higher job demands require more resources; as such, the chances of resource depletion increase.

Figure 1

The Job Demands-Resources Model (Bakker & Demerouti, 2007)



One outcome that the JD-R model can help explain is the development of burnout through two processes (Demerouti et al., 2001). The first process states that different job

demands are related to different aspects of work, such as physical workload or time pressure. These demands can be overtaxing, leading to health impairments. The second process explains that when you lack job resources such as job control and support, interference with an individual's ability to meet the job demands can occur, leading to disengagement. Mudrak and colleagues (2018) examined job satisfaction amongst 2,071 Czech academic faculty and found that individuals who experienced high job demands experienced more stress and exhaustion.

The JD-R model also helps explain why an individual may experience job satisfaction. Individuals are more likely to be motivated to engage in their work when they possess sufficient job resources (Bakker & Demerouti, 2007; Mudrak et al., 2018). Academic faculty are more likely to hold intrinsic values such as engaging in meaningful research and extrinsic values such as striving for promotion when they receive supervisor support (Mudrak et al., 2018). Han and colleagues (2020) found that job demands weakened levels of work engagement among a sample of Chinese university teachers, leading to a decrease in job satisfaction.

Overall, JD-R theory suggests that a growing increase in job demands, such as having heavy workloads, is related to increasing levels of employee burnout (Downey et al., 2015; Han et al., 2020; Shantz et al., 2015). As an individual has to manage multiple roles, the number of role demands increases. Although, according to JD-R theory, when an individual possesses enough resources, they can properly manage the role pressures (Shantz et al., 2015). It is important to consider that the more resources a person holds, the more support an individual will have in achieving their work goals and personal development (Downey et al., 2015; Shantz et al., 2015). Fewer resources lead to more

stressors which cause an increased risk of burnout and lower job satisfaction (Ádám et al., 2008; Mudrak et al., 2018).

Telecommuting Intensity

The terms *telecommuting* and *remote work* have been used interchangeably, although a distinction between the two concepts exists. Gajendran and Harrison (2007) contend that telecommuting is used as a term for individuals who have the option to work from home part-time, while remote work is typically used for those who work full-time at home. When researchers examine how individuals participate in or are scheduled to do tasks from home, they evaluate telecommuting intensity (Gajendran and Harrison, 2007).

Telework arrangements allow employees to experience more autonomy, flexibility, and work-life balance (Bryon, 2005; Heiden et al., 2020; Standen, 1999; Virick et al., 2010). In addition, research suggests that flexible working schedules were associated with increased performance levels (Gajendran and Harrison, 2007). That said, Leung and Zhang (2015) point out that individuals need to set boundaries in their homes in order for telecommuting to decrease work-family conflict. If an individual does not set boundaries in their home, then telecommuting can, in fact, increase work-family conflict because individuals will begin to work more hours than they are scheduled (Leung & Zhang, 2015). Telecommuting intensity has also been shown to decrease work-family conflict amongst older individuals and those who had lower family incomes (Duxbury et al., 1992; Leung & Zhang, 2015). Interestingly, Mesmer-Magnus and Viswesvaran (2005) did not find a relationship between work domain and work-family conflict. Their finding contradicts more recent research on the impact of remote work on worker well-being, suggesting employees may have experience increased demands in recent years due

to both the need to adopt and learn new technology, as well as general changes to the way work was impacted in response to the COVID-19 pandemic (e.g., Lizana et al., 2021; Mahmood et al., 2021).

Increased organizational commitment is another benefit of telecommuting (Allen et al., 2015). Allen et al. (2015) examined various literature that surveyed employees from various professions and noted that individuals who were given more options to work at various locations showed higher levels of organizational commitment and organizational identification. However, this benefit was found only among individuals who received high levels of social support and reported high quality relationships with coworkers. Allen and colleagues (2015) stated that it was important for telecommuters to stay in good communication with their coworkers, and the type of communication platform depended on how frequently someone telecommutes.

While benefits of telecommuting exist, negative consequences have also been reported in the literature. For example, telecommuting has been associated with lower job satisfaction for some academic professionals, as well as individuals working in service sectors (Coetzee et al., 2019; Sandoval-Reyes et al., 2021). Zollner and Sulikova (2021) reported that telecommuters are at higher risk for social isolation if they report higher amounts of telecommuting. Related to this, Fay and Kline (2011) found that, among Midwestern employees from various professions who telecommuted at least three times a week found that, those who telecommute more frequently reported having lower face-face interactions, which has been shown to decrease an individual's sense of team identity. They also pointed out that the potential for increased coworker conflict exists because an individual's coworker may believe that the person telecommuting does not

put as much effort into their work (Fay & Kline, 2011), and coworker conflict can lead to lower job satisfaction (Fay & Kline, 2011; Golden, 2006).

During the COVID-19 pandemic, in particular, educators had to learn how to teach remotely; many struggled with the use of technology and reported high levels of lack of resource support when telecommuting (Shimony et al., 2022). Mahmood et al. (2021) examined teleworking job satisfaction within a subsample of 523 employees from the education sector in the European Union during the months of June and July of 2020; these educators had not previously teleworked and were forced to do so as a result of the pandemic. Findings from their study revealed that teleworking job satisfaction decreased in response to increased job demands, job resources buffered the negative effect of job demands, and older teachers reported higher levels of job demands from teleworking than younger teachers (Mahmood et al., 2021).

Higher levels of telecommuting have also been associated with higher levels of emotional exhaustion and mental overload for some individuals working in higher education (Garcia-Gonzalez et al., 2020). Lizana and colleagues (2021) found that younger teachers who telecommuted reporting having more mental health deterioration compared to older worker. One reason for this may be that older teachers have more experience in teaching and are able to problem solve better and have more resources compared to younger teachers (Lizana et al., 2021). An educator's level of experience with online teaching has also been shown to impact levels of stress; for example, Mosleh et al. (2022) found that faculty and course instructors with 7-10 years of online teaching experience reported more stress than those who with 4-6 years of experience. Overall, lack of resource support, challenges with technology (Lizana et al., 2021; Mosleh et al.,

2022; Shimony et al., 2022), an increase in hours worked and exposure to longer hours of screen time (Mheidly et al., 2020), a perception of lower opportunities for personal growth and career advancement (Ng, 2006), and lack of remote work relevant information, such as a change in policies and pay (Alexander et al., 2021) during the pandemic are all potential stressors that had the potential to affect work-life balance, and lead to increased job dissatisfaction, stress, and burnout. Therefore, based on JD-R theory and previous research, we hypothesized that:

H1a: Telecommuting intensity is negatively related to job satisfaction.

H1b: Telecommuting intensity is positively related to exhaustion.

H1c: Telecommuting intensity is positively related to disengagement.

The Mediating Role of Work-Family Conflict

For every working adult, work and family are two crucial life domains of their life. However, times exist when work interferes with a person's family life or vice versa, leading to unfavorable consequences. This interference is known as work-family conflict. Work-family conflict occurs when role pressures from the work and family domains interfere with one another, creating conflict (Greenhaus & Beutell, 1985). Work-family conflict can be examined in two directions: work interference with family (WIF) and family interference with work (FIW) (Carlson, 2000). Work-to-family conflict occurs when work spills over to the family domain, and family-to-work occurs when conflict from the family spills over to the work domain (Carlson, 2000). Work-family conflict has been associated with high stress, low job satisfaction, low psychological well-being, and burnout (Ergeneli et al., 2010; Mete et al., 2014). Additionally, three sub-types of work-family conflict exist time-based, behavior-based, and strain-based (Carlson, 2000). Time-

based conflict occurs when individuals do not have enough time to fulfill their family responsibilities because they devoted too much time to their work responsibilities or vice versa. Behavior-based conflict is when behaviors that work to fulfill an individual's family responsibilities do not work to fulfill work responsibilities or vice versa. Lastly, strain-based conflict occurs when an individual experiences strain in their family role and affects their participation in their work role or vice versa (Carlson, 2000).

Research has focused on three main outcomes related to work-family conflict: burnout, job satisfaction, and psychological well-being. One explanation relates to the concept of role conflict. Role conflict has been described as having demands from one role interfere with the capability to complete demands associated with another role (Barnett, 1994; Hecht, 2001). An example of role conflict among faculty in higher education would be for those whose jobs require that faculty teach and advise students while simultaneously maintaining an active research agenda. Juggling parenting and work responsibilities is another example of role conflict. Role conflict creates more job demands for a person, which then interferes with the other demands they already have; this leads to increased stressors and decreased psychological well-being (Barnett & Baruch, 1985).

Work-family conflict can help explain why telecommuting may impact job satisfaction and burnout. Telecommuting can lead to higher productivity levels; however, if an individual faces stress during telecommuting, productivity levels can go down (Sandoval-Reyes et al., 2021). According to Sandoval-Reyes and colleagues (2021), productivity levels may go down when telecommuting because individuals with many responsibilities have to start multitasking and work more, leaving no time to rest. Some

research indicates that increases in autonomy while telecommuting can lead to increased work-family conflict (Garcia-Gonzalez et al., 2020; Golden et al., 2006). Garcia-Gonzalez et al. (2020) found that a higher risk for stress may occur from blending work and family life. Based on this research, it seems plausible that work-family conflict may mediate the relationship of telecommuting intensity with job satisfaction and burnout.

Relationship of Work-Family Conflict with Job Satisfaction and Job Burnout

Studies have found that both global and composite job satisfaction relate to work-family conflict, but the strength of the relation differs. For example, Bruck and colleagues (2002) found that composite job satisfaction had a stronger negative relation to work-family conflict than global job satisfaction. In other words, the higher levels of work-life conflict an individual reports, the more likely they are to report being less satisfied with their job (Boles et al., 2003; Ergeneli et al., 2010). The specific type of conflict-related to work-family conflict was important in describing its relationship to job satisfaction. That is, Bruck and colleagues (2002) found that behavior-based conflict for WIF and FIW yielded more individual reports of being less satisfied with their work. An explanation for this finding is that when an individual engages in specific behaviors during work and at home and does not produce the same effectiveness, the individual may feel less satisfied with work (Bruck et al., 2002). For example, an individual may interact with others using an authoritarian approach that is beneficial at work but not at home.

Rizzo and colleagues (1970) argued that work-family conflict leads to decreased levels of job satisfaction due to the increased amount of role conflict. They state that when individuals have multiple roles, individuals aim to accomplish multiple tasks that

interfere with one another, resulting in more mental pressures and decreased job satisfaction. Considering this background information, we hypothesized that:

H2a: Telecommuting intensity has an indirect negative effect on job satisfaction mediated through work-family conflict. In other words, work-family conflict mediates the negative effect of telecommuting intensity on job satisfaction.

Previous research has shown that work-family conflict and role conflict are perceived as stressors to individuals. One consequence of work-family conflict and role conflict is increased levels of burnout. Mete and colleagues (2014) noted that burnout occurs because a person experiencing work-family conflict may not be satisfied with their job or work environment, leading to situations where more conflicts can occur during the family setting. A consequence of this dissatisfaction leads to a continuous cycle between work and family conflict, which becomes labeled a chronic stressor, ultimately increasing burnout. Work-family conflict is closely related to burnout in terms of emotional exhaustion and cynicism (Wang et al., 2012). Wang and colleagues examined the relationship between burnout and work-family conflict in a sample of doctors. They found that doctors who experienced more WIF conflict devoted more energy to their work roles than their family roles, resulting in physical and mental exhaustion (Wang et al., 2012). Based on previous research on work-family conflict and burnout, we hypothesized that:

H2b: Telecommuting intensity has an indirect positive impact on burnout mediated through work-family conflict. In other words, work-family conflict mediates the positive effect of telecommuting intensity on exhaustion.

H2c: Telecommuting intensity has an indirect positive impact on burnout mediated through work-family conflict. In other words, work-family conflict mediates the positive effect of telecommuting intensity on disengagement.

The Moderating Role of Emotional Intelligence

Emotional intelligence is the ability to recognize, comprehend, and manage one's own emotions and respond to others' emotions (Mayer et al., 2016). People with high emotional intelligence typically have high self-perception. When facing high levels of stress, individuals with high emotional intelligence can cope and manage stress better than those with low emotional intelligence (Drigas & Papoutsi, 2020). Nicolet (2014) concluded that individuals with high emotional intelligence are more easily able to reach out to their colleagues and ask for help and advice and, therefore, better cope with stress.

Gao and colleagues (2013) found that emotional intelligence weakened the effect of work-family conflict on job satisfaction amongst Chinese school teachers. Specifically, increased levels of emotional intelligence-enabled individuals to balance work-family conflict. The JD-R model can help explain why having increased levels of emotional intelligence can alleviate the negative consequences of work-family conflict and telecommuting. Emotional intelligence is a key personal resource that may help moderate job strain and self-regulation (Bakker & Vries, 2020; Newton et al., 2016). When examining the role of emotional intelligence as a buffer against potential negative effects of job stressors on nursing adjustment outcomes (i.e., job satisfaction and psychological health), Newton et al. (2016) found that high levels of emotional intelligence buffered the negative effect of role overload on satisfaction as role overload increased. The researchers contended that employees with high emotional intelligence

may be less likely to experience strain that may decreased job satisfaction and poor well-being outcomes.

In alignment with JD-R theory, emotional intelligence may function as a protective personal resource that can alleviate stressors associated with job demands. As a result, the following hypotheses were made:

H3a: Emotional intelligence moderates the negative relationship between telecommuting intensity and job satisfaction, such that the relationship is weaker for those with higher versus lower levels of emotional intelligence.

H3b: Emotional intelligence moderates the positive relationship between telecommuting intensity and exhaustion, such that the relationship is weaker for those with higher versus lower levels of emotional intelligence.

H3c: Emotional intelligence moderates the positive relationship between telecommuting intensity and disengagement, such that the relationship is weaker for those with higher versus lower levels of emotional intelligence.

H4a: Emotional intelligence moderates the negative relationship between work-family conflict and job satisfaction, such that the relationship is weaker for those with higher versus lower levels of emotional intelligence.

H4b: Emotional intelligence moderates the positive relationship between work-family conflict and exhaustion, such that the relationship is weaker for those with higher versus lower levels of emotional intelligence.

H4c: Emotional intelligence would moderates the positive relationship between work-family conflict and disengagement, such that the relationship is weaker for those with higher versus lower levels of emotional intelligence.

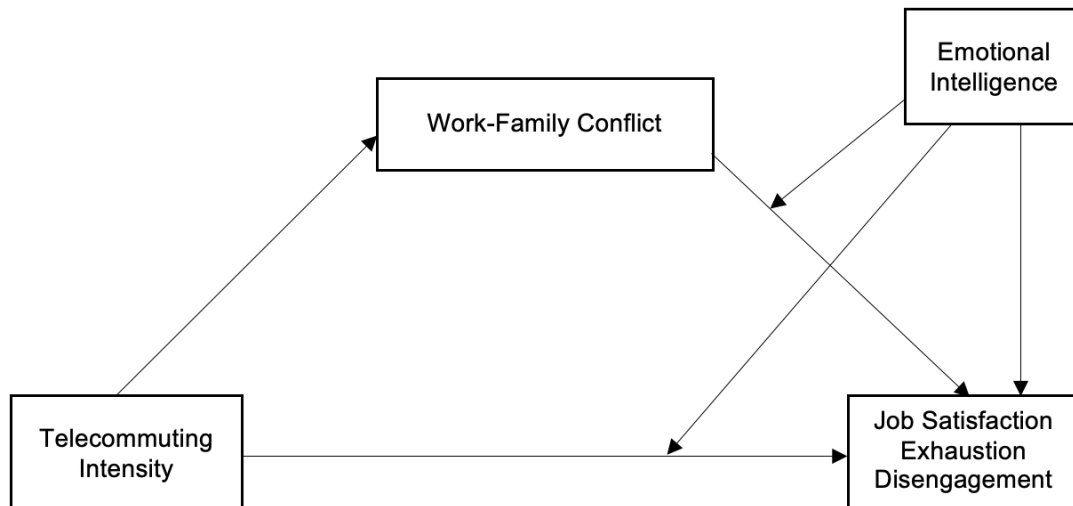
H5a: Emotional intelligence moderates the indirect negative relationship (via work-family conflict) between telecommuting intensity and job satisfaction, such that the relationship is weaker for those with higher versus lower levels of emotional intelligence.

H5b: Emotional intelligence moderates the indirect positive relationship (via work-family conflict) between telecommuting intensity and exhaustion, such that the relationship is weaker for those with higher versus lower levels of emotional intelligence.

H5c: Emotional intelligence moderates the indirect positive relationship (via work-family conflict) between telecommuting intensity and disengagement, such that the relationship is weaker for those with higher versus lower levels of emotional intelligence.

Present Study

The present study examined the impact of telecommuting intensity on academic professionals' job satisfaction and burnout. Specifically, we assessed whether those who experienced higher levels of telecommuting intensity experienced a lower sense of job satisfaction and higher levels of burnout mediated by work-family conflict. This study also examined the role of emotional intelligence as a potential moderator. Specifically, we evaluated whether higher levels of emotional intelligence reduced burnout and increase job satisfaction. Although work-family conflict is relevant to various jobs, this study examined a sample of faculty in higher education. Figure 2 illustrates the framework for the proposed moderated mediation model.

Figure 2*Proposed Theoretical Model***Method****Participants**

Participants were 369 faculty in higher education. The sample included faculty across a variety of academic disciplines. Inclusion criteria were that individuals had to (a) be currently employed as a faculty member in a higher education institution and (b) reside and work in the United States.

Tables 1 and 2 show the characteristics of the study's sample. Table 1 includes sociodemographic and job-related characteristics such as sex, gender, race and ethnicity, marital status, number of dependents, age range of household members, resource for children, number of pets, tenure status, institution, and program type. Table 2 includes information on participants' age, years of employment, and number of unique job positions.

Table 1*Sociodemographic and Job-related Characteristics of Participants*

Characteristics and categories	<i>n</i>	%
Sex		
Male	151	40.9
Female	218	59.1
Missing	.00	.00
Gender		
Male	149	40.4
Female	217	58.8
Transgender	2	.5
Other	1	.3
Missing	.00	.00
Race/Ethnicity		
African American/Black	8	2.2
American Indian/Alaskan Native	41	11.1
Asian/Pacific Islander	8	2.2
Caucasian/White	283	76.7
Hispanic/Latinx	14	3.8
Other	3	.8
Prefer Not to Answer	5	1.4
Multiple	7	1.9
Other	.00	.00
Marital Status		
Single	61	16.5
Married	273	74.0
Divorced/Separated	14	3.8
Widowed	2	.5

In a Committed/Long-Term Relationship	14	3.8
Prefer Not to Answer	5	1.4
Missing	.00	.00
Number of Dependents		
0 Dependents	65	17.6
1 Dependents	57	15.4
2 Dependents	107	29.0
3 Dependents	54	14.6
4 Dependents	40	10.8
5 Dependents	22	6.0
6 Dependents	2	.5
Missing	22	6.0
Age Range of Household Members		
>1-3 years old	34	9.2
4-7 years old	50	13.6
8-11 years old	16	4.3
12-15 years old	13	3.5
16-18 years old	3	.80
19 years old	65	17.6
Multiple Age Groups	118	32.0
Missing	70	19.0
Resources for Children		
Yes	200	54.2
No	59	16.0
Missing	110	29.80
Number of Pets		
0 pets	147	39.8
1 to 2 pets	186	50.4
3 to 4 pets	28	7.6

5 or more pets	7	1.9
Missing	1	.30
Tenure Status		
Not Tenured/Tenured-Track	118	32.0
Tenure-Track	102	27.6
Tenure	137	37.1
Other	9	2.4
Missing	3	.80
Institution		
Public University	203	55.0
Private University	91	24.7
Technical School	33	8.9
Community College	33	8.9
Tribal College	3	.80
Other	3	.80
Missing	3	.80
Program Type		
Online Only	27	7.3
In-person	174	47.2
Hybrid	164	44.4
Other	2	.50
Missing	2	.50

Note. $N = 369$.

Table 2*Sociodemographic and Job-related Characteristics of Participants*

Characteristics and categories	<i>n</i>	<i>M</i>	<i>SD</i>
Age	365	38.40	9.51
Years of Employment at Current Institution	363	8.06	6.22
Number of Positions	353	2.29	3.34

Procedure

Data collection occurred from early September 2022 through the end of October 2022, after receiving approval from the University of Minnesota's Institutional Review Board (IRB). Participants self-identified via recruitment emails and postings disseminated to higher education institution email listservs (i.e., University of Minnesota Duluth Business Announce, and University of Minnesota Morris Faculty/PA Email List), relevant professional organizations (i.e., Magna Publications, Association for the Advancement of Sustainability in Higher Education; American Federation of Teachers) and listservs (i.e., Teaching Behavior Analysis), the researchers' professional social media profiles, and relevant Facebook Groups (i.e., Women in Faculty in Behavior Analysis, Society for Stressed Professors, Academic Mamas, Higher Ed Learning Collective, Higher Education Research and Practice) and Pages (i.e., The Professor is In) with permission from administrators. Recruitment messages and postings contained a description of the study, information on inclusion criteria and participant requirements, and a Qualtrics survey link (see Appendix A for recruitment messages). Informed consent to participate was obtained at the beginning of the Qualtrics survey (see Appendix B for the information sheet for research). Participants who provided consent to participate in

the study and responded to screening items to confirm eligibility were able to complete a survey that contained sociodemographic and job-related items, as well as items to evaluate telecommuting intensity, work-family conflict, emotional intelligence, job satisfaction, and burnout (see Appendix C for the survey items). To incentivize participation, those who completed the survey were able to provide an email address, via a link to a form unassociated with their survey responses and were entered into a prize drawing for one of 25 \$10 Amazon eGift Cards.

Participants who reported high levels of burnout may have experienced minimal risk and may have experienced slight discomfort when responding to the study's survey items. For this purpose, a link to the Mayo Clinic's (2018) article, *Job Burnout: How to Spot It and Take Action* was provided at the end of the survey, and participants were encouraged to seek employee assistance and mental health services if they feel they need assistance or emotional support.

Measures

Sociodemographic and Job Characteristics

The survey contained 14 sociodemographic and job-related items to gather information related to personal (age, gender, ethnicity, race), family and household (marital status, number of household members cared for, age range of household members, access to resources for childcare, and number of pets), and work characteristics (number of years in current position, number of job positions titles held, tenure status, type of program, type of institution).

Telecommuting Intensity

Telecommuting intensity was assessed using the method used by Schall (2019). Participants were asked to describe a typical work week and report the number of hours they worked in the office versus out of the office on each day of the week (Monday – Sunday). The item prompt for hours work on a Monday, for was: “In a typical work week, how many hours of your day on a MONDAY are spent: telecommuting (working outside of an office within the institution for which you work): _____ and not telecommuting (working in an office within the institution for which you work): _____ . For example, if the participant worked an 8-hour day where 3 of those hours were out of the office, they would report 3 hours of telecommuting; if the remaining 5 hours of work were at the office, the participant would report 5 of in-office work. Spilker (2014) found this measure to have a reliability of $\alpha = .94$.

Job Satisfaction

Job satisfaction was measured using the 3-item Michigan Organizational Assessment Questionnaire (*MOAQ*; Cammann et al., 1979). An example item was, “In general, I don’t like my job.” Participants were asked to indicate the degree of satisfaction on a 6-point Likert-type scale ranging from 1 (*disagree very much*) to 6 (*agree very much*). Scores were calculated by first summing the scores of the three items and then calculating the average. The second item (mentioned above) was reversed scored. Internal consistency for this study was $\alpha = .78$.

Job Burnout

Job burnout was measured with the Oldenburg Burnout Inventory (*OLBI*; Demerouti et al., 2010). This measure consists of 16 items and examines two dimensions

of burnout: exhaustion and disengagement. Each subscale contains eight items that contain four positively worded items and four negatively worded items. An example of a disengagement item is, “I always find new and interesting aspects in my work.” An example of an exhaustion item is, “There are days when I feel tired before I arrive at work.” Respondents were asked to indicate the degree to which they agreed on a 4-point Likert-type scale ranging from 1 (*strongly agree*) to 4 (*strongly disagree*).

Scores within each dimension were calculated by first reverse-scoring items so that higher scores indicate more burnout, summing individual item scores, and computing the average. Higher scores reflected higher levels of exhaustion and disengagement (i.e., burnout). For this study’s sample, the disengagement subscale had an internal consistency of $\alpha = .65$, and the exhaustion subscale had an internal consistency of $\alpha = .79$.

Work-Family Conflict

The Work-Family Conflict Scale (*WFCS*; Carlson et al., 2000) was used to measure work-family conflict. The WFCS measures two dimensions of work-family conflict: work interference with family (WIF) conflict and family interference with work (FIW) conflict. The measure contains six subscales; time-based WIF, time-based FIW, strained-based WIF, strain-based FIW, behavior-based WIF, behavior-based FIW. Each subscale is assessed with three items. Sample items for time-based WIF and FIW include, “My work keeps me from my family activities more than I would like”; “The time I spend on family responsibilities often interfere with my work responsibilities.” Sample items for strain-based WIF and FIW include, “When I get home from work, I am often too frazzled to participate in family activities/ responsibilities”; “Due to stress at home, I am often preoccupied with family matters at work.” Lastly, sample items for behavior-

based WIF and FIW include, “The problem-solving behaviors I use in my job are not effective in resolving problems at home”; “The behaviors that work for me at home do not seem to be effective at work.” Participants were asked to indicate the degree to agree on a 4-point Likert-type scale ranging from 1 (*strongly disagree*) to 4 (*strongly agree*).

Scores were calculated by obtaining scores for each of the subscales. Scores for each subscale can range from 3 to 15. Higher scores indicate higher levels of conflict. Loscalzo and colleagues (2019) obtained a total work-family conflict score by summing up all items to obtain a composite score; the total work-family conflict score was used in the analyses for this study. Internal consistency for the overall scale for this study’s sample was $\alpha = .91$. Internal consistency for each of the subscales was: time-based WIF, $\alpha = .80$; time-based FIW, $\alpha = .78$; strain-based WIF, $\alpha = .86$; strain-based FIW, $\alpha = .86$; behavior-based WIF, $\alpha = .75$ and behavior-based FIW, $\alpha = .84$.

Emotional Intelligence

The 16-item Wong and Law’s Emotional Intelligence Scale (*WLEIS*; Wong & Law, 2002) was used to measure general emotional intelligence. The scale contains four subscales: self-emotional appraisal, other’s emotional appraisal, use of emotion, and regulation of emotion. A sample item for self-emotional appraisal is, “I really understand what I feel.” A sample for other’s emotional appraisal is, “I am a good observer of others’ emotions.” A sample for use of emotion is, “I am a self-motivated person.” A sample for use of emotion for regulation of emotion is, “I am quite capable of controlling my own emotions.” Participants were asked to indicate the degree to which they agreed with each statement on a 7-point Likert-type scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*).

Self-emotions appraisal score was obtained by summing and averaging items 1-4. Regulation of emotions score is obtained by summing and averaging items 5-8. Use of emotion score is obtained by summing and averaging items 9-12. Others' emotion appraisal is obtained by summing and averaging items 13-16. An overall emotional intelligence score, which was used in the analyses for this study, was calculated by summing and averaging the scores of all 16 items. Higher scores indicated having more emotional intelligence. The internal consistency for the overall scale was $\alpha = .93$. Internal consistency for each of the subscales was: self-emotions appraisal, $\alpha = .86$; regulation of emotions, $\alpha = .92$; use of emotion, $\alpha = .82$; others-emotion appraisal, $\alpha = .90$.

Study Design, Statistical Analyses, and Power Analysis

This study used a non-experimental, cross-sectional research design. Descriptive statistics were produced for all variables, and a correlation matrix was produced to examine relationships among study variables. A series of regression analyses were carried out to test study hypotheses. The hypothesized mediation model was tested in three models to assess the significance of the indirect effect of telecommuting intensity on job satisfaction, exhaustion, and disengagement on work family conflict. The hypothesized moderated mediation model was tested in three models to assess the significance of the indirect (i.e., mediated) effects moderated by emotional intelligence (i.e., conditional indirect effects). This moderated mediation model explicitly tests the moderating effect on the predictor to outcome path (i.e., path c) and the mediator to outcome path (i.e., path b).

Analyses were performed with PROCESS macro, Models 4 (mediation) and 15 (moderated mediation), v4.1 (Hayes, 2022) in SPSS version 28. Both models used a

bootstrapping approach (Hayes, 2022) with bias-corrected 95% confidence intervals ($n=369$.) An index of moderated mediation was used to test the significance of moderated mediation (i.e., the difference of the indirect effects across levels of supervisor support; Hayes, 2022). Significant effects are supported by the absence of zero within the confidence intervals. Analyses used heteroscedasticity robust standard errors, and variables were mean centered to avoid potential multicollinearity issues with the interaction terms (Hayes, 2022).

To estimate the sample size for the analysis, an a priori statistical power analysis was performed using multiple hierarchical linear regression with G*Power (Faul et al., 2009). Sample sizes needed for a small ($f^2 = 0.02$), medium ($f^2 = 0.15$), and large effect size ($f^2 = 0.35$) with $\alpha = 0.05$ and power = 0.80, were $N = 485$, $N = 68$, and $N = 32$, respectively (see Appendix D).

Results

Data Cleaning and Response Quality Assessment

A response quality assessment was performed to examine the quality of data and prepare the data set before conducting analyses. The ExpertReview feature in Qualtrics (Qualtrics, 2023) was used to evaluate 527 responses, and 158 responses were removed from the data set because they represented respondents who failed to confirm consent to participate ($n = 1$), did not meet the inclusion criteria ($n = 33$), failed to complete the survey ($n = 66$), failed the attention checkers ($n = 33$), provided nonsensical responses ($n = 16$; e.g., worked > 24 hours per day). An additional nine responses were excluded after being identified as outliers. Of the 369 participants whose responses were included, 290 provided complete responses (full data). Responses for 79 participants were included

with partial data because they had enough data for at least one analysis related to the study's hypotheses.

Descriptive Statistics

Table 3 lists the means, standard deviations, and score ranges of the primary study variables. No less than 367 of 369 participants responded to each of the variable sale measures. The average, overall telecommuting intensity ($M = 42.90$) and work-family conflict ($M = 2.90$) suggests that participants experienced slightly below average telecommuting intensity levels and individuals experienced above average work-family conflict. The average for job satisfaction ($M = 4.45$) indicates the sample reported above average levels of job satisfaction. Average scores for exhaustion ($M = 2.48$) and disengagement ($M = 2.28$) reflect higher than average levels of each dimension of burnout. The average score for emotional intelligence ($M = 5.26$) indicates the sample reported above average levels of emotional intelligence.

Table 3*Descriptive Statistics for Telecommuting, Job Satisfaction, Burnout, Work-Family**Conflict, and Emotional Intelligence*

Variables	<i>n</i>	<i>M</i>	<i>SD</i>	Range
Telecommuting Intensity	369	42.90	28.84	0-100.00
Job Satisfaction	368	4.45	1.02	1.33-6.00
Burnout: Exhaustion	369	2.48	.44	1.00-3.75
Burnout: Disengagement	369	2.28	.38	1.00-3.50
Work Family Conflict	369	2.90	.67	1.00-4.72
Time-Based WIF	369	3.11	.91	1.00-5.00
Time-Based FIW	369	2.79	.89	1.00-5.00
Strain-Based WIF	369	3.06	.97	1.00-5.00
Strain-Based FIW	369	2.57	.94	1.00-5.00
Behavior-Based WIF	369	2.93	.83	1.00-5.00
Behavior-Based FIW	368	2.92	.87	1.00-5.00
Emotional Intelligence	368	5.26	.93	2.31-7.00
Self-Emotions Appraisal	368	5.34	1.09	2.00-7.00
Regulation of Emotions	367	5.07	1.24	1.00-7.00
Use of Emotion	367	5.42	1.07	1.00-7.00
Others-Emotion Appraisal	367	5.21	1.12	1.00-7.00

Note. WIF = Work to family; FIW = Family to work. Telecommuting Intensity indicates the percent of telecommuting per week. The Michigan Organizational Assessment ranged from 1 (*disagree very much*) to 6 (*agree very much*). The Oldenburg Burnout Inventory ranged from 1 (*strongly agree*) to 4 (*strongly disagree*). The Work-Family Conflict Scale ranged from 1 (*strongly disagree*) to 4 (*strongly agree*). The Wong and Law's Emotional Intelligence Scale ranged from 1 (*strongly disagree*) to 7 (*strongly agree*).

Intercorrelations Among Study Variables

Table 4 shows the intercorrelations between telecommuting intensity, job satisfaction, burnout (exhaustion and disengagement), work-family conflict, and emotional intelligence. Using Cohen's (1988) guidelines, the Pearson's r correlation analysis revealed significant correlations among study variables: a small negative correlation between telecommuting intensity and job satisfaction; a small positive correlation between telecommuting intensity and work-family conflict (overall); a small positive correlation between telecommuting intensity and burnout (exhaustion and disengagement); a small negative correlation between work-family conflict and job satisfaction; a medium positive correlation between work-family conflict and exhaustion; a medium positive correlation between work-family conflict and disengagement; a small negative correlation between telecommuting intensity and emotional intelligence (overall); and a small negative correlation between emotional intelligence and work-family conflict.

Table 4*Correlations for Telecommuting, Job Satisfaction, Burnout, Work-Family Conflict, and Emotional Intelligence*

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
1. Telecommuting	-															
2. Job Satisfaction	-.29**	-														
3. Disengagement	.28**	-.66**	-													
4. Exhaustion	.17**	-.51**	.65**	-												
5. Work-Family Conflict	.12*	-.24**	.46**	.53**	-											
6. Time WIF	.07	-.25**	.33**	.48**	.69**	-										
7. Time FIW	.13*	-.14**	.30**	.32**	.74**	.42**	-									
8. Strain WIF	.10*	-.24**	.45**	.65**	.78**	.63**	.44**	-								
9. Strain FIW	.12*	-.15**	.32**	.27**	.74**	.29**	.62**	.43**	-							
10. Behavior WIF	.07	-.15**	.32**	.31**	.78**	.36**	.45**	.50**	.54**	-						
11. Behavior FIW	.06	.14**	.30**	.31**	.74**	.36**	.39**	.47**	.41**	.72**	-					
12. Emotional Intelligence	-.22**	.56**	-.44**	-.34**	-.23**	-.06	-.22**	-.13*	-.23**	-.22**	-.18**	-				
13. Self-Emotions	-.15**	.43**	-.32**	-.21**	-.25**	-.09	-.22**	-.13*	-.27**	-.24**	-.16**	.85**	-			
14. Regulation of Emotions	-.12*	.39**	-.31**	-.23**	-.11*	.01	-.08	-.05	-.08	-.16**	-.13*	.81**	.60**	-		
15. Use of Emotion	-.23**	.56**	-.41**	-.33**	-.19**	-.05	-.18**	-.10	-.20**	-.16**	-.17**	.82**	.61**	.52**	-	
16. Others-Emotion	-.25**	.51**	-.43**	-.38**	-.22**	-.08	-.25**	-.14**	-.21**	-.17**	.14**	.83**	.63**	.51**	.64**	-

Note. $N = 367$. All values are based on listwise exclusion.* $p < .05$. ** $p < .01$.

Tests of the Indirect Effects

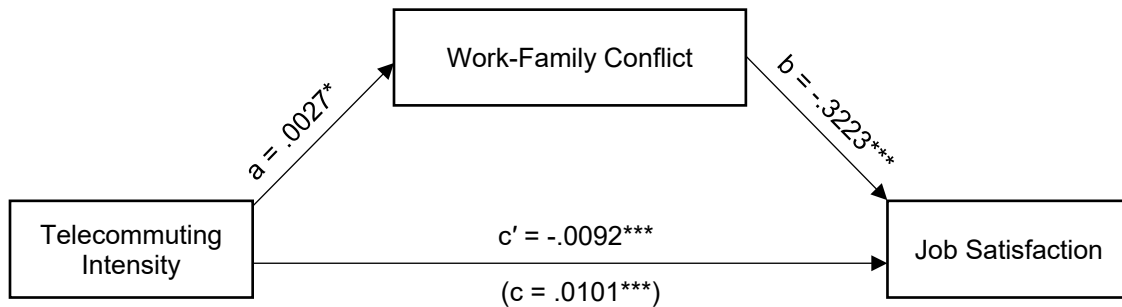
Work-Family Conflict as a Mediator in the Telecommuting – Job Satisfaction

Relationship

Figure 3 displays the test of mediation and the unstandardized coefficients of each pathway. Model 4 of the PROCESS macro was used to investigate the predictive effect of telecommuting intensity on job satisfaction, and the mediating role of work-family conflict (Hayes, 2022). The full model accounted for 35.29% of the variance in job satisfaction, $R^2 = .12$, $F(2, 365) = 29.25$, $p < .001$. The total effect of telecommuting intensity (path c), without considering the mediator variable, was a significant negative predictor of job satisfaction, ($b = -.0101$, $t = -5.71$, $p < .001$, $CI = -.0136; -.0066$), which supports H1a. Results revealed that the high levels of telecommuting intensity were related to higher levels of work-family conflict (path a), and higher levels work-family conflict was related to lower job satisfaction (path b). The indirect negative effect through work-family conflict ($a_1b_1 = -.0009$, $CI = -.0019; -.0001$) was significant, supporting H2a. The negative relationship between telecommuting intensity and job satisfaction was significant after entering the mediator (path c'), ($b = -.0092$, $t = -5.23$, $p < .001$, $CI = -.0127; -.0058$), suggesting that work-family conflict functioned as a partial mediator.

Figure 3

Unstandardized Regression Coefficients for the Relationship Between Telecommuting Intensity and Job Satisfaction as Mediated by Work-Family Conflict



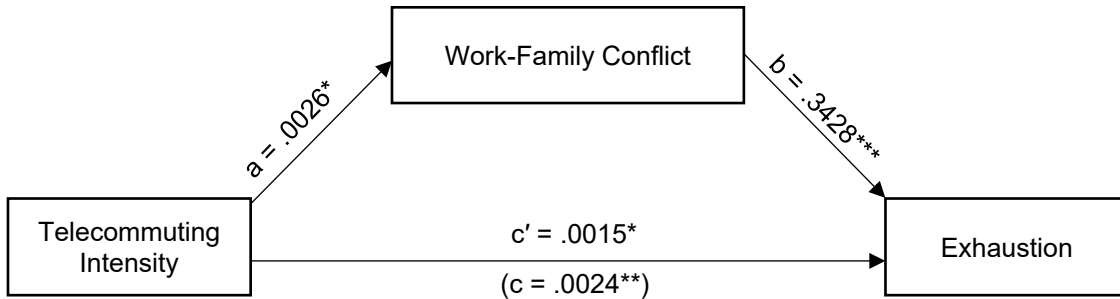
Note. * $p < .05$. *** $p < .001$.

Work-Family Conflict as a Mediator in the Telecommuting – Exhaustion Relationship

Figure 4 displays the test of mediation and the unstandardized coefficients of each pathway. Model 4 of the PROCESS macro was used to investigate the predictive effect of telecommuting intensity on exhaustion, and the mediating role of work-family conflict (Hayes, 2022). The full model accounted for 54.43% of the variance in exhaustion, $R^2 = .30$, $F(2, 366) = 59.76$, $p = .0401$. The total effect of telecommuting intensity (path c), without considering the mediator variable, was a significant positive predictor of exhaustion ($b = .0024$, $t = 2.89$, $p = .0041$, $CI = .0008; .0041$), which supports H1b. Results revealed that the high levels of telecommuting intensity were related to higher levels of work-family conflict (path a), and higher levels of work-family conflict was related to higher levels of exhaustion (path b). The indirect positive effect through work-family conflict ($a_1b_1 = .0009$, $CI = .0001; .0019$) was significant, supporting H2b. The positive relationship between telecommuting intensity and exhaustion was significant after entering the mediator (path c'), ($b = .0015$, $t = 2.18$, $p = .0298$, $CI = .0002; .0029$), suggesting that work-family conflict functioned as a partial mediator.

Figure 4

Unstandardized Regression Coefficients for the Relationship Between Telecommuting Intensity and Exhaustion as Mediated by Work-Family Conflict



Note. * $p < .05$. ** $p < .01$. *** $p < .001$.

Work-Family Conflict as a Mediator in the Telecommuting – Disengagement

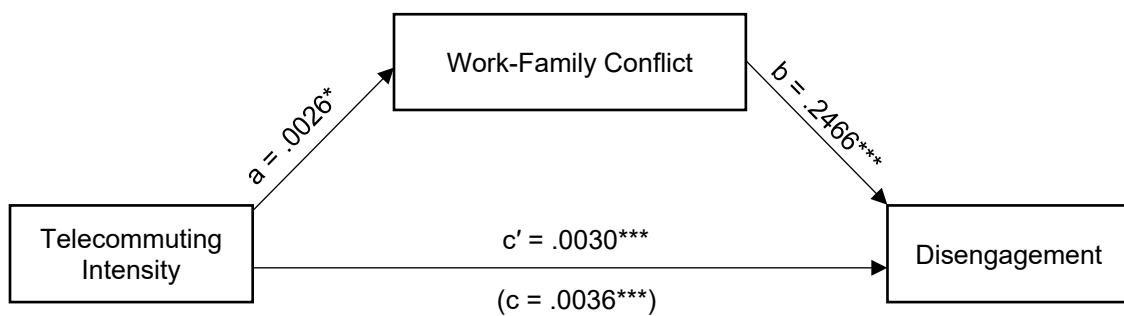
Relationship

Figure 5 displays the test of mediation and the unstandardized coefficients of each pathway. Model 4 of the PROCESS macro was used to investigate the predictive effect of telecommuting intensity on disengagement, and the mediating role of work-family conflict (Hayes, 2022). The full model accounted for 50.78% of the variance in disengagement, $R^2 = .26$, $F(2, 366) = 60.92$, $p < .001$. The total effect of telecommuting intensity (path c), without considering the mediator variable, was a significant positive predictor of disengagement ($b = .0036$, $t = 4.97$, $p < .001$, $CI = .0022; .0051$), which supports H1c. Results revealed that the higher levels of telecommuting intensity were related to higher levels of work-family conflict (path a), and higher levels of work-family conflict was related to higher levels of disengagement (path b). The indirect positive effect through work-family conflict ($a_1b_1 = .0006$, $CI = .00003; .0013$) was significant, supporting H2c. The positive relationship between telecommuting intensity and

disengagement was significant after entering the mediator (path c'), ($b = .0030$, $t = 4.50$, $p < .001$, $CI = .0017; .0043$), suggesting that work-family conflict functioned as a partial mediator.

Figure 5

Unstandardized Regression Coefficients for the Relationship Between Telecommuting Intensity and Disengagement as Mediated by Work-Family Conflict



Note. * $p < .05$. *** $p < .001$.

Tests of the Conditional Indirect Effects

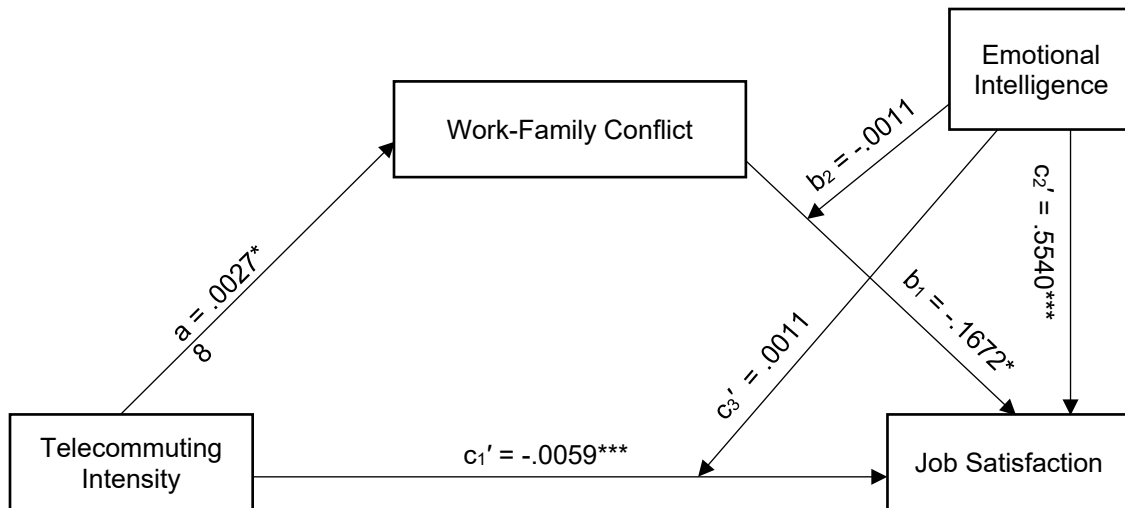
Emotional Intelligence as a Moderator in the Telecommuting Intensity – Work-Family Conflict – Job Satisfaction Relationship

Figure 6 displays the test of moderated mediation and the unstandardized coefficients of each pathway (PROCESS macro, Model 15). The study assessed the significance of the indirect effects moderated by emotional intelligence. The results show that, after including emotional intelligence in the model, the direct effect of telecommuting intensity on job satisfaction was not significant (path c'_3 , unstandardized interaction $b = .0012$, $b_{se} = .0016$, $t = .72$, $p = .4706$); thus, H3a was not supported. Emotional intelligence did not moderate the predictive effect of telecommuting intensity on job satisfaction. The product of work-family conflict and emotional intelligence did

not have a significant predictive effect on job satisfaction (path b_2 , unstandardized interaction $b = -.0011$, $b_{se} = .0629$, $t = -.02$, $p = .9860$), indicating that emotional intelligence did not moderate the predictive effect of work-family conflict on job satisfaction (H4a was not supported). The overall moderated mediation model was not supported with the index of moderated mediation = $-.00003$ (95% CI = $-.004$; $.0003$); thus, H5a was not supported.

Figure 6

Unstandardized Regression Coefficients for the Relationship Between Telecommuting Intensity and Job Satisfaction as Mediated by Work-Family Conflict and Moderated by Emotional Intelligence



Note. $*p < .05$. $***p < .001$.

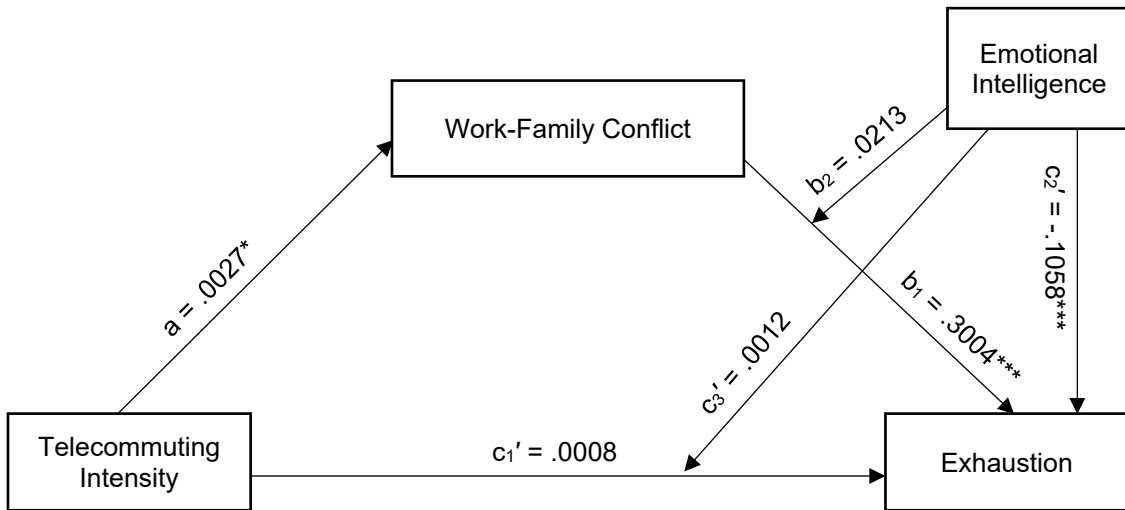
Emotional Intelligence as a Moderator in the Telecommuting Intensity – Work-Family Conflict – Exhaustion Relationship

Figure 7 displays the test of moderated mediation and the unstandardized coefficients of each pathway (PROCESS macro, Model 15). The study assessed the significance of the indirect effects moderated by emotional intelligence. The results show

that after including emotional intelligence in the model, the direct effect of telecommuting intensity on exhaustion was not significant (path c'_3 , unstandardized interaction $b = .0012$, $b_{se} = .0007$, $t = 1.77$, $p = .0774$); thus, H3b was not supported. Emotional intelligence did not moderate the predictive effect of telecommuting intensity on exhaustion. The product of work-family conflict and emotional intelligence did not have a significant predictive effect on exhaustion (path b_2 , unstandardized interaction $b = .0213$, $b_{se} = .0258$, $t = .82$, $p = .4121$), indicating that emotional intelligence did not moderate the predictive effect of work-family conflict on exhaustion (H4b was not supported). The overall moderated mediation model was not supported with the index of moderated mediation = .0001 (95% CI = -.0001; .0003); thus, H5b was not supported.

Figure 7

Unstandardized Regression Coefficients for the Relationship Between Telecommuting Intensity and Job Satisfaction as Mediated by Work-Family Conflict and Moderated by Emotional Intelligence



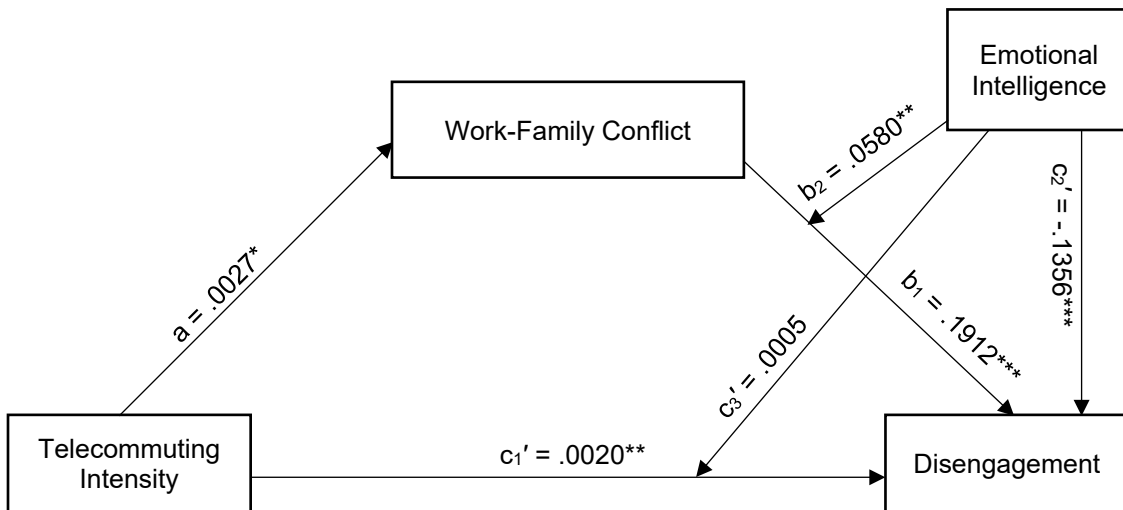
Note. $*p < .05$. $***p < .001$.

Emotional Intelligence as a Moderator in the Telecommuting Intensity – Work-Family Conflict – Disengagement Relationship

Figure 8 displays the test of moderated mediation and the unstandardized coefficients of each pathway (PROCESS macro, Model 15). The study assessed the significance of the indirect effects moderated by emotional intelligence. The results show that after including emotional intelligence in the model, the direct effect of telecommuting intensity on disengagement was not significant (path $c'3$, unstandardized interaction $b = .0005$, $b_{se} = .0006$, $t = .72$, $p = .4744$); thus, H3c was not supported. The product of work-family conflict and emotional intelligence had a significant predictive effect on disengagement (path b_2 , unstandardized interaction $b = .0580$, $b_{se} = .0198$, $t = 2.93$, $p = .0036$), indicating that emotional intelligence moderated the predictive effect of work-family conflict on disengagement (H4c was supported). Emotional intelligence did not moderate the predictive effect of telecommuting intensity on disengagement. The overall moderated mediation model was supported with the index of moderated mediation = .0002 (95% CI = .000007; .0004). As zero is not within the CI, this indicates that the indirect positive effect of telecommuting intensity on disengagement through work-family conflict is moderated by emotional intelligence, supporting H4c. The conditional indirect effect was strongest in those high in emotional intelligence ($M + 1$ SD; effect = .0007, $SE = .0003$, 95% CI = .00004; .0014) and weakest in those low in emotional intelligence ($M - 1$ SD; effect = .0004, $SE = .0002$, 95% CI = .00002; .0008).

Figure 8

Unstandardized Regression Coefficients for the Relationship Between Telecommuting Intensity and Disengagement as Mediated by Work-Family Conflict and Moderated by Emotional Intelligence

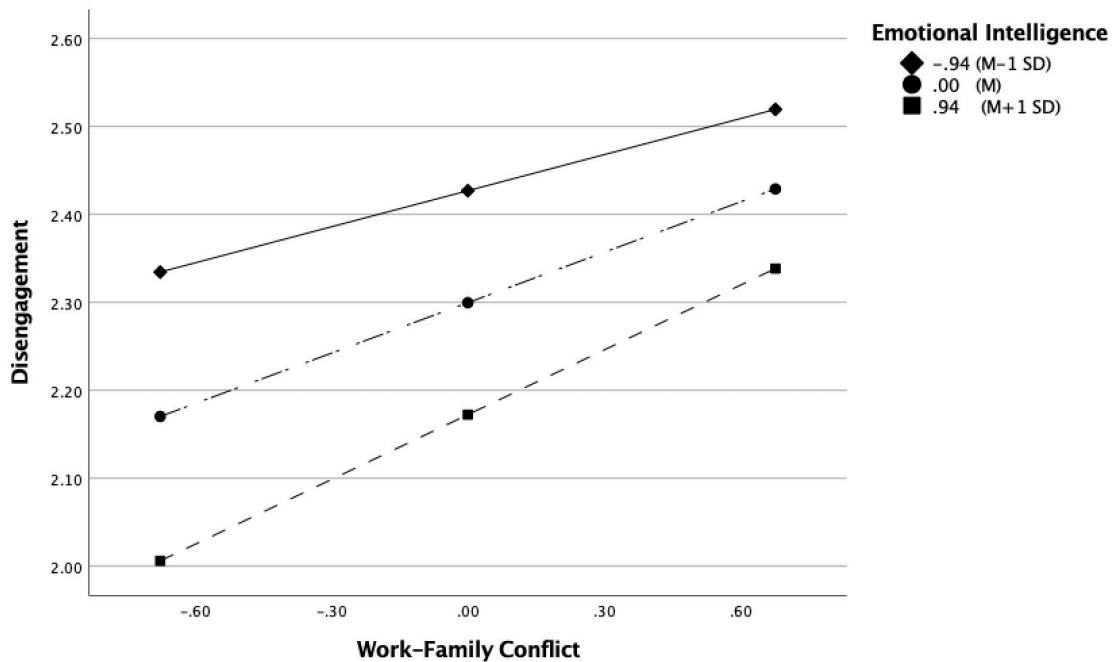


Note. $*p < .05$. $**p < .01$. $***p < .001$.

Tests of simple slopes (i.e., conditional direct effects) on path b_2 found a stronger positive association between work-family conflict and disengagement for those high in emotional intelligence ($M + 1$ SD; effect $b = .2457$, $b_{se} = .0311$, $t = 7.90$, $p < .001$, 95% CI = .1845; .3068) relative to those low in emotional intelligence ($M - 1$ SD; effect $b = .1368$, $b_{se} = .0283$, $t = 4.83$, $p < .001$, 95% CI = .0811; .1924). Participants with lower emotional intelligence and higher work-family conflict had higher disengagement than those high in emotional intelligence (Figure 9). The Johnson-Neyman technique identified one significant transition point, indicating that the relationship between work-family conflict and disengagement was not significant when values of emotional intelligence were lower than -1.8779 .

Figure 9

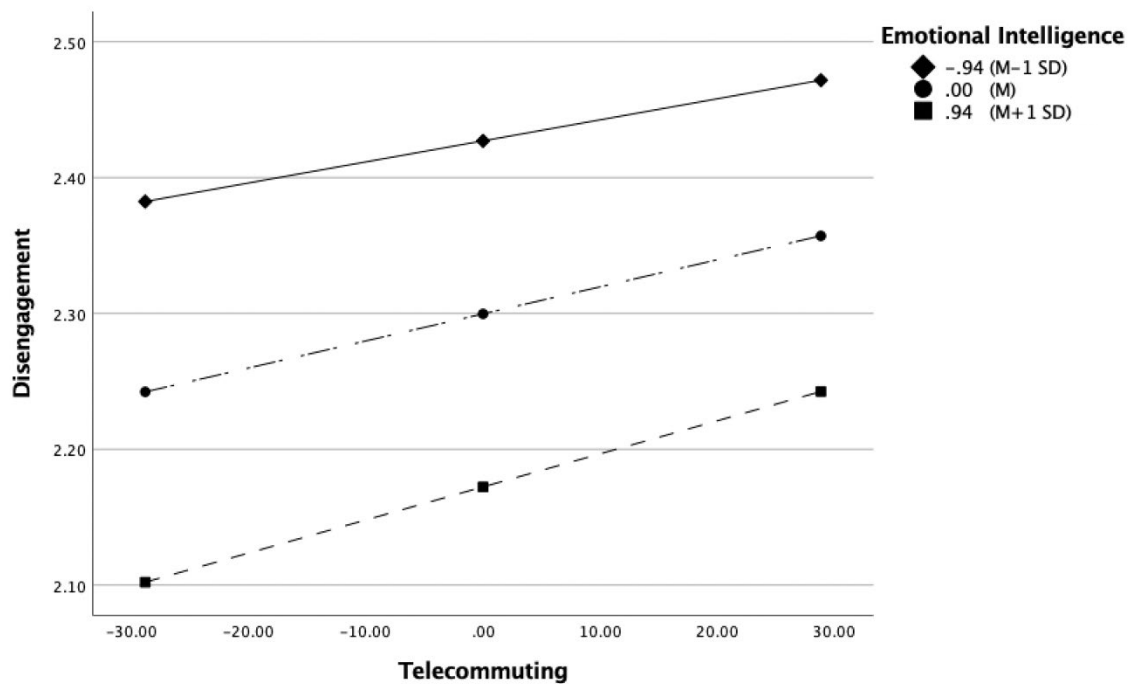
Simple Slopes of Work-Family Conflict Predicting Disengagement for 1 SD Below the Mean of Emotional Intelligence, the Mean of Emotional Intelligence, and 1 SD Above the Mean of Emotional Intelligence



Tests of simple slopes (i.e., conditional direct effects) on path c_3 found a stronger positive association between telecommuting intensity and disengagement for those higher in emotional intelligence ($M+1$ SD; effect $b = .0024$, $b_{se} = .0010$, $t = 2.34$, $p = .0198$, 95% CI = .0004; .0045) relative to those lower in emotional intelligence ($M-1$ SD; effect $b = .0015$, $b_{se} = .0007$, $t = 2.13$, $p = .0338$, 95% CI = .0001; .0030). While the telecommuting intensity x emotional intelligence interaction was not significant, participants with lower emotional intelligence and telecommuting intensity had higher disengagement than those with higher emotional intelligence (Figure 10).

Figure 10

Simple Slopes of Telecommuting Intensity Predicting Disengagement for 1 SD Below the Mean of Emotional Intelligence, the Mean of Emotional Intelligence, and 1 SD Above the Mean of Emotional Intelligence



Discussion

The purpose of the current study was to apply the JD-R model to evaluate whether emotional intelligence moderated the mediating effect of work-family conflict on the relationship between telecommuting intensity and job satisfaction and burnout among faculty in higher education. As predicated in the first hypothesis, telecommuting intensity was negatively related to job satisfaction. Similar to previous studies with teachers and educators (Coetzee et al., 2019; Mahmood et al., 2021; Raisiene et al., 2022), faculty in higher education with higher telecommuting levels reported having lower job satisfaction. Contrary to our findings, others have shown that working from home can

increase job satisfaction due to the autonomy and flexibility (Morganson et al., 2010). However, Morganson and colleagues' (2010) study examined individuals who worked in U.S.-based nonprofit engineer and technology research organizations. Therefore, differences in findings may be due to the type and amount of job demands that faculty in higher education have versus individuals working in engineer and technology research. Despite conflicting evidence for our results, we can use JD-R theory to explain our findings. As previously stated, educators likely experienced higher levels of job demands during the COVID-19 pandemic, and some demands were likely due to having to work remotely. In support of this, in a sample of teachers in Europe, Mahmood et al. (2021) found that increased job demands predicted decreased satisfaction with telecommuting, and higher levels of job resources buffered the negative impact of increased job demands.

Consistent with previous studies (Garcia-Gonzalez et al., 2020; Heiden et al., 2021), findings from the current study also supported the prediction from hypothesis one that increased telecommuting intensity is associated with higher levels of exhaustion and disengagement. Similar to the relationship between telecommuting intensity and job satisfaction, JD-R theory may help explain this relationship. Higher education professionals in the United States who telecommuted during the first year of the COVID-19 pandemic reported increased job demands due to reduced staffing levels and increased workloads (Winfield & Paris, 2021). According to JD-R theory (Demerouti et al., 2001), increased job demands, without sufficient job resources, is likely to lead to burnout.

Supporting the second hypothesis, work-family conflict mediated the relationship between telecommuting intensity and job satisfaction, exhaustion, and disengagement. Specifically, higher levels of telecommuting intensity were related to higher levels of

work-family conflict, and higher levels of work-family conflict were related to lower levels of job satisfaction and higher levels of exhaustion and disengagement. This finding is supported by previous studies that also found that individuals who reported high levels of remote work also reported increased work-family conflict (Golden et al., 2006; Hammer et al., 2005; Schall, 2019), and that work-family conflict was negatively related to job satisfaction and positively related to exhaustion and disengagement (Garcia-Gonzalez et al., 2020; Golden et al. 2006; Heiden et al., 2021). Characteristics of our sample lend insight regarding the mediating role of work-family conflict. For example, faculty in our sample reported above average levels of strain-based work-to-family conflict and strain-based family-to-family conflict. Furthermore, the average household size that faculty in this sample cared for was 2.06 household members, with the highest being six household members. Individuals with a larger household size may have experienced more family-work conflict due to their demanding family roles (Golden et al., 2006).

Finally, while the overall mean for hours worked in a week was 45 hours, the highest reported number of hours worked in a week was 86. Given that those who telecommute tend to work more hours (Leung & Zhang, 2015), it is possible that increased levels of work-family conflict and decreased job satisfaction occur when individuals fail to set appropriate boundaries when telecommuting (Golden et al., 2006). Longer work hours may also lead to role overload and spillover of interference from work to family demands (Duxbury et al., 1992). Thus, those with blurred boundaries in terms of work-family conflicts may also begin to experience higher levels of burnout (Garcia-Gonzalez et al., 2020; Heiden et al., 2021). When individuals have the option to

work from home, there are higher risks of work and family boundaries being blurred because there is no set schedule (Garcia-Gonzalez et al., 2020).

These findings are further supported by research showing that work-family conflict creates more roles, including an individual's work and family roles (Duxbury et al., 1992). When an individual experience having to juggle more roles, their job demands tend to increase, which can lead to higher levels of burnout (Karatuna et al., 2022). It has also been shown that the more resources a person has, the less impact job demands have on burnout (Karatuna et al., 2022). Although our study asked participants if they had childcare resources, we could not identify whether they felt they had enough resources to alleviate burnout. Therefore, in future research, it may be beneficial to further examine individuals' perceptions of resources to see if it has a significant impact on job burnout, as well as job satisfaction.

Interestingly, not all studies support the finding that telecommuting intensity increases work-family conflict, and consequently leads to decreased job satisfaction and increased exhaustion and disengagement. Some studies have shown that telecommuting decreases work-family conflict (Gajendran & Harrison, 2007; Golden et al., 2006). For example, Golden and colleagues (2006) found that telecommuting gave individuals more flexibility and autonomy, which would help them balance their work which increases job satisfaction, decreases turnover, and role stress. This contradicts our study's findings, as well as findings from previous research. One plausible explanation for our finding that telecommuting intensity was associated with increased work-family conflict is that our sample was limited to faculty in higher education. Golden and colleagues (2006), on the other hand, focused on employees from high-technology companies. Faculty in higher

education tend to have more job roles and responsibilities, which may increase the chance of faculty members blurring the boundary lines between work and family. In addition, some faculty members in this study reported working beyond the typical 40 hours a week. Another potential explanation is those studies (Gajendran & Harrison, 2007; Golden et al., 2006) were conducted pre-COVID-19, and evidence exists to indicate that faculty had to readjust their teaching styles, leading to increased job demands and increased work-family conflict (Mahmood et al., 2021).

Data from this study did not support the third hypothesis; emotional intelligence did not moderate the negative relationship between telecommuting intensity and job satisfaction (H3a), nor did it moderate the positive relationship between telecommuting intensity and exhaustion (H3b) and disengagement (H3c). Interestingly, the simple slopes test did indicate that faculty with lower emotional intelligence and telecommuting intensity had higher disengagement than those with higher emotional intelligence. Emotional intelligence has been shown to increase job satisfaction and decrease exhaustion and disengagement by reducing job stress (Scherer, 2022). Therefore, perhaps a potential explanation for the lack of support for our hypothesis is that, by the time of data collection, faculty had become more accustomed to working from home and teaching online, as well as had more resources, in comparison to the early months of the COVID-19 pandemic. If this was the case, faculty may have experienced fewer stressors, and the need for high levels of emotional intelligence did not exist. Supporting this idea, Garcia-Morales et al. (2021) found that some faculty in higher education had begun to adapt to technological changes that used to be a stressor for them.

Partial support was found for the fourth hypothesis. While data from this study indicated that emotional intelligence did not moderate the negative relationship between work-family conflict and job satisfaction (H4a) or the positive relationship between work-family conflict and exhaustion, (H4b) emotional intelligence did moderate the positive relationship between work-family conflict and disengagement (H4c). Further, the test of simple slopes indicated that faculty with lower emotional intelligence and higher work-family conflict had higher disengagement than those high in emotional intelligence. Previous studies have indicated that emotional intelligence helps to alleviate the negative consequences of work-family conflict (Bakker & Vries, 2020; Gao et al., 2013). One possible explanation why emotional intelligence appears to relate differently to exhaustion versus disengagement may be that strengthening an individual's emotional coping mechanisms can increase emotional detachment, which is similar to disengagement (Szczygeil and Mikolajczak, 2018). In addition, Gorgens-Ekermans and Brand (2012) found that the moderating effect of emotional intelligence on the relationship between general work stress and burnout can be weaker for some dimensions of burnout than others. Specifically, Gorgens-Ekermans and Brand (2012) found that the moderating effect of emotional intelligence was slightly weaker for emotional exhaustion than for depersonalization. Relatedly, Akinsulure-Smith and colleagues (2018) found that emotional intelligence had a higher correlation with disengagement compared to exhaustion.

The fifth hypothesis predicted that emotional intelligence would moderate the mediating effect of work-family conflict on the relationship between telecommuting intensity and job satisfaction and burnout. We found partial support for this hypothesis.

While emotional intelligence did not moderate the indirect negative relationship (via work-family conflict) between telecommuting intensity and job satisfaction (H5a) or the indirect positive relationship (via work-family conflict) between telecommuting intensity and exhaustion (H5b), emotional intelligence did moderate indirect positive relationship (via work-family conflict) between telecommuting intensity and disengagement (H5c). In other words, only the positive relationship between telecommuting intensity and disengagement was influenced by whether individuals had high or low levels of emotional intelligence when mediated by work-family conflict. One explanation for our mixed findings is that our sample size was too small to find small effects. Results did indicate that emotional intelligence did have a small negative correlation with telecommuting intensity, a small negative correlation with work-family conflict, a medium positive correlation with job satisfaction, and a small negative relationship with exhaustion and disengagement. Therefore, if we were able to obtain a larger sample size, we may have seen different results.

Strengths and Limitations

One strength of this study is that we were able to recruit faculty with varying levels of tenure status, years of experience, institution types (i.e., public university, private university, technical school, community college, tribal college etc.), and experiences in online and hybrid teaching environments. The advantage of having a large variety is that it makes the study's findings more generalizable to different programs and types of institutions. Another strength of our study is that our measures we used had high reliability. Reliability ensures that the measure produces the same results if the same conditions were to occur (Field, 2018).

Although the study had its strengths, it also contained a few weaknesses. One of the study's major limitations was the use of the telecommuting intensity measure. The measure used to identify levels of telecommuting intensity did not limit the number of hours an individual could report telecommuting each day. Specifically, we had to exclude data for participants who reported nonsensical values related to telecommuting intensity because the reported hours were impossible (> 24 hours/day).

Another limitation is that our study used a cross sectional approach. Cross-sectional studies make it harder to establish a true and cause effect because there is no longitudinal data, and predictors and outcomes are assessed at the same time. In our case telecommuting intensity, work-family conflict, and emotional intelligence, along with the output variables of job satisfaction and job burnout were assessed simultaneously. This makes it difficult to understand if the cause happened before the effect. In other words, there is no way of knowing whether telecommuting intensity came before the effect of work-family conflict or the effect whether work-family conflict came before job satisfaction and burnout.

A third limitation is that the study relied on self-report data. Self-report studies give the participant opportunities to exaggerate or play down their feelings when answering questions. Therefore, self-report studies can reduce the validity of the study. Although, we added two attention checkers to ensure participants were reading the questions carefully, the survey was long and could have led to disengagement and survey fatigue (Jeong et al., 2023).

Lastly, although we examined work-family conflict as a mediator and emotional intelligence as a moderator, other mediators and or moderators affecting job satisfaction

and job burnout may exist. To address this limitation, future research may benefit from examining other variables as moderators and mediators, such as perceived autonomy and perceived social, technological and organizational support. Studies have shown that perceived support and perceived autonomy when telecommuting can lead to positive outcomes such as lower turnover, high job satisfaction, higher reports of well-being (Bentley et al., 2016; Schall, 2019). Additionally, having good support has shown to moderate the relationship between telecommuting intensity and job satisfaction since it's been found that if an individual receives more support during telecommuting their job satisfaction will be higher (Allen et al., 2015; Morganson et al., 2010). It would also be interesting to evaluate the each of the sub dimensions of work-family conflict and emotional intelligence as mediators and moderators to evaluate whether a specific dimension has different and/or a stronger impact on the hypothesized relationships among the study variables.

Implications

The findings of this study provide practical implications for future practitioners and future researchers. First, organizations may benefit from encouraging employees to set boundaries between work and family. One way in which faculty can set boundaries is to encourage faculty to set up a workspace area at home and perhaps providing incentives such as a small stipend for office workspace supplies. As previously mentioned, telecommuting may be beneficial because it gives individuals autonomy and flexibility (Garcia-Gonzalez et al., 2020; Golden et al., 2006; Sandoval-Reyes et al., 2021). However, having too much autonomy has the potential to increase work-family conflict because individuals are not following a regular schedule which increases their chances of

overworking and having their work intervene with the family roles (Duxbury et al., 1992; Sandoval-Reyes et al., 2021).

The benefit of reducing work-family conflict is that it helps increase job satisfaction as well as decrease job burnout (Ergeneli et al., 2010; Mete et al., 2014). Therefore, one of our recommendations for organizations is that they should provide faculty with additional resources during telecommuting to help reduce any work-family conflict they may experience. Examples of resources include offering childcare support programs or creating more interactions amongst faculty to increase coworker support. A major premise of JD-R theory is that, if an individual is provided with job resources such as childcare, emotional support, coworker support etc., they are more likely to experience increased job satisfaction and decreased levels of job burnout (Bakker & Demerouti, 2007; Mudrak et al., 2018). Resources help individuals lessen the job demands that they have to deal with, which helps them decrease burnout levels (Shantz et al., 2015).

Findings from this study also add to the literature on the effects of telecommuting intensity on job satisfaction and job burnout on faculty in higher education. Many studies have examined the relationship between telecommuting intensity, job satisfaction, and job burnout; however, research has not previously examined the role of emotional intelligence. Findings from this study indicated that emotional intelligence played a moderating role (via work-family conflict) in the relationship between telecommuting intensity and disengagement. Therefore, it may be beneficial for organizations to implement emotional intelligence training. Research has shown that when individuals can manage and regulate their emotions, they are able to decrease levels of burnout and depersonalization (Chan, 2006). Depersonalization refers to a negative or excessive

detached response toward people who are associated with feelings of emotional exhaustion (Bakker et al., 2014). Meanwhile disengagement (a dimension of burnout) focuses on how individuals identify with their job and whether or not they think about quitting (Demerouti et al., 2010).

Future Research

In terms of future research, it would be useful to extend the current findings by examining different variables such as organizational, coworker, supervisor support. Organizational support has been found to be a resource that can decrease burnout; therefore, having more support during telecommuting may help decrease any strains an individual is facing with (Shantz et al., 2015). Previous research has shown that high emotional intelligence is related to decreased burnout (Gorgens-Ekermans & Brand, 2012; Guleryuz et al., 2008; Jackson-Koku & Grime, 2019). Gorgens-Ekermans and colleagues (2012) found that different dimensions of emotional intelligence, such as emotional management and emotional control, had stronger associations with stress and burnout. Therefore, it would also be beneficial to further examine the relationship between emotional intelligence and its impact on the relationship between telecommuting intensity, work-family conflict, job satisfaction, and burnout by examining different dimensions. This will help us better understand why emotional intelligence has significant impacts for only some of the subscales of burnout and not all.

The present study focused on faculty in higher education because they represent a professional demographic in which individuals often have some ability to telecommute. Another reason we chose faculty in higher education was because faculty often have many job roles such as professor, researcher, advisor etc. When individuals have many

roles, they are exposed to greater demands, which increases the likelihood of experiencing lower job satisfaction and higher levels of burnout. Therefore, we encourage future researchers to consider studying other professional demographics, both those likely to have multiple roles and those less likely to hold multiple roles, to understand whether the experiences of faculty in higher education generalize to those in other fields of work.

Conclusion

In conclusion, findings from this study indicated that the more an individual telecommutes, the higher risk they are for work-family conflict, which leads to lower job satisfaction and higher levels of burnout. This study also found that higher emotional intelligence is associated with lower levels of disengagement. Given the increasing trend of remote work, we expect findings from this research will inform future research on variables that affect job satisfaction and burnout among telecommuters, as well as workplace interventions to reduce burnout and job satisfaction among faculty in higher education.

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Appendix A

Recruitment Message Disseminated via Email & Listservs

Subject Line: Request for Survey Research Participation: Faculty Well-Being in Higher Education

Greetings,

We are recruiting faculty in higher education from various institutions to participate in a research survey to gather information on factors that impact workplace well-being.

To be eligible to participate in this research, you must be: (1) employed as a current faculty in higher education and (2) work and reside in the United States.

The survey will take approximately 15-20 minutes to complete, and your participation is voluntary. After completion of the survey, you will have a chance to enter an email address if you would like to be entered into the drawing for one of 25 \$10 Amazon eGift Cards.

There are no foreseeable risks associated with participation, as no identifying information will be collected. This research study has been reviewed and approved by the University of Minnesota's Institutional Review Board (IRB ID: STUDY00016594).

To participate in this voluntary research survey, please use the following link:
<https://z.umn.edu/faculty-wellbeing>

The survey will remain open until **October 31, 2022**. If you have any questions about this study or issues accessing the survey, please email us directly. **Finally, feel free to share this recruitment message with others you know who are eligible to participate.**

Thank you,

Katherine Sanchez, Candidate, M.A. Psychological Science
Affiliation: University of Minnesota Duluth, Department of Psychology
Email: sanch490@d.umn.edu

Julie M. Slowiak, Ph.D., BCBA-D (Faculty Advisor)
Affiliation: University of Minnesota Duluth, Department of Psychology
Email: jslowiak@d.umn.edu

Recruitment Messages Disseminated via Social Media

Twitter (limit of 280 characters)

Research survey on well-being of faculty in higher education, with the chance to win one of 25 \$10 gift cards: <https://z.umn.edu/faculty-wellbeing>

Katherine Sanchez & Julie Slowiak, jslowiak@d.umn.edu, University of Minnesota Duluth. IRB ID: STUDY00016594

Facebook, LinkedIn, and Instagram

Are you a faculty member in higher education? If so, please consider taking our research survey to gather information on factors that impact worker well-being.

The survey will take approximately 15-20 minutes to complete, and your participation is voluntary. At the end of the survey, you will have the opportunity to be entered into a drawing for one of 25 \$10 Amazon eGift Cards.

Feel free to share this post or the survey link below with others you know who are eligible to participate!

Survey Link: <https://z.umn.edu/faculty-wellbeing>

This research is being conducted out of the University of Minnesota Duluth, Psychology Department, by Katherine Sanchez (sanch490@d.umn.edu) and Julie M. Slowiak, Ph.D. (jslowiak@d.umn.edu). This study has been reviewed and approved by the University of Minnesota's Institutional Review Board (IRB ID: STUDY00016594).

Social Media Images

Research on Faculty Well-Being In Higher Education

Faculty in higher education from all institutions are invited to participate. Must reside and work in the United States.

CHANCE TO WIN \$10 AMAZON GIFT CARD

<https://z.umn.edu/faculty-wellbeing>

Researcher Contact Information: Katherine Sanchez, sanch490@d.umn.edu & Dr. Julie Slowiak, jslowiak@d.umn.edu, University of Minnesota Duluth

<https://z.umn.edu/faculty-wellbeing>

Researcher Contact Information: Katherine Sanchez, sanch490@d.umn.edu & Dr. Julie Slowiak, jslowiak@d.umn.edu, University of Minnesota Duluth

Appendix B

INFORMATION SHEET FOR RESEARCH

Faculty Well-Being in Higher Education

You are invited to be in a research study to understand factors that influence well-being among faculty in higher education. You were identified as a possible participant because you are currently employed as a faculty member in higher education. We ask that you read this form and ask any questions you may have before agreeing to be in the study.

This study is being conducted by: Katherine Sanchez (Student Investigator) and Julie M. Slowiak, Ph.D., BCBA-D (Principal Investigator and Faculty Advisor), Department of Psychology, University of Minnesota Duluth.

Procedures: If you agree to be in this study, we will ask you to complete a survey questionnaire containing sociodemographic and job-related items, as well as items to gather information about job satisfaction, burnout, telecommuting intensity, work-family conflict, and emotional intelligence. Completing the survey will take approximately 15-20 minutes.

Confidentiality: The records of this study will be kept private. In any sort of report we might publish or presentation of the findings, we will not include any information that will make it possible to identify a subject. Research records will be stored securely and only researchers will have access to the records.

Voluntary Nature of the Study: Participation in this study is voluntary. Your decision whether or not to participate will not affect your current or future relations with the University of Minnesota. If you decide to participate, you are free to not answer any question or withdraw at any time without affecting those relationships.

Will I be compensated for my participation? If you agree to take part in this research study, you will have the opportunity to be entered into a prize drawing. After completing the survey, you will see a link to a separate survey form that will allow you to enter an email address if you would like to be entered into the drawing for one of 25 \$10 Amazon eGift Cards. Odds of winning depend upon the number of entries received; however, we anticipate the odds for winning will be between 1:8 to 1:10. The drawing will be conducted no later than December 1, 2022. The Principal Investigator will send the electronic gift card to each winner by the email provided.

Contacts and Questions: The researchers conducting this study are Katherine Sanchez and Julie M. Slowiak, Ph.D., BCBA-D. You may email any questions that you have before agreeing to participate. If you have questions later, **you are encouraged** to contact Julie M. Slowiak at the Department of Psychology, University of Minnesota Duluth, 218-726-7116, jslowiak@d.umn.edu.

This research has been reviewed and approved by an IRB within the Human Research Protections Program (HRPP). To share feedback privately with the HRPP about your research experience, call the Research Participants' Advocate Line at 612-625-1650 (Toll Free: 1-888-224-8636) or go to z.umn.edu/participants. You are encouraged to contact the HRPP if:

- Your questions, concerns, or complaints are not being answered by the research team.
- You cannot reach the research team.
- You want to talk to someone besides the research team.
- You have questions about your rights as a research participant.
- You want to get information or provide input about this research.

Statement of Consent

You have read the information above and you have had the opportunity to ask any questions you have via email. By selecting "I consent to participate in this study" below, you are consenting to participate in this study.

- I consent to participate in this study.
- I do not want to participate in this study.

(Next Screen Page)

Please confirm your decision to participate in this study:

- I confirm that I consent to participate in this study.
- Oops...never mind. I do not want to be a participant.

Appendix C

Survey Items

Screening Question to Confirm Eligibility

The question below will appear after individuals consent to participate and before the primary survey items. If a participant selects “No” to the screening question, they will be directed to the end of the study, and their participation will end. Numbers in parentheses indicate codes.

1. Are you currently employed as a faculty member in higher education?
 - a. Yes (1)
 - b. No (2)

2. Are you currently residing and working in the United States?
 - a. Yes (1)
 - b. No (2)

Sociodemographic Items

Items with an asterisk allow multiple answers to be selected. N/A: non-applicable. Numbers in parentheses indicate codes. Codes will be added for each unique fill-in-the-blank response.

1. How old are you? (fill in the blank) _____

2. What sex were you assigned at birth, on your original birth certificate?
 - a. Male (1)
 - b. Female (2)
 - c. Prefer Not to Answer (3)

3. How do you currently describe yourself?
 - a. Male (1)
 - b. Female (2)
 - c. Transgender (3)
 - d. None of these (4)
 - e. Prefer Not to Answer (5)

4. What race/ethnicity describes you?
 - a. African American/Black (1)
 - b. American Indian/ Alaskan Native (2)
 - c. Asian/ Pacific Islander (3)
 - d. Caucasian/ White (4)
 - e. Hispanic/ Latinx (5)
 - f. Other (6)
 - g. Prefer Not to Answer (7)

5. How would you describe your marital status?
 - a. Single (1)
 - b. Married (2)
 - c. Divorced/Separated (3)
 - d. Widowed (4)
 - e. In a Committed/Long-Term Relationship (5)
 - f. Prefer Not to Answer (6)

6. How many individuals do you care for (e.g., children, spouse, parent)? (fill in the blank) _____

7. Please indicate the age range(s) of household members for whom you provide care. (Select all that apply)
 - a. under 1 years old to 3 years old (1)
 - b. 4 years old to 7 years old (2)
 - c. 8 years old to 11 years old (3)
 - d. 12 years old to 15 years old (4)
 - e. 16 years old to 18 years old (5)
 - f. 19 years old or older (6)

8. How many pets do you have?
 - a. 0 pets (1)
 - b. 1 to 2 pets (2)
 - c. 3 to 4 pets (3)
 - d. 5 or more pets (4)

9. Do you have resources for childcare?
 - a. Yes (1)
 - b. No (2)

10. How many years have you been employed at your current institution? (fill in the blank) _____

11. How many formal positions/job titles do you hold at your current institution (e.g., Instructor, Assistant/Associate Professor, Research Faculty, Department Head/Chair)? (fill in the blank) _____

12. Please indicate your tenure status?
 - a. Not Tenured/Tenure-Track (1)
 - b. Tenure-Track (2)
 - c. Tenured (3)
 - d. Other (please describe): _____ (4)

13. What type of institution do you work at?
 - a. Public University (1)
 - b. Private University (2)

- c. Technical School (3)
- d. Community College (4)
- e. Tribal College (5)
- f. Other (please describe): _____ (6)

14. In what type of degree program do you work?

- a. Online only (1)
- b. In-person (2)
- c. Hybrid (work and teach in a program that offers both in-person and online options) (3)
- d. Other (please describe): _____ (4)

Attention Checker #1

1. What color is a banana? Bananas are a type of nutritious fruit that provide sources of protein and fiber. Make sure to select **blue** so that we know you are paying attention.
 - a. Blue
 - b. Red
 - c. Yellow

Telecommuting Intensity (Modified Telecommuting Intensity)

Schall, M. A. (2019). *The relationship between remote work and job satisfaction: The mediating roles of perceived autonomy, work-family conflict, and telecommuting intensity* (Doctoral dissertation, San Jose State University).

1. Please describe a **typical work week** and report the number of hours you worked in the office versus out of the office on each day of the week. For example, if you worked an 8-hour day where 3 of those hours were out of the office, you will report 3 hours of telecommuting; if the remaining 5 hours of work were at the office, you will report 5 of in-office work. You will do this for every day of the week; Monday-Sunday.
 - a. In a typical work week, how many hours of your day on a **MONDAY** are spent:
 - Telecommuting (working outside of an office within the institution for which you work): ____
 - Not Telecommuting (working in an office within the institution for which you work): ____
 - b. In a typical work week, how many hours of your day on a **TUESDAY** are spent:
 - Telecommuting (working outside of an office within the institution for which you work): ____
 - Not Telecommuting (working in an office within the institution for which you work): ____
 - c. In a typical work week, how many hours of your day on a **WEDNESDAY** are spent:

Telecommuting (working outside of an office within the institution for which you work): ____

Not Telecommuting (working in an office within the institution for which you work): ____

d. In a typical work week, how many hours of your day on a **THURSDAY** are spent:

Telecommuting (working outside of an office within the institution for which you work): ____

Not Telecommuting (working in an office within the institution for which you work): ____

e. In a typical work week, how many hours of your day on a **FRIDAY** are spent:

Telecommuting (working outside of an office within the institution for which you work): ____

Not Telecommuting (working in an office within the institution for which you work): ____

f. In a typical work week, how many hours of your day on a **SATURDAY** are spent:

Telecommuting (working outside of an office within the institution for which you work): ____

Not Telecommuting (working in an office within the institution for which you work): ____

g. In a typical work week, how many hours of your day on a **SUNDAY** are spent:

Telecommuting (working outside of an office within the institution for which you work): ____

Not Telecommuting (working in an office within the institution for which you work): ____

Michigan Organizational Assessment Questionnaire Job Satisfaction (MOAQ)

Cammann, C., Fichman, M., Jenkins, D., & Klesh, J. (1979). The Michigan Organizational Assessment Questionnaire (Unpublished manuscript). University of Michigan, Ann Arbor, MI.

INSTRUCTIONS: For each item, please rate the extent to which you agree with each statement.

Disagree Very Much (1); Disagree Moderately (2); Disagree Slightly (3); Agree Slightly (4); Agree Moderately (5); Agree Very Much (6)

1. All in all, I am satisfied with my job.
2. In general, I don't like my job. (R)
3. In general, I like working here.

Scoring & Interpretation Information:

Sum the individual scores for all items and compute an overall average score. (R) indicates an item that is reversed scored. Higher scores indicate a higher level of job satisfaction.

Oldenburg Burnout Inventory (OLBI)

Demerouti, E., Mostert, K., & Bakker, A. B. (2010). Burnout and work engagement: A thorough investigation of the independency of both constructs. *Journal of Occupational Health Psychology, 15*(3), 209–222. <https://doi.org/10.1037/a0019408>

INSTRUCTIONS: In this section, you will see a series of statements with which you may agree or disagree. For each item, please rate the extent to which you agree with each statement.

Strongly Disagree (4); Disagree (3); Agree (2); Strongly Agree (1)

1. I always find new and interesting aspects in my work.
2. There are days when I feel tired before I arrive at work. (R)
3. It happens more and more often that I talk about my work in a negative way. (R)
4. After work I tend to need more time than in the past in order to relax and feel better.(R)
5. I can tolerate the pressure of my work very well.
6. Lately, I tend to think less at work and do my job almost mechanically. (R)
7. I find my work to be a positive challenge.
8. During my work, I often feel emotionally drained. (R)
9. Over time, one can become disconnected from this type of work. (R)
10. After working, I have enough energy for my leisure activities.
11. Sometimes I feel sickened by my work tasks. (R)
12. After my work, I usually feel worn out and weary. (R)
13. This is the only type of work that I can imagine myself doing.
14. Usually, I can manage the amount of my work well.
15. I feel more and more engaged in my work.
16. When I work, I usually feel energized.

Scoring & Interpretation Information:

Disengagement items are 1, 3(R), 6(R), 7, 9(R), 11(R), 13, 15.

Exhaustion items are 2(R), 4(R), 5, 8(R), 10, 12(R), 14, 16.

(R) means reversed item when the scores should be such that higher scores indicate more burnout.

Items associated with each of the Exhaustion and Disengagement subscales should be summed, and an overall average score computed; higher scores indicate higher levels of each dimension of burnout.

Work-Family Conflict (WFC)

Carlson, D. S., Kacmar, K. M., & Williams, L. J. (2000). Construction and initial validation of a multidimensional measure of work-family conflict. *Journal of Vocational Behavior*, 56(2), 249-276.

INSTRUCTIONS: For each item, please rate the extent to which you agree with each statement.

Strongly Disagree (5); Disagree (4); Neither Agree nor Disagree (3); Agree (2); Strongly Agree (1)

1. My work keeps me from my family activities more than I would like.
2. The time I must devote to my job keeps me from participating equally in household responsibilities and activities.
3. I have to miss family activities due to the amount of time I must spend on work responsibilities.
4. The time I spend on family responsibilities often interfere with my work responsibilities.
5. The time I spend with my family often causes me not to spend time in activities at work that could be helpful to my career.
6. I have to miss work activities due to the amount of time I must spend on family responsibilities.
7. When I get home from work I am often too frazzled to participate in family activities/responsibilities.
8. I am often so emotionally drained when I get home from work that it prevents me from contributing to my family.
9. Due to all the pressures at work, sometimes when I come home I am too stressed to do the things I enjoy.
10. Due to stress at home, I am often preoccupied with family matters at work.
11. Because I am often stressed from family responsibilities, I have a hard time concentrating on my work.
12. Tension and anxiety from my family life often weakens my ability to do my job.
13. The problem-solving behaviors I use in my job are not effective in resolving problems at home.
14. Behavior that is effective and necessary for me at work would be counterproductive at home.
15. The behaviors I perform that make me effective at work do not help me to be a better parent and spouse.
16. The behaviors that work for me at home do not seem to be effective at work.
17. Behavior that is effective and necessary for me at home would be counterproductive at work.
18. The problem-solving behavior that work for me at home does not seem to be as useful at work.

Scoring & Interpretation Information:

Time-Based WIF items: 1, 2, 3

Time-Based FIW items: 4,5,6

Strain-Based WIF items: 7,8,9

Strain-Based FIW items: 10,11,12

Behavior-Based WIF items: 13, 14, 15

Behavior-Based FIW items: 16,17, 18

Scores are calculated by obtaining scores for each of the subscales. Scores for each subscale can range from 3 to 15. Higher scores indicate higher levels of conflict. A total work-family conflict score by summing up all items and then computing an overall average composite score.

Attention Checker #2

1. What color is fresh, uncut grass (not leaves or hay)? Make sure to pick **red** so that we know you are paying attention.
 1. Green
 2. Purple
 3. Red
 4. Blue

Wong and Law Emotional Intelligence Scale (WLEIS)

Wong, C. S., & Law, K. S. (2017). The effects of leader and follower emotional intelligence on performance and attitude: An exploratory study. *The Leadership Quarterly* 13, 243-274. [https://doi.org/10.1016/S1048-9843\(02\)00099-1](https://doi.org/10.1016/S1048-9843(02)00099-1)

INSTRUCTIONS: Please indicate the degree to which you agree with each statement. Strongly Disagree (1); Disagree (2); Slightly Disagree (3); Neither Agree Nor Disagree (4); Slightly Agree (5); Agree (6); Strongly Agree (7)

1. I have a good sense of why I have certain feelings most of the time.
2. I have good understanding of my own emotions.
3. I really understand what I feel.
4. I always know whether or not I am happy.
5. I always know my friends' emotions from their behavior.
6. I am a good observer of others' emotions.
7. I am sensitive to the feelings and emotions of others.
8. I have good understanding of the emotions of people around me.
9. I always set goals for myself and then try my best to achieve them.
10. I always tell myself I am a competent person.
11. I am a self-motivated person.
12. I would always encourage myself to try my best.
13. I am able to control my temper and handle difficulties rationally.
14. I am quite capable of controlling my own emotions.
15. I can always calm down quickly when I am very angry.
16. I have good control of my own emotions.

Scoring & Interpretation Information:

Self-Emotion Appraisal: Average items 1-4.

Regulation of Emotion: Average items 5-8.

Use of Emotion: Average items 9-12.

Others' Emotion Appraisal: Average items 13-16.

To obtain an overall Emotional Intelligence score, items should be summed and then averaged; higher scores indicate higher levels of emotional intelligence.

Appendix D

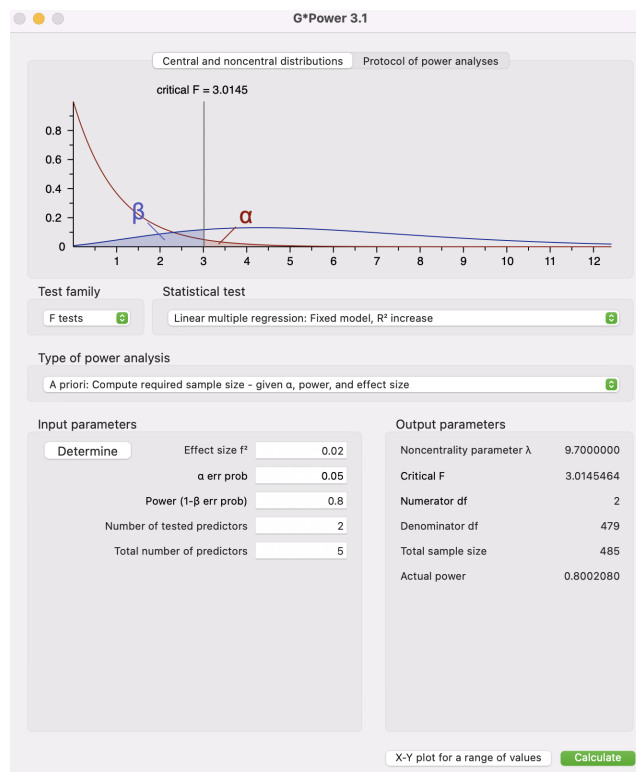
Power Analysis in G*Power

Predictors:

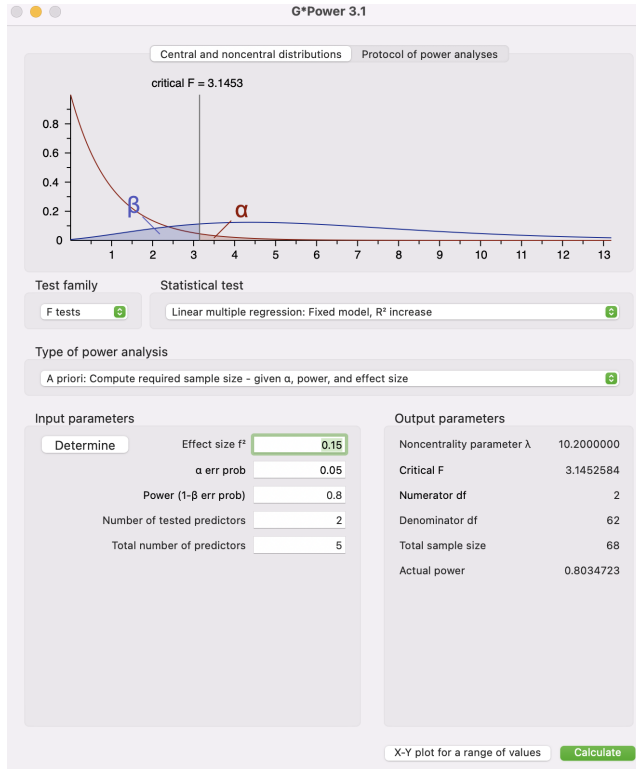
X
 W
 X*W (Interaction for the moderated c'-path)
 M*W (Interaction for the moderated b-path)
 Conditional indirect effect (moderated mediation)

Total: 5 predictors

1. Small Effect Size



2. Medium Effect Size



3. Large Effect Size

