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Risk and resilience of well-being in caregivers of young children in response to the COVID-19 pandemic

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Abstract

The COVID-19 pandemic is impacting communities worldwide, with direct effects of illness and mortality, and indirect effects on economies, workplaces, schools/daycares, and social life. However, we understand very little about the effects of this pandemic on families of young children. We used a risk and resilience model to evaluate the effects of the pandemic on mental health in diverse caregivers ($N = 286$) with children ages birth to 5. We evaluated the hypotheses that (a) pandemic stress and caregiver-reported child psychosocial concerns correlate with caregivers' mental health symptoms and (b) caregivers' pandemic-related self-efficacy and coping mediate these relationships. Caregivers completed surveys in April–May 2020 assessing pandemic stress (e.g., health, finances, and housing), child psychosocial problems, coping strategies, and self-efficacy to manage family needs. Our primary outcome was caregivers' self-reported changes in mental health symptoms since the outbreak. Path analysis revealed that higher pandemic stress was associated with caregivers' reduced confidence in meeting their family's needs related to COVID-19, which correlated with worse caregiver mental health symptoms. Greater child psychosocial problems also predicted worse caregiver mental health symptoms. Findings suggest that pandemic stress, child psychosocial problems, and caregiver self-efficacy are interrelated in their influence on caregivers' mental health. While further research is needed to examine strategies to foster resilience and buffer the pandemic's effects on caregiver mental health, this is a first step in evaluating the psychosocial effects of this pandemic in families of young children. Clinical implications are discussed for a tiered response to mitigate the pandemic's impacts on family functioning.

Keywords

COVID-19, Coronavirus, Resilience, Risk, Caregiver well-being, Mental health

Implications

Practice: Clinicians working with parents of young children can target increasing caregiver self-efficacy for meeting family needs during COVID-19 as an important strategy to lower the negative impact of the pandemic on caregiver mental health.

Policy: Policymakers should consider ways to improve support for employment, financial, and family health in order to reduce the negative impact of the pandemic on caregiver stress and mental health symptoms.

Research: Future research should further explore coping strategies that reduce the impacts of pandemic stress, interventions to enhance caregiver self-efficacy for managing pandemic-related challenges, and whether there is a bidirectional relationship between child psychosocial concerns and caregiver functioning.

As public health authorities around the world take action to contain the COVID-19 outbreak, this time of global crisis is generating significant stress in the population. However, little is known about how families are reacting and responding, what resources are needed, and how to plan for intervention. Thus, there is an urgent need for research to determine how mental health consequences for vulnerable groups can be mitigated under pandemic conditions. Historically, disease outbreaks, such as Severe Acute Respiratory Syndrome, the H1N1 influenza pandemic, Ebola, and Zika have burdened public health and mental health systems [1]. While public health authorities combat physical illness, the impacts on mental well-being are often less of a priority. This is of particular concern to those at risk for detrimental psychological effects. For example, in the wake of the Ebola crisis, there were unaddressed psychological consequences that extended well beyond the containment of the virus [2]. Addressing stressors and preventing harm is essential to promote and protect psychosocial well-being and prevent distress and psychological sequelae. Recent surveys in the USA began to elucidate how early phases of the pandemic disrupted daily life for families, including layoffs (28%), income loss (33%), lack of emergency funds for basic necessities (53%), and difficulties managing childcare (35%) [3,4]. COVID-19 infection and death rates continue to increase, particularly within the USA, and negative impacts on families

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will likely intensify without a vaccine or effective treatment [5,6].

Importance of caregiver well-being

Researchers began to study the psychological consequences of COVID-19 among frontline health care workers, finding increased insomnia, depression, and anxiety [7,8]. Additionally, researchers have documented declines in mental health and well-being among adults in Germany [9], New Zealand [10], and the USA [11] from before to during the pandemic. These psychological effects were also seen in adults as a result of prior pandemics, such as Ebola [12], and there is evidence that caregivers experience greater psychological distress following disasters than adults without children [13]. Griffith [14] outlined how the COVID-19 pandemic puts parents at elevated risk for parental burnout due to chronic rates of parental stress along with inadequate resources and support. This elevated parental burnout may contribute to increased occurrence of child maltreatment [15]. This is of particular concern because maltreatment reports dropped sharply when access to mandated reporters (school staff) was reduced following school closures due to COVID-19 [16]. In contrast, a positive relationship with a supportive, consistent caregiver can buffer the impacts of adverse childhood experiences (ACEs) [17].

Potential psychosocial impacts of the pandemic on children

Although children are thought to be experiencing less coronavirus-related illness [18], studies have shown that children typically suffer greater psychological effects than adults from other disasters [13,19,20]. Following previous disasters and crises (e.g., natural disasters and mass violence), youth are at risk of experiencing increases in posttraumatic stress symptoms, clinginess, sleep problems, temper tantrums, aggressive behavior, incontinence, hyperactivity, depressive symptoms, separation anxiety, deviant behavior, and somatic symptoms [13,19]. Of note, family factors, such as parental distress, psychopathology, supportiveness, and irritability, have an impact on child outcomes, either buffering or exacerbating symptoms [13]. For children of all ages, the pandemic and school closures may lead to disruptions in typical routines, sleep, physical activity and time outdoors, increased exposure to screen time, less access to nutritious foods, and disruptions to education [21]. In addition to social isolation, children may experience heightened boredom, frustration, lack of privacy, and anxiety regarding becoming ill or family and friends becoming ill [22].

Families of children under age 5 are directly impacted by closures of childcare and education facilities, stay-at-home orders, and other family decisions that have led to more time at home and less outings and opportunities for socialization. They may not have access to virtual learning programs offered by public schools, and even those families with access to virtual learning may have difficulty engaging their young children in these programs. Furthermore, the quality and dosage of virtual learning programs may vary significantly. The many children who were living in poverty prior to the pandemic are particularly vulnerable to the economic consequences of the pandemic, including furloughs, layoffs, reduced work opportunities, and the resulting hardships related to unemployment, housing, and food insecurity [4]. Families with children who have preexisting behavior challenges and/or developmental disabilities may be at most risk for negative consequences of the global pandemic, stay-at-home orders, closures of childcare and educational facilities, and disruptions in intervention services. COVID-19 has infected racial/ethnic minorities at disproportionate rates [23]; thus, understanding risk and resilience within diverse communities of caregivers is especially important to inform linkage with appropriate interventions and supports.

Resilience models emphasize the need to identify risk and protective factors and study their interrelations using a multilevel approach [24], particularly in the context of crises, such as pandemics [25]. The dynamics of pandemic stress, caregiver mental health, and child behavioral functioning are likely transactional in nature such that child behavior and development impact caregiver functioning and vice versa [26]. Indeed, following other disasters, there is evidence that caregivers experience greater psychological symptoms than adults with no children [13] and, at the same time, greater parental distress and psychopathology is related to more adverse outcomes in children, including both internalizing and externalizing behavior [13,27].

Prime et al. recently published a conceptual model illustrating the complex ways in which pandemic disruptions and stress will infiltrate and impede family functioning through negative effects on caregiver well-being and cascading, bidirectional effects on child adjustment [28]. Their model also aligns with a relevant theoretical model of caregiver resilience by Gavidia-Payne et al., in which child and family characteristics and social connectedness impact family functioning, which, in turn, affect caregiver well-being and self-efficacy, all contributing to resilient, quality caregiving [29]. These are all pertinent factors to consider when evaluating family risk and resilience in response to the current pandemic. However, these hypothesized models have not been empirically tested with community data.

Current study

The primary aim of this study was to use online surveys to evaluate the effects of the COVID-19 pandemic on family functioning and mental health in a racially, ethnically, and linguistically diverse sample of caregivers of young children. Our study

was designed to use path analysis with quantitative data to empirically evaluate the conceptual model of Prime et al. [28]. We operationalized pandemic stress based on prior studies documenting effects of the pandemic on concerns regarding their health, the health of family members, employment, housing, transportation, having enough money for basic necessities, and relationships [3,4,22]. Regarding risk, we hypothesized that higher levels of pandemic-related stress and caregiver-reported child behavior problems would each independently be associated with worse mental health symptoms in caregivers. Regarding resilience, we also predicted that the use of more active adaptive coping strategies (e.g., exercising and seeking social support) would be associated with higher levels of self-efficacy to manage pandemic-related stress, thereby mitigating the impact of pandemic-related stressors on caregiver mental health and well-being.

METHOD

Participants

We recruited families from email lists of approximately 2,000 caregivers participating in six service programs for children ages birth to 5 years from a university medical center in a metropolitan city in the Southeastern USA. This resulted in 260 participants (13%) from urban and suburban neighborhoods who completed the survey online. Using a community-based participatory research approach, 26 caregivers were recruited through a community partnership with a neighborhood center serving Haitian families (e.g., for food distribution). This resulted in a sample of 286 caregivers of young children ages birth to 5 years, an adequate sample size to assess family functioning while providing individualized follow-up support in response to needs expressed in each family survey. See Table 1 for sample demographic information. The racial and ethnic makeup of the sample was representative of the broader county community, with approximately 85% of the sample being ethnic minorities. Twenty-four percent of families completed the survey in Spanish, and 3% completed the survey in Haitian Creole.

Measures

In order to assess the functioning of families with young children during the COVID-19 pandemic, we developed a Risk and Resilience Survey based partially on previously validated measures. The survey included a section with family demographic information (see Table 1).

Caregiver measures

COVID-related stress

We used the Everyday Stressors Index [30] to evaluate caregivers' level of concern regarding their health, the health of family members, employment, housing, transportation, having enough money for basic necessities, and relationships. We adapted the

Table 1 | Participant demographic characteristics

Families (N = 286)	% or M	n or SD
Caregiver age (range 18–54 years)	34.31	6.68
Caregiver gender		
Female	79.4%	227
Unknown/missing	12.9%	37
Male	7.7%	22
Caregiver ethnicity—Hispanic/Latinx	50.0%	143
Race		
White	17.50%	50
Black	15.7%	45
African American	14.30%	4
Asian/Pacific Islander	2.1%	6
Other	1.4%	4
Prefer not to respond	1.4%	4
Indian	1%	3
Native American/Indigenous	0.3%	1
Average number of children (range 1–7children)	1.97	1.08
Child age	6.21	4.93
Survey language		
English	73.7%	191
Spanish	23.6%	61
Creole	2.7%	7

Child age calculated across all children, including multiple children within families.
SD standard deviation.

instructions to state, "The following are questions of common problems that people have related to their experience with the coronavirus/COVID-19 pandemic," and added two novel items assessing concerns related to childcare and schooling from home. Respondents indicated their level of concern along a Likert scale ranging from (1) *not at all bothered*, (2) *a little bothered*, (3) *somewhat bothered*, to (4) *bothered a great deal* or (0) *do not know*. The Everyday Stressors Index has demonstrated good reliability, validity, and internal consistency, including in samples of low-income families with young children [30,31]. Cronbach's alpha in our sample = 0.87.

Caregiver mental health symptoms

We assessed caregiver mental health symptoms using selected items from the Experiences Related to COVID-19 Questionnaire, a scale piloted in the USA based on studies of adult and teenage stress responses following major traumatic events. This measure has been used by other researchers actively collecting and in the process of publishing studies focused on mental health and well-being, and it has been administered in nine countries as part of an National Institute of Child Health and Human Development administrative supplement intended to advance the understanding of the COVID pandemic. Furthermore, the use of a broad self-report measure of mental health symptoms is consistent with the approach taken by other researchers to examine the psychological impact of the COVID pandemic [9,10], as well as other crises [27]. Participants used a four-point Likert ranging from "strongly disagree" to "strongly agree" to indicate changes since the start of the pandemic in anxiety, anger, sadness/depression, eating, sleep, hopefulness about the future, and arguments. Cronbach's alpha in our sample = 0.75. An additional item asked how personally disruptive the pandemic has been to daily routines, work, and family life from 1 (*not at all*) to 10 (*extremely*).

Caregiver coping strategies

We developed a 10-item (*yes* or *no*) scale to assess whether caregivers were engaging in a number of activities in an attempt to cope with pandemic-related stress. Activities included connecting with others virtually, engaging in enjoyable activities, exercise/physical activity, mindfulness/relaxation/prayer, fun activities for children with or without special needs, eating well-balanced meals with family, using resources to talk with children about COVID-19, using resources to manage challenging child behavior, and engaging in protective health behaviors (e.g., handwashing and social distancing). The number of coping strategies was summed to create a total score, with higher scores indicating greater adaptive coping (as opposed to maladaptive coping). Caregivers also indicated whether they were interested in learning about each coping strategy. These coping strategies attempt to identify a caregiver's ability to manage stress in the face of adversity, which may be indicative of resilience [32]. Through the lens of Resilience Theory, the utilization of these coping strategies might also further strengthen the family unit. Some of the coping strategies assessed have also been included in other COVID-19 studies [33]. Cronbach's alpha in our sample = 0.73.

COVID-related caregiver self-efficacy

We evaluated caregivers' sense of self-efficacy to deal with pandemic-related stressors using a four-point Likert scale ranging from "not at all confident" to "very confident." Eight items were based on the World Health Organization COVID-19 Healthy Parenting Guidelines [34], including managing child behaviors, maintaining a schedule, managing their own worries about COVID-19, managing their children's worries about COVID-19, remaining positive, upholding Centers for Disease Control and Prevention (CDC) recommendations for health (e.g., masking and social distancing), and accessing community resources in response to COVID-19. One U.S. Household Food Security Survey item assessed confidence in accessing well-balanced meals. Cronbach's alpha in our sample = 0.85.

Child psychosocial concerns

The Strengths and Difficulties Questionnaire (SDQ) screened for positive and negative psychological attributes in the child (limited to those older than age 2) who the caregiver perceived as having the most difficulty during the COVID-19 pandemic. Caregivers used a three-point Likert ranging from "not true" to "certainly true" to indicate attributes of their child's personality and behavior. The SDQ has been shown to have strong psychometric properties and satisfactory reliability and to be a useful measure of adjustment and psychopathology of preschool and school-aged children [35,36] The Total Difficulty score was used in this study to represent child psychosocial concerns, which includes internalizing, externalizing, and social difficulties. Cronbach's alpha in our sample = 0.86.

Family needs assessment

Caregivers indicated their needs and preferences for one or more tiers of remote/online services, ranging from least to most supportive and intensive. Tiers included: (a) multimodal/media/lingual COVID-19 toolkit; (b) connection to community resources; (c) caregiver workshops/webinars; (d) caregiver support groups; (e) group and/or individual mental health consultation; and (f) referrals for internal and/or community intervention services. Caregivers indicated urgency as, "Right now," "I can wait," or "I do not want services/resources at all."

Procedures

All procedures performed were approved by the university institutional review board in accordance with the ethical standards of the responsible committee on human experimentation (institutional and national) and with the Helsinki Declaration of 1975 as revised in 2000. We emailed a REDCap survey link to all families with available email addresses. The survey was available in English, Spanish, and Creole. Due to concerns regarding email accessibility and literacy, a community partner site administered surveys in person. Informed consent was obtained either online or in person, depending on the administration. The survey was open from April 22 to May 22, 2020, during a stay-at-home order for the community. Responses were not anonymous for the purpose of providing follow-up support; however, participants could skip questions. Participants received electronic (emailed) or physical gift cards (in person).

Survey responses from the REDCap database were compiled twice weekly by the study coordinator and sent to research staff who triaged follow-up support according to the urgency indicated by each caregiver. Resources and referrals provided were tailored according to the seven-tiered system of supports. Follow-up contacts included phone calls, emails, and/or text messages, depending on caregiver preference indicated in the survey.

RESULTS

Path analysis

We conducted path analysis in an effort to use quantitative data to partially test the conceptual model of pandemic-related family risk and resiliency by Prime et al. [28]. Included from their model were measures of (a) social disruption, such as job loss and financial insecurity (*Caregiver COVID-related Stress*), (b) caregiver well-being, such as psychological distress and mental health symptoms (*Caregiver Mental Health Symptoms*), and (c) child adjustment, including emotional and behavioral problems (*Child Psychosocial Concerns*). Our study did not measure family well-being or preexisting family vulnerabilities from their model.

Participant demographic variables were explored using descriptive statistics in the IBM Statistical Package for the Social Sciences version 25, and path analysis was conducted using MPlus [37]. Assumptions of path analysis include interval or ordinal variables, normal distribution of data for each variable, and the absence of multicollinearity between predictor variables. There were eight hypothesized paths with three regression analyses: *Caregiver COVID-related Stress* and *Child Psychosocial Concerns* were hypothesized to predict *COVID-related Caregiver Self-Efficacy*; *Caregiver COVID-related Stress* and *Child Psychosocial Concerns* were also hypothesized to predict *Caregiver Coping Strategies*; *Caregiver COVID-related Stress*, *Child Psychosocial Concerns*, *COVID-related Caregiver Self-Efficacy*, and *Caregiver Coping Strategies* were hypothesized to predict caregiver mental health symptoms. To determine the strength of the path between two variables, we calculated standardized (β) path coefficients and standard errors (*SE*s). Significance was set at $p < .05$. Because the full model was fully saturated, a reduced model that included the independent variables and significant mediator variable was run to obtain fit indices. These indices were interpreted such that root mean square error of approximation (RMSEA) <0.080, comparative fit index (CFI)/Tucker Lewis index (TLI) >0.90/0.95, and standardized root mean square residual (SRMR) <0.08 indicate good fit [38]. An insignificant chi-square indicated a good model fit.

Variables for the path analysis met the theoretical and statistical assumptions described above. See Table 2 for descriptive statistics for each composite variable. As is shown in Fig. 1, eight hypothesized paths were simultaneously examined. Among these hypothesized paths, four were supported by our data. *Caregiver COVID-related Stress* had a statistically significant positive association with *Caregiver Mental Health Symptoms*. *Caregiver COVID-related Stress* also exhibited a statistically significant negative association with *COVID-related Caregiver Self-Efficacy*. Then, *COVID-related Caregiver Self-Efficacy* had a statistically significant negative path on *Caregiver Mental Health Symptoms*. These three significant paths demonstrated that *Caregiver COVID-related Stress* had both direct and indirect effects on *Caregiver Mental Health Symptoms*, and this mediation was significant. In other words, greater

Table 2 | Descriptive statistics of variables of interest

Measure	*n* (*N* = 286)	Range of possible scores	Minimum score in sample	Maximum score in sample	*M*	*SD*
Everyday stressors index	276	0–80	7	72	37.61	11.82
Strengths and difficulties questionnaire	170	0–40	0	32	12.67	7.39
Coping strategies	286	0–10	0	10	6.08	2.40
Self-efficacy	262	0–32	8	32	23.51	4.82
Caregiver mental health symptoms	278	0–32	8	32	18.64	5.15
Personal disruption due to COVID-19	259	1–10	1	10	7.27	2.42

SD standard deviation.

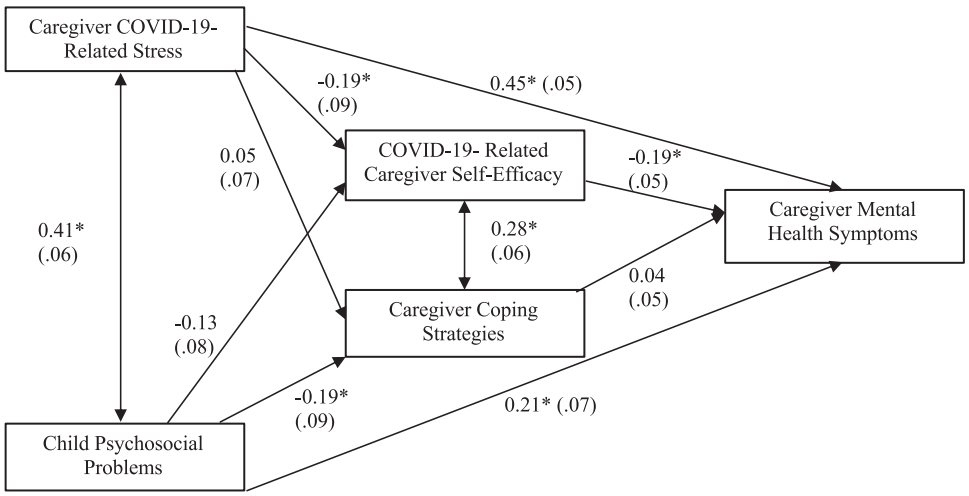

Fig 1 | Full path analysis model. *N* = 286. Cases with missing data included because full-information maximum likelihood estimation used. Results are reported so that the first number outside of parentheses is standardized parameter estimate (β) and the second number in parentheses is the standard error of estimate (*SE*).

Caregiver COVID-related Stress was associated with less *COVID-related Caregiver Self-Efficacy*, which was associated with more deleterious *Caregiver Mental Health Symptoms*. Additionally, *Child Psychosocial Concerns* were significantly correlated with *Caregiver COVID-related Stress*. Further, when controlling for this correlation, *Child Psychosocial Concerns* were significantly associated with *Caregiver Mental Health Symptoms*. *Child Psychosocial Concerns* were not significantly associated with *Caregiver Self-Efficacy*. Additionally, *Child Psychosocial Concerns* were significantly negatively associated with *Caregiver Coping Strategies*, though *Caregiver Coping Strategies* were not significantly associated with *Caregiver Mental Health Symptoms* or *COVID-related Stress*. Thus, overall, *Child Psychosocial Concerns* had only a direct effect on *Caregiver Mental Health Symptoms,* with no mediation present.

Due to the full model being fully saturated, we could not obtain fit indices from this model. We ran a reduced model that only included the independent variables and the significant direct and mediating pathways for sensitivity analysis, which fit the data well (chi-square (2) = 2.93, p = .23; RMSEA = 0.04; CFI/TLI = 1.00/0.98; SRMR = 0.03) and replicated the substantive findings of the full model.

Descriptive survey results

When asked how personally disruptive COVID-19 has been, 25.5% of respondents rated 10/10, extremely disruptive (M = 7.27, standard deviation = 2.41). Of those surveyed, 44% endorsed significant concerns (*Caregiver COVID-related Stress*) regarding not having enough money for necessities, including food, housing, health care, and clothing. Only 66% were confident that they could access well-balanced meals. About 36% endorsed significant concerns regarding employment, while 22% reported significant concerns regarding housing instability. When asked about significant changes in mental health functioning (*Caregiver Mental Health Symptoms*) since the outbreak of the pandemic, 72% reported increased anxiety, 46% reported increased sadness/depression, 39% reported sleep disruptions, and 34% reported increased anger.

When asked about managing family needs, 38% of caregivers reported problems with child behavior, and 42% had significant concerns regarding their child's/children's schooling from home. Fifty-six percent reported concerns about having too many responsibilities. Twenty-nine percent were concerned about their child's/children's health, and 31% were concerned about another family member's health due to the pandemic.

A variety of *Caregiver Coping Strategies* to cope with the pandemic and pandemic stress were reported, including meditation/mindfulness/relaxation/prayer (39%), eating well-balanced meals with household members (68%), connecting with others virtually (e.g., FaceTime; 85%), physical activity or exercise (59%), protective health behaviors (handwashing and social distancing; 91%), enjoyable activities for caregiver (71%), fun activities for children (82%), fun activities for children with special needs (30%), using resources to talk to children about COVID-19 (43%), and using resources to manage children's challenging behaviors (41%).

When asked about *COVID-Related Caregiver Self-Efficacy*, approximately half of the respondents felt confident about accessing resources in the community in response to COVID-19. Most caregivers (92.6%) reported confidence in upholding CDC safety recommendations, including handwashing, social distancing, and creating a routine/schedule. Twenty-nine percent of caregivers were not confident that they could remain positive during the

pandemic. While a majority of caregivers (72%) were confident in managing their own worries, fewer (63%) were confident in managing their children's fear/anxiety related to COVID-19. Finally, about 70% of caregivers were confident in responding to their families' needs due to COVID-19.

Despite many caregivers reportedly using a variety of coping strategies and some feeling self-efficacy in some areas, most caregivers also reported a need for additional services and support. Thirty percent of caregivers indicated an urgent need for services, while 52% expressed a need for services in the near future and 18% did not request additional services.

DISCUSSION

The primary aim of this study was to evaluate the effects of the COVID-19 pandemic on family functioning and mental health in caregivers of young children. Regarding risk, we hypothesized that higher levels of COVID-related stress and caregiver-reported child psychosocial concerns would each independently be associated with worse mental health symptoms in caregivers. Regarding resilience, we also predicted that the use of more coping strategies would be associated with higher levels of self-efficacy to manage COVID-related stress, thereby mitigating the impact of COVID-related stress on caregiver mental health and well-being. We extend the literature and conceptual frameworks put forth by Prime et al. [28] by demonstrating support for their theoretical model with the current quantitative analyses.

Findings from initial months of the stay-at-home order in a diverse U.S. metropolitan area revealed significant levels of pandemic stress in caregivers of young children. Higher pandemic stress was significantly associated with worsening caregiver mental health symptoms. Specifically, when caregivers were more concerned regarding transportation, housing, employment, finances, and the health of themselves and family, it contributed to significantly increased levels of anxiety, depression, anger, sleep disturbance, and social conflict. While these responses are unsurprising given levels of disruption and pandemic stress, the prevalence of worsened mental health symptoms in our sample was concerning. Similarly, over half of adults in a large German sample were suffering from psychological distress due to the pandemic [39].

Our second hypothesis was also partially supported as we found that caregiving COVID-related self-efficacy mediates the relationship between pandemic stress and caregiver mental health symptoms. Specifically, caregivers who were more concerned about transportation, employment, housing, finances, etc. had lower self-efficacy to meet their family's needs, which was associated with higher levels of mental health symptoms. Conversely, caregivers who reported fewer stressors related to COVID-19 had higher self-efficacy to meet their family's needs and were experiencing fewer mental health symptoms.

We also found support for our hypothesis that child psychosocial concerns would predict caregiver mental health symptoms; when caregivers reported that their child demonstrated greater problems in the areas of internalizing behavior, externalizing behavior, and peer difficulties, this contributed to significantly increased caregiver experience of mental health symptoms. Child psychosocial concerns were also correlated with caregiver stress related to COVID-19. These may be important considerations for linking families with necessary services. In contrast to our hypothesis, caregiver coping was not a significant mediator of the relationships between either COVID-19-related stress or child psychosocial problems and caregiver mental health symptoms. Our coping measure may not have adequately measured caregiver engagement in effective coping, and the yes/no format may have restricted true variance.

STRENGTHS AND LIMITATIONS

This study had several strengths. We captured timely data from families within the first 5–8 weeks of the pandemic's initial surge in the USA. The study included a racially, ethnically, and linguistically diverse sample in a metropolitan area. Due to the diverse makeup of the sample, the results are more likely reflective of the impacts of pandemic stress on families from various backgrounds with a range of potential predispositions that influence how detrimental the pandemic has been (i.e., risk) and their ability and means to cope (i.e., resilience). Additionally, our outcome measure of change in caregiver mental health symptoms since the pandemic is currently being used by other research groups investigating the impact of COVID-19; thus, the results of our study will be able to be compared to results across other settings and populations, enabling a richer understanding of the impacts of the pandemic.

There are several limitations worth considering for the interpretation of the current findings. First, this study was cross-sectional in design and represents a snapshot of family functioning in the earlier phases of the pandemic and lockdown in the USA and without baseline data. However, it is of note that our outcome variable measured change in mental health symptoms since the onset of COVID-19; thus, our model captures self-reported impact of the pandemic on mental health despite being cross-sectional data. A shortcoming of our model is that we were not able to incorporate data on predisposing factors, such as parent psychopathology pre-COVID or family dynamics, which may mediate the relationships between variables

in our model. We were limited in our ability to incorporate standardized and previously validated assessment questionnaires (e.g., coping measure) in this survey due to the rapid onset of the COVID-19 pandemic and resulting stay-at-home orders, the need to rapidly disseminate this multilingual baseline survey, and the aim to include questions specific to the circumstances of the pandemic. We used a yes/no checklist to assess coping strategies potentially pertinent to the COVID-19 pandemic based on informal focus groups with research staff and community members.

FUTURE DIRECTIONS

We are conducting longitudinal surveys with this sample to assess family functioning as the global pandemic and its effects on families in the community evolve. This work will differentiate caregiver mental health symptoms that were short-term reactions that resolved versus longer lasting, worsening symptoms for some. In addition to repeated measures, we are collecting additional demographic data to assess racial, ethnic, and socioeconomic disparities in family risk and resilience factors in response to the pandemic. We will evaluate successful linkage to services, particularly for families with a child with more psychosocial problems, whom our data indicated are more vulnerable to pandemic stress.

Building and maintaining close relationships, inside or outside the family, may be a key factor that may foster family resilience in response to COVID-19 [28]. Over 85% of the caregivers in our sample reported connecting with others virtually, although it was unclear how frequently and with whom. A large cross-sectional survey of Spanish adults found that a healthy balanced diet and less time reading COVID-19 news were associated with lower anxiety and depression levels. Lower levels of depressive symptoms were also associated with spending time outdoors or looking outside, spending time on hobbies, and following a routine. Future studies should use a standardized measure [40] to explore the types, quality, and frequency of coping strategies that could potentially mitigate the pandemic stressors families may experience.

Future studies should also consider standardized measures of resilience, such as the Connor–Davidson Resilience Scale [41], which measures the ability to adapt to changes and cope with stress. Further research is also warranted to explore practical strategies for enhancing caregiver self-efficacy in response to the pandemic as our results suggest that strengthening self-efficacy may reduce mental health symptoms in caregivers in the midst of a pandemic. Lastly, it will be important to go beyond cross-sectional studies to prospective longitudinal designs that will afford temporal precedence in analyses of risk factors that predict psychological symptoms/disorders, as well as resilience factors that predict psychosocial well-being. This can include evaluating adaptive and maladaptive pathways at levels of transaction between caregivers and children [24]. Future studies should also consider assessing additional risk factors for caregiver and child mental health, including ACEs, such as interpersonal violence.

CLINICAL IMPLICATIONS

We must differentiate (a) distress and natural stress reactions that should be depathologized and effectively managed through public health awareness campaigns and secondary prevention strategies versus (b) more severe symptoms of traumatic stress, anxiety, depression, and adjustment disorders that warrant more intensive intervention efforts and resources. Globally, the dearth of sufficiently coordinated mental health support systems during the pandemic puts communities in danger of progression to the latter [42]. Our data revealed clinical implications for addressing the high levels of distress and needs for resources and services in the families surveyed. We developed a triage system to provide individualized follow-up along a tiered system of supports according to the needs expressed by each caregiver. This consisted of follow-up contacts with individualized support via phone and/or e-mail according to caregiver preference, warm handoffs to internal services, and/or external referrals with follow-up to ensure successful linkage.

Many families will experience negative effects from this global pandemic. Some will experience common stress reactions that resolve spontaneously. Others who suffer more severe, clinically significant symptoms as a result of the pandemic (whether acute or more long lasting) may benefit from targeted interventions. In our sample, greater pandemic stress was associated with higher caregiver-reported child psychosocial concerns, highlighting the transactional dynamics of psychosocial well-being. Thus, interventions at the level of the caregiver, the child, and/or the family should be considered as a way to interrupt potential negative developmental cascades [43].

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Compliance with Ethical Standards

Conflicts of Interest: The authors declare that they have no conflicts of interest.

Author Contributions: B.D. designed the study and drafted the manuscript; E.S. analyzed data and drafted the results; C.M. collected and organized data; F.M. collected data and formatted the manuscript; W.R. analyzed data and edited the results; J.H., M.B., J.J., and A.D. contributed to study design and edited the manuscript; R.N. contributed to study design and contributed to drafts of the introduction and discussion.

Ethical Approval: All procedures performed were approved by the Institutional Review Board at the University of Miami.

Informed Consent: Informed consent was obtained from all participants in the study.

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