Social Support Buffering During a Traumatic Extraorganizational Stressor: The Relationship Between Supervisor Support, COVID-19 Related Fear, and Mental Health

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Abstract

The COVID-19 pandemic continues to have a profound impact on the personal and professional lives of employees globally. Using extant literature on large-scale traumatic events and extraorganizational stressors as a foundation, this thesis explores the effect of supervisor support on the relationship between COVID-19 related fear and diminished employee mental health. Informed by the Social Support Buffering Hypothesis (Cohen & Wills, 1985) and the Transactional Theory of Stress and Coping (Lazarus, 1990), and using time-lagged online questionnaire data from 2057 employees residing in Canada and the United States, this study finds a significant positive relationship between COVID-19 fear and poor mental health, such that higher COVID-19 fear was associated with poorer mental health. Results do not support the hypothesized buffering effect of supervisor support on the relationship between fear and poor mental health within the entire sample; however, further (post-hoc) analysis revealed disparate impacts of supervisor support on this relationship according to country of residence. Supervisor support significantly buffered the relationship between fear and poor mental health in the American but not Canadian sample, such that high levels of supervisor support attenuated the relationship between fear and poor mental health. These results have the potential to contribute to the leadership and mental health literature, inform future organizational preparedness, and suggest new, boundary spanning, areas of inquiry for management research.

Keywords: extraorganizational stressor, social support, mental health, COVID-19, fear, supportive leadership

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Social Support Buffering During a Traumatic Extraorganizational Stressor: The Relationship Between Supervisor Support, COVID-19 Related Fear, and Mental Health

"Adverse", "challenging", "extraordinary", "historic", and the ever-common reference to "these unprecedented times" have become ubiquitous descriptions of the ongoing COVID-19 pandemic. In 2019, COVID-19 (SARS-CoV-2) emerged in Wuhan, China, and was declared a global pandemic in early 2020. Since then, the COVID-19 virus has infected over 550 million individuals worldwide (Johns Hopkins University, 2022; World Health Organization, 2020). The COVID-19 pandemic constitutes a large-scale traumatic event and extraorganizational stressor (i.e., environmental factor outside of the organization that negatively impacts employees and workplaces), highlighting a universal or "fundamental fear" of injury, ultimately resulting in diminished levels of mental health throughout the world (Reiss, 1991; Salari, et al., 2020; Serafini, et al., 2020). Acknowledging the severe anxieties linked to COVID-19 in the general population, doctors coined the term "coronaphobia" to refer to COVID-19-specific fear and anxiety (Arora, et al., 2020). Supervisor support is one critical workplace factor that may limit the extent to which coronaphobia negatively affects employees' mental health during and after the pandemic (Sinclair, et al., 2020). Using extant literature on large-scale traumatic events and extraorganizational stressors as a foundation, this thesis aims to explore the relationship between fear, employee mental health, and supervisor support during the COVID-19 pandemic. Specifically, I use the Social Support Buffering Hypothesis (Cohen & Wills, 1985) to examine the role of supervisor support as a moderator of the relationship between employees' COVID-19 related fears and mental health implications.

The COVID-19 Pandemic and Mental Health

Extraorganizational stressors are defined as environmental factors that occur outside the organization and have deleterious effects on employees and organizational outcomes (Hendrix, et al., 1994). Extraorganizational stressors can be chronic (i.e., stressors that are ongoing and long lasting; Beehr, et al., 2000) or acute (i.e., shorter term events or moments of stress which potentially result in long lasting effects; Beehr, et al., 2000) and can sometimes be experienced as "traumatic" (i.e., extreme stress, fear, or aversion in response to events outside the range of usual human experience; Norris, 1992). Traumatic events "generally involve threats to life or bodily integrity...They confront human beings with the extremities of helplessness and terror, and evoke the responses of catastrophe" (Herman 1997, p. 33-4). With its rapid global spread, high rates of illness and mortality, increased uncertainty, and unprecedented societal response, COVID-19 has precipitated a significant global crisis constituting a traumatic event.

Recent studies on the mental health of the general population in various European nations bring this sharply into focus, with researchers finding elevated rates of post-traumatic stress disorder (PTSD), alcohol consumption, anxiety symptoms, suicidal ideation, and decreased wellbeing (Jacob, et al., 2021; Karatzias, et al., 2020; O'Connor, et al., 2021). While researchers continue to debate whether COVID-19 necessarily satisfies the trauma requirement according to various diagnostic lenses (see Norrholm, et al., 2021; Shevlin et al., 2020); there is a consensus that the pandemic represents an extraordinarily psychologically demanding crisis capable of precipitating adverse mental health outcomes. In 2000, Byron and Peterson found that traumatic extraorganizational stressors can impact both individuals and groups and, in 2008, Hochwarter et al. included "disease outbreaks" in their list of traumatic stressors that have the potential to impact the workplace and employee health outcomes. Therefore, for the purpose of the present

study, I argue that the COVID-19 pandemic is a traumatic extraorganizational stressor with far-reaching consequences on employee mental health.

Extraorganizational stressors, in the form of large-scale traumatic events, have the potential to impact employees both directly and indirectly, ultimately resulting in negative organizational-and employee-level outcomes (Hochwarter, et al., 2008). The direct effects of traumatic extraorganizational stressors have been well-documented in studies of natural disasters (e.g., hurricanes and flooding) and are associated with a variety of employee outcomes, such as reduced job satisfaction, lower work engagement, higher turnover intentions, heightened absenteeism, and increased psychological strain (Biggs et al., 2014; Byron & Peterson, 2002; Hochwarter et al., 2008). Most notably, traumatic extraorganizational stressors like COVID-19 tend to have significant, long-lasting health implications, particularly related to mental health (i.e., a state of well-being in which an individual can cope with life stressors, can work productively, and make contributions to his/her community; World Health Organization, 2004).

In a study of mental health implications following a natural disaster in Sri Lanka, Dewaraja and Kawamura (2006) found that exposure to the natural disaster was associated with elevated rates of PTSD and depression. Further, Freedy et al. (1992) demonstrated that exposure to natural disasters is associated with clinically significant psychological distress. Others (e.g., Gou, et al., 2020; Maunder, et al., 2003; Taylor et al., 2008) have demonstrated that disease exposure, or even the mere threat of disease exposure, can correlate with a greater risk of depression, anxiety, PTSD, and other mental health concerns. In fact, some public health officials have gone as far as to declare the COVID-19 pandemic as a catalyst for one of the greatest global mental health crises in history (Savage, 2020).

Mental health is influenced by a variety of biological, genetic, and environmental factors (Schmidt, 2007), including exposure to chronic (Beehr, et al., 2000) and traumatic (Tucker, et al., 2000) stressors. As Norrholm et al. (2021) note, it is difficult to unambiguously define trauma, clearly delineating traumatic and nontraumatic stressors. Shevlin et al. (2020) suggested that "living through the most deadly infectious respiratory disease pandemic since 1918" can be considered traumatic, and such classifications aid researchers in studying the far reaching impact of COVID-19. Employees have, undoubtedly, faced ongoing stressors throughout the COVID-19 pandemic, both general and job specific (Giorgi, et al., 2020; Pfefferbaum & North, 2020). In their paper on the psychological impact of large-scale traumatic events, Gray, et al. (2004) describe the traumatic experience of simultaneously grieving the loss of a large number of individuals while experiencing personal life endangerment concurrently. With over 550 million cases and 6 million deaths due to COVID-19 worldwide (Johns Hopkins University, 2022), many employees have experienced grief and feelings related to their own mortality (Evers et al., 2020).

Drawing on the Theory of Shattered Assumptions (Janoff-Bulman, 1992), which states that individuals develop basic cognitive schemas about how the world operates to enable heathy human functioning, and that damage to this worldview by traumatic or inexplicable events results in feelings of defencelessness, terror, and vulnerability, ultimately giving rise to anxiety and adverse psychological outcomes, it is clear that COVID-19 has the potential to engender adverse mental health outcomes punctuated by feelings of fear. Giorgi, et al. (2020) identified several salient COVID-19 related stressors for employees, including fear of being infected at work, being a disease vector, experiencing employment insecurity, facing workers' rights exploitations, and feeling uncertain about the future. Similarly, Pfefferbaum and North (2020)

identified economic losses, shortages in medical resources, and unclear public health guidelines as factors of the COVID-19 pandemic that can impact individuals' mental health. The emotional experience of fear is a common thread between such stressors.

The COVID-19 Pandemic and Fear

Defined as an emotional response to danger or a perceived threat (Ohman, 1993), fear has the potential to increase employees' likelihood of developing impaired mental health over time. Individuals' fear responses are comprised of two components, one's expectation of an adverse event occurring (i.e., their expectancy) and the underlying reason for fearing the adverse event (i.e., their sensitivity or "fundamental fear"; Reiss, 1997). Reiss (1997) outlines three fundamental fears which can be understood as the root of all fears. While individual fear inducing stimuli and their salience varies idiosyncratically, Reiss (1997) posits that all fears stem from the fear of injury (i.e., the fear of danger or harm from the external, physical environment), the fear of anxiety (i.e., the fear of becoming anxious or stressed and the associated physiological response), and the fear of negative evaluation (i.e., the fear of incurring social costs or negative evaluations as a result of one's fear response). This expectancy model of fear highlights the interrelationship between individuals' evaluation of risk and their emotional response. Since the declaration of the COVID-19 pandemic in early 2020, fear has been prevalent (Arora, et al., 2020). Not only have many people been afraid of contracting or passing the virus to others, but many have also feared the possibility of suffering other COVID-19-related consequences, such as job loss, social isolation, and the repercussions of significant work-family conflict (Crayne, 2020; Johnson, et al., 2020).

Although fear can be exceptionally adaptive in some situations, excessive activation of the fear response may result in various anxiety disorders and diminished mental health (Rosen &

Schulkin, 1998). With fear, anxiety, and "coronaphobia" being prominent components of the COVID-19 pandemic (Arora, et al., 2020; Fitzpatrick, et al. 2020), it is important to study the potentially harmful effects of fear on employees' mental health. In addition to being personally relevant to employees, mental health can also impact organizational outcomes, such as health insurance costs, employee productivity, and turnover (Danna & Griffin, 1999; Quick, et al., 1986). Of course, just as employee mental health can impact organizational factors, decades of research also demonstrates that organizational factors, such as safety protocols, workplace climate, and leadership quality, can also impact employee mental health (Bronkhorst, et al., 2015, Cooklin, et al., 2017). In turn, while the COVID-19 pandemic creates emotionally taxing stressors on employees' work lives and personal lives, workplace supports can also serve to mitigate the relationship between COVID-19-related stressors on employee mental health.

The experience of fear has seldom been acknowledged in the COVID-19 workplace literature (Sasaki et al.2020). Recent COVID-19 studies suggest that people around the world have experienced heightened mortality salience (i.e., thinking about one's death and the death of others) and feelings of vulnerability, uncertainty, and fear due to the pandemic (Evers, et al. 2020). Such feelings can cause a psychological demand that impairs employees' abilities to do their jobs (Sasaki et al., 2020). Advances in neurophysiology have identified the amygdala (a small, almond shaped structure in the brain) as having a central role in individuals' fear response and subsequent learning, influencing attentional and behavioural responses to threatening stimuli (Vuilleumier, 2005). Elevated fear has been associated with a decrease in optimism, lower perception of control over negative outcomes, and reduced memory as well as increased risk estimation (Lench & Levine, 2005; Wake, et al., 2020). In a study on antisocial behaviour, Sinclair, et al. (2002) found that fear (i.e., the subjective appraisals of the danger level) mediated

the relationship between antisocial behavior and employee outcomes, namely job satisfaction, and turnover intentions. During the COVID-19 pandemic, employees who are afraid of infection exposure, feel unprotected in their work environment, or are fearful of losing their jobs may experience similar cognitive loads that make it difficult to perform optimally.

Leadership and Mental Health

Conservation of Resources Theory (COR; Hobfoll, 1989) strives to explain the relationship between environmental factors and individuals' wellbeing through the use of resources (i.e., objects, characteristics, conditions, or energies valued by the individual and society that can help individuals cope with stress inducing events; Hobfoll, 2001). The theory posits that stress occurs: a) when resources are threatened with loss; b) when resources are lost; or c) when there is a failure to gain sufficient resources following resource investment (Hobfoll, 2001). COR theory advances two additional principles. First, the loss of resources is more salient than gains of equivalent magnitude. Second, the investment of resources is needed to protect against resource loss and gain resources (Hobfoll, 2001). Individuals who perceive a threat to their resources will experience stress and can turn to alternate resources to protect themselves against further losses.

Ideally, leaders can act as critical resources for employees, affecting work outcomes as well as employee mental health (Birkeland et al., 2016). The influence of leadership on employee mental health outcomes may be particularly pronounced during times of uncertainty or when fear is high (Skogstad, et al., 2007). In a comprehensive meta-analysis on leadership styles and employee health and performance outcomes, Montano et al. (2017) concluded that specific types of leadership have significant mental health implications for followers. Montano et al. (2017) conceptualized mental health as a "continuum of neurophysiological and cognitive states

related to thinking, mood and emotion, and behavior" (Montano et al., 2017 p 329). This continuum ranged from positive mental health states associated with wellbeing to negative mental health states associated with burnout, stress, and affective symptoms. Their meta-analytic findings suggest that destructive leadership behaviours are associated with poor employee mental health, and that relations-oriented leadership styles, such as transformational leadership and supportive supervision, are positively associated with positive employee mental health outcomes (Montano et al., 2017). Relations-oriented leadership styles prioritize quality leader-employee interactions and involve showing consideration, respect, and support for employees (DeRue et al., 2011; Montano et al., 2017). In addition to impacting employees' mental health, leaders may also help attenuate the organizational impact of employee mental health problems by offering individualized support and promoting a supportive work climate (Bonaccio, et al., 2019), two behaviors congruent with relations-oriented leadership styles.

By enacting relations-oriented leadership styles, such as supportive supervision (i.e., supportive behaviours enacted by supervisors towards employees, including emotional support, instrumental support, and role modelling behaviours; Hammer, et al. 2020), leaders can act as resources designed to help protect employees from the ill-effects of stressors (Dimoff & Kelloway, 2017; Dimoff & Kelloway, 2019. In a recent systematic review, Arnold (2017) suggests that resources may help to explain the link between leadership and employee wellbeing. As contended by resource theories and models (e.g., Resource Utilization Model, Dimoff & Kelloway, 2017; Job-Demands Resources Theory, Demerouti et al., 2001; COR, Hobfoll, 1989), experiencing insufficient resources or a loss of resources results in stress, which can lead to diminished mental health. The acquisition of new resources or the removal of resource-depleting demands can prevent a loss spiral (i.e., ongoing, accelerating, and impactful loss caused by a

vicious cycle of protective resource investment, resource loss, and further investment; Hobfoll, 2001), thereby protecting employee health and wellbeing.

Leaders can act as resources, both directly and indirectly, by supporting employees and facilitating resource acquisition (Dimoff & Kelloway, 2017; Dimoff & Kelloway, 2019). Therefore, I focus on the role of supervisor support, one form of relations-oriented leadership that acts as a resource to employees. Supervisor support is an especially salient resource for employees (Mcintosh,1990). Like coworkers, supervisors are in a position to observe employees' behaviors and provide emotional support (e.g., affirming one's value and social acceptance; Cohen & Wills, 1985; House, 1981) to employees (Dimoff & Kelloway, 2017; Dimoff & Kelloway, 2019). In addition to emotional support, supervisors also have the unique ability to provide instrumental support (e.g., providing material resources or solutions to stressors; Cohen & Wills, 1985; House, 1981) to employees, connecting them with organizational resources, such as Employee Assistance Programs (EAPs) and providing them with job accommodations to help reduce demands (e.g., Brady et al., 2020; Dimoff & Kelloway, 2019). Meta-analytic findings by Viswesvaran et al. (1999) suggest that supervisor support systematically moderates the stressors–strain relationship, essentially buffering the impact of stressors on employee health outcomes.

The Social Support Buffering Hypothesis

The Social Support Buffering model (Cohen & Wills 1985) works to explicate the relationship between environmental stressors, health outcomes, and social support. In this model, stressful events are understood to have adverse effects on individuals' health and wellbeing, such that potentially stressful events can lead to stress and diminished health. The Social Support Buffering Hypothesis postulates that this link can be attenuated via social support (i.e., "social interaction, integration, relational reward or status support"; Cohen & Wills 1985, p.312) at two

different points in time. By distinguishing between objective (i.e., factual) and subjective (i.e., perceptual) experiences of potentially stressful events, social support can impact the link between stressor and health impact by intervening during the appraisal of the event itself (Cohen & Wills, 1985). If an individual has sufficient social support and the needed resources, potentially stressful events may not be perceived as stressful, resulting in no stress response and, therefore, no link between stress and impaired health. If, on the other hand, after the appraisal process, an event is perceived to be stressful, social support may attenuate the relationship between stress and health outcomes by "reducing or eliminating the stress reaction or by directly influencing the psychological process" (Cohen & Wills 1985, p 312). Thus, social support may inform emotional, physiological, or behavioural responses to the stressor, thereby limiting the negative health impacts of the event.

This social support buffering model aligns with broader cognitive appraisal theories, including the Transactional Theory of Stress and Coping (Lazarus & Folkman, 1984), which contends that people engage in a multistep cognitive assessment of personal and environmental factors, including one's access to resources and exposure to stressors. According to the Transactional Theory of Stress and Coping, primary appraisal occurs when an individual evaluates whether a particular stressor is threatening. At this step, individuals may determine that the event is irrelevant or benign, at which point the appraisal process concludes. However, if the event is deemed threatening, short term stress (i.e., a cognitive and environmental evaluation of stressors involving short term affective and physiological changes; Lazarus, 1990) occurs, and a secondary appraisal is required (Peacock & Wong, 1990). Secondary appraisal occurs as the individual evaluates whether they have sufficient resources to address the threat (Peacock & Wong, 1990). This secondary appraisal focuses on coping, utilizing available resources, and

assessing how to respond to the stressor to mitigate long term consequences following short term stress (Peacock & Wong, 1990). If unsuccessfully addressed, the stress response process concludes with stress resulting in strain (i.e., the psychological or physiological demands created by stress capable of eliciting adverse effects on wellbeing; Caplan et al., 1975) and negatively impacting the individual's long term health (Lazarus, 1990). Social support may buffer the relationship between stressful events and health impacts by acting as a resource – helping employees appraise stressors as less stress-inducing and/or helping employees cope with the reality of the stressor they're experiencing. In a 2015 study, O'Reilly, et al. demonstrated the importance of social support in the workplace, finding that employee-reported ostracization (e.g., neglecting to engage with an organizational member; Robinson, et al., 2013) was associated with diminished employee wellbeing and predicted employee turnover, highlighting the significance of social support in the workplace in ameliorating experiences of isolation.

COVID-19 as a Fear Inducing Stressor

The COVID-19 pandemic can be considered a stressor within these cognitive appraisal theories (i.e., Social Support Buffering model, Cohen & Wills 1985; the Transactional Theory of Stress and Coping, Lazarus & Folkman, 1984) with increasingly demanding environmental factors putting employees at a greater risk of poor health outcomes (Kniffin et al., 2021). For instance, many employees have been required to assemble ad-hoc home offices and work remotely through virtual platforms they're not familiar or comfortable with (Wang et al., 2021). Similarly, employees who must continue working outside of the home might need to adhere to increased sanitation and personal hygiene protocols that impact productivity (Centers for Disease Control and Prevention [CDC], 2020). Regardless of working environment, many employees have also struggled to balance work-family responsibilities throughout the pandemic, with many

schools and daycares intermittently closing throughout 2020 and into 2021 (Wang et al., 2021). Each of these individual stressors has the potential to significantly impact employee health and wellbeing (Kniffin et al., 2021). However, the detrimental impact of fear on mental health may be especially salient.

As discussed above, and similar to other large-scale traumatic extraorganizational stressors (i.e., natural disasters and terror attacks), the COVID-19 pandemic has drastically impacted employees, disrupting their routines and resulting in increased fear and anxiety globally (Fitzpatrick, et al. 2020; Arora, et al., 2020). This fear may impact work-related outcomes, including mental health. Using the Social Support Buffering model (Cohen & Wills 1985) and the Transactional Theory of Stress and Coping; Lazarus, 1990), this study examines the relationship between elevated stress resulting from the COVID-19 pandemic (i.e., COVID-19 related fear) and employee mental health. Specifically, I hypothesize that:

> Hypothesis 1: There will be a positive relationship between employee fear and poor mental health, such that employees reporting higher levels of fear will experience poorer mental health compared to employees reporting less fear.

Leadership as a Social Support Buffer

Compounding this increase in stressors is the reality that many employees must cope with novel environmental demands without gaining additional resources (Hochwarter, et al., 2008; Biggs, Brough, & Barbour, 2014). Under normal circumstances, resources are critical in attenuating the negative impacts of job demands on employee health and wellbeing (Schaufeli & Bakker, 2004). The importance of job resources may be even more critical when employees are exposed to traumatic extraorganizational stressors (Byron & Peterson, 2002; Malik, et al., 2017).

For instance, the protective function of job resources has been demonstrated in Ahmed et al.'s (2020) study of nurses during the early months of the COVID-19 pandemic in Wuhan, China. Ahmed et al. (2020) found that increased levels of inclusive leadership (a resource defined as leaders' behaviour "that indicate an invitation and appreciation for others' contributions"; Nembhard & Edmondson, 2006, p.946), were associated with reduced psychological distress in the months following the onset of COVID-19. Similarly, findings related to the experiences of employees during hurricane seasons suggest that the impact of hurricane-induced stress on job outcomes was exacerbated when employees perceived themselves as having inadequate resources (Hochwater et al., 2008). In 2014, Biggs, et al. found that higher levels of resources, in the form of work culture support, job control, and supervisor support, were associated with lower levels of psychological strain when employees were exposed to potentially traumatic extraorganizational stressors. In demanding environments, resources enable employees to effectively cope with the demands and may also lead to an increase in engagement (Bakker & Demerouti, 2014).

To act as a resource, supervisors can behave supportively, providing individuals with emotional support (e.g., affirming one's value and social acceptance; Cohen & Wills), informational support (e.g., advice, suggestions, and information), social companionship (e.g., spending leisure time together), and instrumental support (e.g., providing material resources, solutions to stressors, or needed services; Cohen & Wills, 1985). In the present study, supportive supervision is positioned as a critical resource designed to help buffer the impact of COVID-19 related fears on employee mental health. Previous studies have demonstrated the positive influence of supportive supervision in a variety of domains. For instance, Lapierre and Allen (2006) demonstrated the benefit of family supportive supervisor behaviour (FSSB; i.e.,

behaviours exhibited by supervisors that support employees' family roles) on employees' work-family conflict. They found a negative correlation between employee-reported supervisor FSSB and work-family conflict and conclude that the provision of instrumental support from supervisors may be especially beneficial for employees (Lapierre & Allen, 2006). Similarly, Perry et al. (2018) found a negative association between participants' rating of their supervisor's veteran-supportive supervisor behaviors (VSSB; i.e., behaviors exhibited by supervisors that are supportive of veterans) and turnover intentions, work-family conflict, and perceived stress, emphasizing supervisor support's ability to impact employee wellbeing. Therefore, employees experiencing heightened fear associated with the COVID-19 pandemic may benefit from supportive supervision, such that supportive supervision can mitigate the relationship between COVID-19-related fears and poor mental health outcomes by acting as a critical resource (see Figure 1). Therefore, I hypothesize that:

> Hypothesis 2: There will be a moderation relationship, whereby supervisor support affects the relationship between employee fear and mental health. Specifically, the positive relationship between fear and poor mental health will be weaker among employees who report higher supervisor support compared to employees who report lower supervisor support

Contributions of the Present Study

Ultimately, this paper contributes to the leadership and mental health literatures in three key ways. First, this study investigates the extent to which emotional reactions, such as fear, can manifest as poor mental health when employees are exposed to stressors that lack temporal context (e.g., stressors that are, at times, acute, and at other times, chronic). Second, this study

examines the role of supervisor support in buffering the relationship between fear and poor employee mental health when employees are exposed to traumatic extraorganizational stressors – a relatively unexplored source of strain in the organizational behavior and human resource literatures. Third, this study contributes to the growing literature informing organizational responses to the COVID-19 pandemic by specifically focusing on the role of immediate supervisors rather than executive-level leaders or government officials. This focus on employees' supervisors is consistent with Sinclair, et al.'s (2020) commentary that emphasized the elevated importance of supervisor support during the COVID-19 pandemic.

The COVID-19 pandemic has created a unique context within which to study the Social Support Buffering Hypothesis (Cohen & Wills, 1985). Previous studies investigating the role of social support during large-scale traumatic events (natural disasters and terror attacks) involved acute traumatic events; studies of chronic extraorganizational stressors typically focus on non-traumatic stressors, such as financial conditions and work-family conflict (Byron & Peterson, 2002; Hendrix, et al., 1994). Thus, the ongoing COVID-19 pandemic provides an opportunity for researchers to examine the effects of a chronic, traumatic extraorganizational event on employee mental health, as well as the role of social support in buffering these effects. This will add to the growing literature regarding COVID-19's impact on the workforce and highlight the potentially pivotal role of leaders during times of significant uncertainty or trauma (Ahmed, et al., 2020; Biggs, et al., 2014; Birkeland, et al., 2016). In turn, the results from this study can be used to help bolster organizational preparedness for future traumatic events or other extraorganizational stressors, lending insight into the supportive leadership behaviors that leaders can enact to best protect employee health during times of turmoil.

Method

Participants

Canadian and American employees (N = 2057) were recruited on a volunteer basis through Qualtrics, an online survey system using the Qualtrics panel service. Participants were recruited and compensated by Qualtrics. Data from participants residing in Canada and the United States was collected concurrently. Participants were required to be 18 years of age or older, fluent in English, currently employed, and working at least 20 hours per week to participate in this study. Individuals who reported being self-employed were excluded from the study.

In total, 955 employees (i.e., 46% of the original sample) participated in the study at all three time points. These employees (50.8% men, 49.2% women) were from Canada (59.3%) and the United States (40.7%); 85.3% reported working over 35 hours per week. Participants reported working in both salaried (58.7%) and hourly (39.5%) positions within an array of occupations, including management (18.5%), business, finance, and administration (19.7%), education, law, government (15.3%), sales (13.9%), and natural and applied sciences (14.2%). They ranged in age from 18 to 80 years old (M = 49, SD = 12.6), with an organizational tenure between less than one year and 47 years (M = 12.5, SD = 10.0). Participants' educational backgrounds varied, with 16.9% of participants reporting obtaining a high school diploma, 16.8% receiving a college diploma, and 66.3% of participants receiving a Bachelor's degree or higher.

The majority of participants were white/Caucasian (76.5%), married (59.1%), did not have children or minors under the age of 18 living at home (76%), and did not consider

themselves immunocompromised (90.7%). Comprehensive demographic characteristics can be found in Table 1.

Procedure

Participants were asked to respond to a 20-minute survey questionnaire that was part of a larger study on organizational responses to COVID-19. Participants completed the same survey questionnaire at three time points, distributed over the course of an 8-week time period from April 2020 to June 2020– with approximately four weeks between each survey. Once recruited, participants were directed to a consent form and prompted to respond with "Yes, I agree and wish to participate" if they wanted to proceed with the survey. If they did not want to proceed with the survey, participants could either close the survey or respond with "No, I do not wish to participate." Once consent was obtained, participants began the survey. The survey began with the inclusion criteria, followed by study measures, and concluded with a demographics section. Once complete, participants submitted the survey online via Qualtrics and were reminded of the timeline for the two additional surveys that were a part of this study.

Participants were re-contacted by Qualtrics approximately four weeks after the submission of the Time 1, at which point they were asked to participate in the Time 2 survey; four weeks after completing the Time 2 survey, they were once again contacted and asked to respond to the Time 3 survey. A total of 2057 participants completed the survey at Time 1, 67% (n = 1368) of whom completed the survey at Time 2. Of the 1368 participants who precipitated at Time 2, 86% (n = 1180) completed the survey at Time 3. Overall, 46% of the initial sample (n = 955) completed all three surveys. There were no meaningful differences in COVID-19 Fear, Fear of Infection, Supervisor Support, Mental Health or Presenteeism between participants who completed all three survey times points and those who completed the survey at only one or two

time points. However, there were statistically significant differences (when examining p-values) in mental health and presenteeism between participants who completed the survey at all three time points and those who only completed the survey at Time 1. Specifically, participants who completed the survey at all three time points appeared to (a) have lower levels of presenteeism (M = 2.59, SD = 0.83) than those who only completed the first survey (M = 2.75, SD = 0.768, t (1507) = 4.04, $p < .001$,), and (b) have better mental health (M = 2.34, SD = 0.62) than those who only completed the first survey (M = 2.75, SD = 0768, t (1215) = 4.95, $p < .001$). These differences are likely a statistical artifact due to the large size of this sample (Mysiak, 2020).

Measures

Variables were measured at all three time points unless otherwise stated. Reliability coefficients associated with each scale can be found in Table 2.

The 8-item Fear Scale (adapted from Champion et al., 2004) was used to measure COVID-19 Fear. Two sample items from the scale include "The thought of COVID-19 scares me" and "When I think about COVID-19, my heart beats faster". Participants were asked to indicate their level of agreement or disagreement with each statement using a response scale ranging from 1 for *strongly disagree* through to 5 for *strongly agree*.

A Fear of Infection Scale (adapted from Kelloway et al. 2011) was also used to measure fear with a focus on COVID-19 at the workplace. This scale contained 5 items including "I am afraid that that there will be a case of COVID-19 in my workplace" and "I worry about how safe my workplace is from infectious disease." Participants were asked to indicate their level of agreement or disagreement with each statement using a response scale ranging from 1 for *strongly disagree* through to 5 for *strongly agree*

Supervisor support was assessed using 7 items. Participants were asked to indicate their level of agreement on whether their supervisor engaged in the specific behaviours over the past several weeks. The 4-item Perceived Supervisor Support Scale (Eisenberger et al., 1986) was combined with 3 items derived from Yoon and Lim (1999). Sample items include "provides me with helpful feedback" (Yoon & Lim, 1990) and "is supportive of my emotional health and wellbeing" (Eisenberger et al., 1986). The response scale ranged from 1 for *strongly disagree* through to 5 for *strongly agree*.

A Mental Health score was assessed using the 12-item General Health Questionnaire (GHQ; Banks et al., 1980). Participants were asked how often in the last three months they experienced each of the 12 situations (e.g., "felt that you couldn't overcome your difficulties", "felt under strain"). The response scale ranged from 1 for *not at all* through to 7 for *all of the time,*with higher scores representing poorer mental health.

Presenteeism was measured using the 4-item Stanford Presenteeism Scale (Koopman et al., 2002). Participants were asked to reflect on their work experiences over the past month and respond to each item on a response scale from 1 for *strongly disagree* through to 5 for *strongly agree*. Sample items from this scale include "Because of COVID-19 the stresses of my job were much harder to handle" and "COVID-19 distracted me from taking pleasure in my work." Higher scores on the presenteeism scale represent higher levels of presenteeism.

Age was measured at Time 1 using the item "What is your age in years?" Numeric responses were collected.

Immune Status was measured at Time 1 using the item "Do you consider yourself immunocompromised?" Participants responded *Yes* or *No*.

Country of Residence was measured at Time 1 using the item "Do you currently live in Canada or the United States?" Participants were given a choice of *Canada, the United States,* or *No.*

Statistical Analysis

To test the social support buffering hypothesis and, more specifically, whether supervisor support moderates the relationship between COVID-19 fear and mental health, I conducted a hierarchical multiple regression analysis using the PROCESS macro (Hayes, 2013) through SPSS.

In the first step (Block 1), Time 1 COVID-19 Fear was inputted as the independent variable predicting Time 3 Mental Health. This model was used to test Hypothesis 1 (i.e., that there will be a positive relationship between fear and poor mental health). Next, Time 2 Supervisor Support was added (Block 2) to assess if supervisor support made a significant incremental contribution to the prediction of Time 3 Mental Health of participants compared to a model that only included COVID-19 Fear. Finally, using model 1 of the PROCESS macro (Hayes, 2013), I fit a regression model predicting the outcome variable (i.e., participants' mental health at Time 3; GHQ) from both the predictor variable (i.e., Time 1 COVID-19 Fear) and the moderator variable (i.e., Time 2 Supervisor Support) with an interaction term between COVID-19 Fear and Supervisor Support included in the model. The predictor, moderator, and outcome variables were measured at three separate time points to reduce potential common methods variance. To test Hypothesis 2 (i.e., that there will be a moderation relationship, whereby the positive relationship between fear and poor mental health will be weaker among employees who report higher supervisor support compared to employees who report lower supervisor support), I examined the interaction plot, the effect of the new interaction term, and the R-square change of

the model. To test the robustness of the results, I then added three control variables to this regression analysis and followed the same procedure outlined above. Age, Immune Status, and Country of Residence (Canada or the USA) were inputted as covariates in Block 1. See Figure 1 for hypothesized model.

In accordance with the recommendations put forward by Bernerth and Aguinis (2016), controls were only included if there was an adequate rationale for their relationship with the focal variables of this study. Age, immune status, and country of residence have been identified as potential risk factors associated with COVID-19 (Baja et al., 2021; Fung & Babik, 2021; Unruh et al., 2021) and, as such, variability in COVID-19 fear according to these variables represent potential confounds capable of impacting the relationships being examined in this study. Older participants or those with compromised immune systems face elevated risks associated with COVID-19 (Baja et al., 2021; Fung & Babik, 2021). This may impact their level of COVID-19 fear, mental health implications, or need for support within the workplace. In order to ensure the generalizability of results, age, and immune status have been controlled for. Further, distinct national responses to the pandemic and a myriad of related exogenous factors impact the risks posed by COVID-19 within different countries (Unruh et al., 2021). To address this, country of residence is controlled for. This variable was later investigated independently, as noted below.

Three parallel models were also tested. These models used Fear of Infection as opposed to COVID-19 Fear as a predictor variable and Presenteeism as opposed to Mental Health as an outcome variable. The parallel analysis interrogates the robustness of the hypothesized relationships by using Fear of Infection and Presenteeism as similar, but distinct, workplace specific variables. This analysis resulted in four total models a) COVID-19 Fear predicting

Mental Health, b) Fear of Infection predicting Mental Health, c) COVID-19 Fear predicting Presenteeism, and d) Fear of Infection predicting Presenteeism. See Figures 2-4 for parallel models.

Ad-hoc Statistical Analysis.

Finally, I conducted an exploratory, post-hoc moderated moderation analysis using model 3 of the PROCESS macro (Hayes, 2013) to further explore the relationship between supervisor support, fear, and mental health outcomes. In this analysis, Country of Residence (Canada or the United States) was inputted as a secondary moderator, moderating the moderation relationship between supervisor support, fear, and mental health to highlight the conditions under which supervisor support may be especially important in buffering the relationship between fear and adverse mental health outcomes. To conduct this analysis, Time 1 COVID-19 Fear was inputted as the predictor variable, Time 3 GHQ was inputted as the outcome variable, Time 2 Supervisor Support was inputted as the primary moderating variable, and Country of Residence was the secondary moderator. Age and Immune Status were included in this model as control variables.

Results

The means, standard deviations, correlations, and reliability coefficients for the study variables are located in Table 2.

Hypothesis 1 Testing

I used Pearson correlations and a linear regression model to test Hypothesis 1 – that there would be a positive relationship between fear at Time 1 and poor Mental Health at Time 3. As this hypothesis specifically investigates the direct relationship between fear during the onset of the COVID-19 pandemic and subsequent mental health outcomes, I focused on Time 1 and Time 3 data. This analysis was initially conducted without control variables, and then again with Age,

Immune Status, and Country of Residence (Canada or the USA) included as covariates. There was a positive and significant correlation between Time 1 COVID-19 Fear and Time 3 GHQ (r (1090) = .486, $p < .001$), suggesting that heightened fear is associated poorer mental health, which provides support for Hypothesis 1. Further, the regression model with Time 1 COVID-19 Fear predicting Time 3 GHQ accounted for 23.6% of the variance in mental health scores (F (1,1088) = 337.23, $p < .001$, $R^2 = .236$). COVID-19 Fear produced a positive and significant coefficient in the overall regression equation ($b = 0.337$, t (1089) = 18.36, $p < .001$). This relationship remained positive and significant when accounting for Age, Immune Status, and Country of Residence (r (1055) = .456, $p < .001$). In the regression model, these three control variables and Time 1 COVID-19 Fear accounted for 29.5% of the variance in mental health scores (F (4,1055) = 111.68, $p < .001$, $R^2 = .295$) with COVID-19 Fear uniquely accounting for 18.5% of the variance (ΔF (1,1055) = 277.26, $p < .001$, $\Delta R^2 = .185$). Importantly, in the overall regression equation, COVID-19 Fear's coefficient remained positive and significant ($b = 0.308$, t (1059) = 16.65, $p < .001$) suggesting that higher fear is associated with poorer mental health. Age was the only control variable that produced a statistically significant coefficient in this regression model ($b = -0.011$, t (1059) = 8.76, $p < .001$).

See Figure 5.

Parallel Analysis

I conducted four parallel analyses of Hypothesis 1 by computing parallel correlations using Fear of Infection as an alternate predictor variable and presenteeism as an alternate outcome variable. All four parallel correlations a) Time 1 COVID-19 Fear and Time 3 GHQ (r (1054) = .457, $p < .001$), b) Time 1 Fear of Infection and Time 3 GHQ (r (1054) = .280, $p < .001$), c) Time 1 COVID-19 Fear and Time 3 Presenteeism (r (1054) = .401, $p < .001$), and d)

Time 1 Fear of Infection and Time 3 Presenteeism (r (1054) = .282, p < .001) were positive and significant when controlling for Age, Immune Status and Country of Residence.

Hypothesis 2 Testing

I then added Time 2 Supervisor Support (Block 2) to the regression model with the control variables and Time 1 COVID-19 Fear (Block 1). This revealed a significant negative correlation between Supervisor Support and GHQ (r (928) = -.211, p < .001), as well as a significant negative correlation between Supervisor Support and COVID-19 Fear (r (928) = -.068, p = .019). The negative correlation between supervisor support and GHQ indicates a relationship whereby higher levels of support correlate with lower GHQ scores (i.e., better mental health). Supervisor support added to the predictive value of this model with Time 2 Supervisor Support accounting for an additional 2.6% variance in mental health scores (F (1,922) = 35.14, p < .001, ΔR^2 = .026) and the overall regression model accounting for 30.7% of the variance in mental health (F (5,922) = 83.14, p < .001, R^2 = .307). In this model, Age (b = -0.010, t (927) = -7.00, p < .001), COVID-19 Fear (b = 0.293, t (927) = 15.21, p < .001), and Supervisor Support (b = -0.146, t (927) = -5.23, p < .001) were the only variables to produce statistically significant coefficients.

To test Hypothesis 2 (i.e., that supervisor support would moderate the positive relationship between fear and poor mental health), I used the PROCESS macro (Hayes, 2013) first without control variables and then with Age, Immune Status, and Country of Residence included as covariates. This regression model included Time 1 COVID-19 Fear as the independent variable, Time 2 Supervisor Support as the moderating variable, Time 3 GHQ as the dependent variable, as well as an interaction term between COVID-19 Fear and Supervisor Support. This model accounted for 26.6% of the variance in mental health score (F (3,951) =

115.10, $p < .001$, $R^2 = .266$). The inclusion of the COVID-19 Fear x Supervisor Support interaction term did not account for any additional variance in mental health score (F (1,951) = 1.17, $p = .28$, $\Delta R^2 = .001$) resulting in the rejection of Hypothesis 2. COVID-19 Fear was the only variable to produce a significant coefficient ($b = 0.428$, t (951) = 4.18, $p < .001$). Results did not differ with the inclusion of control variables: The overall model accounted for 31.2% of the variance in mental health score (F (6,921) = 69.50, $p < .001$, $R^2 = .312$) and the interaction term remained non-significant (F (1,921) = 1.21, $p = .21$, $\Delta R^2 = .001$). In this regression equation, COVID-19 Fear ($b = -0.398$, t (921) = 3.97, $p < .001$), and Age ($b = -0.01$, t (921) = -7.01, $p < .001$) both produced significant coefficients. See figure 6. I then constructed a scatterplot to visualize this relationship. See Figure 7.

Figure 7 illustrates the relationship between COVID-19 Fear and GHQ at low (3.11), medium (3.81), and high (4.51) levels of Supervisor Support, accounting for control variables. Higher levels of fear correspond with worse (higher) mental health scores, as indicated by the positive slope of each interpolation line for low, medium, and high levels of supervisor support- further supporting Hypothesis 1. However, as the relationship between fear and poor mental health does not change at varying levels of supervisor support (i.e., all three interpolation lines are approximately parallel as opposed to diverging, converging, or crossing over one another), Hypothesis 2 must be rejected.

Parallel Analysis

This analysis was repeated three additional times to examine each of the parallel analysis models.

Moderation Model b). Time 1 Fear of Infection and Time 2 Supervisor Support predicting Time 3 GHQ explained 20.7% of the total variance of mental health scores (F (6,920)

= 40.05, $p < .001$, $R^2 = .207$), the addition of the Fear of Infection x Supervisor Support interaction term did not account for any additional variance in mental health score (F (1,920) = 0.65, $p = .42$, $\Delta R^2 = .0006$). Supervisor Support ($b = -0.244$, t (920) = -1.97, $p = .049$), Age (b = -0.012, t (920) = -7.89, $p < .001$), and Country of Residence ($b = -0.084$, t (920) = -2.12, p = .034) were the only variables to produce significant coeffects.

Moderation Model c). Time 1 COVID-19 Fear and Time 2 Supervisor Support predicting Time 3 Presenteeism explained 25.4% of the total variance of presenteeism scores (F (6,921) = 52.37, $p < .001$, $R^2 = .254$), the addition of the COVID-19 Fear x Supervisor Support interaction term did not account for any additional variance in presenteeism score (F (1,921) = 0.24, $p = .62$, $\Delta R^2 = .0002$). COVID-19 Fear ($b = 0.29$, t (921) = 2.01, $p = .044$), Supervisor Support ($b = -0.276$, t (921) = -2.23, $p = .026$), Age ($b = -0.01$, t (921) = -4.89, $p < .001$), and Country of Residence ($b = -0.106$, t (921) = -2.02, $p = .044$) all produced significant coeffects.

Moderation Model d). Time 1 Fear of Infection and Time 2 Supervisor Support predicting Time 3 Presenteeism explained 18.4% of the total variance of presenteeism scores (F (6,920) = 34.52, $p < .001$, $R^2 = .184$), the addition of the Fear of Infection x Supervisor Support interaction term did not account for any additional variance in presenteeism score (F (1,920) = 0.34, $p = .56$, $\Delta R^2 = .0003$). Age ($b = -0.013$, t (920) = -5.91, $p < .001$), and Country of Residence ($b = -0.135$, t (920) = -2.46, $p = .014$) were the only two variables that produced significant coeffects.

Exploratory Post-hoc Analysis

I then conducted a post-hoc, exploratory analysis, examining a moderated moderation (i.e., three-way interaction) model with Country of Residence moderating the moderation

relationship between Supervisor Support, COVID-19 Fear, and Mental Health discussed above (see Figure 8).

Moderated Moderation

I used model 3 of the PROCESS macro (Hayes, 2013) to test the moderated moderation model, inputting Time 3 GHQ as the outcome variable, Time 1 COVID-19 Fear as the predictor variable, Time 2 Supervisor Support as the primary moderating variable, and Country of Residence as the secondary moderating variable, as well as Age and Immune Status as control variables. This model accounted for 32.0% of the variance in mental health score (F (9,918) = 48.06, $p < .001$, $R^2 = .320$). The inclusion of the three way interaction between COVID-19 Fear, Supervisor Support, and Country of Residence uniquely accounted for 0.7% of variance in mental health score. This is a small but significant increase (F (1,918) = 8.86, $p = .003$, $\Delta R^2 = .007$), and supports a moderated moderation model. Two of the three conditional effects Supervisor Support ($b = -0.813$, t (918) = -2.88, $p = .004$) and Country of Residence ($b = -1.708$, t (918) = -2.54, $p = .011$) and all three conditional interactions, COVID-19 Fear x Supervisor Support ($b = 0.211$, t (918) = 2.51, $p = .012$), COVID-19 Fear x Country of Residence ($b = 0.529$, t (918) = 2.62, $p = .009$), and Supervisor support x Country of Residence ($b = 0.486$, t (918) = 2.81, $p = .005$) produced significant coefficients in this model along with the one three way interaction ($b = -0.156$, t (918) = -2.98, $p = .003$). Age was the only control variable to produce a significant coefficient ($b = -0.01$, t (918) = -6.97, $p < .001$). See Figure 9.

I then examined the conditional interaction between COVID-19 Fear x Supervisor Support at both levels of Country of Residence (i.e., Canada and the United States). The results of this analysis reveal that the COVID-19 Fear x Supervisor Support interaction effect is non-significant for participants in Canada [$b = 0.06$, F (1,918) = 2.10, $p = .147$] but is significant for

participants in the United States [b = -0.10, F (1,918) = 7.86, p = .005]. That is, Time 2 Supervisor Support significantly moderated the relationship between Time 1 COVID-19 Fear and Time 3 GHQ for participants in the United States, but not Canada.

Figure 10 illustrates the relationship between COVID-19 Fear and GHQ at low (3.11), medium (3.81), and high (4.51) levels of Supervisor Support for the Canadian and American participants independently using a one standard deviation increase or decrease in supervisor support to determine "high" and "low" support respectively.

For participants in Canada, the unstandardized beta of Time 1 COVID-19 Fear on Time 3 GHQ remains positive and significant at low [b = 0.28, t (918) = 7.93, p < .001], medium [b = 0.33, t (918) = 12.45, p < .001], and high [b = 0.36, t (918) = 9.40, p < .001] levels of Supervisor Support. The change in strength of this effect across the three levels of Supervisor Support do not appear to represent significant differences. This can be visually assessed by comparing the three interpolation lines representing the relationship between COVID-19 Fear and GHQ for each of the three levels of support. As the three lines are largely parallel, there is no evidence for a differential effect of COVID-19 Fear on GHQ at varying levels of supervisor support.

For participants in the United States, the effect of Time 1 COVID-19 Fear on Time 3 GHQ remains positive and significant at low [b = 0.33, t (918) = 8.76, p < .001], medium [b = 0.26, t (918) = 9.36, p < .001], and high [b = 0.19, t (918) = 5.05, p < .001] levels of supervisor support. Upon further examination, the effect of COVID-19 Fear on mental health diminishes as the level of supervisor support increases. The effect of COVID-19 Fear on GHQ diminishes with increasing levels of Supervisor Support such that, when Supervisor Support is high, the relationship between COVID-19 Fear and GHQ is weaker than when Supervisor Support is low. This can be seen visually by the reduction in the slopes of the interpolation lines in the bottom

graph of Figure 10 as when comparing the interpolation line representing low levels of Supervisor Support to those representing medium or high levels of Supervisor Support. This buffering of the positive relationship between COVID-19 Fear and GHQ by Supervisor Support may represent the social support buffering hypothesis discussed above. Visually, Figure 10 also indicates that when COVID-19 Fear is higher, higher levels of Supervisor Support are associated with better (i.e., lower) GHQ scores than when support is lower. The impact of Supervisor Support appears to be less salient, however, when COVID-19 Fear is lower.

Discussion

Using the Social Support Buffering Hypothesis (Cohen & Wills, 1985), I examined the protective effect of leadership on mental health in the context of a traumatic extraorganizational stressor. Specifically, I predicted that COVID-19 related fear would be associated with poor mental health and that supervisor support would help attenuate (i.e., moderate) this relationship, such that the positive relationship between fear and poor mental health would be weaker among employees who report higher supervisor support compared to employees who report lower supervisor support. The results of this time-lagged online survey study provide support for the hypothesized relationship between COVID-19 related fear and poor mental health and partially support the moderating effect of supervisor support on this relationship. Time 1 COVID-19 related fear was positively and significantly related to poor mental health scores at Time 3, providing support for Hypothesis 1. After conducting a hierarchical linear regression analysis, supervisor support did not appear to moderate this relationship, suggesting a lack of support for Hypothesis 2. However, post-hoc analysis revealed support for Hypothesis 2 within the American sample but not the Canadian sample, suggesting disparate impacts of supervisor support on mental health based on country of residence. Theoretical and practical implications of these results are discussed below.

Theoretical Implications

My findings indicate that extraorganizational stressors can influence employee stress experiences (i.e., COVID-19 related fear) and mental health. Importantly, findings also suggest that, under the right conditions, supervisor support can be a critical resource for mitigating such negative health impacts. The Social Support Buffering Hypothesis (Cohen & Wills, 1985) uses the concept of stress to explain the connection between environmental conditions and individual health outcomes, defining stress as a short term affective and physiological change associated with a cognitive and environmental evaluation of stressors (Lazarus, 1990). In the absence of sufficient resources, stressors elicit stress and result in diminished mental health (Cohen & Wills, 1985). Previous studies have demonstrated that increased stress following traumatic extraorganizational stressors is associated with decreased wellbeing (Biggs, et al., 2002, Freedy et al., 1992, Hochwarter et al., 2008). My results replicate these past findings, but also extend them, given that little research has examined traumatic extraorganizational stressors that are ongoing, have an uncertain 'end point', and share characteristics of both chronic and acute stressors– all key characteristics of the COVID-19 pandemic. Thus, one contribution of this study stems from the application of the Social Support Buffering Hypothesis to a novel and ongoing stressor. Results from this study add to the growing literature surrounding the COVID-19 pandemic. They integrate the potentially protective role of workplace supervisors for employees' wellbeing and, ultimately, lend support to the Social Support Buffering Hypothesis, proposed in 1985.

Another contribution of this study is the insight it provides into the extent to which workplace support may be meaningful to employees living in different countries who are experiencing the same extraorganizational stressor. Although not previously hypothesized, key

differences were observed between Canadian and American employees, with social support being significantly more meaningful for employees working in the United States. This finding lends insight into the ways by which organizations, and specifically managers, can play a role in mitigating the effects of extraorganizational stressors when national approaches fail to protect or support employee health and wellbeing. Overall, findings suggest that such stressors have a significant impact on employees and organizational outcomes, namely employee mental health. Results also provide insight into the relevance of employees' emotional responses, such as fear, when attempting to understand this experience.

In their recent study of doctors in Pakistan, Malik et al. (2021) found that COVID-19 related fear was significantly associated with workplace panic and anxiety. Similar to extant research on communicable disease outbreaks (e.g., Wu et al., 2006), they concluded that fear of infection negatively impacts healthcare workers' psychological health. In turn, they point to workplace resources as a potential buffer to minimize the impact of this relationship on employee performance and health outcomes (Malik et al., 2021). Findings from my study are consistent with those by Malik et al. (2021), but apply more generally to employees from a wide range of occupational backgrounds. As such, my results highlight the far-reaching impact of fear and suggest that COVID-19 represents a boundary spanning (i.e., extraorganizational) stressor capable of eliciting spillover effects similar to previously acknowledged extraorganizational stressors (e.g., Ragins et al., 2014). Further, as demonstrated by Nabe-Nielsen (2020), workplace COVID-19 risk management policies impact front line workers' fear of infection. Together, these studies suggest that COVID-19, while not a 'workplace' specific stressor in and of itself, is capable of initiating a stress-reaction process that affects, and is affected by, the workplace – a premise that is supported by the results of this study.

Excessive fear is commonly considered an antecedent of poor mental health (Rosen & Schulkin, 1998) yet remains understudied in workplace literature (Sasaki et al. 2020). My research supports the notion that fear is an important workplace consideration capable of impacting employees' mental health. Through the lens of the Support Buffering Hypothesis and Transactional Theory of Stress and Coping (Cohen & Wills, 1985, Lazarus & Folkman, 1984), fear represents an understudied stress response. Results from the current study support the underlying assertions of the Social Support Buffering Hypothesis that stress precipitates diminished mental health, and positions fear as an important variable to study within an organizational context.

Lazarus (1966) describes fear as an emotional state resulting from an overpowering threat stimulus towards a perceived danger, and Reiss (1997) considers it to be the combination of one's expectancy (i.e., their expectation of an adverse event) and sensitivity (i.e., the salience of the associated fundamental fear). Both conceptualizations of fear involve a risk perception component. Similarly, the Transactional Theory of Stress and Coping contends that environmental factors only have a detrimental impact on individuals' psychological wellbeing if the stimulus is perceived to be threatening (i.e., a personally relevant risk that overwhelms one's resources or capacity to cope; Lazarus & Folkman, 1984). Resources provide a valuable throughline connecting these concepts and suggest that the provision of resources may alleviate risk perceptions and act as a buffer, dampening the relationship between fear and poor mental health. The Support Buffering Hypothesis specifically proposes that social support is a vital resource (Cohen & Wills, 1985). My results indicate that supervisor support (i.e., a form of leadership involving the provision of social support) acts as a moderator in some, but not all,

contexts. Specifically, in this sample, supervisor support buffered the relationship between fear and poor mental health in the American, but not Canadian, sample.

The Canadian and American Context

In the first few months of the pandemic, when data for this study was being collected, little was known about the trajectory of the pandemic – with some sources suggesting it would be over in a matter of weeks and others suggesting months and with death tolls that were once unimaginably high (AJMC, 2021). Contributing to this uncertainty was the disparate approaches adopted by governments around the world (Dryhurst et al., 2020). Most pertinent to this study is the different approaches of government leaders within Canada and the United States (McCarten, 2020). While federal and provincial governments within Canada appeared to work together to provide Canadians with coherent and unified messaging regarding the rapidly evolving situation (Canadian Public Health Association, 2021; Thomas, 2021), American leaders appeared to be less cohesive (McCarten, 2020). The United States government initially provided little support for state governments, and state and federal officials' rhetoric frequently contradicted each other (Sherman, 2020, Pengelly, 2020). Notably, when addressing the growing concerns regarding COVID-19, the then President of the United States, Donald Trump, suggested that COVID-19 was similar to the flu and that the pandemic could be over as early as easter of that year (i.e., April 2020), while many officials at the state level prepared for a much less optimistic outcome (Zurher, 2020). Further, at the onset of the COVID-19 pandemic, Canadian politicians resisted the urge to politicize the pandemic in favor of a policy-centered, "Team Canada" approach, unlike the political environment south of the border (McCarten, 2020).

Research indicates that differences in messaging, along with the risk mitigation policies implemented by various countries, contributed to distinct risk perceptions and materially

impacted the health risk posed by COVID-19 (Dryhurst et al., 2020, Unruh et al., 2021). The International Labour Organization (ILO), a United Nations agency focusing on social and economic justice through setting international labour standards, emphasizes that the tripartite social dialogue between governments, employers, and employees would be necessary to address the impacts of COVID-19 and respond with sustainable solutions (ILO, 2020). In the absence of a coherent, consistent, bipartisan response from government leaders in the United States, it is possible that employees relied more strongly on organizational leaders to address their fears surrounding the pandemic. In Canada, federal mandates and provincial public health policy often aligned, both financially (e.g., CERB) and instrumentally (e.g., mask mandates) supporting the health of employees, allowing supervisors' to simply follow public health guidelines. In the United States, however, organizations had added latitude in their decision making surrounding public health procedures.

Meta-analytic results examining perceptions of workplace support find that employees' perceptions of support are impacted by the level of discretion involved in providing the support (Kurtessis et al.,2017). If an organization has little control over the support being provided (i.e., it is the result of a competitive job market or government regulation), the relationship between workplace support and employees' perceptions of support is weaker than if there is a high degree of discretion over the support (Eisenberger et al., 1997). The greater autonomy of American employers, as compared to their Canadian counterparts, may help explain the disparate impact of supervisor support on the relationship between fear and mental health identified in this study. As the level of fear does not appear to meaningfully differ between participants in Canada and those in the United States, it is possible that employees' attributions associated with support (i.e., perceptions of support) impact the relationship between fear and mental health and act as a third

variable. While supervisors may not reduce employees' fear, they may protect them from its detrimental impact on mental health when the support is perceived as being voluntary as opposed to being the result of government regulation. Using the Social Support Buffering Hypothesis as a framework, it is possible that while fear was associated with diminished mental health for both Canadians and Americans, social support in the form of supervisor support was only *required* to act as a buffer for participants within the United States as a result of discrepancies in alternate resources (e.g., nationally-driven policies; healthcare systems).

In their meta-analysis investigating the interaction between leaders and employee mental health, Montano et al. (2017) conceptualize leadership as a "social influence process between leaders and followers that facilitates the accomplishment of organizational goals" (p. 329). In the context of a global pandemic, organizational goals, such as ensuring safe working conditions and providing support, may protect employees both physically and psychologically. Montano et al. (2017) found support for their hypothesis that leadership impacts employee mental health, concluding that leadership may act as a vital component of an overall occupational health strategy. My results partially support this conclusion but also suggest that leadership's effect on employee mental health may be influenced by additional factors. Specifically, during an ongoing traumatic extraorganizational stressor, leaders may play an especially vital role in protecting employees' mental health in the absence of extraorganizational resources (e.g., nationally-driven policies; healthcare systems). Organizations, especially large multi-national corporations, are increasingly being expected to address such absences of resources (Scherer & Palazzo, 2011); one way they accomplish this is in the form of corporate social responsibility (CSR; i.e., practices and policies undertaken by corporations that extend beyond their explicit economic mandate with the aim of "doing good" in exchange for gaining social legitimacy; Maon, 2009).

In their review of CSR, Scherer and Palazzo (2011) discuss the decline of the nation-state and the rise of the business power. They contend that in a world of globalization, individuals often expect organizations to address needs that are not being sufficiently met by government.

Relatedly, when individuals' fears are not sufficiently assuaged by government, employees may rely more heavily on workplace supports to cope. This increased reliance on organizational resources may explain why supervisor support significantly buffered the relationship between fear and mental health in the American, but not Canadian, sample. However, unlike true (i.e., narrowly defined) CSR, protecting employee mental health is not an exclusively magnanimous endeavor. As discussed above, employee mental health can significantly influence organizational outcomes, including health insurance costs, productivity, and turnover (Danna & Griffin, 1999; Quick, et al., 1986). Importantly in the context of COVID-19 and the workplace, the American healthcare system is largely intertwined with employment, with most Americans accessing healthcare through the provision of private, workplace health insurance (The Kaiser Family Foundation, 2021.). This distinction between the Canadian and American healthcare system may impact the relationships explored in this study and create differences in employees' conceptualizations and expectations of workplace supports. Ultimately, this highlights the value of acknowledging the (occasionally overlooked) distinctions between Canadian and American participants and acts as a silent example of organizations fulfilling needs that have not been sufficiently met by governments.

Practical Implications

These results suggest two key practical implications. First, the relationship between fear and poor employee mental health highlights the need for organizations to be cognizant of the impact that extraorganizational factors can have on employees. Supervisors should be mindful of

employees' work and life domains, especially when one has the capacity to detrimentally impact the other. In their study investigating work-life conflict, Pacheco et al. (2021) found that work-life conflict is associated with diminished health and emotional outcomes and can interfere with employees' personal and professional projects. They suggest that employers should listen to employees' concerns regarding both work and life domains to better address stressors and meaningfully support employee development (Pacheco et al., 2021). However, in the context of a global pandemic and the resultant workplace disruptions, the delineation between work and home domains becomes less clear (Sinclair, et al., 2020).

Results from my study suggest that employees' emotional states should be considered in conjunction with other, more typical metrics of employee wellbeing (Woods, 2010). Fear illustrates this necessity, as it is widely accepted as having both a cognitive and emotional component and, as the results of this current study indicate, impacts employee wellbeing. In their review of emotions in the workplace, Ashkanasy and Dorris (2017) discuss the recent acknowledgement of emotions as important within an organizational context, highlighting the important link between emotions and employee wellbeing (both positive and negative) and the role of leadership, which is included in their multilevel framework of emotions in organizations. Taken together, it is evident that organizations, and specifically leaders, must attend to many aspects of their employees' lives, including components that have previously (and erroneously) been deemed non-pertinent to the workplace (Ashkanasy & Dorris, 2017).

Second, beyond recognizing the importance of emotionality and extraorganizational stressors on employees, results of the current study indicate that supervisors can help promote employee wellness through the provision of resources (i.e., supervisor support). This is in line with Hämmig's (2017) findings, which identify supervisor support as a particularly vital form of

social support in the context of employee health and wellbeing. While social support from a spouse, relative, friend, co-worker, and supervisor all individually contributed to employee health, Hämmig (2017) identified a lack of supervisor support as the most significant risk factor for employee poor health, stating that "Being unable to count on the support of a direct supervisor in case of problems at work and even at home was shown to involve a substantially increased risk of poor health and work-related outcomes" (2017, p.393).

During times of exceptional uncertainty, supervisors can help employees cope in healthy ways. Consistent with extant literature (e.g., Lapierre & Allen, 2006, Perry et al., 2018), my results show that the provision of supportive supervision is associated with better mental health and, under some circumstances, buffers the detrimental effect of fear on mental health. Further, the disparate impact of supervisor support on the relationship between fear and mental health due to country of residence illustrates that the impact of this provision of resources is predicated on broader contextual or societal factors. One explanation for the elevated importance of supervisor support on employee wellness in the American sample is the national-level COVID-19 response and the availability of alternate resources (e.g., clear and consistent public health messaging from government officials; McCarten, 2020; Thomas 2021). A survey conducted at the onset of the pandemic identified that Canadians reported having more faith in their government than American or British participants and reported higher levels of trust in their head of state than Americans (Yousif, 2020). In situations where government leaders fail to act, or do not have the publics' confidence, the provision of support by workplace supervisors may be especially salient. My results present an opportunity for firms to optimize their workforce, enabling more employees to work unencumbered by mental health concerns, despite the circumstances.

Limitations and Future Directions

Like most research studies, this study is not without limitations. First, as this study was initiated in the early days of the COVID-19 pandemic, several informative variables were not yet considered and, as such, not captured in the present study. Although this study controlled for age, immune status, and country of residence, several important control variables were not collected. Notably, with no items to determine which participants were working from home and which were deemed essential frontline workers, it is not possible to differentiate the impact of working conditions on fear, perceptions of supervisor support, or its impact on mental health. As fear is composed of both an emotional and cognitive component, it would be a logical conclusion that employees unable to work from home would face higher risks associated with exposure and transmission (e.g., Shiloh, et al., 2012). As such, they may have especially high levels of fear and especially low mental health outcomes. However, without data to support this conjecture, this paper is unable to answer the question of how working conditions interact with the relationships discussed above. Further, supervisor support has been operationalized globally in this study; a more granular measurement distinguishing between emotional, informational, and instrumental support, as outlined by Cohen & Wills (1985), may provide researchers with a more intricate image of the relationships explored in this study.

Second, as a result of the ubiquitous nature of a global pandemic, this study lacks a true pre-pandemic or no-pandemic design, making it difficult to fully assess the mental health implications of the COVID-19 pandemic on employees without any measures before the onset of this stressor. Further, data collection occurred early on in the pandemic and continued through the first several months. However, as we enter the third year of the COVID-19 pandemic (i.e., spring of 2022), this study fails to capture the truly chronic impacts of prolonged fear,

uncertainty, and pandemic fatigue. Follow-up studies comparing the mental health of employees across a wider timeframe, ranging from before the onset of the pandemic up to the present day, will provide a clearer picture of the far-reaching impacts of the COVID-19 pandemic. As Savage (2020) warns, the COVID-19 pandemic may act as a catalyst for one of the greatest global mental health crises in history. Unfortunately, the data collected in this study cannot fully substantiate this fear.

Third, the narrow conceptualization of mental health presented in this study potentially ignores valuable nuances evident when considering the entire spectrum of mental health. The mental health continuum ranges from mental health (i.e., a state of well-being beyond the absence of illness in which individuals are generally happy, can cope with life stressors, work towards goals, and contribute to their community; WHO 2004) all the way to serious mental illness (i.e., diagnosable psychological symptoms affecting individuals' behaviour, affect, and cognition; American Psychiatric Association, 2013). Keyes (2002) labels these two poles as flourishing and languishing. This study fails to engage with the entirety of the mental health continuum, favoring an examination of poor mental health. This focus, while justified, may ignore interesting effects of stress, strain, and leadership on mental health. As Thongsukmag (2003) explains in their work on fear in the workplace, although fear is regarded as a negative emotion, it may inspire immediate action, heighten motivation, and help individuals be more pragmatic, benefiting decision making especially when consequences are serious and emotionally salient. These components of fear may bolster, not diminish, mental health, but such effects would require a broader conceptualization of mental health to examine. Similarly, the extent to which the more adaptive experiences associated with fear are long-lasting would need to be determined given the prolonged reality of the COVID-19 pandemic. Future studies may

wish to examine both positive and negative components of stress in their investigation of fear, mental health, and leadership during tumultuous global events.

Fourth, this study relied on self-report measures of all variables. While self-report measures are commonly used to measure perceptions of supervisor support, mental health, and affective or emotional responses, such as fear, each construct can also be measured using other methods, such as physiological measurement for fear (Batch & Melinscak, 2020). Similarly, including data collected from supervisors, or information surrounding resources that supervisors provided, would reduce concerns around common method variance and further strengthen this research. During times of uncertainty, employees and supervisors may lack context or clear expectations of one another. As such, and consistent with previous literature, the provision of support and the perception of support may be related but distinct antecedents (Uchino, 2009). Similarly, coping behaviours that seem appropriate to some may be perceived as concerning to others (Dijkstra & Homan, 2016). The increased richness of data coming from employees and supervisors would add to this research and may illuminate interesting relationships between employees and supervisors.

Fifth, this study uses fear as an explicitly extraorganizational stressor to investigate the relationship between stress, strain, and leadership. Future research would benefit from exploring job specific demands associated with the COVID-19 pandemic. The application of the Job-Demands Resources Model (JD-R; Demerouti et al., 2001) may be especially informative. JD-R posits that employees' work environments can be broken down into two broadly defined categories: job demands (i.e., all physical, psychological, social, and organizational aspects of a job that require employees to exert effort and can be costly to employee health and wellbeing; Demerouti et al., 2001) and job resources (i.e., all aspects of a job that either help employees

achieve goals or reduce job demands; Demerouti et al., 2001). Exploring the specific interaction between job resources, such as supervisor support, and job demands, such as the need to adorn personal protective equipment (PPE) while working, would be particularly fruitful in identifying how organizations can better support employees and supervisors during times of extreme stress or uncertainty.

Future research may also benefit from exploring additional population segments in their analysis of these relationships. This study controls for age, immune status, and country of residence – variables that impacted the risk of individuals and, therefore, may have impacted their fear response. Additional research may wish to explore demographic differences, especially ones not explored in this paper, namely socioeconomic status and local COVID-19 conditions. Such research can inform researchers about the nuances present within the relationships investigated in this study. This study benefits from the inclusion of both American and Canadian participants, enabling comparison at a national level. However, as states and provinces responded to local COVID-19 risks and various political realities, a more granular investigation of fear, mental health, and supervisor support in the context of local regulations and health risks would provide future researchers with a clear image of the relationships in question, similar to work from home variables discussed above. This study clearly highlights the importance of recognizing the differences between Canada and the United States, a distinction that is often overlooked. This paper suggests several possible theoretical explanations for differences identified, however without data to support these postulations, it is not possible for them to be substantiated. Additional research on how national and local governments responses to COVID-19 impact employees would benefit management researchers.

Conclusion

This study contributes to growing scholarship surrounding the impact of COVID-19 on the workplace and suggests that leadership, particularly the provision of supervisor support, is a potentially critical factor in protecting employee mental health. While supervisor support did not attenuate the relationship between fear and poor mental health for the entirety of the sample, its disparate impact in the United States and Canada suggests new boundary spanning questions for organizational researchers to examine. How do national and organizational leaders complement or contradict one another during times of crisis? How can supervisors optimize their protective effect on employee mental health? When extraorganizational stressors impact organizational outcomes, what delineates home and work domains? As organizations begin to forge a path towards a “new normal”, exploring these questions will contribute to future preparedness while affirming the importance of leadership and support for mental health in the workplace.

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Table 1.

Demographic Characteristics

		Time 1 Sample		*3 Time Points Sample*	
		n	*%*	*n*	*%*
Country of Residence					
	Canada	1250	58.3	566	59.3
	United States	803	37.4	389	40.7
	Missing	92	4.3	-	-
Gender					
	Woman	1039	48.4	470	49.2
	Man	1013	47.2	485	50.8
	Non-Binary	3	0.1	-	-
	Prefer not to respond	1	0.0	-	-
	Missing	93	4.3	-	-
Ethnicity					
	White/Caucasian	1578	73.4	731	76.5
	Asian or pacific Islander	315	14.7	167	17..5
	First Nations/Native Canadian	8	0.4	3	0.3
	Hispanic/Latino	54	2.5	17	1.8
	Arabian	9	0.4	5	0.5
	Black/African Canadian	47	2.2	16	1.7

	Other	44	2.0	15	1.6
	Missing	94	4.4	1	0.1
Paid					
	Salary	1136	53.0	561	58.7
	Hourly	874	40.7	377	39.5
	Other	43	2.0	17	1.8
	Missing	92	4.3	-	-
Full time or Part time					
	Full time (>35 hrs/ week)	1739	80.9	815	85.3
	Part time (20-35 hrs/week)	316	14.7	139	14.6
	Missing	94	4.4	1	0.1
Occupation					
	Management occupations	383	17.9	177	18.5
	Business, finance, and administration occupations	369	17.2	188	19.7
	Natural and applied sciences occupations	283	13.2	136	14.2
	Health occupations	112	5.2	49	5.1
	Occupations in education, law and social, community and government services	305	14.2	146	15.3
	Occupations in art, culture, recreation, and sport	38	1.8	19	2.0
	Sales and service occupations	299	13.9	133	13.9
	Trades, transport, and equipment operators	90	4.2	35	3.7
	Natural resources, agriculture and production	9	0.4	4	0.4

	Occupations in manufacturing and utilities	40	1.9	14	1.5
	Multiple Occupation Categories	10	0.5	5	0.5
	Missing	204	9.5	47	4.9
Education					
	High school	379	17.7	161	16.9
	College Diploma	377	17.6	160	16.8
	Bachelor's degree	794	37.0	391	40.9
	Master's degree	358	16.7	173	18.1
	Doctoral degree	96	4.5	47	4.9
	Other	49	2.3	23	2.4
	Missing	92	4.3	-	-
Marital Status					
	Single	526	24.5	217	22.7
	Never married/common-law	114	5.3	52	5.4
	Married/common-law	1179	55.0	564	59.1
	Widowed	43	2.0	23	2.4
	Separated or divorced	187	8.7	99	10.4
	Missing	96	4.5	-	-
Has Kids > 18					
	Yes	557	26.0	228	23.9
	No	1495	69.7	726	76.0
	Missing	93	4.3	1	0.1

Immunocompromised					
	Yes	190	8.9	87	9.1
	No	1859	86.7	866	90.7
	Missing	96	4.5	2	0.2

Table 2.

Means, Standard Deviations, Correlations, and Reliability Coefficients for Study Variables

Variable			1	2	3	4	5	6	7	8
	M	*SD*								
1. Country of Residence	--	--	--							
2. Age	49.01	12.60	.316**	--						
3. Organizational Tenure	12.45	10.00	.068*	.456**	--					
4. T1 COVID-19 Fear	3.19	0.92	-.125**	-.170**	-.064	(.94)				
5. T1 Fear of Infection	3.35	0.71	-.073*	-.090**	-.006	.665**	(.73)			
6. T2 Supervisor Support	3.81	0.70	-.092**	.067*	-.010	-.070*	-.099**	(.90)		
7. T3 Mental Health	2.29	0.62	-.176**	-.304**	-.140**	.486**	.316**	-.212**	(.88)	
8. T3 Presenteeism	2.40	0.86	-.168**	-.248**	-.089**	.438**	.317**	-.219**	.679**	(.70)

Note. N= 921; *M* and *SD* are used to represent mean and standard deviation, respectively.
Higher scores of T3 Mental Health represent higher GHQ scores (i.e., poorer Mental Health)
* indicates $p < .05$. ** indicates $p < .01$. Cronbach's Alpha presented on the diagonal.

Figure 1.

Hypothesized Moderation Model (a)

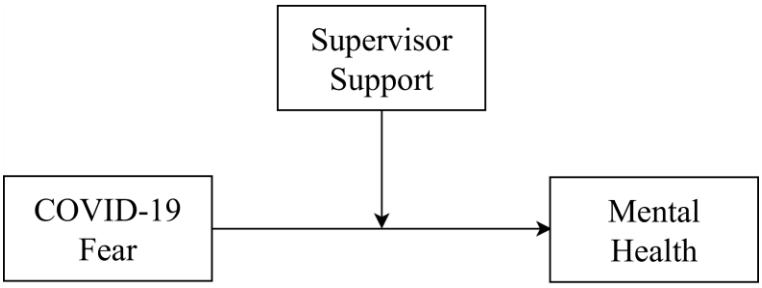


Figure 2.

Parallel Moderation Model (b)

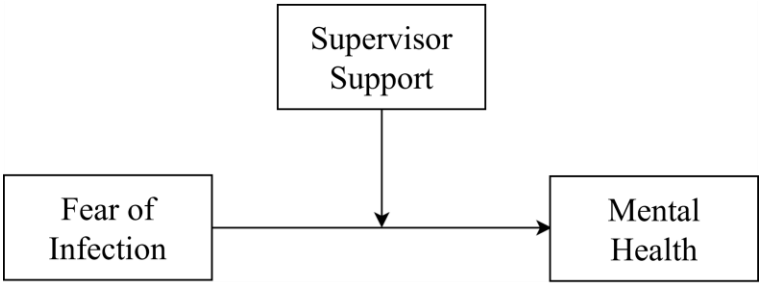


Figure 3.

Parallel Moderation Model (c)

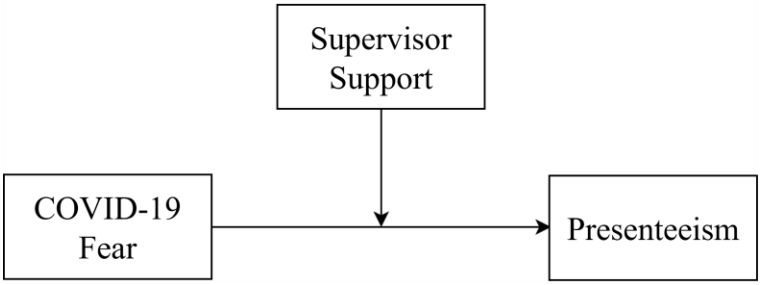


Figure 4.

Parallel Moderation Model (d)

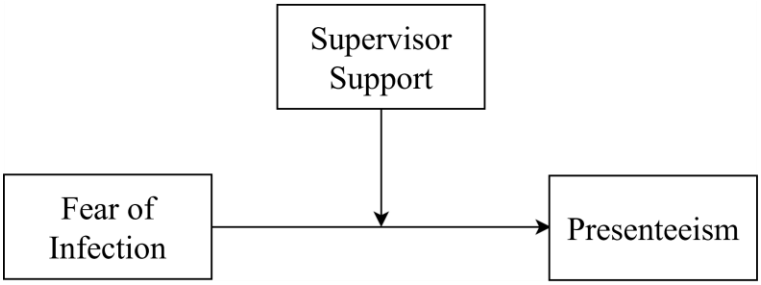


Figure 5.

COVID-19 Fear predicting Poor Mental Health- Linear Regression Statistical Diagram

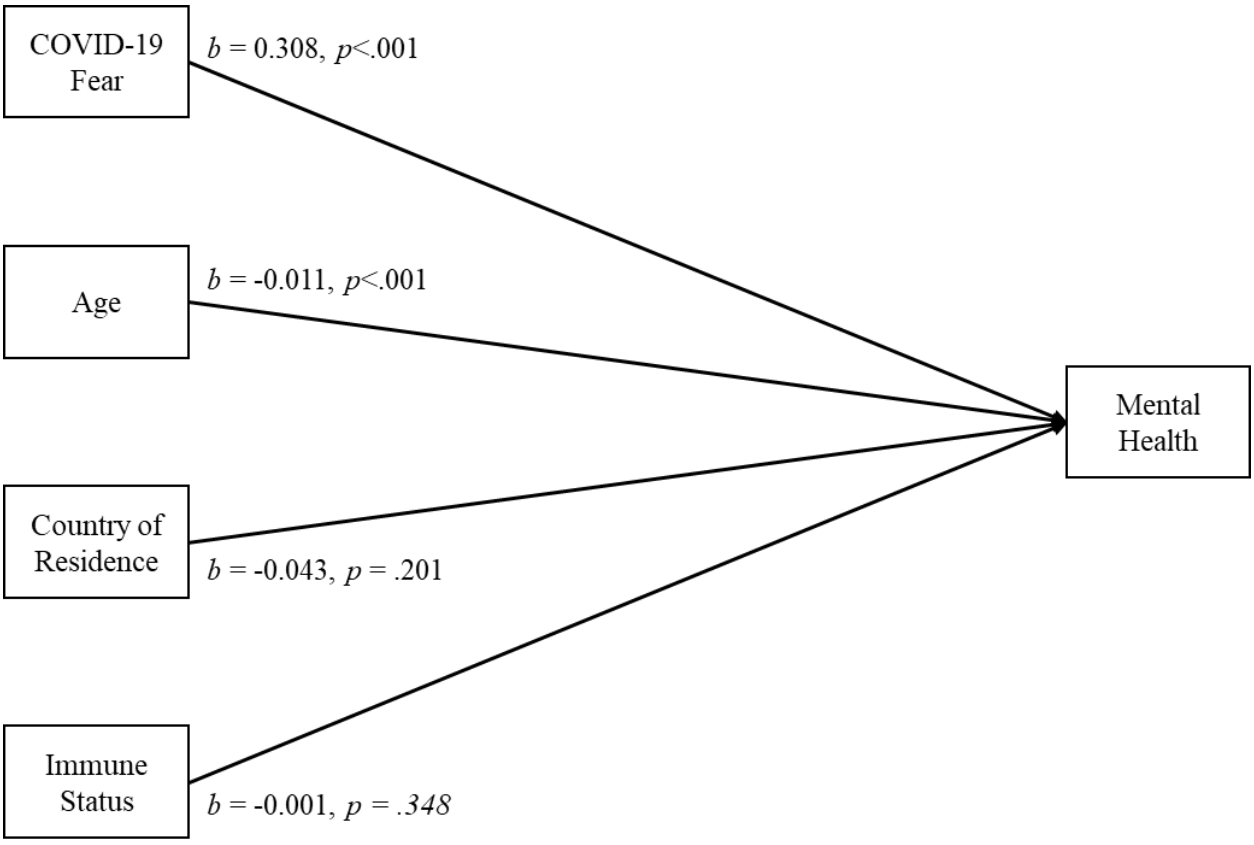
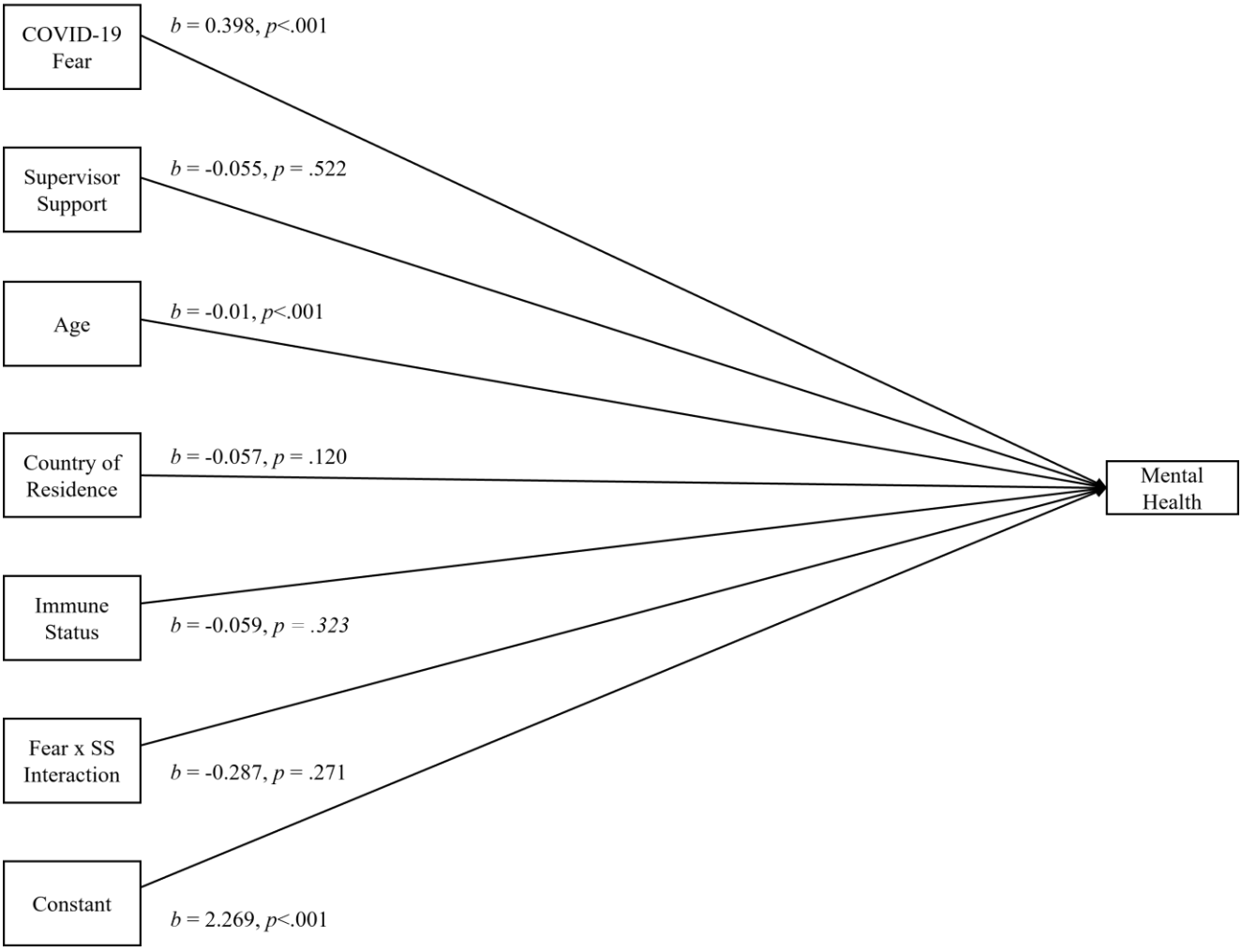


Figure 6.

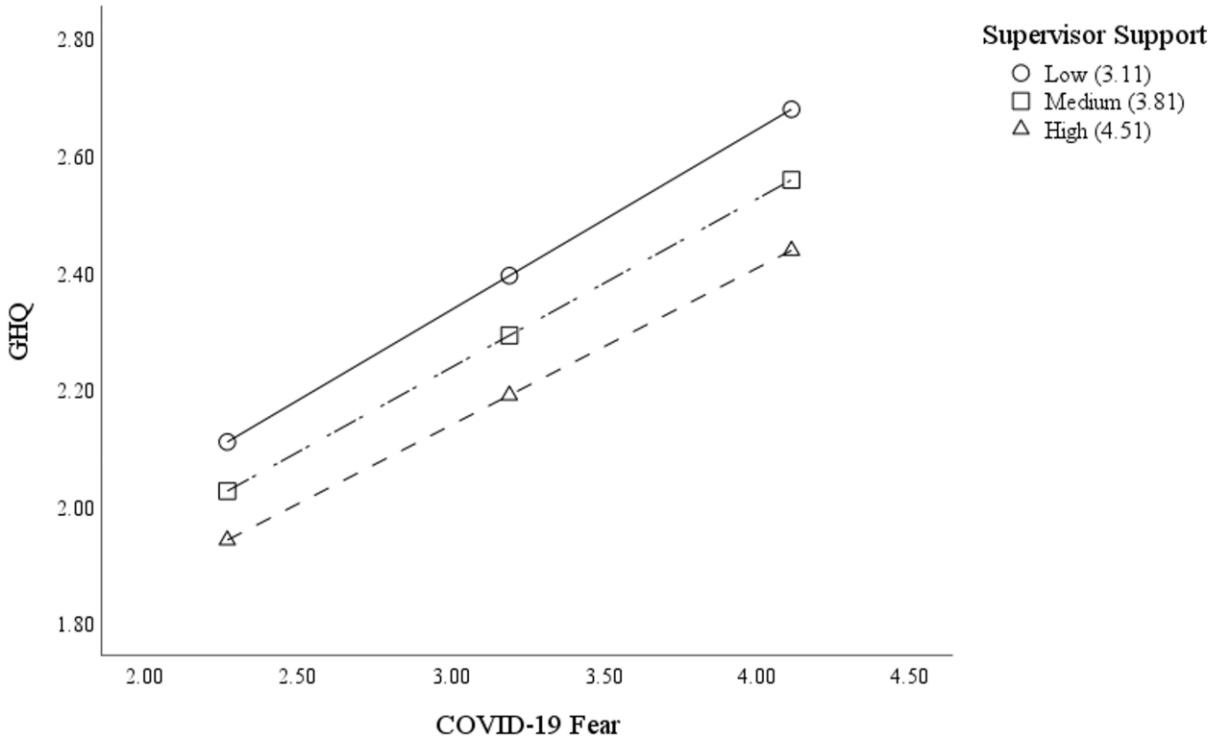
COVID-19 Fear and Supervisor Support predicting Poor Mental Health- Moderation Model Statistical Diagram



Note. SS= Supervisor support, Fear= COVID-19 Fear.

Figure 7.

COVID-19Fear and Mental Health at Low, Medium, and High levels of Supervisor Support



Note. GHQ= General Health Questionnaire, higher scores represent worse mental health.

Figure 8.

Moderated Moderation Exploratory Model

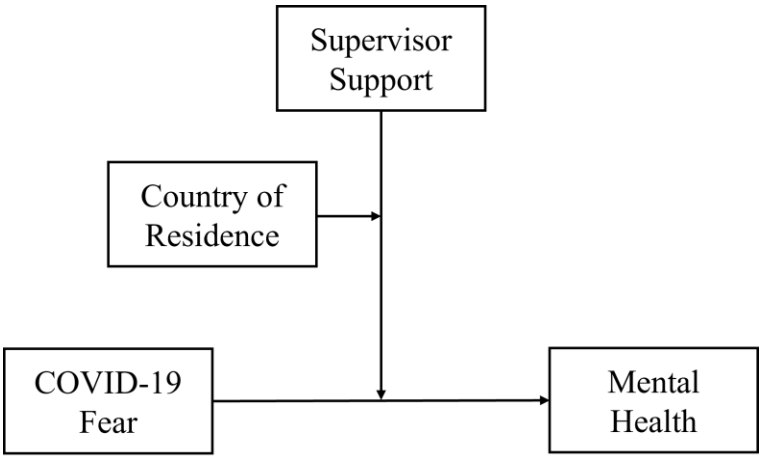
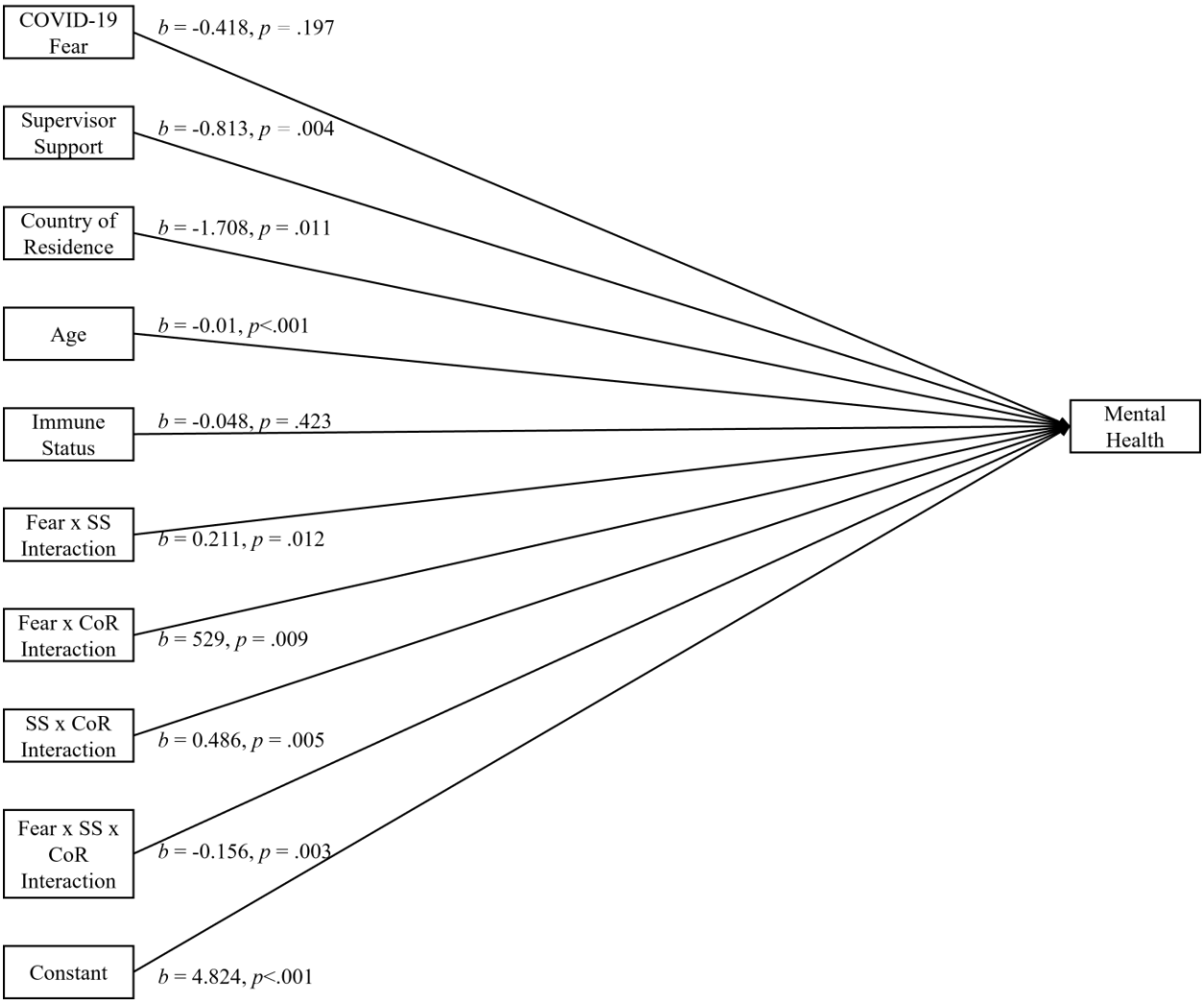


Figure 9.

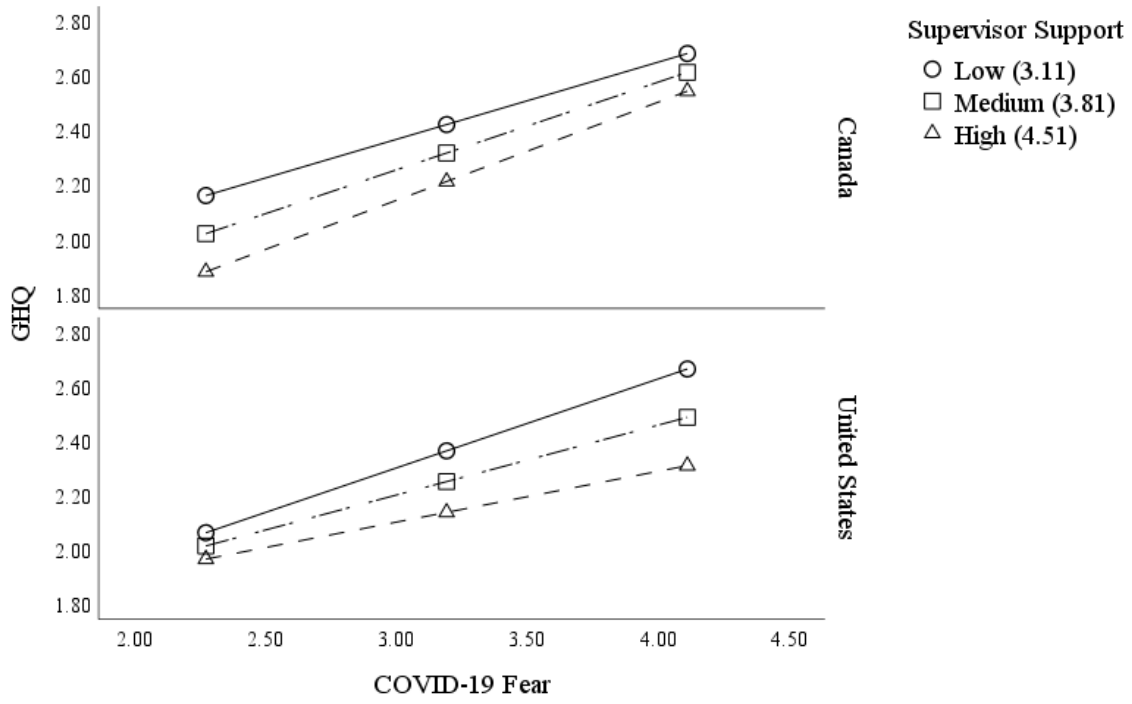
Country of Residence, Supervisor Support, and COVID-19 Fear predicting Poor Mental Health-Moderated Moderation Statistical Diagram



Note. SS= Supervisor support, Fear= COVID-19 Fear, CoR= Country of Residence

Figure 10.

Moderated Moderation of Supervisor Support on COVID-19Fear and Mental Health by Country of Residence



Note. GHQ= General Health Questionnaire, higher scores represent worse mental health.

Appendix A: Measure Items and Response Scales

COVID-19 Fear

1	2	3	4	5
Strongly Disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree

1. The thought of COVID-19 scares me
2. When I think about COVID-19, I feel nervous
3. When I think about COVID-19, I get upset
4. When I think about COVID-19, I get depressed
5. When I think about COVID-19, I get jittery
6. When I think about COVID-19, my heart beats faster
7. When I think about COVID-19, I feel uneasy
8. When I think about COVID-19, I feel anxious

Fear of Infection

1	2	3	4	5
Strongly Disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree

1. I am afraid that that there will be a case of COVID-19 in my workplace.
2. I am worried about my health during this pandemic.
3. I worry about how safe my workplace is from infectious disease.
4. I am afraid that the exposure to COVID-19 might become more serious.
5. I know how to take care of myself during the pandemic.

Supervisor Support

1	2	3	4	5
Strongly Disagree	Disagree	Neither disagree nor agree	Agree	Strongly Agree

1. My supervisor can be relied upon when things get tough on my job.
2. My supervisor is willing to listen to my job-related problems.
3. My supervisor really does not care about my well-being. (Reverse-coded item)
4. My manager is supportive of my emotional health and wellbeing.
5. My manager provides me with the tools I need to get my job done.
6. My manager provides me with helpful feedback.
7. My manager provides me with the information that I need in order to do my job.

Mental Health (GHQ)

Instructions: People respond to the pressures they face in their lives in many different ways. This section of the survey focuses on how people might respond to various pressures in their lives. Please provide the answer that you believe best matches the frequency with which you have engaged in these actions or experienced these feelings in the past month using the 7-point frequency scale given below.

1	2	3	4	5	6	7
Not At All	Rarely	Once in a While	Some of the Time	Fairly Often	Often	All of the Time

1. Have you been able to concentrate on whatever you're doing?
2. Have you lost much sleep from worry?
3. Have you felt that you're playing a useful part in things?
4. Have you felt capable of making decisions about things?
5. Have you felt under strain?
6. Have you felt that you couldn't overcome your difficulties?
7. Have you been able to enjoy your normal day-to-day activities?
8. Have you been able to face up to your problems?
9. Have you been feeling unhappy and/or depressed?
10. Have you been losing confidence in yourself?
11. Have you been thinking of yourself as a worthless person?
12. Have you been feeling reasonably happy, all things considered?

Presenteeism

Directions: Please describe your work experiences in the past month. These experiences may be affected by many environmental as well as personal factors, and may change from time to time. For each of the following statements, please check one of the following responses to show your agreement or disagreement with this statement describing *your* work experiences in the past month.

1	2	3	4	5
Strongly disagree	Somewhat Disagree	Uncertain	Somewhat Agree	Strongly Agree

1. Because of COVID-19 the stresses of my job were much harder to handle.
2. Despite the COVID-19 pandemic, I was able to finish hard tasks in my work.
3. COVID-19 distracted me from taking pleasure in my work.
4. I felt hopeless about finishing certain work tasks, due to COVID-19.