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Social Support, Self-Esteem, and Levels of Stress, Depression, and Anxiety During the COVID-19 Pandemic

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SOCIAL SUPPORT, SELF-ESTEEM, AND LEVELS OF STRESS, DEPRESSION, AND ANXIETY DURING THE COVID-19 PANDEMIC

by

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Abstract

The COVID-19 pandemic resulted in unprecedented disruptions to daily routines and social connections, which negatively impacted the mental health and well-being of many. Unsurprisingly, the most utilized coping strategy during the pandemic involved social support. However, those low in self-esteem seem to question others' positive regard and continued acceptance, and overall perceive others' behavior more negatively than those with high self-esteem (Murray, Holmes, et al., 1998). The proposed correlational study will examine the effects of social support and self-esteem on stress, anxiety, and depression during the COVID-19 pandemic, as well as investigate whether one's self-esteem affects the influence that social support has. Participants will complete an online survey containing measures of social support, self-esteem, depression, anxiety, and stress. Both social support and self-esteem are expected to be negatively associated with levels of stress, depression, and anxiety during the COVID-19 pandemic. In addition, for those high in self-esteem, more social support is expected to be associated with less depression, anxiety, and stress during the pandemic. By contrast, for those low in self-esteem, more social support is expected to be associated with more depression, anxiety, and stress. These findings could inform public health officials about the importance of providing additional support and resources to those with low self-esteem or low social support, who might be more at-risk in developing mental health problems in times of crisis.

Social Support, Self-Esteem, and Levels of Stress, Depression, and Anxiety During the COVID-19 Pandemic

During the COVID-19 pandemic, about 4 in 10 adults living in the United States reported anxiety or depressive disorder symptoms, a drastic increase from 1 in 10 adults prior to the pandemic (Panchal et al., 2021). This statistic makes it clear how the COVID-19 pandemic has negatively impacted many people's mental health and well-being. These increases in anxiety and depressive symptoms are likely due to the numerous stressful changes in people's daily lives, such as the shift to working from home, unemployment, home-schooling, physical and social isolation, and uncertainty and fear about the virus (Panchal et al., 2021). One purpose of the proposed study is to examine the influence that social support and self-esteem individually have on levels of stress, anxiety, and depression during the COVID-19 pandemic. In addition, the proposed study will examine whether differing levels of self-esteem affect the influence that social support has on levels of stress, anxiety, and depression during the pandemic.

Globally, as of October of 2021, there have been roughly 240 million confirmed cases of COVID-19 and 4.8 million reported deaths related to COVID-19 (World Health Organization, 2021). Since becoming publicly identified in Wuhan, China, in December of 2019, COVID-19 has quickly spread throughout the world and remains a pandemic that most countries are still dealing with. Many Americans faced financial hardships, housing instability, and food uncertainty when they were laid off from jobs or had their hours cut drastically (Brooks et al., 2020; Madrigal & Blevins, 2021). School shutdowns led to home-schooling and online learning, and those who were employed found themselves having to work online from home. Important life events, such as graduations and weddings, were postponed or canceled. There was a high degree of uncertainty about the future and what the new "normal" would look like (Sullivan et

al., 2020). In addition, many Americans were apprehensive and anxious that they or a loved one would contract the COVID-19 virus (Brooks et al., 2020; Madrigal & Blevins, 2021). It is also important to stress how the pandemic resulted in unprecedented disruptions to daily routines and disrupted social connections. In an effort to prevent the spread of the virus in the United States, some state governments implemented stay-at-home orders that forced residents to remain at home except for essential activities. These lockdown orders were designed to induce social distancing among the public and significantly reduce the chances of community transmission. For months, residents were forced to stay at home with little to no social interaction with members outside their immediate household. As a result, many lost close, physical contact with friends and family members, and those who lived alone were especially isolated during the lockdown. Americans overall struggled with adapting to changes and finding a balance. Given how novel, unpredictable, and uncontrollable COVID-19 is, the pandemic could be understood as a traumatic stressor event (Bridgland et al., 2021; Horesh & Brown, 2020; Pfeifer et al., 2021). With all of this in mind, it is clear that the COVID-19 pandemic, a time of national stress and trauma, has presented a series of unique challenges that have significantly impacted individuals' medical, emotional, and social lives.

For many, the COVID-19 pandemic has led to a wide range of mental health issues. Researchers have found that levels of anxiety and depression significantly increased two months into the pandemic (Magson et al., 2021). In a health tracking poll, adults in the United States increasingly reported that worry and stress from the virus have negatively impacted their mental health and well-being (Hamel et al., 2020). Specifically, they said that the coronavirus-related anxiety and stress led to sleep problems, more frequent thoughts of suicide, poor appetite or overeating, frequent headaches and stomachaches, increased alcohol consumption and substance

use (Hamel et al., 2020). In addition, researchers have found overall mental health deterioration in adults, specifically due to social isolation during the pandemic (Dozois, 2021). Although the effects of social isolation during the current pandemic are only just emerging, previous research has looked at the impact of epidemics, including severe acute respiratory syndrome and the Middle East respiratory syndrome, on psychological outcomes. It was found that those who were socially isolated during these epidemics experienced elevated levels of depression, loneliness, stress, anxiety, anger, insomnia, and PTSD symptoms (Brooks et al., 2020; DiGiovanni et al., 2004; Hawryluck et al., 2004; Lee et al., 2005). Beyond studies examining the effects of social isolation due to quarantine, researchers have found that general social isolation and loneliness negatively impact one's cognitive, emotional, and physical health (Cacioppo et al., 2014; Hall-Lande et al., 2007; Leigh-Hunt et al., 2017). More specifically, those in isolation were found to have reduced immune function, poorer cardiovascular health, executive function, and cognitive function, and higher anxiety, depression, and suicide rates (Cacioppo et al., 2014; Hall-Lande et al., 2007). Based on past research, it is likely that social isolation played a crucial part in the decreasing trend of overall mental health during the pandemic. However, given the lack of research regarding the influence of social isolation on mental health, specifically in the context of the COVID-19 pandemic, further empirical examination is required.

Social isolation is only one of many challenges of the COVID-19 pandemic. In response to the stress and various challenges, there are many different coping strategies that individuals could utilize. In general, coping strategies are grouped into three main categories: Emotion-Focused, Problem-Focused, and Avoidant Coping, and individuals often engage in a combination of coping strategies across the three categories (Y. Chen et al., 2018). During the pandemic, individuals might have engaged in emotion-focused coping, such that they sought to alleviate the

emotional experience of stress (Y. Chen et al., 2018). In fact, during the pandemic, individuals reported that they engaged in leisure activities, socialized with loved ones, and practiced mindfulness and self-reflection (Madrigal & Blevins, 2021; Park, Finkelstein-Fox et al., 2021). Individuals might have also engaged in problem-focused coping, such that they addressed the source of the stressor and attempted to resolve the challenges brought up by it (Y. Chen et al., 2018). During the pandemic, it was reported that individuals educated themselves and donated to causes related to COVID-19, created new daily routines, and sought out a therapist (Madrigal & Blevins, 2021; Park, Finkelstein-Fox et al., 2021). Lastly, individuals might have engaged in avoidance coping, as they ignored, avoided, or withdrew from the stressor or its emotional consequences (Y. Chen et al., 2018). For example, during the pandemic, individuals might have repressed their feelings, skipped meals or overate, or started using substances such as drugs and alcohol (Madrigal & Blevins, 2021; Park, Finkelstein-Fox et al., 2021).

Unsurprisingly, the most utilized coping strategy during the pandemic was engaging in and receiving social support (Madrigal & Blevins, 2021; Saltzman et al., 2020; Zhang et al., 2020). Social support refers to the psychological and material support provided by other trusted individuals, groups, and the larger community, including family, friends, romantic partners, and community ties (Lin et al., 1979). During the pandemic, among the many different coping strategies, social support proved to be critical in helping to manage or cope with the stress because everyday interactions with friends, family, and even strangers were replaced with prolonged periods of isolation and loneliness (Madrigal & Blevins, 2021).

Theory and past research suggest that humans have a fundamental need to connect socially with others, and the lack of such connections can lead to several negative consequences. According to the need to belong theory (Baumeister & Leary, 1995), humans have always had a

strong need to belong, such that they are motivated to establish and maintain a certain amount of positive and stable interpersonal relationships. In other words, humans naturally tend to resist isolation and prefer to connect with others emotionally and socially. To demonstrate how being socially connected is necessary for survival, Baumeister and Leary compared the need to belong to other basic needs, such as food, water, and shelter. Furthermore, Baumeister and Leary argued and provided empirical support showing that the absence of social bonds and belongingness leads to significant psychological distress and higher levels of anxiety, depression, and loneliness. During a time full of stress and uncertainty about the future, like the pandemic, it is no surprise that the need to belong is strongest.

Social support has long been recognized as an essential coping strategy during times of crisis. The buffering hypothesis suggests that support from trusted others can contribute to physical and mental health by acting as a buffer between stressful life events and psychological distress (Cohen & Wills, 1985). Past research has demonstrated that individuals who receive more social support during times of stress tend to experience both better physical and mental health (Cohen & Wills, 1985; Taylor & Stanton, 2007). Social support most likely helped buffer the impact of the pandemic, as family members might have helped with both problem-focused coping by lending financial support and emotion-focused coping by purposely helping to reduce anxiety levels. In this way, social support reduces vulnerability to a stressor by affecting stress appraisal. One might appraise an event as less stressful than otherwise because one feels as though one is better prepared to meet the situational demands (Stroebe & Stroebe, 1996). In addition, social support also allows individuals to discuss, process, and reframe the event in an environment they deem safe and trustworthy (Chan et al., 2015; Zhou & Wu, 2016). In this way, one's social support network can help relieve the stress or even eliminate the stressor.

Interestingly, even before the stressor occurs, extensive networks of supportive and accepting friends and family increase people's overall psychological well-being, which lowers the chances that they will experience severe negative consequences when a setback occurs (Cohen & Wills, 1985). Lastly, social support has been found to improve recovery after a stressful life event, as it improved individual motivation and ability to cope with a stressor (Stroebe & Stroebe, 1996). With all of this in mind, it is clear how important social support is as a coping method more generally and as a buffer against stressful life events and depressive and anxiety symptoms. However, further empirical research is needed to examine whether social support is just as effective during the coronavirus pandemic, a time when individuals lacked physical contact with loved ones.

An important thing to consider when thinking about how well individuals were able to cope with the stress of the pandemic is the fact that individuals differ in self-esteem. Self-esteem refers to people's overall positive or negative evaluation of themselves (Baumeister et al., 2003). Our self-esteem level represents how we feel about our attributes and qualities, successes and failures, and ourselves in general (Baumeister et al., 2003). One's assessment of their own self-worth is also known as global self-esteem, and takes into account both internal factors, such as emotions, genetic makeup, and personality traits, as well as external factors, such as specific events, family, and career. High self-esteem is associated with a greater valuation of abilities and competencies, and overall, reflects the valuation that one is adequate and valuable as an individual. In contrast, low self-esteem implies self-rejection and overall dissatisfaction with one's ability, competency, and worth (Baumeister et al., 2003).

Self-esteem seems to promote psychological well-being and success. Overall, people with high self-esteem are significantly and substantially happier than those with low self-esteem

(Baumeister et al., 2003). Along with that, those with high self-esteem have been found to report lower rates of depression and anxiety, either in general or specifically in response to stressful, traumatic events, than those with low self-esteem (Baumeister et al., 2003; Eisenbarth, 2012). However, past research on the buffering effect of self-esteem during times of stress has been somewhat contradicting. Some researchers (Arndt & Goldenberg, 2002) have found support for the buffering hypothesis, with self-esteem acting as a buffer against stress and trauma and influencing threat appraisal. Those with high self-esteem seem to have a greater belief in their ability to handle and control stressful situations, leading to lower stress and related symptomology (Baumeister et al., 2003). However, other researchers (Murrell et al., 1991) have produced findings that either did not support or entirely contradicted the buffering hypothesis. Due to the conflicting findings of these studies, more research needs to be done on the self-esteem buffering hypothesis. Nonetheless, past research consistently suggests that low self-esteem leads to poorer outcomes, such as elevated levels of depression and anxiety.

In addition to having an influence on one's mental health and well-being, self-esteem seems to also have an influence on the characteristics of one's social relationships and whether one has a strong or weak social support network. One possible reason for this is that differing levels of self-esteem can influence the way interpersonal events are interpreted. According to self-verification theory, people tend to selectively attend to and recall information consistent with their subjective views (Swann, 1983). Past research suggests that this holds not only for those with positive self-views but also for those with negative self-views (Giesler et al., 1996). Those with low self-esteem might disengage from those who view them more positively than how they see themselves. This could result in those with higher levels of self-esteem to perceive more social support during the pandemic, and those with low self-esteem to perceive less.

Interestingly, researchers have also found that those with low self-esteem tend to resist or ignore other people's positive feedback and compliments (Marigold et al., 2007; Murray, Holmes, et al., 1998). In addition, those low in self-esteem tend to perceive others' behavior more negatively than those with high self-esteem (Murray, Holmes, et al., 1998; Murray, Rose, et al., 2002). With all of this in mind, individuals with high self-esteem may experience more positive relationships with others. They may fully benefit from positive interpersonal events and use them to validate their positive self-views, which in turn provides them with the confidence and optimism needed in the face of adverse events, like the COVID-19 pandemic. By contrast, those with low self-esteem will be unable to do so. In addition, according to self-verification theory, people want to be seen and understood by others according to their own beliefs and feelings about themselves, even if they are negative (Swann, 1983). For example, one might purposely seek out relationship partners who confirm preexisting beliefs about themselves and, more generally, display cues that increase the likelihood that others will see them as they see themselves. Consistent with self-fulfilling prophecies, those with low self-esteem tend to act in ways that bring about the very thing they expect to happen, such as expecting their partners to grow tired of helping them and expecting rejection in the future (Marigold et al., 2007; Murray, Holmes, et al., 1998; Murray, Rose, et al., 2002). Actions can include distancing themselves and questioning loved ones' positive regard, affections, and continued acceptance (Marigold et al., 2007; Murray, Holmes, et al., 1998; Murray, Rose, et al., 2002). This potentially hinders the ability of those with low self-esteem to develop healthy and supportive relationships. In addition, it is likely that the self-defeating thoughts and insecurities associated with low self-esteem can make individuals more anxious and stressed both in their relationships and in general, adding onto the stress of the pandemic.

There are many gaps in the present literature regarding social support, self-esteem, and mental health and well-being. First, given how novel the COVID-19 pandemic is, there is a lack of research regarding the influence of social support on mental health, specifically in the context of a global pandemic. In addition, there are mixed findings regarding the possible relationship between self-esteem and stress responsivity. Lastly, no previous research has specifically examined how self-esteem affects the influence that social support has on levels of stress, anxiety, and depression, specifically during the COVID-19 pandemic. With all these gaps in mind, the first purpose of the proposed study is to examine the main effect of social support and self-esteem on levels of stress, anxiety, and depression during the COVID-19 pandemic. In addition, the proposed study will examine the moderating role of self-esteem toward the relationship of social support and psychological well-being during the pandemic. In the proposed study, participants will complete an online survey containing measures of psychological well-being, depression, stress, anxiety, loneliness, belonging, social support, self-esteem.

First, it is hypothesized that higher levels of perceived social support would be associated with less reported stress, depression, and anxiety during the COVID-19 pandemic. Similarly, it is hypothesized that higher levels of self-esteem would be associated with decreased levels of stress, depression, and anxiety during the pandemic. Lastly, it is hypothesized that for those high in self-esteem, more social support will be associated with less depression, anxiety, and stress during the pandemic. By contrast, for those low in self-esteem, more social support will be associated with more depression, anxiety, and stress.

Proposed Method

Participants

Based on a G*power (Faul et al., 2007) a priori sample size test with 12 predictor variables, a small estimated effect size, alpha level of 0.05, and a power level of .95, a minimum sample size of 184 participants would be needed. The effect size was estimated to be small based on the results of other similar studies (H. Chen et al., 2021; Szkody et al., 2020; Xu et al., 2021), which found small effect sizes. Participants will be adults living in the United States who have internet access. Based on the 2020 United States Census, participants will be approximately 76.3% White, 13.4% Black, 5.9% Asian, 1.3% American Indian or Alaska Native, 0.2% Native Hawaiian or Pacific Islander, and 2.8% Mixed Race. In addition, they will be approximately 50.8% women and 49.2% men, with a median age of approximately 39 years (U.S. Census Bureau, 2020).

Participants will be recruited through various social media platforms, such as Facebook, Instagram, Twitter, and Reddit. Online and paper advertisements will also be placed in major newspapers and magazines to reach those who do not use social media. Participants will be compensated $5 for their participation in the survey.

Materials

The proposed study will take the form of an online survey that assesses participants' levels of social support, self-esteem, depression, anxiety, stress, loneliness, belongingness, and COVID-19 stressors.

Social Support

The measure that will be used to assess levels of perceived social support is the Multidimensional Scale of Perceived Social Support (MSPSS; Zimet, Dahlmen et al., 1988). The

MSPSS consists of 12 statements rated in terms of how much the respondent agrees on a 7-point Likert scale (1 = *very strongly disagree*; 7 = *very strongly agree*). The scale is designed to measure the perceived adequacy of support from family (e.g., "I can talk about my problems with my family"), friends (e.g., "I have friends with whom I can share my joys and sorrows"), and one's significant other (e.g., "There is a special person who is around when I am in need"). Items are added together and then divided by 12, producing scores that range from 1 to 7 with higher scores equating with higher levels of social support. The MSPSS has adequate internal reliability ($\alpha = 0.88$) and test-retest reliability ($r = 0.85$) (Zimet, Powell et al., 1990). The measure also has adequate construct validity, as the MSPSS was minimally but significantly negatively correlated with the depression subscale of the Hopkins Symptom Checklist ($r = -0.25$) (Zimet, Dahlmen et al., 1988).

Self-Esteem

The Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) will be used to assess an individual's level of global self-esteem. The RSES consists of 10 statements rated in terms of how much the respondent agrees on a 4-point Likert scale (1 = *strongly disagree*; 4 = *strongly agree*). The scale measures both positive (e.g., "I am able to do things as well as most other people") and negative feelings about the self (e.g., "I certainly feel useless at times"). Items are added together and then divided by 10, producing scores that range from 1 to 4 with higher scores suggesting higher levels of self-esteem. The RSES has adequate internal consistency ($\alpha = 0.77$) and test-retest reliability ($r = 0.85$) (Silber & Tippett, 1965). The RSES is significantly correlated with other measures of self-esteem, such as the Coopersmith Self-Esteem Inventory, demonstrating adequate construct validity (Potard, 2017).

Stress, Anxiety, and Depression

The Depression, Anxiety, and Stress Scale (DASS; Lovibond & Lovibond, 1995) will be used to assess individuals' levels of depression, anxiety, and stress. The DASS consists of 42 statements rated in terms of how much the statement applied to the respondent over a period of time on a 4-point Likert scale (1 = *did not apply to me at all*; 4 = *applied to me very much or most of the time*). The depression subscale focuses on low mood, motivation, and self-esteem (e.g., "I couldn't seem to experience any positive feeling at all"). The anxiety subscale focuses on physiological arousal, perceived panic, and fear (e.g., "I felt I was close to panic"). Lastly, the stress subscale focuses on tension and irritability (e.g., "I found myself getting agitated"). The three subscales, with 14 items in each, are scored by adding the total item scores and then dividing by 14. A higher score in each subscale indicates greater severity of depression, anxiety, or stress. The depression ($\alpha = 0.96$), anxiety ($\alpha = 0.89$), and stress subscales ($\alpha = 0.93$) all have adequate internal consistency (Basha & Kaya, 2016). The DASS is also highly related to the Beck Depression Inventory ($r = 0.74$) and the Beck Anxiety Inventory ($r = 0.81$), demonstrating adequate convergent validity (Antony et al., 1998).

Belongingness

The General Belongingness Scale (GBS; Malone et al., 2012) will be used to assess an individual's general sense of belongingness. The scale consists of 12 statements and is separated into two factors: acceptance/inclusion (e.g., "When I am with other people, I feel included") and rejection/exclusion (e.g., "I feel like an outsider"). The items are rated in terms of how much the respondent agrees on a 7-point Likert scale (1 = *strongly disagree*; 7 = *strongly agree*). Items are added together and then divided by 12, producing scores that range from 1 to 7 with higher scores indicating a stronger tendency to general belongingness. The GBS has adequate internal

consistency (α = 0.95) and convergent validity, such that the scale correlated strongly with other measures of belongingness and loneliness (Malone et al., 2012).

Loneliness

The UCLA Loneliness Scale (ULS; Russell, 1996) will be used to measure one's subjective feelings of loneliness and social isolation. The scale consists of 20 statements rated in terms of how often they are descriptive of the respondent on a 4-point Likert scale (1 = *never*; 4 = *always)*. The ULS consists of 10 positively worded items that are reverse coded (e.g., "How often do you feel that there are people you can turn to?") and 10 negatively worded items (e.g., "How often do you feel left out?"). Scores are calculated for each respondent by averaging their ratings. Higher scores indicate a greater expression of loneliness. The ULS has shown consistently adequate internal consistency (α = 0.92), test-retest reliability over a one-year period (r = 0.73), and convergent validity, as the scale correlated strongly with other measures of loneliness (Russell, 1996).

COVID-19 Stressors

The COVID-19 Stressors Scale (Park, Russell et al., 2020) will be used to assess the stressfulness of the COVID-19 pandemic for the participant. Specifically, the scale assesses COVID-19 stressor exposure and appraisal by asking individuals whether they have experienced each of 23 stressors (0 = *no*; 1 = *yes*) and having them rate the degree of stressfulness of each stressor they have experienced (1 = *not at all stressful*; 5 = *extremely stressful*). The stressors are divided into three categories: infection-related (e.g., "Risk of loved ones becoming infected"), daily routine-related (e.g., "Changes to social routines"), and resource-related (e.g., "Loss of current job security or income"). Scores are calculated for each respondent by multiplying each stressor exposure score with its corresponding appraisal score and, in the end, obtaining the sum.

Higher scores indicate greater levels of COVID-19 related distress. The COVID-19 Stressors Scale has adequate internal consistency ($\alpha = 0.96$) and convergent validity, as the scale was significantly positively correlated with scores on the General Anxiety Disorder Scale ($r = 0.54$) and the Perceived Stress Scale ($r = 0.46$) (Tambling et al., 2021).

Procedure

Those interested in participating in the study will follow a link to the online survey, which will be listed in the advertisement. Upon providing informed consent, respondents will be asked to take a moment to close their eyes and run through in their mind a typical day in quarantine during the COVID-19 pandemic. While keeping in mind what a typical day in quarantine looked like, respondents will complete the measures described above in a randomized order. In the instructions for each scale, respondents will be re-prompted to think about what a typical day in quarantine looked like. After completing the scales, respondents will answer demographic questions regarding their age, gender, socioeconomic status, race, employment status during the pandemic, living situation during the pandemic, and whether they attended therapy during the pandemic. Respondents will then complete a priming check, such that they will be asked, "On a scale of 1 (*very difficult*) to 5 (*very easy*), how easy was it for you to remember what a typical day in quarantine during the COVID-19 pandemic looked like?" In the end, participants will be debriefed. During the process debriefing, participants will complete a self-affirmation task to reaffirm their positive values. Specifically, respondents will rank personal values and describe why their most highly rated personal value is important to them, as researchers have found self-affirmation to be effective in elevating one's mood and restoring self-competence (Cascio et al., 2016). Lastly, the respondents will be thanked for their participation and compensated.

Ethical Considerations

Several ethical considerations will be addressed in the methods. Although the proposed study will not involve a protected or vulnerable population, several steps will nonetheless be taken to protect respondents and minimize the negative impact on them. For one, the proposed study will not involve deception, and respondents will be exposed to no more than minimal risk. Although respondents will be asked to think about the COVID-19 pandemic, which was pretty traumatic for most people, they already have gone through or are going through the pandemic and, therefore, are not being exposed to any new risks. In order to better understand how the COVID-19 pandemic impacted the mental health of individuals, respondents will answer questions regarding various COVID-19 stressors, stress, anxiety, depression, loneliness, and self-esteem, which could be sensitive topics to some. However, these questions are ones that may be asked during a routine psychological examination or a therapy session and the topic of COVID-19 is still discussed in everyday conversations.

While the present study is minimal risk, some participants may be uncomfortable answering all of the questions, given the stigma around mental health issues. To account for this, participation in the proposed study will be truly voluntary. Before beginning the online survey, participants will be informed of likely risks and benefits of participation and of their right to refuse to participate. Respondents will also be informed that they can leave the survey at any time or choose not to answer particular questions without losing their financial compensation. While participants will be financially compensated, this amount will be minimal to avoid financial coercion. Additionally, the data collected will be anonymous, as the online survey will be set so that it does not record respondents' IP address, location data, or contact information. In addition, participants will not be asked for any identifying information directly in the survey.

Regarding compensation, respondents will be directed to a separate online survey after finishing the main survey, where they will provide their email address. The separate online survey for compensation will ensure that the data collected is separate from the email addresses for compensation as there will be no way to link the two data sets.

Because the COVID-19 pandemic is still ongoing and people's experiences differ based on gender, socioeconomic status, etc., information regarding access to food pantries and mental health services will be provided. In addition, to account for the fact that thinking about the pandemic might cause discomfort, respondents will participate in an affirmation exercise that will remind them of their good qualities at the end of the study. Self-affirmation exercises have been found to be effective in restoring self-competence, increasing motivation, and elevating one's mood (Cascio et al., 2016).

Considering how novel the COVID-19 pandemic is and how it presents a unique traumatic event, the proposed study could significantly add to the literature and benefit society. To the best of my knowledge, the proposed study would be the first to examine the effects of social support and self-esteem on levels of stress, depression, and anxiety, specifically in the context of a pandemic lockdown. In addition, the study would add to the literature on whether certain groups are more likely to be negatively impacted by the pandemic. Given how likely it is that society will encounter other pandemics in the future, the proposed study could help develop effective interventions to improve social support and increase self-esteem, especially in times of social distancing and isolation. The study could also help inform public policymakers about the importance of providing resources to individuals in need of social support during global health crises. More generally, understanding the roles of social support and self-esteem on levels of depression, stress, and anxiety could advise therapy, with particular attention paid to those with

low self-esteem. Given that the proposed study is at the level of minimal risk, the potential benefits of the proposed research do outweigh the potential risks to participants.

Predicted Results

To explore the relationship between social support and self-esteem on levels of depression, anxiety, and stress during the pandemic, separate multiple regressions will be conducted for each of the three dependent variables. Model significance will be determined by observing the model *F*-value and its *p*-value for each model, as well as examining the R^2 value to determine the amount of variance for which the model accounts.

In addition to social support and self-esteem, belongingness, loneliness, COVID-19 stressors, age, gender, race, socioeconomic status, employment status during the pandemic, living situation during the pandemic, and therapy attendance during the pandemic will be entered into the multiple regression model as predictors. Past research has suggested that each of these variables impacts depression, anxiety, and stress levels, so, therefore, these variables will be added as control variables in the regression. I will control for them using multiple linear regression. Specifically, various demographic information, such as age, race, gender, socioeconomic status, and employment status has been shown to have an impact on levels of depression, anxiety, and stress (Kim & Kim, 2017; Panchal et al., 2021; Verma & Mishra, 2020). In addition, researchers have found social isolation, rejection, and loneliness to be associated with psychological distress and decreased physical and mental health (Baumeister & Leary, 1995; Cacioppo et al., 2014; Hall-Lande et al., 2007; Leigh-Hunt et al., 2017; Moeller et al., 2020). Past research has also suggested that COVID-19 stressors (Park et al., 2021) and receiving counseling or therapy (Hunsley et al., 2014) influence levels of depression, anxiety, and stress.

Social support is anticipated to significantly, negatively predict depression, anxiety, and stress scores when all other variables in the model are controlled. The COVID-19 pandemic, a time of national stress and trauma, has significantly impacted individuals' medical, emotional, and social lives. Past research has demonstrated that those who receive more social support during times of stress overall tend to experience both better physical and mental health (Cohen & Wills, 1985; Taylor & Stanton, 2007). In addition, the buffering hypothesis suggests that support from trusted others can contribute to physical and mental health by acting as a buffer between stressful life events and psychological distress (Cohen & Wills, 1985). With the psychological and material support provided by others, one who has high levels of social support may appraise the COVID-19 pandemic as less stressful than those with low levels of social support because they may feel as though they are better prepared to meet the situational demands.

Similarly, self-esteem is anticipated to significantly negatively predict depression, anxiety, and stress scores when all other variables in the model are controlled. Researchers have found that those with high self-esteem tend to report lower rates of depression and anxiety compared to those with low self-esteem, both in general and in response to stressful, traumatic events (Baumeister et al., 2003; Eisenbarth, 2012). In addition, past research (Baumeister et al., 2003) has demonstrated that those with high self-esteem seem to have a greater belief in their ability to handle and control stressful situations, which leads to lower stress and related symptomology. With all of this in mind, self-esteem may act as a buffer against stress during the pandemic, such that those with more self-esteem may experience lower levels of depression, anxiety, and stress in response to the pandemic.

The effect of social support on depression, anxiety, and stress is anticipated to be affected by respondents' level of self-esteem. The moderating effect of self-esteem on the relationship

between social support and levels of depression, anxiety, and stress will be modeled using an interaction between self-esteem and social support. For those high in self-esteem, it is anticipated that more social support will be associated with less depression, anxiety, and stress during the pandemic. By contrast, for those low in self-esteem, it is anticipated that more social support will be associated with more depression, anxiety, and stress. Researchers have found that those with low self-esteem tend to resist or ignore other people's positive feedback and compliments (Marigold et al., 2007; Murray, Holmes, et al., 1998). In addition, low self-esteem individuals tend to perceive others' behavior more negatively than high self-esteem individuals (Murray, Holmes, et al., 1998; Murray, Rose, et al., 2002). Past research has also shown that people tend to selectively attend to and recall information consistent with their subjective views (Swann, 1983). This holds true not only for those with positive self-views but also for those with negative self-views (Giesler et al., 1996), which leads to those with low self-esteem perceiving less support than those with high self-esteem. With all of this in mind, it is anticipated that high self-esteem individuals will be able to fully reap the benefits of social support during the pandemic, whereas those with low self-esteem will be unable to do so.

Scholarly Merit and Broader Impacts

Considering the uniqueness of the COVID-19 pandemic, how it presents a new traumatic event, and how likely it is that society will encounter future pandemics, the proposed study could greatly add to the literature and benefit society. The first purpose of the proposed study is to examine the main effect of social support on levels of stress, anxiety, and depression during the COVID-19 pandemic. The quarantine and lockdown measures implemented by state governments generated widespread feelings of isolation and loneliness. Everyday interactions with friends, family, and even strangers were replaced with prolonged periods of isolation and

loneliness (Madrigal & Blevins, 2021). Based on past research demonstrating that social support can act as a buffer against stressful life events (Cohen & Wills, 1985), it is no surprise that engaging in social support was one of the most popular coping strategies during the pandemic (Saltzman et al., 2020). However, given the lack of research regarding the influence of social support on mental health, specifically in the context of a global pandemic, the proposed study could help determine whether engaging in social support is as effective during the current coronavirus pandemic.

Similarly, another purpose of the proposed study is to examine the influence of self-esteem on levels of stress, anxiety, and depression during the COVID-19 pandemic. Conflicting findings of the possible relationship between self-esteem and stress responsivity were reported in the literature. The proposed research would help to clarify the relationship between self-esteem and stress responsivity, both in general and specifically in the context of a global traumatic stressor event. In addition, the study could add to the literature on whether certain groups, such as those with low self-esteem, are more likely to be negatively impacted by the pandemic.

Lastly, the proposed study will examine whether differing levels of self-esteem affect the influence that social support has on levels of stress, anxiety, and depression during the pandemic. Despite the wealth of research about self-esteem levels as a predictor of the way interpersonal events are interpreted, not much research has been conducted to explicitly test if self-esteem moderates the relationship between social support and one's mental health. It could be that those low in self-esteem do not benefit as much or might even experience negative consequences from having too much or even any social support. Therefore, the proposed study may fill this gap by examining whether self-esteem influences the impact that social support has on levels of depression, anxiety, and stress, specifically during the COVID-19 pandemic.

Overall, to the best of my knowledge, the proposed study would be the first to examine the effects of social support and self-esteem on levels of stress, depression, and anxiety, specifically in the context of a pandemic lockdown. It is crucial to better understand the impact that such pandemics have on mental health.

The proposed research could help individuals find effective coping strategies to adopt to deal with the consequences of both the COVID-19 pandemic and in the future in response to similar crises. Specifically, the expected results highlight the importance of social support and suggest that individuals seek and maintain social support to attenuate the distressing psychological responses to the pandemic. The proposed study could also help inform public policymakers about the importance of providing resources, such as tablets and internet access, to individuals low in social support during global health crises when physical contact is not possible. In addition, the findings could stress to public health officials the importance of identifying and supporting those who are more at-risk in developing mental health problems, such as those with low self-esteem and those with low social support. It also could help inform health care professionals about the importance of providing additional support to those at-risk groups, such as hosting online peer group support sessions, having an open telephone support line staffed with healthcare professionals, or even just educating individuals about various stress management skills and effective ways to increase self-esteem. The expected findings may also be useful in helping clinicians develop efficient and tailored interventions for improving individuals' mental health during prolonged and distressing situations, with particular attention paid to those with low self-esteem or low social support. These interventions may help individuals protect their mental health during the current pandemic and future public health emergencies.

The purpose of the proposed study is to examine the main effect of social support and self-esteem on levels of stress, anxiety, and depression during the COVID-19 pandemic, as well as determine whether differing levels of self-esteem affect the influence that social support has on levels of stress, anxiety, and depression. It is crucial to better understand the psychological challenges of the current pandemic and the potential buffering role that social support and self-esteem play so that health officials are better prepared to promote positive psychological health outcomes in similar health crises in the future.

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