COVID-19 Pandemic-Related Stressors and Posttraumatic Stress: The Main, Moderating, Indirect, and Mediating Effects of Social Support

Mali Zaken

Advisor: Güler Boyraz

Consultant: Sally Dickerson

Pace University

PSY.D PROJECT FINAL APPROVAL FORM

NAME: Mali Zaken

TITLE OF PROJECT: COVID-19 Pandemic Related Stressors and Posttraumatic Stress: The Main, Moderating, Indirect, and Mediating Effects of Social Support

DOCTORAL PROJECT COMMITTEE:

PROJECT ADVISOR: Güler Boyraz
Name

PhD | Pace University
Title | Affiliation

PROJECT CONSULTANT: Sally Dickerson
Name

PhD | Pace University
Title | Affiliation

FINAL APPROVAL OF COMPLETED PROJECT:

I have read the final version of the doctoral project and certify that it meets the relevant requirements for the Psy.D. degree in School-Clinical Child Psychology.

J. Boyraz
Project Advisor's Signature

4-10-21
Date

Sally Dickerson
Project Consultant's Signature

4-10-21
Date

Abstract

The COVID-19 pandemic has created a variety of challenges and stressors including disease-related stressors (e.g., personal exposure to COVID-19, hospitalization or loss of a loved one due to COVID-19) and other secondary stressors (e.g., social isolation, loss of jobs, significant changes in daily activities) that have arisen from pandemic control measures. Research suggests that exposure to some of these stressors may trigger posttraumatic stress (PTS)-like symptoms; however, we have limited knowledge on cumulative effects of these stressors on COVID-19-related PTS symptoms or on variables that may mitigate the effects of these stressors. In the present study, we tested three models to examine the interrelationships among pandemic-related stressors (i.e., COVID-19-related stressors and secondary stressors), perceived social support, coping flexibility, and COVID-19-related PTS symptoms in a sample of adults from the United States. A cross-sectional correlational study design was used and participants were recruited through email invitations, social networking sites, online communities, and websites (final N = 2,291). All participants completed an online survey between May 22nd, 2020 and July 15th, 2020. Results indicated that greater exposure to secondary stressors, but not COVID-19-related stressors, was associated with increased PTS. After controlling for COVID-19-related and secondary stressors, social support had negative direct and indirect (via coping flexibility) effects on PTS. In addition, social support mediated the effects of COVID-19-related and secondary stressors on PTS. Our findings highlight the complexity of the role of social support in relation to pandemic-related stressors and PTS, and suggest that early interventions that target social support and coping flexibility may help reduce pandemic-related PTS

Keywords. Coronavirus disease (COVID-19); COVID-19-related stressors, pandemic-related secondary stressors; perceived social support; coping flexibility; posttraumatic stress.

COVID-19 Pandemic-Related Stressors and Posttraumatic Stress: The Main, Moderating, Indirect, and Mediating Effects of Social Support

The COVID-19 pandemic has been one of the most impactful pandemics in world history, causing over two million deaths worldwide as of March 2021 (see World Health Organization, 2021). Since being first identified in China in late 2019, this new disease — COVID-19— has spread across the world and quickly become a pandemic that affected nearly all parts of the world. The rapid spread of COVID-19 has created a myriad of challenges and stressors, including disease-related stressors (e.g., infection of oneself or one's loved ones, hospitalization or death of a loved one due to COVID-19) and other secondary stressors that have resulted from disease containment efforts, such as loss of jobs and financial stressors due to business closures or disruptions in daily activities and increased social isolation due to stay at home orders (see Boyraz & Legros, 2020). These stressors and the persistent of threat of infection have resulted in increased levels of distress throughout the world (e.g., Ettman et al., 2020; for a review, see Xiong et al., 2020).

Pandemic-related distress can manifest in various different ways, such as depressive symptoms, sleep problems, xenophobia, fear of infection and other stress and anxiety-related symptoms (Boyraz & Legros, 2020; e.g., Ettman et al., 2020; Taylor, 2019; Taylor et al., 2020; Xiong et al., 2020). Some individuals may experience intense stress during epidemics and pandemics, which can manifest as posttraumatic stress (PTS)-like symptoms, such as intrusive thoughts, strong negative feelings (e.g., fear, horror, anger), and nightmares (Boyraz et al., 2020; see Boyraz & Legros, 2020; Forte et al., 2020; Karatzias et al., 2020). Recent studies with samples from different countries indicated that many people in the general population of adults have experienced these types of symptoms during the COVID-19 pandemic. For example, 7% of

a Chinese sample (Liu et al., 2020), 13.2% of a sample of participants from five Western countries (Bridgland et al., 2021), 17.7% of an Irish sample (Karatzias et al., 2020), 19.7% of a Spanish sample (Vazquez et al., 2021) and 29.5% of an Italian sample (Forte et al., 2020) reported COVID-19-related PTS symptomatology in the early months of 2020.

Research suggests that both disease-related stressors (e.g., living in highly affected areas, personal exposure to the disease, having family members or friends infected with COVID-19, working as a healthcare worker on the frontlines of the COVID-19 pandemic) and secondary stressors (e.g., job loss, financial stressors) can contribute to increased levels of pandemic-related PTS (see Boyraz & Legros, 2020); however, our knowledge of the cumulative effects of these stressors on individuals social and psychological functioning is limited. Given that many people have experienced multiple stressors during the current pandemic, the present study examined cumulative effects and the relative importance of COVID-19-related stressors and secondary stressors on PTS in a general sample of adults in the United States (US).

While pandemic-related PTS symptoms may be transitory stress reactions to pandemic-related stressors for many individuals, for others, these symptoms may persist and develop into chronic posttraumatic stress disorder (PTSD) (see Boyraz & Legros, 2020). Therefore, it is valuable for research to identify not only the stressors or risk factors that may increase PTS, but also the resources that may protect individuals against PTS in order to inform prevention efforts. In the present study, we examined one important resource, perceived social support, that may reduce pandemic-related PTS. Perceived social support refers to the functional aspects of social support, such as perceived availability of emotional, informational, or tangible support (Gjesfjeld et al., 2008; Schwarzer & Knoll, 2007). Several different hypotheses have been proposed and tested in previous literature to understand how social support affects and is affected by stress

(e.g., Beeble et al., 2009; Cohen & Wills, 1985; Schwarzer & Knoll, 2007); however, to our knowledge, no study to date has yet comprehensively examined these hypotheses in the context of the COVID-19 pandemic. Therefore, in the present study, we tested three models based on the coping and social support literature to further our understanding of the interrelationships among pandemic-related stressors (i.e., COVID-19-related and secondary stressors), perceived social support, coping flexibility, and pandemic-related PTS.

Model 1: The Main and Buffering Effects of Social Support on Posttraumatic Stress

Social support has been studied for decades, and several different hypotheses and theoretical models have been proposed and tested to understand the interrelationships between stress exposure, social support, psychological functioning (e.g., Beeble et al., 2009; Cohen, 2004; Cohen & Wills, 1985; Kim et al., 2010; Lin, 1986). One of these models, *the main effect model*, suggests that social support provides various benefits (e.g., increased positive affect and feelings of self-worth) and influences well-being in a beneficial manner regardless of the level of stress exposure (Cohen & Wills, 1985). The *buffering model*, on the other hand, suggests that social support provides benefits primarily in the face of stressful events (Cohen & Wills, 1985). This model maintains that social support enhances adaptive responses to stress (e.g., promoting more adaptive stress appraisals and better regulation of stress responses) and thereby buffers individuals from the deleterious mental and physical health effects of stressful events (Cohen & Wills, 1985).

The main effect model has generally been supported in the literature, including recent COVID-19 literature (e.g., Lechner et al., 2020; Xiao et al., 2020); however, the buffering model has received weak or inconsistent empirical support (e.g., Breet et al., 2014; Dormann & Zapf, 1999; Fortin et al., 2012; Kim et al., 2010; see Rueger et al., 2016). Further, longitudinal findings

suggest that social support may have a stress buffering effect after initial exposure to a chronic environmental stressor; however, this buffering effect may disappear over time because chronic exposure to an environmental stressor may erode social support (Lepore et al., 1991). These findings highlight the complexity of the nature of the relationship between stress and social support, and suggests that various factors including the nature of the stressful event may enhance or diminish the buffering effect of social support. Therefore, it is important to examine the role of social support in the context of the current pandemic and in relation to pandemic-related stressors.

Our first model examined the relationships between pandemic-related stressors (COVID-19-related and secondary stressors) and PTS, as well as the main and buffering effects of social support on PTS. Specifically, we examined the following research questions: 1) Does exposure to COVID-19 related stressors and secondary stressors predict PTS?, 2) after controlling for COVID-19 related stressors and secondary stressors, does social support predict PTS (main effect)?, and 3) does social support moderate the effects of COVID-19-related stressors and secondary stressors on PTS (buffering effect)?

Model 2: The Indirect Effect of Social Support on Posttraumatic Stress through Coping Flexibility

Lazarus and Folkman's (1984) transactional theory of stress and the buffering model (Cohen & Wills, 1985) suggest that social support enhances adjustment in the face of stress by promoting adaptive coping appraisals and coping behaviors. In other words, social support exerts an indirect effect on adjustment through adaptive coping. Supporting this hypothesis, cross-sectional and/or longitudinal findings suggest that coping resources (e.g., coping styles, self-efficacy) mediate the relationship between social support and psychological functioning among

diverse populations including cancer patients and survivors (e.g., Kim et al., 2010; Zhou et al., 2010), college students (e.g., Saltzman & Holahan, 2002), and survivors of natural disasters (e.g., He et al., 2013).

In light of this literature, our second model examined the indirect effect of social support on COVID-19-related PTS through coping flexibility. Coping flexibility refers to one's ability to flexibly employ different, and sometimes opposing coping strategies to effectively manage different demands of a stressful situation (Bonanno et al., 2011). In the context of highly stressful or potentially traumatic events, the ability to flexibly employ two seemingly opposing coping strategies, namely trauma focus coping (TFC) and forward focus coping (FFC), has been linked to less PTS and better psychological adjustment (e.g., Bonanno et al., 2011; Galatzer-Levy et al., 2012; M. Park et al., 2015). TFC involves coping behaviors or strategies that aid in processing the stressful event, such as thinking about the meaning of the event, paying attention to one's negative emotions related to the event, and letting oneself experience these emotions (Bonanno et al., 2011). On the other hand, FFC involves coping behaviors and strategies that minimize one's focus on the stressful event, such as looking for positive aspects of the situation, trying to stay distracted from focusing on the event, or turning one's attention to the needs of others (Bonanno et al., 2011).

Given the well-established relationships between social support and adaptive coping, and between coping flexibility and resilient responses to stressful events, higher perceived support during the current pandemic may enhance coping flexibility, which in turn, may reduce COVID-19-related PTS. To our knowledge, this indirect effect has not been empirically tested in the COVID-19 literature yet. Therefore, our second model tested the following research question: After controlling for COVID-19-related stressors and secondary stressors, does social support

have a negative indirect effect on PTS through coping flexibility?

Model 3. The Mediating Effect of Social Support on the Relationship between Exposure to Stressors and Posttraumatic Stress

Another line of research in the social support literature highlights the possible mediating effect of social support on the relationship between stressful events and psychological functioning; however, there are different perspectives regarding the direction of this mediating effect. One perspective and related empirical findings suggest that chronic exposure to a stressor(s) may gradually decrease social support, which then, may result in deteriorations in psychological functioning (e.g., Beeble et al., 2009; Lepore et al., 1991; Norris & Kaniasty, 1996). Supporting this view, empirical findings suggest that the effect of exposure to certain stressful events, such as intimate partner violence, (Beeble et al., 2009), natural disasters (Norris & Kaniasty, 1996), and household crowding (Lepore et al., 1991) on psychological functioning is mediated by social support.

Another perspective suggests that exposure to adversity and the resulting stress may have positive effects on individuals' social environment and behavior (e.g., promoting social-affiliative and prosocial behaviors, increasing meaningful social interactions), which in turn, may improve their psychological functioning (see Mancini, 2019; Mancini et al., 2021). There is empirical support for this perspective as well. For example, using a quasi-experimental cohort design, Mancini et al. (2021) demonstrated that moderate exposure to a natural disaster (hurricane) was associated with increased social support, which in turn, was associated with less distress.

It is important to consider both of these perspectives in the context of the COVID-19 pandemic since pandemics are associated with various stressors, some of which may disrupt