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**THE RELATIONSHIP BETWEEN SOCIAL ISOLATION,
TELECOMMUTING INTENSITY LEVELS, AUTONOMY, AND JOB
SATISFACTION DURING THE COVID-19 PANDEMIC**

Kristy Williams

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THE RELATIONSHIP BETWEEN SOCIAL ISOLATION, TELECOMMUTING
INTENSITY LEVELS, AUTONOMY, AND JOB SATISFACTION DURING THE
COVID-19 PANDEMIC

by

Kristy Nicole Williams

A Dissertation
Submitted to the Graduate School,
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and the School of Leadership
at The University of Southern Mississippi
in Partial Fulfillment of the Requirements
for the Degree of Doctor of Philosophy

Approved by:

Dr. H. Quincy Brown, Committee Chair
Dr. Heather M. Annulis
Dr. Jonathan Beedle
Dr. Dale L. Lunsford

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ABSTRACT

The COVID-19 pandemic forced workplaces to social distance, and millions of workers began telecommuting or working from home (Kniffin et al., 2021). Becker (2002) stated, “How well companies manage their human capital is a crucial factor in their success (p. 8).” The pandemic has profoundly affected human capital (Ballotpedia, 2021; Collings et al., 2021; Jesuthasan et al., 2020; Kniffin et al., 2021). This study examined the relationship between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic. The researcher attempted to answer the research question and objectives by conducting a quantitative correlation study using a survey design. The study resulted in four findings. The study confirmed that the COVID-19 pandemic is impacting employees’ home, work, and social lives. Social isolation increases as job satisfaction decrease. The survey examined participants’ responses to face-to-face activities and meetings, and informal interactions negatively impacted overall social isolation scoring. Telecommuting intensity levels do not influence job satisfaction—finally, autonomy associates with job satisfaction and telecommuting intensity levels.

The results and findings emphasize addressing social isolations and autonomy to prevent decreased job satisfaction, especially during the COVID-19 pandemic. With the ongoing pandemic, telecommuting will remain around, and more programs adapted. Telecommuting intensity increases as autonomy increases; hence it is a possible indirect need for further research and companies to explore opportunities to establish policies and procedures to manage and execute employee wellness programs (Miller, 2020; Odom, 2021; Ranola, 2021; The Conference Board, 2021).

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DEDICATION

This dissertation is gratefully dedicated to

My loving mother, Lena Williams

My late brother, David Williams

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LIST OF ABBREVIATIONS

<i>BLS</i>	Bureau of Labor Statistics
<i>CDC</i>	Centers for Disease Control and Prevention
<i>COVID-19</i>	Coronavirus Disease 2019
<i>DV</i>	Dependent Variable
<i>IV</i>	Independent Variable
<i>IRB</i>	Institutional Review Board
<i>JDS</i>	Job Diagnostic Survey
<i>JSS</i>	Job Satisfaction Survey
<i>MOAQ</i>	Michigan Organizational Assessment Questionnaire
<i>SDT</i>	Self-Determination Theory
<i>SHRM</i>	Society for Human Resource Management
<i>U.S.</i>	United States
<i>U.S. WIN</i>	United States Women in Nuclear
<i>WDQ</i>	Work Design Questionnaire
<i>WFH</i>	Working from home

CHAPTER I – INTRODUCTION

The coronavirus pandemic disrupted the global workplace environment. With the virus spreading, the United States public and private sectors adopted social distancing practices to slow the spread of the Coronavirus Disease of 2019 (COVID-19) infections (Centers for Disease Control and Prevention [CDC], 2020; Emarketer Website, 2020; Society for Human Resource Management, 2020). There were 43 states and local officials to issue stay-at-home orders for residents as an ongoing effort to minimize the exposure outside of the household; employers transitioned millions of workers to telecommuting or a work from home status (Ballotpedia, 2021; Kniffin et al., 2021; Valet, 2020; Willis Towers Watson, 2020). Employers adapted to a new way to deal with the potential human capital implications (Ballotpedia, 2021; Collings et al., 2021; Jesuthasan et al., 2020; Kniffin et al., 2021).

Becker (2002) stated, “How well companies manage their human capital is a crucial factor in their success (p. 8).” The pandemic has profoundly affected human capital (Ballotpedia, 2021; Collings et al., 2021; Jesuthasan et al., 2020; Kniffin et al., 2021). The social distancing policies affected organization and job designs, mainly where employees work, what work is performed, and how to work is performed (Collings et al., 2021; Jesuthasan et al., 2020). Employers took measures to return to normality while limiting employees to COVID-19 virus exposure (Brenan, 2020). With the dissemination of vaccines, employers were optimistic about employees returning to the workplace, but many of the pandemic telecommuting employees requested to remain working from home (Accenture, 2020; Brenan, 2020; Bur, 2020; CDC, 2021a; Perceptyx, 2020).

Over the last year, researchers investigated how telecommuting impacts an organization's performance (Kamouri & Lister, 2020). Previous studies showed that telecommuting improves productivity, performance, and job satisfaction, with some studies reporting a reduction in turnover (Ansong & Boateng, 2017; Baker et al., 2007; Corzo, 2019). However, a study conducted by Golden and Veiga (2005) suggested that a substantial loss of in-person activities and increased social isolation negatively affect job satisfaction at relatively high telecommuting intensity levels.

Another concern included full-time telecommuters focusing on unrelated work activities outside the office, leading to a questionable commitment to the organization (Brink, 2020). Although critical positive outcomes include flexibility and autonomy, many companies removed those factors by deeming telecommuting during the COVID-19 pandemic non-negotiable (Gajendran & Harrison, 2007; Gallup, 2017; Japan Times, 2020; Maiden, 2020; Potter, 2020). Although primary mandates were necessary, companies must focus on understanding the long-term effects of the pandemic on its human capital resources (Maiden, 2020; Rasmussen & Goldstein, 2020).

The present research examined the relationship between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic. Chapter I introduced the current study providing the background, the problem statement, purpose, the research question, objectives, and the significance. This chapter concluded with delimitations, study assumptions, and operational definitions.

Background

The following section served as a basis for the problem this study aims to address. It introduced the reader to the COVID-19 pandemic and history, social isolation, and the

origins of telecommuting in the workplace. Second, this section provided telecommuting's growth and intensity levels. Finally, it discussed how telecommuting affects corporate culture, which in turn impacts job satisfaction and autonomy.

COVID-19 Pandemic

The swiftly spreading COVID-19 virus was new to researchers, not previously detected in humans until 2019 (CDC, 2021a; World Health Organization, 2020). As of April 2021, the CDC (2021a) reported over 148,329,348 total COVID-19 cases globally, as seen in Figure 1. Of those cases, a total of 3,128,962 resulted in deaths. The United States has 31,783,375 confirmed cases and 567,327 deaths (CDC, 2021a). Unfortunately, the confirmed cases and deaths increased rapidly, and the virus lasted longer than anticipated (CDC, 2021a).

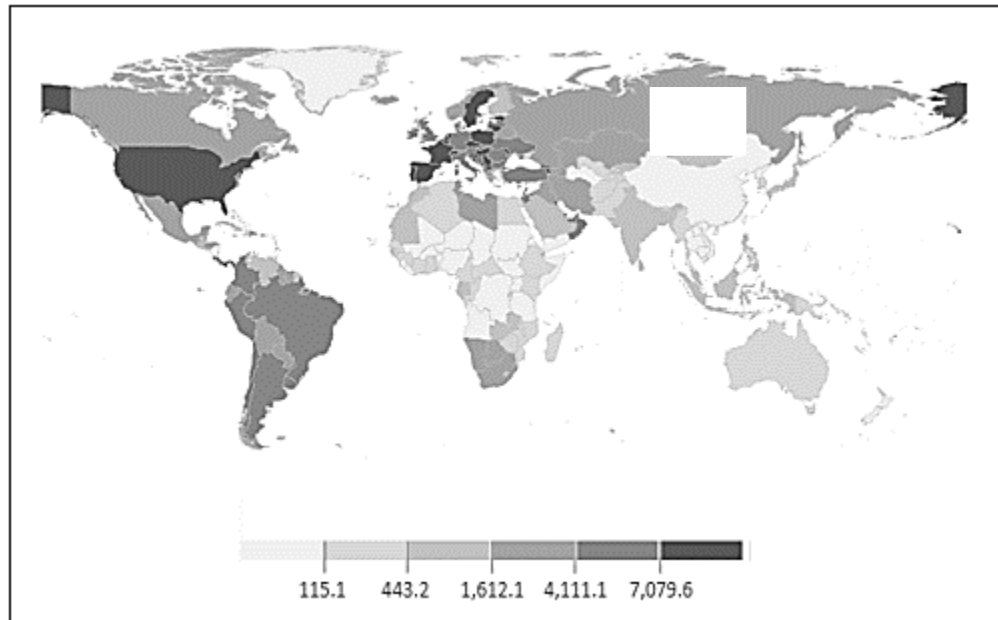


Figure 1. Number of global pandemic cases as of April 28, 2021

Notes. This map above showed the global cumulative cases of COVID-19 reported per 100,000 population as of April 28, 2021, CDC, 2021a).

As the numbers of confirmed cases increase, social distancing and safety protocols continue to minimize the spread of the virus (CDC, 2020a; Emarketer Website, 2020; Society for Human Resource Management, 2020). Social distancing requires maintaining at least six feet of space between people who are not household members (CDC, 2020b; Health Fitness Revolution, 2020; Occupational Safety and Health Administration, 2021; Society for Human Resource Management, 2020). In addition, Federal, state, and local agencies ordered the closure of nonessential companies and people to stay at home and remain safe (CNN, 2020; National Conference of State Legislatures, 2021; Office of the Louisiana Governor, 2020; Office of Texas Governor, 2020). Several companies chose to close or reduce staff on-site, causing unemployment rates to surpass their previous peaks observed during and just after the Great Recession (Congress Research Services, 2021; Emarketer Website, 2020; Society for Human Resource Management [SHRM], 2020). Other companies developed policies mandating employees to telecommute (Peters, 2020). Although these social distancing practices minimize the spread of the infection, experts suggested it also creates social isolation (Tulane University, 2020).

Social Isolation

Social isolation is the separation of a person, emotionally or physically, or both, from a group of wanted or necessary connections with other persons (Biordi & Nicholson, 2013). Although social isolation has existed for decades before the COVID-19 virus, social distancing practices escalated the problem, leading to increased mental health issues (AARP Foundation, 2020; Tulane University, 2020). In a study conducted between April 2020 and September 2020, researchers found that 70% of the participants

reported that loneliness or isolation was the leading contributing reason for mental health concerns (Czeisler et al., 2020). In Pollard et al.'s (2020) study of 1,540 workers, alcohol consumption rose sharply during the pandemic leading to a possible adverse impact on workers' health and well-being. Although Hart (2021) notes that 85% of 400 telecommuters felt at least "a little bit" of social isolation, 75% of respondents would choose to continue telecommuting at least two-thirds of the time. Adopting social connections and maintaining healthy activities minimizes social isolation since telecommuting will likely remain part of the work design (Hwang et al., 2020; Madsen, 2021; Wilkie, 2020).

Telecommuting Origins in the Workplace

Telecommuting has been a topic of research dating back decades. In 1973, Jack Nilles, a former NASA engineer, was one of the first to define *telecommuting* as when a worker may accomplish their work, utilizing telecommunications and computer tools, at a location much closer to one's home (Nilles et al., 2007). In addition, telecommuting means working at a satellite location to minimize traveling long distances (Nilles et al., 2007). After gaining popularity in the 1990s, telecommuting arrangements were promoted and increased within the government under The National Telecommuting Initiative (Pasini, 2018). Although the term "telecommuting" remains, the definition has evolved.

The term *telecommuting* interchanges with remote work, telework, working from home, and flexible workplace and defined as follows:

- *Remote work* is a term that describes a job done remotely, either from an employer's location or on company-provided equipment such as mobile device, machine, internet, with a unique method used (Meunier, 2020).
- Globalization Partners (2021) defines *telework* as replacing technology for travel, such as a person bringing work home after leaving the office.
- Working from home (WFH) uses the residential home as the primary workplace (SHRM, 2013).

Regardless of the term used, telecommuting has grown since the onset of the pandemic (Global Workplace Analytics, 2020).

Telecommuting Growth

Telecommuting in the workplace gained momentum from the unplanned pandemic social distancing experiment (Raymond, 2020; Smith, 2020; UCLA Transportation, 2021). The *Remote Work Statistics* reported by Flex Jobs shows the growth of telecommuting grew by 159% from 2005 to 2017 (Global Workplace Analytics & Flexjobs, 2017). The Bureau of Labor Statistics (2020) claimed that 45% of U.S. jobs are adaptable to telecommuting. However, only 25% of U.S. employees telecommuted before the COVID-19 pandemic (Brenan, 2020). According to Cerullo (2020), half of the American professionals feared returning to the workplace due to COVID-19 leading to growing telecommuting demands. Golden's (2021) survey found that 33% of telecommuters seek a new job to avoid returning to offices full time.

While employees seek to telecommute, employers look to provide more telecommuting opportunities (Accenture, 2020; Armour et al., 2020; Citi, 2021; Globalization Partners, 2021; Sethi et al., 2020). According to 1000 hiring managers

surveyed by Upwork (2020), workplaces will continue telecommuting for years to come. A survey of 215 global senior finance executives finds that many companies plan to expand telecommuting operations into new countries in 2021 as long-term growth strategies (Globalization Partners, 2021). In Sethi et al.'s (2020) survey for PricewaterhouseCoopers International Limited's PwC, 78% of 669 private businesses and public companies' CEOs agreed that telecommuting would remain for the long term (Sethi et al., 2020). Unfortunately, not all jobs have the versatility to telecommute full-time, but they remain possible at other frequencies or intensity levels.

Telecommuting Intensity Levels

Both public and private sectors established policies to determine jobs' telecommuting intensity levels and the extent of arranged time workers devote doing jobs absent from the main job site (Accenture, 2020; Brenan, 2020; Bur, 2020; Citi, 2021; Globalization Partners, 2021; Perceptyx, 2020). A survey of 127 business leaders on behalf of human resources, legal, and finance revealed that 82% of participants intend to authorize some intensity level of telecommuting as employees return to the workplace (Gartner, 2020). Armour et al. (2020) defined intensity levels as (a) *exclusive telecommuting* never requires leaving home to do a primary job; (b) *some telecommuting* includes leaving the resident to perform primary work at least once a day but also performing from home at least once, and (c) *no telecommuting* is the inability to telecommute or engaging in no work from home at all. The intensity level is derived from the number of days worked at the home and in the office (Citi, 2021; Henke et al., 2016). Citi (2021) based its company's telecommuting intensity levels on the number of days worked in the office: (a) hybrid, (b) resident, and (c) remote. A *hybrid* role worked at

least three days per week at the job site and up to two days home (Citi, 2021). A *resident* level cannot perform offsite (Citi, 2021). A *remote* role consisted of performing outside of a Citi location (Citi, 2021). The functions continued to allow the flexibility and productivity shown from the pandemic telecommuting posture (Citi, 2021).

Rapidly switching to telecommuting at the pandemic's start saved many businesses and employees' jobs (Armour et al., 2020). Within the first half of 2020, one-third of the U.S. labor force began telecommuting at some intensity level (Brynjolfsson et al., 2020). However, employers reported a standard theme of an inability to pivot quickly to a remote workforce (Barrientos, 2021). Like the financial crisis in 2008, studies suggested the pandemic caused employees to have negative attitudes towards their working conditions, organization and feeling less committed to their job (Accenture, 2020; Belias & Koustelios, 2014; Purwanto et al., 2020). In addition, this rapid change in the work environment impacted an organization's culture (Gartner, 2020). In Gartner's (2020) survey of company leaders, most leaders supported a "hybrid workforce" model where employees telecommute at various intensity levels. However, 30% of the respondents were most concerned with maintaining corporate culture (Gartner, 2020).

Telecommuting Influence on Corporate Culture

The telecommuting posture has changed employees' workplace operations and interactions, likely altering their cultures (Chambers, 2020). The culture depicted the beliefs, expectations, mutual core values, and essential insights that organizational employees hold (Schein, 1985). Corporate cultures shifted incrementally and continuously in response to change but understanding what impacts employees is essential, especially during a pandemic (Watkins, 2013). Recent pandemic research

focused on an organization's crisis response with little attention on how the pandemic influences longer-term organizational culture impacting employees' autonomy and job satisfaction (Chambers, 2020; Coyle, 2018; Heathfield, 2020).

Autonomy

Autonomy is the extent to which employees have the power to control their behaviors and actions while achieving goals (Ryan & Deci, 2008). The pandemic placed unforeseen challenges on employees, impacting their priorities. Personal or family illness, school closure, or loss of household income caused added stress shifting priorities and motivation to perform work at pre-pandemic performance levels (Kniffin et al., 2021; Valet, 2020; Willis Towers Watson, 2020). A decrease in autonomy correlated with increased workforce turnover, reduced work performance, and reduced job satisfaction (Spector, 1997). A healthy workplace culture where employees have high levels of autonomy drive higher employee job satisfaction (Clark, 2021; Coyle, 2018; Heathfield, 2020; Ryan & Deci, 2008; Sempane et al., 2002).

Job Satisfaction

Job satisfaction is the main factor in an organizations' efficiency and effectiveness (Aziri, 2011). Job satisfaction is some mixture of mental, physical, and environmental situations that trigger employees to honestly say they are satisfied with their job (Hoppock, 1935). A study performed by the Society for Human Resource Management (2013) reports that 58% of participants believe telecommuting increases employee satisfaction. Research suggested that telecommuting allows employees more flexibility and autonomy to achieve work-life balance (Virick et al., 2010). Gallup's *State of the American Workplace* report offered that telecommuters are more engaged, passionate,

and dedicated when away from the office 20% or less of the time (Gallup, 2017). A recent study by Bhattarai (2020) explored job satisfaction during this pandemic found that most employees were satisfied working from home. Many employees are hesitant to give up their newfound flexibility (Glassdoor, 2021). Losing autonomy could lead to decreased job satisfaction, but organizational commitment may also be at risk. Measures to raise job satisfaction and autonomy should reduce the problem during the declining stages of the COVID-19 pandemic (Tunguz, 2021). Glassdoor's Chief of People Officer, Carina Cortez, says "COVID-19 has sparked new worker expectations, from incentives to vaccinations with flexible work alternatives, when returning safely to the office" (Glassdoor, 2021, para. 4).

Problem Statement

Ideally, vaccinations deployed across the United States should ease the seamless transition to in-person workplace operations, reducing telecommuting requirements (Bannan, 2021; CDC, 2021b; McGann, 2021). In April 2021, a CDC (2021b) study confirmed that COVID-19 vaccination reduces the risk of infection by 90% for fully vaccinated and 80% for partial vaccinations. In addition, under the recent Equal Employment Opportunity Commission (2021) guidance, companies may mandate COVID-19 vaccinations to resume in-person work with few exceptions for employees with disabilities, pregnancy, and religious beliefs. According to a recent Glassdoor (2021) study, results showed that 70% of U.S. employees who telecommute due to the COVID-19 virus believe vaccination should be required to return to work.

The reality is that moving towards in-person workplace operations will take time, and telecommuting will continue to be a primary method of social distancing among

workers (Barrientos, 2021; Bur, 2020). To what extent will telecommuting remain, and will employees have options to regain autonomy and flexibility? While telecommuting during the pandemic, job satisfaction increased, and employees felt socially isolated and lonely (Bulińska-Stangrecka & Bagińska, 2021; The Conference Board, 2021).

Deterioration of the worker's well-being caused changes in job satisfaction (Bulińska-Stangrecka & Bagińska, 2021). The duration of the COVID-19 pandemic is unpredictable, which challenges employees' adaptation to the changing working conditions (Carnevale & Hatak, 2020). Therefore, employers must determine the strategies to maintain employee well-being and understanding human capital impacts while telecommuting during the COVID-19 pandemic (Miller, 2020; Odom, 2021; Ranola, 2021; The Conference Board, 2021). When employers fail to recognize the influence of the pandemic on their workforce, employers miss opportunities to ensure employees have the right tools and resources for telecommuting and returning to in-person operations safely (Carnevale & Hatak, 2020). An employer's lack of concern leads to dissatisfied employees.

Purpose of the Study

This study examined the relationship between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic. The study provides insights into the participating workforce's background based on the following demographics: gender, race, marital status, and household pandemic impact. The independent variables included social isolation, telecommuting intensity levels, and autonomy; the dependent variable was job satisfaction. The telecommuting intensity

levels were exclusive, some, and no telecommuting. This research study aimed to provide research on the topic of job satisfaction during a pandemic setting.

Research Objectives

The study's research question was *What relationship exists between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic?* The following research objectives (ROs) guided the study:

RO1 – Describe the participants' demographics regarding gender, race, educational level, marital status, and household pandemic impact.

RO2 – Determine the relationship between social isolation and job satisfaction during the COVID-19 pandemic.

RO3 – Compare the influence of telecommuting intensity levels on job satisfaction during the COVID-19 pandemic.

RO4 – Determine the relationship between autonomy and job satisfaction during the COVID-19 pandemic.

RO5 – Determine the relationship among social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic.

Conceptual Framework

The conceptual structure served as a visual representation of the current research. The study's emphasis aligned and narrowed (Roberts & Hyatt, 2019). The conceptual framework is designed in Figure 2. The framework identified the COVID-19 pandemic workforce's demographics, including gender, race, educational level, marital status, household pandemic impact, and prior telecommuting experience. Demographics play a

significant role in research by allowing researchers to better understand the research generalizes for comparing or replicating future studies' findings (Hammer, 2011).

For this study's theoretical foundation, the researcher examined job satisfaction and work design theories, particularly the Job Characteristics Theory, Range of Affect Theory, and Self-Determination Theory (SDT). Hackman and Oldham's (1976) Job Characteristics Theory is the association between job attributes and the employee's response to work, and research showed the influence of job satisfaction. Edwin A. Locke's (1976) Range of Affect Theory is perhaps one of the highly recognized job satisfaction models (Singh & Sinha, 2013). This theory's concept centered on an employee's desire in a job versus what is in the position to determine the employee's job satisfaction (Locke, 1976). Additionally, the theory stated that how much one values a given facet of work controls job satisfaction (Locke, 1976). SDT is a meta-theory of human motivation and personality development, identifying two critical intrinsic and extrinsic motivation types (Deci & Ryan, 1985).

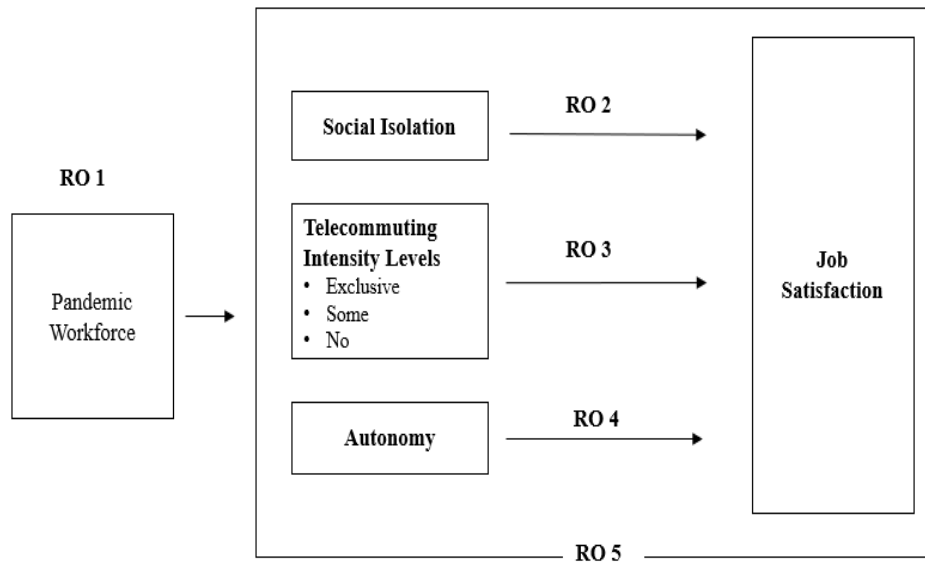
Social isolation is the separation of a person, emotionally or physically, or both, from a network of wanted or needed connections with other persons (Biordi & Nicholson, 2013). For example, the COVID-19 pandemic lockdown had individuals lacking the motivation to return in person to the office (AARP Foundation, 2020; Tulane University, 2020). Social isolation in the telecommuting environment is considered a possible consequence of a person-environment gap. However, existing research found that not all telecommuters experience social isolation (Duxbury & Neufeld, 1999).

According to Nyaanga (2012), the vital factor in understanding the impact of telecommuting on social strength centered on identifying culture in a distinct work unit.

In a meta-analysis of 28 primary studies, Gajendran and Harrison (2007) showed that telecommuting positively associates with satisfaction but not at all intensity levels. Research suggests telecommuting gives workers more flexibility and autonomy to perform their job, increasing their job satisfaction (Bailey & Kurland, 2002; Copper, 1996; Lister & Harnish, 2019; Nyaanga, 2012).

Autonomy allows one to be independently responsible for outcomes. In SDT, autonomy includes three interconnected facets centered on independence: (a) work scheduling - determine appropriate work timings and periods; (b) decision making - determine criteria used for gauging performance; and (c) work method- distinguish the approaches related to the task (Morgeson & Humphrey, 2006). Researchers suggested job autonomy is a significant determinant of job satisfaction after controlling for many personal and work-related variables (Bradley et al., 2003).

Literature showed that job satisfaction serves as a solid forecaster of a worker's behavior and performance (Hoppock, 1935). Job satisfaction from the employee perspective reflects one's treatment within a job (Sempane et al., 2002). It improves by the degree to which an employee takes control of their work or the degree to which drives an employee to do their job (Aziri, 2011; Hoppock, 1935; Spector, 1997). This study seeks to understand how social isolation, telecommuting intensity levels, autonomy, and job satisfaction relates during the COVID-19 pandemic.



Theories:
 Job Characteristics Theory (Hackman & Oldham, 1974)
 Range of Affect Theory (Locke, 1976)
 Self-Determination Theory (Deci & Ryan, 1985)

Figure 2. Conceptual Framework

Significance of the Study

The COVID-19 pandemic forced companies into a new normal. This study provides researchers a pandemic insight for understanding the most valuable asset to a company, human capital. By understanding pandemic effects on the current workforce, this study offers an opportunity for employers to identify new skills, ways of managing the workforce, and determining the needs of employees (Global Workplace Analytics, 2021). This study could help leaders develop public and private sector human capital development programs and policies while incorporating telecommuting. Developing programs that accommodate employees' needs can increase employee satisfaction, which, in turn, improves job and business performance. Research suggests culture significantly affects employees than their organization (SHRM, 2021). By understanding

the impact of a pandemic on their workforce's health and wellness, leaders could provide the necessary resources and tools to aid employees' well-being. When employees sense their employers' care about them, it gives them a sense of belonging and inclusion (Wiles, 2020). This study adds to possible cultural and program changes in business environments with telecommuting during and after the COVID-19 pandemic.

Definition of Terms

Operational definitions limit the study and concentrate on the words highlighted throughout the study (Roberts & Hyatt, 2019). Therefore, the specific terms indicated for this study are defined below.

1. *Autonomy* – The degree to which employees have the power to control their behaviors and actions while achieving goals (Ryan & Deci, 2008).
2. *Coronavirus Pandemic* – An ongoing pandemic of coronavirus disease 2019 (COVID-19) caused by the new strain of coronavirus; previously non-existent in humans (CDC, 2020).
3. *Job Satisfaction* – A combination of psychological, physiological, and environmental situations where a person truthfully says they are satisfied with their job (Hoppock, 1935).
4. *Organizational Culture* – The set of beliefs, assumptions, shared core values, and essential understandings that organizational employees hold (Schein, 1985).
5. *Pandemic* – An outbreak occurs on a scale that overlaps worldwide boundaries, usually involving people on a global scale (Porta, 2008).

6. *Social Isolation* – The separation of a person, emotionally or physically, or both, from a network of wanted or needed connections with other persons (Biordi & Nicholson, 2013).
7. *Telecommuting* – The method of working from one's home or at a satellite location near one's home and where employees use interaction and computer equipment to interface with internal and external stakeholders (Copper, 1996).
8. *Telecommuting Intensity Level* – The amount of time spent away from the office: (a) *exclusive telecommuting* never requires leaving home to do a primary job; (b) *some telecommuting* includes leaving home to do a primary job at least once, but also working from home at least once, and (c) *no telecommuting* is the inability to telecommute or engaging in no work from home at all (Armour et al., 2020).

Assumptions

Assumptions are experiences taken for granted but recognized as effective for the intent of the research (Roberts & Hyatt, 2019). This study considered the following assumptions: (a) participants will provide honest, accurate, and reliable information regarding survey questions and will answer based on their professional opinion; (b) the participants will understand the nature of the study and the terminology on the survey, and (c) the participant knows the researcher will keep their responses anonymous. The survey instrument will collect the necessary data to answer the research question.

Delimitations

Delimitations clarify the boundaries and narrow the study's scope, what the researcher will include, and what will be left out (Roberts & Hyatt, 2019). Roberts and

Hyatt (2019) identify delimitations as factors controlled by the researcher; the current study focused on participants in one energy company's employee resource group, United States Women in Nuclear (U.S. WIN). Most of the members were women. Only a limited number of participants' demographics were included in the data collection. The researcher-created survey contained the Work Design Questionnaire, Job Satisfaction Survey, and researcher-developed demographic questions. Although the pandemic had a global impact, the researcher limited the population to utilities in the southeastern United States. Therefore, the study does not show how the variables of this study impact job satisfaction in other populations or settings.

Organization of the Remaining Chapters

This dissertation contains five chapters. Chapter I introduced the study's introduction, the problem's background, problem statement, purpose statement, research questions, significance, conceptual framework, limitations, delimitations, assumptions, and definition of the terms. Chapter II, literature review, assesses relevant and current literature connecting COVID-19 pandemic effects on social isolation, telecommuting intensity levels, and autonomy to job satisfaction. Finally, chapter III defines the research approach and gives an analysis plan.

Summary

The COVID-19 pandemic forced workplaces to social distance. As a result, millions of workers began telecommuting or working from home (Kniffin et al., 2021). Regardless of the company's size, telecommute mandates resulted in about half of U.S. employees work from home (Brynjolfsson et al., 2020). Although social isolation has been around for decades before the COVID-19 virus, social distancing practices

aggravated the problem, leading to increased mental health issues. In addition, to social distance in the workplace, employers implemented telecommuting at different intensity levels to continue business operations.

As more companies adopt telecommuting, other employers face challenges without the viable option of telecommuting (CDC, 2021; Golden R., 2021; Mitchell et al., 2001; Steemers et al., 2020; U.S. Senate Committee, 2016; Warrell, 2021). Although most employees are satisfied working from home, there are crucial aspects of job satisfaction not to ignore (Bhattarai, 2020). Research literature and studies lack investigations into pandemic-related impacts on job satisfaction in the workplace. Recent pandemic research lacks focus on how the pandemic influences longer-term effects on the workforce (Chambers, 2020). Therefore, there was a need to understand social isolation, telecommuting intensity levels, autonomy, and job satisfaction's relationship to develop effective strategies for improving the workforce's overall health during a pandemic.

CHAPTER II – LITERATURE REVIEW

The purpose of the current study was to determine how social isolation, telecommuting intensity levels, autonomy, and job satisfaction relates during the COVID-19 pandemic. Thus, this chapter began with a review of pandemics to discover COVID-19, leading to the literature review relevant to social isolation, telecommuting, intensity levels, job satisfaction and theories, and autonomy. To close this chapter, the researcher summarized the literature review for transitioning to Chapter 3.

The COVID-19 Pandemic

Pandemics wreak havoc on human health, habitats, and even whole nations during human evolution. Although the term "pandemic" has a long history of usage, the meaning varies. Porta (2008) defines a pandemic as an outbreak occurring on a scale that overlaps worldwide boundaries, usually involving people on a global scale (Porta, 2008).

Pandemics originates as early as 165 A.D. Despite prevention efforts, infectious disorders are still critical to public health, resulting in almost 13 million deaths per year (Cohen, 2000). Table 1 shows a history of pandemic diseases up to today's COVID-19 (Ang, 2021; History.com, 2020; LePan, 2020; Strange Sounds, 2018).

Table 1

Pandemics Throughout History

Year	Disease
165 – 180 AD	Antonine Plague, Plague of Galen
541 – 542 AD and recurrences until 750.	Plague of Justinian
1346 – 1353	Black Death, Great Bubonic Plague, Great Plague
1520	New World Smallpox

Table 1 (Continued)

Year	Disease
1629 – 1631	Italian Plague
1665	Great Plague of London
1793	Yellow Fever
1817 – 1923	Asiatic cholera
1889 – 1890	The Asiatic flu pandemic, Russian flu
1918 – 1920	Spanish flu pandemic
1957 – 1958	Asian flu, Swine flu, novel H1N1, Mexican flu
1961 – present	Seventh cholera pandemic, Asiatic cholera
1968 – 1970	Hong Kong flu, 1968 flu pandemic
1980 – present	HIV/AIDS (Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome)
2002 – 2003	SARS (Severe Acute Respiratory Syndrome)
2009 – 2010	2009 Swine flu pandemic
2014 – 2016	Ebola
2015 – Present	MERS (Middle East Respiratory Syndrome)
2019 – Present	COVID-19 (SARS-CoV-2, 2019-nCoV)

The COVID-19 virus first emerged in China in December 2019 and rapidly spread worldwide (World Health Organization, 2020). The virus is a severe respiratory infectious illness dispersed from person to person through specks produced when an infected person breathes out, talks, sings, sneezes, or coughs (Occupational Safety and Health Administration, 2021). The COVID-19 appears to spread more efficiently than influenza but not as efficiently as measles, among the most contagious viruses known to

affect people (CDC, 2020; Occupational Safety and Health Administration, 2021). Contact tracing, wearing personal protective equipment, and frequent testing prove crucial in the face of all pandemics (Archer-Diaby, 2020). Funk et al.'s (2009) study on the spread of pandemic awareness recommends taking the necessary precautions when interpreting disease parameters and forecasting the fate of potential outbreaks. Research suggests it is essential to use multiple preventions and intervention methods after diagnosis to curve and minimize the spreading of the infection (Ferguson et al., 2005).

Unfortunately, an infected person may or may not exhibit symptoms but can still spread the virus, thus requiring quarantining and isolation procedures to minimize the spread (CDC, 2020, Vittoria Colizza et al., 2007). As another safety measure, social distancing amongst the general population reduces the transmission of COVID-19 (CDC, 2020; Hwang et al., 2020; Hyman & Li, 2006). Thus, the development of the virus can be prevented and contained through minimum contact; especially focused interventions, such as social distancing, are essential (CDC, 2020; Kniffin et al., 2021).

Social Distancing to Isolation

Social distancing requires keeping at least six feet of space between a person and other people who are not household members (CDC, 2020; Health Fitness Revolution, 2020; Occupational Safety and Health Administration, 2021; SHRM, 2020). Workplaces have minimized the number of employees in the office, with millions of workers began telecommuting or working from home – an unprecedented and ongoing phenomenon (Kniffin et al., 2021). The practice of social distancing in public and at work creates experiences like social isolation related to telecommuting (AARP Foundation, 2020;

Biordi & Nicholson, 2013; CDC, 2020; Cooper & Kurland, 2002; Tulane University, 2020).

Social isolation is the separation of a person, emotionally or physically, or both, from a network of wanted or needed connections with other persons (Biordi & Nicholson, 2013). Social isolation significantly increases a person's risk of early passing from all causes, associated with about a 50% increased risk of dementia and loneliness with higher rates of depression, anxiety, and suicide as well other health conditions (National Academies of Sciences, Engineering, and Medicine, 2020). Workplace policies of quarantining and social distancing elevate loneliness and social isolation (Hwang et al., 2020). In addition, inquiry implies that social isolation leads to reduced perceived job satisfaction and increased stress in the workplace (Cooper & Kurland, 2002; Morganson et al., 2010; Perez et al., 2002).

Social isolation is the possible creation of a person-environment discrepancy resulting in insufficient or deprived social communication and task support. The possible influences of such isolation are low job satisfaction and high strain (Bentley et al., 2016). Research suggests that company leaders take responsibility and provide their employees with the necessary tools and support (Moss, 2020). Encourage breaks during the workday, offer wellness workshops, and connect employees with counseling professionals when needed (Ganzert, 2021). The physical workplace layout in a social distancing environment affects employees' communication and performance (Bernstein & Waber, 2019; Egan, 2020; Enigma, 2017; Inoue et al., 2020; Vaananen et al., 2004). Enigma's (2017) insight of various studies show that employees lose 86 minutes in open space workplaces due to disturbances, 15% loss in productivity, and 32% loss in well-

being. Open workplaces, instant messaging, and virtual meeting software make individuals more visible and accessible (Bernstein & Waber, 2019). Unfortunately, the physical and technical frameworks enable widespread integration and cooperation but generate fewer interactions since individuals choose when and how to communicate with others (Bernstein & Waber, 2019).

Communication issues may arise since most workplace communication is face-to-face and informal, and telecommuters cannot participate (Ganzart, 2020; Kurland & Bailey, 1999). Face-to-face communication reduces separation emotions (Andres, 2002). Research suggests that unstructured, informal communication has a more significant influence on employees' performance (Saleem & Perveen, 2017) . Fortunately, the pandemic occurred when technology has advanced to adapt formal and informal connectedness in a socially isolated environment. Telecommuting contributes to significant changes in communication opportunities (Dettmers & Pluckhahn, 2021). Today's technology capabilities allow interaction regularly through video conferencing, phone calls, messages, chats, and social media platforms (Holland & Bardoel, 2016; Zengaro et al., 2019). These tools allow communication for in-person operations to include telecommuters to minimize social isolation during a pandemic.

Cooper and Kurland (2002) suggest telecommuters' social isolation is determined by company value on activities and how much telecommuters and a chance to participate. Other researchers found that not all telecommuters experience social or professional isolation (Duxbury & Neufeld, 1999). Also, another study finds no significant relationship between time spent teleworking and professional isolation, suggesting that

literature may refer to physical separation from coworkers with professional isolation (Golden et al., 2008).

Origins of Telecommuting

Telecommuting originates from distributed work (Lister & Harnish, 2019; Simpson, 1953). Distributed work is a plan that permits personnel and their tasks to be distributed across locations away from a primary workplace or physical organizational site (Gajendran & Harrison, 2007). In the early 1950s, Simpson (1953) conducted a study to determine the need for office efficiency in factory production methods during the first half of the twentieth century. Simpson uses work simplification to analyze work distribution in the clerical task. Work simplification is a technique to identify and eliminate uneconomical employment time, space, or human efforts (Hall, 1951). Simplification requires evaluating the utility performance and the most cost-effective methods to accomplishing the job (U.S. Social and Rehabilitation Service, 1972). Work simplification exists in policy, systems, and workflow modifications (Simpson, 1953). To simplify and minimize cost, distributed working analysis shows that co-located workers can perform the same work and still be productive (Simpson, 1953).

In 1976, Nilles defined *telecommuting* as when workers could perform their work, using communications and computer technologies, at a location much closer to their homes (Nilles et al., 2007). Working at a satellite location minimizes traveling long distances (Nilles et al., 2007). Some researchers consider self-employed telecommuters, while others only consider those employed by an organization and payroll (McCloskey & Igarria, 1998). Not only do researchers' opinions differ on the classification of a

telecommuter, but how telecommuting is used interchangeably with other terms: remote work, telework, working from home, and a flexible workplace.

Researchers argue that the terms are not the same. Meunier recently defined *remote work* as being away from the employer or a centralized office accomplishing work using technological tools specific to the nature of work (Meunier, 2020). This definition is like that of Fitzer's telework. In 1997, Fitzer defined telework as an arrangement where workers carry out their regular work at a location other than the everyday workplace, aided by technological connections (Fitzer, 1997). However, telework is a broader use due to its four dimensions: time distribution, work location, employment diversity, and information technology (Garrett & Danziger, 2007). Globalization Partners (2020) define *telework* as the substitution of technology for travel, such as someone takes work home after being at the office.

The Growth of Telecommuting

The demand for telecommuting has continued to increase with technology and global competitiveness (Global Workplace Analytics and Flexjobs, 2017). After gaining popularity in the 1990s, telecommuting arrangements were promoted and increased within the government under *The National Telecommuting Initiative* (Pasini, 2018). The *Remote Work Statistics* report by Flex Jobs shows the growth of telecommuting with the following statistics (Global Workplace Analytics and Flexjobs, 2017): (a) growth of 7.9% from 2016 to 2017, (b) remote workforces increase by 44% in the last five years, and (c) and an increase of 91% over the previous ten years. The Bureau of Labor Statistics (2020) shows that at least 24% of workers performed some or all work at home.

According to that same study, about 45% of U.S. jobs are telecommuting feasible (Bureau of Labor Statistics, 2020).

Telecommuting is one of the few occurrences where both the organization and employee benefit. Telecommuting reduces real estate and facility costs with fewer workers' presence, reduced utility consumption, and reduces the overall amount of floor space needed for office workers (Global Workplace Analytics, 2021; Marquit, 2019).

According to a study conducted by Global Workplace Analytics (2021), if an employer reduces office space by 25%, the employer will save an average of \$1.9 million per year for 1000 remote half-time workers (Global Workplace Analytics, 2021, p. 12).

According to research studies, employees' commitment increases when working in a telecommuting environment leading to cost savings in employee attrition, absenteeism, and pay (Ansong & Boateng, 2017; Chukwube, 2021; Gajendran & Harrison, 2007; Nosel, 2020). Telecommuting workers take shorter breaks, have fewer sick days, and take less time off (Global Workplace Analytics & Flexjobs, 2017; Mautz, 2018; Strain, 2019). In Tables 2 and 3, McQuarrie (1994) pulls together literature to identify employer and employee benefits and disadvantages throughout history (p. 79).

Table 2

Telecommuting Benefits and Drawbacks for Employers

Employer Benefits	Employer Drawbacks
Higher productivity	Loss of direct control
Reduced physical plant costs	Coordination of work
A selling point for new employees	
Can accommodate disabled or chronically ill employees	

Note. Adapted from “Telecommuting: Who really benefits? Telecommuting may sound great to both the employer and the employee, but the decision is not without drawbacks,” by F. A. McQuarrie, 1994, *Business Horizons*, 37(0007-6813), 79.

Table 3

Telecommuting Benefits and Drawbacks for Employees

Employee Benefits	Employee Drawbacks
Reduced commuting time	Isolation
Reduced personal costs	“Workaholism”
Flexible working hours	Work-life balance blurred line
Greater autonomy	Increase in home costs

Note. Adapted from “Telecommuting: Who benefits? Telecommuting may sound great to both the employer and the employee, but the decision is not without drawbacks,” F. A. McQuarrie, 1994, *Business Horizons*, 37(0007-6813), 79.

There are instances where telecommuting for employees will lead to a higher quality of life and job satisfaction (DuBrin, 1991). According to an Ernst and Young’s (2015) report, the top factors that workers value most in a potential career, after fair pay and benefits, are the ability to work while remaining on track for advancement, which ties at 74% with the ability to work with colleagues, including the manager, who appreciate the employee's efforts to work flexibly.

One study in Japan shows that 42% of female respondents versus 16.5 % of male respondents selected work-life balance as an advantage of telecommuting (Japan Institute for Labour Policy and Training, 2015; Sato, 2019). The benefits of less time spent commuting, more time with family and friends, and higher productivity interlocks in a trade-off with longer hours of work and a blurring of the boundary between paid work and personal life (Japan Institute for Labour Policy and Training, 2015; Sato, 2019). A survey by Worldatwork (2009) shows commuters average around 50 hours per week with only 20 hours per week is productive, whereas telecommuters average 45 hours per week

with 40 productivity hours. Not all telecommuters work at the same frequency or intensity of telecommuting.

Telecommuting Intensity Levels

Public and private utility sectors established policies to determine what jobs telecommute and the frequency employees spend away from the central work location (Spilker, 2014). There are different components and arrangements to design telecommuting programs (Alipour et al., 2021; Feldman & Gainey, 1997; Gajendran & Harrison, 2007; Office of Personnel Management, n.d.; Spilker, 2014). Some components drive a more in-depth look into the telecommuting impacts on an organization. Combining all teleworkers into one group may have unintended research consequences (Feldman & Gainey, 1997). In Table 4, Desrosiers (2001) summarizes the dimensions and differentiation for telecommuters.

Table 4

Dimensions and Differentiation of Telecommuters

Dimensions	Differentiation
Intensity level	Anywhere from less than once per month to full time (5 days per week)
Location of telecommuting	Home office Satellite office Neighborhood work center Client location, hotels, airplanes/airports
Program formality	Formal program Informal arrangement with the supervisor
Flexible working hours	Constrained Primarily flexible Completely flexible
Program initiative	Employee-initiated (voluntary) Organization- initiated (involuntary)

Notes. Adapted from “Telework and work attitudes: the relationship between telecommuting and employee job satisfaction, organizational commitment, perceived organizational support, and perceived co-worker support,” Desrosiers, E. I., 2001, https://docs.lib.purdue.edu/open_access_dissertations/1511 and “Patterns of telecommuting and their consequences: Framing the research agenda,” Feldman, D., & Gainey, T., (1997), *Human Resource Management Review*, 7, 369-388, [https://doi.org/10.1016/S1053-4822\(97\)90025-5](https://doi.org/10.1016/S1053-4822(97)90025-5).

The five work dimensions for developing a telecommuting program are intensity levels, location, program formality, flexible working hours, and program initiative (Feldman & Gainey, 1997). Telecommuting ranges as needed to telecommute full-time and rarely visits the office (Feldman & Gainey, 1997). A hybrid type frequency may include remotely twice, three times, or four times per week. Feldman and Gainey (1997) emphasize locations when working with other telecommuters at a satellite office or neighborhood work center. As the modern technological revolution releases the concept of remote work from physical constraints, telecommute is rapidly gaining ground with new programs underway (Grincevičienė, 2020).

There are formal and informal telecommuting programs. When the organization sponsors employees telecommuting, the program is formal; an informal program is when the employees negotiate an arrangement with their supervisor to work remotely one or more days per week (Feldman & Gainey, 1997). Office of Personnel Management provides a guide for developing a telecommuting program (Office of Personnel Management, n.d.). The guide covers program implementation, participant responsibilities, and program operations to ensure federal departments have the necessary policies and resources to implement their program successfully (Office of Personnel Management, n.d.). Feldman and Gainey (1997) describe the dimension flexibility as constrained, primarily flexible, and utterly flexible working according to one's schedule.

The program initiative's final dimension is whether the employee or the organization initiated the employee's teleworking arrangement (Feldman & Gainey, 1997).

Gajendran and Harrison (2007) define telecommuting as the amount of planned time workers perform duties away from a principal work setting. Telecommute concept refers to the virtual, home-based, and telecommuting extent (Alipour et al., 2021; Armour et al., 2020; Golden et al., 2006; Konradt et al., 2003; Scott & Timmerman, 1999; Wiesenfeld et al., 2001). The intensity level can be the number of days worked at the home and office (Citi, 2021; Henke et al., 2016). Gajendran and Harrison (2007) define high-intensity telecommuting as working at home 2.5 days or more and low-intensity as less than 2.5 days. Citi (2021) describes its telecommuting intensity levels based on the number of days worked in the office: (a) *hybrid* is a role working at least three days per week in the office and up to two days per week at home, (b) *resident* cannot be performed offsite, and (c) *remote* performs from outside of a Citi location (Citi, 2021). Employers continue to allow the flexibility and productivity shown from the pandemic telecommuting posture (Citi, 2021).

However, not all studies determine the level based on the number of days worked at the home and office (Henke et al., 2016). In another study, researchers define intensity levels as frequencies: (a) WFH frequently is when work is performed always or frequently at home, (b) WFH is working at home at least occasionally, and (c) WFH feasible is when working from home is not excluded (Alipour et al., 2021). Although telecommuting intensity levels vary across industries and organizations, researchers explore how the telecommuting work environment impacts individual needs and work outcomes.

Self-Determination Theory and Autonomy

With the COVID-19 pandemic shifting the workforce to telecommuting, employers must understand employees' psychological needs as suggested by the Self-Determination Theory. In 1985, Deci and Ryan introduced the Self-Determination Theory (SDT) as a meta-theory of human motivation and personality development, identifying two critical types of motivation—intrinsic and extrinsic (Deci & Ryan, 2008). Intrinsic motivation comes from inspiring behaviors. Extrinsic motivation is an effort to perform based on outside sources resulting in external rewards from grading systems, performance assessments, honors and accolades, and the respect of others.

While studying various organizations and work characteristics, Deci and Ryan (2014) discover the lack of basic development needs of employee's growth and development, leading to the development of intrinsic motivation drivers as psychological needs: competence, relatedness, and autonomy. Competence in one's abilities or feeling to master the skills and skills in the work environment (Ryan & Deci, 2000). It involves knowing what and how they are doing and being capable of pursuing (Deci & Ryan, 2008). Relatedness addresses the need for belonging and connecting with their own goals or other people (Ryan & Deci, 2000). Finally, autonomy can control one's behaviors and actions while achieving goals (Ryan & Deci, 2008). Overall psychological health and well-being require the satisfaction of all three needs.

Within SDT, the attention shifts from the difference between intrinsic and extrinsic motivation towards the disparity between autonomous versus controlled motivation (Sheldon et al., 2003). Deci and Ryan (1985) claim that individuals must

experience a sense of choice when engaging in activities to feel self-determined or autonomous.

When a job is well-rounded, autonomy is proportionate to the number of choices to the employee. (Hackman & Oldham, 1975). Research shows autonomy moderates telecommuting intensity levels and work interference (Golden et al., 2006). As telecommuting increases, job autonomy decreases (Golden et al., 2006). However, Gajendran et al.'s (2014) research suggests a positive correlation between telecommuting intensity and autonomy. Golden & Veiga's (2005) study shows that telecommuters with higher autonomy have more job satisfaction. As literature progressed, autonomy continued to evolve into interconnected facets.

Through a review of work design literature and previously described characteristics, Morgeson and Humphrey (2006) provide new insight into reducing or eliminating future challenges leading to the development of the Work Design Questionnaire (WDQ). The WDQ changes the task characteristics, whereas autonomy is a measure of three interconnected facets focused on freedom in (a) work schedule, (b) decision making, and (c) work methods. Thus, it allows a further analysis to understand the levels of autonomy. Research shows that the more flexibility an employee has over the three interconnected facets, the higher job satisfaction and other work outcomes are (Baltes et al., 1999; Deci & Ryan, 2008; Gagne & Deci, 2005; Onimole, 2015; Saragih, 2011; Thompson & Prottas, 2005). Therefore, it is essential to understand how autonomy may influence job satisfaction when other factors are involved.

Job Satisfaction

Job satisfaction is one of the most studied fields of interest for industrial and organization psychology (Spector, 1997). When defining job satisfaction, researchers express it as an employee feeling towards a job, but there is no agreement on a solid definition. Hoppock (1935) implies that employees state that they are happy with their careers. According to Vroom (1964), job satisfaction is described as individuals' affective preferences toward the work positions. Locke and Lathan (1990) define job satisfaction as an acceptable or optimistic mental condition brought on by evaluating one's job or work interactions. Other works, however, characterize job satisfaction as an attitude toward one's job (Aziri, 2011; Spector, 1997). Similarly, in Wiener (1982), job satisfaction views work circumstances or job elements as influence factors.

Throughout literature, research studies identify factors that influence job satisfaction from an individual and organizational standpoint. Job satisfaction studies date to the early to mid-1920s, like the Hawthorne Effects. The study participants produce electromechanical relays at the Hawthorne Electric Plant in Cicero, Illinois (Roethlisberger & Dickson, 1939). For three years (1924-1927), well-known illumination tests were carried out (Roethlisberger & Dickson, 1939). Findings suggest light modifications led to an uptick in efficiency (Roethlisberger & Dickson, 1939). However, researchers dispute the results and suggest examining psychological and social variables (Wickström & Bendix, 2000).

In the 1930s, Hersey's study of job satisfaction suggests more interaction between the management and worker; emotional tone fluctuates consistently from three to nine weeks, varying by the worker (Hersey, 1932). A study conducted by Han et al. (2015)

finds that psychological demands, supervision, supervisor or peer support, and work hours were all found to be related to job satisfaction among nurses (Han et al., 2015). Job management and peer support influence nurses' willingness to leave their jobs (Han et al., 2015). Working long hours without much time off decreases job satisfaction and lacks feedback from subordinates and supervisors (Han et al., 2015). Positive emotion on the job correlates with work accomplishment and a supportive social context (Staw et al., 1994).

Satisfaction with work often involves context, work conditions, and the meaning people give to their work. Work environment, salary, and promotion significantly impact employees' job satisfaction levels (Gajendran & Harrison, 2007; Golden & Veiga, 2005; Spector, 1997; Zheng et al., 2017). The physical setting has a great deal to do with work culture, the perception of the workplace, and job satisfaction (Zheng et al., 2017).

Gajendran and Harrison (2007) show that telecommuting is positively associated with job satisfaction but not at all intensity levels. Golden and Veiga (2005) find a curvilinear relationship concerning job satisfaction and telecommuting intensity levels. Job satisfaction plateau at higher extensive levels of telecommuting (Golden & Veiga, 2005). However, another study found little clear evidence that telecommuting increases job satisfaction regardless of intensity (Bailey & Kurland, 2002). Zheng et al.'s (2017) study discovered how physically demanding a well-balanced atmosphere influences job satisfaction. From the 108 mutual assistance providers' responses, job satisfaction levels in the recovery staff link to external causes (Zheng et al., 2017).

For an individual, personality traits can determine long-term job satisfaction, sociability, and emotional knowledge hinder overall fulfillment (Herzberg, 1966; Mayo,

1945; Wright & Bonnett, 2007; Zheng et al., 2017). Wright and Bonnett's (2007) studies examine the connection between psychological well-being, job satisfaction, and work performance evaluation over two years. Using a statistical model of 112 managers from the West Coast of the United States, adjusting for age, gender, race, and overall work satisfaction finds a net influence on employee turnover (Wright & Bonnett, 2007). When employees' overall well-being is lacking, there is a clear negative correlation between attrition and employee job satisfaction (Wright & Bonnett, 2007). Changes in tasks or other variables can eliminate worker character flaws.

Herzberg's (1966) Job Characteristics Model contributes to the job enrichment effort for increasing motivation, satisfaction, and productivity of people at work. A study of millennials in Malaysia shows variables employee development, employee reward, and employee work-life balance are significantly related to job satisfaction (Wen et al., 2018). Other findings suggest autonomy, task identity, and feedback impact job satisfaction, while task variety influences a worker's commitment (Bhuain et al., 2001). However, Sneed's (2008) study concludes no significance between job characteristics and job satisfaction (Sneed, 1988); several theories exist to interpret the concept of job satisfaction.

Theories of Job Satisfaction

Each theory approach aims to provide a foundation and explanation of individuals' fulfillment with their jobs. In addition, researchers use these theories to discover factors impacting job satisfaction, ways to measure job satisfaction and to create practices for increasing individual's attitude towards the job itself (Aziri, 2011; Bowling & Hammond, 2008; Faragher et al., 2013; Hoppock, 1935; Herzberg et al., 1959;

Maslow, 1981; The Conference Board, 2021; van Saane et al., 2003). One of the most well-known theories of job satisfaction is Maslow's Hierarchy of Needs (Locke and Latham, 1990).

Maslow's Hierarchy of Needs

Maslow's 1954 theory proposes that human satisfaction needs are in a particular categorical order: physiological needs, safety needs, love and belongingness, self-esteem, and self-actualization (Maslow, 1981). Maslow (1981) defines the various physiological needs, basic human needs, and life functions (eating, drinking, shelter, and breathing), with safety needs being the absence of threats, risks, and economic stability (Maslow, 1981). Belonging and love involve a sense of affection and acceptance (Maslow, 1981). The drive for mastery and success and the need for social acceptance encompasses the need for self-esteem (Maslow, 1981). Thus, self-actualization is operational when four basic requirements are complete (Maslow, 1981). Self-actualization means that one must become what one should be, self-fulfilled (Maslow, 1981). Maslow (1981) explains that the requirements must be satisfied to achieve superiority to fulfill these needs efficiently. An individual's lower-level needs, such as physiological or protection, must be met to reach higher-level needs (Maslow, 1981).

Maslow's hierarchy of needs can determine the success of programs and identify at-risk factors (Maslow, 1981). One study finds that using Maslow's hierarchy in the intensive care unit will bring about holistic treatment for total well-being, not just medical survival (Jackson et al., 2014). In an academic environment study, identifying vulnerable students is critical for offering guidance to implementing school success-extinction strategies (Freitas & Leonard, 2011). Locke and Latham (1990) discuss

Maslow's hierarchy of needs describes an ideal job for an employee that supports the employee's hierarchy. Along with needs, Herzberg's two-factor theory describes factors for job satisfaction and dissatisfaction. Hackman and Oldham (1976) recognize Herzberg's two-factor theory as a fundamental theory to job satisfaction.

Herzberg's Two-Factor Theory

Herzberg's two-factor theory extends Maslow's theory of motivation. It states that specific aspects add to job satisfaction and different factors contribute to job dissatisfaction (Herzberg F., 1966). The two factors are motivators, or intrinsic, and hygiene, or extrinsic. Motivators for workplace success include feelings of accomplishment, increased responsibility, career development, and self-growth. Happiness correlates with the work climate, like rules and coworkers (Herzberg et al., 1959).

Herzberg and others state that adverse work and home conditions may negatively affect employee satisfaction and produce negative work attitudes (Herzberg et al., 1959). When the hygiene factors are unacceptable, worker satisfaction levels decline. Contrary to this, positive attitudes increase a person's drive towards self-actualization. A motivational aspect enhances an individual's satisfaction by providing opportunities to fulfill personal needs and accomplishments (Herzberg, 1966). To discover employee work satisfaction, companies may collect information on job satisfaction.

Although the theory is influential in organizational behaviors, the two-factor theory receives criticism for its methodologically and conceptually (Furnham et al., 1999; Herzberg et al., 1959). It lacks analysis of individual demographics such as gender,

culture, and age categories, not to mention organizational differences (Furnham et al., 1999; Hackman & Oldham, 1976).

Hackman and Oldham's Job Characteristics Theory

Published over 48 years ago, Hackman and Oldham's (1974) job characteristic theory (JCT) is one of the most recognized theories in the literature. This view describes the relationship between job characteristics and individual response to work. It believes that individuals who enjoy their jobs find meaningful and motivated to perform well (Hackman & Oldham, 1974).

Hackman and Oldham believed the five job design characteristics determine whether a job is motivational, and those characteristics are skill variety, task identity, task significance, autonomy, and job feedback (Hackman & Oldham, 1974; Kiggundu, 1981; Spector, 1997). Hackman and Oldham (1974) describe the characteristics as following:

1. *Skill variety* is the range of different activities in carrying out the work, which involves several skills and talent from the employee.
2. *Task Identity* is the job requiring the completion of an identifiable piece of work.
3. *Task Significance* is when a job has a significant impact on the lives or work of others.
4. *Autonomy* is when the job provides considerable freedom, liberty, and employee choice in arranging work and deciding the processes to be used.
5. *Feedback from the Job Itself*. The employee obtains detailed and transparent information about the performance effectiveness.

The five job design characteristics prompt employees' critical psychological state, which results in positive personal and work outcomes. The three psychological conditions are (a) *experienced meaningfulness of work* with contributing characteristics skill variety, task identity, and task significance; (b) *professional responsibility for work outcomes* with contributing characteristic autonomy; and (c) *knowledge of the actual results of the work activities* with contributing characteristic feedback from a job (Hackman & Oldham, 1974). When job design characteristics align with psychological states, the employee's internal work motivation increases, increasing job performance satisfaction and low truancy and turnover (Hackman & Oldham, 1974). Hackman and Oldham (1976) explain that although this model applies to an individual employee, it is not practical for team designs. Another well-known studied theory of job satisfaction is the Range of Affect Theory.

Locke's Range of Affect Theory

Signh and Sinha (2013) recognize that Edwin A. Locke's Range of Affect Theory is perhaps the most renowned job satisfaction model. This theory's concept is that an employee's desire in a job versus what is in the position determines the employee's job satisfaction (Locke, 1976). The four facets are nature of work, rewards, other people, and organizational context. The nature of work is how an employee performs and is satisfied with a specific job (Locke, 1976). Rewards are tangible or intangible items given to an employee for doing the job (Locke, 1976).

Further, the theory states that how much one values a given facet of work controls job satisfaction (Locke, 1976). Signh and Sinha (2013) illustrate this theory with autonomy, where the employees value autonomy differently. If one employee values

autonomy and the other is neutral, the theory assumes the employee respecting autonomy has higher job satisfaction than the other employee (Singh & Sinha, 2013). Other theories of job satisfaction in literature are below in Table 5.

Table 5

Other Job Satisfaction Theories Throughout the Literature

Theory	Description	Source
Existence-Readiness-Growth Theory	This theory is like Maslow's hierarchy of needs with three types: (a) existence, (b) relatedness, and (c) growth.	(Yang et al., 2011)
McClelland's Need Theory	This theory says that three needs influence human behavior: (a) power, (b) achievement, and (c) affiliation.	(Harrell & Stahl, 1984)
Equity Theory	This theory seeks to achieve a balance between one's qualifications and output in a workplace.	(Huseman et al., 1987)
McGregor's Theory X and Theory Y	These theories suggest two facets of employee behavior: (a) negative, or Theory X; and (b) positive, or Theory Y.	(Morse & Lorsch, 1970)
Expectancy Theory	The theory supports job satisfaction from an individual's feeling and occurs when less is receives.	(Locke & Latham, 1990)
Goal-Setting Theory	This theory places importance on concrete, quantifiable goals to excite and bolster motivation.	(Locke & Latham, 1990)
Dispositional Approach	This approach studies an individual's neuroticism personality, extroversion, locus of control, and general self-efficacy to determine the nature of job satisfaction.	(Judge et al., 1998; McCrae & Costa, 1987)

Measuring Job Satisfaction

Measuring job satisfaction is complex and dynamic since it comprises values, want, and even expectations (Onimole, 2015). However, when it comes to evaluating contentment, the thinking process, mindset, or how an individual will use the resources matters most (Onimole, 2015). Some research suggests measuring job satisfaction to predict and understand its workforce's behavior and attitudes (Earl et al., 2011; Faragher et al., 2013). Nortje implies that job satisfaction measured today does not always ensure job satisfaction in five years since several factors within the workplace can change (Nortje, 2021).

With the hundreds of studies completed, job satisfaction varies regarding how it is measured (Humlin, 2003; Sempene et al., 2002; Spector, 1997). These methods include grading and rating scales that are self-reported in single and multiple dimensions. Locke (1976) describes the measurements for a job as events, or conditions, and agents. A person or something occurring causes an event, whereas an agent produces a person's assessment of something completed or failure (Locke, 1976). One study showed that a questionnaire with multiple dimensions has a more robust job satisfaction composition in all the dimensions than each with performance (Nortje, 2021).

Various methods and sources capture and measure the factors of job satisfaction. Interviews, questionnaires, and surveys are the most popular. However, one systematic review of job satisfaction measurement tools shows that out of 29 instruments found, only seven meet the defined reliability and validity criteria (van Saane et al., 2003). Therefore, using proven measurement sources ensures accurate and reliable findings when measuring job satisfaction.

Several instruments are standard throughout the literature. Smith et al.'s (1969) Job Description Index is one of the most used methods to detect factors affecting job satisfaction measuring five facets: Nature of work, pay, promotions, coworkers, and supervision. Weiss et al.'s Michigan Organizational Assessment Questionnaire (MOAQ) is a reliable and construct-valid measure of job satisfaction (Bowling & Hammond, 2008).

MOAQ measures three satisfaction scales: intrinsic, extrinsic, and general (Bowling & Hammond, 2008). However, some researchers criticize applying a single item measuring one-dimensional job satisfaction (Bowling & Hammond, 2008). Job Diagnostic Survey (JDS) explores the effects of job characteristics with subscales to measure the psychological states, nature of work, personality, motivation, and reaction to the job (Hackman & Oldham, 1974). JDS includes job satisfaction: pay, growth, social, security, and supervision with global satisfaction (Hackman & Oldham, 1974; Spector, 1997). Developed in 1976, the Andrews and Withey Job Satisfaction Questionnaire is almost a 100-page questionnaire obtained from the authors, particularly lengthy to administer (Andrews & Withey, 2012). A much shorter survey with 36 items is the Job Satisfaction Survey (JSS). With the original intent for use in public, human service, and nonprofit sectors, the JSS applies to other industries (Spector, 1997). Proven among the different job satisfaction scales, the JSS is a questionnaire used to assess nine dimensions of job satisfaction that drive the overall satisfaction (Spector, 1997). For examining job satisfaction and autonomy, the JSS and WDQ can provide researchers insight into how telecommuting and its intensity levels relate, especially during a pandemic.

Summary

Pandemics are nothing new, wreaking havoc on human lives and economies. However, when a pandemic is severe enough, it forces the world to take preventive measures such as social isolation. Social isolation impacts a person's mental well-being and reduces perceived job satisfaction and increased stress in the workplace (Cooper & Kurland, 2002; Morganson et al., 2010; Perez et al., 2002). For the workplace, social isolation occurs in the telecommuting posture.

Gajendran and Harrison (2007) define telecommuting as the amount of planned time workers perform duties away from a principal work setting. Telecommuting is one of the few occurrences where both the organization and employee benefit, but it also has drawbacks. For employers, telecommuting reduces real estate and facility costs with fewer workers' presence. For employees, telecommuting reduces commuting time and personal expenses (travel, clothing, food) while allowing more flexibility in work hours. However, these employee benefits vary depending on the telecommuting intensity levels. The literature review shows that telecommuting and its intensity influence social isolation, autonomy, and job satisfaction. The mandated telecommuting forces social distancing away the employees' choice and flexibility to work, two key factors impacting job satisfaction.

In 1985, Deci and Ryan introduced the Self-Determination Theory (SDT) as a meta-theory of human motivation and personality development. Research studies identify factors that influence job satisfaction from an individual and organizational standpoint. Using these theories, researchers develop various methods and sources to capture and

measure job satisfaction factors through interviews, questionnaires, and surveys to identify factors related to job satisfaction.

Job satisfaction is one of the most studied concepts relating to an organization and its workforce (Spector, 1997). It is some degree, an employee's feeling towards a job. Several theories exist to interpret the concept of job satisfaction. Maslow's (1981) is the most know theory of job satisfaction which proposes that human needs of satisfaction are in a particular categorical order: physiological needs, safety needs, love and belongingness, self-esteem, and self-actualization (Maslow, 1981). Herzberg's two-factor theory extends Maslow's theory of motivation. It states that specific aspects add to job satisfaction and different factors contribute to job dissatisfaction (Herzberg, 1966).

Hackman and Oldham believe the five job design characteristics determine whether a job is motivational, and those characteristics are skill variety, task identity, task significance, autonomy, and job feedback (Hackman & Oldham, 1974; Kiggundu, 1981; Spector, 1997). Research finds job satisfaction has shown a relationship to productivity, organizational culture, telecommuting intensity, autonomy, and social isolation. Many of these findings are pre-COVID-19 pandemic.

Since its start, the pandemic impacts the working environment. The pandemic's impact on the current workforce is unknown. Further investigation is needed to understand the relationship between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic. The next chapter provides details of the methodology and research design of the study, how data will be collected and analyzed.

CHAPTER III – METHODOLOGY

This study examined the relationship between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic. The chapter begins with a description of the current study's research objectives and design. Next, the chapter describes the population and sample participants. Then, the data collection method and research instrument provide details regarding data collection with a discussion of the reliability measures for each scale. Finally, the chapter concludes with an overview of the data analysis plan to include the statistical procedures applicable to the research objectives.

Research Objectives

The study's research question was "What relationship exists between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic?". The following research objectives (ROs) guided the study:

RO1 – Described the participants' demographics regarding gender, race, educational level, marital status, and household pandemic impact.

RO2 – Determined the relationship between social isolation and job satisfaction during the COVID-19 pandemic.

RO3 – Compared the influence of telecommuting intensity levels on job satisfaction during the COVID-19 pandemic.

RO4 – Determined the relationship between autonomy and job satisfaction during the COVID-19 pandemic.

RO5 – Determined the relationship among social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic.

Research Design

The research design serves as the framework for the study being conducted (Trochim, 2006). The method of this study was a nonexperimental, quantitative correlational research study. Nonexperimental research lacks random assignment of participants to a group and manipulation of interference by a researcher (Cook & Cook, 2008; Shadish et al., 2002). Quantitative and correlational research assesses the extent to which two or more variables are related (Creswell, 2005; Shadish et al., 2002). The survey instrument was the tool to reveal the variable relationships.

This study used a survey design method to examine the relationship between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic. Shadish et al. (2002) suggest using surveys in quantitative research studies to find meaningful relationships by evaluating the factors related to a relevant sample of the target population. A survey design approach allowed distributing and collecting data to complete the research (Shadish et al., 2002). Using an online survey allowed the researcher and participant more flexibility since online surveys are available at any time of the day, unlike in-person surveys. The survey software offered forced responses, automatic skipping of questions, and other electronic elements that paper surveys also have (Qualtrics, 2021a). Qualtrics (2021a) allowed easier tracking of progress and autosaving in case of interruptions. The survey was accessible by computer and mobile device for development, data collection, and data analysis and reporting (Qualtrics, 2021a).

For this study, an online survey collected the data to reach the appropriate population. The goal of quantitative designs was to generalize results from a sample to

the whole population (Shadish et al., 2002). The correlational design aimed to explain the connection between various variables or constructs in the study's population (Shadish et al., 2002).

Population and Sample

The population for this study was a utility company in a telecommuting posture across the United States. Utility companies play a vital role in economic and social development, providing essential services to residential and commercial customers (International Labour Organization, n.d.). The utility sector consists of electric power, natural gas, steam supply, water supply, and sewage removal companies (Bureau of Labor Statistics, 2021). Utilities deliver retail services to consumers that require state, federal, and local agencies to protect the public's interest (Lazar, 2016). The government expects utilities to offer service to anyone who requests it and pays at the regulator's approved prices (Lazar, 2016).

Because utilities' infrastructure affects whole communities, they must meet stringent government safety requirements (Lazar, 2016). Services are ongoing and must remain, especially during a pandemic. The U.S. President and governors issued executive orders considering utility companies' workforce vital during COVID-19 response (Cybersecurity and Infrastructure Security Agency [CISA], 2020; National Conference of State Legislatures, 2021; Office of the Louisiana Governor, 2020; Office of Texas Governor, 2020). However, regardless of a pandemic or not, utility workforces must continue to perform day-to-day operations as required by regulators (Cybersecurity and Infrastructure Security Agency [CISA], 2020; National Conference of State Legislatures, 2021; Office of the Louisiana Governor, 2020; Office of Texas Governor, 2020).

During the COVID-19 pandemic, the energy sector faced challenges with regulatory actions and operations, workforce disruptions, and possible employee virus exposure, impacting the services provided (Berking et al., 2020; North American Electric Reliability Corporation, 2020; Southern Company, 2020; Tennessee Public Utility Commission, 2020; Willis Towers Watson, 2020). According to current employment statistics, the energy sector workforce declined over the last 12 months, decreasing 7500 employees (Bureau of Labor Statistics, 2021). The possibility exists for workforce shortages due to personal sickness, general fear of disease, family problems, and government constraints. Many energy companies have underinvested in their workforce for years and experience constant turnover and attrition, with several job vacancies remaining unfilled (Bennett, 2015; Keyser & Tegen, 2019). Energy worker retirements occurred at a rate of more than double the percentage of trained (U.S. Senate Committee, 2016). Nevertheless, the public continued to require critical services. Therefore, this study examined the relationship of social isolation, telecommuting intensity levels, autonomy, and job satisfaction in the energy sector during the COVID-19 pandemic.

Sampling Procedure

For this study, the sampling procedure was convenient and purposive. The selection of the nonprobability random sample is based on the investigator's access since the population does not need to be precisely defined (Alvi, 2016). Convenience sampling is a nonprobability random strategy with a readily available population, but volunteers may be unlike the target population (Fink, 2003). A purposive sampling includes those with specific characteristics or qualities selected by a researcher for the study (Alvi, 2016).

For this study, the sample population included participants from an energy company providing services to the Southeastern region of the United States. The company was based in the U.S. Southeastern region with employees located throughout the U.S., but mainly in the servicing areas. The company mandated telecommuting posture where possible for social distancing purposes to minimize the spread of COVID-19 throughout its workforce.

The researcher accessed the population through the company's U.S. Women in Nuclear (U.S. WIN) chapter who meet the criteria of being employed at a company with a mandated telecommuting workforce. The U.S. WIN was a non-profit organization comprised of women and men working in nuclear energy and technological fields (U.S. WIN, 2021). The organization's vision is to position the United States for the future of nuclear energy and technology through the advancement of women (U.S. WIN, 2021). The U.S. WIN chapter for this study had 300 members at six different locations; however, only four locations participated in the survey, reducing members to 215. The recommended sample size is 139 employees using a 95 % confidence level, a 5% margin of error, and a 50% response distribution indicated by Raosoft's sample size calculator (Raosoft, 2004). Although 89 members responded, only 84 members completed all responses to the survey leading to a response rate of 39.1%.

Institutional Review Board Approval

Since this study included interactions with human participants, the researcher asked for authorization from The University of Southern Mississippi's Institutional Review Board (IRB); the IRB's purpose "is to assure, both in advance and by periodic review, those appropriate steps to protect the rights and welfare of humans participating

as subjects in the research” (U.S. Food and Drug Administration, 1998, para. 1). For the IRB application, the researcher detailed the study’s purpose, the population of curiosity, and the interaction between the researcher and participants. Next, the researcher obtained the study's approval by completing the following: (a) the Human Subjects Research Application Form; (b) emailed completed and signed forms to the dissertation chair for review and signature; (c) and submitted the IRB application to The University of Southern Mississippi IRB. Once approval was received, the researcher conducted the study. Appendix A provides a copy of the IRB approval. After gaining permission from the IRB, the researcher deployed the instrument to begin collecting data.

Instrument

According to Creswell (2014), the survey was appropriate and efficient for collecting quantitative data. This study used a self-administered survey instrument with closed-ended questions to examine the relationship between social isolation, telecommuting, intensity levels, autonomy, and job satisfaction. Using the online survey platform, Qualtrics allowed the survey link and response to remain anonymous by not recording respondents’ IP addresses, location data, and contact info (Qualtrics, 2021). In Qualtrics, the online survey contained 19 questions gathered and compiled from three existing surveys and questionnaires to include six demographic questions. Current survey instruments utilized for the study included Golden et al.’s (2008) Professional Isolation questions for social isolation, Morgeson and Humphrey’s (2006) Work Design Questionnaire (WDQ) for autonomy, and Spector’s (1985) Job Satisfaction Survey for job satisfaction. Although other data collection instruments exist relating to the current variables, the researcher selected an online survey for its low cost, more substantial

validity, reliability, and ease of use. The following sections describe the utilization of each study for this study.

Demographics Questionnaire

Following the informed consent form, the survey's first six questions (Q1-Q6) included the six researcher-developed questions that address the study participants' demographics, including gender, race, educational level, marital status, and household pandemic impact and telecommuting intensity level. This data provided descriptive statistics to characterize the COVID-19 pandemic workforce. Capturing specific descriptors allowed the telecommuting researchers to determine to whom research findings generalize and comparisons across studies' replications (Hammer, 2011). Gender options included male, female, non-binary, and prefer not to say. The race selections were White, Hispanic, Latino, Black or African American, Native American, American Indian, Asian, Pacific Islander, or Other. The highest degree obtained, or school completed options were high school diploma or equivalent, some college, no degree, an associate, a degree bachelor's degree, a master's degree, professional degree, and doctorate. The marital status choices on the survey were single (never married), married, domestic partnership, divorced, or widowed. The question for household pandemic impact was *how your household had been impacted directly by the pandemic?* The option was to select household COVID-19 illness, household loss of income, dependent school closures, list other impacts, or not at all. The demographic questions address RO1 of this study.

Participants identified the telecommuting intensity level during the COVID-19 pandemic. The telecommuting intensity levels were exclusive telecommuting, some

telecommuting, and no telecommuting. Telecommuting intensity level helped address RO2 and RO5 of this research study. The next question (Q7) included a matrix of the social isolation questions.

Social Isolation

Golden et al. (2008) develop professional isolation in the workplace due to a lack of existing measures. Using semi-structured interviews and exploratory factor analysis, the researcher used a single construct composed of seven items: (1) "I feel left out on activities and meetings that could enhance my career," (2) "I miss out on opportunities to mentor," (3) "I feel out of the loop," (4) "I miss face-to-face contact with coworkers," (5) "I feel isolated," (6) "I miss the emotional support of coworkers," and (7) "I miss informal interaction with others (Golden et al., 2008)". The rating scale ranged from 1 = *Rarely* to 5 = *Most of the time* on the 5-point Likert scale. The scoring of social isolation ranged from 7-35 after summing all seven questions. The higher the score, the more social isolation a participant experienced.

The social isolation survey proved to be valid and reliable (Golden et al., 2008). For convergent validity, the authors correlated the construct with UCLA's Loneliness Scale, resulting in a significant positive relationship ($r = 0.74$, $p < 0.01$) (Golden et al., 2008). For content validity, a panel of 15 informed judges independently categorizes each categorization with a median agreement level of 90% and a median confidence rating of 4.0 (Golden et al., 2008). To test whether the data fit the hypothesized model, Golden et al. (2008) employed confirmatory factor analysis to determine if the model is consistent with a fit of 0.90 or greater; however, the model fit is inconsistent. The fit results included a comparative fit index of 0.90, an incremental fit index of 0.90, Tucker–

Lewis's index of 0.80, and a normed fit index of 0.89 (Golden et al., 2008). The survey was reliable since no change in the internal consistency (Golden et al., 2008). The following questions on the survey were autonomy survey questions.

Work Design Questionnaire

Morgeson provided the researcher permission to use the Work Design Questionnaire (WDQ; Morgeson & Humphrey, 2006). See approval in Appendix B. The WDQ consisted of 21 work characteristics with four groupings: (a) task, (b) knowledge, (c) social, and (d) contextual. Only the task grouping measured autonomy for this current study, which addresses RO4; autonomy's relationship with job satisfaction, where RO5 added social isolation and telecommuting intensity levels to the relationship. In addition, autonomy had three categories: (a) work schedule (Q8), (b) decision-making (Q9), and (c) work methods (Q10) (Morgeson & Humphrey, 2006). The survey used a 5-point Likert scale measuring *strongly disagree* to *strongly agree* (Morgeson & Humphrey, 2006). The categories' cumulative scores showed overall autonomy ranges from 9 to 45 (Morgeson & Humphrey, 2006). Thus, as the score increased, the level of autonomy increased for the study participants.

The WDQ was a valid and reliable survey used throughout the literature (Morgeson & Humphrey, 2006). Morgeson and Humphrey (2006) measured internal consistency, inter-rater reliability, and interrater agreement using Cronbach's coefficient alpha. Cronbach's coefficient alpha reflected the homogeneity of the scales (Litwin, 2003). Generally, the coefficient alpha measured from one to zero with a reliability of 0.7 or greater, indicating acceptable (Litwin, 2003). The WDQ's scales of internal consistency reported average reliability across all the scales of 0.87. Work scheduling

autonomy had an internal consistency of 0.85, interrater reliability of 0.53, and interrater agreement of 0.76. Decision-making autonomy had an internal consistency of 0.85, interrater reliability of 0.46, and interrater consensus of 0.84 (Morgeson & Humphrey, 2006). Work methods autonomy had an internal consistency of 0.88, interrater reliability of 0.44, and interrater agreement of 0.79 (Morgeson & Humphrey, 2006). The WDQ differentiated among occupations used in organizational contexts for job classification (Morgeson & Humphrey, 2006). The following nine questions captured job satisfaction data.

Job Satisfaction Survey

Spector's (1985) Job Satisfaction Survey (JSS) is a copyrighted survey in which the researcher gained permission from the author to use for this study. Appendix C provided the approval. The JSS measured job satisfaction to address RO2, RO3, RO4, and RO5. The JSS captured employees' perceptions of the job and its aspects by answering 36 statements with a nine-facet scale. The nine facets were (a) pay, (b) promotion, (c) supervision, (d) fringe benefits, (e) contingent rewards, (f) operating procedures (required rules and procedures), (g) coworkers, (h) nature of work, and (i) communication (Spector, 1997). For this study, each facet (Q11- Q19) contained four group questions into one question measured by a 6-point Likert Scale, ranging from 1 (*disagree very much*) to 6 (*agree very much*).

The scoring of the survey was a cumulative score of all nine facets ranging from 36 to 216. The scoring reversed negatively worded items where the rightmost values replace the leftmost or subtract the original values for the internal items from seven (Spector, 1997). The reversals were 1 = 6, 2 = 5, 3 = 4, 4 = 3, 5 = 2, 6 = 1 and scored as

such (Spector, 1997). The ideal method calculated the individual's mean score per item for missing item responses and used it to replace missing items; otherwise, the score was too low (Spector, 1997). A less accurate procedure substituted a middle response, between 3 or 4, alternating for each missing item (Spector, 1997). The online survey forced a response to eliminate missing items. Categorically measuring 36 to 108 resulted in dissatisfaction, 144 to 216 for satisfaction, and between 108 and 144 for ambivalent (Spector, 1997). However, this research calculated job satisfaction as a cumulative interval score whereas job satisfaction increased, the score increased.

The JSS is used throughout various public and private organizations supporting the validity and reliability of the instrument. Studies using multiple scales for job satisfaction on a single employee supported validity. Spector (1985) sampled 2870 participants to derive the internal consistency using coefficient alpha for each facet of the survey below in Table 6. After the JSS questions, the survey concluded by thanking the participants for the opportunity to enter for a chance to win a \$100 Amazon gift card discussed further in the data collection section of this chapter.

Table 6

Internal Consistency of the Job Satisfaction Survey

Scale	Alpha	Description
Pay	0.75	Pay and remuneration
Promotion	0.73	Promotion opportunities
Supervision	0.82	Immediate supervisor
Fringe Benefits	0.73	Monetary and nonmonetary fringe benefits
Contingent Rewards	0.76	Appreciation, recognition, and rewards for good work
Operating Procedures	0.62	Operating policies and procedures
Coworkers	0.6	People you work with
Nature of Work	0.78	Job tasks themselves

Table 6 (Continued)

Scale	Alpha	Description
Communication	0.71	Communication within the organization
Total	0.91	Total of all facets

Validity using Survey Mapping and Pilot Study

Researchers utilized face validity to collect present or future individuals' assessments of the study findings (Salkind, 2010). According to Fink (2003), "Face validity refers to how a measure appears on the surface: Does it ask all the needed questions?" (p. 51). Survey mapping and the pilot study aligned the instrument to the research content. The survey map showed the study's research objectives' alignment with the survey objectives in Table 7.

Table 7

Survey Map Aligning Research Objectives and Survey Questions

Research Objective	Questions	Origin of Questions
Informed Content Form		Researcher Created
Describe the participants' demographics regarding gender, race, educational level, marital status, household pandemic impact, and telecommuting intensity levels.	Q1-Q5 Q6	Demographics Researcher Created
Determine the relationship between social isolation and job satisfaction.	Q7 Q11-Q19	Social Isolation Scale Job Satisfaction Survey Scale
Compare the relationship between telecommuting intensity levels and job satisfaction.	Q6 Q11-Q19	Researcher Created Job Satisfaction Survey Scale
Determine the relationship between autonomy and job satisfaction.	Q8-Q10 Q11-Q19	Work Design Questionnaire Scale Job Satisfaction Survey Scale

Table 7 (Continued)

Research Objective	Questions	Origin of Questions
Determine the relationship among social isolation, telecommuting intensity levels, autonomy, and job satisfaction.	Q7 Q6 Q8-Q10 Q11-Q19	Social Isolation Scale Researcher Created Work Design Questionnaire Scale Job Satisfaction Survey Scale

The researcher used a survey map to align research questions to the study’s research objectives to ensure content validity (Phillips et al., 2013). Before IRB approval, the pilot study determined whether the tool contained the right questions and evaluated the administration process before it was finalized and published. Fink (2008) and Salkind (2010) suggest conducting a practical pilot study to replicate the use of the survey instrument with a similar group to the research population.

The researcher utilized staff meetings and workplace social media group access to recruit employees' participation in the pilot study. After verbal confirmation of participation, the researcher explained the research purpose, informed consent, and the link to complete this survey to the participants. The pilot study group included 11 of the 14 participants invited to complete the survey. Appendix D provided the pilot study email invite. See Appendix E for the pilot study survey.

The pilot study survey included the informed consent form, original 19 questions, and six follow-on questions to assist the researcher in ensuring the respondents understood the survey questions and formatting. Follow-on questions were added after the survey as an additional section. Participants were asked to provide (a) the device type used to complete the survey, (b) whether questions and statements were easily understood, (c) the amount of time needed to complete the survey, (d) if any issues

existed navigating the survey, (e) whether any questions or statements needed clarification, and (f) the researcher requested feedback or recommendations for survey improvement. The survey was completed on ten desktop or laptop computers and one cell phone with no navigation issues. All questions, including those with frequencies, were easily understood. The average survey completion time was 13 minutes. Based on verbal feedback from two participants, the researcher updated the informed consent form by bolding the headings for each section and adding a statement to identify questions related to the construct in question. Based on the feedback of the pilot study participants, the researcher was confident in the reliability and validity of the instrument for data collection.

Data Collection Procedures

For the researcher to obtain the data, a thorough data collection procedure outlines the necessary steps to collect the data from the participants (Fink, 2003b; Salkind, 2010). For the researcher to conduct the study, the researcher gained access to the target population. Dillman et al. (2014) assert the use of sponsors as contributing to increasing response rates. For this study, the research sponsor was the president of the U.S. WIN chapter with an established relationship with members. The researcher obtained population access approval from the sponsor via email to submit as part of the IRB application package. See Appendix F for population access approval. The researcher actively communicated with the sponsor throughout the entire data collection and addressed any questions or concerns afterward. To begin the data collection process, the researcher obtained IRB approval to begin data collection.

After gaining IRB approval, the researcher emailed the invitation to the sponsor for distribution to the group's members. Appendix G includes the initial research invitation, which contained incentive information. For transparency and proper protocol within the organization, the invitation email included (a) a statement of no company or organizational affiliation, (a) the purpose of the study, and (c) a direct link to the survey for participation. Once participants accessed the link, the online informed consent form was displayed for the participant review.

The participants selected to consent or not to consent to participate in the survey. When the participant chose not to consent, they received a message thanking them for their time and interest. The estimated completion time for the survey was 10-15 minutes. Once a participant completed the final survey question, a thank you message appeared inviting the participant to enter a drawing for a chance to win one of five \$100 Amazon gift cards. Researchers suggested offering an incentive to increase participation in survey studies (Dillman et al., 2014; Phillips et al., 2013)

Participants clicked the link to a separate incentive survey providing their name and preferred email address for notification if selected for a gift card. This allowed the researcher to exclude personal information from the participants' survey responses for data collection. The study's survey instrument, including the informed consent form, was in Appendix H. See Appendix I for the incentive survey. The participants had no more than two weeks to complete the survey, as stated in participation reminders.

Both Dillman et al. (2014) and Borque and Fielder (2003) suggest that sending participants reminders to complete the survey improves the response rates. A second invitation was emailed to the sponsor distribution reminds participants of the opportunity

to complete the survey a week before survey closing, as shown in Appendix J. A final reminder was sent to the sponsor to distribute to participants the day before the survey closed, as shown in Appendix K. Although the researcher sent two reminders to the sponsor, the sponsor did not distribute either reminder to participants due to a reassignment of her change in work shift and temporary role on the storm response team for Hurricane Ida which possibly caused the low response rate.

Within three days of the survey closing, the researcher drew names for the gift card winners by assigning a number to participants' names and using a random digit generator to choose the ten winners. The first five chosen participants received the notifications. All winners received notifications within two hours of the drawing and had (5) days to respond. No response or undeliverable message resulted in the next participant on the list as the gift card winner. Two participants did not respond to the notification, and the following two participants confirmed and received the gift cards. Once all gift cards were emailed, the researcher called the sponsor for any follow-up questions and appreciated supporting the research. After a week of the survey closing, the data analysis began. The researcher password-protected the Excel data files on a secured local hard drive on the researcher's computer to ensure confidentiality of personal information and survey responses. In Table 8, the data collection plan for this study outlined the timeline of activities.

Table 8

Data Collection Timeline

Week	Task
Week 0	Obtain IRB approval.
Week 1, Day 2	Email invite with survey link to sponsor for distribution to participants.
Week 2, Day 2	Send participants reminder email to increase survey participation.
Week 2, Day 5	Send sponsor a final reminder email for distribution to participants to increase survey participation one day prior to survey closing.
Week 2, Day 5	Closeout survey access, secure and save data.
Week 3, Day 5	Coordinate gift card drawing, identify winners, and send gift cards via email to winners.
Week 3, Day 5	Contact ERG chairman to thanks for the support
Week 4	Begin data analysis.

Internal and External Validity

Internal and external validity posed a threat to this study, and the researcher addressed the validity of the research design to ensure measurement accuracy. Creswell & Clark (2011) explain internal validity regarding how the researcher determines the study findings are accurate. Trochim (2006) proposes whether observed changes can be recognized as intervention and no possible causes to determine internal validity. Internal validity is the causal association between the treatment and the study's result (Shadish et al., 2002). Shadish et al. (2002) identify instrumentation as a risk to internal validity. For this research, the researcher used the same survey without manipulation throughout the

study. The researcher developed an instrument consolidating proven measurement scales to minimize the study's internal validity threat. Although the survey tool remained the same throughout the study, the instrument design and length posed a threat. The researcher consolidated the same facet questions into one matrix question. Matrix questions reduced space, medium, and time, but weaknesses are length, misalignment of question to answer, and boredom (Survey Methods, 2017).

External validity was involved with whether the research results can be generalized beyond the study itself (Shadish et al., 2002). This research's external validity threats included the current workplace situation, the pandemic, and sampling bias. The data collection for this study occurred during a time where the workforce was recovering from a pandemic. The telecommuting workforce received an invitation to participate in an electronic survey, possibly impacting the response rate since participants may be away from computers more often than usual disregarded the invitation to participate. To minimize this external validity, the researcher sent reminder emails and offered participants a chance to win one of five \$100 Amazon gift cards. The researcher continued to evaluate the study's progress to minimize or eliminate vulnerabilities. The results of this study should not be generalized outside of the scope of this research upon completion of data analysis.

Data Analysis Plan

Data analysis followed the completion of data collection. This quantitative study utilized IBM's Statistical Package for Social Sciences (SPSS) in Windows to analyze the data. The collected data types included nominal, ordinal, and interval. Categorical or named data with more than two definite possibilities is nominal (Field, 2013). Nominal

data is discrete and has no numerical value; therefore, no quantitative relationship exists (Fields, 2013; Phillips et al., 2013). This study employed nominal scales to measure gender, race, marital status, and household pandemic impact. Ordinal data referred to variables with rank order groupings within a range (Phillips et al., 2013). Telecommuting intensity levels were ordinal data in this study. According to Boone & Boone (2012), composite scores for four or more Likert scale items analyzes as interval, or continuous, level data. The interval data types for this study are social isolation, autonomy, and job satisfaction. Understanding the data types allows researchers to identify the appropriate statistical method to analyze data (Fields, 2013; Fink, 2003b; Phillips et al., 2013; Roberts, 2010).

The researcher examined the research question and objectives for data analysis with frequency distribution, correlation, and multiple. Correlation determines two variables' relationship, and if those variables are numerical, Pearson product-moment coefficient (Fink, 2003). Spearman's ranking coefficient describes an ordinal and numerical variable (Fink, 2003b). Multiple linear regression assesses the relationship between two or more independent variables (IV) and one dependent variable (DV) in the study (Wackerly et al., 2008). An independent variable is a predictor of response or result (Fink, 2003b).

This study's independent variables were social isolation, telecommuting intensity levels, and autonomy, with job satisfaction as the dependent variable. The study's research question was *What relationship exists between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic?* According to Fink (2003b), an analysis plan describes the intended analysis for each

survey objective, hypothesis, or research question in the study. The data analysis plan in Table 9 outlined this study's research objective variables, data types, and statistical analysis.

Table 9

Data Analysis Plan

Research Objective Number	Variables	Data Type	Statistical Analysis
RO1	Gender	Nominal	Frequency Distribution
	Race	Nominal	
	Educational Level	Ordinal	
	Marital Status	Nominal	
	Household Pandemic Impact	Nominal	
	Telecommuting Intensity Levels	Ordinal	
RO2	Social Isolation	Interval	Correlation
	Job Satisfaction	Interval	
RO3	Telecommuting Intensity Levels (IV)	Ordinal	Analysis of Variance
	Job Satisfaction (DV)	Interval	
RO4	Autonomy	Interval	Correlation
	Job Satisfaction	Interval	
RO5	Social Isolation (IV)	Interval	Multiple Linear Regression
	Telecommuting Intensity Levels (IV)	Ordinal	
	Autonomy (IV)	Interval	
	Job Satisfaction (DV)	Interval	

Notes. The study's IVs are social isolation, telecommuting intensity levels, autonomy, and job satisfaction as the DV.

Summary

This quantitative correlational research study addressed its research question and objectives by using a survey research design. The study's research question is *What are the relationships between social isolation, telecommuting intensity levels, autonomy, and*

job satisfaction during the COVID-19 pandemic? The study's targeted population consisted of current employees working for a utility company servicing the Southeastern region of the United States. The research used an online survey that consolidates existing surveys for the study: Golden et al.'s (2008) Professional Isolation questions for social isolation, Morgeson and Humphrey's (2006) Work Design Questionnaire (WDQ) for autonomy, and Spector's (1985) Job Satisfaction Survey for job satisfaction. Once the University of Southern Mississippi IRB approved the study, the researcher distributed the online survey and collected data presented in the following chapter.

CHAPTER IV – RESULTS OF THE STUDY

The purpose of this study was to examine the relationship between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic. The results of this study were intended to answer the research question "What relationship exists between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic?" Quantitative results summarized each research objective gathered from the data collected through the online survey. This chapter begins with a description of the population and demographic characteristics of the study's participants.

Research Objective 1 – Participants' Demographics

Describe the participants' demographics regarding gender, race, educational level, marital status, and household pandemic impact.

The study's participants were from an energy company's U.S. WIN chapter in the Southeastern region of the United States. The sponsor reported that 215 members received the email invitation. There were 97 participants to access the survey, but only 89 consented to participation. Of those 89 participants, 84 members completed all responses to the survey resulting in a response rate of 39.1%. The online survey consisted of demographic-related questions analyzed by frequency distribution: gender, race, educational level, marital status, and household pandemic impact.

Gender

Gender options included male, female, non-binary, and prefer not to say. The majority of the study's participants were female. This study included 73 female participants (86.9%), 10 male participants (11.9%), and 1 non-binary/third gender participant (1.2%). No

applicants selected “I prefer not to say.” Table 10 displays the frequency distribution of the nominal data for gender.

Table 10

Participants by Gender

Demographic	Frequency	Percent
Female	73	86.9
Male	10	11.9
Non-binary / third gender	1	1.2
No	0	0
Total	84	100.0

Race

The race options for this study included White, Black or African American, American Indian or Alaska Native, Asian, Native Hawaiian or Pacific Islander, and Other. The most significant number of participants, 63.1%, identified as White. The Black or African American participants made up 26.2% of the respondents. Three demographics, American Indian or Alaska Native, Asian, and Native Hawaiian or Pacific Islander, accounted for 1.12%. The remaining 7.1% of participants identified as “Other,” with two participants listing their race as Asian/White (biracial) and Puerto Rican. The frequency distribution of the nominal data for the race is displayed in Table 11.

Table 11

Participants by Race

Demographic	Frequency	Percent
White	53	63.1
Black or African American	22	26.2
American Indian or Alaska Native	1	1.2
Asian	1	1.2
Native Hawaiian or Pacific Islander	1	1.2
Other	6	7.1
Total	84	100.0

Education Level

Table 12 displays the frequency distribution for education level, the only ordinal data set in demographics. There were no participants with an education level less than high school or at the doctorate level. Most of the participants, 48.8%, held a 4-year degree, 20.2 % had a professional degree, 17.9% had some college, and 8.3% had a 2-year degree. In comparison, 4.8% of the participants had a high school diploma or equivalent.

Table 12

Participants' Education level

Demographic	Frequency	Percent	Cumulative Percent
Less than high school	0	0.0	0.0
High school graduate	4	4.8	4.8
Some college	15	17.9	22.7
2- year degree	7	8.3	31.0
4- year degree	41	48.8	79.8
Professional degree	17	20.2	100.0
Doctorate	0	0.0	
Total	84	100	

Marital Status

The frequency distribution of the nominal data for marital status is in Table 13. Most of the participants were married at 53.6% and never married at 23.8%. Divorcees made up 19.0% of the participants, while widowed was 2.4%, and separated participants only accounted for 1.2%.

Table 13

Participants by Marital Status

Demographic	Frequency	Percent
Married	45	53.6
Never married	20	23.8
Divorced	16	19.0
Widowed	2	2.4
Separated	1	1.2
Total	84	100.0

Household Pandemic Impact

The frequency distribution of the nominal data for household pandemic impact is in Table 14. The question for household pandemic impact addressed how the participant’s household had been impacted directly by the COVID-19 pandemic. The option was to select household COVID-19 illness, household loss of income, dependent school closures, and list other impacts. Participants had the opportunity to choose all that applied to their situation. Participants identified 125 household pandemic impacts. Those impacts consisted of the COVID-19 illness (20.00%), loss of income (9.60%), dependent school closure or virtual/remote learning (32.00%), other impacts (20.80%), and no impact at all (17.60%). Participants listed other impacts as family members' deaths and illnesses, remote work, workload, and environment changes, quarantine caused by coworker positive test results, quarantined away from family, stress and work-life balance change, elimination of school and church functions, childcare issues, extensive cleaning for high -risk family members, work location fluctuated from onsite to telecommuting, social distancing, separate household impact, and spending more time with family.

Table 14

Participants by Household Pandemic Impact

Demographic	Frequency	Percent
Household COVID-19 Illness	25	20.0
Household Loss of Income	12	9.6
Dependent School Closure or Virtual/Remote Learning	40	32.0
Other Impacts (please specify below)	26	20.8
No Impact at all	22	17.6
Total	125	100.0

Telecommuting Intensity Levels

The telecommuting intensity level was the amount of time spent away from the office are exclusive telecommuting, some telecommuting, and no telecommuting. Exclusive telecommuting, 32.1% of the participants said they never need to leave home to do their primary job. At the same time, 38.1% of the participants with some telecommuting required leaving home to do their primary job and working from home at least once. No telecommuting made up 29.8% of the participants' telecommuting intensity levels. The telecommuting intensity levels distribution is in Table 15.

Table 15

Participants by Telecommuting Intensity Levels

Demographic	Frequency	Percent
No Telecommuting	25	29.8
Some Telecommuting	32	38.1
Exclusive Telecommuting	27	32.1
Total	84	100.0

Research Objective 2 – Social Isolation and Job Satisfaction

Determine the relationship between social isolation and job satisfaction during the COVID-19 pandemic.

To analyze this research objective, the Pearson product-moment correlation coefficient, r , was used. The Pearson correlation coefficient r measured a relationship between two continuous, interval variables (Field, 2013). The correlation coefficient has a range of -1 to 1. Pearson r correlation values are positive, negative, or zero (Sprinthall, 2012). A negative sign implies a negative correlation, while a positive sign shows a positive correlation. 2). Positive correlations occur when both variables have high or low scores (Sprinthall, 2012), and negative correlations occur when one variable has high scores corresponding to low results on another. Zero correlations exist when there is no connection regardless of the two variables being high or low (Sprinthall, 2012).

The Pearson correlation coefficient r measured a relationship between social isolation and job satisfaction. The social isolation rating scale ranges from 1 (*rarely*) to 5 (*most of the time*) on the 5-point Likert scale, scoring from 7- 35 after summing all seven questions for each participant. The job satisfaction scale is a 6-point Likert scale, ranging from 6 (*agree very much*) to 1 (*disagree very much*) with a cumulative score of all nine facets ranged from 36 to 216. The following assumptions must be met to conduct the Pearson product-moment correlation coefficient test (Laerd, 2018): two interval variables present, paired, and a linear relationship between the two variables existed. Also, there were no significant outliers, and the variables are normally distributed (Laerd, 2018).

Pearson Product Moment Correlation Assumptions. The assumptions are were met for RO2. Social isolation and job satisfaction were interval variables and paired.

A linear relationship existed between the two variables, visually seen on the scatterplot in Figure 3. There were no significant outliers to influence the value of r exaggeratedly. Field (2013) explains that the central limit theorem allows one to assume a normal distribution of samples when the sample size is at least 30. This study met the normality assumption with a sample size of 84; therefore, the Pearson r correlation was performed, and results were obtained.

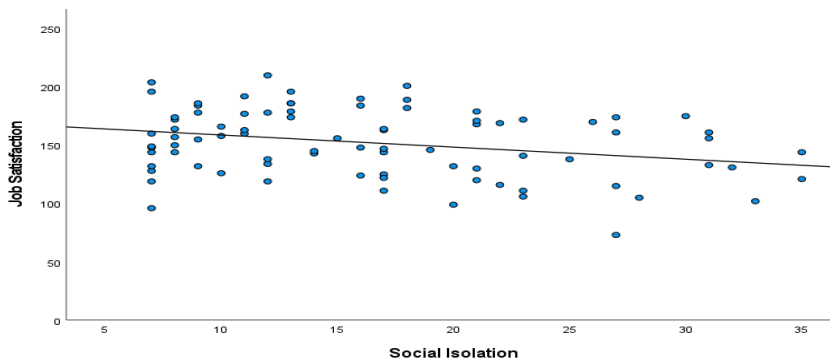


Figure 3. The linear relationship between social isolation and job satisfaction.

RO2 Results. Participants' responses to social isolation questions are shown in Table 16 below. Social isolation had a means of 16.51, with a standard deviation of 7.884. The job satisfaction mean was 152.04, with a standard deviation of 28.71. The social isolation and job satisfaction results include the mean score of responses from a 5-point and 6-point Likert scale, respectively.

Table 16

Participants' Social Isolation Responses

Question	1	2	3	4	5	Total
I feel left out on activities and meetings that could enhance my career.	40	12	16	8	8	84
I miss out on opportunities to be mentored.	33	16	13	11	11	84

Table 16 (Continued)

Question	1	2	3	4	5	Total
I feel out of the loop.	34	14	18	12	6	84
I miss face-to-face contact with coworkers.	21	18	21	10	14	84
I feel isolated.	47	11	12	6	8	84
I miss the emotional support of coworkers.	37	20	10	9	8	84
I miss informal interaction with others.	25	17	16	13	13	84

Note. Participants' responded to social isolation questions during the COVID-19 pandemic. The question scale ranged from 1 (rarely) to 5 (most of the time).

The correlation coefficient, r , was -0.285 . For testing, the conventional criterion for alpha level is $.05$, or 5% probability of error with a 95% confidence level that results are accurate (Field, 2013). With a confidence interval of 95% and an alpha of 0.05 , the study results had a p -value = 0.008 . The p -value was less than the alpha of $.05$, suggesting a statistically significant impact. For determining the strength of the correlation, Cohen (1988) and Laerd (2018) suggest a coefficient value of $0.1 < |r| < 0.3$ is a small correlation, $0.3 < |r| < .5$ is a medium correlation, and $|r| > 0.5$ is a large correlation. This study results in a small negative correlation between social isolation and job satisfaction during the COVID-19 pandemic, as shown in Table 17. That is, job satisfaction decreased as social isolation increase.

Table 17

Correlation Between Social Isolation and Job Satisfaction

Variable	Job Satisfaction
Social Isolation	Person
	Correlation
	Sig. (2-tailed)
	N
	-0.285
	0.008
	84

Research Objective 3 – Telecommuting Intensity Levels on Job Satisfaction

Compare the influence of telecommuting intensity levels on job satisfaction during the COVID-19 pandemic.

A one-way ANOVA compares the influence of telecommuting intensity levels on job satisfaction during the COVID-19 pandemic. Fields (2013) states that a one-way ANOVA determines any statistically significant differences between the means of two or more independent groups. Post hoc test or custom contrasts tells the difference between one or more groups (Field, 2013). The one-way ANOVA uses telecommuting intensity levels as the independent variable and job satisfaction as the dependent for this study's objective. The telecommuting intensity levels are exclusive telecommuting, some telecommuting, and no telecommuting. The job satisfaction scale is a 6-point Likert scale, ranging from 6 (agree very much) to 1 (disagree very much) with a cumulative score of all nine facets ranged from 36 to 216. The one-way ANOVA measures a continuous dependent variable, and an independent variable is categorical with two or more independent groups (Field, 2013). The data assumptions for a one-way ANOVA are normally distributing, equal variance, independent, and no outliers (Field, 2013).

ANOVA Assumptions. All the assumptions were met to use ANOVA.

Assumptions and tests using the conventional alpha level criterion are .05, or 5%

probability of error with a 95% confidence level that results are accurate (Field, 2013).

Table 18 shows data was normally distributed for each group, no ($p = 0.0975$), some ($p = 0.475$), and exclusive ($p = 0.583$), as assessed by Shapiro-Wilk test ($p > .05$).

Table 18

Tests of Normality Assessed by Shapiro-Wilk test

Telecommuting Intensity Levels	Kolmogorov-Smirnov			Shapiro-Wilk		
		<i>df</i>	<i>Sig.</i>		<i>df</i>	<i>Sig.</i>
No	.077	25	.200	.987	25	.978
Some	.117	32	.200	.969	32	.475
Exclusive	.101	27	.200	.969	27	.583

There were no outliers of the boxplot in Figure 4.



Figure 4. Boxplot for telecommuting intensity levels and job satisfaction.

The assumption is met for homogeneity of variances, as assessed by Levene's test of homogeneity of variances ($p = .368$) in Table 19.

Table 19

Telecommuting Intensity Levels and Job Satisfaction in Levene's Test of Equality

	Levene Statistic	<i>df1</i>	<i>df2</i>	<i>Sig.</i>
Based on Mean	1.013	2	81	0.368

RO2 Results. Valid participants were in three telecommuting intensity levels: no ($n = 25$), some ($n = 32$), and exclusive ($n = 27$) as shown in Table 20.

Table 20

Participants by the Three Telecommuting Intensity Levels

Levels	Valid	Percent of Cases
No	25	100.0
Some	32	100.0
Exclusive	27	100.0

Job satisfaction decreases with telecommuting intensity levels decrease; no telecommuting ($n = 25$, $M = 148.08$, $SD = 25.598$). to some telecommuting ($n = 32$, $M = 152.84$, $SD = 29.464$), to exclusive telecommuting ($n = 27$, $M = 154.74$, $SD = 31.112$).

The confidence intervals for means showed as telecommuting levels increased, job satisfaction increased. This data appears in Table 21.

Table 21

Effect of Telecommuting Intensity Levels on Job Satisfaction

Level	N	M	SD	95% Confidence Interval for Mean	
				Lower Bound	Upper Bound
No	25	148.08	25.598	137.51	158.65
Some	32	152.84	29.464	142.22	163.47
Exclusive	27	154.74	31.112	142.43	167.05
Total	84	152.04	28.710	145.81	158.27

The F-test with an alpha of .05 results determines each factor's significance and interaction, leading to possible Tukey's post hoc testing and plotting (Laerd, 2018). For this objective, there is not statistically significant in job satisfaction for different levels of telecommuting intensity, $F(2, 83) = .364$, $p = 0.696$. Table 22 shows ANOVA's

telecommuting intensity levels and job satisfaction by testing between-subject effects. No post hoc testing is not necessary.

Table 22

ANOVA's Telecommuting Intensity Levels and Job Satisfaction Test of Between-Subject Effects

Test	Sum of Squares	df	Mean Square	<i>F</i>	<i>Sig.</i>
Between Groups	609.649	2	304.824	.364	.696
Within Groups	67805.244	81	837.102		
Total	68414.893	83			

Research Objective 4 – Autonomy and Job Satisfaction

Determine the relationship between autonomy and job satisfaction during the COVID-19 pandemic.

This study's research is to determine the relationship between autonomy and job satisfaction during the COVID-19 pandemic. For this test, the researcher uses a Pearson product-moment coefficient test to compare the relationship between the two continuous, interval variables (Field, 2013). The correlation coefficient range from -1 to 1, with a negative sign implying a negative correlation and a positive sign indicating a positive correlation (Field, 2013; Sprinthall, 2012). Zero correlations are no connection between the two variables (Sprinthall, 2012).

The Pearson correlation coefficient *r* measured a relationship between autonomy and job satisfaction. Autonomy used a 5-point Likert scale ranging from 1 (*strongly disagree*) to 5 (*strongly agree*) with a cumulative score of 9 to 45. The job satisfaction scale is a 6-point Likert scale, ranging from 6 (*agree very much*) to 1 (*disagree very*

much) with a cumulative score of all nine facets ranged from 36 to 216. The variables must meet the assumptions to use the Pearson product-moment correlation coefficient test (Laerd, 2018): two interval variables present, paired, and a linear relationship between the two variables existed, no significant outliers, and the variables are normally distributed.

Pearson Product Moment Correlation Assumptions. The assumptions are were met for RO4. Autonomy and job satisfaction were present and paired. A linear relationship existed between the two variables, visually seen on the scatterplot in Figure 5.

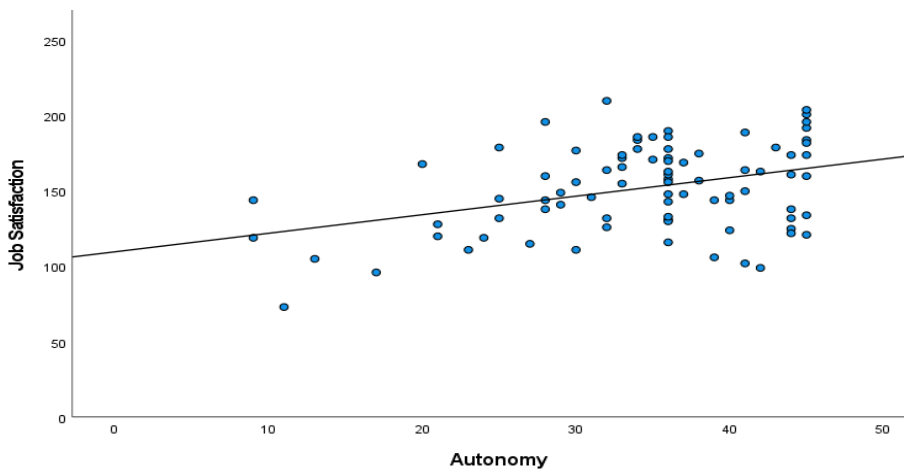


Figure 5. The linear relationship between social isolation and job satisfaction.

RO4 Results. Autonomy and job satisfaction results included the mean score of responses from a 5-point and 6-point Likert scale, respectively. Autonomy had a mean of 34.36, with a standard deviation of 8.713. The job satisfaction mean was 152.04, with a standard deviation of 28.71. The correlation between autonomy and job satisfaction revealed a positive correlation. Cohen (1988) and Laerd (2018) suggest a coefficient value of $0.1 < |r| < 0.3$ for small correlation, $0.3 < |r| < .5$ for medium correlation, and $|r| > .5$ for large correlation when determining the strength of the correlation. The

correlation coefficient, r , is 0.374 and medium since $0.3 < |r| < .5$ was a medium correlation. This correlation test uses the conventional criterion for alpha level is .05, or 5% probability of error with a 95% confidence level that results are accurate (Field, 2013). The study results have a p -value of less than 0.001. The p -value is less than the alpha of .05, suggesting a statistically significant impact, as shown in Table 23. Job satisfaction increases as autonomy increases. This study results in a medium positive correlation between autonomy and job satisfaction during the COVID-19 pandemic.

Table 23

Correlation between Autonomy and Job Satisfaction

		Job Satisfaction
Autonomy	Person Correlation	0.374
	Sig. (2-tailed)	< 0.001
	N	84

Research Objective 5 – Social Isolation, Telecommuting Intensity Levels, Autonomy, and Job Satisfaction

Determine the relationship among social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic.

This study’s research objective is to determine the relationship between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic. The researcher uses multiple regression for the statistical test to determine if a relationship exists. Multiple regression predicts a continuous dependent variable using many independent factors (Fink, 2003b; Laerd, 2018; Wackerly et al., 2008). It also assesses the model's overall fit and the predictors' proportional contribution to the total variance explained (Fink, 2003b; Laerd, 2018; Wackerly et al., 2008). For this

research objective, the independent variables were social isolation, telecommuting intensity levels, and autonomy, with job satisfaction as the dependent variable.

Multiple Regression Test Assumptions. Assumptions and tests using the conventional alpha level criterion are .05, or 5% probability of error with a 95% confidence level that results are accurate (Field, 2013). For multiple regression testing, Laerd (2018) states the following assumptions exist: (a) dependent variable on a continuous scale; (b) two or more independent variables, continuous or categorical, (c) independent observations, (d) multivariate normality, (e) linear relationship between the dependent variable and each independent variables as well as the dependent variable and the independent variables mutually, (f) homoscedasticity, similar variances along the line of best fit remain, (g) no or little multicollinearity which occurs when you have two or more independent variables correlates with each other, (h) no significant outliers, high leverage points, and highly influential points, and (i) normally distributed residuals (errors). These assumptions allow accurate predictions, model to fit data, a; (c) variation determination of the dependent variable by the independent variables; and (d) hypotheses testing using the regression equation (Laerd, 2018).

This study objective meets the assumptions to use multiple regression testing. Job satisfaction is the response, dependent variable, and social isolation, telecommuting levels, and autonomy are the terms, or independent variables, for this model. The Durbin-Watson assessments for independence range from 0 to 4, with a value of approximately 2, indicating no correlation between residuals (Laerd, 2018). The assumption of independence of residuals is met, as assessed by a Durbin-Watson statistic of 1.916. In previous objectives, the linear relationship exists. Figure 6 shows that the scatter plot

residuals do not increase or decrease along the predicted values proving homoscedasticity, and the residuals are normally distributed and aligned along the diagonal line.

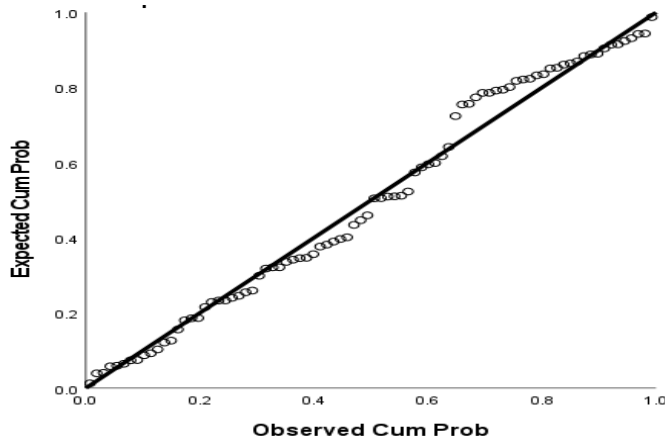


Figure 6. Normal distribution of standard residual values

The inspection of correlation coefficients and tolerance values determines multicollinearity. Table 24 shows the correlation for each independent variable is less than 0.7, and a statistically significant exists between telecommuting intensity levels and autonomy ($p < .005$). Other relationships have been discussed previously.

Table 24

Correlation for Multicollinearity

Variables	Job Satisfaction	Social Isolation	Telecommuting Intensity Levels	Autonomy
Job Satisfaction	1.000	-.285*	-.091	.374*
Social Isolation	-.285*	1.000	-.071	-.026
Telecommuting Intensity Levels	-.091	-.071	1.000	-.394*
Autonomy	.374*	-.026	-.394*	1.000

Notes. $N = 84$.

* $p < .005$

All tolerance values are more significant than 0.1 (the lowest is 0.838) in Table 25. No multicollinearity exists. All standardized residuals are less than ± 3 with no outliers, no leverage values above 0.2, no influential values above one meeting the assumption (Laerd, 2018). With assumptions met, determining how well the model fits is next.

Table 25

Tolerance Values for Multicollinearity

Variables	<i>t</i>	<i>Sig.</i>	Correlations	Collinearity Statistics		
			Zero-order	Partial	Part	Tolerance
(Constant)	6.587	.000				
Social Isolation	-2.745	.007	-.285	-.293	-.272	.991
Telecommuting	.370	.712	-.091	.041	.037	.838
Intensity Levels						
Autonomy	3.550	.001	.374	.369	.351	.842

RO5 Results. Since all variables entered the model, several measures determined whether the multiple regression model fits the data: (a) the multiple correlation coefficient, *R*; (b) the percentage of variance; (c) the statistical significance of the overall model; and (d) the precision of the predictions from the model (Laerd, 2018, p.16). From 0 to 1, *R* measures the strength of the linear connection between these variables. The coefficient of determination, R^2 , for the overall model is 21.7%, and the adjusted R^2 of 18.8%, a small size effect according to Cohen (1988). Table 27 shows *R* is .466, indicating association.

Table 26

Multiple Correlation Coefficients for Model Fit

<i>R</i>	<i>R</i> Square	Adjusted <i>R</i> Square
.466	.217	.188

Note. The predictors are autonomy, social isolation, telecommuting intensity levels, and job satisfaction as the dependent variable.

The statistical significance of the overall model shows that social isolation, telecommuting intensity levels, and autonomy predicts job satisfaction, $F(3,80) = 7.403$, $p < .0005$. Table 27 displays these results below.

Table 27

Statistical Significance

Test	Sum of Squares	df	Mean Square	F	Sig.
Regression	14866.317	3	4955.439	7.403	<.0005
Residual	53548.576	80	669.357		
Total	68414.893	83			

Notes. The predictors are autonomy, social isolation, telecommuting intensity levels, and job satisfaction as the dependent variable.

The regression model, displayed in Table 28, yielded a primary coefficient of 122.247. The unstandardized beta coefficients show relationships between the job satisfaction and the predictor variables and produce a statistical model for predicting job satisfaction. The regression equation for this model analysis is $\text{Job Satisfaction} = 128.1 - (.993 \times \text{Social Isolation}) + (1.451 \times \text{Telecommuting Intensity Levels}) + (1.261 \times \text{Autonomy})$. The relationship between social isolation and job satisfaction is statistically significant ($p = 0.007$) and between autonomy and job satisfaction ($p = 0.001$). However, the telecommuting intensity levels do not statistically significantly influence job satisfaction ($p = 0.712$). This study showed that the relationship between social isolation, telecommuting intensity levels, autonomy, and job satisfaction is not statistically significant.

Table 28

Multiple Linear Regression Model

Variables	Unstandardized	Standardized	<i>t</i>	<i>Sig</i>
	Coefficients	Coefficients		
	<i>B</i>	Beta		
(Constant)	122.247		6.587	.000
Social Isolation	-.993	-.273	-2.745	.007
Telecommuting	1.451	.040	.370	.712
Intensity Levels				
Autonomy	1.261	.383	3.550	.001

Summary

The results of this study were intended to answer the research question. *What relationship exists between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic?* The WIN chapter president reported that 215 members received the email invitation at the survey completion time, with 84 participants completing all questions. The sponsor distributed no follow-up emails to increase participation as planned. The researcher employed descriptive statistics using frequency distribution, correlation, and multiple regression to analyze the responses.

For RO1, frequency distribution examined the six demographic-related questions: gender, race, educational level, marital status, and household pandemic impact. For RO2, the Pearson product-moment coefficient provided insight into the relationship between social isolation and job satisfaction. This analysis resulted in a small negative correlation between social isolation and job satisfaction during the COVID-19 pandemic. In RO3 analysis, a one-way ANOVA compared the influence of telecommuting intensity levels on job satisfaction during the COVID-19 pandemic. There was no statistical significance

in job satisfaction for different levels of telecommuting intensity. Using Pearson product-moment coefficient for RO4, the researcher found a medium positive correlation between autonomy and job satisfaction during the COVID-19 pandemic. For RO5, multiple linear regression assessed the relationship between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic. The analysis showed that social isolation, telecommuting intensity levels, autonomy, and job satisfaction were insignificant together but could be predictive elements of job satisfaction. The next chapter provides the findings, conclusions, and recommendations for this study.

CHAPTER V – CONCLUSION

This study focused on the COVID-19 pandemic impact on a telecommuting company's environment. To limit the spread of the virus, companies implement social distancing measures shifting millions of employees to telecommuting or work from home (Ballotpedia, 2021; CDC, 2020; Emarketer Website, 2020; Kniffin et al., 2021; Society for Human Resource Management, 2020; Valet, 2020; Willis Towers Watson, 2020). As the pandemic progresses, companies consider flexible alternatives to transition back in-person workplace operations from a non-negotiable telecommuting environment (Bulińska-Stangrecka & Bagieńska, 2021; Gajendran & Harrison, 2007; Gallup, 2017; Japan Times, 2020; Potter, 2020; The Conference Board, 2021). This study's previous chapters I - IV emphasized understanding of this research. The chapters presented the literature review, methodology, and data collection with results for the study. Chapter V presents findings, conclusions, and recommendations ending with implications, limitations, recommendations for further research, discussion, and a summary.

Findings, Conclusions, and Recommendations

This section discussed the findings, conclusions, and recommendations of this study. The results generated valuable information about causal relationships among the variables. Next, the researcher discussed the findings from the research, conclusions, and recommendations for using the results.

Finding 1- The COVID-19 pandemic is impacting employees' home, work, and social lives.

The pandemic disrupted participants' households. Many participants and their family members experienced COVID-19 illnesses, with some resulting in death. Several

participants loss household income requiring other members to support them. Necessities were not available at stores to buy for proper cleaning to minimize virus exposure. Participants' household member views differed, and social distancing practices and extend of virus causing division in the household. Participants 'dependent schools and childcare centers closed in-person operations requiring the household to readjust their work schedules to accommodate.

Household issues made it hard for some to maintain a work-life balance.

Participants emphasized how workplace social distancing practices and COVID-19 illnesses required them to alternate their work location and absorb the additional workload. Potential COVID-19 virus exposure at work required participants to quarantine away from family members and household responsibilities. Many participants found the pandemic and social distancing practices an inconvenience to vital parts of life. Participants missed the social interactions like shopping, attending church in person, and participating in sporting events and activities. Although a few participants found positive impacts such as family closeness and saving money, the majority of the participants expressed the pandemic added stress to their home, work, and social lives.

Conclusion. The COVID-19 pandemic household impacts aligned with recent research studies findings. With government mandates and orders for closure of nonessential businesses, employees experienced disruption in most aspects of their lives (CNN, 2020; National Conference of State Legislatures, 2021; Office of the Louisiana Governor, 2020; Office of Texas Governor, 2020). Recent studies show households have been impacted in numerous ways, including employment status and income, spending patterns, food security, housing, access to health care, and educational disruption

(Barrientos, 2021; Congressional Research Services, 2020; World Health Organization, 2020). With companies closing and reducing staffing, unemployment rates surpassed their previous peaks observed during and just after the Great Recession (Congressional Research Services, 2021; Emarketer Website, 2020; Society for Human Resource Management [SHRM], 2020). Family members and coworkers lost their lives, possibly lacking support due to social distancing measures. Although this study did not address employees' health and well-being, recent studies found that social distancing practices lead to increased loneliness or isolation, mental health issues, and increased alcohol consumption which impacts employee's performance and health (AARP Foundation, 2020; Congressional Research Services, 2020; Czeisler et al., 2020; Pollard et al., 2020; Tulane University, 2021; World Health Organization, 2020).

Recommendations. Before the workplace can return to normal, employers must understand how the pandemic has impacted employees' well-being. Employers and human resource practitioners should conduct interviews, surveys, and focus groups on identifying factors that changed employees' lives due to the pandemic. Employee support services need re-evaluation to ensure employee needs are being met. Employers must ensure the appropriate counseling, education, and support services (e.g., financial, mental health, vaccination) are available to assist employees with the new normal for a work-life balance.

Findings 2 – While employees' social isolation increases, their job satisfaction decreases.

In assessing the relationship between social isolation and job satisfaction, a relationship existed between the perceived feeling of social isolation and job satisfaction.

The survey examined participants' responses to face-to-face activities and meetings, and informal interactions negatively impacted overall social isolation scoring. The majority of the participants rarely felt isolated. Almost half of the participants rarely felt they were left out of activities and meetings to enhance their careers. Participants emphasized missing face-to-face contact with coworkers, and some participants expressed missing face-to-face contact most of the time. While some participants admitted to rarely missing informal interactions with others, most participants expressed missing informal interactions. These responses were results of working in a telecommuting environment during the COVID-19 pandemic. Although this study showed no significance in the relationship between social isolation and telecommuting intensity levels, social isolation was lowest at no telecommuting, peaked during some telecommuting, and lowered during exclusive telecommuting.

Conclusion. The possible influences of social isolation were low job satisfaction and high strain (Bentley et al., 2016). A negative relationship suggested that the feeling of social isolation increased as job satisfaction decreased. Conversely, when individuals do not feel social isolation, job satisfaction increases. Face-to-face contact and informal interaction with others led to an increase in social isolation in this study. Not all employees had the same telecommuting intensity level, which led to less informal interactions and face-to-face contact with coworkers. Improving formal and informal communication with and amongst employees may help reduce social isolation and increase job satisfaction.

Recommendation. Employers should actively work with human resource and capital departments to formalize and adopt employee engagement programs to improve

formal and informal communication across a diverse telecommuting work environment during a pandemic. Most workplace communication issues are face-to-face and informal, and telecommuters cannot participate (Ganzart, 2020; Kurland & Bailey, 1999). Leaders must engage employees to identify the type of activities and events for encouraging interaction to hosting face-to-face events in-person and virtually (Ganzart, 2020; Holland & Bardoel, 2016; Kurland & Bailey, 1999; Zengaro et al., 2019). Research shows that face-to-face communication reduces the feelings of social isolation (Andres, 2002). However, the current COVID-19 pandemic workplace practices and policies limit the number of employees in an area to minimize the risk of spreading the virus.

Research suggests that unstructured, informal communication influences employees' performance the most (Saleem & Perveen, 2017). For informal interactions, companies can create virtual channels or chat rooms for general conversation with designated scheduling and add open discussions at the beginning and throughout virtual meetings. The value placed on these activities and availability to participate determines how isolated telecommuters feel (Cooper & Kurland, 2002).

Finding 3 – Telecommuting intensity levels do not influence job satisfaction.

The majority of the participants telecommuted some and exclusively during the COVID-19 pandemic. There was no significance in job satisfaction for different levels of telecommuting intensity. However, as telecommuting intensity levels increased, job satisfaction increased.

Conclusion. The findings of this objective align with Bailey & Kurland's (2002) research that found little evidence that telecommuting, regardless of intensity, improves job satisfaction (Bailey & Kurland, 2002). However, Golden and Veiga (2005) report a

curvilinear connection with job satisfaction and the degree of telecommuting. Gajendran and Harrison (2007) explain that telecommuting links with increased job satisfaction, but not across all degrees of intensity. Telecommuting intensity levels were compared to overall job satisfaction but not by its facets. Based on both telecommuting intensity levels and job satisfaction increases, other factors such as demographics may be investigated further. Participants only identified their current telecommuting posture during the pandemic and not pre-pandemic.

Recommendation. Human capital practitioners should work with employee leaders to develop a formal program and policies that define telecommuting intensity levels. When the organization sponsors employees telecommuting, the program is formal; an informal program is an arrangement between a supervisor and employee to work remotely one or more days per week (Feldman & Gainey, 1997). Literature is limited on defining telecommuting intensity levels. Further, investigate telecommuting intensity levels as it relates to the facets of job satisfaction. The nine facets are (a) pay, (b) promotion, (c) supervision, (d) fringe benefits, (e) contingent rewards, (f) operating procedures (required rules and procedures), (g) coworkers, (h) nature of work, and (i) communication (Spector, 1997). Research shows that work environment, salary, and promotion significantly impact employees' job satisfaction levels (Gajendran & Harrison, 2007; Golden & Veiga, 2005; Spector, 1997; Zheng et al., 2017). Measuring pre- and post-pandemic telecommuting intensity levels and job satisfaction provide a better insight to determine if a relationship exists between the two.

Finding 4 – Autonomy associates with job satisfaction and telecommuting intensity levels.

This study used the composite score of autonomy for determining relationships with telecommuting intensity levels and job satisfaction. A positive correlation exists between autonomy and job satisfaction in examining the relationship between autonomy and job satisfaction. As autonomy increases, job satisfaction increases. A positive correlation exists between autonomy and telecommuting intensity levels. As telecommuting intensity levels increase, autonomy increases. Although this study shows autonomy positively correlates with job satisfaction and telecommuting intensity levels, there is no significance in the relationship between telecommuting intensity levels and job satisfaction. However, visuals show that as telecommuting intensity levels increase, job satisfaction increases.

Conclusion. This study's finding on autonomy's relationships with telecommuting intensity levels and job satisfaction align with previous research. Gajendran et al.'s (2014) research suggest a positive correlation between telecommuting intensity and autonomy. Golden & Veiga's (2005) study shows that telecommuters with higher autonomy have more job satisfaction. From the findings of this study, autonomy could moderate the relationship between telecommuting intensity levels and job satisfaction. However, the design of this study does not investigate autonomy at the category levels (work schedule, decision-making, and work methods).

Recommendation. The researcher recommends that this study design be modified using autonomy as a moderator in the relationship between telecommuting intensity levels and job satisfaction. Research shows autonomy moderates telecommuting intensity levels and work interference (Golden et al., 2006). Another recommendation is to examine autonomy at the category levels to provide more insight into the correlation

between telecommuting intensity and job satisfaction. At the category level, research can examine if autonomy acts as a moderate between the two. Singh and Sinha (2013) found that if one employee values autonomy and the other is neutral, the theory assumes the employee respecting autonomy has higher job satisfaction than the other employee (Singh & Sinha, 2013). Measuring how telecommuting employees value autonomy may provide further insight into the relationship between telecommuting intensity levels and job satisfaction.

Implications

This research provided a better understanding of the workplace is evolving during the COVID-19 pandemic. Interestingly, the relationship findings aligned with previous studies outside of a global pandemic. Job satisfaction is associated with social isolation and autonomy (Bentley et al., 2016; Cooper & Kurland, 2002; Gajendran et al., 2014; Saleem & Perveen, 2017). Telecommuting intensity levels do not influence job satisfaction (Armour et al., 2020; Bailey & Kurland, 2002; Citi, 2020; Gajendran and Harrison, 2007; Golden and Veiga, 2005). Telecommuting intensity levels remain correlated with autonomy. However, the study found that employees' lives are being impacted in and outside of the workplace.

Research acknowledges that employers must understand the risk posed by the COVID-19 pandemic to its organizational health. The pandemic has modified workplace safety and wellness practices, day-to-day operations, and interactions with long-term impacts on the workforce. Employers must rethink their strategy to developing, supporting, and managing their human capital to create a stable work environment for future sustainability (Maiden, 2020; Rasmussen & Goldstein, 2020). Establish

governance protocols with guidelines, allocated roles and responsibilities, and approval protocols to execute decisions.

The pre-pandemic human capital development and management no longer exist. Employees' needs must be understood before returning to work for optimal job performance. Employees have faced financial hardships, changes in work-life balances, mental health issues that potentially lead to behavioral changes impacting their performance and ultimate job satisfaction (AARP Foundation, 2020; Congressional Research Services, 2020; Czeisler et al., 2020; Pollard et al., 2020; Tulane University, 2021; World Health Organization, 2020). Now, employees want flexibility more than ever before. Employees' autonomy determines their job satisfaction (Clark, 2021; Coyle, 2018; Heathfield, 2020; Ryan & Deci, 2008; Sempane et al., 2002). This transition is an opportunity for companies to invest in their workforce to become more competitive, diverse in practices. Companies must establish policies and procedures to manage and execute employee wellness programs (Miller, 2020; Odom, 2021; Ranola, 2021; The Conference Board, 2021).

Limitations

Roberts (2004) states that limitations impact a study and remain outside the researcher's control. Several consequences of limitations arose throughout the study, with one being the researcher. The researcher is an employee at the same organization where the study was conducted, potentially allowing factors outside the current study to influence the results. However, the researcher used a sponsor to communicate to participants to alleviate this potential threat to internal validity (Phillips et al., 2013; Swanson & Holton, 2009).

The second limitation was the correlational research design that was limited to the use of quantitative data only. Conducting a mixed-method study would have allowed the research to triangulate the data and more context to the study's findings. A longitudinal study could provide insight into during and post-pandemic and long-term changes in workplace transitions. Research design might shed light on these potential problems.

A third limitation of this study was its generalizability to the population. The sample population used in this study consisted of a utility company in Southeastern U.S., with the majority of the participants are female. The results of this study should not be generalized outside of the scope of this research upon completion of data analysis (Shadish, 2002).

During the data collection phase of this study, a fourth limitation was a natural disaster that impacted the planning, execution, and completion of the study: Hurricane Ida. When Hurricane Ida made landfall, the participating utility company employees supported restoration and recovery efforts. The study's sponsor and participants were reassigned to other roles across the region without access to the internet to complete the survey. Some areas limited the use of power due to demands and outages. These measures limited face-to-face interactions and traveling. No in-person meetings were allowed with the population at company plants. As a result, the data collection method used was an online survey design. These unanticipated events lead to a low response rate of 39.1%.

Recommendations for Further Research

The researcher suggests the following for future research opportunities. The current study only collected social isolation, telecommuting intensity levels, autonomy,

and job satisfaction data from a utility company in Southeastern U.S, with most of the participants are female. Replication of this study with a larger population and diverse industry to gain results to generalize outside of the analysis of one study. Representation should include diverse demographics to provide an in-depth analysis of the study variables.

The second recommendation is to analyze social isolation, autonomy, and job satisfaction in various constructs comparing to telecommuting intensity levels. This study only considered the overall scoring of each variable; however, the variables can convert from continuous to ordinal data. Both job satisfaction and autonomy have facets to allow further examination. Social isolation and autonomy could act as moderators between telecommuting intensity levels and job satisfaction. Other survey instruments can be used to measure these variables.

A third recommendation is to replicate this study and previous recommendations using other instruments. This new instrument can validate this study's findings and those in the literature. This survey instrument contained 19 questions, but other scales exist with lesser questions while collecting more demographic data. The more data collected, the more options are available for selecting a research method.

The final recommendation is to use a mixed-method research study for data triangulation. Data collection tools could be interviews, surveys with open and closed-ended questions, focus groups, and phone calls. Although the process may be longer, the findings are further explored by adding qualitative data. The following section concludes this study and findings.

Discussion

Using a quantitative design study allowed the researcher to examine social isolation, telecommuting intensity levels, autonomy, and job satisfaction relationships during the COVID-19 pandemic. The researcher utilized a quantitative methodology to gather the data. The theoretical foundation examined job satisfaction and work design theories that consider an unforeseen disruption in the workplace, such as a global pandemic. There are theoretical ramifications to the present study's findings, as discussed below.

Hackman and Oldham (1976) argue job characteristics and individual response to work, and research shows the influence of job satisfaction. When autonomy aligns with psychological states, the employee's job satisfaction increased, leading to low truancy and turnover (Hackman & Oldham, 1974). Locke (1964) states that how much one values a given facet of work controls impacts job satisfaction. Self-Determination Theory (SDT) is a meta-theory of human motivation and personality development, identifying two critical intrinsic and extrinsic motivation types (Deci & Ryan, 1985).

This study used a self-administered survey instrument with closed-ended questions to examine the relationship between social isolation, telecommuting, intensity levels, autonomy, and job satisfaction. The study's findings answered the research question: *What relationship exists between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic?* The researcher used frequency distribution to examine the participants' demographics (gender, race, educational level, marital status, and household pandemic impact). The key findings in this study aligned with the literature: (a) a relationship appeared between social isolation

and job satisfaction, (b) no significant influence of job satisfaction for different levels of telecommuting intensity, (c) a positive relationship between autonomy and job satisfaction, (d) a relationship between social isolation and job satisfaction, (e) a relationship between telecommuting intensity levels and autonomy, and (f) a relationship between autonomy and job satisfaction. However, there was no significant relationship between social isolation and telecommuting intensity levels or social isolation and autonomy.

This study offers pandemic information as the COVID-19 pandemic forces businesses to adopt telecommuting. This research helps businesses understand their employees' health and well-being, especially during pandemic impacts (Global Workplace Analytics, 2021). Social isolation and autonomy play a role in employees' job satisfaction. Telecommuting intensity levels may not impact job satisfaction directly; it positively relates to autonomy. The researcher intends to provide findings for leaders to adapt their telecommuting policies and programs to actively engage employees, formally and informally, to minimize social isolation and allow more autonomy in the workplace. Creating programs that cater to workers' needs may enhance job and company success. Culture matters more to workers than the organization, says research (SHRM 2021). As more companies transition to their future states, whether in the office or remotely, leaders must assess their employees' work characteristics and job designs to ensure they are equipped with the necessary tools to engage with one another feel a sense of belonging.

The COVID-19 pandemic has impacted employees' home life and work-life. This study provides a list of pandemic-related impacts on the participants' households. Leaders must take these observations into account to know the effect of the pandemic on their

employees' health and wellbeing. Employees feel more valued and included when their bosses care about them (Wiles, 2020). This research contributes to potential corporate human capital program changes during and after the COVID-19 epidemic.

Summary of the Study

With the virus spreading, the United States (U.S.) public and private sectors have adopted social distancing practices to slow the spread of Coronavirus Disease of 2019 (COVID-19) infections (Centers of Disease Control and Prevention [CDC], 2020; Emarketer Website, 2020; Society for Human Resource Management, 2020).

Employers transitioned millions of workers to telecommuting (Ballotpedia, 2021; Kniffin et al., 2021; National Conference of State Legislatures, 2021; Office of the Louisiana Governor, 2020; Office of Texas Governor, 2020).

Previous studies showed telecommuting improves productivity, performance, and job satisfaction, and with some findings, a reduction in turnover (Ansong & Boateng, 2017; Baker et al., 2007; Corzo, 2019). Becker (2002) stated, "How well companies manage their human capital is a crucial factor in their success (p. 8)." The pandemic has profoundly affected human capital (Ballotpedia, 2021; Collings et al., 2021; Jesuthasan et al., 2020; Kniffin et al., 2021). However, a study conducted by Golden and Veiga (2005) suggests that a substantial loss of in-person activities and more social isolation negatively affects job satisfaction at relatively high telecommuting intensity levels. Although critical positive outcomes are flexibility and autonomy, many companies removed those factors by making telecommuting during the COVID-19 pandemic non-negotiable (Gajendran & Harrison, 2007; Gallup, 2017; Japan Times, 2020; Potter, 2020).

Vaccinations deployed across the United States should ease the seamless transition to in-person operations for many organizations, which will reduce the requirement for telecommuting (Bannan, 2021; CDC, 2021b; McGann, 2021). The reality is that moving towards in-person operations will take time, and telecommuting will continue to be a primary method of social distancing among workers (Bur, 2020; Barrientos, 2021). Therefore, employers must carefully determine the best course of action to maintain employee well-being while meeting business goals. The first step is understanding factors related to employee job satisfaction while telecommuting (Miller, 2020; Odom, 2021; Ranola, 2021; The Conference Board, 2021).

This quantitative correlational research study addressed its research question and objectives by using a survey research design. The study's research question is *What are the relationships between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic?* The study's targeted population consisted of current employees working for a utility company servicing the Southeastern region of the United States.

The research used an online survey that consolidates existing surveys for the study: Golden et al.'s (2008) Professional Isolation questions for social isolation, Morgeson and Humphrey's (2006) Work Design Questionnaire (WDQ) for autonomy, and Spector's (1985) Job Satisfaction Survey for job satisfaction. Frequency distribution examined the six demographic-related questions: gender, race, educational level, marital status, and household pandemic impact.

This research provided a better understanding of the workplace is evolving during the COVID-19 pandemic. Interestingly, the relationship findings aligned with previous

studies outside of a global pandemic. The results and findings emphasized addressing social isolations and autonomy to prevent decreased job satisfaction. With the ongoing pandemic, telecommuting will remain around, and more programs adapted. Companies to invest in their workforce and establish policies and procedures to manage and execute employee wellness programs (Miller, 2020; Odom, 2021; Ranola, 2021; The Conference Board, 2021). Telecommuting intensity increases as autonomy increases, hence its possible indirect impact on job satisfaction and further research.

APPENDIX A – IRB Approval

Office of
Research Integrity



118 COLLEGE DRIVE #5125 • HATTIESBURG, MS | 601.266.6576 | USM.EDU/ORI

NOTICE OF INSTITUTIONAL REVIEW BOARD ACTION

The project below has been reviewed by The University of Southern Mississippi Institutional Review Board in accordance with Federal Drug Administration regulations (21 CFR 26, 111), Department of Health and Human Services regulations (45 CFR Part 46), and University Policy to ensure:

- The risks to subjects are minimized and reasonable in relation to the anticipated benefits.
- The selection of subjects is equitable.
- Informed consent is adequate and appropriately documented.
- Where appropriate, the research plan makes adequate provisions for monitoring the data collected to ensure the safety of the subjects.
- Where appropriate, there are adequate provisions to protect the privacy of subjects and to maintain the confidentiality of all data.
- Appropriate additional safeguards have been included to protect vulnerable subjects.
- Any unanticipated, serious, or continuing problems encountered involving risks to subjects must be reported immediately. Problems should be reported to ORI via the incident template on Cayuse IRB.
- The period of approval is twelve months. An application for renewal must be submitted for projects exceeding twelve months.

PROTOCOL NUMBER: IRB-21-258

PROJECT TITLE: EXAMINING THE RELATIONSHIP BETWEEN SOCIAL ISOLATION, TELECOMMUTING INTENSITY LEVELS, AUTONOMY, AND JOB SATISFACTION

SCHOOL/PROGRAM: School of IAPD, Human Capital Development

RESEARCHER(S): Kristy Williams, Hamett Brown

IRB COMMITTEE ACTION: Exempt

CATEGORY: Exempt

Category 2.(ii). Research that only includes interactions involving educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observation of public behavior (including visual or auditory recording).

Any disclosure of the human subjects' responses outside the research would not reasonably place the subjects at risk of criminal or civil liability or be damaging to the subjects' financial standing, employability, educational advancement, or reputation.

APPROVED STARTING: August 16, 2021

A handwritten signature in cursive script that reads "Donald Sacco".

Donald Sacco, Ph.D.

Institutional Review Board Chairperson

APPENDIX B – WDQ Use Approval

RE: Request Use of Work Design Questionnaire (WDQ)



Frederick Morgeson <fred@morgeson.com>

4/28/2021 3:33 PM

To: Kristy Williams

Hi Kristy:

You have my permission to use the WDQ in the way that you described. Please do send me a copy of your research when it is completed. Best of luck with your dissertation.

FPM

Frederick P. Morgeson, Ph.D.
Editor, *Annual Review of Organizational Psychology and Organizational Behavior*
Eli Broad Professor of Management
The Eli Broad College of Business
Michigan State University
fred@morgeson.com
<http://www.morgeson.com>

APPENDIX C – JSS Survey Use Approval

RE: Request Use of the Job Satisfaction Survey (JSS)



Paul Spector <paul@paulspecter.com>

4/25/2021 7:17 AM



To: Kristy Williams

Dear Kristy:

You have my permission to use and modify the original JSS in your research. You can find copies of the scale in the original English and several other languages, as well as details about the scale's development and norms, in the Assessments/No Cost Assessments section of my website: paulspecter.com. I allow free use for noncommercial research and teaching purposes in return for sharing of results. This includes student theses and dissertations, as well as other student research projects. Copies of the scale can be reproduced in a thesis or dissertation as long as the copyright notice is included, "Copyright Paul E. Spector 1994, All rights reserved." Results can be shared by providing an e-copy of a published or unpublished research report (e.g., a dissertation). You also have permission to translate the JSS into another language under the same conditions in addition to sharing a copy of the translation with me. Be sure to include the copyright statement, as well as credit the person who did the translation with the year.

The JSS-2 is an improved commercial version for which there is a fee.

For additional assessment resources check out the assessment section of my website for organizational measures <http://paulspecter.com/scales/> and my companion site for general and mental health measures: <https://www.stevenericspector.com/mental-health-assessment-archive/>

Thank you for your interest in the JSS, and good luck with your research.

Best,

Paul Spector, PhD
Adjunct Professor, School of Information Systems and Management
Muma College of Business
Distinguished Professor Emeritus, Department of Psychology
University of South Florida
Tampa, FL 33620
Pspector@usf.edu
Website: <http://paulspecter.com/>

APPENDIX D – Pilot Study Email Invitation

Participation Request: Dissertation Pilot Study



Williams, Kristy  7/19/2021 1:24 PM

To: Kristy Williams

Good afternoon,

I am requesting your participation in a pilot group to test a survey instrument for a doctoral research project at the University of Southern Mississippi. This research examines the relationship between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic. The information collected from this survey will be used for validity purposes and **will not be included as data collected for analysis**. Your feedback will assist the researcher in ensuring the survey questions and formatting are easily understood by the respondents.

The survey will take approximately 10-15 minutes to complete on any computer or mobile device with internet access. This online survey is open and will remain open for the next 24 hours.

Your participation is voluntary, and your information will remain anonymous. If you have any questions about this research, you may contact me at Kristy.Williams@usm.edu.

Please click the link below or copy and paste the entire URL into your browser to access the survey.

https://usmuw.co1.qualtrics.com/jfe/form/SV_3Q1sYbQTu1jFLDg

Thank you in advance for your participation,

K. Will

Kristy N. Williams (USAF) 

APPENDIX E – Pilot Study Survey

INFORMED CONSENT

1. Purpose:

The purpose of this study is to determine the relationships between telecommuting intensity levels, social isolation, autonomy, and job satisfaction.

2. Description of Study:

This study is conducted by a student at the University of Southern Mississippi. The goal of this research study is to provide practical research to literature post pandemic. Participants are asked to answer each question honestly, thoughtfully, and carefully. The survey is voluntary and should take approximately 10-15 minutes to complete. Individual responses will remain confidential.

3. Benefits:

Participants may benefit from the results of the study by understanding the relationships between telecommuting intensity levels, social isolation, autonomy, and job satisfaction. This study can help employers develop programs and policies accommodating employee's needs and well-being can lead to an increase in employee satisfaction and business performance.

At the end of the survey, you will have the opportunity to provide your name and email address for entrance into a drawing for one of ten \$25 Amazon gift card for your time completing the survey. Your name and email will remain separate from the survey responses. Winners will be randomly selected. If you do not complete the survey, you will not be eligible to win one of the gift cards.

4. Risks:

No known risks are associated in the participation of this study.

5. Confidentiality:

All responses will remain completely confidential. Participant names or email addresses will not be associated with any data or used in reporting. Additionally, names of participants or employers will not be included in the study's results or conclusions.

6. Alternative Procedures:

Participation in this study is voluntary.

7. Participant's Assurance:

This project is under review by the Institutional Review Board which ensures that the research project involves human subjects follow federal regulations.

Participation in this project is completely voluntary and participants may withdraw from this study at any time without penalty prejudice or loss of benefits.

Any questions or concerns about this as a research participant should be directed to the Chair of the Institutional Review Board. The University of Southern Mississippi, 118 College Drive #5125, Hattiesburg, MS 39406-001, 601-266-5997.

Any questions about the research should be directed to the principal investigator, Kristy Williams at kristy.williams@usm.edu.

Consent to Participate in Research

I understand that participation in this project is completely voluntary. All personal information will be kept strictly confidential, including my name in other identifying information. Our procedures and their purposes were explained to me information was given about all benefits, risks, inconveniences or dis conference that might be expected. Any new information that develops during this project will be provided to me if they information may affect my willingness to continue participation in the project.

By clicking yes below, you acknowledge that you have read and understand the information regarding this study in agreed to participate you may withdraw your participation at any time.

- Yes, I consent to participation in this survey.
- No, I do not consent to participate in this survey.

The following questions collect demographic information. Please select a response for each question.

To what gender do you most identify?

- Male (1)
- Female (2)
- Non-binary / third gender (3)
- Prefer not to say (4)

Please specify your race.

- White (1)
- Black or African American (2)
- American Indian or Alaska Native (3)
- Asian (4)
- Native Hawaiian or Pacific Islander (5)
- Other (6) _____

What is the highest degree obtained or level of school you have completed?

- Less than high school (1)
 - High school graduate (2)
 - Some college (3)
 - 2 year degree (4)
 - 4 year degree (5)
 - Professional degree (6)
 - Doctorate (7)
-

What is your marital status?

- Married (1)
- Widowed (2)
- Divorced (3)
- Separated (4)
- Never married (5)

Please select how your household has been impacted directly by to the COVID-19 pandemic.

- Household COVID-19 Illness (1)
- Household Loss of Income (2)
- Dependent School Closure or Virtual/Remote Learning (3)
- Other Impacts (please specify below) (4) _____
- No Impact at all (5)

Select the amount of time work is performed spent away from the your in-person work location.

- Exclusive telecommuting- never being required to leave home to do a primary job (1)
- Some telecommuting- leaving home to do a primary job at least once, but also working from home at least once (2)
- No telecommuting - not being able to telecommute or not working from home at all (3)

The following questions contain multiple statements. Please provide a response to each statement.

Please select your frequency of feelings with the below statements.

	1 (Rarely) (1)	2 (2)	3 (3)	4 (4)	5 (Most of the time) (5)
I feel left out on activities and meetings that could enhance my career. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I miss out on opportunities to be mentored. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel out of the loop. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I miss face-to-face contact with coworkers. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel isolated. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I miss the emotional support of coworkers. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I miss informal interaction with others. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please select your level of agreement with the below statements.

	Strongly Disagree (1)	Somewhat Disagree (2)	Neither Agree nor Disagree (3)	Somewhat Agree (4)	Strongly Agree (5)
The job allows me to make my own decisions about how to schedule my work. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job allows me to decide on the order in which things are done on the job. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job allows me to plan how I do my work. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please select your level of agreement with the below statements.

	Strongly Disagree (1)	Somewhat Disagree (2)	Neither Agree nor Disagree (3)	Somewhat Agree (4)	Strongly Agree (5)
The job gives me a chance to use my personal initiative or judgment in carrying out the work. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job allows me to make a lot of decisions on my own. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job provides me with significant autonomy in making decisions (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please select your level of agreement with the below statements.

	Strongly Disagree (1)	Somewhat Disagree (2)	Neither Agree nor Disagree (3)	Somewhat Agree (4)	Strongly Agree (5)
The job allows me to make decisions about what methods I use to complete my work. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job gives me considerable opportunity for independence and freedom in how I do the work. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job allows me to decide on my own how to go about doing my work. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please select your level of agreement with the below statements. Copyright Paul E. Spector 1994, All rights reserved.

	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
I feel I am being paid a fair amount for the work I do. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Raises are too few and far between. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel unappreciated by the organization when I think about what they pay me. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel satisfied with my chances for salary increases. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please select your level of agreement with the below statements. Copyright Paul E. Spector 1994, All rights reserved.

	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
There is really too little chance for promotion on my job. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Those who do well on the job stand a fair chance of being promoted. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People get ahead as fast here as they do in other places. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with my chances for promotion. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please select your level of agreement with the below statements. Copyright Paul E. Spector 1994, All rights reserved.

	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
My supervisor is quite competent in doing his/her job. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor is unfair to me. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor shows too little interest in the feelings of subordinates. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like my supervisor. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please select your level of agreement with the below statements. Copyright Paul E. Spector 1994, All rights reserved.

	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
I am not satisfied with the benefits I receive. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The benefits we receive are as good as most other organizations offer. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The benefit package we have is equitable. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are benefits we do not have which we should have. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
When I do a good job, I receive the recognition for it that I should receive. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not feel that the work I do is appreciated. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are few rewards for those who work here. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't feel my efforts are rewarded the way they should be. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

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	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
Many of our rules and procedures make doing a good job difficult. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My efforts to do a good job are seldom blocked by red tape. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have too much to do at work. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have too much paperwork. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please select your level of agreement with the below statements. Copyright Paul E. Spector 1994. All rights reserved.

	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
I like the people I work with. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find I have to work harder at my job because of the incompetence of people I work with. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy my coworkers. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is too much bickering and fighting at work. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please select your level of agreement with the below statements. Copyright Paul E. Spector 1994. All rights reserved.

	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
I sometimes feel my job is meaningless. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like doing the things I do at work. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel a sense of pride in doing my job. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My job is enjoyable. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Please select your level of agreement with the below statements. Copyright Paul E. Spector 1994, All rights reserved.

	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
Communications seem good within this organization. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The goals of this organization are not clear to me. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often feel that I do not know what is going on with the organization. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work assignments are not fully explained. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The next questions will assist the researcher in improving the quality of the survey.

What type of device did you use to complete the survey?

- Desktop or Laptop (1)
- Mobile phone (2)
- Tablet, iPad, or other mobile device (3)

Are the questions and statements in the survey easily understood?

- Yes (1)
- No, please specify below. (2) _____

Are the questions with frequency of use easily understood?

Yes (1)

No, please specify below. (2) _____

How long did it take to complete the survey?

5-10 minutes (1)

11-15 minutes (2)

16-20 minutes (3)

More than 20 Minutes (Please state approximate time below) (4)

Are there any issues with navigating the survey to and from questions?

No (1)

Yes, please specify below. (2) _____

Are there any questions and/or statements needing clarification?

No (1)

Yes, please specify below. (2) _____

I appreciate your participation in this pilot study. Do you have any feedback or recommendations for improve the survey?

No (6)

Yes, please provide below. (7) _____

APPENDIX F – Permission to Access Population



Kristy Williams,

I approve your request to survey the [REDACTED] WIN members for the dissertation research study, "Examining the Relationship Between Telecommuting Intensity Levels, Social Isolation, Autonomy and Job Satisfaction". For the communications, clearly state, "This research is not affiliated with [REDACTED] Women In Nuclear (WIN) and will be used for external research purposes only." Please ensure employees' information remain confidential and will not be published. The population can identified as a Women In Nuclear group in the manuscript.

[REDACTED] USWIN group is delighted to participate in the dissertation survey. We will distribute the survey to our [REDACTED] US WIN Chapter at each of the nuclear sites. We have 305 active members across the fleet. We look forward to providing support for you on your journey of continuing education. Please contact me by phone or email if additional information is needed or any changes are made impacting our group.

Thanks for thinking of us.

[REDACTED] President [REDACTED] WIN

APPENDIX G – Initial Survey Invite Email

Subject: WIN Members: Participate in Survey for Chance of a \$100 Amazon Gift Card

WIN Members,

This research is not affiliated with Company or Women in Nuclear (WIN) and will only be used for external research purposes.

Do you want a chance to win one of (5) \$100 Amazon gift cards?

You are invited to participate in dissertation research to examine the relationship between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic.

The survey takes approximately 10-15 minutes to complete on any device with internet access. This online survey closes on **08/XX/2021**.

After completing the survey, you can enter a drawing for one of (5) \$100 Amazon gift cards by clicking the link and entering your name and preferred email address.

Your responses will remain anonymous. If you have any questions about this research, you may contact Kristy at Kristy.Williams@usm.edu or 601-596-6277.

Survey Link: Please click the link below or copy and paste the entire URL into your browser to access the survey.

<https://usmuw.col.qualtrics.com/XXXX>

Thanks,

WIN Representative Signature Block

APPENDIX H – Study Survey

INFORMED CONSENT

1. **Purpose:** The purpose of this study is to determine the relationships between social isolation, telecommuting intensity levels, autonomy, and job satisfaction during the COVID-19 pandemic.

2. **Description of Study:** This study is conducted by a student at The University of Southern Mississippi. The goal of this research study is to provide research to literature during the COVID-19 pandemic. Participants are asked to answer each question honestly, thoughtfully, and carefully. The survey is voluntary and should take approximately 10-15 minutes to complete. Individual responses will remain confidential.

3. **Benefits:** Participants may benefit from the results of the study by understanding the relationships between social isolation, telecommuting intensity levels, autonomy, and job satisfaction. This study can help employers develop programs and policies accommodating employee's needs and well-being which can lead to an increase in employee satisfaction and business performance.

Upon completing the survey, you will have the opportunity to provide your name and email address for entrance into a drawing for one of five \$100 Amazon gift card. A new survey will appear for entering your name and email will remain separate from the survey responses. Winners will be randomly selected. If you do not complete the survey or provide your name and email address, you will not be eligible to win one of the gift cards.

4. **Risks:** No known risks are associated with the participation of this study.

5. **Confidentiality:** All responses will remain completely confidential. Participant names or email addresses will not be associated with any data or used in reporting. Additionally, names of participants or employers will not be included in the study's results or conclusions.

6. **Alternative Procedures:** Participation in this study is voluntary.

7. **Participant's Assurance:** This project is under review by the Institutional Review Board which ensures that the research project involves human subjects follow federal regulations. Participation in this project is completely voluntary and participants may withdraw from this study at any time. Any questions or concerns about this as a research participant should be directed to the Chair of the Institutional Review Board. The University of Southern Mississippi, 118 College Drive #5125, Hattiesburg, MS 39406-001, 601-266-5997.

Any questions about the research should be directed to the principal investigator, Kristy Williams at kristy.williams@usm.edu.

Consent to Participate in Research

I understand that participation in this project is completely voluntary. All personal information will be kept strictly confidential, including my name in other identifying information. Our procedures and their purposes were explained to me information was given about all benefits, risks, inconveniences or dis conference that might be expected. Any new information that develops during this project will be provided to me if they information may affect my willingness to continue participation in the project.

By clicking "Yes" below, you acknowledge that you have read and understand the information regarding this study in agreed to participate you may withdraw your participation at any time. If you do not wish to consent to this research study, please click "No" below.

- Yes, I consent to participation in this survey.
- No, I do not consent to participate in this survey.

The following questions collect demographic information. Please select a response for each question.

Q1. To what gender do you most identify?

- Male (1)
 - Female (2)
 - Non-binary / third gender (3)
 - Prefer not to say (4)
-

Q2. Please specify your race.

- White (1)
 - Black or African American (2)
 - American Indian or Alaska Native (3)
 - Asian (4)
 - Native Hawaiian or Pacific Islander (5)
 - Other (6) _____
-

Q3. What is the highest degree obtained or level of school you have completed?

- Less than high school (1)
 - High school graduate (2)
 - Some college (3)
 - 2-year degree (4)
 - 4-year degree (5)
 - Professional degree (6)
 - Doctorate (7)
-

Q4. What is your marital status?

- Married (1)
 - Widowed (2)
 - Divorced (3)
 - Separated (4)
 - Never married (5)
-

Q5. Please select how your household has been impacted directly by to the COVID-19 pandemic. (Select all that apply.)

- Household COVID-19 Illness (1)
 - Household Loss of Income (2)
 - Dependent School Closure or Virtual/Remote Learning (3)
 - Other Impacts (please specify below) (4) _____
 - No Impact at all (5)
-

Q6. Select the amount of time work is performed spent away from the your in-person work location.

- Exclusive telecommuting- never being required to leave home to do a primary job (1)
 - Some telecommuting- leaving home to do a primary job at least once, but also working from home at least once (2)
 - No telecommuting - not being able to telecommute or not working from home at all (3)
-

The following question contain multiple items related to social isolation. A response is required for each item.

Q7. Please select your frequency of feelings with the below statements.

	1 (Rarely) (1)	2 (2)	3 (3)	4 (4)	5 (Most of the time) (5)
I feel left out on activities and meetings that could enhance my career. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I miss out on opportunities to be mentored. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel out of the loop. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I miss face-to-face contact with coworkers. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel isolated. (5)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I miss the emotional support of coworkers. (6)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I miss informal interaction with others. (7)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following questions contain multiple items related to autonomy. A response is required for each item.

Q8. Please select your level of agreement with the below statements.

	Strongly Disagree (1)	Somewhat Disagree (2)	Neither Agree nor Disagree (3)	Somewhat Agree (4)	Strongly Agree (5)
The job allows me to make my own decisions about how to schedule my work. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job allows me to decide on the order in which things are done on the job. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job allows me to plan how I do my work. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q9. Please select your level of agreement with the below statements.

	Strongly Disagree (1)	Somewhat Disagree (2)	Neither Agree nor Disagree (3)	Somewhat Agree (4)	Strongly Agree (5)
The job gives me a chance to use my personal initiative or judgment in carrying out the work. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job allows me to make a lot of decisions on my own. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job provides me with significant autonomy in making decisions (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q10. Please select your level of agreement with the below statements.

	Strongly Disagree (1)	Somewhat Disagree (2)	Neither Agree nor Disagree (3)	Somewhat Agree (4)	Strongly Agree (5)
The job allows me to make decisions about what methods I use to complete my work. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job gives me considerable opportunity for independence and freedom in how I do the work. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The job allows me to decide on my own how to go about doing my work. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

The following questions contain multiple items related to job satisfaction. A response is required for each item.

Q11. Please select your level of agreement with the below statements. Copyright Paul E. Spector 1994, All rights reserved.

	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
I feel I am being paid a fair amount for the work I do. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Raises are too few and far between. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel unappreciated by the organization when I think about what they pay me. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel satisfied with my chances for salary increases. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q12. Please select your level of agreement with the below statements. Copyright Paul E. Spector 1994, All rights reserved.

	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
There is really too little chance for promotion on my job. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Those who do well on the job stand a fair chance of being promoted. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
People get ahead as fast here as they do in other places. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am satisfied with my chances for promotion. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q13. Please select your level of agreement with the below statements. Copyright Paul E. Spector 1994, All rights reserved.

	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
My supervisor is quite competent in doing his/her job. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor is unfair to me. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My supervisor shows too little interest in the feelings of subordinates. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like my supervisor. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q14. Please select your level of agreement with the below statements. Copyright Paul E. Spector 1994, All rights reserved.

	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
I am not satisfied with the benefits I receive. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The benefits we receive are as good as most other organizations offer. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The benefit package we have is equitable. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are benefits we do not have which we should have. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q15. Please select your level of agreement with the below statements. Copyright Paul E. Spector 1994, All rights reserved.

	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
When I do a good job, I receive the recognition for it that I should receive. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I do not feel that the work I do is appreciated. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There are few rewards for those who work here. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I don't feel my efforts are rewarded the way they should be. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q16. Please select your level of agreement with the below statements. Copyright Paul E. Spector 1994, All rights reserved.

	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
Many of our rules and procedures make doing a good job difficult. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My efforts to do a good job are seldom blocked by red tape. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have too much to do at work. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I have too much paperwork. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q17. Please select your level of agreement with the below statements. Copyright Paul E. Spector 1994, All rights reserved.

	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
I like the people I work with. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I find I have to work harder at my job because of the incompetence of people I work with. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I enjoy my coworkers. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
There is too much bickering and fighting at work. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q18. Please select your level of agreement with the below statements. Copyright Paul E. Spector 1994, All rights reserved.

	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
I sometimes feel my job is meaningless. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I like doing the things I do at work. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel a sense of pride in doing my job. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
My job is enjoyable. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Q19. Please select your level of agreement with the below statements. Copyright Paul E. Spector 1994, All rights reserved.

	Disagree very much (1)	Disagree moderately (2)	Disagree slightly (3)	Agree slightly (4)	Agree moderately (5)	Agree very much (6)
Communications seem good within this organization. (1)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The goals of this organization are not clear to me. (2)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I often feel that I do not know what is going on with the organization. (3)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Work assignments are not fully explained. (4)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Thank you for your participation in this survey. For your participation, you have the opportunity to provide your name and email address for entrance into a drawing for one of five \$100 Amazon gift cards. Your name and email address will remain separate from the survey responses. Winners will be randomly selected.

Please click [here](#) for a chance to win one of five \$100 Amazon gift cards.



APPENDIX I – Incentive Survey



Participation Incentive

Thank you for your time! In order to be eligible for one of the five (5) \$100 Amazon gift cards, please provide your contact information below.

(Note: Your contact information will be kept confidential and will not be part of the previous survey response responses.)

Gift Card Drawing:

The drawing for the five Amazon gift cards will be virtually held on XXXX and winners will be notified the same day. Make sure you enter your name and a preferred e-mail address for contact if you are selected. If no response is received from the winner within 5 days of notification, the prize will be voided by the researcher. No response or undeliverable message results in the next participant on the list as the gift card winner.

If you have any questions or concerns, please email me at Kristy.Williams@usm.edu.

Name

Email Address

APPENDIX J – One Week Follow-Up Participation Email

Subject: WIN Members: One Week Left for Chance of a \$100 Amazon Gift Card

WIN Members,

This research is not affiliated with Company or Women in Nuclear (WIN) and will only be used for external research purposes.

This is the last week to complete the below survey for your chance to win one of (5) \$100 Amazon gift cards. Participation is voluntary. This survey closes on **09/01/2021**.

Survey: <https://usmuw.col.qualtrics.com/XXXX>

Please enter your name and preferred email address to be contacted if selected as a winner.

Your responses will remain anonymous. If you have any questions about this research, you may contact Kristy at Kristy.Williams@usm.edu or 601-596-6277.

Thanks,
WIN Representative Signature Block

APPENDIX K – Last Day Follow-Up Participation Email

Subject: Last Day for Chance of a \$100 Amazon Gift Card

WIN Members,

“This research is not affiliated with Company or Women in Nuclear (WIN) and will be used for external research purposes only.”

This is the last day to complete the below survey for your chance to win one of (5) \$100 Amazon gift cards. Participation is voluntary. This survey closes on **09/01/2021**.

Survey: www.qualtrics.com/xxxx.

Please enter your name and preferred email address to be contacted if selected as a winner.

Your responses will remain anonymous. If you have any questions about this research, you may contact Kristy at Kristy.Williams@usm.edu or 601-596-6277.

Thanks,

WIN Representative Signature Block

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