2024

Psychological safety during the Covid-19 pandemic restrictions-a U.S. healthcare context

Mary Jean Brown
leeaxllc@gmail.com

Pepperdine University

Graduate School of Education and Psychology

PSYCHOLOGICAL SAFETY DURING THE COVID-19 PANDEMIC RESTRICTIONS – A U.S. HEALTHCARE CONTEXT

A clinical dissertation submitted in partial satisfaction

of the requirements for the degree of

Doctor of Education in Organizational Leadership

by

Mary Jean Brown

April 2024

Elio Spinello, EdD – Dissertation Chairperson

This dissertation written by

Mary Jean Brown

under the guidance of a Faculty Committee and approved by its members, has been submitted to and accepted by the Graduate Faculty in partial fulfillment of the requirements for the degree of

DOCTOR OF EDUCATION

Doctoral Committee:

Elio Spinello, EdD – Dissertation Chairperson

Kay Davis, EdD

Celeste Villanueva, EdD, CRNA

TABLE OF CONTENTS

LIST OF TABLES vi

LIST OF FIGURES viii

ACKNOWLEDGEMENTS ix

VITA x

ABSTRACT xii

Chapter 1: Study Introduction 1

- Problem Statement 9
- Research Questions 11
- Methodological Approach 11
- Theoretical Framework 12
- Definitions 13
- Significance of the Study 14
- Chapter 1 Summary 15

Chapter 2: Theoretical Framework 17

- Overview 17
- The COVID-19 Pandemic and The New World of Work 17
- Knowledge Work During the Pandemic 18
- Psychological Safety 21
- Employee Voice Behavior 25
- Knowledge Sharing 27
- Learning Behavior 31
- Psychosocial Factors 37
- Chapter 2 Summary 46

Chapter 3: Methods 49

- Research Approach 49
- Sources of Data 50
- Limitations 51
- Data Collection Strategies & Procedures 51
- Criteria for Inclusion and Exclusion 51
- Consent Procedures 52
- Instrument 52
- Validity of Instrument 53
- Human Subjects Considerations 54
- Data Analysis 55

Calculations of Scores 55

Chapter 4: Findings 58

Description of Survey and Setting 59
Study Results 59
Data Collection Demographics 59
Overall Respondents Perception of Psychological Safety 61
Results Categorized By Research Questions 62
Research Question 1: Are Changes In Perceived Psychological Safety Related To The Self-Reported Psychosocial Impact Of COVID-19? 62
Research Question 2: Did Perceived Psychological Safety Change For Workers Who Suddenly Found Themselves Forced To Work From Home As A Result Of The COVID-19 Pandemic restrictions? 64
ANOVA Total Psychological Safety By Those Who Worked From Home 65
ANOVA To Determine Total Psychological Safety Change By Work From Home 66
ANOVA To Determine Team Psychological Safety Change By Work From Home 67
ANOVA To Determine Leader Psychological Safety Change Score By Work For Home 68
Research Question 3: Does Longer Team Tenure Help Insulate Work At Home Workers From Reductions In Psychological Safety In Comparison To Those With Shorter Team Tenure Within The Organization? 70
A Linear Regression Was Conducted To Assess If There Was A Significant Relationship Between Total Tenure and Total Change in Psychological Safety. 71
A Linear Regression Was Conducted To Evaluate Whether Total Tenure Significantly Predicted Team Psychological Safety Change. 72
A Linear Regression Was Conducted To Assess If There Was A Significant Relationship Between Total Tenure and Leader Psychological Safety Change Score. 73
Research Question 4: Are There Changes In Perceived Psychological Safety Related To Self-Reported Employee Demographics? 74
ANOVA To Determine Total Change In Psychological Safety Change Scores Relative To Organizational Level 74
ANOVA To Determine Total Change In Psychological Safety Change Scores Relative To Race/Ethnicity 75
ANOVA Total Change In Psychological Safety Scores Relative To Gender 77
ANOVA of Total Psychological Safety Relative To Organizational Level, Race, And Gender Categories. 78
Total Psychological Safety by Organizational Level 78
Total Psychological Safety by Race/Ethnicity 79
Total Psychological Safety by Gender 81
Chapter 4 Summary 82

Chapter 5: Conclusions, Implications, Recommendations 85

Research Description and Summary 85
Theoretical Framework 87
Methods 88
Conclusions and Discussion 89
Overall Perception of Psychological Safety 89
Research Question #1 90
Are changes in perceived psychological safety related to the self-reported perceived psychosocial impact of COVID-19? 90
Research Question #2 93
Did perceived psychological safety change for workers who suddenly found themselves forced to work from home as a result of the COVID-19 pandemic restrictions? 93
Research Question #3 95
Does longer team tenure help insulate work-at-home workers from reductions in psychological safety in comparison to those with shorter team tenure within the organization? 95
Research Question #4 96
Are changes in perceived psychological safety related to self-reported employee demographics? 96
Organizational Level 96
Race/Ethnicity 97
Gender 97
Demographic Summary 98
Study Limitations 99
Recommendations for Organizational Practice and Future Research 100
Organizational Practice #1- Focus on improving the psychosocial climate 101
Organizational Practice #2 - Leadership Adoption of New Workplace Norms . 102
Closing Comments 105

APPENDIX A: IRB Approvals 140

APPENDIX B: Psychological Safety Survey With Informed Consent 143

LIST OF TABLES

Table 1: Research Questions, Analysis Conducted, Statistical Method.....57

Table 2: Demographics Characteristics of Participant.....60

Table 3: ANOVA for Total Psychological Safety by Psychosocial Impact 63

Table 4: Mean and Standard Deviation for Total Psychological Safety by Psychosocial Impact.....63

Table 5: ANOVA for Total Psychological Safety by Work From Home.....66

Table 6: Means and Standard Deviation for Total Psychological Safety by Work From Home.....66

Table 7: ANOVA for Total Change by Work from Home.....67

Table 8: Means and Standard Deviations for Change Levels At Work.....67

Table 9: ANOVA for Team Psychological Safety Change by Work from Home.....68

Table 10: Mean and Standard Deviation for Team Psychological Safety Change by Work from Home.....68

Table 11: ANOVA for Leader Psychological Change Score by Work from Home.....69

Table 12: Mean and Standard Deviation for Leader Psychological Change Score by Work from Home.....69

Table 13: Linear Regression with Total Tenure predicting Total Psychological Safety.....71

Table 14: Linear Regression with Total Tenure predicting Total Change.....72

Table 15 Linear Regression with Total Tenure predicting Team Psychological Safety Score.....72

Table 16: Linear Regression with Total Tenure predicting Leader Change Score.....73

Table 17: ANOVA for Total Change by Organizational Level.....75

Table 18: Mean and Standard Deviation for Total Change by Organizational Level.....75

Table 19: ANOVA Table for Total Change In Psychological Safety by Race and Ethnicity.....76

Table 20: Mean, Standard Deviation, Sample Size for Total Change In Psychological by Race, Ethnicity.....76

Table 21: ANOVA Table for Total Change by Gender.....77

Table 22: Mean, Standard Deviation, and Sample Size for Total Change by Gender.....77

Table 23: Analysis of Variance Table for Total Psychological Safety by Organizational Level.....79

Table 24: Mean, Standard Deviation, and Sample Size for Total Psychological Safety by Org. Level.....79

Table 25: Analysis of Variance Table for Total Psychological Safety by Race/Ethnicity.....80

Table 26: Mean, Standard Deviation, and Sample Size for Total Psychological Safety by Race/Ethnicity 80

Table 27: Analysis of Variance Table for Total Psychological Safety by Gender.....81

Table 28: Mean, Standard Deviation, and Sample Size for Total Psychological Safety by Gender.....82

LIST OF FIGURES

Figure 1: Changes In Psychological Safety Compared To Pre-COVID.....61

Figure 2: Mean Psychological Safety Score by Perceived

Psychosocial Impact of COVID-19 Restriction.....64

ACKNOWLEDGEMENTS

I want to express my heartfelt gratitude to the following individuals who have played instrumental roles in the completion of this dissertation:

First and foremost, I owe a debt of gratitude to my parents, whose unwavering support and nurturing upbringing created an environment that fueled my love for learning and discovery. Although they are no longer with me in the present, I would not have reached this significant milestone without their encouragement and belief in me.

I am profoundly grateful to my advisor, Elio Spinello, EdD, for his unwavering guidance and support throughout the tumultuous challenges posed by the COVID-19 pandemic. His steady hand and profound wisdom have been invaluable in shaping my research and navigating through the obstacles that arose along the way.

I sincerely thank the members of my committee: Kay Davis, EdD and Celeste Villanueva, EdD, CRNA, for generously sharing their expertise and providing invaluable guidance throughout the dissertation process. Their thoughtful insights and constructive feedback have greatly enriched the quality of this work.

To my beloved family, friends, and colleagues, I am grateful for your understanding of the importance of this undertaking. Your continuous encouragement, thoughtful check-ins, shared meals, and infectious laughter has brought joy and inspiration during both the triumphs and the challenges. I would also like to extend a special thank you to Crystal January Craft, whose support and efforts helped remove the roadblocks that stood in my path, allowing me to achieve this momentous goal.

Thank you all from the bottom of my heart.

VITA

Mary Jean Brown
Global Organizational Development and Culture Consultant

Professional Experience

Senior Culture Consultant/DEI, Human Resources
Steelcase, Inc – April 2022- present

Lead Transformation, Innovation & Culture, Human Resources
Spectrum Health, Grand Rapids, Michigan – September 2020 - December 2022

Lead Diversity, Equity & Inclusion (DEI), Human Resources
Spectrum Health, Grand Rapids, Michigan - January 2016 – September 2020

Digital Experience Analyst/Digital Experience Group
Priority Health, Grand Rapids, Michigan - June 2015 – December 2015

Owner and Principal Consultant leeAlexander Consulting
Grand Rapids, Michigan - July 2007 – January 2017

Program Manager
Grand Rapids Opportunities for Women Grand Rapids, Michigan - June 2014 - June 2015

Adjunct Instructor - Psychology and Business Departments
Grand Rapids Community College, Grand Rapids, Michigan - November 1996 - Present

Assistant Principal/Dean of Small Schools
Grand Rapids Public Schools, Grand Rapids, Michigan - June 2004 - June 2008

Formal Education

Pepperdine University
Doctoral Candidate Organizational Leadership

Massachusetts Institute of Technology, Boston (online)
Sloan and CSAIL Executive Education Artificial Intelligence (AI) Business Strategy

Gonzaga University, Spokane, Washington
Master of Arts in Organizational Leadership

University of Phoenix, West Michigan Campus
Bachelor of Science in Business Management

Case Western Reserve Weatherhead
Design Solutions for Innovation and Strategy (Executive Certificate)

National Institute of Technology, Wyoming, Michigan
Associate Electronics Engineering

Memberships/ Interests/Studies

American Psychological Association (APA)
Technology and Society/Futuring & Foresight

Publication

Campus Triple Bottom Line: College Sustainability and Grand Valley State University
McNair Scholars Journal · Jan 1, 2009

ABSTRACT

The pandemic forced many employees to transition to remote work, leading to concerns about the economic impact and inequities between remote and on-site workers. The shift to remote work has raised psychological safety issues, work-life balance, and employee engagement. The virtual workspace created during the pandemic has highlighted communication challenges, interpersonal dynamics, and maintaining boundaries between work and personal life. Through a quantitative approach, this study explored changes in perceived psychological safety, its relation to the psychosocial impact of COVID-19, and demographic factors, offering the opportunity to gain insights into this unprecedented experience during a global pandemic. Findings showed that 60.9% rated their psychological safety as having changed for the worse. Remote work did not significantly affect psychological safety, but differences were observed among races/ethnicities and genders. Asian/Pacific Islanders and White/Caucasians reported lower psychological safety than Hispanics/Latinos, while females felt safer than those who preferred not to answer. The relationship between total tenure and psychological safety was not substantial, but employment tenure had a slight negative correlation with changes in psychological safety. Employment tenure also negatively impacted the Team Psychological Safety Change and had a small negative impact on the Leader Psychological Safety Change Score. These findings will contribute to understanding psychological safety in remote work contexts and inform organizations in creating supportive and engaging hybrid work environments. The study's significance lies in its examination of the unique experience of remote workers during the pandemic and its implications for future work arrangements. By investigating psychological safety, organizations can foster a positive work culture and address the challenges associated with remote work, ultimately enhancing employee well-being and productivity.

Chapter 1: Study Introduction

The COVID-19 pandemic has shifted stability and caused upheaval in the lives of many throughout the world. In the early months of 2020, the paroxysm that the COVID-19 pandemic caused across the globe and within the United States was profound. Out of necessity to preserve employees' safety and maintain operations, many businesses abruptly mandated employees who could do so to work from home. These knowledge workers are individuals who generate and apply knowledge (Cambridge Dictionary, n.d.-a) and, for the most part, do not require a physical presence within the workplace to accomplish their work. The result was vacant office spaces within major urban centers remaining empty during the pandemic, and this brought on concerns about the impact on the economy due to the reduced use of commercial office spaces and the inequities that may come about between those who can work from home and those who cannot (Behrens et al., 2021; Organisation for Economic Co-operation and Development [OECD]). Although working from home was the best choice for many businesses, the sudden mandate to work from home created a challenge for businesses and employees unfamiliar with interacting with their colleagues within a virtual workspace. Conversely, research from Eberly et al., (2021) holds that employees working from home contribute to the economy through increased expenditures on equipment to help adapt their homes for working remotely. Some research showed increased productivity and flexibility among employees working from home (Parker et al., 2022), while other research highlighted the challenges of working from home due to some employees lacking an environment conducive to working from home (Al-Habaibeh et al., 2021; Gorlick et al., 2020; Ipsen et al., 2021; Kitagawa et al., 2021).

COVID-19 has revealed various factors to consider as they relate to how individuals are experiencing working from home. For instance, occupations with higher levels of physical

proximity are more likely to change how they do business after the pandemic, causing ripple effects in other industries as business models will need to change in response (Lund et al., 2021), and innovative ideas surface. For example, from January to September 2020, the number of new patent applications advancing working-from-home technologies more than doubled, surpassing its previous high and continuing an upward trend since the pandemic began (Bloom et al., 2021).

COVID-19 has brought forward a deeper aspect of the work-from-home phenomenon and heightened attention to the changing context of work. Prior to the pandemic, it was estimated that about 5% of Americans were working-from-home, this increased to 37% by April 2020 during the earlier years of the pandemic (Barrero et al., 2020a; Brynjolfsson et al., 2020). According to estimates by the U.S. Census Bureau's 2021 American Community Survey, the number of people working from home tripled from approximately 9 million people to 27.6 million people (US Census Bureau, 2022). Many workers expressed wanting to continue working from home after the pandemic (Parker et al., 2021). Fast forward to 2022, and amid the Omicron variant and its various sub-variants, working from home, which was once something that only a few individuals engaged in, has become the new norm for many knowledge workers. According to a Pew Research Center survey, approximately six out of ten U.S. workers (59%) think their jobs can primarily be done from home all or most of the time (Parker et al., 2022). The vast majority of these individuals (83%) said they were working from home even before the omicron variation swept across the United States. The number of teleworkers has decreased since October 2020, when 71% of workers with occupations that could be done from home did so all or most of the time. However, it's still much higher than the 23% of those who said they worked from home regularly before the coronavirus outbreak (Parker et al., 2022).

Working from home has caused an increase in the use of technology to mediate communication and collaborate on work. Virtual meetings and job flexibility are becoming more common. With widespread adoption, knowledge-based businesses may switch to a four-day workweek, reduce travel for internal activities such as training and sales meetings, and eliminate vacation policies that hinge on employee seniority. Instead, workers may take time off as long as their work assignments are done (Pazzanese, 2021).

The COVID-19 pandemic catalyzed employers to create workplace designs that were distributive, geographically dispersed, and hybrid, having employees who work remotely and on-site. Workers interacted with their colleagues remotely using digital workplace tools like Microsoft Teams, Google Suite, Slack, and Zoom. Individuals had access to anyone across the organization, thus breaking down silos and democratizing access to people and information, enabling individuals to access people sans hierarchy. Before the pandemic, using an organizational behavior purview, workplace environments could be seen as either hierarchical, siloed, or as an interconnected web of relationships. Suddenly, terms such as *Zoom fatigue* (J. Lee, 2020) became part of an unsettling and unpredictable circumstance lexicon and highlighted the stress and strain of psychosocial aspects of so many suddenly working in a new way and the challenges of boundaries and segmentation between work and personal life, as well as changes to the dynamics of interpersonal and organizational communication.

No matter the configuration, the repercussions of the COVID-19 pandemic have challenged how we see and do our work. The pandemic has become a catalyst for forcing organizations to examine with a different lens how we may think of work as needed to be done within the construct of a traditional organizational design of a building or a place-based location primarily within the employer's influence and control.

In workplaces prior to COVID-19, people dynamics could be seen primarily in the context of a physical location, with people interacting with each other within a specific location called the workplace. Designers and architects saw new configurations and created cubicles and later designs that eliminated the physical walls and created open areas for workers; the idea was that these configurations would make the workplace more human-centered and connected (Musser, 2009). During COVID-19, continuous changes, including organizational restructuring, automation technology, remote hybrid work arrangements, and upskilling, have positioned enterprises to reconsider their workforce strategies. Strategically assessing the needs of the workforce aids a company's ability to survive and prosper. Forecasting and assessing workforce supply and demand are part of the strategic workforce planning needs for a viable remote hybrid environment. Employers are now considering who needs to work onsite and who does not, thus creating permanent categories of those who will be onsite, offsite, or have flexible or hybrid schedules.

In order to support these changes in workplace dynamics where more employees are working remotely or in hybrid organizations where employees are both onsite or working remotely and virtually collaborating, there is a need to focus on employee interaction and engagement (community building and collaboration), well-being, and safety within these organizational design configurations (Yang, L. et al., 2021). It is not that distributive and hybrid work designs were not at play before COVID-19, but the workplace was seen chiefly as a place one would go to produce work. Now, many workers are advocating, if not demanding, remote work options (Gofus, 2021). The ability to work at an office or even a coffee shop contributed to the ways people could feel wellbeing and connection to others. However, in the virtual workplace created during COVID-19, the experience has been different; workers reported a

decrease in wellbeing and social isolation (Galanti et al., 2021). In addition, according to a report by IBM, workers have felt that they need support in developing new skills and guidelines for working remotely (IBM Institute for Business Value, 2022). Employees are challenged by the increased time spent participating in online meetings, causing Zoom Fatigue. Furthermore, prolonged screen time is causing remote workers both time management and ergonomic issues (Negulescu & Doal, 2021).

Although working from home has allowed individuals to have personal and mental space by minimizing disruptions, in-office distractions are replaced with competition for space and attention from family members and pets in the household. Unlike working in the office, some employees had to share space with other family members who may also be working or studying from home. These individuals may not have anticipated that they would need to compromise on space for work or create a home office altogether. People who worked from home faced disruptions from various sources, such as roommates, partners, kids, and pets, and also had to manage their children's remote education, all of which added to their stress levels (Daulay & Mustika, 2021).

Beyond the employee's general well-being is employee engagement while working from home, particularly during the unique circumstances of COVID-19 (Chanana, 2020). Some respondents in a study by Teevan et al. (2021) reported a lack of separation between work and personal life. Half of Microsoft's software engineers and program managers said there was an increase in non-work distractions. Williams et al. (2020) found that information workers worked the prescribed work hours outside the boundaries of work. Palumbo (2020) found that employees who worked remotely did experience challenges with balancing their private lives with workplace demands, but those workers who felt engaged reported less fatigue; thus, work

engagement had a positive relationship to work-life balance and positively mediated the relationship between working from home and work-life balance.

Given employees' experiences, it is reasonable to expect that the work-from-home experience will change the social dynamics within the organization. One of these ways is that working from home results in virtually all communication being mediated through technology. The office offers opportunities for dynamic communication cues (verbal and non-verbal interactions) and random encounters with colleagues. Whereas working from home requires communication to be planned out and more intentionally delivered, remote working challenges communication and how team members need to build community and collaborate.

Additionally, individuals' stress and anxiety resulting from COVID-19 limitations on socializing with others outside of the household and public outings add isolation and stress that can impact employees' well-being. The added burden of being restricted from staying home has caused a significant increase in psychosocial problems such as relationship and family issues, anxiety, depression, substance abuse, mental health, and depression (Panchal et al., 2020; Saladino et al., 2020).

During this new normal, employers can find a plethora of articles focused on how to survive this new climate and create an engaging, productive, and team-oriented virtual workplace. Some employers debated if their workers should continue working from home beyond the end of the pandemic's social distancing restrictions. Additionally, employees who have worked remotely since the start of the pandemic may have developed new standards and expectations for their work-life balance and may require good reasons from their employers to return to the physical workplace. Not without challenges, the transition to working from home was more manageable than many imagined. Working from home provided more flexibility for

some, making it more desirable to continue teleworking post-COVID restrictions (Parker et al., 2021). During this writing, there has been much consternation between employers and employees regarding returning to the office, with some employers wanting workers to return and employees not wanting to acquiesce returning to the office (Schwartz & Marcos, 2021). Additionally, a phenomenon emerged coined *The Great Resignation*, in which a substantial amount of the U.S. workforce left the workplace. In January 2022, 4.3 million individuals quit their jobs (U.S. Bureau of Labor Statistics, 2023). This mass exodus from the workplace has caused employers anxiety and stress for workers who remain to shoulder the burden of a labor shortage (A. Cohen, 2021; Rosalsky, 2021).

Nearly 30 years ago, corporate companies like Cisco Systems, Sun Microsystems (Neeley, 2021), and one of the pioneers of remote work, IBM, led the way in the adoption of telework. In 2017, IBM ended remote work, citing the need for in-person collaboration to innovate more effectively (Kessler, 2017). The United States government led in attempting to normalize telework via the Enhancement Act of 2010 (U.S. Office of Personnel Management, n.d.), which supported telecommuting among Federal employees. Flash forward to the impact of COVID-19, and IBM estimated that 80% of its workforce would return to remote work in a hybrid design (Sonnemaker, 2021).

The revelation about continuing to work remotely is an offshoot of sentiments that IBM and other companies have found among employees who want to continue working remotely (Comeau, 2020; Miller, 2021; Bloom, 2022). Employers have contended with employee churn and employees engaging in deep introspection and assessment of how work fits their needs, re-evaluating their career goals and work-life balance, and the desire to continue working remotely (Pandey, 2021).

Today, work can happen anywhere, and the connections with which an employee can work with others can happen from a virtual distance. The increase in remote work, resulting from a mass exodus out of the office to work from home, is a unique moment in history. This moment is unique primarily due to two reasons. First, due to the global phenomenon of the COVID-19 pandemic, in January 2021, 56% of the U.S. labor force worked from home and liked doing so (Lardieri, 2021), and it is predicted to remain steady after the COVID-19 pandemic (Global Workplace Analytics, 2020). Second, due to COVID-19 restrictions, alternative spaces such as coffee houses, libraries, and co-working facilities have changed how they welcome individuals, providing limited access or having been shuttered entirely due to economic pressures from COVID-19 restrictions. Limited access to these alternative places is significant because these third places (Oldenburg, 1999) were opportunities for serendipitous encounters and conversations that would lead to opportunities to create business connections, socialize, or break up the monotony of the office routine (LaBarre, 2020). Employers have seized the opportunity to use technology to help get work done virtually among team members, but engaging with technology differs greatly from in-person collaboration.

Predicted trends to support remote work include the adoption of automation and Artificial Intelligence (AI) to address density issues on-site to maintain health and safety from the COVID-19 virus (Lund et al., 2021) and address worker shortages (VentureBeat, 2021). Using automation, AI, and predictive technologies may help an organization's Human Resources department to address workplace satisfaction, productivity, talent management, and health and welfare concerns. Automation is expected to allow organizations to increase performance by eliminating errors, enhancing quality and speed, and, in some situations, attaining objectives that are beyond human capabilities (Manyika et al., 2017).

As many organizations are planning to continue remote work or considering forging ahead with a hybrid work design after COVID-19, now is an opportune time for employers to understand the experience of the remote or work-from-home employee. There is an opportunity to leverage the knowledge learned to create workplace climates that will allow all employees to thrive and be engaged post-COVID-19 (Emmett et al., 2020).

The change that workers have had to endure during the COVID-19 pandemic allows for an examination of how working from home influences the employee's perception of their experience within a team. One area of employee perception is that of psychological safety. For instance, technology has helped mediate the hiring and onboarding new employees and will undoubtedly be leaned into more to create a meaningful experience for new employees. There is a concern that workers' perceived psychological safety could be negatively impacted by the reduced face-to-face interaction with their team members and leaders during the COVID-19 pandemic. Psychological safety is the feeling that one's workplace is an environment where one can voice opinions, seek out and provide honest feedback, collaborate, and experiment with new ideas without embarrassment or punishment (Edmondson, 1999a). The remote work experience during COVID-19 has some unique attributes that may have exacerbated the work-from-home experience for those who felt a lack of psychological safety during this moment in history.

Problem Statement

The COVID-19 pandemic restrictions have created more physical, social, and communicative distance between employees. For these reasons, there is likely an effect on how employees perceive their roles and their degree of psychological safety. Specifically, there is a lack of knowledge regarding the effects on psychological safety for employees who found themselves abruptly required to work from home during the COVID-19 pandemic.

Many organizations found that some workers were needed onsite, and others could do their work virtually. As a result, organizations are considering hybrid work design as a viable solution for the changing context of work. COVID-19 shed light on what work could be done off-site, and as we are moving into the new reality of living in a world with COVID-19, the role of the remote worker is becoming etched into the job descriptions for many workplaces. In the context of this study, a hybrid work design is one that has a working arrangement of onsite and remote scheduling and may have a mix of employees who work remotely and onsite. This configuration could include having different work arrangements and work schedules, with some teams having members work onsite for a prescribed number of days or others who only come into work when virtual interactions cannot take the place of face-to-face engagement. Having a regular schedule where some workers on a team are remote while others are on-site could create challenges in treating individuals fairly and equitably. In addition, remote work arrangements can create inherent challenges around access to the team leader, information sharing, autonomy, and face-to-face social interaction.

Researchers and employers are trying to make sense of the dynamics of remote work and the experiences of remote workers. The lessons learned during the COVID-19 pandemic may offer valuable information to organizations on how to reimagine cohesion in a modern hybrid workplace. By examining how workers experience psychological safety, employers can gain unique insights into ways to improve the remote work experience. In addition, the research may provide insight into how a pandemic-driven shift in where people work may require organizational leaders to examine elements of leadership, personnel support, and cultural norms within the workplace and how a shift in these areas may meet the psychological safety of the hybrid or remote worker.

Given the unique circumstance of a global pandemic that has impacted workplaces worldwide, exploring how workers are experiencing the dynamics of psychological safety within these contexts is an important contribution to research within this topic area.

Research Questions

This quantitative study aims to examine the relationship between psychological safety and working from home during the COVID-19 pandemic. Using both descriptive and inferential statistics, this study design utilizes an instrument for estimating perceived psychological safety (O'Donovan et al., 2020). The study will examine the perception of psychological safety and the strength and direction of the relationship between perceived psychological safety and working from home during the COVID-19 pandemic among healthcare employees. This study aims to address the following research questions:

- RQ1: Are changes in perceived psychological safety related to the self-reported psychosocial impact of COVID-19?
- RQ2: Did perceived psychological safety change for workers who suddenly found themselves forced to work from home as a result of the COVID-19 pandemic restrictions?
- RQ3: Does longer team tenure help insulate work-at-home workers from reductions in psychological safety in comparison to those with shorter team tenure within the organization?
- RQ4: Are changes in perceived psychological safety related to self-reported employee demographics?

Methodological Approach

This quantitative study examines the effects of working from home during the COVID-19 pandemic and the perceived impact on psychological safety. This study will examine the perception of psychological safety and the strength and direction of the relationship between perceived psychological safety and working from home during the COVID-19 pandemic State-

mandated restrictions among knowledge workers within a healthcare organization and an insurance subsidiary.

The investigator will explore this phenomenon using a non-experimental quantitative approach by surveying knowledge workers within the healthcare sector in the State of Michigan. The investigator approaches this work understanding that they have an affinity for this topic based on their experience as a knowledge worker within the healthcare sector and have some familiarity with the organization participating in the study. Additionally, the investigator has worked from home during the pandemic, which is the subject of this study.

Using a quantitative method helps reduce the level of bias that they may be brought into the study as a result of those personal experiences. This quantitative positivist paradigm of using an empirical method of surveying will allow the researcher to examine the ideas via quantitative methods and accompanying variables (Creswell, 2014). This worldview allows for beginning with a theory and the collection of data that "supports or refutes the theory" (Creswell, 2014, p. 7). Thus, a positivist approach is essential to examining the phenomenon within this study.

This study, conducted in a healthcare organization and insurance subsidiary, has limited generalizability due to self-reporting and potential skewed responses. It also faces non-response bias and psychological safety changes over time.

Theoretical Framework

This study will use the theoretical framework of psychological safety to explore the current climate of the COVID-19 pandemic and the perception of psychological safety for employees working from home.

An overview of the theory of psychological safety from the established literature will be explored in Chapter 2. Additionally, the literature review will expand the discussion into the

present-day context of psychological safety for working-from-home employees during the COVID-19 pandemic. This will include what the literature says in regard to the related dynamics of telework and telecommuting (working-from-home, remote work), employee engagement and collaboration, and psychosocial stressors. The places of examination will be two healthcare-related organizations and those employees who worked from home during the COVID-19 pandemic.

Definitions

Psychological safety is the feeling that one's workplace is an environment where one can voice opinions, seek out and provide honest feedback, collaborate, and experiment with new ideas without being embarrassed or punished (Edmondson, 1999a), and this will be the operational definition used.

Telework is described as a flexible work arrangement under which an employee performs the duties and responsibilities of their role from an approved location with their employer's approval (U.S Office of Personnel, n.d.). Additionally, sometimes used interchangeably, telecommuting is a work practice in which employees work remotely, usually from home, using technology to communicate with coworkers. It is also referred to as working from home or remote working (Allen et al., 2015; Cambridge Dictionary, n.d.-b), of which the latter two terms will mainly be used in this paper. Additionally, knowledge workers are individuals who generates and apply knowledge (Cambridge, n.d.-a), and a hybrid work model is a flexible workplace design where there is a mixture of employees who work onsite and partly remote or at another physical location (“Hybrid Work,” n.d.). This paper will explore these terminologies related to knowledge workers and hybrid work environments more fully, including telecommuting and remote work.

Significance of the Study

This study fills the gap in psychological safety literature by examining work-from-home or remote workers' perceptions of psychological safety during the COVID-19 pandemic stay-at-home mandate and restrictions.

Additionally, this study looks at the challenging factors that may contribute to organizational culture adaptation and change during COVID-19. An oft-used saying, "Never let a good crisis go to waste," which has been attributed to Sir Winston Churchill, can be applied to the COVID-19 crisis. This pandemic provided opportunities for individuals, organizations, and institutions to take stock of how they were going about doing things. The conventional orthodoxy that the office or onsite is the only place where employees will be engaged and working productively, along with new ways of looking at recruitment and the need for infrastructure, has been turned on its head (Deloitte Insights, 2021).

Moving into the future, remote working in the form of a hybrid work design is the route many workplaces will be taking, but how to do so effectively will be an essential factor. Moving to a hybrid model will require leaders to learn new ways of engaging with their team members to reduce and manage fault lines that could come from subgroup affiliations, status, poorly managed conflict, and poor communication. Leaders may have to adopt a dual approach to address those working onsite or in person, and remotely. This method necessitates a change in thinking to guide and nurture teamwork, creativity, cultural integration, and commitment in a virtual setting (Hooijberg & Watkins, 2021).

With factors like a shortage of those participating in the labor market, an aging workforce that participated in early retirement during the pandemic (Faria-e-Castro, 2021), and digital transformation becoming increasingly important, organizations will need to adapt to this new

workplace reality. The COVID-19 pandemic accelerates the need for organizations to adopt automation and other technologies to augment these needs and create a safe workplace as we move into an endemic state with COVID-19 (Manyika et al., 2017). Organizational agility and adaptability to this new work landscape are increasingly important for enterprise longevity.

COVID-19 created opportunities and challenges that will impact how we examine the social dynamics of this time and the future landscape of work (Rudolph & Zacher, 2020). A hybrid workplace model and the technology used to augment it will be essential aspects of putting in place the support for organizations to make a viable cultural shift. COVID-19, as a radical VUCA event (Ng et al., 2020), has offered organizations the opportunity to make a sweeping change to how work is done, and employees are supported.

Examining psychological safety in the context of the pandemic will be a value-add for researchers and employers trying to make sense of the dynamics of remote work and the remote worker's experience during an environmental incident that is out of an organization's control. Lessons learned during this pandemic may provide organizations with information on reimagining how cohesion can be developed within a modern hybrid remote workplace. Additionally, examining how workers experience psychological safety could offer some unique insights. In addition, this research can provide insight into how a pandemic-driven shift in where we work may have a lasting impact on how organization design and the development of certain workplace norms can meet the psychological safety of the remote worker.

Chapter 1 Summary

Given the unique circumstance of a global pandemic that has impacted workplaces worldwide, exploring how workers are experiencing the dynamics of psychological safety is believed to be an important contribution to research within this topic area.

This study provides a contribution to understanding how employees' psychological safety is impacted during a significant event outside of the organization's control that greatly impacts workplace dynamics. Given the substantial impact and agitation of the COVID-19 pandemic on workplaces, it is important to explore how employees working from home may have experienced psychological safety during the pandemic. Further, it is crucial to have insight into what aspects of the pandemic restrictions may have produced psychosocial stressors for the employee while working from home. Supporting remote workers through regular and effective communication, using technology to support remote work, looking out for the health and well-being of employees by providing emotional support, and fostering work-life balance are considered paramount to the shift to remote working (Sull et al. 2020).

Chapter 2: Theoretical Framework

Overview

This literature review begins by setting a context for psychological safety from a selection of contemporary research that will set the tone for understanding this phenomenon within the context of working from home during a pandemic. The studies in this review were published between 1999 and 2022, with the exception of a few papers such as Schein and Bennis (1965) and Kahn (1990), which hold historical significance in the canon of psychological safety research and help to provide context to the discussion.

Based on the novel nature of the COVID-19 pandemic, the review of literature explores the following thematic areas that intersect with the perceived psychological safety of employees who worked from home during the height of the pandemic restrictions; these themes in the context of psychological safety are explored within this literature review: the knowledge worker, employee voice behavior (speaking up), knowledge sharing and learning behavior, and the psychosocial stressors experienced during the pandemic. Databases used included JSTOR, Google Scholar, EBSCO, Science Direct, PubMed, National Institutes of Health (NIH) and SSRN.

The aim of this review is to help bring insight to this study's goal of exploring perceived psychological safety in the context of the COVID-19 pandemic and related externalities of working from home while identifying areas that warrant additional research.

The COVID-19 Pandemic and The New World of Work

The COVID-19 pandemic is unique in that it is a global phenomenon that prompted authorities to issue mass restrictions and shelter in place. The various dynamics during the COVID-19 pandemic are ripe for exploration. For example, jobs with higher physical proximity

to customers were more likely to shift their business after the outbreak due to the increase in remote work. This will likely produce a ripple effect across industries as business models change in reaction to virtual work (Lund et al., 2021). Initiatives such as travel, and hospitality may see a reduction in business customers. They will need to seek out novel ways to engage customers or adopt new business models to accommodate the move towards remote work. The pandemic has created ongoing uncertainty, but it can also provide opportunities if organizations move to capitalize on the lessons to be learned during this time.

Exploring the psychological safety of the knowledge workers impacted during the pandemic restrictions may point organizational leaders toward putting into place measures that would help foster psychological safety among working-from-home employees. Additionally, organizations could benefit from exploring the perceived psychological safety of new employees hired during the pandemic, as would work from home employees' perception of navigating their introduction to new managers and coworkers, primarily over video conference technology. Being a knowledge worker during this time is a unique experience that warrants investigation.

Knowledge Work During the Pandemic

The COVID-19 pandemic has highlighted several elements to consider regarding how people feel about working from home. Teleworking has proven to be highly effective in ensuring that organizations can continue to do business and have some stability, particularly during the pandemic and previous catastrophic events. It remains to be seen what the lasting effect of working remotely during COVID-19 will be on the workplace and the employee experience. Those working from home had to grapple with being effective while working remotely. Workplace effectiveness includes the dynamics of collaboration, sharing knowledge, and solving complex problems. Employee effectiveness in these areas may have seemed easier when

working with others face-to-face in real time; however, the dynamics during COVID-19 were novel. The COVID-19 pandemic provides researchers with the opportunity to understand the employees' perceived coping with psychosocial stressors and their perception of psychological safety during the COVID-19 pandemic.

Peter Drucker first used the term *knowledge worker* in 1979 (as cited in Kelloway & Barling, 2000). The knowledge worker can be described as an educated individual who creates and uses information and intellectual capabilities to generate value; they are responsible for their work outcomes, thus executing self-management (Turriago-Hoyos et al.,2016). Knowledge workers are individuals who generate and apply knowledge rather than producing goods or services (Cambridge, n.d.-a). Knowledge workers can be considered the driving force behind organizational innovation and success. They create ideas and concepts that result in new products and services, processes, or procedures (Davenport, 2005). Knowledge workers include management, business, financial operations, legal personnel, and healthcare practitioners (Davenport, 2005).

Although one can say that knowledge workers superseded Drucker in coining the phrase (Cortada, 2009); Surawski, 2019), during the COVID-19 pandemic, there was a heightened interest in how knowledge workers had more flexibility in maintaining their work and protecting their health during the pandemic. Many knowledge workers who had the opportunity to work from home were less likely to experience unemployment and exposure to COVID-19 during the pandemic (Kerman et al., 2021; OECD, 2020). The exception is knowledge workers, who may have worked directly with the public or were employed in the healthcare industry and needed to have some patient contact.

It should be noted that employers may also have to contend with the fact that working from home is very new for many; consequently, the best way to equip these knowledge workers with the supports, abilities, and skills to be effective remote workers may also be a factor. Participants who worked from home during the coronavirus pandemic were surveyed and asked what they considered to be the most distracting factors. During the lockout, 53.7 % of respondents reported their smartphones were harming their work. Furthermore, 30.4 % confessed that gaming was distracting them from their regular tasks (Statista, 2022).

Behavior such as the distractions mentioned in this research can provide ammunition to those employers who want to snap back to the past of working in the office (Segal, 2021) to force individuals back to the office or employ surveillance equipment to monitor employee's behavior while working remotely (Abril & Harwell, 2021). There is a growing fear among some remote workers of employer surveillance and a feeling that the workplace may eventually encroach on an individual's homelife by having too much of a view into and control over their private lives (Keshet, 2020). Some employers have adopted sophisticated remote monitoring systems to measure productivity by counting keyboard strokes, scrolls, and clicks, and idle time, or by using the camera to snap pictures of the employee working, thus creating a climate where trust between employee and manager can be eroded (Kantor & Sundaram, 2022). These measures can add stress and emotional strain on employees and create an adversarial relationship with technology (Donati, et al., 2021). Understanding the impact of the transition of both the organizational environment and personnel during this moment in history could help organizations better prepare for future extraordinary circumstances that disrupt the workplace.

Psychological Safety

Psychological safety is particularly relevant in the current environment of firms attempting to create a viable workplace culture. There have been many contributors to the research on psychological safety. Research has shown that psychological safety is a crucial enabler of learning behaviors (Edmondson, 1996, 1999a; Kahn, 1990). The early history of psychological safety can be traced to Schein and Bennis's (1965) organizational change work, which identified psychological safety as paramount to individuals feeling confident and secure in being able to change their behavior. Kahn's (1990) foundational study identified psychological safety as one of three psychological conditions that foster personal engagement.

In this seminal piece of grounded theory-based research, Kahn (1990) examined three dimensions of psychological conditions that allow individuals to bring their sense of self into their work: meaningfulness, safety, and availability. Kahn (1990) explored his assumption that employees were constantly bringing in and leaving out various levels of themselves during their workdays, thus impacting their personal engagement. Of particular interest in Kahn's research is how individuals' engagement and disengagement from their roles are described periodically during the workday. According to Kahn (1990), "I defined personal engagement as the harnessing of organization members' selves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances" (p. 694).

In the context of a pandemic and working from home, the individual's physical, psychological, and emotional attachment to or detachment from their work role may impact the workplace and home relationships differently and produce added stress.

Additionally, Kahn (1990) provides an early definition of psychological safety by associating psychological safety with "elements of social systems that created more or less nonthreatening, predictable, and consistent social situations in which to engage" (p. 703). Kahn (1990) goes further to describe psychological safety as being "experienced as feeling able to show and employ oneself without fear of negative consequences to self-image, status, or career" (p. 708).

Deepening Kahn's definition, Edmondson (2019) characterizes psychological safety as the feeling that one's workplace is an environment where one can voice opinions, seek out and provide honest feedback, collaborate, and experiment with new ideas without being embarrassed or punished. In essence, psychological safety is "a team level phenomenon where all team members believe they are safe to take interpersonal risk-taking" (Edmondson, 1999a, p. 354). According to Edmondson (2019), psychological safety is primarily experienced at the group level and may vary across different groups.

Edmondson's (1999a) seminal research on psychological safety and learning behaviors within work teams gained renewed interest due to an article in the New York Times Magazine that mentioned Google's Project Aristotle research findings that psychological safety was key to high performing teams at Google (Duhigg, 2016). Google embarked on an effort to research hundreds of its teams in this project initiative to find out why some teams struggled while others soared (Rozovsky, 2015). The team of researchers made headlines with their findings that what made the difference in teams that performed effectively led to the concept of psychological safety (Duhigg, 2016; Edmondson, 2019; Rozovsky, 2015).

Examining the impact of psychological safety on a team's performance, Liu and Keller (2021) found that higher reported measures of psychological safety were associated with

increased team performance, knowledge sharing, and organizational citizenship behavior, as well as a reduction in intent to quit based on longer tenured employees. This can be important as it relates to the retention of employees and the know-how and knowledge they possess to do the work. Leaders can support work unit performance by exhibiting inclusiveness and creating conditions that promote psychologically safe learning and innovative behavior (Hirak et al., 2012; Javed et al, 2019; Zeng et al., 2020; Zhao et al., 2020). When a leader makes themselves accessible, welcomes feedback, and demonstrates openness and vulnerability, they influence the perception of psychological safety among the team (Edmondson, 2004; Nembhard & Edmondson, 2006) Additionally, teams that have higher levels of psychological safety can leverage conflict in a constructive manner to critically examine decisions and engage in creativity (Bradley et al.,2012; Erkutlu & Chafra, 2015).

It should be noted that there is a distinction between psychological safety and interpersonal trust. Trust is focused on the dynamics between two individuals or parties. Trust is a concept that exists in the mind of an individual, is related to a certain person or organization, and promotes psychological safety (Edmondson, 2004). People who work together can have comparable perspectives on whether the environment is psychologically safe. Triplett et al. (2018) found that individuals who have a high level of trust may be better able to express themselves and form deeper interpersonal interactions with their coworkers. As a result, they have a better sense of psychological safety on the job than people who are distrustful.

Many researchers have evaluated psychological safety relying on cross-sectional, quantitative survey data. These instruments have provided awareness of the degree to which psychological safety and its antecedents and outcomes are linked but may not provide deeper

explanations as to why and how psychological safety develops and impacts workplace results (O'Donovan et al., 2020).

Edmondson's (1999a) 7-item measure was constructed utilizing strict scale design criteria and has completed several validation tests, all of which have consistently shown that the measure has good content, criteria, and construct validity. Also, Edmondson's (1999a) psychological safety measure has been shown to be reliable in many different samples. Newman et al.'s (2017) systematic review used Edmondson's (1999a) 7-item measure, which had very high estimates of internal consistency reliability. Newman et al. (2017) felt that Edmondson's (1999a) instrument offered robust psychometrics, which would enhance the understanding of psychological safety across the canon of research on psychological safety. Edmondson's (1999a) instrument has a Chronbach's alpha of .82, indicating that the instrument has strong internal reliability.

With that said, many researchers have evaluated psychological safety relying on cross-sectional, quantitative survey data. These instruments have provided awareness of the degree to which psychological safety and its antecedents and outcomes are linked but may not provide deeper explanations as to why and how psychological safety develops and impacts workplace results (O'Donovan et al., 2020). Additionally, O'Donovan et al. (2020) introduced an observational measure to complement the use of Edmondson's (1999a) instrument within the context of healthcare. Such an instrument can help provide more depth to the quantitative survey results.

As with many popular areas of study, such as psychological safety, it is essential to consider the use of such survey instruments across cultural contexts. Not all surveys can translate across cultural contexts, and it would be crucial to adapt the instrument for the cultural context being studied (Gjersing et al., 2010).

Employee Voice Behavior

The term *voice behavior* refers to the act of speaking up that actively challenges the status quo and offers ideas or concerns to make improvements or drive forward positive changes (Liu et al., 2010; Morrison, 2014; Van Dyne & LePine, 1998). Employees may actively omit information about workplace situations or concerns that may be important to solving a problem or offering suggestions for improvement. Psychological safety has a mediating role in voice behavior (Liang et al., 2012; Yang, G., & Wang, 2020; Zhang & Huang, 2020).

Liu et al. (2010) argue that voice behavior is target-specific and that there are two sorts of voice behavior: speaking out to peers and speaking up to the supervisor. Liang et al. (2012) found that there was a strong relationship between psychological safety and prohibitive voice—speaking up to raise concerns or improve workplace practices or behaviors. In more recent research, Ge (2020) found that employees who had perceptions of psychological safety were likely to exhibit voice, and in turn, employee voice fostered engagement. Song et al. (2020) found that psychological safety mediated both promotive (suggestion of new ideas or improvement) and prohibitive voice behavior in employees who felt trusted by their supervisors. Psychological safety mediated the engagement of individuals in change-oriented citizen behavior and voice (Cheng et al., 2013, 2014; Zeng et al., 2020), a deliberate effort to reform or improve existing practices beyond an individual's formal job description (Chiaburu et al., 2013).

In their research focused on the evolution of the workplace in the 1990s to using work groups as a means for knowledge and idea sharing, LePine and Van Dyne (1998) found that those individuals that were highly engaged participated in voice behavior when they were a part of small or self-managed work groups. And when individuals had the perception that there was a positive return on physical, cognitive, or emotional effort, they became more personally engaged

in their work roles. The O'Donovan and McAuliffe (2020a) systematic review of psychological safety in healthcare teams found that familiarity with colleagues was an enabler of psychological safety. This may provide some explanation for the findings of LePine and Van Dyne (1998) as it relates to voice behavior engagement within smaller work groups among those individuals who were highly engaged.

Team members who engage in voice behavior within smaller work groups may be an important factor as more workplaces participate in remote and hybrid organizational design and adopt flexible and agile ways of working. Peeters et al.'s (2022) study results showed that the agile way of working is linked to team engagement and performance in a direct and favorable way. Furthermore, psychological safety was found to be a partial moderator of team engagement and performance in agile settings. Edmondson (1999b) found that psychological safety encouraged team members to go outside of their immediate team to share information or coordinate work. This boundary-spanning behavior will undoubtedly be important as more individuals work virtually across organizational boundaries.

Sherf et al. (2021) investigated the impact and relationship between voice, silence, psychological safety, and burnout. Their study revealed that employees are more likely to express their opinions if they believe it can have a meaningful impact and result in achieving their desired goals. Conversely, silence would likely occur if employees did not feel psychologically safe. Frequent silence was found to result in more burnout than voice reducing burnout. This emphasizes the importance of a climate where employees can feel safe and comfortable sharing their concerns. Organizations rely on their employees speaking up and expressing their ideas, intelligence, and concerns to succeed. Employee feedback is important to enhance the team's work and organizational success and produce innovations. Employee use of

both promotive and prohibitive voice ideas helps to improve the work process and aid in correcting and solving work-related problems.

Demonstrating voice behavior can be crucial to organizations seeking to avoid disastrous mistakes and capitalize on employee voice, learning behavior, and knowledge sharing to take advantage of employees' creativity and innovative work behavior and increase performance to have a competitive edge. Edmondson's (1999a) multi-method field study of both qualitative interviews and quantitative surveys supported the idea that team psychological safety impacts learning behavior, which in turn can affect the team's performance.

The importance of employee voice is especially evident during challenging times, such as what occurred during the height of the pandemic. Voice behavior and innovative work behavior have a commonality in that the individual feels at ease making suggestions for change, even if they may face disagreement (Edmondson et al., 2014; Van Dyne & LePine, 1998). Healthcare teams needed to work together effectively to redesign processes and services to cope with new demands, learn from mistakes, pivot, and integrate new knowledge from various sources both inside and outside of healthcare. A robust and collaborative response to the pandemic necessitated sharing knowledge.

Knowledge Sharing

In the process of knowledge sharing, individuals exchange explicit and tacit knowledge and collaborate to produce new knowledge (Van den Hooff & De Ridder, 2004). Knowledge has at its core a "give and take" or symbiotic relationship; thus, both actions identified here are active processes: actively conveying what one knows to others or actively consulting others to understand what they know (de Vries et al. 2006).

Consideration should be given to how knowledge sharing may be experienced differently in the context of working virtually. During the COVID-19 pandemic, the worker's experience was particularly fascinating because of the unique experience of knowledge workers during "stay at home" mandates, which limited mobility and interactions between individuals, families, friends, and coworkers. The effects of the COVID-19 pandemic led many knowledge workers to be thrust into working virtually, which required these employees to learn how to share knowledge more effectively through virtual collaboration. According to Zhang et al. (2010), "people's perceived levels of psychological safety are indeed positively influencing their intention to continue sharing knowledge within virtual communities" (p. 433).

Employees working from home have had to rely more on the use of technologies to facilitate virtual engagement and collaboration with team members. Kahn (1990) characterized employee engagement as the degree to which an individual makes full use of their cognitive, emotional, and physical resources to perform their work. This engagement was facilitated and mediated through digital technology platforms such as Slack, Zoom, and Microsoft Teams, to name a few. As technology use in the virtual setting increases, there will be a need to increase the confidence among team members using the technology to communicate and collaborate using these technologies and build emotional bonds of trust and psychological safety among colleagues (Sumathipala, 2020).

The importance of collaboration extends not just within teams but across organizations. A study conducted within Microsoft found that, following the start of COVID-19 restrictions, collaboration among engineering employees had begun to decline. Their data indicated that company-wide remote work resulted in stagnant and isolated cooperation among the workforce and fewer connections between different areas of the organization (Yang, L. et al., 2021). In

addition, synchronous communication was reduced, and asynchronous communication increased. Microsoft conducted this study during the first 6 months of 2020, which included the beginning of the COVID-19 pandemic, when there was much need for certainty; thus, employees may have been more likely to collaborate with those who were closer to them out of familiarity, expediency, or comfort. Despite these results, remote work has provided opportunities for organizations to adopt technologies that allow collaboration to span outside of assigned work teams and departments and across the organization. These technologies leverage networks to enable project teams, broadcast employees' skills and expertise, create a repository of knowledge articles, and build communities of practice that offer the virtual work environment the opportunity to thrive (Leonardi, 2021). Additionally, the use of asynchronous technology has provided employees with the ability to reach out to colleagues when it is most convenient and fits within the individual's schedule. Having a flexible schedule represents additional value to those who may have family demands that lean into areas of attention while working from home.

Knowledge sharing among employees can have a significant impact when it comes to tacit knowledge, meaning hidden rules or unwritten ways things are done in the workplace. The exchange of tacit knowledge can be an essential factor among team members. For example, a more senior employee can offer new employee strategies to navigate a particularly challenging problem or access information that is not explicitly accessible. Frequently, the senior and more experienced employee has acquired tacit knowledge through trial and error or may have received it from another employee. The exchange of information between individuals enables knowledge acquisition and application, thus extending the team's absorptive capacity to gain information, assimilate it, and exploit it in creative and innovative ways (W.M. Cohen, & Levinthal, 1990). Knowledge sharing and the dynamic exchange of information may encourage team members to

be creative in their approaches to solving problems. The interaction between team members and the sharing of explicit and tacit knowledge are required for that team to be creative and to generate new knowledge. A team's innovative performance is thus vitally dependent on mobilizing tacit knowledge and facilitating engagement with explicit knowledge (Kessel et al., 2012).

Fostering creativity and innovation is especially important in work teams that must operate in a knowledge intensive VUCA (volatile, uncertain, complex, and ambiguous) environment (Bennett & Lemoine, 2014). Prior to COVID-19, research showed that employees who worked from home displayed higher performance on creative tasks (Vega et al., 2015). Naotunna & Zhou (2018) examined the creativity of teleworkers in Sri Lanka and found that teleworking provided fewer informal interruptions from social interactions, which resulted in enhanced creativity for the teleworker. The environment for teleworkers at the time of this study was undoubtedly very different; the world was not experiencing a pandemic. During the pandemic, some teleworkers reported challenges with work-life boundary violations and nonwork interruptions (Kerman et al., 2021; Leroy et al., 2021). It should be noted that employers may also have to contend with the fact that working from home is very new for many, making the question of how to equip these workers with the knowledge and skills to be effective remote workers a factor. Participants who worked from home during the coronavirus pandemic were surveyed and asked what they considered to be the most distracting factors. During the lockout, 53.7 % of respondents reported their smartphones were harming their work. Furthermore, 30.4 % confessed that gaming was distracting them from their regular tasks (Statista, 2022).

Nembhard and Edmondson (2012) discovered evidence that team participation in quality improvement activities is boosted when psychological safety is combined with leader inclusivity. Leader inclusivity is behavior on the part of the leader that invites, acknowledges, and offers appreciation for the insights and opinions of employees. According to the findings of Carmeli et al. (2010), inclusive behavior is critical in providing support for creativity because it fosters high-quality relationships that increase psychological safety. Javed et al. (2019) found that inclusive leadership behavior is positively related to innovative work behavior, and psychological safety has an indirect mediating effect between the two. Positive social exchange happens when employees are shown appreciation through leaders displaying inclusive leadership traits like openness and participation in decision-making, and employees prefer to reciprocate by demonstrating innovative work behavior.

The pandemic challenged many organizations to be both creative and innovative to solve problems. In a climate such as the one experienced during the pandemic, the ability to quickly pivot to implement a creative solution can result in the organization innovating in ways that provide long-term benefits beyond the pandemic. Thus, in context, creativity and innovation are integrated to include the process, outcomes, and products of attempts to discover and implement new and better ways of doing things. The idea creation stage of this process is referred to as creativity, while the succeeding stage of incorporating ideas into better methods, practices, or products is referred to as innovation (Anderson et al., 2014). Psychological safety has been shown to have a direct effect on organizational innovation (Andersson et al., 2020; Irai et al., 2018), and organizational innovation is mediated by knowledge sharing (Irai et al., 2018; Na-Nan & Arunyaphum, 2021).

Learning Behavior

Going beyond just sharing knowledge involves engaging in learning behaviors (Edmondson, 1999b). Here we characterize learning behavior as sharing information, asking for feedback and assistance, sharing mistakes, and experimenting with new ideas (Edmondson, 1999b; Edmondson, 2012; Edmondson, 2019). Learning behavior refers to the behaviors that team members engage in to comprehend ideas and concepts better; it incorporates engagement among team members and tapping into collective wisdom to gather insights. Edmondson (1996) noted that learning at the group or team level can lead to superior behavior. A strong team has a knack for coordinating tasks, anticipating, and reacting to each other's activities, and frequently appearing to work as one unit.

Carmeli et al. (2009) studied learning behaviors in a relational context. The study looked at how the quality of work relationships in organizations encouraged learning behaviors by contributing to psychological safety. The ability to build high-quality relationships is associated with psychological safety, which is linked to greater levels of learning behavior, according to data collected from 212 part-time students who work full-time in various professions. Carmeli et al. (2009) describe the dynamics of a high-quality relationship as enabling team members to participate in learning behaviors such as sharing information and ideas, which can lead to the creation and exchange of solutions to problems and workplace improvements. High-quality relationships among team members promote psychological safety and, in turn, allow for engagement in learning from failure (Carmeli & Gittell, 2009). The benefits of high-quality relationships among team members enhance "capacities for detecting organizational signals (weak or strong) and increase their cognitive capacities regarding how to approach activities" (Carmeli et al., 2009, p. 3).

Carmeli et al. (2009) asserted that examining the relational aspect of learning behavior was necessary for organizations due to the level of interdependence in the workplace. The interdependence between workplace relationships and learning behavior is especially notable for knowledge workers who have to interact with their co-workers virtually. It could be assumed that building and maintaining relationships within virtual teams requires extra effort that could benefit from having high-quality relationships among team members. High-quality relationship experiences were found to be directly and indirectly linked to learning behaviors mediated by psychological safety (Carmeli et al., 2009). These findings highlight the importance of good workplace relationships in nurturing and developing psychological safety beliefs and, as a result, learning behaviors in businesses.

For the knowledge workers working from home, the separation from the "water cooler talk," incidental hallway moments, and face-to-face meetings with their coworkers, limited opportunities for unplanned engagement and moments of learning in the context of the work or situated learning (Lave & Wagner, 1991) and provided a challenge for knowledge transfer for virtual teams. Contextual learning is another important aspect of learning behavior. The adoption of integration of learning into work and virtual simulation tools during COVID-19 could serve as a model for ways for organizations to be creative in how they provide contextual learning opportunities (Carmody et al., 2019).

Contextual learning can be described as learning that takes place in the context in which individuals may experience it. It can be considered contextual in nature, where real problems are explored in both an individual and collaborative manner and where "learners inevitably participate in communities of practitioners and that the mastery of knowledge and skill requires

newcomers to move toward full participation in the sociocultural practices of a community" (Lave & Wagner, 1990, p. 29).

Another creative way to engage in contextual learning in the virtual and hybrid work environment is through the use of communities of practice. There seems to have been an increase in attention to communities of practice during the pandemic. This increase was primarily seen in the higher education sector, but the use of that model may prove worthwhile as more organizations are working remotely During the pandemic, there seemed to be an increased interest in the use of communities of practice within the education and healthcare sectors as a way to deal with the challenges to learning (Delgado et al., 2021; Mills et al., 2020; Sadiq, 2020) and how communities of practice (COP) can be used as a mechanism for change (Bolisani, 2021). There is some research on how communities of practice help improve organizational performance (Schenkel & Teigland, 2008).

Brown & Duguid (1991, 1998), and Lave & Wagner (1991). Brown & Duguid (1991) saw a COP as a viable way for organizations to leverage workplace learning and innovation. They later expanded the concept of COP from being a tightly affiliated group of individuals that operate in a self-sufficient manner as apprentices (Lave & Wenger, 1991) to operating among various communities that could be agile and loosely coupled. These COPs could act as viable solutions towards continuous learning and workplace knowledge creation that could ultimately lead to innovation (Brown & Duguid, 1998).

A key component of learning behavior is failure. Failure is defined as a departure from expected or planned outcomes. This covers both mistakes and unavoidable unfavorable results from experimentation and risk taking (Cannon & Edmondson, 2001). Argyris (1977) highlighted the tendency of many organizations to implicitly, if not explicitly, caution employees not to

confront organizational policies or objectives that have management backing or to even go up against company norms. These norms are so deeply embedded within the organization that they inhibit deeper learning acquisition, which Argyris (1976, 1977) characterizes as *double-loop learning*. Unlike single-loop learning, which focuses on detecting and correcting problems, double-loop learning is a more dynamic approach where, in addition to detection and correction, there is a deeper dive into examining underlying organizational norms, rationales, or embedding into policies and procedures (Argyris, 1977, Kantamara & Ractham, 2014).

Learning behavior in the context of our definition engages in double-loop learning because learning from failures requires deeper introspection and examination of a problem and a willingness to take a risk by engaging in behavior for which the results are unpredictable and could be detrimental to their reputation (Edmondson, 2002).

Examining how psychological safety promotes and supports learning behaviors is necessary in light of the long-lasting effects of working remotely and participating virtually, as well as the shift by many organizations to a hybrid workplace design. Additionally, helping those engaging virtually build high-quality relationships is vital for cohesion and accomplishing organizational goals. High-quality relationship experiences are directly and indirectly linked to learning behaviors mediated by psychological safety (Carmeli et al., 2009). This again points to the importance of good workplace relationships in nurturing learning behaviors and developing psychological safety.

High functioning teams in a work environment as challenging as what occurred during the height of the pandemic can help provide stability for accomplishing the work. Organizations can learn from failures to the extent that they generate psychological safety, but in order to do so,

it is important to develop high-quality relationships among organizational members that are based on shared goals, shared knowledge, and mutual respect (Carmeli & Gittell, 2009).

In the workplace of today, which is characterized as volatile, uncertain, complex, and ambiguous (Bennett & Lemoine, 2014), problems are not independent of each other but very much entwined, and learning from failure can play a paramount role in transformative organizational change. This will require that organizations go beyond seeing knowledge acquired during training and development as something that is only about acquiring information or a skill and see learning as an opportunity to transform organizations through behavioral change (Franz, 2010). Members are unlikely to invest or devote themselves to solving the problem if there is merely an intellectual concern but no psychological ownership of the situation (Ramnarayan & Rao, 2011). According to Rammarayan & Rao (2011), when individuals can be moved from a cerebral to an emotional level, they are more inclined and receptive to organizational change to solve real issues. As a result, individuals and groups become more introspective. Only emotional, affective, or gut-level challenges have the power to compel action.

Kwon et al. (2020) examined psychological safety as a condition that may increase transformative learning in the workplace. Elements that need to be in place for transformative learning include the willingness of individuals to engage in deep critical self-reflection and the willingness to embrace uncertainty and feelings of discomfort that may be emotionally triggering. Transformative learning occurs when individuals transition from a mental to an emotional state and are reflective when presented with the results of organizational surveys or qualitative interviews. Individuals may feel discontent when they fail, receive critical comments, or receive an unfavorable outcome. Crafting well-structured learning opportunities to reflect on the information that highlights failings or dissatisfaction can help create a sense of urgency for

change. It can increase team readiness in terms of willingness to invest time, energy, and devoted engagement in problem-solving procedures (Ramnarayan & Rao, 2011).

When putting transformative learning in the context of psychological safety, which supports an individual's willingness to engage in voice behavior and share information without being concerned about negative consequences, threats, or embarrassment (Edmondson, 1999a), it can be seen how important psychological safety is to accomplish transformative change.

Psychosocial Factors

The psychological and social implications for those who are living during the period of experiencing the COVID-19 pandemic are resounding, and how researchers characterize this moment is chilling to many:

COVID-19 has affected day-to-day life and is slowing down the global economy. This pandemic has affected thousands of people, who are either sick or are being killed due to the spread of this disease. The most common symptoms of this viral infection are fever, cold, cough, bone pain, and breathing problems, ultimately leading to pneumonia. This being a new viral disease affecting humans for the first time, vaccines are not yet available. Thus, the emphasis is on taking extensive precautions such as extensive hygiene protocols, e.g., regularly washing hands, social distancing, wearing masks, and so on. The virus is spreading exponentially across regions and country boundaries. Countries banned gatherings of people to reduce the spread and break the exponential curve. Many countries have locked down their populations and enforced strict quarantine to control the spread and havoc of this highly communicable disease (Haleem et al., 2020).

The above passage highlights the physical impact of the COVID-19 virus. Beyond the virus, there is the impact being felt from mandated quarantines, lockdowns of various businesses,

and other related restrictions. These events have created a higher risk of anxiety, depression, paranoia, and post-traumatic stress disorder (PTSD; Brooks et al., 2020; Chigwedere et al.,2021; Crocamo et al., 2021; Greene et al., 2020). And healthcare workers joined the list of the most vulnerable as being particularly susceptible to stressors during quarantine and restrictions (Saladino et al., 2020). Given the unique dynamics of working from home during a pandemic, more attention has been focused on the health and well-being of employees. As the pandemic continued, remote workers expressed burnout, stress, anxiety, loneliness, isolation, and a need for social connections (Brooks et al., 2020; Fox, 2020).

Even what has been coined "Zoom Face Envy" has resulted in increased plastic surgery procedures during this time (The Economist, 2021). Workers cited the benefits of remote work as including less time commuting to work, more flexibility to engage with family members, and opportunities to adopt healthier diets. Despite the apparent benefits, many people have reported more stress and feelings of being overwhelmed (Sklar, 2020). Low staff retention and burnout, or tiredness, are two of the most common signs that a firm needs to be redesigned (Somers, 2020). There is a concern that pandemic-related stress will have a long-term health impact on society (Canady, 2020; Wamser-Nanney et al., 2021).

COVID-19 introduced many to the unusual occurrence of what became labeled *pandemic dreams,* where individuals experienced strange dreams of fear of the virus and social distancing that contextualized their experience during the pandemic (Nielsen, 2020). The pandemic has led to a rise in the number of people suffering from PTSD, according to the DSM-5. PTSD sufferers include family members, first responders, healthcare workers, and others who have witnessed loved ones suffer from serious illness from COVID-19 or who have died from the virus (Tucker, 2021). During the 2003 SARS outbreak, it was noted that healthcare workers at higher risk

experienced higher levels of stress, anxiety, and depression (McAlonan et al. 2007), so it is not surprising that healthcare workers at higher risk would be experiencing psychological stress. Living in an environment where surviving a deadly virus is punctuated with disease brought on by the politicization of the pandemic (Clinton et al., 2020; Gonsalves & Yamey, 2020) and violence associated with mask wearing can be highly stressful for workers who are trying to keep themselves and others safe by working remotely (Connin, 2020; Orlando, 2020; Li & Abdelkader, 2020). Researchers Trougakos, et al. (2020) conducted a study on the effects of COVID-19 health anxiety on work, family, and health outcomes. They surveyed working adults in the United States to explore the connection between COVID-19 health anxiety and job performance, work-family conflict, health-related behaviors, and well-being. The findings revealed that higher levels of COVID-19 health anxiety were linked to lower job performance, more work-family conflict, unhealthy behaviors, and poorer well-being outcomes. The psychosocial stressors during the pandemic created a mass impact that went viral across all aspects of society (Dubey, 2020) and will require all mitigation strategies to address the mass psychological impact and stress.

The stressors during the pandemic mentioned in this study will be characterized as psychosocial factors. Psychosocial factors are elements or characteristics that influence an individual's psychological and social well-being and include both resources and risk factors in an individual's social environment that may shape physical and mental health. (Thomas et al. 2020).

Kahn (1990) proposed that the depletion of physical and emotional energy, individual insecurity, and distractions from outside life impacted individuals' engagement with their work and psychological availability. During the time and context of Kahn's research, exploring these elements occurred when individuals had the opportunity to engage with each other face-to-face

and during a time not tied to a worldwide pandemic. When individuals are working remotely from home and bringing their work and coworkers into the context of their home through teleconference technologies, it raises the question of whether the physical and emotional energy of the individual changes amidst these dynamics. It also questions the person's experience of segmentation or boundary violations between their professional and personal lives.

During COVID-19, business news sources, economists, academic researchers, and others revisited research focused on the impact of working from home. The research has highlighted the perception of remote employees as being more productive, having more control and flexibility over their work, and having the desire to continue working remotely (Parker et al., 2021). Female employees and those who were older and had a higher income were more likely to report increased productivity. Better mental and physical health, having a teenager (with the assumption that having a teenager requires less attention), having more communication with coworkers, and having a dedicated work area were associated with increased productivity (Awada et al., 2021; Parker et al., 2021). Meanwhile, employers saw less spending on infrastructure and related expenses but spent more on technology to facilitate remote work (Barrero et al., 2020b). Workers' overall perceptions of productivity did not change compared to their in-office productivity before the pandemic (Awada et al., 2021).

Despite the positive gains in employee productivity from working from home, there is still reason to examine the adverse effects on the individual's health (Tavares, 2017), especially during such a phenomenon as COVID-19. In a qualitative interview of 23 participants, Sahni (2020) captured the impact of psychosocial factors during COVID-19 on employee behavior within five themes: stress triggers, organizational supports, coping strategies and resources, blurred boundaries while working from home, and positive attitude during the crisis. Researchers

Trougakos et al. (2020) conducted a study on the effects of COVID-19 health anxiety on work, family, and health outcomes. They surveyed working adults in the United States to explore the connection between COVID-19 health anxiety and job performance, work-family conflict, health-related behaviors, and well-being. The findings revealed that higher levels of COVID-19 health anxiety were linked to lower job performance, more work-family conflict, unhealthy behaviors, and poorer well-being outcomes. Fear of the unknown, inefficient communication at work, a lack of clarity and direction, and interruptions during Work From Home (WFH) resulting in a loss of resources such as time and energy are stressors to address for employees working from home.

Palumbo (2020) found that employees who worked remotely did experience challenges with balancing their private lives with workplace demands, but those workers who felt engaged reported less fatigue; thus, work engagement had a positive relationship to work-life balance and positively mediated the relationship between working from home and work-life balance. Dollard and Bailey's (2021) research suggest a psychosocial safety climate in the workplace improves employee well-being by prioritizing psychological health, communication, and participation processes.

In their literature review looking at the emerging issue of cardiovascular health among individuals working from home during the COVID-19 pandemic, Di Fusco et al. (2021) caution to give more attention to lifestyle, physical habits, and psychosocial issues that may ensue for these employees. The research found the existence of negative impacts on individuals' musculoskeletal health, diet, psychological well-being, and overall quality of life from poor ergonomic practices, the increase in sedentary lifestyles from working from home, and changes to lifestyles (Barone et al., 2021; López-Moreno et al., 2020; Minoura et al., 2019; Moretti et al.,

2020). Negulescu and Doval (2021) reinforce the need for psychosocial supports by asserting that employees need to learn how to manage their time and work more effectively to reduce stress and avoid injury. Awada et al. (2021) found that on a typical WFH day, the amount of time spent at a workstation increased by about 1.5 hours as compared to working within the office. Those who had adjusted their work hours and had school-aged children, an office desk, or an adjustable chair reported working longer hours. Longer working hours for knowledge workers using computers have undoubtedly led to longer hours in front of the screen, which can contribute to eye strain and headaches if not properly managed. Spending too many hours staring at the blue light of a screen and not blinking can cause eye strain, along with poor positioning of the monitor (Agarwal et al., 2022). Areas such as ergonomic habits, which were once in the domain of organizational safety, will undoubtedly have to be supported for those employees working from home.

Additionally, working from home during the pandemic added to the dynamics of being isolated from not only co-workers but, for many people, because of *social distancing* separation from friends and family, resulting in loneliness. Prior to COVID-19, Lojeski (2006) introduced *virtual distance*, which can be described as the separation between individuals, groups, or organizations caused by the frequent use of technology for work and communication. Virtual distance is a sense of distance and a measurable social and emotional disconnect (conscious or unconscious) when individuals rely heavily on digitally mediated communication technology (Lojeski & Reilly, 2020). Virtual distance is characterized as the perception of being psychologically distant from others. The greater the virtual distance among team members, the more they are challenged with role clarity, workflow, problem-solving, interpersonal, and cultural communications.

During the pandemic, as remote work became prevalent and technology played a vital role in facilitating communication among co-workers, many individuals experienced a sense of isolation from their colleagues. This widespread isolation raises concerns about its long-term effects on individuals' well-being. Research has consistently shown that isolation and loneliness can negatively impact cognition and predict various health challenges, including cognitive disease and increased morbidity and mortality (Hawkley & Cacioppo, 2003; Kaufman, 2020; Lara et al., 2019; Walker et al., 2019).

Considering the implications of social isolation during the pandemic, Kniffin et al. (2021) conducted a study to explore the work attitudes and psychosocial impact of employees. They recommended that organizations adopt specific strategies to address these challenges. Key suggestions included fostering employee trust, promoting effective communication, and encouraging collaboration across teams. The authors emphasized the importance of establishing workplace norms that facilitate connection among remote employees, particularly in light of increased loneliness and stressors associated with extensive technology use.

Stressors in family dynamics at home have increased for some workers the compounding effect of the previously mentioned psychosocial factors during a pandemic. Gajendran and Harrison (2007) found in their meta-analysis of psychological mediators and the individual consequences relating to telecommuting that employees who learn to plan family activities and routines to avoid conflict with work lessen the difficulties of juggling workplace demands the longer they spend time working from home. Galanti et al. (2021) found that individual and work-related aspects facilitated and hindered working from home. Galanti et al. (2021) found that social isolation and job demands can, on the one hand, increase work productivity and engagement while, on the other hand, raising job stress. Gajendran and Harrison further found

that those who telecommuted more than 2.5 days a week had fewer incompatible demands between work and family (lower work-family conflict) but strained relationships with their coworkers. Gajendran and Harrison recommend that employers add purposeful interventions such as scheduled in-person meetings, working lunches, and social activities. Galanti et al. (2021) also highlighted the importance of increasing communication and employers offering support for employees by allowing them autonomy and self-leadership over structuring their work-family demands and personal work management.

The COVID-19 pandemic has brought to the forefront the importance of creating psychological safety and a supportive work climate within the healthcare organization during a time of heightened stress (Devaraj et al., 2020). This has resulted in many on the frontlines of the healthcare sector experiencing a lack of inadequate resources, Personal Protective Equipment (PPE), strained relationships with the public, colleagues, and families (Billings et al., 2021; El-Hage et al., 2020), and violence from their patients, who are feeling anxiety, anger, and depression and leaving the healthcare sector (Koontalay et al., 2021; Yong, 2021).

Panchal et al. (2020) noted that the COVID-19 pandemic and the economic downturn have had a detrimental impact on the mental health of many, thus creating barriers for those who suffer from mental illness or substance abuse problems. The stressors within the general population have impacted healthcare workers. The climate during the pandemic has been ripe with news of health care workers being attacked or accosted because of those who do not believe in the science associated with the virus (Amon & Willie, 2021; Larkin, 2021; "Health workers once saluted as heroes now get threats," 2021). This environment has heightened stigma and discrimination against many populations impacted by the disease (Chopra & Arora, 2020).

In a qualitative study, Lee (2021) examined the role of emotion, psychological safety, and organizational supports for those who transitioned to working from home during the COVID-19 pandemic. These employees expressed anxiety, tension, inferiority, and vulnerability due to their belief that management was unjust and inequitable in providing organizational supports and resources. Given the high degree of uncertainty and emotional distress during infectious disease outbreaks, such as the coronavirus (COVID-19) pandemic, it is essential that those who are in high-risk work areas, such as health care workers, are in environments that are supportive and psychologically safe (Lateef, 2020).

Dollard and Bakker (2010) see the concept of psychosocial safety climate (PSC), which includes "policies, practices, and procedures for the protection of worker psychological health and safety" as a precursor to psychological safety and a step toward a positive work environment that helps employees stay healthy and engaged.

Creating a workplace climate of other work-related interventions that support psychological health, safety, and well-being, such as work-family balance, appears to be essential to reducing employee stress (Giorgi, 2020). Employers can put effective interventions in place by gaining an understanding of the blurred boundaries between work and home and the interrelated complexities of time and home space (Fukumura et al., 2021). While research in the past has found that the integration of work and home creates dissatisfaction because of boundary violations between work and home life (Kreiner, 2006), understanding work boundary violations and work/home segmentation during the COVID-19 pandemic may be important to further support the healthcare knowledge worker. Kreiner et al. (2009) defined work-home boundary violations as "behaviors, events, or episodes that either breach or neglect the desired work-home boundary" (713).

Kerman et al. (2021) explored the boundary violations between work and personal life by examining the role of segmentation preferences, or the degree to which employees desire to keep their professional and personal lives separate during the pandemic. Kerman et al. (2021) found gender differences in the ability to set boundaries between work and personal life. Females were found to have more demands and difficulties with segmentation behavior from work to family, but not from family to work. Kerman et al. go on to recommend that employers promote a culture that supports the work-family relationship.

Individuals with a strong internal locus of control believe that whatever occurs to them is the product of the choices and actions they make, whether they choose to be in charge or not. People with a strong external locus of control, in contrast, believe that circumstances are more influenced by factors outside of their control than by their actions or abilities. (Karimi & Alipour, 2011). According to Karimi & Alipour (2011), "Locus of control can be as an effective factor to reduce workplace stress by job satisfaction, promotion, sense of self-esteem, increasing high salary and quality of life" (p. 235).

In times of ambiguity and change, such as during the COVID-19 pandemic with its associated organizational changes like staffing reductions, closings, and firings, employees often feel a lack of control. It has been observed that one's locus of control significantly influences workplace behavior (Hahn, 2000).

Chapter 2 Summary

The COVID-19 pandemic has changed the way millions of people work and is redefining the workplace for knowledge workers. Out of this pandemic, there is an opportunity for employers to identify ways to construct a new normal and design ways to address employee health and well-being and increase retention (Somers, 2020). The pandemic imposed widespread

restrictions and stay-at-home mandates that catalyzed attention towards knowledge work and presented the opportunity to learn more about the perception of psychological safety among these knowledge workers. How employees can build relationships with their managers and colleagues and feel psychologically safe to speak up by sharing opinions and concerns is important given that they are not in the same space as their colleagues. Employees that feel that they can make an impact will likely speak up (Sherf et al., 2021). Sharing knowledge and engaging in learning behaviors will undoubtedly be important as organizations look to foster creativity, innovation, and agility within a hybrid workplace (Naotunna & Zhou, 2018; Peeters et al., 2022). Successful teleworking will require organizational leadership that looks at new ways of doing things and moderates rule-based controls to maximize performance (Shinkle et al., 2021).

Finally, the psychosocial stressors for teleworkers have been impactful (Brooks et al., 2020; Chigwedere et al.,2021; Crocamo et al., 2021; Greene et al., 2020). Zoom Exhaustion and Fatigue (ZEF) is a genuine experience for participants (Fauville et al., 2021). Managers have an important role in creating a workplace culture that prioritizes employees' psychological safety. This can help employees manage work-related stress and maintain their performance. To fulfill their responsibilities, managers must demonstrate through their actions that they are keeping their promises to employees (Gong & Sims, 2023; Karani et al., 2021). Knowledge workers must manage communication dynamics, manage demands, and solve problems between colleagues and within their teams. One can surmise that the importance of having a shared context among individuals helps provide depth to their interactions. Attempting to work through the demands of communication and collaboration remotely, combined with the stress from the overuse of the virtual platform (Wolf, 2020) during a pandemic given restrictions and different social contexts

that involved work-life segmentation, creates psychosocial stress and more pronounced demands than when working from the office.

Chapter 3: Methods

The purpose of this study was to examine the effects of working-from-home during the COVID-19 pandemic and the perception of psychological safety and the strength and direction of the relationship of perceived psychological safety among knowledge workers within a healthcare organization and its insurance subsidiary within the State of Michigan.

In accordance with the research goal and questions, this chapter describes the research approach, source of data collection, the analytical procedures, the data instrument, data analysis used. The definition of key terminology, and limitations and assumptions of the proposed study are described.

Research Approach

The researcher explored the phenomenon using a non-experimental quantitative approach of surveying a population within a healthcare organization and its insurance subsidiary in the State of Michigan. The instrument examined participants' experience over two points in time, prior to the COVID-19 pandemic restrictions and at the time of the study, during which employees continued to work from home following the COVID-19 restrictions. The intention was to understand changes to perceived psychological safety of employees who found themselves abruptly required to work-from-home during the COVID-19 pandemic. In Michigan, during the Governor's stay-at-home mandate which began on March 23, 2020, and went through June 1, 2020, the end of the stay-at-home mandate restrictions ("Michigan COVID-19 Tracker," 2020). Following the state-mandated stay-at-home restrictions, both the healthcare organization and the insurance subsidiary continued to have non-clinical staff work remotely.

Using a quantitative method helps to reduce the level of bias that they may be brought into the study. This quantitative positivist paradigm of using an empirical method of surveying

will allow the investigator to examine the ideas via quantitative methods and accompanying hypotheses and variables (Creswell, 2014). This worldview allows for beginning with a theory, the collection of data that "supports or refutes the theory" (Creswell, 2014, p. 7). Thus, a positivist approach is an essential step to examining the phenomenon within this study.

The investigator approached this research with the understanding of their affinity to this topic based on being a member of the healthcare sector and an employee within the organization under study. Additionally, the investigator has experience working from home during the pandemic within the healthcare organization and previous affiliation with the insurance subsidiary, which are the subjects of this study. As of December 30, 2022, the investigator no longer had affiliations or employment with the organizations which are the subjects of this research.

Sources of Data

The survey instrument was administered to knowledge workers in a healthcare organization and an insurance subsidiary who worked remotely during COVID-19 pandemic restrictions within the State of Michigan. Healthcare workers who provide direct patient care, specifically those employed in hospitals, treatment, and urgent care facilities throughout Michigan, were excluded from the survey. The study participants worked from home between March 20, 2020, and June 1, 2020, during workplace onsite restrictions and the stay-at-home mandate within the State of Michigan. By excluding healthcare workers directly involved in patient care, the study aimed to isolate and examine the experiences of a distinct segment of the workforce, the knowledge workers, that adapted to remote work under the unique circumstances presented by the pandemic within the specific context of the State of Michigan. This exclusion allowed for a more focused analysis of the challenges and successes faced by knowledge workers

during this time. The study aimed to provide valuable insights into the remote work experience in Michigan during the pandemic.

Limitations

This study utilized a non-experimental quantitative approach and solely focused on the perception of psychological safety, without testing for causation. Given that this study took place within the context of a healthcare organization and its insurance subsidiary, there is limited generalizability beyond the organization. The survey asked subjects to self-report and reflect on a time before the COVID-19 pandemic restrictions, resulting in potentially skewed responses based on memory. Psychological safety can change over time, so this survey only captures a snapshot of time for the survey participants. Also, this study was subject to non-response bias.

Data Collection Strategies & Procedures

The survey was administered electronically using Qualtrics Research Suite online and the data was analyzed using Intellectus software (Intellectus Statistics, 2019) with secondary double checking in NCSS Statistical Software (2023) program. The survey link was provided to the participating organization to send out via email to employees to invite them to take the survey. Two follow-up invitations were sent to all employees one week apart as a reminder for those who not yet responded to the initial invite. The survey was confidential and collected anonymously. The investigator nor the organization had access to identifying information of the participants.

Criteria for Inclusion and Exclusion

The survey was sent to 5,702 individual contributors, 485 supervisors/managers, and 247 directors/above those who worked full or part-time in non-direct patient care roles. Survey participants who worked for the organizations during the period of March 20, 2020, through June

1, 2020, participated in the study. Employees who did not work during the period of March 20, 2020, through June 1, 2020, were excluded from the study. Additionally, employees hired after June 1, 2020, were excluded from the study.

Consent Procedures

Qualtrics (2020) was used to design and administer the survey. The link to the survey was provided to the organization to send out electronically to the employees. Before entering the survey, the individual was presented with an informed consent which stated to the participant the purpose of the study, the nature of it as being confidential, anonymous, and of minimal risk. After being presented with the consent, individuals were asked to agree to participation in the study.

Once the individual begins the study, they were presented with pre-qualification questions. If individuals did not meet the criteria for the study, they were thanked and exited from the survey.

Instrument

Using participants' perceived overall psychological safety score, as well as subscores related to their team and their leader this study was designed using the O'Donovan et al. (2020) survey instrument to understand the level of perceived psychological safety, based upon a 7-point Likert scale. To assess the participants' perception beyond the whole team experience, the instrumentation used for this survey captured the individual participant's perceived psychological safety at different levels of the team member's relationship within the team as it relates to the team leader, peers or other members on the team, and the team as a whole. Additionally, demographic, and employment-related questions were captured to explore the possible relationships between these factors and the participants' psychological safety.

In addition to the psychological safety survey items, participants were asked to share whether they worked for the healthcare organization or the insurance subsidiary. Additional questions were asked to determine if during the COVID-19 lockdown in Michigan between March 20 and June 1, 2020; if they worked primarily from home; if they were hired during the lockdown or hired after June 1, 2020; and if they had returned to working onsite. Those who were hired after June 1, 2020, were excluded from the study. Demographic information was collected to determine race and ethnicity based on the standard United States Census Bureau race and ethnicity categories (US Census Bureau, 2021), gender, and organizational level (individual contributor, supervisor/manager, director and above).

To assess the extent to which participants felt the COVID response impacted their day-to-day lives, individuals were asked the following question using a 7-point Likert scale:

> Consider the impact of all these things combined: limited socialization with family and friends; community restrictions and curfews, social distancing, mask requirements in public, and limited accessibility to gyms, coffee shops, restaurants, etc. To what extent did these situations impact your life?

Validity of Instrument

The study instrument contains applicable definitions of terminology. Upon completion of the survey, study participation was concluded. The researcher did not have access to information that would allow them to identify the study participants, thus limiting bias. To ensure accurate measurement, the researcher identified and controlled for potential confounding variables associated between the dependent and independent variables.

The instrument used for this research was based on several different validated surveys that measure psychological safety. Over the years, many of these instruments have shown

validity, and contemporary researchers are exploring combining these surveys to create a richer tool for measuring psychological safety (O'Donovan et al., 2020; O'Donovan & McAuliffe, 2020a, 2020b; Ramalho & Porto, 2021). This study adopted one of the contemporary instruments designed by O'Donovan et al. (2020). The investigator created additional questions to measure the respondent's overall perception of the negative impact of the COVID-19 restrictions on their lives. The survey instrument was validated by review of individuals with content expertise of the topic. Reliability was established by pilot testing it with a small sample of seven participants.

Human Subjects Considerations

The organization's authorized representatives signed an agreement letter expressing their willingness to participate in the study. The study was designed to ensure that it did not pose any foreseeable risks or potential harm to the participants. The research methodology was designed not to gather or store personally identifiable information, including email addresses or names.

The survey was designed in a way to guarantee the privacy of participants. The researcher crafted the questions to avoid collecting any personally identifiable information. As a result, all data collected during the study was processed and reported only in an aggregated format. This approach ensured that no individual responses were disclosed at any point in time, preserving the anonymity of the participants.

The data for the original data source has been secured and password protected. Access to this database is restricted to the researcher, who bears the ultimate responsibility for the integrity and confidentiality of the data. The researcher provided the dissertation chair with temporary data access in the subsequent data analysis phase. This measure was taken explicitly to support the principal investigator in analyzing and interpreting the data while still adhering to the strict confidentiality protocols established at the study's outset.

Data Analysis

The researcher used descriptive and inferential statistics to analyze the data collected. Analysis of Variance (ANOVA) were conducted using grouped psychosocial categories to investigate the mean psychological safety scores and pre-pandemic psychological safety change scores. The researcher also employed a T-Test with Tukey's HSD to manage family-wise error. Another ANOVA was carried out to determine the change in pre-pandemic psychological safety (*better/worse/same*) in relation to the current psychological safety score. A Linear Regression Correlation was performed to examine the relationship between current psychological safety, pre-pandemic change scores, and employment tenure. Lastly, an ANOVA was conducted to identify any changes in the pre-pandemic change score of psychological safety and COVID psychological safety score with regard to the organizational level, race/ethnicity, and gender categories.

Calculations of Scores

Psychological safety scores were calculated and used to quantify the level of perceived psychological safety experienced by respondents at the time the survey was administered in June, 2022. The instrument consisted of 19 questions broken down into 2 subcategories of psychological safety as it relates to Team and Leadership factors. The total score was calculated by summing the Likert values of all 19 items, arriving at a score ranging from 19 to 133. Leadership scores were calculated by summing the Likert values of 9 items related to Section 1 - Leadership, resulting in a range from 9 to 63. Team scores were calculated by summing the Likert values of 9 items in Sections 2 and 3 of the instrument related to the team dimension, resulting in a score range from 10 to 70.

Psychological safety change scores were calculated by summing the Likert values of all questions asking whether in comparison to the period prior to COVID (March 20, 2020), the experience was better, worse, or the same. Calculation of the total change score resulted in values ranging from 19 to 133. Leadership subscores were calculated by summing the Likert values of 9 items related to Section 1 - Leadership, resulting in a range from 9 to 63. Team scores were calculated by summing the Likert values of 9 items in Sections 2 and 3 of the instrument related to the team dimension, resulting in a score range from 10 to 70.

Classification of psychological safety change scores was achieved by first dividing the total change scores for each respondent by the number of instrument items in order to arrive at an average score with values ranging from 1 to 7. Given the survey instructions, which identified Likert values of 1 as being *much worse*, a value of 4 as being *the same* and a value of 7 as *much better*, respondents having an average change score Likert value of 1 through 3 were classified as *Worse*, values of 4 were classified as *Same*, and values of 5 or greater were classified as *Better*.

The classification of psychosocial impact scores was based upon a 7-point Likert question asking whether respondents were asked, "Consider the impact of all these things combined during the pandemic restrictions: limited socialization with family and friends; community restrictions and curfews, social distancing, mask requirements in public, and limited accessibility to gyms, coffee shops, restaurants, etc. To what extent did these situations impact your life negatively?" A value of 1 was described as *No impact*, while a value of 7 was described as a *Major impact*. Classification into categories was achieved by classifying respondents with Likert psychosocial ratings of 1 through 3 as experiencing *Minor impact*, a value of 4 as being a *Moderate impact*, and a value of 5 through 7 as being a *Major impact*. The analysis summary is presented in Table 1.

Table 1

Research Questions, Analysis Conducted, Statistical Method

	Research Question	Analysis Conducted	Statistical Method
1	Are changes in perceived psychological safety related to the self-reported psychosocial impact of COVID-19?	Analysis of changes in mean psychological safety scores and pre-pandemic PS change scores using an ANOVA by collapsed psychosocial category.	ANOVA T-Test and Tukey's HSD
2	Did perceived psychological safety change for workers who suddenly found themselves forced to work from home as a result of the COVID-19 pandemic restrictions?	Analysis of mean psychological safety pre-pandemic change score (better/worse/same) relative to current PS score. ANOVA to identify changes based on work from home status.	Calculation of Mean Change Score ANOVA
3	Does longer team tenure help insulate work-at-home workers from reductions in psychological safety in comparison to those with shorter team tenure within the organization?	Correlation analysis of current psychological safety and pre-pandemic change scores versus employment tenure.	Linear Regression Correlation
4	Are changes in perceived psychological safety related to self-reported employee demographics?	ANOVA to identify changes to Psychological Safety pre-pandemic change score and to COVID Psychological Safety score relative to organizational level, race/ethnicity and to gender categories.	ANOVA

Chapter 4: Findings

This chapter presents an overview of the survey and the setting in which the study was conducted, the demographic data about the sample to understand its composition and representativeness and the overall results of perceived psychological safety among the survey participants. The study results are then presented in relation to each of the research questions.

This study examined the perceptions of psychological safety and the strength and direction of the potential relationships related to perceived psychological safety and working from home during the COVID-19 pandemic and the State-mandated stay-at-home restrictions among knowledge workers within a healthcare organization and an insurance subsidiary in the State of Michigan, USA. The study used portions of a contemporary instrument designed by O'Donovan et al., 2020, omitting qualitative interviewing. The investigator created additional questions to measure the respondent's overall perception of the negative impact of the COVID-19 restrictions on participants' lives. The questionnaire scale considered the current climate during the pandemic, which entailed State of Michigan restrictions that required workplaces to have employees work from home and limit their movement and travel both intrastate and outside of the state of Michigan. Administration of the survey instrument was validated by piloting it with a sample of participants. This quantitative study was designed to answer the following research questions:

- RQ1: Are changes in perceived psychological safety related to the self-reported psychosocial impact of COVID-19?
- RQ2: Did perceived psychological safety change for workers who suddenly found themselves forced to work from home as a result of the COVID-19 pandemic restrictions?
- RQ3: Does longer team tenure help insulate work-at-home workers from reductions in psychological safety in comparison to those with shorter team tenure within the organization?

- RQ 4: Are changes in perceived psychological safety related to self-reported employee demographics?

Description of Survey and Setting

The survey instrument was sent out between May 31 and June 3, 2022, to 75 participants to test the instrument validity, with four responses. Based upon the responses, the instrument was reviewed and edited for final release. The survey was released for data collection for this research between June 13 and June 30, 2022. An initial invitation to the survey was sent via email, followed up by two reminder emails.

The final survey was sent to 6,434 employees, consisting of 5,702 individual contributors, 485 supervisors/managers, and 247 directors/above those who worked full or part-time in non-direct patient care roles. There were 2,039 respondents, consisting of 1,178 healthcare organization employees, 769 health plan subsidiary employees, and 92 employees who did not identify the organization that employed them. The total response rate for all participants was 31.7%, consisting of participants who worked for the respective organizations during the period of March 20, 2020, through June 1, 2020.

The frequencies and percentages were calculated for the categories of Organization (health care system or health plan subsidiary), Post Lockdown Hire, Organizational Level (individual contributors, supervisors/managers, and directors/above), Race and Ethnicity, Gender (male, female, non-binary), and Work-from-Home status. Additionally, a "lockdown" category was used to identify whether employees were hired prior-to versus during the lockdown.

Study Results

Data Collection Demographics

Of the 2,039 total respondents, the majority of respondents (1,612) were hired prior to the lockdown (79.06%). "Individual Contributor" (69.84%) were the largest respondents (1,424)

from the “Organizational Level” category. Employees that identified as White or Caucasian (63.61%) were the most frequent respondents (1,297) from the “race and ethnicity category” whereas the most frequent respondents (1,285) were females (63.02%) within the category of, “Gender.” Most participants (1,657) answered “yes” (81.27%) to having worked from home during the lockdown period. These frequencies and percentages are shown in Table 2.

Table 2

Demographics Characteristics of Participant (n=2,039)

Variable	*n*	*%*
Organization		
Health plan subsidiary	769	37.71
Hospital care system	1,178	57.77
Missing	92	4.51
Post lock down hire		
Yes	335	16.43
No	1,612	79.06
Missing	92	4.51
Organization Level		
Individual Contributor	1,424	69.84
Supervisor/Manager	189	9.27
Director/Above	78	3.83
Missing	348	17.07
Race and Ethnicity		
Asian or Pacific Islander	63	3.09
Black or African American	126	6.18
Hispanic or Latino	60	2.94
Native American or Alaskan Native	7	0.34
White or Caucasian	1,297	63.61
Multiracial or Biracial	23	1.13
Some Other Race alone, non-Hispanic	8	0.39
I prefer not to answer	114	5.59
Missing	341	16.72
Gender		
Female	1,285	63.02
Male	332	16.28
Non-binary	7	0.34
Prefer not to answer	73	3.58
Missing	342	16.77
Work From Home		
Yes	1,657	81.27
No	290	14.22
Missing	92	4.51

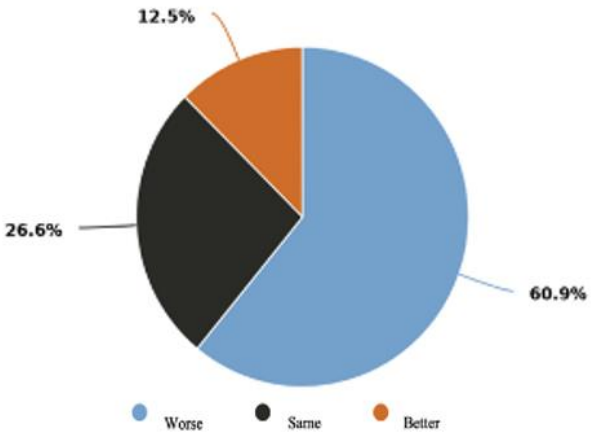
Note. Percentages are based on respondents who answered the question, rather than all respondents participating in the survey, therefore the total of response will not reflect the number of surveys sent out. Additionally, due to rounding errors, percentages may not equal 100%.

Overall Respondents Perception of Psychological Safety

In order to determine the overall perception of psychological safety for those individuals participating in the survey, an ANOVA analysis was performed to determine if there were any significant differences in total psychological safety based on the impact categories of worse, same, or better. The analysis involved converting the Psychological Safety change score into an average Likert score to assess participants' perceptions of change in Psychological Safety between the current perception of psychological safety and the period before the COVID stay-at-home restrictions ("Thinking back to before COVID-19 has it gotten better, same, or worse?"). Of those respondents who reported a change in psychological safety, the average Likert score was then binned using Intellectus binning into three categories, with 1-3 being "worse," 4 being "the same," and 5-7 being "better." The results indicated that across all employees, only 12.5% rated psychological safety as better than before COVID, while 26.6% rated it the same, and 60.9% rated it worse (see Figure 1).

Figure 1

Changes In Psychological Safety Compared To Pre-COVID



Note. Due to rounding errors, percentages may not equal 100%.

Results Categorized By Research Questions

Research Question 1: Are Changes In Perceived Psychological Safety Related To The Self-Reported Psychosocial Impact Of COVID-19?

An ANOVA was conducted to determine whether there were significant differences in the Psychological Safety Total Change Score by psychosocial impact factors as a result of the COVID-19 stay-at-home pandemic restrictions. The participants were asked to “Consider the impact of all of these factors when combined during pandemic stay-at-home restrictions: limited socialization with family and friends; community restrictions and curfews, social distancing, mask requirements in public, and limited access to gyms, coffee shops, restaurants, and so on. To what extent did these events have a negative impact on your life?" and rate the psychosocial impact of COVID-19 restrictions. Likert score was then "binned" using Intellectus automatic binning into three categories. The answers ranged from 1 (*Little Impact*) to 7 (*Major Impact*).

An alpha value of .05 was used to examine the ANOVA. There were significant changes in Total Psychological Safety between the values of psychosocial impact categories, according to the ANOVA results, F (2, 1,207) = 14.90, p = .001 (see Table 3). The effect value (eta) of 0.02 showed that the psychosocial impact was small, accounting for only about 2% of the differences in Total Psychological Safety. Table 4 displays the means and standard deviations.

According to these findings, the self-reported psychosocial impact of COVID-19 is correlated with changes in perceived psychological safety. These results indicate that changes in perceived psychological safety are related to the psychosocial impact of COVID-19, with those who experienced a lesser psychosocial impact of COVID-19 expressing a stronger sense of psychological safety than those who reported a more significant psychosocial impact. However, the effect size is small, indicating that other factors may influence perceived psychological safety

beyond the psychosocial impact of COVID-19. No other significant effects were discovered. The Likert score was then binned using Intellectus automatic binning into three categories, low (3 or lower), moderate (4), and major impact (5 or higher; see Table 4).

Table 3

ANOVA for Total Psychological Safety by Psychosocial Impact

Term	*SS*	*df*	*F*	*p*	η_p^2
Psychosocial Impact	8,676.99	2	14.90	< .001	0.02
Residuals	351,458.54	1,207			

Table 4

Mean and Standard Deviation for Total Psychological Safety by Psychosocial Impact

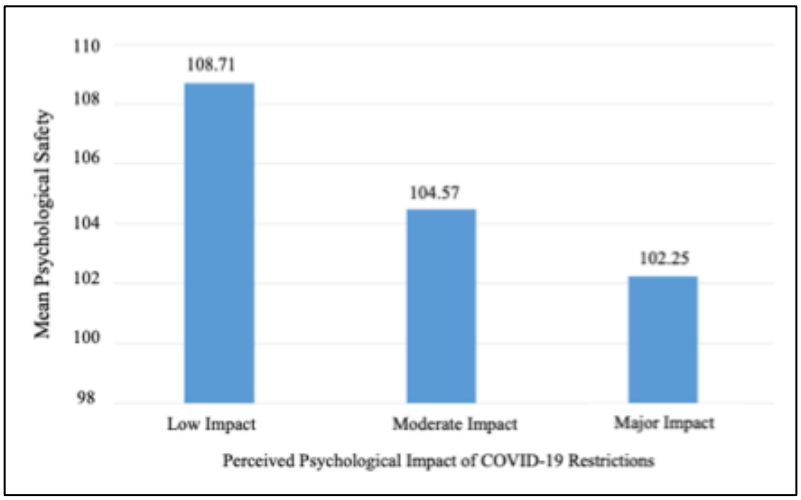
Combination	*M*	*SD*	*n*
Low	108.71	15.99	573
Moderate	104.57	15.82	372
Major	102.25	20.62	265
Total			1,210

To further investigate the differences between the variables, a t-test was used to compare different groups. To make sure the results were accurate, the Tukey HSD p-value adjustment was used to correct for any errors that could have happened by chance. The analysis found that people who rated the impact of a certain factor as less than or equal to 3 (low impact) had a significantly higher average score for Total Psychological Safety (M = 108.71, SD = 15.99) compared to those who rated the impact between 3 and 5 (Moderate impact; M = 104.57, SD = 15.82) and those who rated it higher than 5 (Major Impact; M = 102.25, SD = 20.62). This difference was found to be statistically significant (p < .001). No other significant differences were found.

According to the results of the ANOVA, there is statistical significance (p <.01) between how people feel about the psychosocial impact of COVID-19 restrictions on their lives and their sense of psychological safety at work. Respondents who feel that the restrictions had less of a psychosocial impact on them are more likely to feel psychologically safe at work than those who felt the impact at a moderate or major level. Interestingly, the mean psychological safety scores decrease almost linearly as the psychosocial impact is reported higher.

Figure 2

Mean Psychological Safety Score by Perceived Psychosocial Impact of COVID-19 Restriction (n=1,210)



Research Question 2: Did Perceived Psychological Safety Change For Workers Who Suddenly Found Themselves Forced To Work From Home As A Result Of The COVID-19 Pandemic restrictions?

This study used a survey tool developed by O' Donovan & McAuliffe (2020b) to measure perceived psychological safety. The survey used a 7-point Likert scale to capture the participants' perceptions of psychological safety in their relationships with their team leader, peers/other members of their team, and the team as a whole. It allowed the investigator to assess participants' current perceptions of psychological safety at these three levels (leader, peer, team as a whole)

and rate their current level of psychological safety on a 7-point Likert scale ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). For each question, participants were also asked to think back before COVID-19 and, using a 7-point Likert scale rate, whether each psychological safety item had gotten better (7 rating), the same (4-5 rating), or worse (1 rating). The resulting change score was produced with higher values indicating an improvement and lower values indicating a decrease in perceived psychological safety.

Using the scores, an ANOVA analysis was conducted to see if working from home affected changes to psychological safety scores. The analysis examined the Total Psychological Safety Change by Those Who Worked From Home, which included two subscores: Team Psychological Safety (associated with peers/the other members of the team) and Leader Psychological Safety Score (participants' perception of psychological safety associated with the current leader). Each change score was analyzed individually to see if there were any relationships. A baseline ANOVA of Total Psychological Safety Score (during restrictions) was also performed as reference.

ANOVA Total Psychological Safety By Those Who Worked From Home

A baseline ANOVA was used to determine if there were significant differences in Total Psychological Safety based on the Work from Home status post State-mandated restrictions. According to the results F (1, 1,639) = 0.97, p =.324, there were no significant differences in Total Psychological Safety based on the various levels of work from home during the state-mandated pandemic restrictions (see Table 5). The ANOVA analysis did not reveal any significant impact of Work from Home on Total Psychological Safety, indicating that Work from Home did not influence perceived psychological safety. Moreover, the effect size was minor. The means and standard deviations can be found in Table 6. The model did not show any

notable effects; therefore a post hoc comparison was not conducted. Consequently, the findings imply that perceived psychological safety was not associated with working from home during pandemic restrictions.

Table 5

ANOVA for Total Psychological Safety by Work From Home

Term	*SS*	*df*	*F*	*p*	η_p^2
Work From Home Status (Yes/No)	290.93	1	0.97	.324	0.00
Residuals	490,308.77	1,639			

Table 6

Means and Standard Deviation for Total Psychological Safety by Work From Home

Combination	*M*	*SD*	*n*
Yes	105.75	17.49	1,410
No	106.96	16.06	231
Total			1,641

ANOVA To Determine Total Psychological Safety Change By Work From Home

An ANOVA based on an alpha value of .05 was used to determine if there were significant differences in the Total Psychological Safety Change scores between pre-COVID pandemic non-restrictive work status and post-COVID stay-at-home restrictions. The results of the ANOVA F (1, 1,357) = 0.33, p =.568, indicated that the differences in Total Change among the levels of Work From Home were similar (see Table 7) showing there were no significant differences in changes perceived psychological safety among different levels of working from home. The lack of significant effects suggests that no evidence supports that working from home changed the perception of team psychological safety. Table 8 displays the means and standard

deviations. Since the model did not show any notable effects; therefore a post hoc comparison was not conducted.

Table 7

ANOVA for Total Change by Work from Home

Term	*SS*	*df*	*F*	*p*	η_p^2
Work From Home	72.74	1	0.33	.568	0.00
Residuals	302,631.38	1,357			

Table 8

Means and Standard Deviations for Change Levels At Work

Combination	*M*	*SD*	*n*
Yes	77.85	14.82	1,276
No	76.88	16.67	83
Total			1,359

ANOVA To Determine Team Psychological Safety Change By Work From Home

An ANOVA based on an alpha value of .05 was used to determine if there were significant differences in the Team Psychological Safety Change by Work From Home scores between pre-COVID pandemic non-restrictive work status and post-COVID stay-at-home restrictions. The findings F (1, 1,382) = 0.00, p =.957, did not reveal any significant impact of working from home on the Team Psychological Safety Change (see Table 9), indicating that Work from Home did not influence the perceived change in psychological safety within the team. The effect size was negligible, with a small F-value and a p-value greater than 0.05. Table 10 displays the means and standard deviations. The model did not show any notable effects; therefore a post hoc comparison was not conducted. The lack of significant effects suggests that no evidence supports that working from home affects a change in the team's psychological safety.

Table 9

ANOVA for Team Psychological Safety Change by Work from Home

Term	SS	df	F	p	η_p^2
Work from Home	0.23	1	0.00	.957	0.00
Residuals	112,934.71	1382			

Table 10

Mean and Standard Deviation for Team Psychological Safety Change by Work from Home

Combination	M	SD	n
Yes	43.00	9.00	1,295
No	43.06	9.62	89
Total			1,384

ANOVA To Determine Leader Psychological Change Score By Work For Home.

The Leader Psychological Safety score relates to the participants' perception of psychological safety that is associated with the leadership of the team, with team members' perception of psychological safety being impacted by their relationship with the team leader (Edmondson, 1999a; Frazier et al., 2017). The Leader Psychological Change Score examined the change in perception of the individual's psychological safety pre-COVID pandemic non-restrictive work status and post-COVID stay-at-home restrictions.

To determine whether there were significant differences in Leader Change Score by Work for Home, an ANOVA was used. An alpha value of.05. was used to examine the ANOVA. The ANOVA results were not significant, F (1, 1,435) = 0.54, p =.461, indicating that the levels of Work from Home had similar differences in Leader Change Score (see Table 11). F (1, 1,435) = 0.54, p =.461, suggesting that the main effect of Work from Home was not significant, with a small F-value and a p-value greater than 0.05, indicating that there were no significant

differences in Leader Psychological Change Score by Work from Home levels. Therefore, the results suggest that working from home did not significantly impact the participants' perception of psychological safety related to their leader. Table 12 displays the means and standard deviations. The model did not show any notable effects; therefore a post hoc comparison was not conducted.

Table 11

ANOVA for Leader Psychological Change Score by Work from Home

Term	SS	df	F	p	η_p^2
Work from Home	28.24	1	0.54	.461	0.00
Residuals	74,554.99	1,435			

Table 12

Mean and Standard Deviation for Leader Psychological Change Score by Work from Home

Combination	M	SD	n
Yes	34.87	7.17	1,345
No	34.29	7.73	92
Total			1,437

Based upon the ANOVA analyses, neither the Total Psychological Safety Change score nor the subscales for Team Psychological Safety or Leader Psychological Change Score were found to vary significantly based on respondents' self-report work from home status.

Research Question 3: Does Longer Team Tenure Help Insulate Work At Home Workers From Reductions In Psychological Safety In Comparison To Those With Shorter Team Tenure Within The Organization?

To determine the length of time that participants had worked for the organization, they were asked to provide the number of years and months they had been employed with the organization. The resulting answers were used to calculate total tenure for each participant in months.

A linear regression analysis was performed to assess whether Total Tenure significantly correlated with Total Psychological Safety. Inferring that Total Tenure did not explain a substantial percentage of variation in Total Psychological Safety, the findings of the linear regression model were not significant, F (1,1617) = 2.84, p =.092, R^2 =.00. These results show that no significant correlation was found between Total Tenure and Total Psychological Safety. Additionally, the R^2 value of .00 indicates that Total Tenure does not explain any meaningful proportion of the variation in Total Psychological Safety. The linear regression analysis showed no significant relationship between Total Tenure and Total Psychological Safety, indicating that Total Tenure does not substantially impact Total Psychological Safety. Since the overall model was insignificant, the individual predictors were not examined further. The regression model's results are summarized in Table 13.

Given that p-value of .091 approaches the alpha value of .05 it should be noted that the negative correlation found in Total Psychological Safety Change is also reflected in Total Psychological Safety. This supports the possibility of a negative relationship between Tenure and Psychological Safety.

Table 13

Linear Regression with Total Tenure predicting Total Psychological Safety

Variable	B	SE	95.00% CI	β	t	p
(Intercept)	106.79	0.62	[105.56, 108.01]	0.00	171.08	< .001
Total Tenure	-0.01	0.006	[-0.02, 0.002]	-0.04	-1.68	.092

A Linear Regression Was Conducted To Assess If There Was A Significant Relationship Between Total Tenure and Total Change in Psychological Safety.

The results, F (1,1339) = 11.82, $p < .001$, $R^2 = .01$, were statistically significant, with a p-value of less than .001, suggesting that Total Tenure has a statistically significant impact on Total Change in Psychological Safety. However, the R^2 value of .01 indicates that only 0.88% of the variance in Total Change in Psychological Safety can be explained by Total Tenure, which means that other factors may also play a role in influencing Total Change in Psychological Safety.

The analysis also revealed that Total Tenure negatively predicts Total Change, with a coefficient of -0.02. These results mean that, on average, for every one-month increase in Total Tenure, the value of Total Change in Psychological Safety is expected to decrease by 0.02. As a result, longer tenure appears to be associated with a perceived negative change in psychological safety during the study period. While Total Tenure has a statistically significant effect on Total Change in Psychological Safety, it only accounts for a small portion of the variance and has a negative relationship. The regression model's results are summarized in Table 14.

Table 14

Linear Regression with Total Tenure predicting Total Change

Variable	B	SE	95.00% CI	β	t	p
(Intercept)	79.60	0.64	[78.34, 80.86]	0.00	123.66	< .001
Total Tenure	-0.02	0.006	[-0.03, -0.009]	-0.09	-3.44	< .001

A Linear Regression Was Conducted To Evaluate Whether Total Tenure Significantly Predicted Team Psychological Safety Change.

The results show, F (1,1363) = 6.56, p = .011, R^2 = .00, a statistically significant connection between Total Tenure and Team Psychological Safety Change, with a p-value of .011. However, the R^2 value of .00 indicates that only 0.48% of Team Psychological Safety Change differences can be attributed to Total Tenure. These results mean other factors are probably involved in shaping Team Psychological Safety Change.

The analysis also showed that Total Tenure negatively predicts Team Psychological Safety Change score (*Team PS_Chng)*, with a coefficient of -0.009. As the Total Tenure increases by one month on average, the Team Psychological Safety Change score will likely drop by 0.009 month. Although Total Tenure has a statistically significant effect on Team Psychological Safety Change score, it only accounts for a small portion of the variance and has a negative relationship. The regression model's results are summarized in Table 15.

Table 15

Linear Regression with Total Tenure predicting Team Psychological Safety Score

Variable	B	SE	95.00% CI	β	t	p
(Intercept)	43.83	0.39	[43.07, 44.59]	0.00	112.97	< .001
Total Tenure	-0.009	0.004	[-0.02, -0.002]	-0.07	-2.56	.011

A Linear Regression Was Conducted To Assess If There Was A Significant Relationship Between Total Tenure and Leader Psychological Safety Change Score.

The Leader Psychological Safety Change Score is a value measuring the level of psychological safety the employee feels working under their leader. The results, F (1,1363) = 12.51, $p < .001$, $R^2 = .01$, were statistically significant, with a p-value of less than .001, indicating that Total Tenure does have a meaningful impact on Leader Psychological Safety Change Score. However, the R^2 value of .01 reveals that only 0.91% of the variance in the Leader's Psychological Safety Change Score can be explained by Total Tenure, suggesting that other factors may also contribute to the variance.

The analysis further demonstrated that Total Tenure negatively predicts a Leader's Psychological Safety Change Score, with a coefficient of -0.01. The analysis reveals that, on average, as the Total Tenure increases by one month, the Leader's Psychological Safety Change value will likely decrease by 0.01 points. The results indicate that Total Tenure significantly and negatively predicts Leader Psychological Safety Change Score. In other words, as an employee's tenure increases, their perception of changes in leadership effectiveness tends to decrease.

While Total Tenure has a statistically significant effect on Leader's Psychological Safety Change Score, it only accounts for a small portion of the variance and has a negative relationship. The regression model's results are summarized in Table 16.

Table 16

Linear Regression with Total Tenure predicting Leader Change Score

Variable	B	SE	95.00% CI	β	t	p
(Intercept)	35.69	0.30	[35.09, 36.28]	0.00	117.63	< .001
Total Tenure	-0.01	0.003	[-0.02, -0.004]	-0.10	-3.54	< .001

Research Question 4: Are There Changes In Perceived Psychological Safety Related To Self-Reported Employee Demographics?

Respondents were asked to self-report several demographic characteristics including tenure in years and months; the respondent's organizational level (individual contributor, supervisor/manager, and director or above), race/ethnicity, and gender. ANOVA analyses were conducted to determine whether relationships exist between the changes in perception of psychological safety based relative to (a) organizational level, (b) race/ethnicity, and (c) gender.

ANOVA To Determine Total Change In Psychological Safety Change Scores Relative To Organizational Level

To identify organizational levels of respondents, participants were asked to self-report whether they were an "individual contributor", "supervisor or manager", or a "director or above." To determine whether Psychological Safety varied based upon organizational level, an ANOVA was conducted to determine whether there were significant differences in the mean Total Change in Psychological Safety by Organizational Level. An alpha value of .05. was used to examine the ANOVA. The ANOVA results show no significant differences in the Total Change in Psychological Safety by Organizational Level F (2, 1,337) = 0.07, p =.935, suggesting no significant differences in Total Change by Organizational Level (see Table 17). In addition to the lack of statical significance, the mean scores had minimal variation. In other words, the level at which a participant worked within the organization did not significantly impact their reported Psychological Safety. Table 18 presents the means and standard deviations.

Table 17

ANOVA for Total Change by Organizational Level

Term	SS	df	F	p	η_p^2
Organizational Level	29.86	2	0.07	.935	0.00
Residuals	298,576.13	1,337			

Table 18

Mean and Standard Deviation for Total Change by Organizational Level

Combination	M	SD	n
Individual Contributor	77.93	15.16	1,111
Supv. /Mgr.	77.89	14.18	162
Dir/Above	77.24	13.02	67
Total			1,340

ANOVA To Determine Total Change In Psychological Safety Change Scores Relative To Race/Ethnicity

To identify race/ethnicity of respondents, participants were asked to self-report whether they were part of one of the following race/ethnicity groups:

- Asian or Pacific Islander
- Black or African American
- Hispanic or Latino
- Native American or Alaskan Native
- White or Caucasian
- Multiracial or Biracial
- Some Other Race alone, non-Hispanic
- Prefer not to answer

To determine whether there were significant differences in Total Change in Psychological Safety by Race/Ethnicity, an analysis of variance (ANOVA) was conducted. An alpha value of .05 was used to examine the ANOVA. The ANOVA results F (7, 1,256) = 4.98, p <.001, suggest statistically significant differences in the mean Total Change in Psychological Safety score by Race/Ethnicity (see Table 19). The eta squared value of 0.03 indicates that race and ethnicity will account for around 3% of the variance in Total Change in Psychological Safety. The means and standard deviations presented in Table 20 show the differences among the groups.

Table 19

ANOVA Table for Total Change In Psychological Safety by Race and Ethnicity

Term	*SS*	*df*	*F*	*p*	η_p^2
Race and Ethnicity	7,525.43	7	4.98	< .001	0.03
Residuals	271,205.17	1,256			

Table 20

Mean, Standard Deviation, Sample Size for Total Change In Psychological by Race, Ethnicity

Combination	*M*	*SD*	*n*
Asian or Pacific Islander	78.80	18.62	41
Black or African American	81.05	18.29	87
Hispanic or Latino	88.84	26.32	44
Native American or Alaskan Native	83.71	13.19	7
White or Caucasian	77.24	13.39	977
Multiracial or Biracial	80.44	16.97	18
Some Other Race alone, non-Hispanic	73.25	1.50	4
I prefer not to answer	75.50	14.47	86
Total			1,264

To further examine the differences among the variables, a t-test was conducted between each group combination. The Tukey HSD p-value adjustment was used to correct the effect of

multiple comparisons on the family-wise error rate. The post-hoc analysis results showed that for Race/Ethnicity, the mean of Total Change in Psychological Safety for Asian or Pacific Islanders was significantly smaller than for Hispanic or Latinos. The mean of Total Change in Psychological Safety for Hispanics or Latinos was significantly larger than for White or Caucasians and those who preferred not to answer the Race/Ethnicity question.

ANOVA Total Change In Psychological Safety Scores Relative To Gender

To identify gender of respondents, participants were asked to self-report their gender. The possible options were *Male*, *Female*, *Non-binary*, and *Prefer not to answer*. An analysis of variance (ANOVA) was conducted to determine whether there were significant differences in Total Change In Psychological Safety by Gender. An alpha value of .05 was used to examine the ANOVA. The results of the ANOVA, F (3, 1,260) = 4.68, p =.003 (see Table 21), showed significant differences in Total Change In Psychological Safety among the levels of Gender with an eta squared value of 0.01, indicating that Gender explains approximately 1% of the variance in Total Change In Psychological Safety. The means and standard deviations presented in Table 22 show the differences among the groups.

Table 21

ANOVA Table for Total Change by Gender

Term	*SS*	*df*	*F*	*p*	η_p^2
Gender	3,079.00	3	4.68	.003	0.01
Residuals	276,506.13	1,260			

Table 22

Mean, Standard Deviation, and Sample Size for Total Change by Gender

Combination	*M*	*SD*	*n*
Female	78.62	15.27	960
Male	76.28	13.07	247
Non-binary	72.00	0.00	2
Prefer not to answer	72.07	14.10	55
Total			1,264

Additionally, post-hoc analysis was conducted using t-tests between each group combination further to examine the variables' differences among the variables. The Tukey HSD p-value adjustment was used to correct the effect of multiple comparisons on the family-wise error rate. The post-hoc analysis showed that the mean of Total Change In Psychological Safety for females was significantly larger than for those who preferred not to answer.

ANOVA of Total Psychological Safety Relative To Organizational Level, Race, And Gender Categories.

The following ANOVA analyses were conducted as baseline reference for the Total Psychological Safety for Organizational (see Table 23), Race/Ethnicity (see Table 24) and Gender (see Table 25) categories:

Total Psychological Safety by Organizational Level

The ANOVA investigated whether there were any significant differences in Total Psychological Safety among three Organizational Levels: Individual Contributor, Supervisor/Manager, Director, and Above). The ANOVA was examined based on an alpha value of .05. The ANOVA results F (2, 1,616) = 0.76, p = .469 showed no significant differences in Total Psychological Safety among the organizational levels (see Table 23). The means and standard deviations of Total Psychological Safety for each organizational level are presented in

Table 24. The results suggest no significant differences in Total Psychological Safety at the organizational levels, as a result, post-hoc comparisons were not conducted.

Table 23

Analysis of Variance Table for Total Psychological Safety by Organizational Level

Term	*SS*	*df*	*F*	*p*	η_p^2
Organizational Level	446.03	2	0.76	.469	0.00
Residuals	475,862.36	1,616			

Table 24

Mean, Standard Deviation, and Sample Size for Total Psychological Safety by Org. Level

Combination	M	SD	n
Individual Contributor	105.83	17.46	1363
Supv/Mgr.	107.35	14.41	180
Dir/Above	104.96	17.67	76
Table			1,619

Total Psychological Safety by Race/Ethnicity

The ANOVA investigated whether there were significant differences in Total Psychological Safety by Race/Ethnicity. The ANOVAs for this study were examined based on an alpha value of .05. The results, F (7, 1,618) = 2.40, p = .019, indicated significant differences in Total Psychological Safety among the levels of Race/Ethnicity (see Table 25). The eta squared value of 0.01 suggests that Race/Ethnicity explains approximately 1% of the variance in Total Psychological Safety, a relatively small effect, yet still a statistically significant result. The means and standard deviations for Total Psychological Safety for each level of Race/Ethnicity are presented in Table 26.

In addressing multiple comparisons, t-tests were performed to examine differences between groups. The significance threshold was set at 0.05, and to account for the family-wise

error rate, the Tukey HSD p-value adjustment method was utilized. The analysis focused on comparing Race/Ethnicity groups.

The findings of the study indicated statistically significant differences in Total Psychological Safety. Specifically, Hispanic/Latino participants demonstrated higher levels of Total Psychological Safety (*m* =108.74) compared to those who preferred not to answer (m = 99.76). Similarly, White, or Caucasian participants exhibited higher levels of Total Psychological Safety (*m* =106.48) compared to those who preferred not to answer (*m* = 99.76).

Table 25

Analysis of Variance Table for Total Psychological Safety by Race/Ethnicity

Term	*SS*	*df*	*F*	*p*	η_p^2
Race/Ethnicity	4,902.40	7	2.40	.019	0.01
Residuals	472,690.38	1618			

Table 26

Mean, Standard Deviation, and Sample Size for Total Psychological Safety by Race/Ethnicity

Combination	*M*	*SD*	*n*
Asian or Pacific Islander	105.21	15.86	61
Black or African American	105.72	18.84	119
Hispanic or Latino	108.74	22.76	54
Native American or Alaskan Native	104.33	7.69	6
White or Caucasian	106.48	16.29	1252
Multiracial or Biracial	106.48	18.63	21
Some Other Race alone, non-Hispanic	107.57	18.97	7
I prefer not to answer	99.76	21.10	106
Total			1,626

Total Psychological Safety by Gender

The ANOVA investigated whether there were significant differences in Total Psychological Safety by Gender. The results, F (3, 1,621) = 9.03, $p < .001$, indicated significant differences in Total Psychological Safety between the categories of Gender (see Table 27). The eta squared value of 0.02 suggests that Gender explains approximately 2% of the variance in Total Psychological Safety, which is a small effect, yet statistically significant result. The means and standard deviations for Total Psychological Safety for each level of Gender are presented in Table 28.

Additionally, to examine the differences among the variables, the Tukey HSD p-value adjustment was used to correct for the impact of multiple comparisons on the family-wise error rate. The analysis showed that, for the main effect of gender, the mean of Total Psychological Safety was significantly higher for females (M = 106.02) than for those who preferred not to answer (M = 95.97) with a p-value of .001. Similarly, the mean of Total Psychological for males (M = 107.74) was also significantly larger than for those who preferred not to answer (M = 95.97) with a p-value of .001. No other significant effects were detected.

Table 27

Analysis of Variance Table for Total Psychological Safety by Gender

Term	SS	df	F	p	η_p^2
Gender	7,891.19	3	9.03	< .001	0.02
Residuals	472,140.87	1,621			

Table 28

Mean, Standard Deviation, and Sample Size for Total Psychological Safety by Gender

Combination	*M*	*SD*	*n*
Female	106.02	17.21	1230
Male	107.74	15.14	321
Non-binary	109.83	16.57	6
Prefer not to answer	95.97	22.31	68
Total			1,625

Chapter 4 Summary

In summary, a number of important of findings surfaced in this study. One key relationship concerns the relationship between perceived psychosocial impact of COVID-19 and a negative effect on psychological safety and changes in psychological safety during the COVID-19 restrictions. The results of the data analysis found that working from home during the COVID-19 pandemic did not impact perceived psychological safety. Based on organizational level were no significant differences in perceived psychological safety, however Total Tenure, was found to have a negative correlation with perceived psychological safety over time. Also, there were differences in how different races/ethnicities and genders perceived psychological safety.

The analysis showed that Asian or Pacific Islanders reported lower levels of perceived psychological safety compared to Hispanics or Latinos, and White or Caucasians reported lower levels of perceived psychological safety compared to Hispanics or Latinos. Hispanic or Latinos had higher levels of perceived psychological safety than those who preferred not to answer, and females reported higher levels of perceived psychological safety than those who preferred not to answer.

Regarding the relationship between Total Tenure and various aspects of Psychological Safety, the findings indicate that

- Employment Tenure does have a meaningful yet negative correlation with Total Change in Psychological Safety. However, it only explains 0.88% of the differences in Total Change in Psychological Safety, implying that other factors are also involved. On average, the Total Change in Psychological Safety score decreases by 0.02 points for every one-month increase in Total Tenure (Research Question 3).
- The relationship between Total Tenure and post COVID-19 restrictions Total Psychological Safety approaches statistical significance. Further the correlation for Total Psychological Safety and Total Tenure was also negative as was the change correlation (Research Question 3).
- Employment Tenure and Team Psychological Safety Change have a significant but negative relationship. However, Total Tenure only accounts for 0.48% of the differences in Team Psychological Safety Change. This result means that other factors likely play a role as well. On average, as Total Tenure increases by one month, the Team Psychological Safety Change score drops by 0.009 points (Research Question 3).
- Employment Tenure has a meaningful but negative impact on the Leader Psychological Safety Change Score (the level of psychological safety the employee feels working under their leader) explaining only 0.91% of the variance. This result suggests other factors may contribute to the differences in Leader Psychological Safety Change Score (Research Question 3).

The respondents who perceived the stay-at-home restrictions had little to moderate psychosocial impact on them were more likely to report feeling psychologically safe at work

than participants who believed the COVID restrictions had a significant influence on their lives. The conclusion that may be drawn is that elements outside of the employer's control may affect or interact with employees' perceptions of the psychological safety they experience at work.

This study demonstrates strong internal validity due to its substantial sample sizes, the utilization of a valid research instrument, and the inclusion of data from two major healthcare organizations. These organizations represent a significant portion of the healthcare worker population in the state of Michigan, enhancing the study's overall credibility.

Chapter 5 will cover the important research findings from the analysis, offer suggestions for improving organizational practices, and provide recommendations for future research

.

Chapter 5: Conclusions, Implications, Recommendations

This chapter contains an overview of the study's theoretical framework, research methods, limitations, and discussion of the key findings and conclusions. The implications of the study's findings for organizational practices, future research, and academic scholarship are also examined. The researcher aims to contribute to the discussion on the COVID-19 pandemic and its impact on society.

Research Description and Summary

Under the restrictions of the COVID-19 pandemic, many individuals who produce or analyze ideas and information, referred to as knowledge workers in this research (Cambridge Dictionary, n.d.-a), found themselves in roles where work could be performed remotely, a practice commonly known as telework or telecommuting (U.S. Office of Personnel Management, n.d.). This flexible arrangement allows employees to work remotely outside of the office (Cambridge Dictionary, n.d.-b) from an approved location, typically their home, while utilizing technology to maintain communication with their team and employer (Allen et al., 2015). In response to the pandemic, some organizations have transitioned to a hybrid work design, combining onsite and remote work. This work design might involve varied work arrangements and schedules, with some teams having members working onsite for a certain number of days. In contrast, other organizations only require in-person attendance for meetings that can't be effectively held virtually. Some organizations consider hybrid work design a viable solution for the changing work context brought on by the COVID-19 pandemic.

The COVID-19 pandemic has created restrictions that have caused physical, social, and communication distance between employees. These challenges have led to a need for more knowledge on how this distance affects psychological safety. Remote work arrangements have

created new challenges that make treating employees fairly and equitably difficult, accessing team leaders, sharing information, maintaining autonomy, and engaging in face-to-face social interactions. As a result, employees may feel isolated, disconnected, or unfairly treated, negatively impacting their sense of psychological safety within the organization. Understanding the perception of psychological safety in the context of these conditions is especially important when organizations and their teams have remote and onsite employees, as it can cause disparities in the overall work experience and access to resources.

In this context, both researchers and employers are striving to understand the dynamics of remote and hybrid work arrangements and their effects on employees. A key focus of this study involves examining workers' perceptions of psychological safety. This study sought to identify lessons learned during the COVID-19 pandemic within a specific time period and context. This study aimed to examine the effects of mandated working from home during the COVID-19 pandemic, the perception of psychological safety, the strength and direction of the relationship of perceived psychological safety, and the psychosocial impact of the COVID-19 state-mandated restrictions among knowledge workers forced to work from home within a healthcare organization and its insurance subsidiary within the State of Michigan.

This research may provide organizations with information on supporting employees' psychological safety and reimagining how to support and develop team cohesion within a modern hybrid remote workplace. Additionally, the research provides insight into how a pandemic-driven shift in the workplace environment requires organizations to examine elements of leadership, personnel support, and cultural norms within the workplace and how these shifts may meet the psychological safety of the hybrid or remote worker.

Theoretical Framework

Psychological safety as a theoretical framework revolves around creating a work environment where individuals feel secure and comfortable expressing themselves, taking risks, and learning from one another. In the late 1990s, organizational psychologist Amy Edmondson (1999a) brought psychological safety to broader attention. Edmondson (1999a) stressed its role in team learning, innovation, and performance. Psychological safety in the workplace encourages learning behaviors, including asking questions, seeking feedback, acknowledging mistakes, and trying new things. When employees have higher degrees of psychological safety, it enables better team performance (Kim et al., 2020), is a mediator for inclusive leadership creativity and innovation (Carmeli et al., 2010; Javed et al., 2019), and creates a cultural environment where individuals see mistakes as opportunities for team learning, performance and accomplishing goals (Harrell, 2020). Edmondson's work gained popularity after the results from Google's Project Aristotle were published. In this internal research project, Google focused on learning what makes an effective team at Google (Duhigg, 2016). In recent years, during the COVID-19 pandemic, according to Google Trends, interest in psychological safety has shown increased attention since January 6, 2019, indicating a heightened awareness of its importance during an uncertain time in history (Psychological Safety, 2023.).

Before Edmondson's research, Schein & Bennis' (1965) organizational change work established psychological safety as essential to people's confidence and security in changing their behavior. William Kahn (1990) provided another significant body of research; this groundbreaking study identified psychological safety as one of three factors that encourage personal engagement. In this groundbreaking grounded theory study, Kahn (1990) explored three psychological conditions, meaningfulness, safety, and availability that allow people to bring their

sense of self to work. Kahn hypothesized that employees brought in and left out different parts of themselves during the workday, affecting their participation.

Contemporary researchers have joined Edmondson in examining the theoretical framework of psychological safety in various contexts, such as interpersonal relationships, collaboration, knowledge sharing, remote work, inclusive leadership, and self-leadership and well-being (Abraham et al., 2010; Burrell & Brauner, 2021; Edmondson & Lei, 2014; Nembhard & Edmondson, 2012; O'Donovan & McAuliffe, 2020a; O'Donovan et al., 2020; Sjöblom et al., 2022).

The research on psychological safety has focused chiefly on workplace norms requiring physical presence. This study investigates psychological safety during a shift in a healthcare organization and its insurance subsidiary in Michigan. The study excluded healthcare workers who work directly with patients in hospitals, treatment centers, and urgent care facilities.

Methods

The study used a survey tool that O'Donovan & McAuliffe (2020b) developed to measure perceived psychological safety. The survey used a 7-point Likert scale and captured the participants' perceptions of psychological safety in their relationships with their team leader, peers/other team members, and the team. It allowed the investigator to assess participants' perceptions of psychological safety at these three levels (leader, peer, and whole team) and retrospectively before the COVID-19 stay-at-home restrictions.

Additionally, using a Likert scale, responding from "1 - Little Impact" to "7 - Major Impact," individuals were asked the following question to assess the degree to which they felt the State of Michigan's COVID-mandated restrictions impacted their day-to-day lives: "Consider the impact of all these things combined during the pandemic restrictions: limited socialization with

family and friends; community restrictions and curfews, social distancing, mask requirements in public, and limited accessibility to gyms, coffee shops, restaurants, etc. to what extent did these situations impact your life negatively?"

Most survey respondents were hired before the lockdown (79.06%), with the largest group being individual contributors (69.84%). Most respondents identified as white or Caucasian (63.61%). The most significant gender representation was female (63.02%). Additionally, 81.27% of participants reported working from home during the lockdown period. The overall race and ethnicity distribution of respondents is as follows: Asian or Pacific Islander (3.09%), Black or African American (6.18%), Hispanic or Latino (2.94%), Native American or Alaskan Native (0.34%), White or Caucasian (63.61%), Multiracial or Biracial (1.13%), Some Other Race alone, non-Hispanic (0.39%), those who preferred not to answer (5.59%), and missing data (16.72%).

Conclusions and Discussion

This section discusses the overall psychological safety results, followed by a discussion specific to each research question, study limitations and recommendations, and suggestions for organizational practices and future research**.**

Overall Perception of Psychological Safety

Based upon respondents who self-reported their change in psychological safety in comparison to prior to the COVID restrictions, the majority (60.9%) rated their psychological safety as having changed for the worse. There is a substantial portion of employees that felt that their psychological safety had gotten worse. This is a significant margin. Conversely, 25.6% reported it to be the same, while just 12.5% reported their psychological safety to be improved in comparison to pre-COVID restrictions. The results demonstrate that societal and organizational

changes resulting from COVID produced a negative impact to the majority of employees, regardless of whether they worked from home or onsite. It is not surprising that the majority of respondents rated their perception of psychological safety as having declined, considering the significant stressors they faced during the COVID-19 lockdown restrictions (Haucke et al., 2022), their concerns and fears related to the virus, and the changes that both employees and organizations had to make due to the pandemic's dynamics (Mun et al., 2022).

Overall, these results are consistent with what is found in the literature. As we look at the body of research that examines COVID-related attitudes, similar sentiments are found regarding COVID-19 impacting psychological safety (Daulay & Mustika, 2021). Daulay and Mustika (2021) discovered that positive and negative experiences at work spill over to the home domain and vice versa, which could affect employees' sense of meaning and safety, and having the physical, emotional, and psychological resources to perform work tasks while working from home. Hebles et al. (2022) found that higher COVID-19 anxiety affected the association between cognitive stress and psychological safety. Additionally, Hebles et al., found that supervisor support did not moderate the connection between cognitive stress and felt psychological safety. Supervisor support did improve psychological safety perceptions.

Research Question #1

Are changes in perceived psychological safety related to the self-reported perceived psychosocial impact of COVID-19?

A significant discovery was made regarding the relationship between three psychosocial impact categories: as the impact of psychosocial factors increased, the level of Psychological Safety decreased nearly linearly. Additionally, workers who were more affected by these factors not only perceived their Psychological Safety to be worse but also noted a greater deterioration

or change in their sense of psychological safety over time. These findings suggest that external factors beyond an organization's control can negatively affect employees' psychological well-being. It is important for organizations to recognize that there are external factors that are beyond their control that may affect their employees. Traditionally, Human Resource (HR) departments focus on addressing issues that are happening within the workplace via policies, procedures, training, etc. The results of this study suggest that there is opportunity to identify factors that are not within the purview of traditional HR practices. Recommendations on the best organizational practices that organizations can adopt to address these issues are discussed further.

Additionally, those who reported that stay-at-home restrictions had only a small or moderate psychosocial impact were more likely to feel a higher level of psychological safety than those who reported a more significant lifestyle impact due to COVID. This study showed significant differences in Total Psychological Safety among different psychosocial impact categories. Specifically, those who reported the lowest psychosocial impact related to COVID, also reported mean psychological safety scores of 108.71, which were higher than those who reported moderate or high impact related to COVID, with mean scores of 104.57 and 102.25, respectively, indicating a significant relationship along with a p-value was less than .01, further confirming the significance, $F(2, 1{,}207) = 14.90$, $p < .001$.

While the study found a connection between psychosocial factors and psychological safety, it is important to consider a two-way relationship. On one hand, the psychosocial impact of COVID-19 could affect a person's sense of psychological safety. On the other hand, an individual's perceived psychosocial impact may also be influenced by their existing level of psychological safety. In other words, while it is reasonable to assume that the psychosocial impact of the pandemic could impact psychological safety, it is also possible that reduced

psychological safety could have influenced how people perceived the psychosocial impact of COVID-19.

Researchers have found that the COVID-19 pandemic significantly impacted mental health and well-being, increasing stress, anxiety, depression, and posttraumatic stress symptoms (Wijayati et al., 2023; American Psychological Association [APA], 2023). Multiple studies have demonstrated these adverse effects, highlighting the need for interventions and strategies to address the factors influencing mental health outcomes during the pandemic (Brooks et al., 2020; Holmes et al., 2020; Mendonça et al., 2022; Pfefferbaum et al., 2020; Xiong et al., 2020). Brooks et al. (2020) examined the effects of quarantining on individuals. They found that the quarantine was unpleasant for many, from feelings of isolation and boredom to loss of independence and death of friends and relatives. These all created dramatic repercussions, from resentment to suicides with possible long-term implications.

Xiong et al. (2020) found that during the COVID-19 epidemic in China, Spain, Italy, Iran, the US, Turkey, Nepal, and Denmark, the general population reported significant anxiety, depression, posttraumatic stress disorder, psychological distress, and stress. Female gender, younger age group (under 40), presence of chronic/psychiatric illnesses, unemployment, student status, and regular exposure to social media related to COVID-19 news are risk factors for distress measures. Trougakos et al. (2020) found that higher levels of COVID-19 health anxiety were associated with lower job performance, more significant work-family conflict, poorer health-related behaviors, and worse well-being outcomes. Holmes et al. (2020) survey suggests that the COVID-19 pandemic would increase social isolation and loneliness, which are linked highly to anxiety, despair, self-harm, and suicide attempts across the lifespan. Holmes et al.

(2020) further state that reduced loneliness and belongingness may prevent suicide, self-harm, and emotional problems.

The results of this study support findings in the literature suggesting that higher levels of perceived negative psychosocial lifestyle impact related to COVID appear to impact individuals. In the case of this study psychosocial stressors as related to COVID restrictions, were associated with reduced perceptions of psychological safety. Further, the relationship suggests that to some degree, an individual's psychological safety is influenced by factors outside of the control of the organization. To the extent that resources can be offered to address such issues, there may be potential to indirectly insulate and improve psychological safety.

Research Question #2

Did perceived psychological safety change for workers who suddenly found themselves forced to work from home as a result of the COVID-19 pandemic restrictions?

Baseline ANOVA analysis was conducted to examine whether there were significant differences in Total Psychological Safety based on the Work from Home status during state-mandated pandemic restrictions. Although 60.9% of all participants reported a decline in psychological safety, the results of the ANOVA indicated no significant differences in the decline between participants who worked from home versus those participants onsite, F (1, 1,639) = 0.97, p = .324.

Similarly, an examination of the changes in Total Psychological Safety between pre-COVID pandemic non-restrictive work status and post-COVID stay-at-home restrictions revealed no statistically significant differences, thus an association between working from home and the perception of change in Total psychological safety was not found, F (1, 1,357) = 0.33, p = .568.

In addition to Total Psychological Safety, the change in Team Psychological Safety was examined to determine the relationship between work status (pre-COVID non-restrictive and post-COVID stay-at-home restrictions) and Team Psychological Safety Change, as measured by the Work From Home scores; no significant differences were found between the two work statuses, F (1, 1,382) = 0.00, p = .957; and no association between working from home and the perceived change in psychological safety within the team was found.

Finally, analyzing the impact of different levels of Work from Home on Leader Change scores, no statistically significant differences were found among the various levels of Work from Home, F (1, 1,435) = 0.54, p = .461. Thus, working from home did not significantly affect participants' perception of psychological safety related to organizational leadership.

There are limitations to note: those who worked onsite represented a relatively small number compared to those who worked from home, and they do not constitute a randomized control group. The work dynamics and organizational responsibilities likely differed for those required to work onsite, introducing a potential bias within this group. Additionally, the imbalance in respondents between onsite and work-from-home participants may have introduced bias into the analysis.

In summary, the analysis found a majority (60.9%) of all workers reported that their psychological safety had worsened since the period prior to COVID restrictions. However, it is noteworthy that no statistically significant differences were found between those who worked from home and those who worked onsite with respect to that decline. One might intuitively assume that onsite employees might perceive less of a negative impact to their psychological safety, but these findings did not support this assumption. A possible rationale may be that both groups were experiencing similar stressor as related to the COVID-19 pandemic (both impacted

by psychosocial factors found to be statistically significant in this study, social distancing, anxiety related to contracting the COVID-19 virus). Additionally, those onsite had to contend with the separation from their colleagues who normally were onsite, thus creating limitations to communication and workplace culture. Consequently, the impact of COVID restrictions to perceived psychological safety equally impacted employees regardless of whether they worked onsite or from home.

Research Question #3

Does longer team tenure help insulate work-at-home workers from reductions in psychological safety in comparison to those with shorter team tenure within the organization?

The study identified a statistically significant negative correlation between Employment Tenure and Team Psychological Safety Change, which explains a modest 0.48% of the observed variation. This means that as employees' tenure increases, the Team Psychological Safety Change score tends to decrease by approximately 0.009 points for each month of employment. However, it is crucial to recognize that this negative correlation, while statistically significant, suggests that other factors play a more substantial role in influencing changes in team psychological safety. In practical terms, this effect is relatively small and primarily affects employees who have been with the organization for an extended period.

Additionally, Total Tenure has a statistically significant negative impact on the Leader Psychological Safety Change Score, accounting for 0.91% of the observed variation, which implies that as Total Tenure increases, the Leader Psychological Safety Change Score decreases. These findings suggest that longer Total Tenure is associated with negative changes in Team Psychological Safety and Leader Psychological Safety Score. However, it is important to

acknowledge that these effects only explain a small percentage of the overall variation, indicating other factors' influence on psychological safety changes.

One possible explanation for these results is that individuals with longer tenure at the organization may have higher expectations for the organizational culture and communication based upon their longer past experiences. Therefore, they may feel more disappointed by recent changes. Factors such as communication practices, mediated communication causing virtual distance (Lojeski & Reilly, 2020), trust, leadership styles, and support mechanisms could contribute to the relationship between Total Tenure and psychological safety. It is worth noting that both organizations were experiencing shifts in supervision and new leadership hiring, as well as a merger with another large hospital system prior to and during the COVID period, which could have influenced team dynamics. The complexity of organizational mergers and acquisitions, particularly during the unprecedented period of change brought on by the COVID-19 pandemic, may have additionally impacted psychological safety at the team and individual levels.

Research Question #4

Are changes in perceived psychological safety related to self-reported employee demographics?

To determine if there were differences in perceived psychological safety among employees based on their demographics, results were categorized by organizational level, race/ethnicity, and gender.

Organizational Level

An assumption could have been made that some differences would have been revealed, but this was not the case. Organizational Level results showed no statistically significant

differences at the organizational level, F (2, 1,337) = 0.07, p = .935; this indicates that the level at which participants worked in the organization (individual contributor, supervisor/manager, director, or above) had no significant relationship to their perceived psychological safety. Employees' organizational levels within the company did not significantly affect their perceived psychological safety. In other words, where employees worked in the organization did not impact their sense of psychological safety.

Race/Ethnicity

Regarding race/ethnicity, the mean scores reflect that Hispanic/Latino (m = 108.74), and White/Caucasian (m = 106.48) participants reported the highest levels of Total Change in Psychological Safety, while the lowest scores were reported by those who chose not to self-report their race (m = 99.76). The eta squared value of 0.03 indicates that race and ethnicity account for about 3% of the Total Change in Psychological Safety variation. These statistically significant results, F (7, 1,256) = 4.98, p < .001, demonstrate a relationship between Race/Ethnicity and perceived psychological safety in the studied population. The analysis revealed significant differences in psychological safety perception based on the race and ethnicity of the participants. Hispanic/Latino and White/Caucasian respondents reported higher levels of psychological safety, while those who chose not to disclose their ethnicity consistently reported the lowest levels. This suggests a notable disparity related to race and ethnicity in the perception of psychological safety. Interestingly, those who opted not to disclose their ethnicity rated their psychological safety considerably lower than all other ethnic groups.

Gender

Gender findings revealed significant differences in Total Psychological Safety based on gender, F (3, 1,260) = 4.68, p = .003; this suggests that gender has a small but significant effect

on perceptions of psychological safety—participants who chose not to answer the question displayed noticeably lower scores compared to both males and females. Among females (n = 960), there was a significant difference, as their mean score (m = 106.02) was significantly higher than that of participants who preferred not to answer (m = 95.97) ($p < .001$). Similarly, among males (n = 247), there was also a significant difference, as their mean score (m = 107.74) was significantly higher than that of participants who preferred not to answer (n = 55; m = 95.97) ($p < .001$). These results indicate that gender influences perceptions of psychological safety, with male and female participants scoring higher than those who chose not to answer the question.

Demographic Summary

Interestingly, for both race/ethnicity and gender, those who chose not to answer those demographic questions reported the lowest psychological safety levels. One possible reason may be that those experiencing the lowest psychological safety levels may also have the lowest levels of trust in the organization and may be more reticent to share information they perceive to be more sensitive and personally identifiable. Based on the finding, it appears that trust issues may exist within the organization, especially among those who are hesitant to share their demographic details. It is imperative to address these trust issues to establish a work environment that is both inclusive and supportive. This highlights the significance of promoting diversity and inclusion efforts in the workplace. Employees who do not disclose their demographic information may feel marginalized or excluded. Therefore, companies should strive to create a culture that is inclusive, where all employees feel valued and respected.

Study Limitations

There are several limitations to consider in this study. Firstly, the findings may not be easily generalized across sectors or similar organizations. The context and characteristics of where the study took place may differ from others, impacting the applicability of the results.

Secondly, the study relied on self-reporting by participants who were asked to reflect on a period before the COVID-19 pandemic restrictions. This reliance on memory and personal bias introduces the possibility of skewed responses.

Furthermore, it is important to note that psychological safety can evolve. The survey only provides a snapshot of participants' perceptions during a specific period when most employees were working from home; this means that employees still working onsite may possess distinct characteristics that could influence the comparison of their psychological safety to the overall change in their psychological safety. Additionally, the majority of respondents in this study were individuals working from home, which further introduces bias.

Moreover, the study is susceptible to non-response bias; individuals who chose not to participate or discontinued the survey may have different perceptions and experiences than those who completed it. Consequently, the results might only accurately represent the population being studied.

Lastly, it is worth noting that the healthcare organization under investigation was in the process of merging with another large hospital system. Mergers and acquisitions can negatively impact employee morale and productivity, as evidenced by Giessner (2022) and Gutknecht (1993). Coupled with the challenges of the pandemic, leadership must be transparent and provide clear guidance to alleviate any uncertainties among employees (Hien & Van, 2023). Furthermore, these changes can significantly affect employees’ mental health and overall

wellbeing, underscoring the need for effective leadership and management support (Kaetzler et al., 2019; Rao, 2021). However, supportive leadership can mitigate these effects, as Giessner (2022) demonstrated.

This study demonstrates strong internal validity due to its substantial sample sizes, the utilization of a valid research instrument, and the inclusion of data from two major healthcare organizations. These organizations represent a significant portion of the healthcare worker population in the state of Michigan, enhancing the study's overall credibility.

While this study provides valuable insights, it is essential to recognize these limitations when interpreting the findings and applying them to other contexts.

Recommendations for Organizational Practice and Future Research

This study reveals that a majority (60.9%) of the surveyed employees reported a decrease in perceived psychological safety compared to the period before the COVID-19 pandemic forced remote work conditions. Interestingly, this reduction in psychological safety was reflected equally by both employees working from home and those working onsite. These findings suggest that external psychosocial factors likely influenced the psychological safety of both onsite and remote workers. Additionally, it's worth noting that the psychological safety of onsite employees may have been negatively affected by the loss of onsite co-workers, which could have led to reduced communication.

Based on these findings, future research could examine the long-term impact of working from home on psychological safety beyond the COVID-19 pandemic. In particular, there would be value in a comparative study to examine the differences in perceived psychological safety between working from home and on-site workers in non-pandemic contexts, using validated comparison groups.

Beyond these general recommendations, below are suggestions for further research to examine organizational practices that focus on lessening the impact of psychosocial stressors and leadership adoption of new workplace norms to influence and strengthen psychological safety within their organizations.

Organizational Practice #1- Focus on improving the psychosocial climate

Despite the unclear findings related to the effects of work-from-home on psychological safety, a relationship was found between the psychosocial impact of COVID-related restrictions and psychological safety. Although causality was not established, increased perception of negative psychosocial impact was positively associated with lower perceived psychological safety, as well as an increased decline in psychological safety when compared to pre-pandemic levels.

Despite the fact that external psychosocial factors are largely outside the control of the employer, the association may suggest that given the changing work environment's adoption of work-from-home and organizations' adoption of novel workplace practices, improving employer support for employees as they adapt to the new normal could help to insulate employees experiencing increased levels of perceived psychosocial impact from economic and social factors, such as the pandemic. Given that the pandemic has changed management and supervision practices; manager education on psychosocial factors and the possible relationship to employees' well-being may help supervisors and managers adapt to the changing work context.

Also, based on the findings in this study, organizations should consider implementing measures to help mitigate the adverse psychosocial effects of events, such as the pandemic, as psychosocial factors are linked to individuals' psychological safety, well-being, and productivity. It is recommended that organizations focus on interventions and support systems that address the

psychosocial impact of factors related to the pandemic (and other external events) that is outside of the organization's control but may significantly impact employees' well-being and productivity.

In times of uncertainty and stress, clear communication and transparency are crucial As organizations continue to deal with the COVID-19 virus and transition into an endemic state, it is essential to improve communication channels so that people receive regular updates and honest information about the situation and related measures (COVID-19 Leadership, 2020). Communicating clearly and accurately may also help ease anxiety and uncertainty to lessen the psychosocial impact and may warrant further study.

Additionally, it is recommended that organizations undertake an assessment to evaluate the efficacy of promoting flexibility and work-life balance or healthy work-life integration to help individuals navigate the psychosocial challenges associated with COVID-19. These measures may include flexible work arrangements and policies accommodating individuals' diverse needs and circumstances. Examples include remote work options, flexible working hours, and support for caregiving responsibilities. By promoting work-life balance, organizations may be able to help individuals navigate the psychosocial challenges associated with COVID-19.

Organizational Practice #2 - Leadership Adoption of New Workplace Norms

The findings from this study revealed a negative association between the length of time an employee worked under a particular leader on their perceived change in psychological safety from the pre-COVID period. It is crucial to acknowledge the impact of COVID-19 health anxiety on workers' job, family, and health outcomes. Employers may benefit from providing support and tools to assist employees in managing their anxiety and coping with pandemic stress. Clear communication and transparency are vital in times of uncertainty and stress (APA, 2020).

As organizations continue navigating the ongoing COVID-19 situation and transition into an endemic state, it becomes essential for leaders to ensure effective communication channels. Regular updates and honest information about the situation and related measures should be provided to employees. This clear and accurate communication can help alleviate anxiety and uncertainty, thereby mitigating the psychosocial impact.

This study finds a relationship between psychosocial stressors and employees' perception of psychological safety consistent with the existing literature that shows psychosocial stressors can impact the employees in the workplace (Rogowska, et al. 2022; Lange & Kayser, 2022; Oshio, et al. 2017).

Although technology and its influence on perceived psychological safety were not examined in this study, it is important to consider the impact of technology and remote monitoring on perceived psychological safety. The shift from face-to-face communication to increased use of technologically mediated communication brought on by the pandemic may increase psychological stressors and adversely affect workers' psychological safety, which supports learning and adoption of new technologies and thriving in an ever-evolving digital workplace (Coetzee, 2019). Employers should assess the potential impact of measuring work performance based solely on physical attendance and instead focus on measuring work output. Setting reasonable parameters for performance measurement and leveraging employees' desire for autonomy can enhance the remote work experience and reduce stress. Employers should also consider the diverse circumstances of employees, such as parents, previous experience with remote work, and team configurations, as these factors can influence stress levels and well-being, which are likely reflected in the psychosocial impact. Implementing interventions and support to improve employees' psychosocial health can enhance psychological safety.

By adopting these recommendations, organizations can create a supportive remote work environment and promote psychological safety among employees.

Recommendations for Future Research

Based on findings on the overall perception of psychological safety of those working from home, and given the limitations inherent in this study, future research should test for causation and further investigate the long-term impact of working from home on perceived psychological safety. In particular, changes in psychological safety over an extended period for work-from-home and non-work-from-home control groups beyond the initial COVID-19 pandemic restrictions. In a Pew Research Center survey, workers said their employers require them to work in person a few days a week in a hybrid work design (Pew Research Center, 2023). As organizations are exploring hybrid work design, future research could explore the perception of psychological safety within this context. Further research could also delve into how workplace factors, such as autonomy, social support, and job demands, impact the psychological safety of individuals.

To better understand how to create a healthy and safe work environment for remote and hybrid workers, it would be valuable to investigate how organizational culture and climate affect psychological safety. While this study examined the association between psychological safety and a composite psychosocial impact, there is also potential value in breaking down psychosocial impact into specific components. By studying the impact of factors such as trust, collaboration, economic factors, and social support, employers could identify ways to promote employee well-being and potentially positive psychosocial outcomes.

Additionally, further research can explore how leadership promotes psychological safety in modified work environments, including full or part-time remote and hybrid work. There may

be particular value in exploring the possible effects of various leadership styles, communication strategies, and support mechanisms on employees' sense of belonging and psychological safety. To advance our understanding of the changing work landscape brought about by the pandemic and the stressors that may come with it, future research should focus on investigating the potential benefits of educating managers on psychosocial factors and their influence on employees' well-being. This research could delve into areas such as enhancing managers' knowledge of mental health awareness, stress management techniques, and fostering a supportive work environment. Organizations can empower leaders to effectively address psychosocial challenges and create a more secure and conducive workplace for their employees by equipping leaders with the necessary knowledge and skills. This avenue of research has the potential to contribute valuable insights and guidance for adapting management and supervision practices in response to evolving work contexts.

Closing Comments

In this study, those who perceived that the COVID-19 restrictions had a little or moderate psychosocial impact on them were more likely to feel psychologically safe at work than those who perceived that COVID restrictions had a considerable impact on their lives. A clear takeaway is that external factors not under the control of the employer may influence or interact with employees’ perceptions of psychological safety experienced in the workplace.

As the global populace settles into an endemic state of living with COVID-19 and given the impact on an individual's mental and physical health and psychosocial stress factors, better understanding some of the specific external factors and establishing causality can ultimately help employers identify ways to mitigate the pandemic’s (and other large-scale events’) impact on their employees.

REFERENCES

Abril, D., & Harwell, D. (2021, September 24). *Keystroke tracking, screenshots, and facial recognition: The boss may be watching long after the pandemic ends*. Washington Post. https://www.washingtonpost.com/technology/2021/09/24/remote-work-from-home-surveillance/.

Agarwal, R., Tripathi, A., Ahmed, I.K., Agarwal, M.L. (2022). Effect of increased screen time on eyes during COVID-19 pandemic. Journal of family medicine and primary care, 11(7):3642-3647. doi: 10.4103/jfmpc.jfmpc_2219_21

Al-Habaibeh, A., Watkins, M., Waried, K., & Javareshk, M. B. (2021). Challenges and opportunities of remotely working from home during Covid-19 pandemic. *Global Transitions, 3*, 99-108. https://doi.org/10.1016/j.glt.2021.11.001

Allen, T. D., Golden, T. D., & Shockley, K. M. (2015). How Effective Is Telecommuting? Assessing the Status of Our Scientific Findings. *Psychological Science in the Public Interest*. https://doi.org/10.1177/1529100615593273

Amon, J. & Willie, C. (2021). *Another Covid-19 Threat: Health Care Workers Under Attack*. (2021). Inter Press Service. http://www.ipsnews.net/2021/03/another-covid-19-threat-health-care-workers-attack/

Anderson, N., Potocnik, K., & Zhou, J. (2014). Innovation and creativity in organizations: a state-of-the-science review, prospective commentary, and guiding framework. *Journal of Management, 40*(5), 1297–1333. https://doi.org/10.1177/0149206314527128

Andersson, M., Moen, O., & Brett, P. O. (2020). The organizational climate for psychological safety: Associations with SMEs' innovation capabilities and innovation

performance. *Journal of Engineering and Technology Management, 55*, 101554. https://doi.org/10.1016/j.jengtecman.2020.101554

American Psychological Association (APA). (2020, March 20). *How leaders can maximize trust and minimize stress during the COVID-19 pandemic.* https://www.apa.org/news/apa/2020/covid-19-leadership

American Psychological Association (APA). (2023, November) *Stress in America, A nation recovering from collective trauma* [Press release]. https://www.fda.gov/news-events/press-announcements/fda-approves-first-contact-lens-indicated-slow-progression-nearsightedness-children

Argyris, C. (1976). Single-loop and double-loop models in research on decision making. *Administrative Science Quarterly, 21*(3), 363–375.

Argyris, C. (1977). Double loop learning in organizations. *Harvard Business Review, 55*(5), 115-125.

Awada, M., Lucas, G., Becerik-Gerber, B., & Roll, S. (2021). Working from home during the covid-19 pandemic: Impact on office worker productivity and work experience. *Work (Reading, Mass.), 69(4),* 1171–1189. https://doi.org/10.3233/WOR-210301

Barone Gibbs, B., Kline, C. E., Huber, K. A., Paley, J. L., & Perera, S. (2021). Covid-19 shelter-at-home and work, lifestyle and well-being in desk workers. *Occupational medicine (Oxford, England), 71*(2), 86–94. https://doi.org/10.1093/occmed/kqab011

Barrero, J. M., Bloom, N., & Davis, S. J. (2020a). 60 Million Fewer Commuting Hours Per Day: How Americans Use Time Saved by Working from Home. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3695188

Barrero, J., Bloom, N., & Davis, S. (2020b). Why Working From Home Will Stick. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3741644

Behrens, K., Kichko, S., Thisbe, J-F., (2021). Working from Home: Too Much of a Good Thing? (2021). CESifo Working Paper No. 8831 http://dx.doi.org/10.2139/ssrn.3768910

Bennett, N., & Lemoine, G. J. (2014). What a difference a word makes: Understanding threats to performance in a VUCA world. *Business Horizons*, *57*(3), 311-317.

Billings, J., Ching, B., Gkofa, V., Greene, T., & Bloomfield, M. (2021). Experiences of frontline healthcare workers and their views about support during COVID-19 and previous pandemics: A systematic review and qualitative meta-synthesis. *BMC Health Services Research*, *21*(1). https://doi.org/10.1186/s12913-021-06917-z

Bloom, N., Davis, S. J., & Zhestkova, Y. (2021). COVID-19 Shifted Patent Applications toward Technologies That Support Working from Home. *AEA Papers and Proceedings*, *111*, 263–266. https://doi.org/10.1257/pandp.20211057

Bloom, N. (2022). *The Great Resistance: Getting employees back to the office* [Policy brief]. Stanford Institute for Economic Policy Research (SIEPR) https://siepr.stanford.edu/publications/work/great-resistance-getting-employees-back-office

Bolisani, E., Fedeli, M., Bierema, L., & De Marchi, V. (2021). United we adapt: Communities of practice to face the Corona Virus crisis in higher education. *Knowledge Management Research & Practice*, *19*(4), 454-458.

Bradley, B. H., Postlethwaite, B. E., Klotz, A. C., Hamdani, M. R., & Brown, K. G. (2012). Reaping the benefits of task conflict in teams: the critical role of team psychological safety climate. *Journal of Applied Psychology*, *97*(1), 151.

Brooks, S. K., Webster, R. K., Smith, L. E., Woodland, L., Wessely, S., Greenberg, N., & Rubin, G. (2020). The psychological impact of quarantine and how to reduce it: rapid review of the evidence. *The Lancet, 395*(10227), 912-920. doi: 10.1016/s0140-6736(20)30460-8

Brown, J.S. & Duguid, P. (1991). Organizational learning and communities-of-practice: toward a unified view of working, learning and innovation. *Organization Science, 2*(1), 40-57.

Brown, J. S. & Duguid, P. (1998). Organizing knowledge. California Management Review,40(3), 90-111.

Burrell, E., & Brauner, E. (2021). Knowing and sharing: transactive knowledge systems and psychological safety. *Organisationsberatung, Supervision, Coaching, 28*(3), 303–317. https://doi.org/10.1007/s11613-021-00722-7

Brynjolfsson, E., Horton, J., Ozimek, A., Rock, D., Sharma, G., & TuYe, H.-Y. (2020). *COVID-19 and Remote Work: An Early Look at US Data*. https://doi.org/10.3386/w27344

Cambridge Dictionary (n.d.-a). Knowledge Worker. In *Cambridge.org dictionary.* Retrieved March 21, 2021, from https://dictionary.cambridge.org/us/dictionary/english/knowledge-worker.

Cambridge Dictionary (n.d.-b). Remote Working. In *Cambridge.org dictionary.* Retrieved April 12, 2021, from https://dictionary.cambridge.org/us/dictionary/english/remote-working.

Canady, V. A. (2020). APA stress report amid COVID-19 points to parental challenges. *Mental Health Weekly*, *30*(22), 3-4.

Cannon, M. D., & Edmondson, A. C. (2001). Confronting failure: Antecedents and consequences of shared beliefs about failure in organizational work groups. *Journal of Organizational Behavior: The International Journal of Industrial, Occupational and Organizational Psychology and Behavior*, *22*(2), 161-177.

Carmeli, A., Brueller, D., & Dutton, J. E. (2009). Learning behaviours in the workplace: The role of high-quality interpersonal relationships and psychological safety. *Systems Research and Behavioral Science: The Official Journal of the International Federation for Systems Research*, *26*(1), 81-98.

Carmeli, A., & Gittell, J. H. (2009). High-quality relationships, psychological safety, and learning from failures in work organizations. *Journal of Organizational Behavior*, *30*(6), 709–729. JSTOR. https://www.jstor.org/stable/41683863

Carmeli, A., Reiter-Palmon, R., & Ziv, E. (2010). Inclusive Leadership and Employee Involvement in Creative Tasks in the Workplace: The Mediating Role of Psychological Safety. *Creativity Research Journal*, *22*(3), 250–260. https://doi.org/10.1080/10400419.2010.504654

Carmody, C.C., Duffy, S., Brown, L.J., & Fabbro, L.D. (2020). Preparing for work-integrated learning during COVID-19: How a new virtual orientation tool facilitated access for all. International Journal of Work-Integrated Learning, *21*(5), 545-557. https://eric.ed.gov/?id=EJ1271576

Chanana, N. (2020). Employee engagement practices during COVID-19 lockdown. *Journal of Public Affairs*, e2508. https://doi.org/10.1002/pa.2508

Cheng, J., Chang, S. C., Kuo, J. H., & Lu, K. M. (2014). Social relations and voice behavior: The mediating role of psychological safety. *criticism*, *32*, 58.

Cheng, J. W., Lu, K. M., Cheung, Y. H., & Kuo, J. H. (2013). Psychological safety serves as mediator between person-group fit and voice behaviour. *International Journal of Management and Enterprise Development*, *12*(4-6), 296-309.

Chiaburu, D. S., Lorinkova, N. M., and Van Dyne, L. (2013). Employees' social context and change-oriented citizenship: a meta-analysis of leader, coworker, and organizational influences. *Group Organ. Manage.* 38, 291–333. https://doi: 10.1177/1059601113476736

Chigwedere, O., Sadath, A., Kabir, Z., & Arensman, E. (2021). The Impact of Epidemics and Pandemics on the Mental Health of Healthcare Workers: A Systematic Review. *International Journal Of Environmental Research And Public Health*, *18*(13), 6695. https://doi/10.3390/ijerph18136695

Chigwedere, O. C., Sadath, A., Kabir, Z., & Arensman, E. (2021). The Impact of Epidemics and Pandemics on the Mental Health of Healthcare Workers: A Systematic Review. International journal of environmental research and public health, 18(13), 6695. https://doi.org/10.3390/ijerph18136695

Chopra, K. K., & Arora, V. K. (2020). Covid-19 and social stigma: Role of scientific community. *Indian journal of tuberculosis, 67*(3), 284-285. https://doi: 10.1016/j.ijtb.2020.07.012

Clinton, J., Cohen, J., Lapinski, J., & Trussler, M. (2020). Partisan pandemic: How partisanship and public health concerns affect individuals' social mobility during COVID-19. *Scienc Advances, 7*(2), eabd7204. https://doi.org/10.1126/sciadv.abd720

Cohen, A. (2021, May 10) How to Quit Your Job in the Great Post-Pandemic Resignation Boom. Bloomberg Businessweek. https://www.bloomberg.com/news/articles/2021-05-10/quit your-job-how-to-resign-after-covid-pandemic

Cohen, W. M., & Levinthal, D. A. (1990). Absorptive capacity: A new perspective on learning and innovation. *Administrative science quarterly*, 128-152.

Coetzee, M. (2019) Organisational Climate Conditions of Psychological Safety as Thriving Mechanism in Digital Workspaces. In: Coetzee, M. (eds) Thriving in Digital Workspaces. Springer, Cham. https://doi.org/10.1007/978-3-030-24463-7_16

Comeau, Z. (2020, July). *IBM: 61% Want Permanent Remote Work - My TechDecisions*. My TechDecisions. https://mytechdecisions.com/facility/ibm-61-want-permanent-remote-work/

Connin, K. (2020, May 14*). Indiana 7-Eleven clerk attacked in face mask dispute.* WBMA. https://abc3340.com/news/nation-world/indiana-7-eleven-clerk-attacked-in-face-mask-dispute

Cortada, J. W. (1998). *Rise of the Knowledge Worker* (1st ed.). United Kingdom: Taylor & Francis Group. https://doi.org/10.4324/9780080573014

Creswell, J. W. (2014). *Research Design: Qualitative, Quantitative and Mixed Methods Approaches* (4th ed.).

Crocamo, C., Bachi, B., Calabrese, A., Callovini, T., Cavaleri, D., Cioni, R. M., Moretti, F., Bartoli, F., & Carrà, G. (2021). (2021). Some of us are most at risk: Systematic review and meta-analysis of correlates of depressive symptoms among healthcare workers during the SARS-CoV-2 outbreak. *Neuroscience & Biobehavioral Reviews*, *131*, 912-922. doi: 10.1016/j.neubiorev.2021.10.010

Daulay, S. F., & Mustika, M. D. (2021). Working from Home during the COVID-19 Pandemic: What is the Impact on Employees' Psychological Meaningfulness, Safety and Availability?. *Humaniora*, *12*(3).

Davenport, T. H. (2005). *Thinking for a living: how to get better performances and results from knowledge workers.* Harvard Business Press.

Delgado, J., Siow, S., de Groot, J., McLane, B., & Hedlin, M. (2021). Towards collective moral resilience: the potential of communities of practice during the COVID-19 pandemic and beyond. *Journal of Medical Ethics*, *47*(6), 374-382.

Deloitte Insights (2021, February 10). *Designing adaptive workplaces.* https://www2.deloitte.com/xe/en/insights/industry/public-sector/designing-for-adaptive-work-in-the-public-sector.html

de Vries, R., van den Hooff, B., & de Ridder, J. (2006). Explaining knowledge sharing. *Communication Research*, *33*(2), 115–135.

Devaraj, L., Cooper, C., & Begin, A. (2020). Creating Psychological Safety on Medical Teams in Times of Crisis. *Journal Of Hospital Medicine*, *16*(1), 47-49. doi: 10.12788/jhm.3541

Dollard, M. F., & Bailey, T. (2021). Building psychosocial safety climate in turbulent times: The case of COVID-19. Journal of Applied Psychology, 106(7), 951–964. https://doi.org/10.1037/apl0000939

Dollard, M. F., & Bakker, A. B. (2010). Psychosocial safety climate as a precursor to conducive work environments, psychological health problems, and employee engagement. *Journal of Occupational and Organizational Psychology*, *83*(3), 579-599.

Di Fusco, S. A., Spinelli, A., Castello, L., Mocini, E., Gulizia, M. M., Oliva, F., Gabrielli, D., Imperoli, G., & Colivicchi, F. (2021). Impact of Working from Home on Cardiovascular Health: An Emerging Issue with the COVID-19 Pandemic. *International journal of environmental research and public health*, *18*(22), 11882. https://doi.org/10.3390/ijerph182211882

Dubey, S., Biswas, P., Ghosh, R., Chatterjee, S., Dubey, M. J., Chatterjee, S., ... & Lavie, C. J. (2020). Psychosocial impact of COVID-19. *Diabetes & Metabolic Syndrome: Clinical Research & Reviews, 14*(5), 779-788.

Duhigg, C. (2016). New research reveals surprising truths about why some work groups thrive *and others falter*. https://centre.upeace.org/wp-content/uploads/2020/09/7.1-what-google-learnt.pdf

Eberly, J. C., Haskel, J., & Mizen, P. (2021). *" Potential Capital", Working From Home, and Economic Resilience* (No. w29431). National Bureau of Economic Research.

Edmondson, A. C. (1996). Learning from Mistakes is Easier Said Than Done: Group and Organizational Influences on the Detection and Correction of Human Error. *The Journal of Applied Behavioral Science, 32*(1), 5–28. https://doi.org/10.1177/0021886396321001

Edmondson, A. (1999a). Psychological safety and learning behavior in work teams. *Administrative Science Quarterly, 44*(2), 350–383

Edmondson, A. (1999b). A safe harbor: Social psychological conditions enabling boundary spanning in work teams. *Research on Managing Groups and Teams, 2*, 179-199.

Edmondson, A. C. (2002). Managing the risk of learning: Psychological safety in work teams (pp. 255-275). Division of Research, Harvard Business School.

Edmondson, A. C. (2004). Psychological Safety, Trust, and Learning in Organizations: A Group-Level Lens. In R. M. Kramer & K. S. Cook (Eds.), *Trust and distrust in organizations: Dilemmas and approaches* (pp. 239–272). Russell Sage Foundation.

Edmondson, A. C. (2012). Teaming: how organizations learn, innovate, and compete in the knowledge economy. Jossey-Bass.

Edmondson, A. C. (2019). *The fearless organization*. John Wiley & Sons.

Edmondson, A. & Lei, Z. (2014). Psychological Safety: The History, Renaissance, and Future of an Interpersonal Construct. *Annual Review of Organizational Psychology and Organizational Behavior. 1.* 23-43. https://doi.org/10.1146/annurev-orgpsych-031413-091305

El-Hage, W., Hingray, C., Lemogne, C., Yrondi, A., Brunault, P., Bienvenu, T., Etain, B., Paquet, C., Gohier, B., Bennabi, D., Birmes, P., Sauvaget, A., Fakra, E., Prieto, N., Bulteau, S., Vidailhet, P., Camus, V., Leboyer, M., Krebs, M. O., & Aouizerate, B. (2020). Les professionnels de santé face à la pandémie de la maladie à coronavirus (COVID-19) : quels risques pour leur santé mentale ? [Health professionals facing the coronavirus disease 2019 (COVID-19) pandemic: What are the mental health risks?]. *L'Encephale*, *46*(3S), S73–S80. https://doi.org/10.1016/j.encep.2020.04.008

Emmett, J., Schrah, G., Schrimper, M., & Wood, A. (2020, June 29). *COVID-19 and the employee experience: How leaders can seize the moment.* McKinsey & Company; McKinsey & Company. https://www.mckinsey.com/business-functions/organization/our-insights/covid-19-and-the-employee-experience-how-leaders-can-seize-the-moment

Erkutlu, H., & Chafra, J. (2015). The mediating roles of psychological safety and employee voice on the relationship between conflict management styles and organizational identification. *American Journal of Business*.

Faria-e-Castro, M. (2021). The COVID Retirement Boom. *Economic Synopses*, (25), 1-2.

Fauville, G., Luo, M., Queiroz, A. C. M., Bailenson, J. N., & Hancock, J. (2021). Zoom Exhaustion & Fatigue Scale. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3786329

Fox, M. (2020, July 28). *Remote work burnout is growing as pandemic stretches on. Here's how to manage it*. CNBC. Retrieved December 12, 2021, from https://www.cnbc.com/2020/07/28/remote-work-burnout-is-growing-as-coronavirus-pandemic-stretches-on.html.

Frazier, M. L., Fainshmidt, S., Klinger, R. L., Pezeshkan, A., & Vracheva, V. (2017). Psychological safety: A meta-analytic review and extension. *Personnel Psychology, 70*(1), 113-165. https://doi.org/10.1111/peps.12183

Franz, N. (2010). Catalyzing employee change with transformative learning. *Human Resource Development Quarterly, 21*(1), 113–118.

Fukumura, Y. E., Schott, J. M., Lucas, G. M., Becerik-Gerber, B., & Roll, S. C. (2021). Negotiating Time and Space When Working From Home: Experiences During COVID-19. *OTJR : occupation, participation and health*, *41*(4), 223–231. https://doi.org/10.1177/15394492211033830

Galanti, T., Guidetti, G., Mazzei, E., Zappalà, S., & Toscano, F. (2021). Work From Home During the COVID-19 Outbreak: The Impact on Employees' Remote Work Productivity, Engagement, and Stress. *Journal of occupational and environmental medicine*, *63*(7), e426–e432. https://doi.org/10.1097/JOM.0000000000002236

Gajendran, R. S., & Harrison, D. A. (2007). The good, the bad, and the unknown about telecommuting: meta-analysis of psychological mediators and individual consequences. *The Journal of applied psychology*, *92*(6), 1524–1541. https://doi.org/10.1037/0021-9010.92.6.1524

Ge, Y. (2020). Psychological safety, employee voice, and work engagement. *Social Behavior and Personality: an international journal*, *48*(3), 1-7.

Giessner, S.R., Dawson, J.F., Horton, K.E., & West, M. (2022). The impact of supportive leadership on employee outcomes during organizational mergers: An organizational-level field study. *The Journal of applied psychology*. https://doi.org/10.1037/apl0001042

Giorgi, G., Lecca, L. I., Alessio, F., Finstad, G. L., Bondanini, G., Lulli, L. G., Arcangeli, G., & Mucci, N. (2020). COVID-19-Related Mental Health Effects in the Workplace: A Narrative Review. *International journal of environmental research and public health*, *17*(21), 7857. https://doi.org/10.3390/ijerph17217857

Gjersing, L., Caplehorn, J. R., & Clausen, T. (2010). Cross-cultural adaptation of research instruments: language, setting, time and statistical considerations. *BMC medical research methodology*, *10*, 13. https://doi.org/10.1186/1471-2288-10-13

Global Workplace Analytics. (2020, April 12). *Work-at-Home After Covid-19—Our Forecast – Global Workplace Analytics*. Global Workplace Analytics. https://globalworkplaceanalytics.com/work-at-home-after-covid-19-our-forecast

Gofus, A. E. (2021, October 7). *Workers Demand Long-Term Remote Work Options*. Worldwide ERC. Retrieved January 22, 2022, from https://www.worldwideerc.org/news/global-workforce/workers-demand-long-term-remote-work-options.

Gong, B., & Sims, R. L. (2023). Psychological contract breach during the pandemic: How an abrupt transition to a work from home schedule impacted the employment relationship. *Journal of business research*, *154*, 113259. https://doi.org/10.1016/j.jbusres.2022.08.023

Google Trends (n.d.). *Psychological Safety*. Retrieved June 18, 2023, from https://trends.google.com/trends/explore?date=2019-01-06%202023-06-18&q=Your%20search%20term

Gonsalves, G., & Yamey, G. (2020). Political interference in public health science during covid 19. *BMJ,* m3878. https://doi.org/10.1136/bmj.m3878

Stanford University. (2020, April 16). *The productivity pitfalls of working from home in the age of COVID-19.* Stanford News. https://news.stanford.edu/2020/03/30/productivity-pitfalls-working-home-age-covid-19/

Greene, T., Harju-Seppänen, J., Adeniji, M., Steel, C., Grey, N., Brewin, C. R., Bloomfield, M. A., & Billings, J. (2021). Predictors and rates of PTSD, depression and anxiety in UK frontline health and social care workers during COVID-19. *European journal of psychotraumatology, 12*(1), 1882781. https://doi.org/10.1080/20008198.2021.1882781

Gutknecht, J., & Keys, J.B. (1993). Mergers, acquisitions and takeovers: maintaining morale of survivors and protecting employees. Academy of Management Perspectives, 7, 26-36. https://doi.org/10.5465/AME.1993.9411302344

Hahn, S. E. (2000). The effects of locus of control on daily exposure, coping and reactivity to work interpersonal stressors: a diary study. *Personality and individual differences, 29*(4), 729-748.

Haleem, A., Javaid, M., & Vaishya, R. (2020). Effects of COVID-19 pandemic in daily life. *Current medicine research and practice, 10*(2), 78.

Harrell, T. (2020). *Do we all agree? A mixed-methods study of the impact of climate strength on psychological safety, team learning, and team performance* [Doctoral Dissertations, University of San Diego]. Digital USD. https://doi.org/10.22371/05.2020.001

Haucke, M., Golde, S., Saft, S., Hellweg, R., Liu, S., & Heinzel, S. (2022). The effects of momentary loneliness and COVID-19 stressors on hypothalamic-pituitary adrenal (HPA) axis functioning: A lockdown stage changes the association between loneliness and

salivary cortisol. *Psychoneuroendocrinology, 145,* 105894. https://doi.org/10.1016/j.psyneuen.2022.105894

Hawkley, L. C., & Cacioppo, J. T. (2003). Loneliness and pathways to disease. *Brain, behavior, and immunity, 17 Suppl 1,* S98–S105. https://doi.org/10.1016/s0889-1591(02)00073-9

Health workers once saluted as heroes now get threats. (2021, September 29). PBS News Hour.https://www.pbs.org/newshour/nation/health-workers-once-saluted-as-heroes-now-get-threats

Hebles, M., Trincado-Munoz, F., & Ortega, K. (2022). Stress and turnover intentions within healthcare teams: The mediating role of psychological safety, and the moderating effect of COVID-19 worry and supervisor support. *Frontiers in Psychology, 12,* Article 758438. https://doi.org/10.3389/fpsyg.2021.758438

Hien, L.M., & Van, P. T. T. (2023). The Influence of Transparent Internal Communication on Employees' Adaptation to Firm Changes in the Context of the Covid-19 Pandemic. Journal of economics, finance and management studies, doi: 10.47191/jefms/v6-i2-33

Hirak, R., Peng, A. C., Carmeli, A., & Schaubroeck, J. M. (2012). Linking leader inclusiveness to work unit performance: The importance of psychological safety and learning from failures. *The Leadership Quarterly, 23*(1), 107-117.

Hooijberg, R. & Watkins, M. D. (2021, January 4). *When Do We Really Need Face-to-Face Interactions?* Harvard Business Review. Retrieved January 23, 2021, from https://hbr.org/2021/01/when-do-we-really-need-face-to-face-interactions.

Holmes, E. A., O'Connor, R. C., Perry, V. H., Tracey, I., Wessely, S., Arseneault, L., Ballard, C., Christensen, H., Cohen Silver, R., Everall, I., Ford, T., John, A., Kabir, T., King, K., Madan, I., Michie, S., Przybylski, A. K., Shafran, R., Sweeney, A., Worthman, C. M., …

Bullmore, E. (2020). Multidisciplinary research priorities for the COVID-19 pandemic: a call for action for mental health science. *The lancet. Psychiatry*, *7*(6), 547–560. https://doi.org/10.1016/S2215-0366(20)30168-1

Hybrid Work: definition, tips & strategies. (n.d.). Qualtrics. Retrieved April 13, 2022, from https://www.qualtrics.com/experience-management/employee/hybrid-work/#:%7E:text=Hybrid%20work%20is%20a%20flexible,home%20or%20from%20another%20workspace.

IBM Institute for Business Value. (2022, March). *COVID-19 and the future of business*. https://www.ibm.com/thought-leadership/institute-business-value/report/covid-19-future-business

Ipsen, C., Veldhoven, M. V., Kirchner, K., & Hansen, J. P. (2021). Six Key Advantages and Disadvantages of Working from Home in Europe during COVID-19. *International Journal of Environmental Research and Public Health*, *18*(4). https://doi.org/10.3390/ijerph18041826

Irai, P., Cheng, A., Chieh Lu, A. C. (2018). Exploring the relationship among psychological safety, knowledge sharing, and innovation. *Journal of Administrative and Business Studies*, *4*(3), 126-135.

Intellectus Statistics. (2019). Intellectus Statistics [Online computer software]. Retrieved from http://analyze.intellectusstatistics.com

Javed, B., Naqvi, S., Khan, A., Arjoon, S., & Tayyeb, H. (2019). Impact of inclusive leadership on innovative work behavior: The role of psychological safety. *Journal of Management & Organization*, *25*(1), 117-136. doi:10.1017/jmo.2017.3

Kahn, W. A. (1990). Psychological Conditions of Personal Engagement and Disengagement at Work. The Academy of Management Journal, 33(4), 692–724. JSTOR. https://doi.org/10.2307/256287

Kaetzler, B., Kordestani, K., O'Loughlin, E., & Van Oostende, M. (2019, December 5). *Managing and supporting employees through cultural change in mergers*. McKinsey & Company. https://www.mckinsey.com/capabilities/people-and-organizational-performance/our-insights/managing-and-supporting-employees-through-cultural-change-in-mergers

Kantamara, P., & Ractham, V. (2014). Single-loop vs. double-loop learning: an obstacle or a success factor for organizational learning. *International Journal of Education and Research*, *2*(7), 55-62.

Kantor, J., & Sundaram, A. (2022, August 14). The Rise of the worker productivity score. The New York Times. Retrieved from https://www.nytimes.com/interactive/2022/08/14/business/worker-productivity-tracking.html

Karani, A., Trivedi, P., & Thanki, H. (2021). Psychological contract and work outcomes during COVID-19 pandemic. Journal of Organizational Effectiveness People and Performance, ahead-of-print. DOI: 10.1108/JOEPP-09-2020-0186

Karimi, R., & Alipour, F. (2011). Reduce job stress in organizations: Role of locus of control. International journal of business and social science, 2(18), 232-236.

Kaufman, S. B. (2020, May 19). *Forced Social Isolation Causes Neural Craving Similar to Hunger*. Scientific American Blog Network. Retrieved January 8, 2022, from

https://blogs.scientificamerican.com/beautiful-minds/forced-social-isolation-causes-neural-craving-similar-to-hunger/.

Kelloway, E. K., & Barling, J. (2000). Knowledge work as organizational behavior. International journal of management reviews, 2(3), 287-304.

Kerman, K., Korunka, C., & Tement, S. (2021). Work and home boundary violations during the COVID-19 pandemic: The role of segmentation preferences and unfinished tasks. *Applied Psychology*. doi: 10.1111/apps.12335

Keshet, Y. (2020). Fear of panoptic surveillance: using digital technology to control the COVID-19 epidemic. *Israel Journal of Health Policy Research*, *9*(1). https://doi.org/10.1186/s13584 020-00429-7

Kessel, M., Kratzer, J., & Schultz, C. (2012). Psychological safety, knowledge sharing, and creative performance in healthcare teams. Creativity and Innovation Management, 21(2), 147–157. https://doi.org/10.1111/j.1467-8691.2012.00635.x

Kessler, S. (2017, March 21). *IBM is ending its decades-old remote work policy*. Quartz; Quartz. https://qz.com/924167/ibm-remote-work-pioneer-is-calling-thousands-of-employees-back-to-the-office/

Kitagawa, R., Kuroda, S., Okudaira, H., & Owan, H. (2021). Working from home and productivity under the COVID-19 pandemic: Using survey data of four manufacturing firms. *PLOS ONE, 16*(12), e0261761. https://doi.org/10.1371/journal.pone.0261761

Kim, S., Lee, H., & Connerton, T. P. (2020). How Psychological Safety Affects Team Performance: Mediating Role of Efficacy and Learning Behavior. *Frontiers in Psychology, 11*, 527909. https://doi.org/10.3389/fpsyg.2020.01581

Kniffin, K. M., Narayanan, J., Anseel, F., Antonakis, J., Ashford, S. P., Bakker, A. B., Bamberger, P., Bapuji, H., Bhave, D. P., Choi, V. K., Creary, S. J., Demerouti, E., Flynn, F. J., Gelfand, M. J., Greer, L. L., Johns, G., Kesebir, S., Klein, P. G., Lee, S. Y., . . . Vugt, M. v. (2021). COVID-19 and the workplace: Implications, issues, and insights for future research and action. *American Psychologist, 76*(1), 63–77. https://doi.org/10.1037/amp0000716

Koontalay, A., Suksatan, W., Prabsangob, K., & Sadang, J. (2021). Healthcare Workers' Burdens During the COVID-19 Pandemic: A Qualitative Systematic Review. *Journal Of Multidisciplinary Healthcare, 14*, 3015-3025. https:// doi.org/10.2147/jmdh.s330041

Kreiner, G. E. (2006). Consequences of Work-Home Segmentation or Integration: A Person-Environment Fit Perspective. *Journal of Organizational Behavior, 27*(4), 485–507. https://doi.org/10.1002/job.386

Kreiner, G. E., Hollensbe, E. C., & Sheep, M. L. (2009). Balancing borders and bridges: negotiating the work-home interface via boundary work tactics. *The Academy of Management Journal, 52*(4), 704–730.

Krishnan, V., Gupta, R., Grover, S., Basu, A., Tripathi, A., & Subramanyam, A. et al. (2020). Changes in sleep pattern and sleep quality during COVID-19 lockdown. *Indian Journal Of Psychiatry*, *62*(4), 370. https://doi.org/10.4103/psychiatry.indianjpsychiatry_523_20

Kwon, C.-kyu, Han, S.-hyun, & Nicolaides, A. (2020). The impact of psychological safety on transformative learning in the workplace: a quantitative study. *Journal of Workplace Learning, 32*(7), 533–547. https://doi.org/10.1108/JWL-04-2020-0057

LaBarre, S. (2020, May 6). Third places define us. COVID-19 threatens to permanently upend *them*. Fast Company; Fast Company. https://www.fastcompany.com/90500609/third-places-define-us-covid-19-threatens-to-permanently-upend-them

Lange, M., & Kayser, I. (2022). The Role of Self-Efficacy, Work-Related Autonomy and Work-Family Conflict on Employee's Stress Level during Home-Based Remote Work in Germany. *International journal of environmental research and public health*, *19*(9), 4955. https://doi.org/10.3390/ijerph19094955

Lateef, F. (2020). Face to face with coronavirus disease 19: Maintaining motivation, psychological safety, and wellness. Journal Of Emergencies, Trauma, And Shock, 13(2), 116. doi: 10.4103/jets.jets_27_20

Lara, E., Caballero, F. F., Rico-Uribe, L. A., Olaya, B., Haro, J. M., Ayuso-Mateos, J. L., & Miret, M. (2019). Are loneliness and social isolation associated with cognitive decline?. *International journal of geriatric psychiatry*, *34*(11), 1613–1622. https://doi.org/10.1002/gps.5174

Lardieri, A. (2021). *Poll: Americans Like Working at Home*. US News & World Report; U.S. News & World Report. https://www.usnews.com/news/national-news/articles/2021-02-12/majority-of-americans-work-remotely-a-year-into-coronavirus-pandemic-poll-finds

Larkin, H. (2021). Navigating Attacks Against Health Care Workers in the COVID-19 Era. *JAMA*, *325*(18), 1822. doi: 10.1001/jama.2021.2701

Lave, J., & Wenger, E. (1991). Situated learning: Legitimate peripheral participation. Cambridge university press.

Lee, H. (2021), Changes in workplace practices during the COVID-19 pandemic: the roles of emotion, psychological safety and organisation support. *Journal of Organizational*

Effectiveness: People and Performance, 8(1), 97-128. https://doi.org/10.1108/JOEPP-06-2020-0104

Lee, J. (2020, November 17). A Neuropsychological Exploration of Zoom Fatigue. *Psychiatric Times*. https://www.psychiatrictimes.com/view/psychological-exploration-zoom-fatigue

LePine, J. A., & Van Dyne, L. (1998). Predicting voice behavior in work groups. *Journal of Applied Psychology, 83*(6), 853-868. https://doi.org/10.1037/0021-9010.83.6.853

Leonardi, P. (2021, January 27). Picking the Right Approach to Digital Collaboration. *MIT Sloan Management Review*. https://sloanreview.mit.edu/article/picking-the-right-approach-to-digital-collaboration/

Leroy, S., Schmidt, A. M., & Madjar, N. (2021). Working from home during COVID-19: A study of the interruption landscape. *Journal of Applied Psychology, 106*(10), 1448–1465. https://doi.org/10.1037/apl0000972

Li, D. K., & Abdelkader, R. (2020, February 5). *Coronavirus hate attack: Woman in face mask allegedly assaulted by man who calls her 'diseased'*. https://www.nbcnews.com/news/us-news/coronavirus-hate-attack-woman-face-mask allegedly-assaulted-man-who-n1130671

Liang, J., Farh, C. I., & Farh, J. L. (2012). Psychological antecedents of promotive and prohibitive voice: A two-wave examination. *Academy of Management journal*, *55*(1), 71-92.

Liu, W., Zhu, R., & Yang, Y. (2010). I warn you because I like you: Voice behavior, employee identifications, and transformational leadership. *The Leadership Quarterly*, *21*(1), 189-202. https://doi.org/10.1016/j.leaqua.2009.10.014

Liu, Y., & Keller, R. T. (2021). How Psychological Safety Impacts R&D Project Teams' Performance. *Research-Technology Management*, *64*(2), 39-45.

Lojeski, K. S., Reilly R., & Dominick P., (2006) "The Role of Virtual Distance in Innovation and Success," *Proceedings of the Annual Hawaii International Conference on System Sciences (vol. 1)*, pp. 25c-25c, https://doi.org/10.1109/HICSS.2006.484

Lojeski, K. S., & Reilly, R. R. (2020). *The power of virtual distance: A guide to productivity and happiness in the age of remote work*. John Wiley & Sons.

López-Moreno, M., López, M., Miguel, M., & Garcés-Rimón, M. (2020). Physical and Psychological Effects Related to Food Habits and Lifestyle Changes Derived from Covid-19 Home Confinement in the Spanish Population. *Nutrients*, *12*(11), 3445. https://doi.org/10.3390/nu12113445

Lund, S., Anu Madgavkar, Manyika, J., Smit, S., Kweilin Ellingrud, & Robinson, O. (2021, February 18). *The future of work after COVID-19*. McKinsey & Company; McKinsey & Company. https://www.mckinsey.com/featured-insights/future-of-work/the-future-of-work-after-covid-19

Manyika, J., Chui, M., Mehdi Miremadi, Bughin, J., George, K., Willmott, P., & Dewhurst, M. (2017, January 12). Harnessing automation for a future that works. McKinsey & Company; McKinsey & Company. https://www.mckinsey.com/featured-insights/digital-disruption/harnessing-automation-for-a-future-that-works

Mendonça, I., Coelho, F., Ferrajão, P., & Abreu, A. M. (2022). Telework and Mental Health during COVID-19. International journal of environmental research and public health, 19(5), 2602. https://doi.org/10.3390/ijerph19052602

McAlonan, G. M., Lee, A. M., Cheung, V., Cheung, C., Tsang, K. W., Sham, P. C., Chua, S. E., & Wong, J. G. (2007). Immediate and Sustained Psychological Impact of an Emerging

Infectious Disease Outbreak on Health Care Workers. The Canadian Journal of Psychiatry, 52(4), 241–247. https://doi.org/10.1177/070674370705200406

Michigan COVID-19 Tracker. (2020). Covidmapping.org. https://covidmapping.org/timeline.html

Miller, S. (2021, May 12). *Reopening Strategies Recognize Many Will Keep Working Remotely.* SHRM. https://www.shrm.org/resourcesandtools/hr-topics/benefits/pages/reopening-strategies-recognize-many-will-keep-working-remotely.aspx

Mills, J., Li, C., Fullerton, S., Chapman, M., Jap, J., Sinclair, C., ... & Campbell, E. (2020). Staying connected and informed: online resources and virtual communities of practice supporting palliative care during the novel coronavirus pandemic. *Progress in Palliative Care*, *28*(4), 251-253.

Minoura A, Ishimaru T, Kokaze A, Tabuchi T. Increased Work from Home and Low Back Pain among Japanese Desk Workers during the Coronavirus Disease 2019 Pandemic: A Cross-Sectional Study. *Int J Environ Res Public Health*. 2021;18(23):12363. Published 2021 Nov 24. doi:10.3390/ijerph182312363

Minoura, A., Ishimaru, T., Kokaze, A., & Tabuchi, T. (2021). Increased Work from Home and Low Back Pain among Japanese Desk Workers during the Coronavirus Disease 2019 Pandemic: A Cross-Sectional Study. *International journal of environmental research and public health*, *18*(23), 12363. https://doi.org/10.3390/ijerph182312363

Moretti, A., Menna, F., Aulicino, M., Paoletta, M., Liguori, S., & Iolascon, G. (2020). Characterization of Home Working Population during COVID-19 Emergency: A Cross-Sectional Analysis. *International journal of environmental research and public health*, *17*(17), 6284. https://doi.org/10.3390/ijerph17176284

Morrison, E. W. (2014). Employee Voice and Silence. *Annual Review of Organizational Psychology and Organizational Behavior, 1*(1), 173–197. https://doi.org/10.1146/ANNUREV-ORGPSYCH-031413-091328

Mun, S., Moon, Y., Kim, H., & Kim, N. (2022). Current discussions on employees and organizations during the COVID-19 pandemic: A systematic literature review. *Frontiers in psychology*, *13*, 848778.

Musser, G. (2009, August 17). The Origin of Cubicles and the Open-Plan Office. Scientific American. https://www.scientificamerican.com/article/the-origin-of-cubicles-an/

Musser, G. (2009, August 17). The Origin of Cubicles and the Open-Plan Office. *Scientific American.* https://www.scientificamerican.com/article/the-origin-of-cubicles-an/

Na-Nan, K., & Arunyaphum, A. (2021). Effect of employees' work engagement and knowledge sharing as mediators of empowering leadership and innovative work behaviour. *Industrial and Commercial Training*, *53*(4), 313–330. https://doi.org/10.1108/ICT-08-2020-0100

Naotunna, S., & Zhou, E. (2018). Autonomy and creativity of professional teleworkers: the mediating role of creative self-efficacy. *International Journal of Organizational Innovation (Online)*, *10*(3), 300-307.

Number Cruncher Statistical Systems (NCSS, 2023). NCSS Statistical Software [Online computer software]. Retrieved from ncss.com/software/ncss.

Neeley, T. (2021). *Remote Work Revolution: Succeeding from Anywhere*. Harper Business.

Negulescu, O. H., & Doval, E. (2021). Ergonomics and time management in remote working from home. *Acta Technica Napocensis-Series: Applied Mathematics, Mechanics, and Engineering*, *64*(1-S1).

Nembhard, I. M., & Edmondson, A. C. (2006). Making it safe: The effects of leader inclusiveness and professional status on psychological safety and improvement efforts in health care teams. *Journal of Organizational Behavior, 27*(7), 941–966. https://doi.org/10.1002/job.413

Nembhard, I. M., & Edmondson, A. C. (2012). Psychological safety: A foundation for speaking up, collaboration, and experimentation in organizations. In G. M. Spreitzer & K. S. Cameron (Eds.), *The Oxford Handbook of Positive Organizational Scholarship (Oxford Library of Psychology).* Oxford Academic. https://doi.org/10.1093/oxfordhb/9780199734610.013.0037

Newman, A., Donohue, R., & Eva, N. (2017). Psychological safety: A systematic review of the literature. Human Resource Management Review, 27(3), 521-535.Nilles, J. M.; Carlson,

Ng, Q. X., De Deyn, M., Loke, W., & Chan, H. W. (2020). A framework to deal with uncertainty in the age of COVID-19. *Asian journal of psychiatry*, *54*, 102263. https://doi.org/10.1016/j.ajp.2020.102263

Nielsen, T. (2020). The COVID-19 Pandemic Is Changing Our Dreams. *Scientific American*. https://doi.org/10.1038/scientificamerican1020-30

Organisation for Economic Co-operation and Development (OECD). (2020, September). OECD Policy Responses to Coronavirus (COVID-19) Productivity gains from teleworking in the post-COVID-19 era: How can public policies make it happen? https://www.oecd.org/coronavirus/policy-responses/productivity-gains-from-teleworking-in-the-post-covid-19-era-a5d52e99/

O'Donovan, R., & McAuliffe, E. (2020a). A systematic review of factors that enable psychological safety in healthcare teams. *International Journal for Quality In Health Care*, *32*(4), 240-250. https://doi.org/10.1093/intqhc/mzaa025

O'Donovan, R., & McAuliffe, E. (2020b). Exploring psychological safety in healthcare teams to inform the development of interventions: combining observational, survey and interview data. *BMC health services research*, *20*(1), 1-16. https://doi.org/10.1186/s12913-020-05646-z

O'Donovan, R., Van Dun, D. & McAuliffe, E. (2020). Measuring psychological safety in healthcare teams: developing an observational measure to complement survey methods. *BMC Med Res Methodol* 20**,** 203 https://doi.org/10.1186/s12874-020-01066-z

Oldenburg, R., (1999). The Great Good Place: cafes, coffee shops, bookstores, bars, hair salons and other hangouts at the heart of a community, Da Capo Press.

Orlando, T. (2020, July 6). McHenry Woman Arrested After Fight About Face Masks at Home Depot. NBC Chicago. https://www.nbcchicago.com/news/local/mchenry-woman-arrested-after-fight-about-facial-coverings-at-home-depot/2300635/

Oshio, T., Inoue, A., & Tsutsumi, A. (2017). Examining the mediating effect of work-to-family conflict on the associations between job stressors and employee psychological distress: a prospective cohort study. *BMJ open*, *7*(8), e015608. https://doi.org/10.1136/bmjopen-2016-015608

Palumbo, R. (2020). Let me go to the office! An investigation into the side effects of working from home on work-life balance. *International Journal of Public Sector Management, (33)*6/7, 771-790. https://doi.org/10.1108/IJPSM-06-2020-0150

Panchal, N., Kamal, R., Orgera, K., Cox, C., Garfield, R., Hamel, L., & Chidambaram, P. (2020). The implications of COVID-19 for mental health and substance use. *Kaiser family* foundation, 21.

Pandey, E. (2021, June 14). *Great resignation wave coming for companies*. Axios. https://www.axios.com/resignations-companies-e279fcfc-c8e7-4955-8a9b-7562490ee55.html

Parker, K., Horowitz, J. M., & Minkin, R. (2021, May 25). *How the Coronavirus Outbreak Has – and Hasn't – Changed the Way Americans Work*. Pew Research Center's Social & Demographic Trends Project. Retrieved December 8, 2021, from https://www.pewresearch.org/social-trends/2020/12/09/how-the-coronavirus-outbreak-has-and-hasnt-changed-the-way-americans-work/#:%7E:text=While%20the%20coronavirus%20outbreak%20has,compared%20with%20before%20the%20outbreak.

Parker, K., Horowitz, J. M., & Minkin, R. (2022, February 18). *COVID-19 Pandemic Continues To Reshape Work in America*. Pew Research Center's Social & Demographic Trends Project. Retrieved March 6, 2022, from https://www.pewresearch.org/social-trends/2022/02/16/covid-19-pandemic-continues-to-reshape-work-in-america/.

Pazzanese, C. (2021, February 10). How COVID experiences will reshape the workplace. *Harvard Gazette*. https://news.harvard.edu/gazette/story/2021/02/how-covid-experiences-will-reshape-the-workplace/.

Peeters, T., Van De Voorde, K. and Paauwe, J. (2022), "The effects of working agile on team performance and engagement", *Team Performance Management*, Vol. ahead-of-print No. ahead-of-print. https://doi.org/10.1108/TPM-07-2021-0049

Pew Research Center. (2023, March 30). About a third of U.S. workers who can work from home do so all the time. Retrieved from https://www.pewresearch.org/short-reads/2023/03/30/about-a-third-of-us-workers-who-can-work-from-home-do-so-all-the-time/

Pfefferbaum, B., & North, C. S. (2020). Mental Health and the Covid-19 Pandemic. *The New England journal of medicine*, *383*(6), 510–512. https://doi.org/10.1056/NEJMp2008017

Qualtrics (2020) Provo, Utah, USA. version June 2022, www.qualtrics.com

Qurrahtulain, K., Bashir, T., Hussain, I., Ahmed, S., & Nisar, A. (2022). Impact of inclusive leadership on adaptive performance with the mediation of vigor at work and moderation of internal locus of control. *Journal of Public Affairs*, *22*(1), e2380.

Rao, R. (2021). Impact of Mergers and Acquisitions on the Mental Health and Overall Wellbeing of the Employees Involved – A Literature Review. Indian Journal of Public Health Research & Development. https://doi.org/10.37506/ijphrd.v12i4.16565

Ramalho, M. C. K., & Porto, J. B. (2021). Validity Evidence of the Team Psychological Safety Survey. *Psico-USF, 26*, 165-176.

Ramnarayan, S., & Rao, T. V. (Eds.). (2011). Organization development: Accelerating learning *and transformation*. SAGE Publications.

Rosalsky, G. (2021, October 19) Why are so many Americans quitting their jobs? NPR. https://www.npr.org/sections/money/2021/10/19/1047032996/why-are-so-many-americans-quitting-their-jobs

Rogowska, A. M., Kuśnierz, C., & Ochnik, D. (2022). Changes in Stress, Coping Styles, and Life Satisfaction between the First and Second Waves of the COVID-19 Pandemic: A Longitudinal Cross-Lagged Study in a Sample of University Students. J. Clin. Med.

2021, 10, 4025. *Journal of Clinical Medicine*, *11*(1), 276. MDPI AG. Retrieved from http://dx.doi.org/10.3390/jcm11010276

Rozovsky, J. (2015). The five keys to a successful Google team. Retrieved from https://rework.withgoogle.com/blog/five-keys-to-a-successfulgoogle-team

Rudolph, C. W., & Zacher, H. (2020). "The COVID-19 Generation": A Cautionary Note. *Work, Aging and Retirement*, *6*(3), 139–145. https://doi.org/10.1093/workar/waaa009

Sadiq, K. (2020). Communities of practice as a multidisciplinary response in times of crisis: adapting to successful online learning practices. *Accounting Research Journal*.

Sahni, J. (2020). Impact of COVID-19 on Employee Behavior: Stress and Coping Mechanism During WFH (Work From Home) Among Service Industry Employees. International Journal of Operations Management, Inovatus Services Ltd., vol. 1(1), pages 35-48, October.

Saladino, V., Algeri, D., & Auriemma, V. (2020). The psychological and social impact of Covid-19: new perspectives of well-being. *Frontiers in psychology*, *11*, 2550.

Schein, E. H., & Bennis, W. G. (1965). Personal and organizational change through group methods: the laboratory approach. Wiley.

Schenkel, A., & Teigland, R. (2008). Improved organizational performance through communities of practice. Journal of knowledge management.

Schwartz, N. & Marcos, C.M. (2021 July 26) /return to Office Hits a Snag: Young Resisters. https://www.nytimes.com/2021/07/26/business/economy/return-office-young-workers.html

Segal, E. (2021, December 10). *The Great Disconnect: Many More Employers Than Workers Want To Return To Offices*. Forbes. Retrieved March 7, 2022, from

https://www.forbes.com/sites/edwardsegal/2021/10/05/the-great-disconnect-many-more-employers-than-workers-want-to-return-to-offices/?sh=70447b811ad3.

Sherf, E. N., Parke, M. R., & Isaakyan, S. (2021). Distinguishing voice and silence at work: Unique relationships with perceived impact, psychological safety, and burnout. *Academy of Management Journal*, *64*(1), 114-148.

Shinkle, G. A., Yang, M. M., Yang, F., Elshaw, J. J., & Schleicher, D. J. (2021). Enacting formal controls in information system development: Process guidance and goal importance. *Information & Management*, *58*(2), 103430.

Sjöblom, K., Juutinen, S., & Mäkikangas, A. (2022). The Importance of Self-Leadership Strategies and Psychological Safety for Well-Being in the Context of Enforced Remote Work *Challenges*, *13*(1), 14. https://doi.org/10.3390/challe13010014

Sklar, J. (2020, April 24). *National Geographic*. https://www.nationalgeographic.com/science/article/coronavirus-zoom-fatigue-is-taxing-the-brain-here-is-why-that-happens

Sobel Lojeski, K, & Reilly, R. R. (2020). *The power of virtual distance: a guide to* productivity and happiness in the age of remote work. John Wiley & Sons.

Somers, M. (2020, May 28). Redesigning the link between worker well-being and company goals. *MIT Sloan.* https://mitsloan.mit.edu/ideas-made-to-matter/redesigning-link-between-worker-well-being-and-company-goals

Sonnemaker, T. (2021, April 1). *IBM's CEO predicts a hybrid remote-work model for 80% of employees post-pandemic*. Business Insider. https://www.businessinsider.com/ibm-ceo-hybrid-remote-work-for-most-employees-post-pandemic-2021-3?international=true&r=US&IR=T

Song, Y., Peng, P., & Yu, G. (2020). I would speak up to live up to your trust: the role of psychological safety and regulatory focus. *Frontiers in psychology*, *10*, 2966.

Statista. (2022, January 7). *Leading distractions among employees while working from home U.S. 2020*. Retrieved March 7, 2022, from https://www.statista.com/statistics/1139757/us-distractions-while-working-from-home-during-coronavirus/

Sull, D., Sull, C., & Bersin, J. (2020). Five ways leaders can support remote work. *MIT Sloan Management Review*, 61(4), 1-10.

Sumathipala, S. (2020). Trust and psychological safety in a virtual healthcare team. *World* Family Medicine.

Surawski, B. (2019). Who is a "knowledge worker"–clarifying the meaning of the term through comparison with synonymous and associated terms. *Management*, *23*(1), 105-133.

Tavares, A. I. (2017). Telework and health effects review. *International Journal of* Healthcare, 3(2), 30. Team learning and psychological safety survey - MIDSS. (n.d.). Retrieved November 22, 2021, rom https://www.midss.org/content/team-learning-and-psychological-safety-survey.

Teevan, J., Hecht, B., Jaffe, S., Baym, N., Bergmann, R., Brodsky, M., Buxton, B., Butler, J., Coleman, A., Czerwinski, M., Houck, B., Hudson, G., Shamsi Iqbal, Maddila, C., Nowak, K., Peloquin, E., Ricardo Reyna Fernandez, Rintel, S., Sellen, A., & Smith, T. (2021, January 25). *The New Future of Work: Research from Microsoft into the Pandemic's Impact on Work Practices.* Microsoft Research. https://www.microsoft.com/enus/research/publication/the-new-future-of-work-research-from-microsoft-into-the-pandemics-impact-on-work-practices/

The Economist. (2021, April 11). Covid-19 is fuelling a Zoom-boom in cosmetic surgery. The Economist; The Economist. https://www.economist.com/international/2021/04/11/covid-19-is-fuelling-a-zoom-boom-in-cosmetic-surgery

Thomas, K., Nilsson, E., Festin, K., Henriksson, P., Lowén, M., Löf, M., & Kristenson, M. (2020). Associations of Psychosocial Factors with Multiple Health Behaviors: A Population-Based Study of Middle-Aged Men and Women. *International journal of environmental research and public health*, *17*(4), 1239. https://doi.org/10.3390/ijerph17041239

Triplett, S. M., & Loh, J. M. (2018). The moderating role of trust in the relationship between work locus of control and psychological safety in organisational work teams. *Australian journal of psychology*, *70*(1), 76-84.

Trougakos, J. P., Chawla, N., & McCarthy, J. M. (2020). Working in a pandemic: Exploring the impact of COVID-19 health anxiety on work, family, and health outcomes. *Journal of Applied Psychology, 105*(11), 1234–1245. https://doi.org/10.1037/apl0000739

Tucker, P. (2021 January 8). Post-COVID Stress Disorder: Another Emerging Consequence of *the Global Pandemic*. Psychiatric Times; Psychiatric Times. https://www.psychiatrictimes.com/view/post-covid-stress-disorder-emerging-consequence-global-pandemic

Turriago-Hoyos, A., Thoene, U., & Arjoon, S. (2016). Knowledge Workers and Virtues in Peter Drucker's Management Theory. *SAGE Open*, *6*(1). https://doi.org/10.1177/2158244016639631

U.S. Bureau of Labor Statistics. (2023, May). Job openings reach record highs in 2022 as the labor market recovery continues. *Monthly Labor Review*.

https://www.bls.gov/opub/mlr/2023/article/job-openings-reach-record-highs-in-2022-as-the-labor-market-recovery-continues.htm

US Census Bureau. (2021, October 14). *Measuring Racial and Ethnic Diversity for the 2020 Census*. The United States Census Bureau. https://www.census.gov/newsroom/blogs/random-samplings/2021/08/measuring-racial-ethnic-diversity-2020-census.html

US Census Bureau. (2022, September 17). *The Number of People Primarily Working From Home Tripled Between 2019 and 2021*. Census.gov. https://www.census.gov/newsroom/press-releases/2022/people-working-from-home.html

U.S. Office of Personnel Management. (n.d.). Telework Enhancement Act. Telework.gov. Retrieved March 21, 2021, from https://www.telework.gov/guidance-legislation/telework-legislation/telework-enhancement-act/

Van den Hooff, B. , & De Ridder, J. A. (2004) Knowledge sharing in context: The influence of organizational commitment, communication climate and CMC use on knowledge sharing. Journal of Knowledge Management, 8(6), 117-130.

Van Dyne, L., & LePine, J. A. (1998). Helping and voice extra-role behaviors: Evidence of construct and predictive validity. *Academy of Management journal*, *41*(1), 108-119.

Vega, R. P., Anderson, A. J., & Kaplan, S. A. (2015). A within-person examination of the effects of telework. *Journal of Business and Psychology*, *30*(2), 313–323. https://doi.org/10.1007/s10869-014-9359-4

VentureBeat. (2021, November). *AI has assisted half of all business owners during the labor shortage*. https://venturebeat.com/2021/11/22/report-ai-has-assisted-half-of-all-business-owners-during-the-labor-shortage/

Walker, E., Ploubidis, G., & Fancourt, D. (2019). Social engagement and loneliness are differentially associated with neuro-immune markers in older age: Time-varying associations from the English Longitudinal Study of Ageing. *Brain, behavior, and immunity*, *82*, 224-229.

Wamser-Nanney, R., Nguyen-Feng, V., Lotzin, A., & Zhou, X. (2021). Parenting amidst COVID-19: Pandemic-related stressors, inequities, and treatment utilization and perceptions. *Couple and Family Psychology: Research and Practice*.

Wijayati, D. J., Purnomo, E. P., & Fathani, A. T. (2023). Mental health issue during the COVID-19 pandemic. *International Journal of Public Health Science*, *12*(2), 803. https://doi.org/10.11591/ijphs.v12i2.22286

Williams, A. C., Iqbal, S., Kiseleva, J., & White, R. W. (2020). Managing Tasks Across the Work-Life Boundary: Opportunities, Challenges, and Directions.

Wolf, C. R. (2020). *Virtual Platforms Are Helpful Tools but Can Add to Our Stress*. Psychology Today. https://www.psychologytoday.com/us/blog/the-desk-the-mental-health-lawyer/202005/virtual-platforms-are-helpful-tools-can-add-our-stress

Xiong, J., Lipsitz, O., Nasri, F., Lui, L. M. W., Gill, H., Phan, L., Chen-Li, D., Iacobucci, M., Ho, R., Majeed, A., & McIntyre, R. S. (2020). Impact of COVID-19 pandemic on mental health in the general population: A systematic review. *Journal of affective disorders*, *277*, 55–64. https://doi.org/10.1016/j.jad.2020.08.001

Yang, G., & Wang, L. (2020). Workplace fun and voice behavior: The mediating role of psychological safety. Social Behavior and Personality: An international journal, 48(11), 1-8

Yang, L., Holtz, D., Jaffe, S., Suri, S., Sinha, S., Weston, J., Joyce, C., Shah, N., Sherman, K.,Hecht, B., & Teevan, J. (2021). The effects of remote work on collaboration among information workers. *Nature Human Behaviour*. https://doi.org/10.1038/s41562-021-01196-4

Yong, E. (2021). *Why Health-Care Workers Are Quitting in Droves.* https://www.theatlantic.com/health/archive/2021/11/the-mass-exodus-of-americas-health-care-workers/620713/

Zeng, H., Zhao, L., & Zhao, Y. (2020). Inclusive leadership and taking-charge behavior: roles of psychological safety and thriving at work. *Frontiers in psychology, 11*, 62.

Zhang, J., Li, J., & Huang, J. (2020). How self-sacrificial leadership influences employee voice: Psychological safety as a mediator. *Social Behavior and Personality: an international journal*, *48*(12), 1-8.

Zhang, Y., Fang, Y., Wei, K. K., & Chen, H. (2010). Exploring the role of psychological safety in promoting the intention to continue sharing knowledge in virtual communities. *International Journal of Information Management*, *30*(5), 425-436.

Appendix A

IRB Approvals

SPECTRUM HEALTH
Human Research Protection Program
Office of the Institutional Review Board
100 Michigan NE, MC 038
Grand Rapids, MI 49503
616.486.2031
irbassist@spectrumhealth.org
www.spectrumhealth.org

EXEMPT DETERMINATION

April 14, 2022

PRINCIPAL INVESTIGATOR: **Mary J Brown, M.S.**

IRB#: **2022-101**

PROTOCOL TITLE: **A Quantitative Study Examining Psychological Safety During the COVID-19 Pandemic Restrictions – A U.S. Healthcare Context**

The above referenced protocol and associated materials were reviewed on April 14, 2022 and it has been determined that it is exempt research per 45 CFR Part 46.104(d) category 2.

The following documents were reviewed related to the determination:

- Initial application signed 4/7/2022
- Study protocol dated 4/7/2022
- Survey tool dated 4/6/2022
- Required Invitation and Informed Consent Letter not dated
- Permission for Research to be conducted at Priority Health dated 2/18/2022
- Permission for Research to be conducted at Spectrum Health dated 2/25/2022

Human subjects research that is determined to be "exempt" means that the research qualifies as no risk or minimal risk to subjects and is exempt from most of the requirements of the Federal Policy for the Protection of Human Subjects but is still considered research requiring an IRB review for an exemption determination. Exempt research is not exempt from state laws, institutional policies, the requirements for ethical research, and/or, when applicable, HIPAA regulations. The following items should be submitted to the IRB for review/approval:

- The addition of new study personnel prior to the individual's involvement in the research. All study personnel need to comply with institutional requirements for research personnel, including completion of human subject's research training and disclosing conflicts of interest.
- Any modifications made to exempt research must be reported to the IRB prior to implementation to determine if the research still qualifies for exempt status, unless the investigator believes that the change must be made to prevent harm to participants or others.
- Submission of a Study Completion Notification xForm.

It is your responsibility to ensure all necessary institutional permissions are obtained prior to beginning this research. This includes, but is not limited to, ensuring all contracts have been executed, any necessary Data Use Agreements and Material Transfer Agreements have been signed, documentation of support from the Department Chief has been obtained, and any other outstanding items are completed.

You are responsible for adhering to the investigator responsibilities and institutional policies governing human subjects research. You may reference the Investigator Manual for guidance on the expectations of the IRB after approval.

For questions, contact the Spectrum Health IRB office at 616-486-2031 or by email at irbassist@spectrumhealth.org.

Institutional Review Board
Spectrum Health

Pepperdine University
24255 Pacific Coast Highway
Malibu, CA 90263
TEL: 310-506-4000

NOTICE OF APPROVAL FOR HUMAN RESEARCH

Date: May 16, 2022

Protocol Investigator Name: Mary Brown

Protocol #: 22-03-1792

Project Title: A Quantitative Study Examining Psychological Safety During The Covid-19 Pandemic Restrictions # A U.S. Healthcare Context

School: Graduate School of Education and Psychology

Dear Mary Brown:

Thank you for submitting your application for exempt review to Pepperdine University's Institutional Review Board (IRB). We appreciate the work you have done on your proposal. The IRB has reviewed your submitted IRB application and all ancillary materials. Upon review, the IRB has determined that the above entitled project meets the requirements for exemption under the federal regulations 45 CFR 46.101 that govern the protections of human subjects.

Your research must be conducted according to the proposal that was submitted to the IRB. If changes to the approved protocol occur, a revised protocol must be reviewed and approved by the IRB before implementation. For any proposed changes in your research protocol, please submit an amendment to the IRB. Since your study falls under exemption, there is no requirement for continuing IRB review of your project. Please be aware that changes to your protocol may prevent the research from qualifying for exemption from 45 CFR 46.101 and require submission of a new IRB application or other materials to the IRB.

A goal of the IRB is to prevent negative occurrences during any research study. However, despite the best intent, unforeseen circumstances or events may arise during the research. If an unexpected situation or adverse event happens during your investigation, please notify the IRB as soon as possible. We will ask for a complete written explanation of the event and your written response. Other actions also may be required depending on the nature of the event. Details regarding the timeframe in which adverse events must be reported to the IRB and documenting the adverse event can be found in the *Pepperdine University Protection of Human Participants in Research: Policies and Procedures Manual* at community.pepperdine.edu/irb.

Please refer to the protocol number denoted above in all communication or correspondence related to your application and this approval. Should you have additional questions or require clarification of the contents of this letter, please contact the IRB Office. On behalf of the IRB, I wish you success in this scholarly pursuit.

Sincerely,

Judy Ho, Ph.D., IRB Chair

cc: Mrs. Katy Carr, Assistant Provost for Research

Appendix B

Psychological Safety Survey With Informed Consent

Welcome and thank you for visiting this survey. This survey is focused on research exploring employees' experience during the COVID-19 lockdown. Your responses will contribute greatly to further understanding how the pandemic impacted organizations and their employees.

Protocol ID: 22-03-1792
Study Title: Psychological Safety During the COVID-19 Pandemic Restrictions

Invitation

Dear Participant,

My name is Mary Brown, I am conducting a study on the perceived psychological safety of employees who found themselves abruptly required to work-from-home during the COVID-19 pandemic (March 20, 2020, through June 1, 2020). If you are 18 years of age or older and worked from home during the period of March 20, 2020, through June 1, 2020, during the stay-at-home restrictions, you may participate in this research.

What is the reason for doing this research study?
The results of the research may be helpful in understanding some of the issues related to unexpected work-from-home situations.

What will be done during this research study?
Participation in this study will require approximately 15 minutes. You will be asked to complete an online survey.

What are the possible risks of being in this research study?
Participation or nonparticipation will not impact your relationship with the organization you are employed at or with co-workers or supervisors. There is a minimal potential risk of breach of confidentiality. Spectrum Health will send the survey link to a list of employees who are invited to take the survey. Spectrum Health will not know who responded to the survey. The principal investigator will only receive the responses from survey participants and will not know who completed the survey.

What are the possible benefits to you?
There are no direct benefits to you as a participant. Indirect benefits may include findings that will help the organization foster psychological safety among employees and improve team members' experience when working from home.

How will information about you be protected?
Your responses to this survey will be kept anonymous. Informed consent documents and raw data will be maintained for three years following the study's completion on password-protected local

storage with a cloud backup. Data will only be reported in an aggregated format, and no individual responses will be released for publication.

What are your rights as a research subject?
You may ask any questions concerning this research and have those questions answered before you agree to participate in or during the study.

For study related questions, please contact the investigator(s): Mary Brown

For questions concerning your rights or complaints about the research contact:

Spectrum Health InstitutionalReview Board (IRB):
Phone: 616-486-2031
Email: irbassist@spectrumhealth.org

Pepperdine University InstitutionalReview Board (IRB):
Phone: 1(310) 568-2305
Email: gpsirb@pepperdine.edu

What will happen if you decide not to be in this research study or decide to stop participating once you start?

You can decide not to be in this research study, or you can stop being in this research study ("withdraw') at any time before or while completing (during) the survey. Those who withdraw are not identifiable and deciding not to be in this research study or deciding to withdraw will not affect your relationship with the investigator or with Spectrum Health or Pepperdine University and will not impact your relationship with the organization you are employed at.

You will not lose any benefits to which you are entitled.

Documentation of Informed Consent
You are voluntarily making a decision whether or not to participate in this research study. By clicking on the I Agree button below, your consent to participate is implied. You should print a copy of this page for your record.

I agree **I do not agree**

What organization do you work for?

_____Priority Health _____ Spectrum Health

Did you primarily work from home for this organization during the COVID- 19 pandemic from March 20 to June 1, 2020?

_____Yes ____ No

Were you hired after lockdown restrictions began on March 20, 2020?

_____Yes _____ No

< ENTER SURVEY>

Psychological safety is defined as the feeling that one's workplace is an environment where one can voice opinions, seek out and provide honest feedback, collaborate, and experiment with new ideas without being embarrassed or punished (Edmonson, 1999). The following questions are designed to estimate your level of psychological safety, in addition to changes that have occurred since ~~prior to~~ the pandemic.

Please respond to the following questions by indicating your response between 1 = strongly disagree and 7 = strongly agree

Note: Each of the above questions will be followed by the following question measuring impact:

"Thinking back to before COVID -19 has it gotten better, same, or worse?"
This question will be measured via a 7-point scale 1 (worse) 4-5 (Same) 7 (Better)

Section 1. Please answer the following questions in relation to your team leader in your current position and current work situation.

Questions - Strongly disagree 1 2 3 4 5 6 7 Strongly agree

1.a. If I have a question or am unsure of something in relation to my role at work, I can ask my team leader
1.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

2.a. I can communicate my opinions about work issues with my team leader
2.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

3.a. I can speak up about personal problems or disagreements to my team leader
3.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

4.a. I can speak up with recommendations/ideas for new projects or changes in procedures to my team leader
4.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

5.a. If I made a mistake on this team, I would feel safe speaking up to my team leader
5.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

6.a. If I saw a colleague making a mistake, I would feel safe speaking up to my team leader
6.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

7.a. If I speak up/voice my opinion, I know that my input is valued by my team leader
7.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

8.a. My team leader encourages and supports me to take on new tasks or to learn how to do things have never done before.
8.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

9.a. If I had a problem in this company, I could depend on my team leader to be my advocate
9.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

Section 2. Please answer the following questions in relation to your peers/the other members of your team

Questions - 1 Strongly disagree 2 3 4 5 6 7 Strongly agree

10.a. If I have a question or am unsure of something in relation to my role at work, I can ask my peers

10.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

11.a. I can communicate my opinions about work issues with my peers

11.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

12.a. I can speak up about personal issues to my peers

12.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

13.a. I can speak up with recommendations/ideas form new projects or changes in procedures to my peers

13.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

14.a. If I made a mistake on this team, I would feel safe speaking up to my peers

14.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

15.a. If I saw a colleague making a mistake, I would feel safe speaking up to this colleague

15.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

16.a. If I speak up/voice my opinion, I know that my input is valued by my peers

16.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

Section 3. Please answer in relation to your team as a whole

Questions - 1 Strongly disagree 2 3 4 5 6 7 Strongly agree

17.a. It is easy to ask other members of this team for help

17.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse*?" – 7-point scale

18.a. People keep each other informed about work-related issues in the team

18.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

19.a. There are real attempts to share information throughout the team

19.b. *"Thinking back to before COVID -19 has it gotten better, same, or worse?"* – 7-point scale

Demographics

1. Tenure - How long have you been a member of this team?
   _____Year ____ Months

2. Organizational Level
   - Individual Contributor
   - Supervisor/Manager
   - Director or Above

3. Which of the following best describes you?
   - Asian or Pacific Islander
   - Black or African American
   - Hispanic or Latino
   - Native American or Alaskan Native
   - White or Caucasian
   - Multiracial or Biracial
   - Some Other Race alone, non-Hispanic
   - Prefer not to answer

4. Gender
   - Female
   - Male
   - Non-binary
   - I prefer not to say

5. **Consider the impact of all these things combined during the pandemic restrictions:** limited socialization with family and friends; community restrictions and curfews, social distancing, mask requirements in public, and limited accessibility to gyms, coffee shops, restaurants, etc. To what extent did these situations impact your life **negatively**?

   1 2 3 4 5 6 7
   No Impact Major Impact

6. **Have you returned to working onsite? ___ yes _____ no**

Thank You! *Thank you for participating in this survey.*

[SURVEY END]