WORK LIFE BALANCE IN THE NEW NORMAL: A STUDY OF PERFORMANCE AND WELL-BEING POST-PANDEMIC

by

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DEDICATION

To my father, for always supporting me and believing in me when I didn't. You're a big part of this accomplishment, thank you for always being in my corner.

ABSTRACT

COVID-19 and the government shelter-in-place have forced millions of traditional office employees to work outside their physical locations as remote or work-from-home (WFH) employees. The novel phenomenon has changed work characteristics and perceptions of employee outcomes. The mass exodus from office workers to remote workers has left a gap in the literature. The infrequency of remote workers before the pandemic is disproportionate to many remote workers today, leaving the generalizability of WFH employee outcomes incomplete. Currently, there is a significant focus on the intensity of remote work. The primary objective of this research is to examine the challenges associated with remote work and their impact on the ability to balance professional obligations and family responsibilities. The present study examines the relationship between virtual work characteristics, autonomy, and monitoring and its effects on performance and well-being via work-home interference. In the conducted study a cross-sectional survey was completed gathering data from over 380 full-time American employees who adopted a hybrid work schedule. Using software package IBM® SPSS® AMOS 29.0.0.0 support was found for the direct relationship between autonomy and performance. The study also showed support for direct relationships between work-home interference and performance. The study will serve to provide valuable insights into the experiences and perspectives of WFH employees.

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INTRODUCTION

1.1 External Shock

In the early months of 2020, the planet experienced an external shock, due to the highly contagious COVID-19 (Chowhan et al., 2021). The virus disrupted business practices throughout the U.S. including a mandatory shelter-in-place requiring non-essential employees to work from home (WFH) or remotely. The consequences of the mandate spawned a new population of remote workers. A recent estimate for the U.S. workforce showed remote workers have quadrupled to 50% of the U.S. work population (Brynjolfsson et al., 2020). A survey conducted by Colombo (2020) indicated across the globe, one-half of companies, or 80% of the employees, were working from home during the early stages of the pandemic (Stoker et al., 2022).

Researchers argue that the infrequency of remote workers before the pandemic is disproportionate to many remote workers today, thus leaving the generalizability of remote working employee outcomes incomplete (Allen et al., 2015). The change in work design has required managers to reevaluate how to leverage work characteristics to induce positive employee outcomes. Conversely, employees have had to adjust their work/life balance to continue to execute positive employee outcomes (Birkinshaw et al., 2021).

The study is germane because there is little research on outcomes for remote workers, “Publication on the impact of

WFH on employees in established research journals has been limited" (Patanjali and Bhatta, p. 5, 2022).

What impact has the shift from working in an office to working from home had on employees? What challenges do remote workers experience while WFH, and how do those experiences influence employee outcomes? The study relies on work design theory as a framework for the research. The study adapts research conducted by Wang et al. (2021) by observing the relationship between virtual work characteristics, job autonomy, and monitoring and its effects on remote worker outcomes, well-being, and performance via remote work challenges work interference with family and family interference with work. The present study addresses this phenomenon by providing practical solutions for managers to leverage remote work characteristics to influence positive employee outcomes.

CHAPTER 2

LITERATRUE REVIEW

2.1 Work Design Theory

The following sections review the literature for work design theory, variables within the model, and the hypothesis development. The model has twelve hypothesized paths. Positive relationships are highlighted in bold red letters, while negative relationships are indicated in green to aid identification. (See Figure 1).

The literature examines variables typical of a motivational or job enrichment model, including job autonomy, monitoring, well-being, and performance (Hackman & Oldman, 1975; Parker, 2009). The study also considers the challenges of virtual working or work home interference. Extant literature on work design theory is replete with work design research; however, there is little attention given to work design theory in the context of compulsory remoter workers compared to discretionary remote workers (Patanjali & Bhatta, 2022; Wang et al., 2021).

2.2 Interdisciplinary Work Design Models

This study grounds itself in work design theory to better understand antecedents to well-being and performance in the workplace. Work design is defined as the organization of one's work tasks, activities, connections, and responsibilities (Humphrey et al., 2007; Morgeson et al., 2002; Parker, 2014). How work is designed can profoundly impact an organization's success and the employees' personal well-being (Morgeson & Campion, 2003). Work design theory is perhaps one of industrial and organizational psychology's most frequently used theories

(Campion, 1988). Motivational models are typical in the industrial organizational (I/O) psychology literature however there are other integrative models that exist (Campion, 1988). The subsequent sections discuss interdisciplinary models for work design.

2.2.1 Mechanistic Work Design

The foundation of work design theory was first represented by Smith (1776) and Babbage (1835). Each of the theorists sought to divide labor roles into discrete jobs to facilitate specialization and simplification in task performance (Humphrey et al., 2007; Morgeson & Campion, 2003). The idea posits that repetition of a single task would produce higher proficiency. This mechanical work design limited workers from switching tasks, thus reducing the number of inputs necessary to complete a task (Humphrey et al., 2007). Idealistically the reduction in task variety should yield greater efficiency due to repetition (Morgeson & Campion, 2003). During this time, little attention was paid to employees' well-being and satisfaction but instead focused energies on efficiency (Campion, 1988).

The turn of the 20th century spawned the birth of the industrial revolution, where work design theory was systematically operationalized (Parker et al., 2001). Industrial engineers Gilbreth (1911) and Taylor (1911) were the first to focus on specialization and simplification to maximize worker efficiency (Humphrey et al., 2007; Morgeson & Campion, 2003). The systematic approach to work design became known as *scientific management* coined by industrial engineer Fredrick Taylor (1911). The efficiency-oriented approach's goal was attention to specialization and simplification to reduce training and eliminate waste (Morgeson & Campion, 2003; Parker et al., 2001).

Unfortunately, one of the consequences of designing work to maximize efficiency is it can inadvertently create employee dissatisfaction (Hackman & Lawler, 1971; Humphrey et al.,

2007; Parker, 2014). In response to employees' intrinsic needs, the work design approach began to pivot from the industrial engineering discipline to one of organizational psychology (Herzberg et al., 1959; McGregor, 1960; Turner & Lawrence, 1965). One of the most recognized models emerging from organizational psychology literature is the motivational model (Hackman & Lawler, 1971; Hackman & Oldham, 1975; Turner & Lawrence, 1965).

2.2.3 Motivational Work Design

The motivational approach encompasses job enlargement, job enrichment, and motivating job characteristics, including work motivational theories (Mitchell, 1976; Vroom, 1964). A highly referenced motivational model is the motivational-hygiene theory or Herzberg's two-factor theory (Herzberg et al., 1959; Herzberg, 1966). The theory states that employee satisfaction and motivation are naturally or intrinsically developed through work. Factors like achievement, responsibility, and personal growth. It is posited that motivators, in this form, can positively impact employee outcomes. (Hackman & Oldman, 1976). Conversely, factors outside of those intrinsic needs only serve to reduce dissatisfaction (Herzberg, 1966).

The theory posits that efforts to increase motivators like recognition and achievement will positively influence motivation and satisfaction. On the other hand, motivating hygiene factors like salaries, benefits, and vacations only prove to satisfy temporary needs. Factors like recognition, achievement, and advancement are intrinsic to work and were termed motivators.

According to motivator-hygiene theory, only job changes that impacted motivators would improve satisfaction and motivation. Changes aimed at hygiene factors only thwart employee dissatisfaction and have little impact on satisfaction and motivation (Hackman & Oldman, 1976).

2.2.4 Job Characteristics Model

Another dominant motivational model of work design is the Job Diagnostic Survey (Hackman & Oldman, 1976). The JDS represented five core job characteristics (job variety, job autonomy, job feedback, job significance, and job identity) that give rise to three psychological states, meaningfulness at work, professional responsibility for work outcomes, and knowledge of results of work activities (Hackman & Oldman, 1976; Humphrey et al., 2007; Morgeson & Humphrey, 2006; Parker, 2014). The higher-order needs represent the mediation between work characteristics and positive employee outcomes, including motivation, work performance, satisfaction, low absenteeism, and turnover intentions (Hackman & Oldman, 1976).

The JDS has been applauded for its high reference to motivational aspects of work but still faces criticism for its narrow set of work characteristics (Parker et al., 2001). Fried and Ferris (1987) found that core job dimensions were strongly related to satisfaction but had weaker relationships to performance and absenteeism (Humphrey et al., 2007).

2.2.5 Sociotechnical Systems Theory

Another dominant stream of literature in the motivational approach is the sociotechnical theory (Trist & Bamforth, 1951). Originating in Great Britain by Tavistock Institute, sociotechnical theory explores the human factor and attempts to understand the relationship between humans and technical systems (Cherns, 1976; Englestad, 1967; Rousseau, 1977). The motivational aspect of sociotechnical theory corresponds to the technical systems used to produce products or services and their alignment with the individual or individuals operating those systems (Pasmore et al., 1982). The theory recognizes an interdependence between a system and its operator. It suggested that social and technical systems are congruent to maximize efficiency, productivity, and satisfaction (Trist, 1981).

Cherns (1978) suggests minimal specifications are required to ensure flexibility in response to unanticipated circumstances. If an unexpected event or circumstances could not be controlled, workers would have proper autonomy and discretion over boundary tasks to access information and make decisions (Cherns, 1978). When operators in sociotechnical systems cannot eliminate variance at its source, unexpected events can hinder productivity and satisfaction (Morgeson & Campion, 2003). CNN Business reports Southwest Airlines' recent scheduling meltdown when Chief Operating Officer Andrew Watterson stated, "The company's outdated scheduling software was the root cause of our cancellations." Goldman, D (2022, Dec) CNN Business.

2.2.6 Perceptual/Motor Approach

Recent economic, technological, and internet capabilities have dramatically changed the nature of work (Edwards et al., 2000). The rise of technology and automated systems has shifted roles that were predominantly manually operated and monitored (Morgeson & Campion, 2003). The perceptual/motor approach started from research from human factor engineering. The approach focuses on human factors, skill performance, information processing, and cognitive skills (Fogel, 1967; McCormick, 1979; Welford, 1967). The literature on perceptual/motor approach is attention and concentration to reduce the likelihood of error and accident (Campion, 1988). This approach is more aligned with factory and manufacturing organizations' including industrial engineering work design (Taylor, 1911). The approach is similar to the mechanistic approach, where tasks are simplified and repetitive to increase efficiency (Humphrey et al., 2007; Morgeson & Campion, 2003).

2.2.7 Biological Approach

This biomechanics approach emerges from physiology and ergonomics (Astrand & Rodahl, 1977; Grandjean, 1980; Tichauer, 1978). The focus is to alleviate physical stress, discomfort, and fatigue. The method designs work in a way to provide comfort to workers in an otherwise stressful environment (Janneck et al., 2018). This includes earplugs for combat soldiers or wrist support for stenographers (Campion, 1988; Morgeson & Campion, 2003; Edwards et al., 2000).

Each design has a particular set of outcomes it is attempting to accomplish. Motivational models look to increase satisfaction and appeal to employees' psychological needs while also impacting behavior (Herzberg et al., 1959; Mitchell, 1976; Vroom, 1964). Mechanistic models born out of the industrial revolution's goal was specialization and simplification to ease staffing and reduce training (Taylor, 1911). Perceptual/motor approaches seek to integrate humans and systems cohesively to process information (Fogel, 1967; Gagne, 1962). The biological approach aims to reduce physical challenges while building strength and endurance and limiting distraction or other harmful outside influences (Astrand & Rodahl, 1977; Grandjean, 1980; Hertzberg, 1972).

2.3 Outcomes to Work Design Theory

Work design theory is a successful approach to empirically test work characteristics like autonomy and monitoring and their impact on employee outcomes such as performance and well-being (Wang et al., 2021). In a meta-analytic study conducted by Humphrey & Morgeson (2007), they found 14 work characteristics that explained 43% of the variance in 19 workers' attitudes and behaviors, including autonomy.

Work design theory will serve as the framework in describing work characteristics within the model. (Wang et al., 2021).

2.4 Work Design Theory and Remote Working

Virtual working, remote work, or teleworking is defined as a flexible work arrangement where the workers operate in locations remote from central offices and have no physical contact with other workers but can communicate via technology (Di Martino & Wirth, 1990). There is a dearth of information on work design theory and remote working (Golden & Gajendran, 2019; Golden & Veiga, 2005; Kelliher & Anderson, 2010).

In a study conducted by Golden & Gajendran (2019), 273 telecommuters and supervisors were measured on remote work intensity and employee outcomes. The relationship was moderated by complex jobs, employees with little interdependence, and low social support (Golden et al., 2019). Results from the study showed positive significant correlations between remote work intensity and employee outcomes. The participants of the study were discretional remote workers who either volunteered or were selected to WFH. Pinsonneault and Boisvert (2001) describe these roles as specific with boundary conditions (i.e., self-discipline, low interdependence, minimal social support). This model of remote working is reserved for the specific roles and individuals (Golden & Veiga, 2005; Wang et al., 2021).

In a second study conducted by Kelliher and Anderson (2010) research showed positive relationships between remote working and employee outcomes when mediated by ICTs or information communication technologies. Researchers posited that the intensity or extent of remote working intervened by ICTs led to positive employee outcomes (Kelliher et al., 2010). In both examples the context of remote work itself was not explored.

Although there is limited academic literature on remote working post-pandemic, several studies have produced conflicting results. (Angelici & Profeta, 2020; Bao et al., 2020; Berstein et al., 2021; Birkinshaw et al., 2020;). In a study of a Chinese multinational technological company (Baidu) found WFH had negative affects on employees working on large projects (Bao et al., 2020). Alternatively, a study of U.S. knowledge workers reported higher levels of productivity while WFH due to less time in meetings and more energy on customers and stakeholders (Birkinshaw et al., 2020). An Italian study of blue- and white-collar remote workers found an increase in productivity and well-being when working at least one day a week from home (Angelici & Profeta, 2020).

A recent study conducted by Awada (2021) analyzed the work context, space, and overall experience of 988 remote employees while working from home. The study aimed to determine the impact of these factors on work performance. The study showed no significant results from remote work on performance but does show a significant relationship with characteristics such as age, gender, and income on work experience (Awada et al., 2021).

A study of IT Indian professionals around the world showed support for remote working and productivity (Patanjali and Bhatta, 2022). Researchers found significant support for autonomy on performance while working from home. However, a limitation to the study is it was conducted on IT employees only.

Finally, a qualitative study of 571 remote Chinese workers in various industries was conducted to determine what challenges were present while working from home. Result showed work-home interference mediated the relationship between virtual work characteristics and employee outcomes (Wang et al, 2021). A before and after study conducted on productivity found a reduction in productivity in employees due to difficulties in balancing domestic

responsibilities (Beno & Hvorecky, 2021). The present study attempts to understand work context and how the challenges of remote work impacts employee outcomes.

Due to the unexpected consequences of mandatory shelter-in-place, the rise of remote workers has required many organizations and managers to reconsider their motivational strategies (Awada, et al., 2021). Several common antecedents in motivational models include job autonomy and social support. Aspects of work, such as the environment and work context (mandatory work from home), can affect predictable employee outcomes (Humphrey & Morgeson, 2007). The following sections outline the variables representative of the work design model and hypothesis development (See Figure 1).

2.5 Job Autonomy

Job autonomy has been defined in several ways in the social sciences domains. Extant literature defines job autonomy as discretion in work decisions regarding tasks (Dodd & Ganster, 1966; Parker, 2014; Shirmon et al., 2006). Turner and Lawrence (1965) defined *autonomy* as the discretion a worker is expected to exercise to carry out assigned tasks and activities (Turner & Lawrence, 1965). Hackman and Oldham's (1975) interpretation of autonomy are flexibility in how work is carried out. Hackman and colleagues also consider the relationship between employee attitudes and performance (Ahuja et al., 2007; Hackman & Oldham, 1976).

2.6 Job Autonomy Multifaceted

Autonomy represents one of the core dimensions driving employee well-being and performance (Bailyn, 1985; Breaugh, 1985; Karasek, 1979; Jackson et al., 1993; Sutton & D'Aunno, 1989; Taber & Taylor, 1990; Turner & Lawrence, 1965). Although researchers have shown autonomy represents several interpretations, depending on the individual autonomy, it can be viewed as a multi-faceted construct (Breaugh, 1999; Karasek, 1979). Due to the

multidimensional nature of autonomy, Breaugh (1999) suggests three essential facets of autonomy: work methods, work schedule, and work criteria. Greenhaus and colleagues support these facets describing autonomy as the freedom to select work projects, decisions on how tasks are accomplished, and the ability to set schedules (Greenhaus & Callanan, 1994). Research conducted by Humphrey et al. (2007) also agrees, suggesting multiple facets of autonomy: work scheduling autonomy, work methods autonomy, and decision-making autonomy (Humphrey et al., 2007). In organizational psychology, thinking of autonomy differently is essential (Bailyn, 1985; Fried, 1991; Karasek, 1979; Tabor & Taylor, 1990). According to Campion and Morgenson's (2003) definition, autonomy encompasses various aspects such as the freedom to choose methods, sequence, and schedule work.

2.7 Job Autonomy as motivator

The Job Diagnostic Survey (Hackman & Oldham, 1975, 1976) is a popular job enrichment model that represents job autonomy as an antecedent to positive employee outcomes. Another motivational model developed on the heels of the JDS is the Job Characteristic Inventory (Sims et al., 1976). The JCI also contains antecedents such as social support, job autonomy, and unlike the five factors in the JDS model, the JCI has six factors: Variety, Autonomy, Feedback, Dealing with Others, and Friendship Opportunities (Sims et al., 1976). Though the scales share many parallels, each capture only one facet of job autonomy (Breaugh, 1999; Humphrey et al., 2007).

Job autonomy represents an influential antecedent in many motivational models. Breaugh (1999) argues that both the JDS and JCI scale attempts to capture a multidimensional construct with a global index (Breaugh 1999). Breaugh (1999) also contends that the seminal work fails to articulate the criteria autonomy context, where work criteria autonomy represents the degree to

which workers can modify or choose the criteria used for evaluating performance" (p. 360). Research supports developing a scale with items identifying job autonomy's multidimensions.

Seminal research by Shepard (1973) considered autonomy a multifaceted construct. In their survey, workers were asked to indicate their perception of actual job autonomy (*perceived autonomy*) compared to job autonomy which they felt should exist (*desired autonomy*) (Shepard, 1973). The difference between desired autonomy and perceived autonomy was known as *autonomy discrepancy*. Furthermore, the study revealed three additional taxonomies in autonomy exited: deficit, balance, and surplus (Shepard, 1973).

Results showed that low-specialization workers had more perceived autonomy than high-specialization workers (Shepard, 1973). There were mixed reviews on the relationship between age and income regarding autonomy and satisfaction. It is worth noting that job satisfaction was found to be more strongly associated with job specialization than with perceived job autonomy, according to Shepard's 1973 study. It suggests that functional specialization could influence job satisfaction and well-being. The research supports the need for a multidimensional scale to capture all aspects of job autonomy.

2.8 Outcomes of Job Autonomy

Human resource management has seen many studies attempting to predict antecedents to thwart employee dissatisfaction and intentions to turnover (Schmidt et al., 2016; Slavich et al., 2014). Research shows autonomy as a core dimension when driving employee well-being and performance (Breaugh, 1999; Fried, 1991; Hackman & Oldham, 1975; Tabor & Taylor, 1990). An empirical study by Nuhn, Heidenreich, & Wald (2018) tested the relationship between job autonomy and turnover intention for temporary organizations. Results revealed that autonomy did not significantly influence turnover intention for temporary positions.

It contrasts extant literature suggesting that the absence of job autonomy amongst organizations increases turnover intentions (Galletta et al., 2016). The juxtaposition between permanent and temporary jobs could support Shepard (1973) findings that functional specialization affects intention to turnover more than perceived autonomy. It would imply that workers are willing to compromise autonomy for short-term goals in temporary organizations (Galletta et al., 2016).

In a study conducted by Park & Searcy (2012) found that job autonomy improved employees' mental well-being, especially those who had more psychological flexibility. With flexibility comes choice. The ability to choose alternative ways to approach tasks, experience more ownership, and have a more direct impact on well-being (Den Hartog, & Belschak, 2012). This research aligns with Karasek (1979) study of work methods autonomy, referred to as job decision latitude. In addition, a study conducted by Park & Searcy (2012) found positive outcomes between well-being and organizational commitment when job autonomy predicted the relationship and moderated by quality competition (Park et al., 2012). Finally, a meta-analysis conducted by Eby et al. (1999) found that employees exercised higher levels of organizational commitment in the presence of job autonomy.

The current study represents job autonomy as a predictor variable for well-being and performance via work-home interference. In the context of remote working post-pandemic, Wang, and colleagues (2021) posit that job autonomy positively influences performance and well-being while also mitigating challenges at home when dealing with work-home interference.

2.9 Job Autonomy as moderator

Extant literature on job autonomy positions the variable as a significant antecedent to positive employee outcomes (Campion, 1988; Hackman & Lawler, 1971; Hackman & Oldman, 1976; Hertzberg, 1972; Humphrey, 2008; Morgeson & Campion, 2003; Parker, 2014; Wall & Jackson, 1995). However, research utilizing the Pelz Effect (Pelz, 1952) identifies job autonomy as moderating the relationship between supervisor's influence and employee satisfaction (Anderson et al., 1990). The Pelz Effect suggests employees with higher independence (autonomy) moderate the relationships between supervisors' upward influences, and employee-reported performance and satisfaction (Anderson et al., 1990; House & Kerr, 1973; Jablin, 1980; Pelz, 1951).

Jablin (1980) utilized a Superior's Upward Scale to measure supervisors' upward influence on employee satisfaction and performance (Lee, 1997). Their study confirmed the Pelz Effect and the moderating effects of high job autonomy on organizational employee outcomes (Jablin, 1980). Anderson and colleagues also aligned with the research when testing 195 hospital nurses and 201 service company representatives for leaders' upward influence on employees' ratings of their control and well-being (Anderson et al., 1990). Research revealed a significant effect with .55, $p < .001$, $n = 96$, for employees with high autonomy in the service company.

Kerr and associates also found a significant positive relationship between hierarchical leader influence and employee satisfaction when employees reported higher levels of organizational independence (House & Kerr, 1973). Their study consisted of 211 quasi-professionals and 111 hourly employees. Testing predictor variables, i.e., leader consideration, leader competence on criterion variables, employee satisfaction, and employee performance (House et al., 1973). Results of the study indicated that "…organizational independence

(autonomy) has a positive moderating effect on leader behavior and subordinate satisfaction and performance" (House et al., 1973, p. 178).

A review of the literature discusses interdisciplinary models to work design, including perpetual models (Edwards et al., 2000), mechanical models (Taylor, 1911), and sociotechnical models (Trist & Bamforth, 1951). The literature focuses on motivational and job enrichment models and their outcomes and predictor variables. (Morgeson & Campion, 2003; Parker, 2014). Job autonomy is one of the most cited variables in job enrichment, job enlargement, and motivational work design models (Hackman & Oldham, 1975, 1976; Sims et al., 1976). Based on the literature autonomy and the application of work design theory the following hypotheses are proposed:

H1: Autonomy will have a positive influence on well-being.

H2: Autonomy will have a positive impact on performance.

2.10 Monitoring

The monitoring in the present study represents electronic devices used to track performance, and behavior or computerized work performance monitoring systems (CWPMS), (Lund, 1991). "Computer-based monitoring is the practice of collecting performance information on employees through company-owned interface resources." (George, 1996, p. 459). There are typically two types of CWPMS for data collection: computer and telephone systems (George, 1996).

Information collected through monitoring can be used for promotions and pay increases or as a basis for discipline when performance metrics are not met (Lund, 1991). Extant research on monitoring has divided the literature into four topologies: employee attitudes toward

computer-based monitoring, potential trade-offs between quality and quantity of work, the relationship between computer-based monitoring and stress and illness, and finally, employees' overall perception of CWPMS and supervisors (George, 1996). The subsequent sections address each domain.

2.10.1 Employee Attitudes

The Wang et al. (2021) article had mixed reviews on the effects of monitoring. During exploratory qualitative research, a participant stated, "Monitoring can help me cope with procrastination" (Wang et al., 2021, p 29). In Wang (2021) quantitative study of 522 Chinese works behavioral changes shows a significant positive relationship between monitoring and performance .22, ***$p < .001$. In contrast, much of the academic literature on attitudes toward monitoring has the opposite effect. For example, a study by Clement & McDermott (1991) found that most employees disliked monitoring and were concerned about its application (Clement et al., 1991). Monitoring has ethical implications with respect to workplace outcomes including employee perceptions of privacy rights, fairness judgments, quality of work life, and stress-related illnesses (Bisgaard et al, 1999).

Alternatively, the same study found employers often cite expected benefits to electronic monitoring such as better productivity, better control over counterproductive employee behaviors, or better customer service (Bisgaard et al, 1999). Some researchers found monitoring helpful and satisfying (Griffith, 1993). It is suggested that CWPMS and employee satisfaction are based on specific monitoring characteristics (Grant & Higgins, 1989). In the subsequent study, Grant & Higgins (1989) and colleagues found employees with quantitative intensive roles reported less disruption and more satisfaction with CWPMS. Alternatively, Hawk (1994) found that the more individual tasks monitored led to higher levels of employee dissatisfaction.

2.10.2 Trade-offs

The biggest argument with potential trade-offs in monitoring is the emphasis on quantitative -vs.- qualitative work (Chalykoff et al, 1987). Arguments in the service industries suggest customer services is compromised when quantitative monitoring practices are weighed heavier than qualitative relationships (Marx & Sherizen, 1989). Advocates of this literature agree that when employees are monitored, they feel the quantity of their work is more emphasized than the quality (Grant et al., 1988; Irving et al., 1986). Conversely, research has shown workers can perform quantitative and qualitative tasks equally (Aiello et al., 1993; Grant & Higgins, 1991). Supporters of monitoring point to the benefits of reduced misconduct but also identify potential cost of stressed employees (Tabak et al, 2005). Employers may have the right to monitor employees but also must understand the financial risks associated with exercising that right (Hodson et al., 1999).

2.10.3 Stress Illness

Studies have linked computer monitoring of workplace performance to various psychological problems such as anxiety, depression, and stress (Brown, 1996; Fairweather, 1999). The extant literature on CWPMS and stress-related illness has mixed reviews (Attewell, 1987; Clement, 1984; Huston et al., 1993; Bisgaard, 1999). A study by Clement (1984) showed a correlation between headaches, nausea, and exhaustion with CWPMS. Applying an industrial sociology and managerial theory, Attewell (1987) was determined to show that "…computer-based monitoring systems do not create sweatshop conditions" (Attewell, 1987, p. 96). The study argued that managers used CPMS for ranking and productivity for promotion. On the contrary, Hawk's (1994) studies suggest that differences in monitoring practices can yield positive results.

For example, in a quantitative study of 143 members of the Communication Workers of America found stress was related to the frequency of monitoring by supervisors but alternatively showed a negative relationship to stress when tasked were monitored less frequent and employees had the opportunity to discuss monitored output (George, 1996; Hawk, 1994).

2.10.4 Employee Perceptions

Perceptions of monitoring can depend on the monitoring method and how the data is used. In a longitudinal study of five organizations, researchers sought to find the relationship between CWPMS and employee satisfaction. Results determined that monitoring can be used in a punitive manner contributing to work-related stress and illness or to evaluate and improve employee performance (George, 1996). Therefore, management has vital responsibility in leveraging monitoring and the level of invasiveness compared to its effectiveness.

The literature suggests there could be alternative methods of monitoring yielding different employee outcomes. A priori statement is monitoring and other CWPMS will negatively affect employee outcomes; however, research suggests the type of monitoring and industry can yield positive results (George, 1996; Hawk, 1994). Based on the literature and the dual effect of monitoring the study proposes:

> H3: Monitoring will have a negative influence on well-being.
>
> H4: Monitoring will have a positive impact on performance.

2.11 Work Interference w/ Family – Family Interference w/ Work

During the 1980s and 1990s working from home was touted as a cost-effective option for improving employee performance by enhancing work–life balance (Avery and Zabel, 2001). However, there is a limited amount of research on work from home during the pandemic (Awada et al., 2021). It was estimated that one third of jobs in the U.S. can be performed at home (Dingel & Neiman, 2020). The sudden obligation to work from home left many managers and employees unprepared to handle work tasks and home responsibilities simultaneously thus creating challenges working from home (Awada et al., 2021; Kniffin et al., 2020; Wang et al., 2020).

Research on work–family conflict influences several outcomes including psychological distress, job satisfaction, organization commitment, turnover, and life satisfaction (Frone, et al., 1992; Duxbury et al, 1992; Parasuraman et al., 1989). More recently, researchers have noticed the juxtaposition between work interference with family and family interference with work (WIF and FIW) (e.g., Higgins, & Mills, 1992; Frone et al., 1992; Gutek et al., 1991). Carlson et al. (2000), Frone (1992), and Greenhaus (1985) have argued that to completely articulate work–family interface, both sides must be observed.

The Wang et al. (2021) article identifies the theme of work-home and home-work interference in their exploratory qualitative analysis of Chinese employees working from home. Participants shared accounts where family responsibilities interfered with work tasks. "...when home responsibilities beaconed, work tasks were momentarily interrupted, delaying work obligations" (Wang et al., 2021, p. 26). In the same study, another participant reported that working from home meant always being available or working longer hours. "I'm basically always online; my supervisor needs a response in real-time" (Wang et al., 2021, p. 26). Gutek (1991) argued that work–family conflict has two directions: (a) conflict due to work interfering

with family (WIF) and (b) conflict due to family interfering with work (FIW). The presence of family members can influence conflict of working from home (Awada et al., 2021). Through our research, we suggest that autonomy is essential in addressing the difficulties of WIF and FIW. Additionally, monitoring can exacerbate the relationship with intervening factors:

H5: Autonomy will reduce the amount of interference to family caused by work.

H6: Autonomy will reduce the amount of interference to work caused by family.

H7: Monitoring will increase the amount of interference to family caused by work.

H8: Monitoring will increase the amount of interference to work caused by family.

Research has shown balancing work tasks and family responsibilities can affect employee outcomes causing exhaustion (Wang et al., 2021). Various research points toward work home conflict as a vital antecedent of burnout (Guan, et al., 2020). This aligns with a study conducted by Shiuen and colleagues where family commitment was the most significant potential stressor to cause WFH job stress among academicians (Shiuen et al., 2022). Based on the literature we propose the following:

H9: WIF will negatively influence well-being.

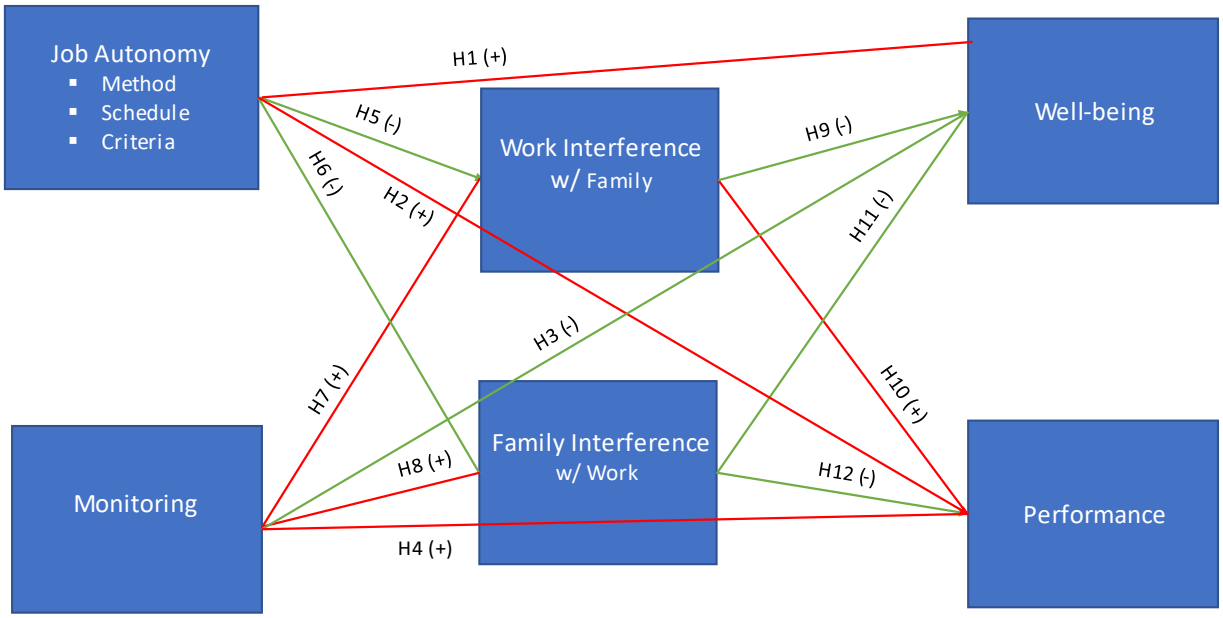
H10: WIF will positively influence performance.

H11: FIW will negatively influence well-being

H12: FIW will negatively influence performance

Figure 1

Hypothesized Conceptual Model



2.12 Performance

Performance, much like well-being, can be perceived and measured in many ways. Rivai & Basri (2008) define performance as the willingness to perform a task perfectly according to its expected results. Similarly, Mangkuprawira (2009) defines performance as a person or group that can achieve within an organization according to its authorities, responsibilities, and goals. Adi et al. (2005) states that individual performance is the personal level of achievement or work from the goals that must be achieved, or tasks carried out within a certain period. Each definition

shares parallels in performance based on achievement. The present study uses a self-assessment scale to measure performance (Williams & Anderson, 1991).

2.13 Performance as predictor

An empirical study conducted by Dreher (1982) of high- and low-performing employees suggested that high-performing employees would exhibit less turnover than their lower-performing counterparts (Dreher, 1982). This, however, was only the case when organizations offered performance-contingent reward systems. It was suggested that performance incentives were required to retain high-performing employees. Alternatively, low-performing employees exhibited behavior of turnover intentions (Dreher, 1982).

Another study conducted by Wells and Muchinsky (1985) found that promoted employees significantly outperformed employees who were terminated or resigned (Wells et al., 1985). To test this theory, Kanfer and colleagues sampled 95 managers and 206 ex-employees of a mid-sized technology firm. Their results supported Wells & Muchinsky's (1985) findings that performance ratings were higher for people who stayed with the organization than those who quit (Kanfer, Crosby, & Brandt, 1988).

2.14 Performance as a Mediator

Job satisfaction and performance have been a significant topic in the social sciences (Okpara et al., 2009). Several factors have been linked to performance, including positive and negative attitudes, education, gender, and satisfaction in the workplace (Bozeman & Gaughan, 2011; Machado-Taylor et al., 2016; Scott et al., 2012). In a recent study, researchers Ghasemy (2020) measured the relationship between positive and negative effects of job satisfaction via performance for Malaysian academics working in higher education sectors.

In this study researchers were relying on Affective Events Theory developed by (Weiss & Cropanzarno, 1996), to influence cognitive emotions. These events typically lead to affect-driven behaviors (i.e., job performance) and attitudes (i.e., job satisfaction)" (Ghasmey et al., 2020, p. 1223). Ghasmey and colleagues completed a Partially Least Square (PLS-SEM) analysis on 2337 academics, confirming that positive attitudes preceded positive behavioral (satisfaction) outcomes when performance mediated that relationship (Ghasemy et al., 2020).

In another study, researchers in South Africa wanted to understand why the country's quality of service delivery for its citizens was so poor (Mafini & Pooe, 2014). It had been criticized that the post-apartheid South African public sector was not up to standard (Pearson et al., 2016). Lack of performance could be associated with ineffectual performance management leading to low employee engagement (Makamu, 2016).

To remedy this phenomenon, researchers sought to show that performance management tools can positively impact the relationship between work engagement and employment relationships in the South African public sector (Maake et al., 2021).

The authors conclude employment relationships are positively associated with performance management. In a study conducted by Taneja et al. (2015) bias amongst employees is reduced significantly when performance management is perceived as good and equal. Results of Maake et al. (2021) and colleagues witnessed a significant relationship between performance work engagement and employment relationships in the public sector when mediated by performance management Maake et al., 2021).

2.15 Performance as an Outcome Variable

When measuring global health, the nursing industry represents over 50% of the health services nursing staff (Adams & Bond, 2000). In addition, nurses play a critical role in healthcare

through administrating, planning, and policymaking (Khadivi et al., 2021). It is then salient that an individual opinion, satisfaction levels, and performance in the healthcare industry are relevant. Khadivi (2021) and colleagues wanted to test the relationship between organizational climate and performance via staff satisfaction. This descriptive correlation study selected 120 staff members from Tabriz medical training hospitals at random. “Results indicated a significant positive relationship between organizational climate, incentive, and job satisfaction.” (Khadivi et al., 2021, p. 3).

2.16 Well-being

Well-being can be defined as objective needs for human survival or subjective wants that drive people’s perception of situations (Brett, 1982; Kahneman et al., 2003). The literature on well-being has two domains: objective well-being representing human needs like food, water, shelter, and economic stability (Gabriel et al., 2003). Subjective well-being epitomizes self-reported engagement, purpose, and life satisfaction (Diener, 2012; Ryan & Deci, 2001).

Many scales in the social sciences have been used to describe well-being. For example, the domain of occupational stress and psychological well-being has been well-established with the Job Demand-Control (JDS) model (Karasek, 1979) and the Job Demand-Control-Support (JDCS) (Johnson & Hall, 1988). The premise behind the JDS model is that employees with high-stress jobs with little control experience the lowest levels of well-being. (Pisanti, et al, 2010). A longitudinal study was conducted on high-school students in intervals defined by their employment status. The study resumed once the participants were in the workforce. A questionnaire was administered once after two years and again the following year.

Results showed a clear difference in attitude between those who were employed and those who were not (Winefield & Tiggemann, 1990). The study went on to posit that after long

intervals, unemployed individuals showed signs of psychological deterioration (Winefield et al., 1990). A precise measure of what factors affect well-being, or the lack thereof, will be necessary to assess employee attitudes while working from home.

2.17 Well-being as Predictor

In an extraordinary case of altruism where individuals were willing to donate their kidneys to viable recipients, researchers clamored to find the antecedents to this unique phenomenon (Kuczewski, 2002). A challenge in empirical testing this relationship is the rarity of the act. In the U.S., per capita, altruistic kidney donations are < 1 in 10,000 (Brethel-Haurwitz & Marsh, 2014).

Furthermore, the procedure has been known to cause the donor severe postsurgical pain and, in some cases, contempt for their decision to donate an internal organ to a stranger (Henderson et al., 2003; Massey et al., 2010). The authors were curious about the precursors to altruistic kidney donation.

It is suggested that subjective well-being is linked to prosocial behavior like volunteering or charitable giving (Thoits & Hewitt, 2001). Donators report high psychological well-being after donation (Lennerling et al., 2008; Massey et al., 2010). The authors used a bivariate correlation between altruistic donations and well-being in a multiple linear regression mediation analysis to show well-being as a predictor variable for altruistic kidney donation (Brethel-Haurwitz et al., 2014).

2.18 Well-being as Mediator

COVID-19 has a disruption in organizations, teams, and individuals (Zhang et al., 2020; Shaukat & Razzak, 2020). Authors of a recent study during the pandemic note that disruption due to COVID-19 caused physical pain. Their study posits that employees' well-being is

moderated by psychosocial factors and musculoskeletal pain. Psychosocial factors include job strain, work-life balance, and job security. Musculoskeletal pain includes lower and upper back pain (Surarto et al., 2021). COVID-19 has a disruption in organizations, teams, and individuals (Zhang et al., 2020; Shaukat & Razzak, 2020). Authors of a recent study during the pandemic note that disruption due to COVID-19 caused physical pain. Their study posits that employees' well-being is moderated by psychosocial factors and musculoskeletal pain. Psychosocial factors include job strain, work-life balance, and job security (Surarto et al., 2021).

2.19 Predictors of Well-being

A longitudinal study of German employees revealed predictors to psychological well-being. They posit that the demands of the pandemic (e.g., working from home, childcare closings, work-privacy conflicts, and privacy-work conflicts) and personal and job-related resources (job autonomy, social support, self-efficacy) will impact employee exhaustion (Meyer, et al., 2021).

A study of 4926 German workers found that during COVID-19, women's psychological health was diminished more than men's (Meyer et al., 2021). According to the research study, women experienced more work-home conflicts due to childcare and lack of social support (Meyer et al., 2021). Findings show unequal childcare duties related to exhaustion leading to lower levels of well-being. Aligned with the Wang (2021) article, women reported higher work-home conflict during home office days (Wang et al., 2021).

A recent study of IT workers revealed challenges due to COVID-19, resulting in lower levels of well-being. They found that the most significant contributors to well-being during COVID-19 lockdown were high stress, absences from daily routines, and social contacts (Russo et al., 2021). Russo and colleagues conducted a two-wave longitudinal study on 192 IT workers

using multiple factors to infer psychological well-being, including anxiety, distractions, coping strategies, office setup, and work motivation. The research did not find significant links to diminished well-being for software workers. However, it noted actionable recommendations to deal with future pandemics that can protect the productivity and well-being of impacted workers (Russo et al., 2021).

CHAPTER 3

METHODOLOGY

3.1 Introduction

The present study empirically tests virtual work characteristics, job autonomy, and monitoring and its effects on performance and well-being via work-home interference. The study's framework is grounded in work design theory (Parker, 2013; Wang, 2021). The subsequent sections outline the research design, sampling method, data collection, data analysis, analysis design, and limitations.

3.2 Research Design

The current research conducts a non-experimental quantitative correlation study on the relationship between remote work characteristics and employee perceived outcomes via virtual work challenges. The current research tests the hypothesis that job autonomy affords discretion in how employee's complete tasks and responsibilities, thus allowing the opportunity to mitigate virtual challenges *and work interference w/ family (WIF)* and *family interference w/ work* (FIW), leading to higher levels of performance and well-being. The study further posits that monitoring will reduce employees' ability to alleviate (WIF) as well as (FIW) thus increasing levels of exhaustion and dissatisfaction, negatively affecting well-being and performance (Wang et al., 2021).

To test this phenomenon a survey will be developed in Qualtrics® and deployed via CloudResearch.com. Volunteers will be recruited for a one-time survey (Chandler et al., 2014; Chandler & Shapiro, 2014; Fulmore, 2018). There has been criticism in the social sciences about the use of crowdsourcing as a form of data collection (Chandler et al., 2014; Bentley, 2017).

Concerns about proxy to original research participants, lack of experimental control, and imperceptible barriers to participation leads the argument against crowdsourcing (Litman et al., 2017; Qin et al., 2016). Although crowdsourcing in academic research has drawn judgment, the use of online data collection has increased in size, diversity, and overall convenience (Mason and Suri, 2012; Buchheit et al., 2018). Advocates for online data collection state "It has revolutionized behavioral sciences" (Gureckis et al., 2016, p. 829; Litman et al., 2017).

Supporters for crowdsourcing methods for data collection echo this sentiment noting easy access to convenient samples (Chandler & Shapiro, 2014). However, it should be noted that demographic research is subject to error. Researchers have been in concert suggesting crowdsourcing workers tend to be younger in age (Winton & Sibol, 2022). This is considered when collecting demographic information. The survey will poll participants from ages 18 – 55 plus. A quantitative cross-sectional analysis will be conducted at a single point for data collection. Risk associated with testing both independent and dependent variables simultaneously increase the likelihood of common method variance (CMV) (DiStefano et al., 2005; Lindell & Whitney, 2001; Podsakoff et al., 2003).

To thwart the possibility of CMV the study will conduct a Harmon single factor analysis as well as an unnamed latent maker variable technique (Podsakoff et al, 2012; Williams et al., 2010). The study will rely on human participants to conduct its research. In alignment with the Nuremburg Code that all human subjects involved in the study participate willingly and on their own volition. In accordance with the Belmont report the study will meet all ethical guidelines when conducting behavioral research on human subjects (Bhattacharyya & Berdahi, 2003).

Completion of National Institutes of Health (NIH) has been awarded and ethics approval through the Institutional Review Board (IRB) from the University of Dallas will be obtained prior to the study.

3.3 Sampling Design

Job enrichment models during and after the shelter-in-place will continue to emerge (Awada et al., 2021; Shiuen et al., 2022; Wang et al., 2021). A priori of this study suggests all office workers' job characteristics were impacted by the shelter-in-place. In that vein the sample population will represent a heterogenous work industry, including multiple domains to capture a consensus on employees' attitudes towards working in a virtual environment.

Research has shown variations in age, gender, caring responsibilities, and remote working experience have impacted remote worker outcomes (Gajendran & Harrison, 2007; Gyllensten & Palmer, 2005; Kossek et al., 2006; Martin & MacDonnell, 2012; Wang et al., 2021). For example, the Wang (2021) empirical study sampled 522 Chinese employees working in multiple industries, including information technology, manufacturing, and education (Wang et al., 2021).

The sample study for the current research will consist full-time U.S employees ages 18-55 and over working in various industries whose work schedules were impacted by the shelter-in-place protocols. This includes those working entirely at home or adopting a hybrid schedule. Work characteristics and industry type can absolutely affect employee outcomes. The scope of this research is to observe the effects of virtual work characteristics *autonomy* and *well-being* on employee outcomes *performance* and *well-being* while coping with remote work challenges *work interference w/ family and family interference w/ work*.

3.4 Measurement Design

3.4.1 Independent Variables Job Autonomy & Monitoring

Due to the context of the study all scales items have been modified to reflect working from home. The first antecedent autonomy is operationalized by Breaugh (1999) scale measuring three facets of job autonomy, w*ork method autonomy, scheduling autonomy, and criteria autonomy.* The first item w*ork method autonomy* represents the degree or discretion incumbents have on the method on how they complete tasks (Breaugh, 1999). A sample from this three-item scale is … "During a period of working from home I'm allowed to decide how to go about getting my job done" (Breaugh, 1999, p. 373).

The second measure of autonomy *is scheduling autonomy,* meaning control over timing of one's work activities. Samples from this three items scale include: "During the period of working from home, I had control over the sequencing of my work activities (Breaugh, 1999, p. 373). Concluding with *criteria autonomy* which is the discretion in how work tasks are evaluated. A sample from this three-item scale is, ..." During a period of working from home, my job allows me to modify the way we are evaluated… (Breaugh, 1999, p. 373).). Each scale has a Cronbach alpha of .88, .87., and .81 respectively.

The second independent variable, monitoring, will be operationalized by adapting Wang et al (2021) model derived from exploratory qualitative research on a sample of Chinese workers impacted by the mandatory shelter-in-place. The scale consists of four sample items, "During the period of working from home, I was required to provide daily reports" (Wang et al, 2021, p. 35).

3.4.2 Mediator Work-home Interference

The shelter-in-place mandate creates a unique context for the relationship between work characteristics and employee outcomes. Challenges due to work interference with family (WIF)

and family interference w/ work (FIW) represent the intervening variable affecting how employees experience work characteristics (Wang et al., 2021). To capture this phenomenon the present study, adapts a six-item scale to measure the constructs presented by Carlson (2000). A sample item measuring (WIF) is… "During the period of working from home, my work kept me from family activities more than I would like." A sample item measuring (FIW) is… "During a period of working from home, time spent on family responsibilities often interfered with my work responsibilities." (Carlson, 2000, p. 260) The Cronbach alpha for the scales is .87.

3.4.3 Dependent Variables Performance & Well-being

The dependent variable performance will be operationalized adapting three items from Williams and Andersons (1991) self-reported scale. A sample item is… "During the period of working from home, I performed tasked that were expected of me." (Williams & Anderson, 1991, p. 606). The scale reports a Cronbach alpha of .87. Consistent with the Wang (2021) study the research will measure well-being targeting emotional exhaustion. To capture emotional exhaustion the study will adapt a three-item scale from Maslach and Jackson (1981). A sample item is… "During the period of working from home, I feel used up at the end of the workday" (Maslach & Jackson, 1981, p. 102). The Cronbach alpha estimate for this scale is.87.

3.5 Data Analysis

Qualtrics® software will be utilized to create the survey and collect data, while software package IBM® SPSS® AMOS 29.0.0.0 will be used to analyze the data. Participants will be recruited for a one-time survey via CloudResearch.com. CloudResearch.com is an online marketplace that connects researchers with participants, with over 40,000 published references making it a common destination for researchers and participants (Berry et al., 2022). There have been arguments on the validity of crowdsourcing and other tools in data collection (Babin et al.,

2016). However, there is a dearth of research relying on crowdsourcing for quality data analysis (Goodman & Paolacci, 2017).

Berry (2022) study examined data quality for advertising experiments across five online data sources including CloudResearch.com. Crowdsourcing samples requires diligence on the part of the researcher ensuring quality data. Online data resources like CloudResearch.com can affix their platform directly onto familiar data sources like MTurk developing a highly approved rating system for participants and IP address (Berry et al., 2022). The Wang (2021) article utilizes an internet crowdsourcing platform similar to CloudResseach.com called WJX.

3.6 Analysis Design

The first act after retrieving raw data is cleaning for failed BOT checks, information manipulation checks (IMCs), incomplete surveys, and extended response times (Kung et al, 2018; Oppenheimer et al., 2009). Next is selecting the most parsimonious model based on model fit. According to seminal research, various fit indices are used to confirm an acceptable model. These indices include Goodness of Fit Index (GFI), chi-square, Root Mean Square Residual (RMSR), or the Standardized root Mean Square Residual (SRMR) (DiStefano & Hess, 2005).

To confirm convergent validity, a pattern and structure coefficient table will be compiled. All factor loading must be above the minimum threshold of .5 or a more stringent threshold of .7. Meeting convergent validity with pattern and structure coefficients, and AVE above point .5 is necessary for model fit. A Harman's Single Factor Analysis will be conducted to account for variance in the data. Once a good fit model is selected a confirmatory factor analysis (CFA) will be conducted, including Maximum likelihood for covariances, standardized estimates, and direct and indirect total effects (Xiao, et al., 2019). Limitations to the CFA model are revealed when comparing the square root of the AVE to factor loadings.

According to Fornell and Lacker (1981), discriminate validity is assessed when comparing shared variance between constructs against the average AVEs for each construct (Fornell and Lacker, 1981).

3.7 Limitations

The current research relies on convenient sampling over traditional objective sampling for data collection. Studies have shown convenient samples are subject to selection basis due to systematic difference in variables of interest between participants (Bethlehem, 2010). The research is exposed to additional limitations by accessing data via crowdsourcing.

Crowdsourcing tools like CrowdResearch.com connect researchers with respondents through online survey distributions (Winton & Sabol, 2022). Researchers in the social sciences have argued that crowdsourcing provides low reliability due to bot responses and inattentive participation (Chandler et al., 2014). Anticipating these challenges, the study will apply bot checks and IMCs to identify AI responses or inattentive respondents (Goodman et., 2013; Oppenheimer et al., 2009, Winton et al., 2022).

Another drawback to the research is the cross-sectional design. Both independent and dependent variables are being tested within the same scale. Research has shown that when individuals report on how they feel (attitude) in certain situations and then asked how they acted (behavior) during those situations, variance can be expected (Lindell & Whitney, 2001). To mitigate the possibility of CMV an unnamed latent marker variable technique as well as a Harman single factor test will be conducted (Podsakoff & Organ, 1986; Williams et al., 1989).

CHAPTER 4

4.1 Introduction

In the results section, we first gathered data through crowdsourcing on CloudResearch.com. We were specifically seeking full-time employees working in the United States. We then proceeded to clean the data. Prior to conducting a test on the hypothesized model, a confirmatory factor analysis is performed to assess the model's goodness of fit (Fulmore, 2021; Kline, 2016; Schumacker & Lomax, 2016). Finally, we conducted structural equation modeling (SEM) to analyze statistical relationships between different constructs and report any statistically significant findings (Kline, 2016).

4.2 Data Cleaning

The original sample consisted of 671 participants. We excluded 160 survey participants who reported only working part-time. Another 60 participants were excluded from the sample because they did not work from home at least one day per week. In addition, there were 33 instances where the attention checks were not passed (ATTN) and 19 failed information manipulation checks (IMC). The average completion time was 5.5 minutes, and 18 surveys were eliminated for times that exceeded 20 minutes or for times that were less than 2 minutes. The final sample consisted of 380 participants. Henson and Roberts (2006) recommend a minimum ratio of 1:10 sample size. This study had 27 scale items plus 11 manifest variables and path estimates for 38 x 10 = 380 respondents (Henderson & Roberts, 2006).

4.3 Demographics

The final sample size after data cleaning consisted of 380 participants. A majority, 57.4%, were male, and 41.6% were female. According to the Bureau of Labor Statistics for individuals who teleworked due to the pandemic, 49.1% of the population was male and 50.9% were female (Bureau of Labor Statistics, 2022b). Based on chi-square goodness test, there is a significant difference between the population and our sample: ($\chi^2 = 7.489$, $p < .006$). The age distribution for the U.S. population working from home were 4.2% between ages 19 and 25 years; the majority, 76.6%, were ages between 25 and 54 years, and 19.2% represented 55 and older (Bureau of Labor Statistics, 2022b). Compared to our sample, the chi-square goodness test showed ($\chi^2 = .074$, $p < .963$). Results show our sample age distribution was not significantly different than the population. The race composition of the sample was 13.2% African American, 10.3% Asian, 63.7% Caucasian, and 7.9% Hispanic. The population data were 9.9% African American, 17.6% Asian, the largest group Caucasian at 68.5% and the Hispanic population making up 10% (Bureau of Labor Statistics, 2022b). The chi-square goodness test showed ($\chi^2 = 15.678$, $p < .001$). A possible explanation for race and gender being significantly different from the population could be due to sample size and data collection via crowdsourcing.

Within our sample, 11.8% of the participants reported working from home at least once a week, while 43.4% reported working from home 2-3 days per week. The remaining participants reported working from home 4-5 days per week, making up the largest group of 44.7%. Regarding years working from home, only 6.3% have worked from home for less than a year. Those who worked from home between 1-2 years totaled 24.7% of the sample, while 31.3% worked from home for 2-3 years, and 37.6% worked from home for 3 years or more.

4.4 Analysis

The 2000-case bootstrapping process was completed indicating slight bias between non-bootstrapped results from bootstrapped estimates showing the model is multivariate normal with no outliers (Fulmore, 2022; Kline, 2016). Prior to completing a structural equation model (SEM) a confirmatory factor analysis (CFA) was conducted to measure the goodness of fit to the data (Fulmore, 2022; Kankainen et al., 2004; Kline, 2016; Schumacker & Lomax, 2016).

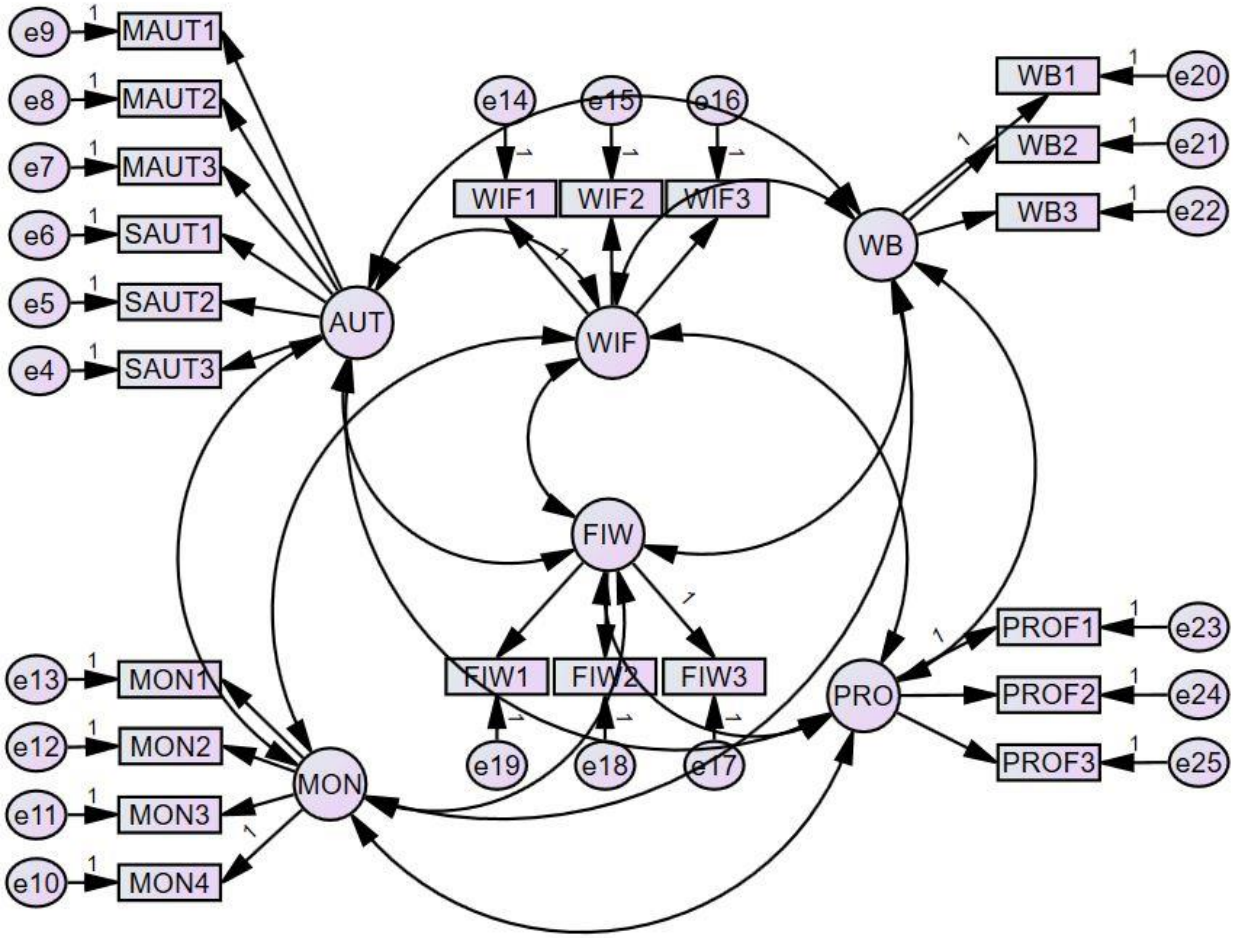
Various fit indices were used to confirm an appropriate threshold for the CFA model. These indices include, (a) root mean square error of approximation (RMSEA) $\leq .08$; (b) standardized root mean square residual (SRMR) $\leq .08$; (c) the comparative fit index (CFI) $\geq .90$; (d) the smallest value of Akaike information criterion (AIC); (e) the Bayes information criterion (BIC); and (f) the absolute correlation residuals (ACR) $\leq .10$ (DiStefano & Hess, 2005). Additional steps were taken to insure convergent and discriminant validity through factor loadings, composite reliability (CR), the average variance extracted (AVE) along with the square root of the AVE (Bagozzi & Yi, 1988; Hair et al., 2018; Kline, 2016).

4.5 Results

The initial CFA model included six total factors. The original CFA model allowed for all six factors to load freely. The model met adequate fit indices but reported a high chi square. (M1: χ^2 [335] = 1936.868, RMSEA = .112, SMRMR = .089, CFI = .802, AIC = 2078.868, BIC = 2358.620). This model also presented issues with convergent validity and reliability. To meet convergent validity and reliability standards additional models were run. Model 2 proved to be a better fitting model (M2: $\Delta\chi 2$ [7] = 1215.60, $p < .001$ RMSEA = .056, SMRMR = .089, CFI = .951, AIC = 877.264, BIC = 118.598. However fit indices for the model 2 exceeded the ACR threshold of < .10 (Byrne, 2010; Kline, 2016).

To remain consistent with convergent validity an additional model was run where items WB4-WB6 were removed along with all three CAUT items. As a result, Model 3 was the best fitting model compared to Model 2 (See Figure 2), (M3: $\Delta\chi 2$ [134] = 121.964, $p < .001$). (M3: χ^2 [194] = 599.30, RMSEA = .074, SMRMR = .045, CFI = .937, AIC = 717.302, BIC = 949.772) and ACR of 6. Model 3 also meets convergent validity with all items having an AVE of .5 or a stricter threshold of .7, except for MON which has an AVE of .40. (Bagozzi and Yi, 1988, see Table 3). All items within the variable MON were retained as they are vital to the research results. Model 3 does meet discriminant validity with factor loadings less than the square root of the AVE (Hair et al., 2018; Kline, 2016). (See Table 3). Finally, M3 meets reliability standards with a CR between (.729-.95) (Kline, 2016; Schumacker & Lomax, 2016).

Figure 2



The subsequent tables illustrate the means, standard deviations, reliability coefficients, and Pearsons zero-order correlations between constructs.

Table 1

Implied Correlations, Average Variance Extracted (AVE), and Composite Reliability (CR) for Measurement Model 3

Variable	1	2	3	4	5	6
1. PRO	**.886**					
2. WB	-.073	**.929**				
3. FIW	-0.35	.325	**.886**			
4. WIF	-.206	.490	.481	**.870**		
5. MON	.016	.151	.076	.205	**.636**	
6. AUT	0.21	-.228	-.107	-.283	.523	**.874**
CR	.916	.950	.916	.904	.729	.854
AVE	.784	.864	.785	.758	.405	.763

Note. Square root of AVE along the diagonal in bold. PRO = Performance, WB = Well-being, FIW = Family Interference w/ Work, WIF = Work-Interference w/ Family, MON = Monitoring, AUT = Autonomy

Table 2 *Descriptive Statistics*

Items	*M*	*SD*	PRO	WB	FIW	WIF	MON	AUT
PRO	4.745	.505	(.91)					
WB	2.507	.763	-.008	(.95)				
FIW	1.725	.887	-.338**	.271**	(.9)			
WIF	2.044	1.085	-.205	.416**	.472**	(.9)		
MON	2.690	1.210	.022	. 142**	.006*	.162**	(.73)	
AUT	3.891	.8202	.162**	-.174--	-.081	-.259**	-.362**	(.9)

Note: N = 380. Values in parentheses represent internal consistency reliabilities (Cronbach's alpha coefficients). Abbreviations: PRO, performance; WB, well-being; FIW, family interference w/ work; WIF, work interference w/ family; MON, monitoring; AUT, autonomy.
**. Correlation is significant at $p < 0.01$.

This research was a non-experimental, cross-sectional analysis with self-reported scales. To identify possible common method variance, Harman's single factor analysis was conducted (Podsakoff, et al., 2003, see Table 3). There was a decreased fit for Model 4, M4 ($\Delta\chi 2$ [156] = 5957.925, $p < .001$. RMSEA = .206, SMRMR = .1949, CFI = .308, AIC = 6069.927, BIC = 6079.205). Based on the analysis, Model 3 is a more appropriate fit with no evidence of common method variance. However, it is important to note that Harman's single-factor test may not be accurate in detecting this issue. An unmeasured latent method factor technique was utilized to identify any potential CMV (Podsakoff, 2003; Williams, 2010).

To evaluate common method variance using the unmeasured latent method factor technique, a first-order method factor was included in the most suitable measurement model (M5). This factor was associated with the items' theoretical constructs, as well as the method factor. The existence of common method variance can be confirmed if the latent method factor model exhibits a significantly improved fit. (Fulmore, 2021). Model 5 decreases in fit compared to Model 4, M5 = ($\Delta\chi 2$ [1] = 806.136, $p < .001$. RMSEA = .091, SMRMR = .0956, CFI = .905, AIC = 992.136, BIC = 1150.666, and ACR = 57). supports common method bias was not a problem. The best fitting model M3 will be advanced for SEM (See Table 5).

Table 3 *Measurement Model Fit Indices*

Model (M)	χ^2	*df*	RMSEA (90% CI)	SRMR	CFI	AIC	BIC	ACR
M1: 6-factors	1936.868	335	.112 (.107-.117)	.089	.802	2078.868	2358.620	49
M2: 6 factor correlated errors	721.264	328	.056 (.051-.062)	.089	.951	877.264	118.598	30
M3: 6-factor WB/CAUT items	599.30	194	.074 (.068-.081)	.045	.937	717.302	949.772	6
M4: Harman Single Factor Test	5957.925	350	.206 (.201-.210)	.1949	.308	6069.925	6079.205	118
M5: Unmeasured Latent Factor Test	806.136	195	.091 (.084-.097)	.0956	.905	992.136	1150.666	57

Note. *df* = degrees of freedom. RMSEA = root mean square error of approximation. SRMR = standardized root mean square residual. CFI = comparative fit index. AIC = Akaike information criterion. BIC = Bayes Information Criterion. ACR = absolute correlation residual

4.6 Structural Equation Model

According to Structural Model 1, which is a model that is partially intervening, Hypothesis 2 was supported where autonomy is positively related to performance. Additionally, Hypothesis 5 was confirmed, where autonomy reduces the interference that work has on family. An unexpected association that was not fully predicted H9 where the relationship between WIF on WB was significantly positive. Lastly the research data supported H12 where the association between FIW and PRO was positively significant (see Figure 3).

Figure 3 Model 1

Structural Equation Model

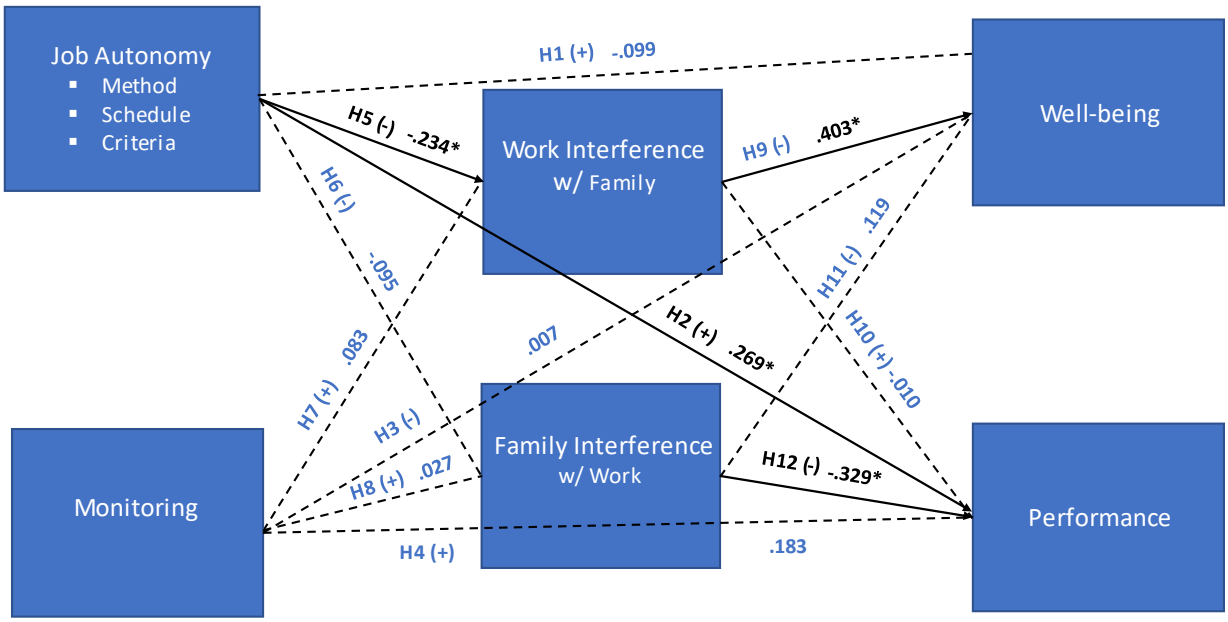


Table 4 *Fit indices for structural model*

Model (M)	χ^2	*df*	RMSEA (90% CI)	SRMR	CFI	AIC	BIC	R^2(PRO)	R^2(WB)	R^2m	$\Delta\chi 2$	Δdf	*p*
M1: Partially Intervening	599.30	194	.074 (.068-.081)	.045	.937	717.302	949.772	.26	.177	.448			
M2: Fully Intervening	621.96	198	.075 (.069-.082)	.059	.934	731.960	948.669	.253	.125	.410	22.66	4	.001

With respect to parsimony Model 1 was partially intervening and the best fitting model compared to model 2 ($\Delta\chi 2$ [4] = 21.899, $p < .001$) where WB explained 26% of the variance (R^2(WB) = .26) and 17% of the variance for PRO (R^2(PRO) = .177). The total variance for the model was .448 (R^2m = .448). To determine if the hypothesis was supported, an effect decomposition analysis was conducted. The findings after decomposition analysis determined a statistically significant effect. H2, AUT on PRO (.269, SE = .116, p < .001), H5, AUT on WIF (-.234, SE = .162, p < .001 and H10 FIW on PRO (-.329, SE = .000, p < .001) The results of M1 did not support H1, H3, H4, H6, H7, H9, & H10. M2 fully intervening model explained 25% of the WB variance (R^2(WB) = .253) and 12% of the PRO variance (R^2(PRO) = .125). The overall variance for the model was .410 (R^2m = .410) See Table 4.

The data collected from M2: did not provide evidence to support hypotheses H1, H3, H5, H7, H8, H10, and H11. Results from the fully intervening model did support H5 (AUT to WIF; -.241, SE = .116, $p < .001$and support for H12 (FIW to PRO; -.324, SE = .04). See Figures 4 & 5.

Figure 4

SEM *Model 1*

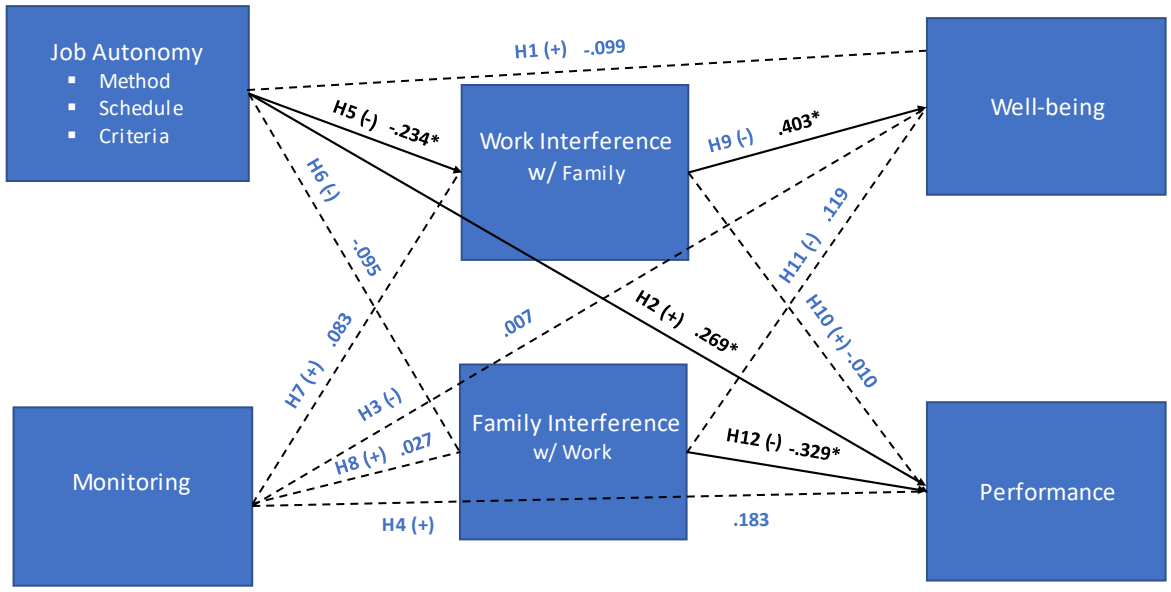
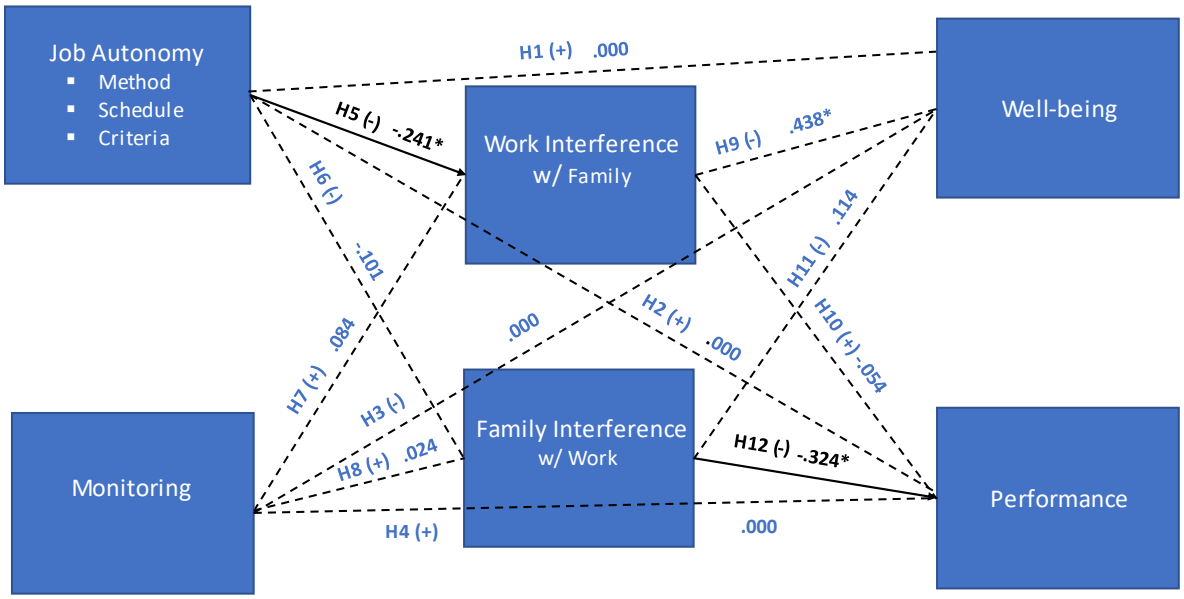


Figure 5

SEM *Model2*



CHAPTER 5

5.1 INTRODUCTION

The goal of this research is determining the effects of virtual work characteristics autonomy and monitoring on performance and well-being, partially intervene by work-home interference specifically work interfering with family, and family interfering with work. This section will provide a detailed analysis and a discussion of the findings. The subsequent sections position the research for practical implications. Finally, the investigation highlights its limitations and recommendations for future research.

5.2 DISCUSSION

The study's findings have confirmed the second Hypothesis 2 that remote employees perform better with virtual autonomy. This is expected considering the prior research that supports this relationship between autonomy and performance (Fried, 1991; Hackman & Oldham, 1975; Morgeson & Campion; Tabor & Taylor, 1990). Similarly, Hypothesis 5 was supported with significant negative effects between autonomy and work-interference with family. These results correspond with research conducted by Wang (2021), which found autonomy can reduce the negative impact of work interfering with family (Wang et al, 2021). Hypothesis 9, though significant, was not supported. A priori states the relationship between work-interference with family and well-being would be negative.

The results indicate that work-interference with family has a positive influence on well-being, which could contribute to perceptions of remote work challenges in different industries.

The present study survey multiple work domains. Aligned with research conducted by Golden & Veiga (2005) where boundary conditions required certain workers for certain remote roles. Work from home employees in certain industries may experience remote challenges differently thus modifying their perceived relationship with employee outcomes. The final supported path, hypothesis 12 work-interference with family negatively impacts performance. This aligns with research conducted by Shiuen and colleagues where family commitment was the most significant stressor caused to WFH employee (Shiuen et al., 2022).

Hypothesis 1, which suggested that autonomy would have a positive influence on well-being, was not supported. Prior research has supported this relationship where Park and Searcy (2012) showed positive significant correlation with autonomy and well-being (Park et al., 2012). Also, seminal research conducted by Breaugh (1999), Hackman & Oldman (1975), and Tabor & Taylor (1990) all found positive significant paths between autonomy and well-being. The unique phenomenon of the shelter-in-place may require additional research to find commonalities. There is a paucity of established research journals on the impact of WFH on employees' attitudes (Patanjali et al, 2022).

There were no significant paths found from monitoring to either the intervening variables (work-interference with family or family-interference with work). Also, none of the endogenous variables (performance or well-being) had significant paths from the monitoring construct. Mentioned earlier different industries that are more quantitative related are more equipped with heavily monitored roles (Grant & Higgins, 1991). A reason for the unsupported paths could be due to boundary conditions (Golden & Gajendran, 2019). Workers monitored for monetary performance may acknowledge or require levels of monitoring (e.g., telemarketers, call-centers)

and are less likely to experience loss in efficiency when monitored (Bloom, Liang, &Ying, 2015).

Other hypotheses not supported were autonomy and family-interference with work (Hypothesis 6). The current research shows that only 30% of the participants in the study reported taking care of dependents. It's possible that having dependent responsibilities may require more autonomy to effectively balance work and family life. A study of 4926 German women found their psychological health was more diminished due to childcare responsibilities compared to their male counterparts (Meyer et al., 2021).

Neither Hypothesis 10, which suggested a link between work interference with family and performance, nor Hypothesis 11, which suggested a link between family interference with work and well-being, were supported. One reason why there may be insignificant results is due to the correlation between work-home interference and managerial support. A study of IT workers from India found that high productivity was achieved despite home interference (Patanjali and Bhatta, 2022). This outcome may be attributed to industry. To determine the relevance of these findings in other industries and fields, further investigation is necessary.

5.3 IMPLICATIONS

5.3.1 Academic Implications

The study's findings emphasize the significance of autonomy in positively influencing performance. The data also indicates that autonomy significantly reduces interference with family when work responsibilities become too great. Finally, the research confidently shows a negative relationship between family interfering with work and performance. The study contributes to the literature in remote work by identifying challenges within remote working.

Results from the study are aligned with the Wang (2021) article that autonomy possibly influences performance in a remote setting. The research also supports research conducted by Shiuen (2022) that family commitment is the biggest influencer to employee outcomes. More research is necessary to find additional factors influencing the relationship like managerial support and self-determination (Ryan & Deci, 2008).

5.3.2 Managerial Implications

According to the data, autonomy significantly influences performance but also promotes healthy work/family-life balance. Managers should consider developing virtual work characteristics that support method and or scheduling autonomy (Breaugh, 1999). Research has shown that when employees have flexibility on how and when they complete tasks it leads to higher levels of job satisfaction and job commitment (Dodd & Ganster, 1996; Morgeson and Campion, 2003).

When considering the relationship between family-interference with work and performance, it's vital to recognize the importance of family. Managers should implement a work/family day where employees can integrate some aspects of their family life within their organization. Organizations that dedicate resources to employees and their families can expect reduced turnover and higher levels of performance (Bailey et al., 2017; Liven-Ofer et al., 2019).

5.4 LIMITATIONS

The present research incorporates a nonexperimental design. Caution is considered when generalizing nonexperimental results (Reio, 2016). The research is open to interpretation if replicated via experimental design. One limitation of the study was that it only included U.S. workers in various industries. Nationality and culture can affect attitudes towards monitoring systems (Ravid et al., 2019).

Outside factors like individualism-collectivism uncertainty avoidance can challenge the acceptance of monitoring devices (Panina & Aiello, 2005). Conducting a replication study in various geographical regions on specific work industries would aid in generalization. Outside factors can contribute to significance and direction of employee outcomes. Additional mediation factors can be considered in the study. When partial mediation is found in a model, other mediation factors could be missing (MacKinnon et al, 2007). Additional intervening variables could influence the relationship between virtual work characteristics and remote worker outcomes like procrastination, loneliness, and ineffective communication (Wang et al., 2021).

5.5 FUTURE RESEARCH

Studies have shown those with greater responsibilities when caring for others report higher levels of stress from work-family conflict (Gyllensten & Palmer, 2005). 29.7% of participants within the sample reported caring for elderly dependents or minor children. Additional studies focusing on demographics and its influence on remote employee outcomes is necessary. Another topic for future research is ergonomics and proximity, **(**Kim & De Dear, 2013). Factors such as desk and chair height, keyboards accessibility and visualization of monitors can all be contributors to varying degrees of well-being and performance while working remotely (Awada et al, 2022).

Proximities can also influence remote work outcomes. Working in shared spaces with uncontrollable noise or lack of privacy can impact both performance and overall well-being. (Greenhaus & Allen, 2011; Xiao et al., 2022). In the present sample 85 participants, or 22.4% reported working in a shared location like a living room or kitchen. Future studies would benefit for controlling for these conditions to determine if proximity or ergonomics influences performance and or well-being.

Finally, factors like self-discipline could moderate the relationship between virtual work characteristics and remote employee outcomes. Before the pandemic self-discipline was a selection criterion for specific employees for remote work. Now self-discipline is a skill set all employees working from home must practice (Ryan & Deci, 2008). The research charges futures studies to explore additional moderators and exogenous variables influencing remote worker outcomes including social support, managerial support, growth need strength and workload (Wang et al., 2021).

5.6 CONCLUSION

Much of the literature on remote working prior to the pandemic represents remote work as an independent variable, measuring the effects of remote work intensity on remote work outcomes (Golden & Gajendran, 2019, Wang et al., 2021). The practical implication for this research is to identify employees required to work remotely, regardless of discretion. According to a recent Gallup study, 25% of employees in the US work from home all the time while 20% work from home part-time. (Gallup, 2021). The trend of work from home is here to stay and hybrid work will only become more prevalent in the future (Hern, 2020; Sytch & Greer, 2020). More now than ever employees are inheriting hybrid schedules. Organizations and managers alike must contend with work from home conditions and develop structures that identify those challenges. With that in mind studies such as this identify the right work design model to not only mitigate work from home challenges but to encourage positive employee outcomes like performance and well-being. Managers are encouraged to design work characteristics that are flexible and build trust. And utilize monitoring mechanisms to evaluate KPIs and encourage interactive feedback (Groen et al., 2018).

Keys to success in the post pandemic are discretion in task completion, sharing information as opposed to strict monitoring, and collaborating with stakeholders (Grant et al., 2013; Madlock, 2013). Some remote workers may have certain conditions that make them better suited for working remotely than others. Further research that treats remote work as a contextual factor, rather than an independent variable, has shown that there are additional variables that positively influence remote workers outcomes. It is important to conduct further research to ascertain whether certain jobs and or people are better suited for hybrid schedules. Also, the need to accurately assess the effect of demographics on remote worker performance is essential for replication studies.

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APPENDIX A

IRB Application

IRB00007703 FWA 00016247 IORG0006409

Name of Researcher(s): Jared R. Wilson

If a student project

Name of Instructor: Scott Wysong

Department: Gupta College of Business

Course Name and Number: DBUA-9696-1WZ

Sources of funding (if not funded, say none)**: None**

Research Question/Topic (briefly describe)**:** Workers effected by COVID-19 were required to shelter-in-place creating a hybrid or work from home (WFH), work schedules for many business commuters. The immediate exodus from work office to home office has created challenges for many WFH employees creating work-home interference (WHI). Organizations can leverage virtual work characteristics autonomy and monitoring to mitigate challenges with WHI. The present study wants to measure how employees' experience those virtual work characteristics and how those experiences influence their perceived job performance and well-being during periods of working from home.

Begin date of Research: upon approval **End date of research:** August 2023

Identification of Participants (select all that apply)**:**

☒ Adults (18+) not from vulnerable populations ☐ Pregnant individuals

☐ Children (under 18 yo) ☐ Mentally disabled persons

☐ Economically or educationally disadvantaged ☐ Prisoners

If you selected any of the highlighted populations above, describe the special precautions to be taken:

Recruitment of Participants

Describe how you will recruit subjects (face-to-face, email, flyer, etc.): The population for this survey study is U.S. employees 18 years and older. The online survey platform CloudResearch.com will be utilized to collect anonymous data. Study participants will be recruited with the assistance of CloudResearch.com. CloudResearch.com is an online survey distribution platform that connects researchers with respondents. CloudResearch.com not only allows the surveying of large samples within a short period of time but also often results in diverse samples due to surveying respondents from a very diverse set of occupations and organizations. In addition, study participants will be recruited with the assistance of the social media platform LinkedIn.

Informed Consent

Describe the steps for obtaining informed consent: The first page of the Qualtrics survey is the informed consent form, which describes the research and informs participants that their participation is voluntary and anonymous. An informed consent will be obtained from the participants to by selecting the option “I agree” before they proceed to the survey.

Data Collection

Describe your data collection methods and techniques. Include the data collection materials, questions, interview protocols, electronic survey link, observation protocol, and/or any other materials being used to collect data. If you are recording the participants (audio/video), describe

The online survey platform Qualtrics will be utilized to collect anonymous data. The survey can be previewed under this link:

https://udallas.co1.qualtrics.com/jfe/form/SV_8oEnCacY16xE9MO

Safeguarding human subjects

Describe the steps you are taking to protect the rights and welfare of the human subjects, specifically how anonymity (if you don't know their name) or confidentiality (if you do know their name) will be ensured:

- Researchers completed the required NIH training.
- An informed consent will be obtained from the participants to ensure their knowledge about their rights and responsibilities when participating in this study (included on the first page of the survey)
- Participation in the study is completely voluntary.
- Participant can quit at any time without any adverse consequences.
- No identifying information will be collected (anonymous survey).
- The obtained data will be securely stored on a password protected computer.
- In all publications and conference presentations, the anonymity of the participants will be ensured.

Certificate of Completion

This is to certify that

Jared Wilson

has completed the

NIH Protecting Human Research Participants Certification

with score of **of 90%**

dated: September 15, 2020

APPENDIX B

Consent Form

CONSENT TO PARTICIPATE IN A RESEARCH STUDY
University of Dallas
TITLE OF PROJECT: PERCEPTION OF REMOTE WORKING

Below is a description of the research procedures and an explanation of your rights as a research participant. In accordance with the policies of the University of Dallas, you are asked to read this information carefully.

The purpose of this study is to measure your perceptions of your job performance and well-being while working from home. Your participation is completely voluntary, and if you begin participation and choose to not complete it, you are free to not continue without any adverse consequences.

If you agree to be in this study, are asked to do the following things:
Confirm that you are at least 18 years of age. Confirm that you voluntarily agree to complete an online multiple-choice survey. Be willing to take approximately 8-10 minutes to answer all questions honestly as there are no right or wrong answers. Selecting the button that best corresponds to your response after reading each question or statement. Scroll down the page to answer all the questions if needed and select NEXT to continue after each page Complete the survey in one sitting in order to receive the $1.00 compensation (there is no compensation for a partially completed survey).

There are no known risks to this study, other than becoming a little tired of answering the questions. If this happens, you are free to take a break and return to the survey to finish it, or you can discontinue participation without any problems. Potential benefits to this study are contributing to the research on employee perceptions towards their job and their organization.

Because you will not be providing any clues to your identity, you can be assured that all your provided responses to the questions are anonymous. If you need to ask questions about this study, you can contact the principal researcher, Jared Wilson, or, if you have any questions about your rights as a participant, I may contact the Dissertation Chair Dr. Scott Wysong at (817) 992-8138 or swysong@udallas.edu.

I have read and understood what has been explained to me.
If I choose to participate in this study, I will click “Yes” in the box below and proceed to the survey. If I choose to not participate, I will click “No” in the box.