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Psychological distress and susceptibility to disease in the Infant and Early Childhood Mental
Health (IECMH) Workforce in the time of the COVID-19 pandemic

By

Ashley Elizabeth Sexton

An Undergraduate Thesis Submitted in Partial Fulfillment

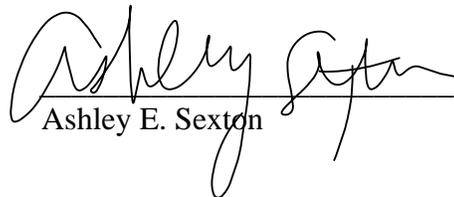
of the requirements for the

Psychology Honors in Discipline Program

Honors College

College of Arts and Sciences

East Tennessee State University



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4/19/2021_
Date



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4-19-21
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04/20/21
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Abstract

Chronic stress, anxiety, and depression can have many adverse effects on physical health, including immunosuppression and increased susceptibility to disease. For the last year, the world has endured sustained stress caused by the COVID-19 pandemic which has had its own impact on mental health. Stress from COVID-19 will likely have an even greater impact on the Infant and Early Childhood Mental Health (IECMH) workforce due to the stressful nature of their work. Self-care has been shown to improve overall wellbeing and act as a buffer for stress. Therefore, the current study aims to investigate if IECMH workers with clinically significant depression and/or anxiety are more susceptible to contracting COVID-19. Furthermore, this study will examine whether the utilization of self-care has an impact on perceived stress. The sample includes members of the Tennessee IECMH workforce ($n = 121$, 98% female, modal age range 30-39 years) surveyed in the summer of 2020. The results indicated that self-care was significantly negatively correlated with perceived stress, and exploratory analyses were conducted to further investigate mental health during the COVID-19 pandemic. This study adds to our understanding of the effects of self-care on perceived stress and the prevalence of mental health symptoms in the IECMH workforce in the context of the COVID-19 pandemic, although it is important to continue to study the effects of self-care and its ability to mitigate negative physical and mental health outcomes, as well as the impact of COVID-19 on mental health.

Keywords: stress, anxiety, depression, COVID-19, IECMH workforce, self-care

Introduction

The COVID-19 pandemic has led to a plethora of changes in people's lives across the globe. Many have been laid off, experienced loss of loved ones, and experienced immense changes to their daily routines, such as mask-wearing and social-distancing. Because of these stressful circumstances, it is important for those in the field of psychology to understand how this health crisis has impacted mental health. This study seeks to explore how depression and anxiety relate to the contraction of COVID-19, as well as how perceived stress is impacted by self-care during the time of the COVID-19 pandemic.

Psychological distress, the immune system, and COVID-19

The human response to stress, also known as the fight-or-flight response, has evolved over thousands of years, from the Neanderthals fighting off cave lions and leopards to modern day humans preparing for important interviews and difficult exams. Stress is defined as the body's reaction to challenging or demanding stimuli (National Institute of Mental Health, n.d.). The body's reaction to a challenge is complex, involving the sympathetic nervous system (SNS) and the hypothalamic-pituitary-adrenal (HPA) axis (McEwen, 1998). In the face of stress, the brain activates the SNS, which leads to an increase in heart rate, blood pressure, and blood sugar levels (Harvard Health Publishing, 2020). There are two types of stressors which will be focused on for the purposes of this study: brief naturalistic stressors and chronic stressors. Brief naturalistic stressors, such as riding a rollercoaster, are considered "good stress" or eustress. Eustress briefly activates the SNS, and aids in motivation and increased alertness (Aschbacher et al., 2013). This brief activation of the SNS promotes adaptation, also known as allostasis (McEwen, 2016).

Allostasis is the physiological state that promotes adaptation as a response to stressors in which the SNS sends signals for neurotransmitters, hormones, and cytokines to be released in the body (McEwen, 2016). The body adapts to stressors through allostasis in order to maintain homeostasis (McEwen, 2016). Homeostasis is an organism's ability to maintain its internal environment within set limits in which it can survive, which include internal set points for temperature, blood pH, and oxygen (McEwen, 2016). With good stress, the body is able to adapt for a short period and then return to a homeostatic state. However, if the body is still in a state of adaptation, the addition of an unpredicted stressor such as disease or environmental disaster can cause an overworking of the SNS, leading to allostatic overload (McEwen, 2016). Research has shown strong correlations between chronic stress and illness, such as cardiovascular disease, inflammation, and depleted immune function (Sumner & Gallagher, 2017). Research on adverse childhood experiences has indicated that childhood trauma and early chronic stress have been associated with lifelong mental and physical health complications (Lanius et al., 2010). Furthermore, emotional stress can lead to severe cardiovascular dysfunction (Wittstein et al., 2005). Research has also shown a relationship between cortisol and immune functioning. Dysregulated cortisol can result in weakened inflammatory control (Cohen et al., 2012). However, the body may become less responsive to cortisol with chronic increased cortisol secretion from chronic stressors, and once glucocorticoid resistance occurs, pro-inflammatory cytokine production is relatively uninhibited by the immunosuppressive actions of cortisol (Cohen et al., 2012b). Chronic stress also acts as a trigger for anxiety and depression and is associated with a heightened risk of upper respiratory infections (URIs), which is of heightened importance in relation to COVID-19, as it causes respiratory illness (Sheldon Cohen et al., 2007; World Health Organization, n.d.).

Major stressful life events have been indicated as strong predictors for the onset of depression (Kendler et al., 1999). Depression is a mood disorder associated with symptoms such as depressed mood, loss of interest, feelings of worthlessness, decreased energy, concentration difficulties, changes in appetite, and suicidality (American Psychiatric Association, 2013). It is one of the most common psychiatric disorders, with nearly 1 in 4 women and 1 in 6 men experiencing major depressive episodes during their lifetime (Kessler et al., 2010). Moreover, major stressful life events have been indicated as strong predictors for the onset of depression (Kendler et al., 1999). Depression also holds a longstanding relationship with the immune system, with evidence suggesting associations between depression and HPA-axis hyperactivity, elevated cortisol levels, and neuroinflammation (Malhi & Mann, 2018; Setiawan et al., 2015). Furthermore, depressive symptoms and lack of physical activity have been correlated with increased upper respiratory tract infection symptomology (Kostka & Praczko, 2007). Therefore, the literature indicates that experiencing depression may potentially impact the immune system's ability to fight off the COVID-19 virus and increase susceptibility to respiratory illness after infection (Kostka & Praczko, 2007; Malhi & Mann, 2018; Setiawan et al., 2015).

For the past year, the world has dealt with ongoing stress caused by the COVID-19 pandemic. As such, increased stress related to COVID-19 may have serious implications for depression. Coronavirus (COVID-19) is an infectious disease produced by coronavirus 2 (SARS-CoV-2) which can cause mild to severe respiratory illness, with symptoms including fever, tiredness, aches and pains, headache, loss of taste or smell, difficulty breathing or shortness of breath, and chest pain or pressure (World Health Organization, n.d.). The COVID-19 global pandemic, which began in November 2019, is the worst medical crisis of the 21st century, with over 28,000,000 cases and 500,000 deaths in the United States alone (Dong et al., 2020). In

efforts to slow the spread of disease, there have been several government shutdowns around the world and sustained social isolation due to social distancing guidelines and quarantines.

In the context of the ongoing COVID-19 pandemic, the relationships between life stress, depression, and immunology become even more relevant. The long-term mental health consequences of natural disasters and traumatic events appear to be substantial. For example, for Florida residents impacted by Hurricane Andrew, depression levels remained virtually unchanged from six months post-disaster and two years post-disaster (Norris et al., 1999). Some early data on the mental health consequences of COVID-19 indicate high levels of depression and anxiety in adults in the United States. One study conducted during March 2020 with a nationally representative sample of 10,368 U.S. adults examined social vulnerabilities and mental health consequences of COVID-19 (Fitzpatrick et al., 2020). The results indicated that on average, participants had clinically significant levels of depressive symptoms (Fitzpatrick et al., 2020). Therefore, it seems negative mental health outcomes associated with the COVID-19 pandemic will likely have lasting mental health effects, even after the pandemic has ended.

As depression and anxiety are often highly comorbid, and because preliminary research has indicated the prevalence of anxiety due to COVID-19, it is also imperative to explore the role of anxiety during the pandemic (Fitzpatrick et al., 2020; Härter et al., 2003). Anxiety is an emotion defined by activation of the SNS and feelings of tension and worry (Kowalski, 2000). Similar to stress, anxiety in brief durations has been shown to have performance-enhancing effects (Kowalski, 2000). However, the prolonged or chronic anxiety found in anxiety disorders has been strongly associated with chronic illness, such as hypertension, migraines, and gastrointestinal problems (Härter et al., 2003). This could create unique challenges during the COVID-19 pandemic, as headaches and gastrointestinal problems are symptoms of the

coronavirus (World Health Organization, n.d.). Additionally, early data has suggested that many people feel anxious about the pandemic. In one study, more than 25% of participants reported experiencing moderate to severe anxiety symptom scores and participants reported high levels of fear on average (Fitzpatrick et al., 2020). Due to the relationship between depression and anxiety and immune health found in the literature, those diagnosed with clinical depression or anxiety may have weakened immune systems which could potentially increase the likelihood of infection with COVID-19 (Härter et al., 2003; Kostka & Praczko, 2007; Malhi & Mann, 2018; Setiawan et al., 2015).

Although it may seem logical to infer that anxiety or worry of negative health outcomes would produce preventive behaviors, studies have shown otherwise. In a systematic review of the relationship between generalized anxiety disorder (GAD) and cardiovascular function, worry was related to increased negative health outcomes (Tully et al., 2013). For example, the results of a study on racial differences in blood pressure control suggested that worry about hypertension was associated with poorer blood pressure control (Bosworth et al., 2006). Furthermore, the results of a study on worry of major disease among older African-American, Native-American, and Caucasian women indicated that worry of diseases other than breast cancer is not associated with preventative action (Wilcox et al., 2002). Due to the ever-evolving nature of the pandemic, the public has depended on the media to provide accurate and current information to advise them on health protective behaviors. The results of one study suggested that media exposure to COVID-19 leads to increased anxiety and heightened stress responses (Garfin et al., 2020). This continuous overload of stress and anxiety could lead to serious mental and physical health complications in the future (Härter et al., 2003; Lanius et al., 2010; Norris et al., 1999).

The psychological impacts of COVID-19

It is also important to recognize the potential effects the COVID-19 pandemic may have on mental health. The COVID-19 pandemic may be especially damaging to mental health because it is both long term and widespread with uncertainty as to its end (Gruber et al., 2020). It is also particularly harmful because it severely disrupts daily routines and has caused and will lead to loss of resources in the present and the future (Gruber et al., 2020). One of the biggest concerns since the start of the pandemic has been unemployment. In the United States, the unemployment rate reached unprecedented levels, peaking at 14.8% in April 2020 (Falk et al., 2021). The results of a meta-analytic investigation on the effects of unemployment on mental health suggested that the prevalence of psychological problems is more than double among unemployed individuals compared to employed individuals (Paul & Moser, 2009). Furthermore, unemployed persons exhibit significantly higher levels of distress, depression, anxiety, and psychosomatic symptoms as well as significantly lower levels of subjective wellbeing and self-esteem (Paul & Moser, 2009). The damaging psychological effects of unemployment will therefore likely compound with the existing stress of the virus.

During a health crisis such as COVID-19 where ambiguity is high, appraisals of threat can be heightened. In a study about H1N1, the results indicated that people with low tolerance to uncertainty would be likely to experience high levels of anxiety due to a viral threat (Taha et al., 2014). Furthermore, risk of the spread of misinformation is likely to increase during crisis events. The findings of one study on rumor exposure during a campus lockdown indicated that irregular updates from official channels during crisis events leads to feelings of helplessness and loss of situational control, which leads to increased illusory pattern perceptions (Jones et al., 2017). This pathway in combination with inhibited executive functioning due to situational stress

diminish one's ability to scrutinize the validity of information, such as that found in social media content (Jones et al., 2017). Without timely updates from trusted sources, stress responses may be provoked, public fears may intensify, and rumors are likely to be fueled (Garfin et al., 2020). Therefore, the influence of rumor exposure likely plays a role in the psychological response to the COVID-19 pandemic. Although regular updates are important for diminishing the spread of misinformation and situational stress, too much media exposure can negatively impact mental health. For example, a study which examined acute stress following the Boston Marathon bombings reported that those who interacted with media coverage for six hours or more per day during the week succeeding the Boston Marathon bombings were nine times more likely to indicate experiencing high acute stress than those engaging in minimal media exposure (Holman et al., 2014). The sustained stress caused by COVID-19 due to grief, social distancing measures, and ongoing ambiguity related to the pandemic will likely greatly impact mental health in the present and in the future (Gruber et al., 2020).

Research on the effects of the COVID-19 pandemic on mental health in the United States is ongoing, but researchers in China have made some initial discoveries. The findings of a study on psychological responses during COVID-19 on the general population in China with 1210 participants conducted in early 2020 demonstrate that 53.8% of respondents rated the psychological impact of the COVID-19 pandemic as moderate to severe, 28.8% of respondents reported moderate to severe anxiety symptoms, 16.5% of respondents reported moderate to severe depressive symptoms, and 8.1% reported moderate to severe stress levels (Wang et al., 2020). Furthermore, of the study participants, 84.7% spent 20-24 hours per day at home, and over 70% worried about family members contracting the virus (Wang et al., 2020). These results emphasize how social isolation, stress, anxiety, and depression are already becoming significant

consequences of the pandemic. Thus, it is important to work to understand how these unique social and health consequences impact the immune system and susceptibility to illness from COVID-19 infection.

As research in China has shown, many people are spending sustained periods at home (Wang et al., 2020). Due to social distancing guidelines and quarantines, many people are experiencing social isolation and possibly loneliness. Research has indicated that there are negative physical and mental health outcomes from loneliness. For instance, loneliness has been positively associated with suicidal ideation (Stravynski & Boyer, 2001). Specifically, loneliness may heighten the strength of the relationship between poor problem-solving and suicidal behaviors (Hirsch et al., 2012). Thus, it appears that the COVID-19 pandemic continues to create a climate that is damaging to mental health, which could in-turn have negative effects for immune health.

While the COVID-19 pandemic has changed numerous aspects of daily life for all people, healthcare and other related professionals have faced the unique challenge of adapting services to meet ongoing needs during the pandemic. The Infant and Early Childhood Mental Health (IECMH) field has endured such extraordinary challenges. IECMH is a field focused on the development of children from birth to 5 years old, including forming healthy adult and peer relationships and developing the capacity to experience, manage, and express emotions (ZERO TO THREE, 2017). The term IECMH describes a continuum of services and supports with the goal of promoting healthy development and preventing and treating mental health problems of young children and their families (ZERO TO THREE, 2017). Many IECMH workers conduct regular home visits with families to support caretakers and their children (ZERO TO THREE, 2017). A family may be connected to these services via pediatric settings, homeless shelters,

child welfare programs, educational settings, or other settings which mental health concerns may be addressed (ZERO TO THREE, 2017). Due to the nature of their work, many IECMH professionals experience elevated stress levels, which is likely compounded by COVID-related stress (Gatti et al., 2011; Johnco et al., 2014; Martin et al., 2020).

Stress in the IECMH workforce

There are many distinctive facets of the IECMH field, such as low compensation and emotionally challenging work, which contribute to higher stress (Johnco et al., 2014). Work-related stress also impacts the personal lives of IECMH workers, in part due to chronic exposure to strong emotional experiences and increased exposure to trauma and community violence (Gatti et al., 2011). Furthermore, many IECMH workers are likely struggling with managing numerous priorities in a limited time frame, experiencing professional isolation, heavy workloads and staff turnover, and an unhealthy work culture based on self-sacrifice (Martin et al., 2020). The emotionally laden work that IECMH workers perform with vulnerable populations is highly stressful, and as stated previously, research indicates that stress is related to weakened immune health (Sheldon Cohen et al., 2012; Sumner & Gallagher, 2017; Wittstein et al., 2005). Therefore, it is important to consider the risk for weakened immune health in the IECMH workforce in the context of COVID-19.

Self-Care as a protective factor

Self-care is generally defined as any activity with the goal of improving one's health and well-being, including activities such as meditation and exercise, and is associated with improved wellbeing (Coster & Schwebel, 1997; Richards et al., 2010). There are two central aims of self-care: promote positive outcomes and limit negative outcomes (Butler et al., 2019). There are

different types of self-care, including professional and personal self-care. The purpose of professional self-care is “to manage or prevent work-related stress and stressors, reduce the risk or mitigate the effects of burnout and other workplace hazards, and increase work performance and satisfaction” (Butler et al., 2019, p. 110) Further, Lee and Miller (2013) described professional self-care as focused on promoting purposeful, effective, and appropriate engagement in the professional role while maintaining one’s overall health and wellbeing, while personal self-care is centered around practicing purposeful exercises which promote holistic health and wellbeing of the self.

Self-care has been associated with improvements in mental health. One study found that students in graduate training for counseling psychology who participated in a mindfulness-based stress reduction program reported significant declines in perceived stress, state and trait anxiety, and negative affect compared to cohort controls (Shapiro et al., 2007). Furthermore, research has suggested that self-care may act as a protective factor against negative mental health outcomes. A study of U.S. medical students found that self-care may help buffer the inverse relationship between perceived stress and quality of life (Ayala et al., 2018). Additionally, the results of a study on self-care in clinical psychology graduate training also suggested that self-care can act as a buffer against the effects of stress on overall wellbeing (Zahniser et al., 2017).

Practicing self-care is of significant importance for the IECMH workforce, as engaging in self-care behaviors has been associated with decreased burnout and compassion fatigue, as well as increased compassion satisfaction and perceptions of personal accomplishment (Alkema et al., 2008; Hricova et al., 2020). Use of self-care appears to predict less burnout and greater life satisfaction mainly through stress reduction (Rupert & Dorociak, 2019). However, practicing self-care proactively is more effective than doing so only during times of distress (Rupert &

Dorociak, 2019). Of note, self-care related to life balance, cognitive awareness, and daily balance are considered especially for the professional and personal functioning of psychologists (Rupert & Dorociak, 2019). Because time constraints are often reported as boundaries to self-care, it is also important to emphasize self-care practices which require minimal time (Martin et al., 2020). Furthermore, it is essential to create boundaries between the professional use of self and practices of personal self-care in order to create a healthy work life and personal life balance (Lee & Miller, 2013). It is crucial to recognize the interconnected relationship of personal and professional self-care, as engaging in personal self-care benefits the practice of professional self-care, and vice versa (Lee & Miller, 2013). Furthermore, engaging in personal self-care is necessary in order to practice professional self-care, and the lack of engagement in professional self-care would likely hinder personal self-care engagement (Lee & Miller, 2013).

Although professionals within the mental health field experience many barriers to self-care, as well as stressful work environments, high risk of burnout, and compassion fatigue, employers seem to understand the importance of self-care. This is exemplified by the fact that many mental health professionals have reported self-care being promoted by their organizations (Martin et al., 2020). Creating a supportive work environment is something within the mental health field that can be controlled, and research has indicated that those in administrative roles view this as a priority (Martin et al., 2020). As time constraints are a running theme throughout mental health work, it is also important for organizations to implement practices which provide essential breaks from the stress caused by work (Martin et al., 2020). This highlights the important role that supervisors should perform as facilitators and advocates of healthy self-care practices within both personal and professional spheres (Martin et al., 2020). These considerations are all especially important during these times, as research has shown high

prevalence of negative mental health outcomes due to the COVID-19 pandemic (Wang et al., 2020). Workers in the IECMH field will endure unique difficulty during the pandemic, as their work is already highly stressful and the stress from the pandemic will likely compound with their existing stress (Gatti et al., 2011; Johnco et al., 2014; Martin et al., 2020). Therefore, it is important to explore this population and their mental health in particular during COVID-19.

The coronavirus pandemic has led to global concern of physical and mental health due to its unpredictable and highly stressful nature. Because the pandemic is ongoing, it may be a cause for chronic stress, which causes wear and tear on the body and may lead to an overextension of the immune system (McEwen, 2016). Research indicates that stress may act as a trigger for anxiety and depression, which are also two of the most common psychological disorders (Baxter et al., 2012; Sheldon Cohen et al., 2007; Kessler et al., 2010). Furthermore, both anxiety and depression have been associated with chronic illness and other negative health outcomes (Härter et al., 2003; Malhi & Mann, 2018; Setiawan et al., 2015). The impact of COVID-19 is likely to be even more substantial for IECMH workers, as their work is already highly stressful, with high rates of stress negative psychological outcomes (Gatti et al., 2011; Johnco et al., 2014; Martin et al., 2020). However, the utilization of self-care has been associated with positive mental health outcomes and has been shown to act as a buffer for the effects of perceived stress on quality of life (Ayala et al., 2018; Shapiro et al., 2007; Zahniser et al., 2017). Research has also shown that the use of self-care is associated with positive outcomes for mental health professionals, including increasing compassion satisfaction and perceptions of personal accomplishment (Alkema et al., 2008; Hricova et al., 2020). Therefore, it is essential to investigate how mental health symptomology (i.e., depression, anxiety) relates to one's susceptibility to contracting

COVID-19. Further, it is important to explore the how the utilization of self-care relates to mental health outcomes in the IECMH workforce in the context of the COVID-19 pandemic.

Present Study

We examined the relation between COVID-19 and mental health symptoms, as well as the relation between perceived stress and self-care, in the IECMH workforce within the state of Tennessee. The primary research hypotheses are as follows: (H1) It is hypothesized that IECMH workers with clinically significant levels of depression or anxiety will be more likely to contract COVID-19 than those without clinically significant levels of depression/anxiety. (H2) Utilization of self-care will be associated with lower levels of perceived stress in IECMH workers.

Methods

Participants

The sample was comprised of 123 participants from the IECMH workforce. Most participants, 98% ($n = 121$) were female, and ages ranged from 18 to 69 years of age with a median age range of 40 to 49 years of age. Of the baseline sample, 81.1% ($n = 99$) of the sample identified as White (Caucasian/European American), 12.3% ($n = 15$) as Black or African American, 2.5% ($n = 3$) as Latino/a or Latin America, 1.6% ($n = 2$) as Multi-ethnic, 0.8% ($n = 1$) as Asian or Pacific Islander, and 1.6% ($n = 2$) preferred not to answer. Years of experience in the IECMH field ranged from 0 to 42 years, with a median of 13.61 years ($SD = 10.88$). Participants were allowed to indicate multiple sectors to capture their profession and the results were quite varied: 24% ($n = 30$) home visiting and at least one other indication (e.g., child welfare, family advocacy, early intervention), 23% ($n = 29$) home visiting, 11% ($n = 13$) child care, 10% ($n = 12$) early intervention, 8% ($n = 10$) child care and at least one other indication (e.g., child

welfare, early education), 6% ($n = 8$) health, 5% ($n = 6$) early education, 3% ($n = 4$) child welfare, 2% ($n = 2$) child advocacy, 2% ($n = 2$) Early Head Start/Head Start, 1% ($n = 1$) higher education, 1% ($n = 1$) speech and language pathology, and 4% ($n = 5$) other.

Measures

Perceived Stress Scale. The Perceived Stress Scale (PSS) is a 10-item measure which was used to assess overall COVID-19 stress. Participants are asked to report on how often they felt stressed in the past 30 days using a 4-point Likert scale rated from 0 (Never) to 4 (Very Often). An example item is “In the last month, how often have you been able to control irritations in your life?” The PSS has been shown to have good reliability and validity in samples of college students (Sheldon Cohen et al., 1983). In the present study, the internal consistency was good ($\alpha = .873$).

Generalized anxiety. The General Anxiety Disorder-7 (GAD-7) is a 7-item measure used to assess anxiety symptoms. Participants are asked to report on their anxiety symptoms in the past 14 days using a 4-point Likert scale rated from 0 (*Not at all*) to 3 (*Nearly every day*). Higher scores are indicative of higher anxiety symptomology. An example item is “Becoming easily annoyed or irritable.” The GAD-7 has exhibited good reliability and validity in a sample of adult patients of primary care clinics (Spitzer et al., 2006). In the present study, the internal reliability was excellent ($\alpha = .913$). The cutoff score of 10 or greater was used to determine participants with clinical levels of anxiety (Spitzer et al., 2006).

Depression. The Center for Epidemiologic Studies Depression Scale (CES-D) is a 20-item measure used to assess depressive symptoms. Participants are asked to report on their depressive symptoms in the past 7 days using a 4-point Likert scale rated from 1 (Rarely or none

of the time [less than 1 day]) to 4 (Most or all of the time [5-7 days]). An example item is “During the past week, I thought my life had been a failure.” The CES-D has exhibited good reliability and validity samples of the general population (Radloff, 1977). The internal consistency in the present study was excellent ($\alpha = .905$). The cutoff score of 16 or greater was used to determine participants with clinical levels of depression (Lewinsohn et al., 1997)

Self-Care. The Self-Care Beliefs and Behavior Questionnaire (SBBQ) is a 27-item self-report measure used to assess beliefs and behaviors related to self-care. Participants are asked to report on their self-care beliefs and behaviors using a 5-point Likert scale rated from 0 (Never) to 4 (Very often). This is a measure currently in development by this research team and was developed using the six life domains proposed by Butler et al. (2019)—physical, professional, relational, emotional, psychological, and spiritual—and the Self-Care Assessment (Saakvitne & Pearlman, 1996). Within the SBBQ, self-care was defined as “any activity we do deliberately in order to take care of our mental, emotional, and physical health.” There are two main subscales: Self-care Beliefs and Self-Care Behaviors (e.g., “When I feel stressed, I do healthy things that make me feel better.”). In the present study, the 15-item SBBQ Behavior subscale was used and internal reliability was good ($\alpha = .89$).

COVID-19 Diagnosis. One question was used to assess if participants had contracted COVID-19 by the 6-month follow up. The item asked, “Did you contract COVID-19?”

Procedure

This study was approved by the Institutional Review Board of East Tennessee State University. Participants were recruited from listservs from the Association of Infant Mental Health in Tennessee (AIMHiTN) and relevant organizations who reach the IECMH workforce

(e.g., state departments, TN Commission on Children and Youth). Once participants were identified, an email was sent outlining the study, eligibility criteria, and access to the survey link. At baseline, participants provided electronic informed consent, completed an online survey, watched a brief YouTube video on self-care, and answered a few questions following the video. Follow up surveys were sent to participants monthly for a year following the initial survey. After completion of the study requirements, participants had the opportunity to be entered into a raffle for a \$20 Amazon electronic gift card.

Preliminary Analyses

Preliminary analyses were conducted to explore the association between changes in mental health symptoms and self-care in the 6-month sample. The 6-month follow up survey was completed by 24 participants. All participants from the follow up sample were female, and ages ranged from 22 to 69 years of age with a median age range of 40 to 49 years of age. Of the 6-month follow up sample, 87.5% ($n = 21$) of the identified as White (Caucasian/European American), 8.3% ($n = 2$) as Black or African American, and 4.2% ($n = 1$) as Multi-ethnic. In the sample, years of experience in the IECMH field ranged from 0 to 39 years, with a median of 14.24 years ($SD = 12.14$). Change scores for anxiety and depression were calculated by subtracting the participants' baseline scores from their 6-month scores, with negative scores indicating a decrease in anxiety or depression and positive scores indicating an increase in anxiety or depression.

Results

The first hypothesis stated that IECMH workers with clinically significant levels of depression or anxiety will be more likely to contract COVID-19 than those without clinically

significant levels of depression/anxiety. However, there was a significant attrition rate from the baseline survey to the 6-month follow up survey. The sample size at the 6-month follow-up dropped from 123 to 24 participants. Furthermore, only one participant reported contracting COVID at the 6-month follow up. Therefore, hypothesis 1 was unable to be analyzed. However, exploratory analyses were conducted to investigate the changes in mental health from the baseline timepoint to the 6-month timepoint. For the participant who reported contracting COVID-19, we examined mental health symptom level change from baseline to 6-month follow-up. At baseline, this individual's depression score was 7, placing her in the minimal category, and her anxiety score was 1, placing her again in the minimal category. The mental health change scores for the participant who reported contracting COVID-19 at the 6-month follow up were also analyzed. The depression change score for this participant was 16, which is 1.69 standard deviations above the mean ($M = 4.43$, $SD = 9.467$) (See Figure 1, Appendix A). The anxiety change score for this participant was 6, which is 0.96 standard deviations above the mean ($M = -.93$, $SD = 6.232$) (See Figure 2, Appendix A).

To test hypothesis 2, which stated that utilization of self-care will be associated with lower levels of perceived stress in IECMH workers, bivariate correlations were conducted between perceived stress and self-care behaviors from the baseline data collection. The results indicate that there was a statistically significant moderate negative correlation between perceived stress ($M = 16.836$, $SD = 6.562$) and self-care behaviors ($M = 103.244$, $SD = 11.542$), $r = -.505$, $p < .001$ (See Figure 3, Appendix A).

Further, exploratory analyses were conducted to explore the overall change in mental health in the IECMH workforce during a 6-month timeframe during the COVID-19 pandemic (June 2020 to December 2020). Mental health symptoms at baseline were reported, and bivariate

correlations were conducted between baseline depression scores and self-care, baseline anxiety scores and self-care, depression change scores and self-care, and anxiety change scores and self-care. In the baseline sample, 53% of the participants reported minimal depression symptoms, 28% reported mild symptoms, 16% reported moderate symptoms, and 3% reported severe symptoms. In the 6-month sample, 46% of the participants reported minimal depression symptoms, 12% reported mild symptoms, 21% reported moderate symptoms, and 21% reported severe symptoms. A paired-samples t-test was conducted to compare the mean difference in depression from baseline ($M = 10.000$, $SD = 6.424$) to 6 months ($M = 14.435$, $SD = 12.029$); $t(22) = -2.247$, $p = .035$, which indicated a significant increase of depression from baseline to 6 months (See Figure 4, Appendix A). In the baseline sample, 25% of the participants reported minimal anxiety symptoms, 42% reported mild symptoms, 22% reported moderate symptoms, and 11% reported severe symptoms. In the 6-month sample, 41% of the participants reported minimal anxiety symptoms, 33% reported mild symptoms, 13% reported moderate symptoms, and 13% reported severe symptoms. A paired-samples t-test was conducted to compare the mean difference in anxiety from baseline ($M = 7.500$, $SD = 5.073$) to 6 months ($M = 6.667$, $SD = 5.677$); $t(23) = .655$, $p = .519$, which did not indicate a significant difference in anxiety from baseline to 6 months (See Figure 5, Appendix A).

The results of the exploratory bivariate correlations indicate that there was a statistically significant moderate negative correlation between self-care ($M = 103.244$, $SD = 11.542$) and baseline depression scores ($M = 10.769$, $SD = 6.146$), $r = -.486$, $p < .001$ (See Figure 6, Appendix A), and there was also a statistically significant moderate negative correlation between self-care ($M = 103.244$, $SD = 11.542$) and baseline anxiety scores ($M = 7.955$, $SD = 5.061$), $r = -.452$, $p < .001$ (See Figure 7, Appendix A). However, the results indicated that there was not a

significant relationship between self-care ($M = 103.244$, $SD = 11.542$) and changes in depression ($M = 4.435$, $SD = 9.467$), $r = .050$, $p = .820$, nor was there a significant relationship between self-care and changes in anxiety ($M = -.833$, $SD = 6.232$), $r = .147$, $p = .493$. Furthermore, the results also indicated that there was not a significant relationship between self-care ($M = 103.244$, $SD = 11.542$) and depression at 6 months ($M = 14.500$, $SD = 11.769$), $r = -.323$, $p = .123$, nor was there a significant relationship between self-care and anxiety at 6 months ($M = 6.667$, $SD = 5.677$), $r = -.376$, $p = .070$.

Discussion

The COVID-19 pandemic has been a stressful event experienced around the globe. Research suggests that a health crisis such as this could greatly impact mental health, including stress, anxiety, and depression. Studies have also shown that self-care is associated with positive mental health outcomes and may act as a buffer for perceived stress (Ayala et al., 2018; Shapiro et al., 2007; Zahniser et al., 2017). The goal of the current study was to determine the relationship between perceived stress and self-care, as well as the relationship between mental health and the susceptibility of illness from COVID-19. Specifically, this study explored whether having clinical levels of depression or anxiety were associated with an increased likelihood of contracting COVID-19 and if the utilization of self-care was associated with decreased perceived stress. Due to limitations in the study, the first hypothesis could not be explored. However, the findings of this study did indicate that self-care was negatively associated with perceived stress, which is consistent with the literature on this subject (Ayala et al., 2018; Shapiro et al., 2007; Zahniser et al., 2017).

Due to the inability to analyze the first hypothesis, exploratory analyses were conducted to investigate the prevalence of anxiety and depression within the IECMH workforce at baseline

and 6 months and the correlation between self-care behaviors and change in mental health symptoms. The findings of this study indicate that depression increased overall from baseline to 6 months and that anxiety did not change significantly from baseline to 6 months. This change in depression may perhaps be explained by people being continually isolated and experiencing feelings of loneliness due to quarantining and social distancing guidelines (Weissbourd et al., 2021). The change scores for the participant who reported contracting COVID-19 at the 6-month follow up were analyzed specifically, with both depression and anxiety greatly increasing from baseline to 6 months. This individual's baseline depression score was 7, placing her in the minimal category and her baseline anxiety score was 1, placing her in the minimal category. Her 6-month depression score was 23, placing her in the moderate category, and her 6-month anxiety score was 7, placing her in the mild category. Although these changes were dramatic, the results are not generalizable since they are from only one participant. Therefore, it is important to continue to investigate the relationship between COVID-19 and mental health symptoms. Furthermore, self-care was significantly negatively associated with perceived stress, indicating that as self-care behaviors increased, perceived stress decreased. This finding is consistent with the literature, suggesting that self-care is likely essential to maintain well-being for IECMH workers in the context of COVID-19 (Ayala et al., 2018; Shapiro et al., 2007; Zahniser et al., 2017).

For the current study, results of exploratory analyses regarding changes in mental health from baseline to 6-months and the use of self-care were nonsignificant, meaning that frequency of self-care at the start of the study was not related with changes in anxiety and depression across 6 months. However, the results did indicate that baseline mental health symptoms were significantly negatively associated with self-care, indicating that as self-care behaviors increased,

mental health symptoms decreased at baseline data collection. The lack of correlation between changes in mental health from baseline to 6 months and self-care may be explained by the nature of the small sample size at the 6-month follow up. Future studies should investigate the effects of self-care on changes in mental health over time during the COVID-19 pandemic.

Limitations and Future Directions

This study adds to our understanding of the effects of self-care on perceived stress and the prevalence of mental health symptoms in the IECMH workforce in the context of the COVID-19 pandemic. Findings suggest that self-care is negatively associated with perceived stress. Further, on average, anxiety decreased from baseline to 6 months, while depression increased from baseline to 6-months. When considering these findings, it is important to hold certain study limitations in mind. For instance, the majority of the participants from both the baseline and 6-month samples were predominantly white women, thus making it challenging to generalize these results. Future studies should strive to increase ethnic and gender diversity in their samples to better understand the differences in experiences due to minority status during the time of COVID-19. Furthermore, only one participant from the 6-month sample reported contracting COVID-19, making it impossible to draw conclusions about the effects of mental health symptoms on contracting COVID-19. Thus, future research should focus on how depressive and anxious symptomology may relate to one's likelihood to contract serious illness, like COVID-19. Due to the dramatic increases of mental health symptoms from a single participant after contracting COVID-19 from baseline to 6 months, it is essential for future studies to further explore the effects of contracting COVID-19 on mental health.

A significant limitation in this study was the high attrition rate from baseline to the 6-month follow up. This could potentially be explained by stress levels of participants in our

sample, as research has shown that workers in the IECMH field experience high levels of stress due to the nature of their work (Gatti et al., 2011; Johnco et al., 2014; Martin et al., 2020). If our participants were already stressed from their work, and are now experiencing COVID-related stress, they may be less likely to feel that they have the time or energy to complete the follow up surveys. It may also have been that individuals who contracted COVID-19 were more likely to drop out. Though our current study design did not allow us to contact participants who dropped out, future research would benefit from protocols that allow a brief follow-up contact to better understand the reasons for drop out as well as more effective retention strategies (e.g., higher participant reimbursement, more frequent contact).

To summarize, COVID-19 has acted as a chronic stressor for many people and its relationship with mental health require further research. Due to limitations in the study, the relation between significant depression and anxiety with COVID-19 diagnosis could not be analyzed. Therefore, future studies should investigate the relationship between mental health and contraction of COVID-19. Furthermore, self-care seems to be especially important for IECMH workers in the time of COVID-19. It is important to continue to study the effects of self-care and its ability to mitigate negative physical and mental health outcomes, especially in the context of the COVID-19 pandemic.

References

- Alkema, K., Linton, J. M., & Davies, R. (2008). A Study of the Relationship Between Self-Care, Compassion Satisfaction, Compassion Fatigue, and Burnout Among Hospice Professionals. *Journal of Social Work in End-of-Life & Palliative Care*, *4*(2), 101–119. <https://doi.org/10.1080/15524250802353934>
- American Psychiatric Association. (2013). *Diagnostic and statistical manual of mental disorders* (5th ed.).
- Aschbacher, K., O'Donovan, A., Wolkowitz, O. M., Dhabhar, F. S., Su, Y., & Epel, E. (2013). Good stress, bad stress and oxidative stress: Insights from anticipatory cortisol reactivity. *Psychoneuroendocrinology*, *38*(9), 1698–1708. <https://doi.org/10.1016/j.psyneuen.2013.02.004>
- Ayala, E. E., Winseman, J. S., Johnsen, R. D., & Mason, H. R. C. (2018). U.S. medical students who engage in self-care report less stress and higher quality of life. *BMC Medical Education*, *18*(1), 189. <https://doi.org/10.1186/s12909-018-1296-x>
- Baxter, A., Scott, K., Vos, T., & Whiteford, H. (2012). Global prevalence of anxiety disorders: A systematic review and meta-regression. *Psychological Medicine*, *43*, 1–14. <https://doi.org/10.1017/S003329171200147X>
- Bosworth, H. B., Dudley, T., Olsen, M. K., Voils, C. I., Powers, B., Goldstein, M. K., & Oddone, E. Z. (2006). Racial Differences in Blood Pressure Control: Potential Explanatory Factors. *The American Journal of Medicine*, *119*(1), 70.e9-70.e15. <https://doi.org/10.1016/j.amjmed.2005.08.019>

- Butler, L. D., Mercer, K. A., McClain-Meeder, K., Horne, D. M., & Dudley, M. (2019). Six domains of self-care: Attending to the whole person. *Journal of Human Behavior in the Social Environment, 29*(1), 107–124. <https://doi.org/10.1080/10911359.2018.1482483>
- Cohen, S., Janicki-Deverts, D., Doyle, W. J., Miller, G. E., Frank, E., Rabin, B. S., & Turner, R. B. (2012). Chronic stress, glucocorticoid receptor resistance, inflammation, and disease risk. *Proceedings of the National Academy of Sciences, 109*(16), 5995–5999. <https://doi.org/10.1073/pnas.1118355109>
- Cohen, Sheldon, Janicki-Deverts, D., Doyle, W. J., Miller, G. E., Frank, E., Rabin, B. S., & Turner, R. B. (2012). Chronic stress, glucocorticoid receptor resistance, inflammation, and disease risk. *Proceedings of the National Academy of Sciences, 109*(16), 5995–5999. <https://doi.org/10.1073/pnas.1118355109>
- Cohen, Sheldon, Janicki-Deverts, D., & Miller, G. E. (2007). Psychological Stress and Disease. *JAMA, 298*(14), 1685–1687. <https://doi.org/10.1001/jama.298.14.1685>
- Cohen, Sheldon, Kamarck, T., & Mermelstein, R. (1983). A Global Measure of Perceived Stress. *Journal of Health and Social Behavior, 24*(4), 385–396. <https://doi.org/10.2307/2136404>
- Coster, J. S., & Schwebel, M. (1997). Well-functioning in professional psychologists. *Professional Psychology: Research and Practice, 28*(1), 5–13. <https://doi.org/10.1037/0735-7028.28.1.5>
- Dong, E., Du, H., & Gardner, L. (2020). An interactive web-based dashboard to track COVID-19 in real time. *The Lancet Infectious Diseases, 20*(5), 533–534. [https://doi.org/10.1016/S1473-3099\(20\)30120-1](https://doi.org/10.1016/S1473-3099(20)30120-1)
- Falk, G., Carter, J. A., Nicchitta, I. A., Nyhof, E. C., & Romero, P. D. (2021). *Unemployment Rates During the COVID-19 Pandemic: In Brief*. 16.

- Fitzpatrick, K. M., Harris, C., & Drawve, G. (2020). Fear of COVID-19 and the mental health consequences in America. *Psychological Trauma: Theory, Research, Practice, and Policy*, 12(S1), S17–S21. <https://doi.org/10.1037/tra0000924>
- Garfin, D. R., Silver, R. C., & Holman, E. A. (2020). The Novel Coronavirus (COVID-2019) Outbreak: Amplification of Public Health Consequences by Media Exposure. *Health Psychology*, 39(5), 355–357. <https://doi.org/10.1037/hea0000875>
- Gatti, S. N., Watson, C. L., & Siegel, C. F. (2011). Step Back and Consider: Learning From Reflective Practice in Infant Mental Health. *Young Exceptional Children*, 14(2), 32–45. <https://doi.org/10.1177/1096250611402290>
- Gruber, J., Prinstein, M. J., Clark, L. A., Rottenberg, J., Abramowitz, J. S., Albano, A. M., Aldao, A., Borelli, J. L., Chung, T., Davila, J., Forbes, E. E., Gee, D. G., Hall, G. C. N., Hallion, L. S., Hinshaw, S. P., Hofmann, S. G., Hollon, S. D., Joormann, J., Kazdin, A. E., ... Weinstock, L. M. (2020). Mental health and clinical psychological science in the time of COVID-19: Challenges, opportunities, and a call to action. *American Psychologist*. <https://doi.org/10.1037/amp0000707>
- Härter, M. C., Conway, K. P., & Merikangas, K. R. (2003). Associations between anxiety disorders and physical illness. *European Archives of Psychiatry and Clinical Neuroscience*, 253(6), 313–320. <http://dx.doi.org/10.1007/s00406-003-0449-y>
- Harvard Health Publishing. (2020, July 6). *Understanding the stress response—Harvard Health*. Harvard Health Publishing. <https://www.health.harvard.edu/staying-healthy/understanding-the-stress-response>
- Hirsch, J. K., Chang, E. C., & Jeglic, E. L. (2012). Social Problem Solving and Suicidal Behavior: Ethnic Differences in the Moderating Effects of Loneliness and Life Stress.

- Archives of Suicide Research*, 16(4), 303–315.
<https://doi.org/10.1080/13811118.2013.722054>
- Holman, E. A., Garfin, D. R., & Silver, R. C. (2014). Media's role in broadcasting acute stress following the Boston Marathon bombings. *Proceedings of the National Academy of Sciences*, 111(1), 93–98. <https://doi.org/10.1073/pnas.1316265110>
- Hricova, M., Nezkusilova, J., & Raczova, B. (2020). Perceived Stress and Burnout: The Mediating Role of Self-Care and Job Satisfaction as Preventive Factors in Helping Professions. *European Journal of Mental Health*, 15(1), 3–22.
<https://doi.org/10.5708/EJMH.15.2020.1.1>
- Johnco, C., Salloum, A., Olson, K. R., & Edwards, L. M. (2014). Child Welfare Workers' Perspectives on Contributing Factors to Retention and Turnover: Recommendations for Improvement. *Children and Youth Services Review*, 47, 397–407.
<https://doi.org/10.1016/j.chilyouth.2014.10.016>
- Jones, N. M., Thompson, R. R., Schetter, C. D., & Silver, R. C. (2017). Distress and rumor exposure on social media during a campus lockdown. *Proceedings of the National Academy of Sciences of the United States of America*, 114(44), 11663–11668.
- Kendler, K. S., Karkowski, L. M., & Prescott, C. A. (1999). Causal Relationship Between Stressful Life Events and the Onset of Major Depression. *American Journal of Psychiatry*, 156(6), 837–841. <https://doi.org/10.1176/ajp.156.6.837>
- Kessler, R. C., Birnbaum, H., Bromet, E., Hwang, I., Sampson, N., & Shahly, V. (2010). Age Differences in Major depression: Results from the National Comorbidity Surveys Replication (NCS-R). *Psychological Medicine*, 40(2), 225.
<https://doi.org/10.1017/S0033291709990213>

- Kostka, T., & Praczko, K. (2007). Interrelationship between physical activity, symptomatology of upper respiratory tract infections, and depression in elderly people. *Gerontology*, 53(4), 187–193. <https://doi.org/10.1159/000100017>
- Kowalski, R. M. (2000). Anxiety. In A. E. Kazdin (Ed.), *Encyclopedia of psychology, Vol. 1.* (pp. 209–212, Chapter xiv, 495 Pages). American Psychological Association (Washington, DC, US). <http://dx.doi.org/10.1037/10516-073>
- Lanius, R. A., Vermetten, E., & Pain, C. (2010). *The Impact of Early Life Trauma on Health and Disease: The Hidden Epidemic.* Cambridge University Press.
<http://ebookcentral.proquest.com/lib/etsu/detail.action?docID=542784>
- Lee, J. J., & Miller, S. E. (2013). A Self-Care Framework for Social Workers: Building a Strong Foundation for Practice. *Families in Society*, 94(2), 96–103.
<https://doi.org/10.1606/1044-3894.4289>
- Lewinsohn, P. M., Seeley, J. R., Roberts, R. E., & Allen, N. B. (1997). Center for Epidemiologic Studies Depression Scale (CES-D) as a screening instrument for depression among community-residing older adults. *Psychology and Aging*, 12(2), 277–287.
<https://doi.org/10.1037/0882-7974.12.2.277>
- Malhi, G. S., & Mann, J. J. (2018). Depression. *The Lancet*, 392(10161), 2299–2312.
[https://doi.org/10.1016/S0140-6736\(18\)31948-2](https://doi.org/10.1016/S0140-6736(18)31948-2)
- Martin, E. M., Myers, K., & Brickman, K. (2020). Self-Preservation in the Workplace: The Importance of Well-Being for Social Work Practitioners and Field Supervisors. *Social Work*, 65(1), 74–81. <https://doi.org/10.1093/sw/swz040>
- McEwen, B. (1998, January 15). *Protective and Damaging Effects of Stress Mediators.*
<https://www.nejm.org/doi/10.1056/NEJM199801153380307>

- McEwen, B. S. (2016). Central Role of the Brain in Stress and Adaptation: Allostasis, Biological Embedding, and Cumulative Change. In G. Fink (Ed.), *Stress: Concepts, Cognition, Emotion, and Behavior: Handbook of Stress Series* (Vol. 1). Elsevier Science & Technology. <http://ebookcentral.proquest.com/lib/etsu/detail.action?docID=4453492>
- National Institute of Mental Health. (n.d.). *5 Things You Should Know About Stress*. Retrieved February 8, 2021, from <https://www.nimh.nih.gov/health/publications/stress/index.shtml>
- Norris, F. H., Perilla, J. L., Riad, J. K., Kaniasty, K., & Lavizzo, E. (1999). *STABILITY AND CHANGE IN STRESS, RESOURCES, AND PSYCHOLOGICAL DISTRESS FOLLOWING NATURAL DISASTER: FINDINGS FROM A LONGITUDINAL STUDY OF HURRICANE ANDREW*. 40.
- Paul, K. I., & Moser, K. (2009). Unemployment impairs mental health: Meta-analyses. *Journal of Vocational Behavior*, 74(3), 264–282. <https://doi.org/10.1016/j.jvb.2009.01.001>
- Radloff, L. S. (1977). The CES-D Scale: A Self-Report Depression Scale for Research in the General Population. *Applied Psychological Measurement*, 1(3), 385–401. <https://doi.org/10.1177/014662167700100306>
- Richards, K. C., Estelle Campenni, C., & Muse-Burke, J. L. (2010). Self-care and well-being in mental health professionals: The mediating effects of self-awareness and mindfulness. *Journal of Mental Health Counseling*, 32(3). https://go.gale.com/ps/i.do?p=HWRC&u=tel_a_etsul&id=GALE%7CA233291361&v=2.1&it=r
- Rodriguez, S. (2021, March 20). *As the pandemic fades, some Americans are anxious about a return to normal*. CNBC. <https://www.cnbc.com/2021/03/20/why-some-are-averse-to-return-to-normal-post-covid.html>

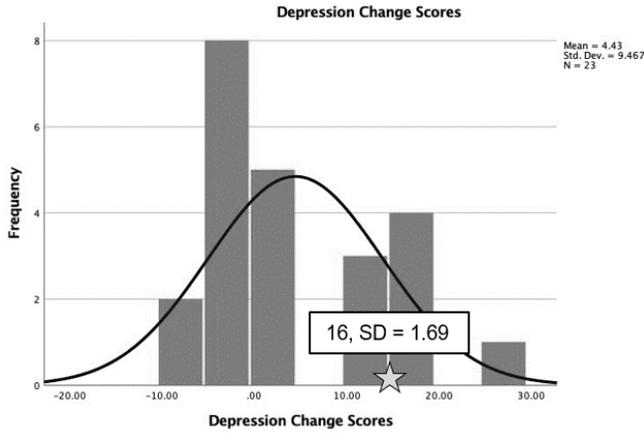
- Rupert, P. A., & Dorociak, K. E. (2019). Self-care, stress, and well-being among practicing psychologists. *Professional Psychology: Research and Practice, 50*(5), 343–350.
<https://doi.org/10.1037/pro0000251>
- Setiawan, E., Wilson, A. A., Mizrahi, R., Rusjan, P. M., Miler, L., Rajkowska, G., Suridjan, I., Kennedy, J. L., Rekkas, P. V., Houle, S., & Meyer, J. H. (2015). Role of Translocator Protein Density, a Marker of Neuroinflammation, in the Brain During Major Depressive Episodes. *JAMA Psychiatry, 72*(3), 268–275.
<https://doi.org/10.1001/jamapsychiatry.2014.2427>
- Shapiro, S. L., Brown, K. W., & Biegel, G. M. (2007). Teaching self-care to caregivers: Effects of mindfulness-based stress reduction on the mental health of therapists in training. *Training and Education in Professional Psychology, 1*(2), 105–115.
<https://doi.org/10.1037/1931-3918.1.2.105>
- Spitzer, R. L., Kroenke, K., Williams, J. B. W., & Löwe, B. (2006). A Brief Measure for Assessing Generalized Anxiety Disorder: The GAD-7. *Archives of Internal Medicine, 166*(10), 1092. <https://doi.org/10.1001/archinte.166.10.1092>
- Stravynski, A., & Boyer, R. (2001). Loneliness in relation to suicide ideation and parasuicide: A population-wide study. *Suicide & Life - Threatening Behavior, 31*(1), 32–40.
- Sumner, R. C., & Gallagher, S. (2017). Unemployment as a chronic stressor: A systematic review of cortisol studies. *Psychology & Health, 32*(3), 289–311.
<https://doi.org/10.1080/08870446.2016.1247841>
- Taha, S. A., Matheson, K., & Anisman, H. (2014). H1N1 Was Not All That Scary: Uncertainty and Stressor Appraisals Predict Anxiety Related to a Coming Viral Threat. *Stress and Health, 30*(2), 149–157. <https://doi.org/10.1002/smi.2505>

- Tully, P. J., Cosh, S. M., & Baune, B. T. (2013). A review of the affects of worry and generalized anxiety disorder upon cardiovascular health and coronary heart disease. *Psychology, Health & Medicine, 18*(6), 627–644.
- Wang, C., Pan, R., Wan, X., Tan, Y., Xu, L., Ho, C. S., & Ho, R. C. (2020). Immediate Psychological Responses and Associated Factors during the Initial Stage of the 2019 Coronavirus Disease (COVID-19) Epidemic among the General Population in China. *International Journal of Environmental Research and Public Health, 17*(5), 1729. <https://doi.org/10.3390/ijerph17051729>
- Weissbourd, R., Batanova, M., Lovison, V., & Torres, E. (2021). *How the Pandemic Has Deepened an Epidemic of Loneliness and What We Can Do About It*. 13.
- Wilcox, S., Ainsworth, B. E., LaMonte, M. J., & DuBose, K. D. (2002). Worry Regarding Major Diseases Among Older African-American, Native-American, and Caucasian Women. *Women & Health, 36*(3), 83–99. https://doi.org/10.1300/J013v36n03_06
- Wittstein, I. S., Schulman, S. P., & Bivalacqua, T. J. (2005). Neurohumoral Features of Myocardial Stunning Due to Sudden Emotional Stress. *The New England Journal of Medicine, 10*.
- World Health Organization. (n.d.). *Coronavirus* [Who.int]. Retrieved February 17, 2021, from <https://www.who.int/westernpacific/health-topics/coronavirus>
- Zahniser, E., Rupert, P. A., & Dorociak, K. E. (2017). Self-care in clinical psychology graduate training. *Training and Education in Professional Psychology, 11*(4), 283–289. <https://doi.org/10.1037/tep0000172>

ZERO TO THREE. (2017). *The Basics of Infant and Early Childhood Mental Health: A Briefing Paper*. <https://www.cdhd.idaho.gov/pdfs/mental%20health/zero-to-three-iecmh-basics.pdf>

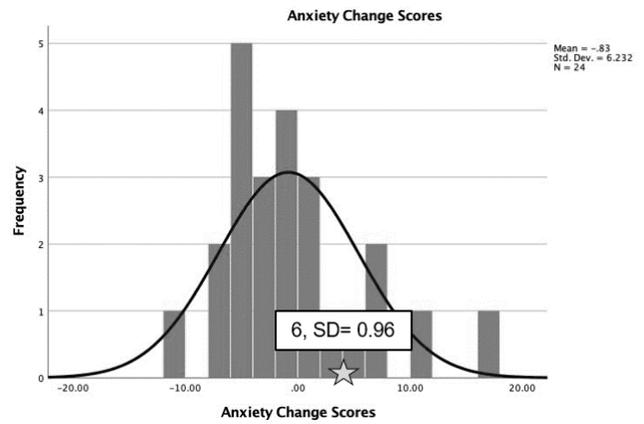
Appendix A

Figure 1. Histogram of depression change scores from baseline survey to 6-month follow up



Note. The star indicates the score of the participant who reported contracting COVID-19 at the 6-month follow up.

Figure 2. Histogram of anxiety change scores from baseline survey to 6-month follow up.



Note. The star indicates the score of the participant who reported contracting COVID-19 at the 6-month follow up.

Figure 3. Scatterplot of correlation between self-care and perceived stress.

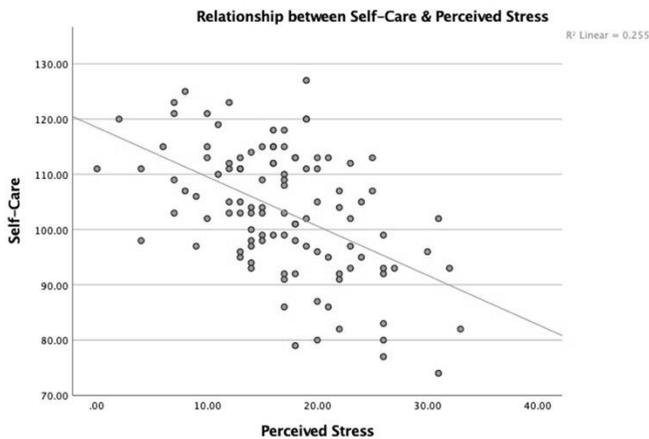


Figure 4. Bar graph of change in depression from baseline survey to 6-month follow up survey.

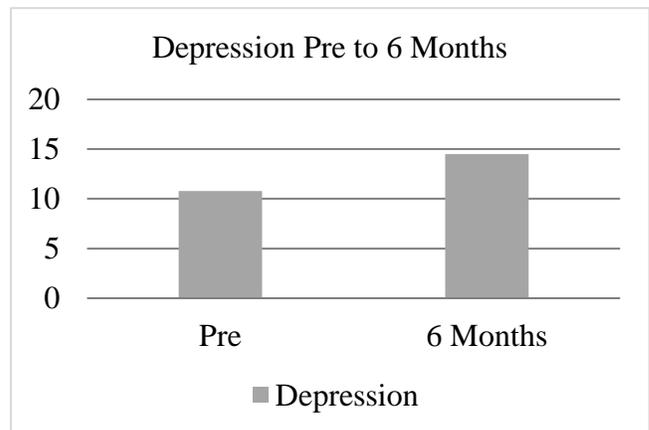


Figure 5. Bar graph of change in anxiety from baseline survey to 6-month follow up survey.

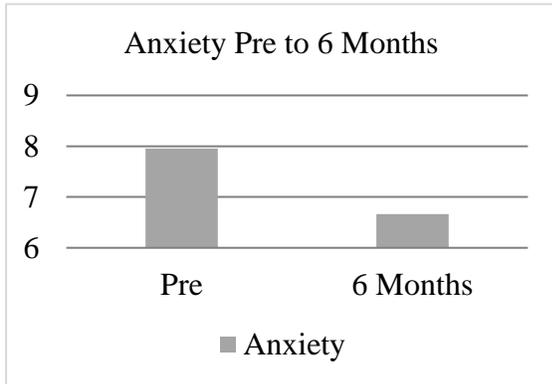


Figure 6. Scatterplot of correlation between self-care and baseline depression.

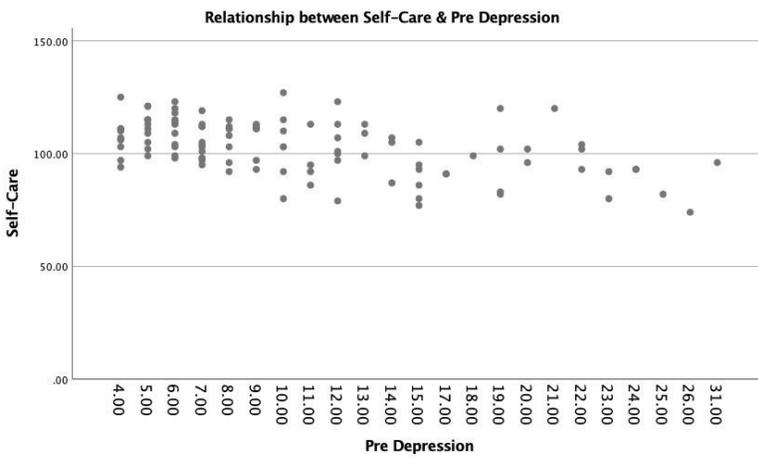


Figure 7. Scatterplot of correlation between self-care and pre anxiety.

