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# Parental Well-being and Children's Internalizing Symptoms During the Beginning of the COVID-19 Pandemic in the United States

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# PARENTAL WELL-BEING AND CHILDREN'S INTERNALIZING SYMPTOMS DURING THE BEGINNING OF THE COVID-19 PANDEMIC IN THE UNITED STATES

A Thesis

by

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ABSTRACT

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During the beginning of the COVID-19 pandemic stay-at-home orders in the U.S., many parents of school-age children faced new challenges, such increased child-care demands (Adams, 2021). Prime et al. (2020) theorized these negative pandemic impacts would decrease parents' well-being and thereby impact children's psychological adjustment. This study hypothesized that higher number of negative pandemic impacts would predict worsened stress and relationship satisfaction levels among parents, and that this would in turn predict worsened child internalizing symptoms. 595 U.S. parents of school-age children were recruited online during May 2020. Higher number of negative pandemic impacts predicted worsened parents' stress and relationship satisfaction levels. Parents' stress (but not relationship satisfaction) levels predicted increased child internalizing symptoms. These findings suggest that supporting parents of school-age children in reducing their stress levels could be important for children's mental health during future situations of prolonged stay-at-home orders.

# DEDICATION

Quiero dedicar mi tesis a mis padres, Lucy y Sau, y a mi abuelita Esperanza. Mamá, gracias por tu amor incondicional, por haberte esforzado tanto por ofrecerme un mejor futuro y por nunca perder la fe en mí. Sau, gracias por tu apoyo incondicional y por contagiarme tu gusto a el estudio y estar siempre llena de preguntas y curiosidad. Abuelita, me siento muy agradecida por el gran cariño y apoyo que me brindaste durante los días más difíciles de esta jornada, por hacerme reír, y por la gran sabiduría de vida que has compartido conmigo.

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# CHAPTER I

# INTRODUCTION

When the United States government issued the first national lockdown to prevent the spread of the novel coronavirus disease (COVID-19), many families of school-age children faced changes to their routines as well as added responsibilities for many parents, placing their well-being at risk. If there continues to be similar situations of necessary confinement as well as mandatory distance learning and work, it is important to understand how these dynamics interact so that we could better support families during these times. The purpose of this study is to investigate whether the negative impacts of the pandemic are related to parents' perceived levels of general stress, parental stress, and relationship satisfaction, and whether these factors were associated with their children's symptoms of anxiety and depression during the beginning of the first COVID-19 pandemic lockdown in the United States.

## Family Disruptions as a result of the COVID-19 Lockdown Regulations

COVID-19 is a highly contagious respiratory disease that spreads through respiratory droplets when an infected person talks, sneezes, or coughs (Velevan & Meyer, 2020). The first case was reported on December 31, 2019, in Wuhan, China and it quickly spread to different countries throughout the world. On January 30, 2020, the World Health Organization declared the COVID-19 outbreak a global pandemic. When cases started to quickly rise in the U.S., the government also declared it a national emergency on March 13, 2020. To decrease the rates of

infection, the government issued shelter in place orders, which strongly recommended adults and children to stay at home as much as possible. Therefore, several significant changes occurred in the daily lives of many US families. More than 96% of Americans experienced shelter in place orders, and by June 2020, almost two million had been infected and more than 110,000 had died as result of COVID-19 (Center for Disease Control and Prevention [CDC], 2020).

These changes to social confinement regulations combined with the risk for infection negatively impacted the lives of many Americans, especially parents of school-age children (American Psychological Association [APA], 2020; Kaufman et al., 2020). Using different family systems theories and past historical events of similar nature to the effects of the COVID-19 pandemic, Prime et al. (2020) developed a theoretical framework in which they argued that the negative pandemic impacts would result in a cascade effect that would negatively impact children. This cascade effect would come from the COVID-19-related social disruption negatively impacting the well-being of caregivers of school-age children. The negative impacts on caregivers would then influence different family subsystems (e.g., the marital subsystem, the parent-child subsystem, the sibling subsystem) and well-being of the family as a whole. Subsequently, these changes in family well-being would then directly impact children's psychological adjustment. Nevertheless, Prime et al. (2020) also argued there would be positive impacts from the pandemic which would buffer the impacts of the cascade effect of negative pandemic impacts. Indeed, families have reported many positive changes brought by the pandemic such as increased quality time with family members and an increased sense of family closeness (Haskett et al., 2022). For the present study, I will focus solely on the negative pandemic impacts.

**Social Confinement and Loneliness**

To decrease the spread of COVID-19, the government issued stay-at-home orders that consisted of reducing as much as possible in-person interactions with people who lived outside their household (CDC, 2020b). People under these restrictions could go out for only essential necessities. Examples include in-person work, medical appointments, and grocery store trips. While outside of their homes, individuals had to stay six feet apart from each other, avoid physical contact (e.g., handshakes and hugs), and wear facemasks (Courtemanche et al., 2020; Matrajt, 2020; Zhang et al., 2020). In April 2020, at least 93% reported sheltering-in-place (Killgore et al., 2020a).

Loneliness levels might have been impacted by the long-term exposure to stay-at-home orders. An early study by Lucheti et al. (2020) found that in April 2020 there were no increases in perceived loneliness in American adults compared to before the stay-at-home orders. However, Killgore et al. (2020a) found that reports of perceived loneliness increased every month from April 2020 to September 2020 and were higher in those who reported being under lockdown regulations than those who did not. This suggests that long-term exposure, but not short-term exposure, to lockdown regulations may place individuals at risk for increased levels of perceived loneliness. Furthermore, loneliness has been associated with depression symptoms and suicidal ideation (Killgore et al., 2020b; Killgore et al., 2020c), indicating that long-term exposure to lockdown regulations may put the mental health and wellbeing of adults at risk. This could have negative implications for families; in a recent longitudinal study by Rodriguez et al. (2020), mothers' perceived levels of loneliness were associated with increased odds of physical and verbal aggression towards their children during the beginning of the stay-at-home orders in the United States. In sum, these studies suggest that perceived loneliness in adults may not change after a short-term exposure to stay-at-home orders, but may increase following a long-

term exposure, and this increase in loneliness could lead to a worsened mental health in American adults.

**Work and Employment**

Many parents were also negatively impacted by the changes to the economy during the pandemic. The United States economy lost 20.5 million jobs in April 2020—the largest and most abrupt decline since 1993, and unemployment rose to 14.7%—its highest record in the country since 1948 (Long & Dam, 2020). By the peak of the first stay-at-home orders during May 2020, most parents experienced an income reduction, and approximately 40% reported a family job loss (Adams et al., 2020). In a sample of mostly white 547 American adults, financial concerns were rated the most stressful pandemic impact compared to other impacts (Park et al., 2020a). This is concerning as familial financial stress has been associated with internalizing symptoms in children (Liu & Merritt, 2018). Furthermore, parents who lost their job during the pandemic were more likely to physically or emotionally abuse their children than parents who had not lost their job (Lawson et al., 2020). Most families were negatively impacted in their jobs during the pandemic, and affected children were likely more at risk for maltreatment and poorer psychological adjustment.

**Working from Home and Online Schooling**

As schools across the United States were forced to operate online, many parents faced new responsibilities of being full-time parents and assisting their children with their online learning. According to the Bureau of Labor Statistics (2019), 90.8% of children have at least one parent working outside of the home, and 63% have two working parents, meaning many parents faced these new changes in parenting responsibilities on top of juggling adapting to working from home or being an essential worker with higher risk of contracting COVID-19. These

increases in parenting demands may put parents at risk of increased levels of stress (Deater-Deckard, 1998). Indeed, in early studies during the beginning of the stay-at-home orders, American parents of school-age children, especially mothers, reported higher rates of pandemic-related stress compared to adults without children (APA, 2020; Park et al., 2020). This was especially the case with parents of younger children (Kaufman et al., 2020) and parents who reported to have struggled with their children's distance learning (Davis et al., 2021). The changes in employment and education due to the pandemic likely had a negative impact in the well-being of many American parents.

**Mental Health**

The pandemic might have negatively impacted the mental health of parents. Patrick et al. (2020) asked 1,011 parents in the United States to compare their mental health in early January 2020 to May 2020. Approximately one in four (26.9%) said it worsened, with higher rates among mothers, unmarried parents, and parents of younger children. One in every ten parents reported experiencing poorer mental health in conjunction with worsened behavioral health of their children, suggesting many parents perceived a decrease in mental health for both themselves and their children. In a longitudinal study surveying 7,148 American adults, Robinson and Daly (2021) found that perceived risk of infection, perceived chances of running out of money in the coming months due to COVID-19, and perceived changes in lifestyles due to the pandemic (e.g., cancelled social activities) increased from March to April and were significant predictors of psychological distress. Although these risks decreased in late May to early June, they remained above the levels reported in mid-March. Furthermore, studies have found a perceived worsening in sleep quality among parents of school-age children, with anxiety and changes in routines as the most frequent concerns (Wearick-Silva et al., 2021). Additionally, other studies have found a

positive association between COVID-19 related worries and insomnia (Zhan et al., 2022). Together, these findings suggest that the changes and stressors brought by the pandemic had a negative impact in the well-being of many American parents.

**Health Behaviors**

American adults have reported changes in health habits and phone screen time following stay-at-home orders. Although adults have reported healthier eating behaviors at the beginning of the pandemic, such as decreased weekly consumption of fast-food meals and overeating (Breiner et al., 2021; Chen et al., 2021), they have also reported a decrease in physical activity (Caputo & Reichert, 2020). Additionally, adults reported an increase in screen time, alcohol and smoking use, especially among ethnic minorities (Chen et al., 2021). One study surveyed only parents and they reported an increase in sedentary time following the stay-at-home orders. These findings suggest adults experienced behavioral changes during the pandemic.

Together, these findings illustrate the different ways in which the lives of American parents changed across economic, family life, social life, and lifestyle domains during the first implementation of the stay-at-home orders due to the COVID-19 pandemic. Following Prime et al.'s theoretical framework, this social disruption likely negatively impacted the well-being of caregivers, and, subsequently, children's psychological adjustment.

## Parents' Well-being During the Pandemic

### Parents' Perceived General Stress

Individuals perceive a situation as stressful when they think that the demands in a given situation are higher than their available resources to cope with them (Lazarus & Folkman, 1984). The perception of stress has been found to be better at predicting health outcomes than the objective number of stressful events an individual is experiencing (Cohen et al., 1983). In other words, people can have different perceptions of how much stress they have in their lives despite the number of actual stressful events they are experiencing. For example, two people could report the same number and type of stressful events, but one could perceive them to be more stressful than the other person.

Perceived stress levels can also have important implications for families and children. High levels of perceived stress have been associated with how likely individuals are to engage in conflict with their romantic partner (Timmons et al., 2017) and use harsher parenting strategies (such as corporal punishment and yelling; Sahithya et al., 2020), suggesting that the more stress a parent is experiencing, the more likely there is to be conflict within their families. This is important because children of parents experiencing high levels of conflict in their relationship and children who are disciplined with harsher parenting practices are at greater risk for internalizing and externalizing problems (Ablow et al., 2019; Cui et al., 2007; El-Sheikh et al., 2012; Pinquart, 2021).

American parents faced increases in general stress levels following the initial stages of the stay-at-home orders due to the COVID-19 pandemic. When asked to think of their perceived stress levels before the start of the stay-at-home orders in the United States, parents reported increased levels from before to during the mandates, but these levels decreased five months later

when schools re-opened in September 2020 (Adams et al., 2021), suggesting that once children returned to in-person school, American parents experienced a decrease in perceived stress. Although stress levels did decrease, they remained higher than pre-pandemic levels (Adams et al., 2021). Furthermore, parents of school-age children have reported higher stress levels compared to adults without children, and they have related their stress to increased demands of taking care of their children and assisting them with online learning (APA, 2020; Kaufman et al., 2020). Those who were already experiencing difficulties prior to the pandemic were likely at higher risk for this impact. Achterberg et al. (2021) conducted a longitudinal study surveying 106 Dutch parents before and during the COVID-19 pandemic and found that the parents with higher levels of self-reported parental negative feelings in 2019 had higher levels of perceived stress during lockdown, which resulted also in higher levels of parental negative feelings.

**Parenting Stress**

*Parental stress* refers to the psychological distress that is related to the demands of being a parent (Deater-Deckard, 1998). Parental stress has been hypothesized to result from perceiving that, parental demands, such as time needed to spend caring for a child, are higher than the perceived ability to meet those demands (Deater-Deckar & Panneton, 2017). This ability may be regarding their perceived competence or their instrumental resources, such as having a family member to help with caring for the child. Higher parental stress could leave parents with less mental resources to implement positive parenting practices and less likely to report positive parent-child relationships (Belsky, 1984).

The implementation of stay-at-home orders might have influenced an increase in parental stress. During the beginning of the stay-at-home orders, 7 in 10 American parents said that assisting their children with online learning was a significant source of stress for them (APA,

2020). Furthermore, according to a study in Norway by Johnson et al. (2021), taking away stay-at-home orders may be related to a decrease in parental stress. In their longitudinal study, parents reported a decrease in parental stress from the beginning of the implementation of stay-at-home orders to three months after their dissolution. Additionally, Johnson et al. (2021) found that the decrease in parental stress was associated with a reduction in depression symptoms in parents as well as anger towards their children, suggesting that decreasing parental stress levels are related to improved mental health of parents and their relationship with their children.

**Parents' Relationship Satisfaction**

*Relationship satisfaction* is the perception of the extent to which someone is satisfied with their romantic relationship (Hendrick, 1988). Several studies have found that parents' relationship satisfaction is associated with the relationship quality with their children (Erel & Burman, 1995; Kouros et al., 2014; Yoo, 2020), support for children's negative emotions (Nelson et al., 2009), and parenting style, where higher marital satisfaction is associated with higher parental warmth, positive reinforcement, and emotional expressiveness (Ponnet et al., 2013). This is important because parenting style and parent-child relationship quality have been found to predict child internalizing symptoms (Pinquart, 2021; Branje et al., 2010; Brock & Kochanska, 2015).

The COVID-19 pandemic might have been challenging to parents' relationship satisfaction with their romantic partners. Reizer et al. (2020) found that higher fear of COVID-19 was associated with higher psychological distress among women, which in turn was associated with lower levels of both marital satisfaction and self-reported health. However, Mousavi (2020) did not find an effect of quarantine on marital satisfaction. In a recent meta-analysis from five cross-sectional studies looking at marital satisfaction in married couples during COVID-19

pandemic, one of the risk factors of decreased relationship satisfaction was parental burnout; however, the authors concluded that the literature on the incidence of marital satisfaction during the pandemic was still inconclusive (Martinez-Libano & Yeomans, 2021). In Portugal, it was found that the marital satisfaction during the onset of the pandemic was lower compared to previous years; on a scale of 1-10, marital satisfaction averaged to 5.1 during the onset of the pandemic, compared to 7.8 in 2013 and 7.9 in 2018 (Fernandes et al., 2021). However, those previous results were found using different instruments than during the onset of the pandemic. Furthermore, only 25.7% of the sample consisted of parents who had school-age children. In summary, research suggests marital satisfaction may have been negatively impacted by the pandemic. Based on previous research, this may also have had a negative impact on children's well-being.

## Child Internalizing Symptoms

Researchers refer to both depression and anxiety symptoms as *internalizing symptoms* because they may not be visible or aversive to others (Levesque, 2011). Child depression is characterized frequent and persistent depressed or irritable moods and loss of interest in activities that were once pleasurable—all of which make daily activities, like school-work and inter-personal relationships more challenging (APA, 2013). Anxiety is marked by feelings of fear and a heightened activation of the nervous system (Kalat, 2015). Although it is important for human survival and, in certain quantities, for improved performance in certain tasks, it can cause great distress and impairment in those who experience anxiety frequently and in high amounts (Kalat, 2015).

Internalizing symptoms may have negative implications for children in their health, academic performance, and long-term outcomes as future adults. High amounts of stress or

anxiety activate the autonomic nervous system's flight-or-fight response, which temporarily weakens the immune system, and a frequent and long-term exposure to this response can put an individual at risk for poorer physical health and higher vulnerability to illnesses (Cohen et al., 1988; Engel, 1980; Sareen et al., 2006). Children with internalizing symptoms report higher frequency of somatic complaints (e.g, headaches, nausea, stomachaches, tiredness), which are associated with poorer academic performance, school refusal behavior, and school absenteeism (Bernstein et al., 1997; Honjo et al., 2001; Hughes et al., 2008; Masi et al., 2000; Pedersen et al., 2019). In terms of long-term effects, children who report higher depression or anxiety symptoms are more likely to claim disability pension and be unable to work in young adulthood (Naruyste et al., 2017). Furthermore, adolescents who report internalizing symptoms are more likely to report internalizing symptoms in middle adulthood (Herrenkohl et al., 2010).

Parenting stress is associated with child internalizing symptoms. Costa et al. (2006) assessed different aspects of parenting stress and found that dysfunctional parent-child interactions and perceiving one's child to be too difficult were associated with self-reports of child internalizing symptoms above and beyond parents' reports of their own mental health, but they did not find the aspect of parental distress to be associated with their self-reports of child internalizing symptoms beyond parent's self-report of their own mental health. In contrast, in a community sample of 92 predominantly white mothers, parental reports of their children's internalizing symptoms were associated with their self-reports of parenting stress (Rodriguez, 2011). Similarly, in a longitudinal study of 1,582 mothers, parenting stress predicted higher child internalizing symptoms (Stone et al., 2016). It seems that this might also be the case during the pandemic; in an Italian sample, mother's parenting stress during Italy's first COVID-19

pandemic lockdown mediated a significant association between mother's level of distress and their children's depression symptoms (Babore et al., 2021).

The effect of parental stress on child internalizing symptoms might be unidirectional where only parenting stress influences child internalizing symptoms. In Stone et al. (2016)'s longitudinal study, parental stress had an effect on child internalizing symptoms, but child internalizing symptoms did not have an effect on parenting stress. Similarly, in a more recent study by Arbel et al. (2020), child internalizing symptoms did not have an effect on parenting stress. The researchers argued that this could be a pattern in studies with nonclinical samples of children where levels of internalizing symptoms are not at clinical levels. Arbel et al. (2020) assessed these factors in an ethnically diverse and representative sample from the greater Los Angeles area throughout three years. Interestingly, when mothers' reported levels of parenting stress were very low, higher parenting stress was associated with lower child internalizing symptoms—suggesting that a positive effect of parenting stress on child's symptoms could happen within very low levels of parenting stress. Arbel et al. argued that this could mean that when mother's parenting stress levels move from low to average levels, it could mean they are more concerned and giving more attention to their child, thus possibly having a positive effect on their child's wellbeing.

Children with parents experiencing decreases in relationship satisfaction could be at greater risk for internalizing problems. In a longitudinal study assessing children from age 6 to 10, in a predominantly white and educated sample of families in the United States, Brock and Kochanska (2015) found that child internalizing symptoms developed at a faster rate in families whose mothers reported a more abrupt decrease in marital satisfaction over time. Similarly, in another longitudinal study by Knopp et al. (2017), parents who reported lower marital

satisfaction also reported higher levels of internalizing symptoms in their children. Knopp et al. (2017) also found that improving the communication between parents was related to decreases in child internalizing symptoms, suggesting that improvements in the parents' relationship may decrease children's risk for internalizing problems. However, Knopp et al. (2017) found that marital satisfaction was not significantly related to child internalizing symptoms when looking at differences across time within the same family. In other words, the association is significant when comparing groups of high marital satisfaction versus low marital satisfaction, but when looking at changes across time within the same family, increases in marital satisfaction did not predict decreases in child internalizing symptoms. This suggests that marital functioning could be a risk factor, but a weak casual determinant, for child internalizing symptoms.

Studies before the pandemic have found parents' parental stress and relationship satisfaction to be associated with internalizing symptoms. This study aims to expand on the literature on the association of well-being of parents with the depression and anxiety symptoms of school-age children during the beginning of the COVID-19 stay-at-home orders in the United States. This would help inform clinicians and scholars on risk factors for internalizing symptoms in children during stay-at-home orders.

## Hypotheses

- H1: The number of negative pandemic impacts will positively predict levels of parents' perceived general stress and parental stress levels. Additionally, the number of negative pandemic impacts will predict lower levels of relationship satisfaction.
- H2: Levels of perceived general stress, parental stress, and relationship satisfaction will uniquely predict child internalizing symptoms.

# CHAPTER II

# METHOD

## Procedures

This study was part of a larger study that asked parents about their mental health and parenting in May 2020, during the beginning of the COVID-19 pandemic. The study was posted online on Amazon Mechanical Turk (MTurk). Eligibility included living in the United States with at least one child ages 7-17 in the home. Participants were first prompted to read and e-sign a consent form, answer demographic questions, and then complete a series of questionnaires. If participants had multiple children between the ages of 7-17, they were asked to answer the questions based on only the child whose birthday was the most recent. There were 18 challenge questions throughout the survey to make sure participants were reading and answering carefully. Those who completed the survey and answered 16 out of the 18 challenge questions correctly were deemed as eligible participants. Lastly, because relationship satisfaction is a variable of interest, caregivers who did not report being in a romantic relationship at the time of the data collection were excluded.

## Measures

### Epidemic-Pandemic Impacts Inventory

In the 92- item Epidemic-Pandemic Impacts Inventory (EPII; Grasso et al., 2020) parents report whether they, and the people in their home, have been impacted by the pandemic on the

domains of employment (11 items), education (2 items), home life (13 items), social activities (10 items), economic impact (5 items), well-being (8 items), physical health (8 items), physical distancing and quarantine (8 items), infection history (8 items), and positive change (19 items). A cumulative negative impact (from 71 items) was calculated by summing all the negative impact items and excluding the positive change items. In each item, participants indicate either 0 ("this did not affect me"), 1 ("this affected me"), 2 ("this affected a person in my home"), or 3 ("this affected me and a person in my home"). Items were recoded so that if a negative impact that affected anyone in the home will be recoded to 1 and negative impacts that did not apply to anyone in the home were recoded to 0. Items were then summed, with higher scores indicating higher family-level negative pandemic impacts. The EPII was a newly developed measure during the beginning of the pandemic and its psychometric properties have not been established. However, for the current study, the internal consistency for all domains was adequate ($\alpha$=0.76 to 0.95), except for the education domain, which included only two items ($\alpha$=0.19).

**Perceived Stress Scale (PeSS)**

In the 10-item PeSS (Cohen, 1994), parents report how often they perceived to have experienced stress in the last month, from 0 (never) to 4 (very often). Four items are positive statements (e.g., "In the last month, how often have you felt confident about your ability to handle your personal problems?"), with higher scores indicating lower perceived stress, and six are negative statements (e.g., "In the last month, how often have you found that you could not cope with all the things you had to do?"), with higher numbers indicating higher perceived stress. The positive statements were coded in reverse (e.g., if they scored 4 in a positive item, it will be recoded as zero). All items were then summed for a total PeSS score, with higher scores indicating higher perceived stress levels. Internal reliability in samples of healthy adults is acceptable to excellent with Cronbach's $\alpha$ ranging from 0.78 to 0.91 (see review by Lee, 2012).

Additionally, the PeSS has been found to be significantly associated with measures of anxiety and depression (Baik et al., 2017), supporting convergent validity.

**Parental Stress Scale (PaSS)**

In the 18-item PaSS (Berry & Jones, 1995), parents report how demanding, as well as how rewarding, they perceive their role as a parent. It is scored 1 ("strongly agree") to 5 ("strongly disagree") scale. Eight positively stated items (e.g., "I enjoy spending time with my child(ren)") measure the extent to which they perceive it as rewarding, and ten negatively stated items (e.g., "the major source of stress in my life is my child(ren)") measure the extent to which the perceive it as demanding. The positive statements were reverse coded and summed across the rest of the negatively stated items for a total score of parental stress, with higher scores indicating higher levels of parental stress. Berry and Jones (1995) reported good reliability scores, with .83 for internal consistency and 0.81 for six-week test-retest reliability, and no significant differences between mothers and fathers. Additionally, it was significantly correlated with the PeSS scale, supporting convergent validity, and was able to differentiate between clinical (mothers of children in treatment for behavioral problems) and non-clinical groups.

**Relationship Assessment Scale (RAS)**

In the 7-item RAS (Hendrick et al., 1998), parents report the extent to which they perceive to be satisfied with their romantic relationship. This scale is intended to assess relationship satisfaction in general, not just in the context of marriage or cohabitation; this is important as the rate of non-married parents continues to increase (Pew Research Center 2018). Two items ask about the extent to which they are unsatisfied (e.g., "how often do you wish you hadn't gotten into this relationship?") which were coded in reverse to be summed across the rest of the items that ask the extent to which they are satisfied (e.g., "in general, how satisfied are you with your relationship?"). RAS scores have been found to be significantly different between

dating couples that break up and those that stay together (Vaughn & Baier, 1999) and to be significantly correlated with the Dyadic Adjustment Scale (Dinkel & Balck, 2005; Vaughn & Baier, 1999), another validated measure for assessing the relationship quality of couples. RAS has also been found to have adequate reliability; a meta-analysis resulted in an average reliability score of .87 (Graham et al., 2011).

**Revised Child Anxiety and Depression Scale- Parent Version (RCADS-P)**

In the 47-item RCADS-P (Chorpita et al., 2005), parents report on their child's depression and anxiety symptoms. The RCADS-P subscales follow the DSM-IV categories of Obsessive-Compulsive Disorder, Social Phobia, Separation Anxiety Disorder, Generalized Anxiety Disorder, Panic Disorder, and Major Depressive Disorder. It follows a scale from 0 ("never") to 3 ("always"). Items were summed for a total score of child internalizing symptoms, with higher scores indicating higher levels of child internalizing symptoms. Ebesutani and colleagues (2010a; 2010b) have found good reliability and validity properties in the RCADS-P. The RCADS-P total score has been found to have good internal consistency in clinical (a=0.95; Ebesutani et al., 2010a) and school (a=0.93; Ebesutani et al., 2010b) samples, as well as good two-week test-retest reliability. The RCADS-P total score is significantly correlated with the internalizing scale of the *Child Behavior Checklist*, and all RCADS-P scales successfully discriminate between children with and without disorders in the RCADS-P subscales (Ebesutani et al., 2010a).

In this study, only the first 23 items were administered due an error in survey deployment. Thus, only a total score could be calculated. To assess reliability of the modified RCADS-P total score, the RCADS-P developer was contacted (B. Chorpita, personal communication, 2022, July 8). The RCADS-P developer used their dataset to run reliability analysis between the first 23 items and the missing 24 items. Results revealed a significant,

positive correlation among the items, $r$ (233) = .79, $p$ <.001. Furthermore, the RCADS-P developer compared the total score of all 47 items with the sum of the first 23 items and found a positive, significant correlation, $r$ (233) = .96, $p$ <.001. Together, these results suggest that the sum of the first twenty-three items is a good estimator of what would have been the sum of the full scale.

## Power Analysis

It is recommended to conduct a power analysis before conducting a study (Cohen, 1988). A power analysis consisted of calculating the sample size needed to have enough power to detect statistically significant differences. Power refers to the probability that one will be able to detect a certain effect size within a determined alpha level (the probability of committing type I or type II errors). It is recommended to use an alpha level of at least 0.05 and a power of at least 0.8 (Cohen, 1988). The effect size can be determined by either conducting a pilot study; looking at what effect sizes are found in the literature regarding the variables you will use; or, if the previous options are not possible or helpful, following Cohen's (1988) recommendations. It is recommended, as a last resort, guessing the effect size is medium (Cohen, 1988; Lipsey & Wilson, 1993). For a multiple linear regression test, an $f^2$ of 0.02, 0.15, and 0.35 respectively represents a small, medium, and large effect size (Cohen, 1988).

G*Power software (Buchner et al., 2007) was used to identify the sample size needed to detect small, medium, and large effect sizes. For the first hypothesis, alpha was set to 0.05, power was set to 0.80, and three predictors (i.e., one independent variable, two covariates) were included in the analysis. Results revealed that a sample of 550, 77, and 35 participants would be needed to detect small, medium, and large effect sizes, respectively. The dataset I am using has a

sample of 595 participants. Therefore, these results suggest I am able to detect small to large effect sizes.

For the second hypothesis, alpha was set to 0.05, power was set to 0.8. Because the second hypothesis has three predictors (perceived stress, parental stress, and relationship satisfaction), I would not be able to detect small effect sizes if include covariates. This is because, if I add one covariate, it would equal to a total of four predictors and I would need a sample of 602 to detect small effect size. Thus, for my second hypothesis I did not add any covariates. With no covariates, and therefore only three predictors, I can detect small to large effect sizes with my second hypothesis.

## Data Analysis Plan

SPSS 28 was be used to clean the data, analyze descriptive statistics, and test the hypotheses. Demographic data was first examined: participants' age, gender, household income, and number of children living in the home. Means were also calculated for parents' marital status, race/ethnicity, education level, and gender, and for children's grade level (elementary, middle school, high school), age, gender, and race/ethnicity. Bivariate and point-biserial correlations were run between demographic variables and outcome variables. For correlations that were significant, the variables were included as a covariates in the first hypothesis. Four multiple linear regressions were used to test the hypotheses.

For the first hypothesis, three multiple regressions were run. The first multiple regression examined whether negative pandemic impacts positively predicts parents' perceived stress. The second multiple regression examined whether negative pandemic impacts positively predicts parental stress. And the third multiple regression examined whether negative pandemic impacts predicts relationship satisfaction. For all three regressions, demographic variables that were

significant were added as covariates. For the second hypothesis, a multiple regression was run to examine whether parents' perceived stress, parental stress, and relationship satisfaction uniquely predicted child internalizing symptoms.

## Data Cleaning

720 participants participated in the original study, but only 595 passed at least 16 challenge questions. 87 participants who did not report being in a relationship or married were excluded from this study, leaving a sample of 508.

Univariate and multivariate assumption testing was conducted using recommendations by Field (2018) and Tabachnick and Fidell (2001). First, the variables of interest were inspected for univariate outliers by visual inspection of boxplots and by calculating z-scores. Visual inspection of boxplots showed several extreme outliers. Raw scores on EPII, PeSS, PaSS, RAS, and RCADS-P were converted to z-scores. Z-scores of 3.29 and above were categorized as extreme. All variables except for RAS contained extreme scores. The extreme scores were winsorized by changing their scores to the next most extreme score (Field, 2018). For example, RCADS-P had seven cases with extreme scores: 75, 77, 78, 78, 79, 81, and 84. The least extreme of these scores is 75, and the next highest score after 75, whose z-score was below 3.29 and therefore not categorized as extreme, was 72. Therefore, all of the seven extreme scores were changed to 72 (Field, 2018). After winsorizing, there were no more extreme z-scores, but, after re-running the boxplots, visual inspection showed there were still some univariate outliers left. However, these cases were retained in the data analysis since they were genuinely unusual values.

Due to the large sample size in this study, normality tests were not used (Field, 2018). Instead, skewness and kurtosis scores were used in conjunction with visual inspection of histograms and Q-Q plots to determine normality (Field, 2018). Upon visual inspection of the

histograms and Q-Q plots, perceived general stress and parenting stress appeared to deviate from normality. However, skewness and kurtosis scores were not problematic. On the other hand, relationship satisfaction appeared to deviate significantly from normality; the histogram and Q-Q plot suggested negative skewness. A square root transformation yielded data that was no longer skewed; however the results between the transformed and original dataset did not differ, so the untransformed RAS variable was retained.

Next, the pattern of missing data was inspected. Although there is no established cutoff for acceptable percentage of missing data (Dong & Peng, 2013), Schafer (1999) argued the recommended cutoff be 5%. Additionally, Tabachnick and Fidell (2001) argued that it is even more important that the data be missing completely at random (MCAR). A Missing Value Analysis (MVA) with Little's MCAR test was run. Missing data in this study were all below 5% and Little's MCAR test was not significant ($p$ = .76), suggesting the data is missing completely at random. If data is MCAR and does not exceed 5%, then any procedure used to address the missing data will lead to similar results (Tabachnick & Fidell, 2001; Parent, 2013). Therefore, the missing data approach used in this study was pairwise deletion.

The next step was to test whether the data violated the assumption of multicollinearity—when the predictor variables are highly correlated with each other (Field, 2018). Variance inflation factor values were all below ten, ranging from 1.021 to 1.083, suggesting no multicollinearity. Following this, case wise diagnostics of each multiple regression were ran to inspect the residuals for evidence of bias. For the first multiple linear regression, there was no case with standardized residuals beyond the cut-off point of ± 3.29 (Tabachnick & Fidell, 2001). Using a p <.001 criterion for Mahalanobis distance, four multivariate outliers were found among the cases (Tabachnick & Fidell, 2001). After these five outliers were deleted, there four

additional cases that were multivariate outliers. The process of running the regression again and deleting any outliers that were found was repeated in total seven times and a total of twenty-two cases were deleted. Following this, there were no more outliers among the cases. However, the results of the model without outliers compared to with outliers were almost the same; therefore, the original model with the outliers was retained. For the second regression, there was one case with standardized residual greater than ± 3.29. Furthermore, using a $p < .001$ criterion for Mahalanobis distance, four multivariate outlier were found among the cases (Tabachnick & Fidell, 2001). Deleting the outliers did not lead to large differences in the results, so the model with the outliers was retained. These procedures were repeated with the remaining two multiple linear regressions. More cases with standardized residuals greater than ± -3.29 as well as more multivariate outliers using a $p < .001$ criterion for Mahalanobis distance were found. However, similar to the first two regressions, deleting these cases did not make a difference in the results, so all cases were retained.

The data was then visually inspected with histograms and normal P-P plots to ensure it met the assumption of normality of residuals. The histogram and normal P-P plots of the standardized residuals of the third seemed to violate this assumption (Figure 3). When the regression was run again with transformations on relationship satisfaction and negative pandemic impacts, it did meet the assumption of normality (see Figure 4). However, the results did not differ when the transformed variables were used, so the original model with the untransformed variables were kept. The rest of the multiple linear regressions met the assumption of normality of residuals (see Figures 1, 2, and 5). Lastly, the data assessed to test for assumptions of linearity and homoscedasticity. Visual inspection of the partial regression plots and the plots of standardized residuals against the predicted values suggested the assumptions of linearity and

homoscedasticity were met for all four multiple linear regressions (Field, 2018; see Figures 6, 7, 8, and 9).

## Covariates

A series of bivariate correlations were conducted between demographic factors and PeSS, PaSS, and RAS to identify potential covariates for the first three multiple linear regressions. The demographic factors analyzed for the present study were parent sex, child sex, parent race, child race, parent marital status, household yearly income, child school grade, parent education level, child age, and number of children in the home.

First, the association between the continuous demographic variables and PeSS, PaSS, and RAS was evaluated using Pearson's correlation coefficient. The continuous demographic variables were number of children living in the home and children's age. Child age was negatively and significantly correlated with general stress, $r$ (493) = -.11, $p$ =.016, and parenting stress, $r$ (480)= -.15, $p$ <.001, suggesting that the older the age of their children, the lesser the levels of general stress and parental stress. Number of children in the home was not correlated with PeSS, PaSS, nor RAS. Table 1 shows the correlation matrix between the continuous demographic variables and PeSS, PaSS, and RAS.

Correlations were tested between ordinal demographic variables and parent's perceived general stress, parenting stress and relationship satisfaction. The ordinal variables tested were child's school grade, parent's education level, and household yearly income. Because they are ordinal, Spearman's rank correlation coefficient was used (Field, 2018). Household yearly income correlated negatively and significantly with parent's general stress, $r$ (478) = -.18, $p$< .001 and parenting stress, $r$ (480) = -.10, $p$ =.041, suggesting that parents with higher yearly incomes perceived lower levels of general stress and parenting stress than those with lower

incomes. Children's school grade was negatively and significantly correlated with parent's general stress, $r$ (493) = -.12, $p$ = .010, and parenting stress, $r$ (494) = -.13, $p$ =.003, suggesting that the higher the grade their children were in, the lesser the levels of general stress and parental stress in parents. Parent education level was positively and significantly correlated with parenting stress, $r$ (495) = .16, $p$ <.001, but negatively correlated with relationship satisfaction, $r$ (494) = -.12, $p$ =.010, suggesting that, the higher the parenting stress, and the lower the relationship satisfaction, the higher the education level of the parents. Table 2 shows the correlation matrix between the ordinal demographic variables and PeSS, PaSS, and RAS.

Lastly, point-biserial correlations were used to test if there were correlations between the dichotomous demographic variables and the continuous variables (Field, 2018) of parent's perceived general stress, parenting stress, and relationship satisfaction. A point-biserial correlation is a Pearson correlation when one of the variables is dichotomous and coded one for one category and zero for the other remaining category within that dichotomous variable. The sign of the coefficient does not inform the direction of the relationship, rather it is dependent on which category is assigned to which code. For instance, if I run a point-biserial correlation between parent's general stress and parent's biological sex, and I code 1= male, then getting the result of a negative correlation suggests that being male is correlated with lower general stress levels, whereas positive correlation suggests that being make is correlated with higher general stress levels.

The dichotomous variables examined were parent's and children's respective sex (1=male, 0= female), parent's and children's respective race (1= non-Hispanic white, 0= person of color), and parent marital status (1=married, 0=in a relationship but not married). Parent sex correlated negatively and significantly with parent's general stress, $r$ (491) = -.14, $p$ = .002,

suggesting that being a male parent correlated with lower perceived general stress levels, and being a female parent correlated with higher perceived general stress levels. Parent marital status correlated negatively with marital status, $r$ (495) = -.10, $p$ = .027, suggesting that being married correlated with lower perceived general stress levels, and being in a relationship but nor married correlated with higher perceived general stress levels. Table 3 shows the correlation matrix between the dichotomous demographic variables and PeSS, PaSS, and RAS.

The demographic factors that had a minimum of weak correlation with general stress, parenting stress, and relationship satisfaction were child age, household yearly income, parent education, and parent sex. Therefore, these variables were added as covariates in the first three multiple regressions.

# CHAPTER III

# RESULTS

## Demographic Characteristics

The present study collected parents' and their children's demographic information. The parents' demographic information included gender, household income, marital status, race/ethnicity, education level, and the number of children living in the home. The respondents were instructed to provide information about their child with the most recent birthday. The children's demographic information included age, gender, grade level during the 2019-2020 school year, and race/ethnicity.

### Parent's Demographic Information

Most of the participants were female ($n$ = 290, 57.7%), married ($n$ = 434, 85.4%), non-Latinx white ($n$ = 352, 69.7%), had a bachelor's degree ($n$ = 215, 42.4%), and working full-time ($n$ = 360, 71%). The participants were fairly distributed in household income, with $100,000 to $149,999 being the highest ($n$ = 88, 17.9%). The average number of children living in the participants' homes was 1.93 ($SD$ = .941). Lastly, most parents reported that they and/or someone in the home had to take over teaching or instructing a child ($n$ = 333, 67.5%). Table 4 presents the parents' demographic information.

### Children's Demographic Information

The average age was 11.18 (*SD* = 3.48). Regarding grade level during the 2019-2020 school year, children were fairly distributed ranging from kindergarten to twelfth, and second graders being the most reported group (*n* = 80, 15.8%). Regarding gender, most of the children were boys (*n* = 279, 55%). Most children (84.1%) were doing distance learning—either through online only, workbook only, or a combination of both, while 3.6% were not receiving any schooling, 3.2% were doing in-person only, and 1.4% were doing a combination of in-person and distance learning. Lastly, the most reported child race/ethnicity was non-Latinx white (n = 346, 69.3%). Table 5 presents the children's demographic information.

## Descriptive Statistics

Descriptive statistics for each instrument are presented in Table 6. Data are presented as mean and standard deviation (SD). For negative pandemic impacts, the possible scores ranged from zero to 73, where zero indicates no negative impacts and 73 indicates the highest number of negative pandemic impacts. The lowest and the highest reported number of negative pandemic impacts in this sample was zero and 72 respectively, with the average score being 17.99 (*SD* = 13.99), suggesting the parents of this sample experienced on average low number of negative impacts caused by the pandemic.

For PeSS, the lowest reported total score was zero and the highest reported total score was 40 (the highest possible total score for this instrument), with the average being 14.26 (*SD* = 7.39). This is lower than the U.S. normative data (19.62*, SD* = 7.49; Cohen, 1988).

For PaSS, lowest total score possible is 18, and the highest 90. For this study, the lowest and highest PaSS total score was 18 and 73 respectively, with the average being 36.32 *(SD* = 11.43), which suggested modest parenting stress levels.

For RAS, possible total scores range from seven to 35. In this study the lowest and highest total scores were seven and 35 respectively, with the average score being 28.50 *(SD* = 6.26, suggesting that parents, on average, had high levels of satisfaction with their romantic relationships.

For RCADS-P, the lowest and highest possible total scores were zero and 69 respectively. In this study the lowest and highest total scores were 23 and 84, with the average being 37.37 (*SD* = 11.36), suggesting moderate levels of child internalizing symptoms. Table 3 presents the descriptive statistics for the variables of interest.

**Reliability Analysis**

The five measures used in this study were analyzed for internal consistency using Cronbach's Alpha (α). All instruments had high reliability, as shown by α scores ranging from .88 (for PeSS) to .94 (for EPII Minus Positive Change). Table 7 presents the reliability data for each instrument.

## Hypothesis Testing

### H1: Negative Pandemic Impacts predicting Parents' General Stress, Parenting Stress, and Relationship Satisfaction levels

Because standard multiple linear regression analysis allows for only one outcome variable, three separate analyses were conducted to test the first hypothesis. In each of the three regression analyses, negative pandemic impacts, and the previously selected covariates, were entered simultaneously as the predictor variables. General stress, parenting stress, and relationship satisfaction were entered separately as the only outcome variable in each of the analyses.

After controlling for child age, household yearly income, parent education level, and parent sex, increased number of negative pandemic impacts significantly predicted increased general stress ($\beta$ = .38, $t$ = 8.766, $p$ <.001; see details of the regression model in table 8), increased parenting stress ($\beta$ = .43, $t$ = 9.955, $p$ <.001; table 9), and decreased relationship satisfaction ($\beta$ = -.23, $t$ = -4.797, $p$ <.001; table 10).

**H2: Parents' General Stress, Parenting Stress, and Relationship Satisfaction predicting Children's Internalizing Symptoms**

An additional standard multiple linear regression was run to assess whether parents' general stress, parenting stress, and relationship satisfaction could predict children's internalizing symptoms. Details for the model can be found in table 12.

The multiple regression model with parents' general stress levels, parenting stress, and relationship satisfaction as predictors statistically significantly child internalizing symptoms, $R^2$ = .298, F(3, 453) = 63.542, $p$ < .001; adjusted $R^2$ = .293. Increased general stress and parenting stress levels in the parents significantly predicted increased internalizing symptoms in their children ($\beta$ = .20, $t$ = 4.170, $p$ <.001 and $\beta$ = .41, $t$ = 8.837, $p$ <.001 respectively. However, increased relationship satisfaction did not significantly predict decreased child internalizing symptoms, $\beta$ = -.01, $t$ = -.200, $p$ = .841, even though the correlation matrix (which was run along the regression model; see table 11) showed that relationship satisfaction had a significant, negative correlation with child internalizing symptoms (suggesting the higher the relationship satisfaction, the lower child internalizing symptoms), $r$ (453) = -.24, $p$ = .000.

# CHAPTER IV

# DISCUSSION

Like most countries around the world, the U.S. implemented mandatory stay-at-home orders to prevent further spread of COVID-19. The threat and fear of a new rapidly spreading viral disease, combined with the new stay-at-home orders, brought significant changes and challenges to the lives of families of school-age children across many domains, such as in the psychological well-being and economic domains. The present study aimed to expand the literature on parental well-being and the psychological adjustment of children during the COVID-19 pandemic by investigating whether negative pandemic impacts predicted parents' general stress, parenting stress, and relationship satisfaction levels, and whether these factors in turn predicted child internalizing symptoms.

As hypothesized, the current study found that increased negative pandemic impacts predicted increased general stress and parenting stress levels, as well as decreased relationship satisfaction levels. This supports Prime et al. (2020)'s theoretical framework which posited that the negative impacts brought on by the pandemic and social confinement regulations would increase psychological distress and decrease relationship quality among child caregivers. Regarding negative pandemic impacts and parents' stress levels, the present study's findings are also in line with previous research conducted in the first year of the pandemic in the U.S. with regards to heightened general stress (Adams et al., 2020; APA, 2020) and parenting stress

(Chung et al., 2020). With regards to relationship satisfaction, however, this study contradicts Mousavi (2020)'s finding that lockdown regulations did not have an effect on relationship satisfaction levels among Iranian mothers of school-age children. Together, these findings indicate negative pandemic impacts might be an important risk factor for decreased relationship satisfaction as well as increased stress levels among parents of school-age children.

Increased relationship satisfaction did not predict decreased child internalizing symptoms, differing from my hypothesis and contradicting previous findings (Cowan et al., 1996; Fishman & Meyers, 2000; Wang & Crane, 2001). One possible explanation is that relationship satisfaction is not directly, but indirectly, related to child internalizing symptoms. For example, one study (Lui et al., 2019) found parental internalizing symptoms to be a mediator of the association between relationship satisfaction and child internalizing symptoms. Moreover, in Prime et al. (2020)'s theoretical framework, negative pandemic impacts leads to worsened psychological distress in parents, and this worsened psychological distress negatively impacts the well-being of the family as a whole—including the quality of the marital, parent-child, and sibling relationships—which then poses a risk for children's psychological adjustment. Future studies should investigate the role that relationship satisfaction plays in family well-being as well as further investigate potential mediators of the association between relationship satisfaction and child internalizing symptoms. It is also important to mention that most parents in this study reported high relationship satisfaction which therefore limited the variability in this variable; it is unknown whether relationship satisfaction would have still not been a significant predictor had the average levels been more moderate.

With regards to stress, parents' general stress levels and parenting stress were associated with each other, but the association was not strong, which is in line with previous studies (e.g.,

Flake et al., 2009) and suggests they are different variables measuring different constructs. Pre-pandemic studies looking at parents' general stress levels and child internalizing symptoms included only military families (Finkel & Kelly, 2003; Flake et al., 2009), and their findings are consistent with this study; increased parents' general stress levels predicted increased children's internalizing symptoms. In the present study, parents' general stress levels were lower than the average scores found in the normative sample by Cohen (2013), so this association might be stronger among parents who were experiencing higher perceived general stress levels. The present study's finding of parents' general stress levels being a significant predictor is not consistent with Khoury et al. (2021)'s study, however, which found that parents' general stress levels was not a significant predictor of child internalizing symptoms before to during the pandemic. This difference is perhaps related to differences in sample, with Khoury et al. (2021) having a small sample size that includes only mothers, whereas this study has a large sample size that includes both male and female caregivers.

Increased parenting stress also predicted increased child internalizing symptoms, aligning with previous studies before the pandemic (Abidin et al., 1992; Flake et al., 2009; Neece et al., 2012; Stone et al., 2016). According to Abidin's (1992) stress model, parents who experience higher stress levels are left with less energy for applying positive parenting practices which then puts children at risk for increased internalizing symptoms. Aligning with this model, studies have found that parents reporting higher general stress or parenting stress are more likely to use harsher discipline strategies, such as yelling and using corporal punishment (Sahithya et al., 2020), and—on the higher end of the spectrum with parental burnout—physically and or emotionally abuse their children (Griffith, 2022). In the context of the pandemic, this could have been exacerbated as parents faced increased responsibilities with having to spend more time

caring for their children and helping them with their distance learning (APA, 2020; Kaufman et al., 2020). Together, these findings indicate that, during future situations of mandatory social distancing and confinement, it would be important for public health officials to support parents—especially mothers and parents of younger children— in finding ways to reduce their general stress and parenting stress levels as these factors have been found to predict children's depression and anxiety symptoms.

## Implications of Findings

In response to the threatened wellbeing of parents and families during the pandemic, multiple organizations published online articles and other resources about ways help children cope with the negative pandemic impacts. These included talking to children about COVID-19 to help reduce fears around contracting the illness; encouraging them to stay connected with friends despite social distancing (e.g., with video-calls); acknowledging and validating their emotions; limiting news and social media content regarding COVID-19; and finding ways to take care of their own wellbeing as parents (Barlett et al., 2020; United Nations Children's Fund [UNICEF], 2020; National Child Traumatic Stress Network [NCTSN], 2020). UNICEF (2020) advised parents to take care of their wellbeing by having a good social support or someone they can talk to, making time for activities they enjoy, getting enough sleep, eating nutritiously dense foods, and being physically active. Additionally, the CDC, UNICEF, WHO, and other organizations collaborated to create the website Parenting for Lifelong Health (https://www.covid19parenting.com) where they have posted informative content regarding evidence-based positive parenting practices as well as strategies for managing and preventing parenting stress.

Research is needed to investigate which parents accessed and used those resources and whether they found them helpful. It is important to note, however, that finding the time to apply those positive parenting practices while also finding time for self-care might have been challenging for many parents. During the early stages of the stay-at-home orders, many parents reported having limited time and feeling stressed about having to juggle different responsibilities (Adams et al., 2021). It is also important to note that most the information shared in those resources aimed at helping families of school-age children focused on informing parents about different ways in which they could help their children cope through those stressful times, but there was fewer content about coping and preventing parenting stress. This emphasis on the importance of parents' parenting contrasted with fewer resources on how parents could manage and reduce their stress levels reflects the pressure and heightened responsibilities parents faced during this time.

Considering the increased demands that parents faced, as well as the decreased access to their usual resources and means of support—such as daycares and the help of extended family members— it was likely challenging, if not impossible, for them to follow the recommendations set by health organizations regarding supporting their children while also making time for their own self-care. Therefore, it is important to find ways to alleviate some of the demands parents may go through during similar times of high stress. One way in which the U.S. government helped parents during the COVID-19 pandemic was through financial support, providing 3,000 U.S. dollars per child ages 6-17 and 3,500 per child under age 6 (The White House, 2022). This was an important form of support as many U.S. families were experiencing decreased income (Pew Research Center, 2020). Nevertheless, parents were impacted across many other domains during the beginning of the stay-at-home orders, including having to spend more time in child-

care and helping their child(ren) with their school tasks as most schools were temporarily closed. Thus, parents would have benefitted from support alleviating child-care demands.

For instance, during the stay-at-home orders in Australia, child-care centers remained open and temporarily cost-free, while maintaining strict social distancing protocols (Park et al., 2020b); for example, each child had their temperature measured as they entered, and their lunch breaks were separated in small groups so that few children would be together at a time (Early Childhood Australia, 2020). Having in-person child-care available and low-cost or free could have not only benefitted the U.S. economy by combatting the number of U.S. parents who had taken a leave from work or decreased their working hours due to increased child-care demands at home (Pew Research Center, 2020b), it could have also substantially eased the demands parents endured, thereby helping decrease their stress levels. U.S. employers should also be encouraged to listen to parents' struggles and to find possible solutions, such as providing flexible working options (UNICEF, 2020). With employers being more understanding, parents would feel supported and better able to balance their work and parenting responsibilities.

At the child level, it could be helpful if policymakers allowed and encouraged schools to include in their curriculum designated time to educate children about the same recommendations that health organizations made for parents regarding helping children cope during the stay-at-home orders, including teaching about COVID-19 safety practices, as well as evidence-based strategies to build and maintain routines, stay socially connected while maintaining social distancing, and manage challenging emotions. For example, pre-pandemic research suggests participating in school-based emotion-regulation training programs relates to decreased conduct problems and improved emotion regulation among early childhood students (Domitrovich et al., 2007; Izard et al., 2008; Webster et al., 2008) as well as improved self-esteem and decreased

stress levels and internalizing symptoms among high school students (Burckhardt et al. 2016; Metz et al., 2013; Volkaert et al., 2021). In the face of possible future stay-at-home orders, implementing similar types of educational support could help alleviate the possible pressure and stress of parents having the sole responsibility of helping children navigate through such challenging times.

## Limitations and Future Directions

The results in this study must be interpreted considering the following limitations. First, this study is cross-sectional and non-experimental, which makes causality interpretation difficult. Second, online convenience sampling was used. Participants were recruited solely through MTurk and, therefore, the sample is limited to individuals who had internet access and access to this platform. MTurk samples have been found to be reliable and to be more diverse than college samples, but they are not completely representative of the general population (Cunningham et al., 2017; Paolacci & Chandler, 2017). For example, individuals recruited through MTurk have been found to be more educated and less likely to identify as religious (Paolacci & Chandler, 2017). Future studies could benefit from using more diverse sampling methods.

Most parents identified as non-Latinx white and had at least a bachelor's degree. The pandemic disproportionally impacted low income and ethnic minority families (Andrade et al., 2020). Thus, if this study had included greater number of low income and ethnic minority families, there would have likely been greater number of negative pandemic impacts. Furthermore, parents were asked about their biological sex, but they were not asked for their gender identity and sexual orientation. Thus, it is unknown whether these results are generalizable to families with parents who are part of the LGBTQ+ community. Most research looking at the variables of interest in this study have been done on parents who are non-Latinx

white, highly educated, and are in opposite-sex relationships. It is important that future research includes more diversity in ethnicity, education level, gender identity, and sexual orientation.

With regards to the measure of child internalizing symptoms, the modified RCADS-P total score had high internal reliability; however, it is still an incomplete scale that cannot be equated to the full validated scale. Therefore, this limits the interpretations of the results with child internalizing symptoms. Lastly, the present study did not investigate positive pandemic impacts, such as more quality time spent with family, and whether they buffer parents' stress levels and relationships satisfaction from pandemic impacts, and children's internalizing symptoms from parents' stress levels.

**Conclusion**

Consistent with previous studies and Prime et al. (2020)'s theoretical framework, higher number of negative pandemic impacts predicted worsening well-being across stress and relationship satisfaction levels among parents of school-age children during the beginning of the first U.S. pandemic lockdown. This study also partially supports Prime et al. (2020)'s theoretical framework with parents' stress levels, but not relationship satisfaction, predicting increased child internalizing symptoms. Efforts to buffer parents—especially mothers and parents of younger children— from negative pandemic impacts could be important for their well-being. And efforts to reduce parents' stress levels could be beneficial to children's well-being.

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# APPENDIX A

# APPENDIX A

## Epidemic-Pandemic Impacts Inventory (EPII; Grasso et al., 2020)

We would like to learn how the coronavirus disease pandemic has changed people's lives. For each statement below, please indicate whether the pandemic has impacted YOU or YOUR FAMILY in the way described.

Check YES (Me) if you were impacted.

Check YES (Person in Home) if another person (or people) in your home were impacted.

***If both YES (Me) and YES (Person in Home) are true, check both***

Check NO if you and your family were not impacted.

Since the coronavirus disease pandemic began, what has changed for you or your family?

| | | | |
|---|---|---|---|
| 1. | Laid off from job or had to close own business. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 2. | Reduced work hours or furloughed. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 3. | Had to lay-off or furlough employees or people supervised. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 4. | Had to continue to work even though in close contact with people who might be infected (e.g., customers, patients, co-workers). | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 5. | Spend a lot of time disinfecting at home due to close contact with people who might be infected at work. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 6. | Increase in workload or work responsibilities. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 7. | Hard time doing job well because of needing to take care of people in the home. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 8. | Hard time making the transition to working from home. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 9. | Provided direct care to people with the disease (e.g., doctor, nurse, patient care assistant, radiologist). | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 10. | Provided supportive care to people with the disease (e.g., medical support staff, custodial, administration). | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 11. | Provided care to people who died as a result of the disease. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 12. | Had a child in home who could not go to school. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |

| | | | |
|---|---|---|---|
| 13. | Adult unable to go to school or training for weeks or had to withdraw. | ☐YES (Me)<br>☐YES (Person in Home) | ☐NO |
| 14. | Childcare or babysitting unavailable when needed. | ☐YES (Me)<br>☐YES (Person in Home) | ☐NO |
| 15. | Difficulty taking care of children in the home. | ☐YES (Me)<br>☐YES (Person in Home) | ☐NO |
| 16. | More conflict with child or harsher in disciplining child or children. | ☐YES (Me)<br>☐YES (Person in Home) | ☐NO |
| 17. | Had to take over teaching or instructing a child. | ☐YES (Me)<br>☐YES (Person in Home) | ☐NO |
| 18. | Family or friends had to move into your home. | ☐YES (Me)<br>☐YES (Person in Home) | ☐NO |
| 19. | Had to spend a lot more time taking care of a family member. | ☐YES (Me)<br>☐YES (Person in Home) | ☐NO |
| 20. | Had to move or relocate. | ☐YES (Me)<br>☐YES (Person in Home) | ☐NO |
| 21. | Became homeless. | ☐YES (Me)<br>☐YES (Person in Home) | ☐NO |
| 22. | Increase in verbal arguments or conflict with a partner or spouse. | ☐YES (Me)<br>☐YES (Person in Home) | ☐NO |
| 23. | Increase in physical conflict with a partner or spouse. | ☐YES (Me)<br>☐YES (Person in Home) | ☐NO |
| 24. | Increase in verbal arguments or conflict with other adult(s) in home. | ☐YES (Me)<br>☐YES (Person in Home) | ☐NO |
| 25. | Increase in physical conflict with other adult(s) in home. | ☐YES (Me) | ☐NO |

| | | | |
|---|---|---|---|
| | | ☐YES (Person in Home) | |
| 26. | Increase in physical conflict among children in home. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 27. | Separated from family or close friends. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 28. | Did not have the ability or resources to talk to family or friends while separated. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 29. | Unable to visit loved one in a care facility (e.g., nursing home, group home). | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 30. | Family celebrations cancelled or restricted. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 31. | Planned travel or vacations cancelled. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 32. | Religious or spiritual activities cancelled or restricted. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 33. | Unable to be with a close family member in critical condition. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 34. | Unable to attend in-person funeral or religious services for a family member or friend who died. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 35. | Unable to participate in social clubs, sports teams, or usual volunteer activities. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 36. | Unable to do enjoyable activities or hobbies. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 37. | Unable to get enough food or healthy food. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |

| | | | |
|---|---|---|---|
| 38. | Unable to access clean water. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 39. | Unable to pay important bills like rent or utilities. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 40. | Difficulty getting places due to less access to public transportation or concerns about safety. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 41. | Unable to get needed medications (e.g., prescriptions or over-the-counter). | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 42. | Increase in child behavioral or emotional problems. | ☐YES | ☐ NO |
| 43. | Increase in child's sleep difficulties or nightmares. | ☐YES | ☐ NO |
| 44. | Increase in mental health problems or symptoms (e.g., mood, anxiety, stress). | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 45. | Increase in sleep problems or poor sleep quality. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 46. | Increase in use of alcohol or substances. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 47. | Unable to access mental health treatment or therapy. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 48. | Not satisfied with changes in mental health treatment or therapy. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 49. | Spent more time on screens and devices (e.g., looking at phone, playing video games, watching TV). | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 50. | Increase in health problems not related to this disease. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |

| | | | |
|---|---|---|---|
| 51. | Less physical activity or exercise. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 52. | Overeating or eating more unhealthy foods (e.g., junk food). | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 53. | More time sitting down or being sedentary. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 54. | Important medical procedure cancelled (e.g., surgery). | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 55. | Unable to access medical care for a serious condition (e.g., dialysis, chemotherapy). | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 56. | Got less medical care than usual (e.g., routine or preventive care appointments). | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 57. | Elderly or disabled family member not in the home unable to get the help they need. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 58. | Isolated or quarantined due to possible exposure to this disease. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 59. | Isolated or quarantined due to symptoms of this disease. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 60. | Isolated due to existing health conditions that increase risk of infection or disease. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 61. | Limited physical closeness with child or loved one due to concerns of infection. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 62. | Moved out or lived away from family due to a high-risk job (e.g., health care worker, first responder). | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |

| | | | |
|---|---|---|---|
| 63. | Close family member not in the home was quarantined. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 64. | Family member was unable to return home due to quarantine or travel restrictions. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 65. | Entire household was quarantined for a week or longer. | ☐YES | ☐ NO |
| 66. | Currently have symptoms of this disease but have not best tested. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 67. | Tested and currently have this disease. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 68. | Had symptoms of this disease but never tested. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 69. | Tested positive for this disease but no longer have it. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 70. | Got medical treatment due to severe symptoms of this disease. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 71. | Hospital stay due to this disease. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 72. | Someone died of this disease while in our home | ☐YES | ☐ NO |
| 73. | Death of close friend or family member from this disease. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 74. | More quality time with family or friends in person or from a distance (e.g., on the phone, Email, social media). | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 75. | More quality time with partner or spouse. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |

| | | | |
|---|---|---|---|
| 76. | More quality time with children. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 77. | Improved relationships with family or friends. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 78. | New connections made with supportive people. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 79. | Increase in exercise or physical activity. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 80. | More time in nature or being outdoors. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 81. | More time doing enjoyable activities (e.g., reading books, puzzles). | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 82. | Developed new hobbies or activities. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 83. | More appreciative of things usually taken for granted. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 84. | Paid more attention to personal health. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 85. | Paid more attention to preventing physical injuries. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 86. | Ate healthier foods. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |
| 87. | Less use of alcohol or substances. | ☐YES (Me)<br>☐YES (Person in Home) | ☐ NO |

| | | | |
|---|---|---|---|
| 88. | Spent less time on screens or devices outside of work hours (e.g., looking at phone, playing video games, watching TV). | ☐YES (Me)<br>☐YES (Person in Home) | ☐NO |
| 89. | Volunteered time to help people in need. | ☐YES (Me)<br>☐YES (Person in Home) | ☐NO |
| 90. | Donated time or goods to a cause related to this disease (e.g., made masks, donated blood, volunteered). | ☐YES (Me)<br>☐YES (Person in Home) | ☐NO |
| 91. | Found greater meaning in work, employment, or school. | ☐YES (Me)<br>☐YES (Person in Home) | ☐NO |
| 92. | More efficient or productive in work, employment, or school. | ☐YES (Me)<br>☐YES (Person in Home) | ☐NO |

APPENDIX B

APPENDIX B

The Perceived Stress Scale (PaSS; Cohen, 1988)

The questions in this scale ask you about your feelings and thoughts during the last month. In each case, you will be asked to indicate by circling *how often* you felt or thought a certain way.

**0 = Never 1 = Almost Never 2 = Sometimes 3 = Fairly Often 4 = Very Often**

____ l. In the last month, how often have you been upset because of something that happened unexpectedly?

____ 2. In the last month, how often have you felt that you were unable to control the important things in your life?

____ 3. In the last month, how often have you felt nervous and stressed?

____ 4. In the last month, how often have you felt confident about your ability to handle your personal problems?

____ 5. In the last month, how often have you felt that things were going your way?

____ 6. In the last month, how often have you found that you could not cope with all the things that you had to do?

____ 7. In the last month, how often have you been able to control irritations in your life?

____ 8. In the last month, how often have you felt that you were on top of things?

____ 9. In the last month, how often have you been angered because of things that happened that were outside of your control?

____ 10. In the last month, how often have you felt difficulties were piling up so high that you could not overcome them?

APPENDIX C

APPENDIX C

Parental Stress Scale (PeSS; Berry & Jones, 1995)

The following statements describe feelings and perceptions about the experience of being a parent. Think of each of the items in terms of how your relationship with your child or children typically is. Please indicate the degree to which you agree or disagree with the following items by placing the appropriate number in the space provided.

1 = Strongly disagree 2 = Disagree 3 = Undecided 4 = Agree 5 = Strongly agree

**____ 1. I am happy in my role as a parent.**

**____ 2. There is little or nothing I wouldn't do for my child(ren) if it was necessary.**

____ 3. Caring for my child(ren) sometimes takes more time and energy than I have to give.

____ 4. I sometimes worry whether I am doing enough for my child(ren).

**____ 5. I feel close to my child(ren).**

**____ 6. I enjoy spending time with my child(ren).**

**____ 7. My child(ren) is an important source of affection for me.**

**____ 8. Having child(ren) gives me a more certain and optimistic view for the future.**

____ 9. The major source of stress in my life is my child(ren).

____ 10. Having child(ren) leaves little time and flexibility in my life.

____ 11. Having child(ren) has been a financial burden.

____ 12. It is difficult to balance different responsibilities because of my child(ren).

____ 13. The behavior of my child(ren) is often embarrassing or stressful to me.

____ 14. If I had it to do over again, I might decide not to have child(ren).

____ 15. I feel overwhelmed by the responsibility of being a parent.

____ 16. Having child(ren) has meant having too few choices and too little control over my life.

**____ 17. I am satisfied as a parent.**

**____ 18. I find my child(ren) enjoyable.**

APPENDIX D

APPENDIX D

Relationship Assessment Questionnaire (RAS; Hendrick et al., 1998)

For these questions, please think about your current romantic partner.

| | | | | | |
|---|---|---|---|---|---|
| 1. How well does your partner meet your needs? | 1<br>Poorly | 2 | 3<br>Average | 4 | 5<br>Extremely Well |
| 2. In general, how satisfied are you with your relationship? | 1<br>Unsatisfied | 2 | 3<br>Average | 4 | 5<br>Extremely Satisfied |
| 3. How good is your relationship compared to most? | 1<br>Poor | 2 | 3<br>Average | 4 | 5<br>Excellent |
| 4. How often do you wish you hadn't gotten into this relationship? | 1<br>Never | 2 | 3<br>Average | 4 | 5<br>Very often |
| 5. To what extent has your relationship met your original expectations? | 1<br>Hardly At All | 2 | 3<br>Average | 4 | 5<br>Completely |
| 6. How much do you love your partner? | 1<br>Not Much | 2 | 3<br>Average | 4 | 5<br>Very Much |
| 7. How many problems are there in your relationship? | 1<br>Very Few | 2 | 3<br>Average | 4 | 5<br>Very Many |

APPENDIX E

APPENDIX E

Revised Child Anxiety and Depression Scale-Parent Version (RCADS-P; Chorpita et al., 2005)

Please put a circle around the word that shows how often each of these things happens for your child.

| | | | | |
|---|---|---|---|---|
| 1. My child worries about things | Never | Sometimes | Often | Always |
| 2. My child feels sad or empty | Never | Sometimes | Often | Always |
| 3. When my child has a problem, he/she gets a funny feeling in his/her stomach | Never | Sometimes | Often | Always |
| 4. My child worries when he/she thinks he/she has done poorly at something | Never | Sometimes | Often | Always |
| 5. My child feels afraid of being alone at home | Never | Sometimes | Often | Always |
| 6. Nothing is much fun for my child anymore | Never | Sometimes | Often | Always |
| 7. My child feels scared when taking a test | Never | Sometimes | Often | Always |
| 8. My child worries when he/she thinks someone is angry with him/her | Never | Sometimes | Often | Always |
| 9. My child worries about being away from me | Never | Sometimes | Often | Always |
| 10. My child is bothered by bad or silly thoughts or pictures in his/her mind | Never | Sometimes | Often | Always |
| 11. My child has trouble sleeping | Never | Sometimes | Often | Always |
| 12. My child worries about doing badly at school work | Never | Sometimes | Often | Always |

| | | | | |
|---|---|---|---|---|
| 13. My child worries that something awful will happen to someone in the family | Never | Sometimes | Often | Always |
| 14. My child suddenly feels as if he/she can't breathe when there is no reason for this. | Never | Sometimes | Often | Always |
| 15. My child has problems with his/her appetite | Never | Sometimes | Often | Always |
| 16. My child has to keep checking that he/she has done things right (like the switch is off, or the door is locked) | Never | Sometimes | Often | Always |
| 17. My child feels scared to sleep on his/her own | Never | Sometimes | Often | Always |
| 18. My child has trouble going to school in the mornings because of feeling nervous or afraid. | Never | Sometimes | Often | Always |
| 19. My child has no energy for things | Never | Sometimes | Often | Always |
| 20. My child worries about looking foolish | Never | Sometimes | Often | Always |
| 21. My child is tired a lot | Never | Sometimes | Often | Always |
| 22. My child worries that bad things will happen to him/her | Never | Sometimes | Often | Always |
| 23. My child can't seem to get bad or silly thoughts out of his/her head. | Never | Sometimes | Often | Always |

Table 1. Correlation Matrix. Continuous Variables with PeSS, PaSS, and RAS

| | | PeSS | PaSS | RAS |
|---|---|---|---|---|
| Number of Children in the Home | Correlation Coefficient | .02 | -.02 | .02 |
| | Sig. (2-tailed) | .683 | .622 | .610 |
| | N | 497 | 498 | 497 |
| Child Age | Correlation Coefficient | -.11* | -.15** | .03 |
| | Sig. (2-tailed) | .016 | <.001 | .534 |
| | N | 495 | 496 | 495 |

*Note: *Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed).*

Table 2. Correlation Matrix. Ordinal Variables with PeSS, PaSS, and RAS

| | | PeSS | PaSS | RAS |
|---|---|---|---|---|
| Household Yearly Income | Correlation Coefficient | -.18** | -.10* | -.07 |
| | Sig. (2-tailed) | <.001 | .041 | .135 |
| | N | 480 | 482 | 481 |
| Children's Grade | Correlation Coefficient | -.12** | -.13** | -.04 |
| | Sig. (2-tailed) | .010 | .003 | .441 |
| | N | 495 | 496 | 481 |
| Parent’s Education Level | Correlation Coefficient | -.00 | -.16** | -.12** |
| | Sig. (2-tailed) | .941 | <.001 | .010 |
| | N | 496 | 497 | 496 |

*Note: *Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed).*

Table 3. Correlation Matrix. Dichotomous Variables with PeSS, PaSS, and RAS

| | | PeSS | PaSS | RAS |
|---|---|---|---|---|
| Parent sex | Correlation Coefficient | -.14** | .01 | .07 |
| | Sig. (2-tailed) | .002 | .881 | .151 |
| | N | 493 | 493 | 492 |
| Child sex | Correlation Coefficient | .12 | .08 | -.03 |
| | Sig. (2-tailed) | .711 | .069 | .500 |
| | N | 496 | 497 | 496 |
| Parent race | Correlation Coefficient | -.03 | -.02 | .01 |
| | Sig. (2-tailed) | .566 | .648 | .788 |
| | N | 496 | 497 | 496 |
| Child race | Correlation Coefficient | .02 | .02 | .01 |
| | Sig. (2-tailed) | .690 | .676 | .814 |
| | N | 497 | 498 | 497 |
| Parent marital status | Correlation Coefficient | .10* | .01 | .02 |
| | Sig. (2-tailed) | .027 | .868 | .602 |
| | N | 497 | 498 | 497 |

*Note: *Correlation is significant at the 0.05 level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed).*

Table 4. Parents' Demographic Information

| | Count | % |
|---|---|---|
| Gender | | |
| Male | 213 | 42.3% |
| Female | 290 | 57.7% |
| Average Yearly Household Income | | |
| Less Than $10,000 | 50 | 10.2% |
| $10,000 To $19,999 | 10 | 2.0% |
| $20,000 To $29,999 | 29 | 5.9% |
| $30,000 To $39,999 | 26 | 5.3% |
| $40,000 To $49,999 | 41 | 8.4% |
| $50,000 To $59,999 | 34 | 6.9% |
| $60,000 To $69,999 | 45 | 9.2% |
| $70,000 To $79,999 | 48 | 9.8% |
| $80,000 To $89,999 | 36 | 7.3% |
| $90,000 To $99,999 | 44 | 9.0% |
| $100,000 To $149,999 | 88 | 17.9% |
| $150,000 Or More | 40 | 8.1% |
| Marital Status | | |
| In A Relationship But Not Married | 74 | 14.6% |
| Married | 434 | 85.4% |
| Race | | |
| Non-Latinx White | 352 | 69.7% |
| Black | 57 | 11.3% |
| Hispanic/Latinx | 51 | 10.1% |
| Asian | 38 | 7.5% |
| American Indian/Alaska Native | 6 | 1.2% |
| Native Hawaiian/Pacific Islander | 1 | .2% |

Table 4, cont.

| | Count | % |
|---|---|---|
| Highest Level of Degree Received | | |
| Less Than High School Degree | 1 | .2% |
| High School Graduate (High School Diploma Or Equivalent Including GED) | 29 | 5.7% |
| Some College But No Degree | 68 | 13.4% |
| Associate Degree In College (2-Year) | 78 | 15.4% |
| Bachelor's Degree In College (4-Year) | 215 | 42.4% |
| Master's Degree | 102 | 20.1% |
| Professional Degree (JD, MD) | 6 | 1.2% |
| Doctoral Degree | 8 | 1.6% |
| Employment Status | | |
| Working (part time) | 57 | 11.2% |
| Working (full time) | 360 | 71.0% |
| Not working (temporary layoff/furloughed from a job) | 38 | 7.5% |
| Not working (unemployed) | 44 | 8.7% |
| Not working (retired or disabled) | 8 | 1.6% |
| Had to take over teach or instructing a child | | |
| Yes (me and/or person in home) | 333 | 65.7% |
| No | 174 | 34.3% |

Table 5. Children's Demographic Information

| Variable | Count | % |
|---|---|---|
| Child's Age | | |
| 7 Years Old | 104 | 20.6% |
| 8 Years Old | 66 | 13.0% |
| 9 Years Old | 33 | 6.5% |
| 10 Years Old | 49 | 9.7% |
| 11 Years Old | 23 | 4.5% |
| 12 Years Old | 47 | 9.3% |
| 13 Years Old | 38 | 7.5% |
| 14 Years Old | 23 | 4.5% |
| 15 Years Old | 36 | 7.1% |
| 16 Years Old | 37 | 7.3% |
| 17 Years Old | 50 | 9.9% |
| Child's Sex | | |
| Boys | 279 | 55% |
| Girls | 228 | 45% |
| Child's Grade During the 2019-2020 School Year | | |
| Kindergarten | 2 | .4% |
| 1st Grade | 53 | 10.5% |
| 2nd Grade | 80 | 15.8% |
| 3rd Grade | 56 | 11.1% |
| 4th Grade | 38 | 7.5% |
| 5th Grade | 31 | 6.1% |
| 6th Grade | 52 | 10.3% |
| 7th Grade | 39 | 7.7% |
| 8th Grade | 23 | 4.5% |
| 9th Grade | 32 | 6.3% |

Table 5, cont.

| Variable | Count | % |
|---|---|---|
| 10th Grade | 39 | 7.7% |
| 11th Grade | 35 | 6.9% |
| 12th Grade | 26 | 5.1% |
| Child's Race | | |
| Non-Latinx white | 346 | 69.3% |
| Black | 54 | 10.8% |
| Hispanic/Latinx | 60 | 12.0% |
| Asian | 32 | 6.4% |
| American Indian | 6 | 1.2% |

Table 6. Descriptive Statistics for EPII, PaSS, PeSS, RAS, and RCADS-P

| | Range | Mean | SD |
|---|---|---|---|
| Negative Pandemic Impacts | 0-72 | 17.99 | 13.92 |
| Perceived Stress Scale (PeSS) | 0-40 | 14.26 | 7.39 |
| Parental Stress Scale (PaSS) | 18-73 | 36.32 | 11.43 |
| Relationship Assessment Scale (RAS) | 7-35 | 28.50 | 6.26 |
| Revised Child Anxiety and Depression Scale-Parent Version (RCADS-P) | 23-84 | 37.37 | 11.36 |

Table 7. Reliability Analysis for EPII, PaSS, PeSS, RAS, and RCADS-P

| Scale | Cronbach's Alpha (α) | N of Items |
|---|---|---|
| PeSS | .88 | 10 |
| PaSS | .90 | 18 |
| RAS | .92 | 7 |
| RCADS-P | .94 | 23 |
| EPII | .91 | 73 |

Table 8. Regression Coefficients for Predicting PeSS

| Variable | B | 95% CI | β | t | p |
|---|---|---|---|---|---|
| EPII | .221 | [.172,.271] | .384 | 8.766 | <.001 |
| Child age | -.140 | [-.313,.034] | -.066 | -1.577 | .115 |
| Household Income | -.177 | [-.362,.008] | -.083 | -1.884 | .060 |
| Parent Education | -.072 | [-.599,.454] | -.012 | -.270 | .787 |
| Parent Sex | -1.699 | [-2.937,-.461] | -.114 | -2.697 | .007 |

*Note. $R^2$ =.196 (N=474, p<.001). CI = confidence interval for B.*

Table 9. Regression Coefficients for Predicting PaSS

| Variable | B | 95% CI | β | t | p |
|---|---|---|---|---|---|
| EPII | .376 | [24.951,35.080] | .425 | 9.955 | <.001 |
| Child age | -.312 | [.302,.450] | -.096 | -2.332 | .020 |
| Household Income | -.154 | [-.576,-.049] | -.046 | -1.079 | .281 |
| Parent Education | .912 | [-.434,.126] | .098 | 2.280 | .023 |
| Parent Sex | .161 | [.126,1.698] | .007 | .170 | .865 |

*Note. $R^2$ =.235 (N=475, p<.001). CI = confidence interval for B.*

Table 10. Regression coefficients for predicting RAS

| Variable | B | 95% CI | β | t | p |
|---|---|---|---|---|---|
| EPII | -.113 | [-.159,-.067] | -.228 | -4.797 | <.001 |
| Child age | -.087 | [-.247,.073] | -.049 | -1.066 | .287 |
| Household Income | -.137 | [-.307,.033] | -.075 | -1.581 | .115 |
| Parent Education | -.346 | [-.825,.132] | -.068 | -1.422 | .156 |
| Parent Sex | .883 | [-.247,2.013] | .070 | 1.535 | .125 |

*Note.* $R^2$ *=.068 (N=474, p<.001). CI = confidence interval for B.*

Table 11. Correlation Matrix between RCADS-P, PeSS, PaSS, and RAS

| | | PeSS | PaSS | RAS |
|---|---|---|---|---|
| Child Internalizing Symptoms | Correlation Coefficient | .415 | .516 | .241 |
| | Sig. (2-tailed) | .000 | .000 | .000 |
| | N | 459 | 458 | 458 |

*Note. PeSS= perceived general stress, PaSS= parenting stress, RAS= relationship satisfaction.*

Table 12. Regression Coefficients for Predicting Child Internalizing Symptoms.

| Variable | B | 95% CI | β | t | p |
|---|---|---|---|---|---|
| PeSS | .299 | [.158,.440] | .203 | 4.170 | <.001 |
| PaSS | .393 | [.305,.480] | .410 | 8.837 | <.001 |
| RAS | -.015 | [-.166,.136] | -.009 | -.200 | .841 |

*Note.* $R^2$ *=.298 (N=453, p<.001). CI = confidence interval for B. PeSS= perceived general stress, PaSS= parenting stress, RAS= relationship satisfaction.*

Figure 1: H1(Dependent Variable: PeSS). Histogram and Normal P-P Plot


Figure 2: H1 (Dependent Variable: PaSS). Histogram and Normal P-P Plot


Figure 3: H1 (Dependent Variable: RAS). Histogram and Normal P-P Plot

Figure 4: H1 (Dependent Variable: transformed RAS). Histogram and Normal P-P Plot


Figure 5: H2 (Dependent Variable: RCADS-P). Histogram and Normal P-P Plot

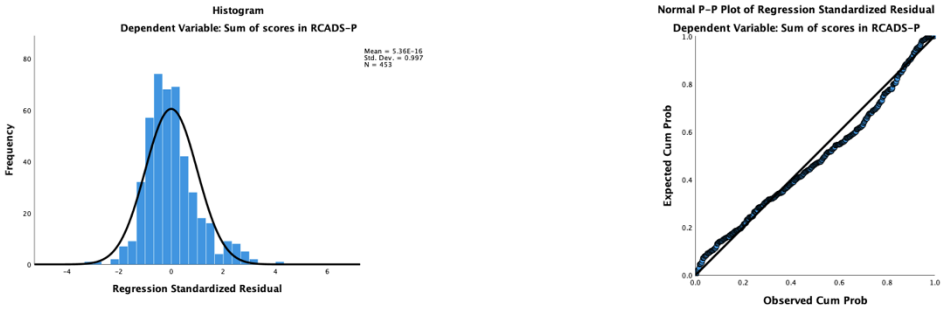
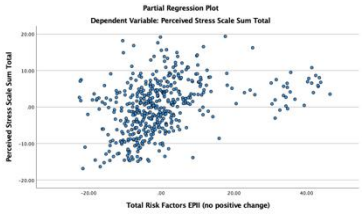
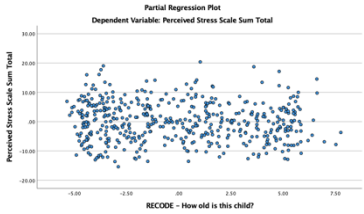


Figure 6: H1 (Dependent Variable: PeSS). Regression Plots

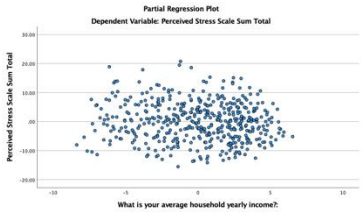
(a)



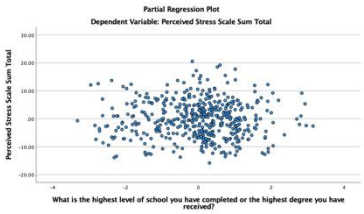

(b)



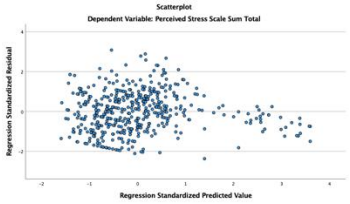

(c)




(d)



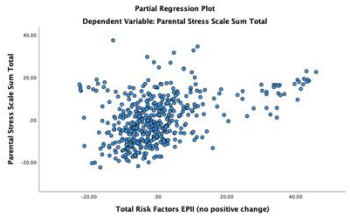

(e)



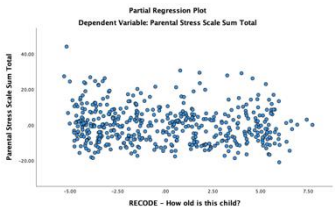

*Note. (A) A partial EPII and PeSS; (B) A partial plot of child age and PeSS; (C) A partial plot of household yearly income and PeSS; (D) A partial plot of parent education level and PeSS; (E) A plot of standardized residual against unstandardized predicted values.*

Figure 7: H1 (Dependent Variable: PaSS). Regression Plots

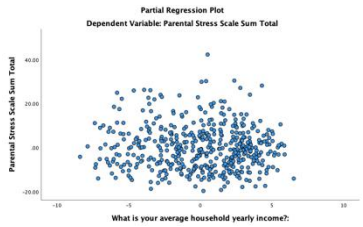
(a)



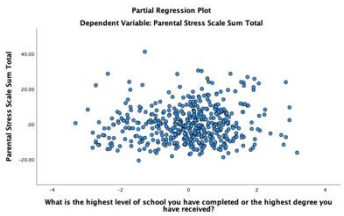

(b)



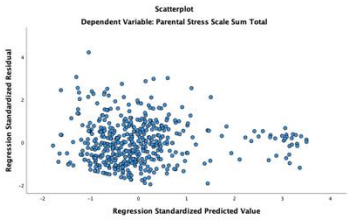

(c)




(d)



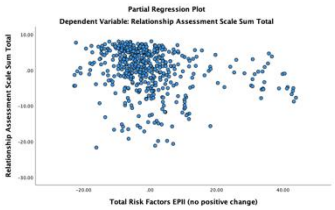

(e)



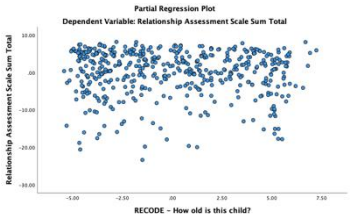

*Note. (A) A partial EPII and PaSS; (B) A partial plot of child age and PaSS; (C) A partial plot of household yearly income and PaSS; (D) A partial plot of parent education level and PaSS; (E) A plot of standardized residual against unstandardized predicted values.*

Figure 8: H1 (Dependent Variable: RAS). Regression Plots

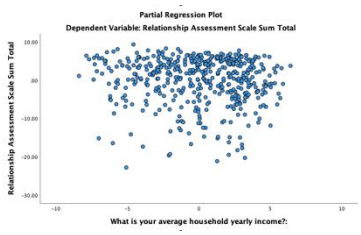
(a)



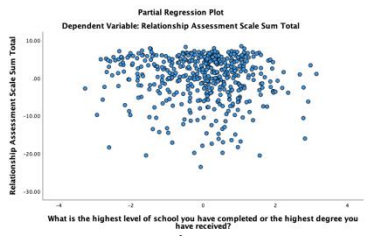

(b)



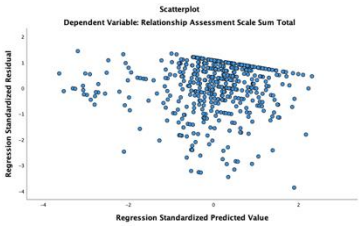

(c)




(d)



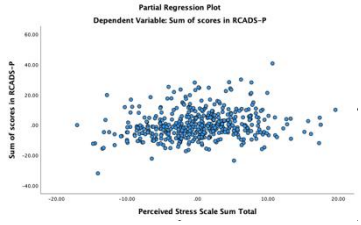

(e)



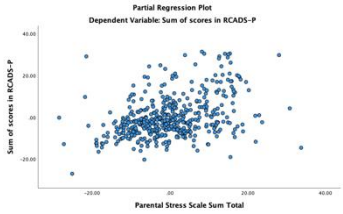

*Note. (A) A partial EPII and RAS; (B) A partial plot of child age and RAS; (C) A partial plot of household yearly income and RAS; (D) A partial plot of parent education level and RAS; (E) A plot of standardized residual against unstandardized predicted values.*

Figure 9: H2 (Dependent Variable: RCADS-P). Regression Plots

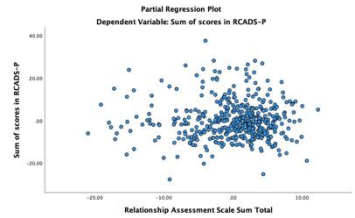
(a)



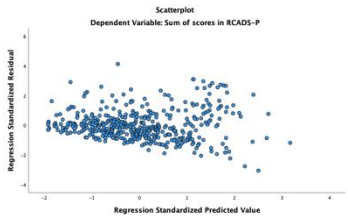

(b)




(c)




(d)




*Note. (A) A partial plot of PeSS and RCADSP; (B) A partial plot of PaSS and RCADSP; (C) A partial plot of RAS and RCADSP; (D) A plot of standardized residual against unstandardized predicted values.*

# BIOGRAPHICAL SKETCH

Diana Duran was born in Brownsville, Texas. She completed her Bachelor of Science in Psychology at the University of Texas at Rio Grande Valley (UTRGV) in December 2019. During her undergraduate studies, she gained research experience volunteering in a psychology laboratory and clinical experience interning at a community counseling center in Mexico. She then began her Master of Arts degree in Clinical Psychology at UTRGV in August 2020 and graduated in May 2023. During the beginning of her master's program, she worked as a graduate research assistant in Dr. Villalobos and Dr. Hernandez Rodriguez's REACH lab. Then, under the supervision of psychologist Elizabeth Tamez, PsyD, she completed her clinical internship hours at the Brownsville Psychological Center (BPC) where she provided mental health therapy and psychological evaluations for Latinx clients of diverse ages. She can be contacted via her email address: diana.duran451@gmail.com.