Check for updates

Family Relatio rdisciplinary Journal of Applied Family Scier

#### RESEARCH

# Role of pandemic-related experiences and maternal psychological distress in maternal rejection

Ayşe Büşra İplikçi<sup>1</sup> || Yağmur İlgün<sup>2</sup> || Aybegüm Memisoglu-Sanli<sup>3</sup> || Ezgi Aydoğdu Sözen<sup>2</sup> || Basak Sahin-Acar<sup>2</sup> || Aysun Doğan<sup>4</sup> || Deniz Tahiroglu<sup>5</sup> || Sibel Kazak Berument<sup>2</sup> ||

<sup>1</sup>Department of Psychology, Akdeniz University, Antalya, Türkiye

<sup>2</sup>Department of Psychology, Middle East Technical University, Ankara, Türkiye

<sup>3</sup>Department of Psychology, Ankara Medipol University, Ankara, Türkiye

<sup>4</sup>Department of Psychology, Ege University, Izmir, Türkiye

<sup>5</sup>Department of Psychology, Boğazici University, Istanbul, Türkiye

#### Correspondence

Ayse Busra Iplikci, Akdeniz Universitesi Edebiyat Fakultesi Psikoloji Bolumu [Department of Psychology, Faculty of Letters, Akdeniz University], Antalya, Türkiye. Email: busraiplikci@akdeniz.edu.tr

#### **Funding information**

Türkiye Bilimsel ve Teknolojik Araştırma Kurumu, Grant/Award Numbers: 113K035, 120K385

### Abstract

**Objective:** The current study focuses on the indirect link between mothers' COVID-19 pandemic-related experiences of home chaos, pandemic-related anxiety, social support, and perceived maternal rejection through maternal psychological distress (MPD).

ncfi

**Background:** The COVID-19 pandemic had striking effects on families, and parents with school-aged children were especially considered more at risk. Yet, the growing research documented negative and positive outcomes for the parent–child relationship.

**Method:** In this two-wave study, data were collected before (January–February 2020) and during the pandemic (November–December 2020) from 318 Turkish mothers ( $M_{age} = 37.13$ , SD = 5.67) with predominantly low educational attainment and children in Grades 1 to 11 ( $M_{age} = 11.57$ , SD = 3.05). MPD and perceived maternal rejection were measured before and during the pandemic. Maternal pandemic-related anxiety, mothers' perceived social support, and chaos in the home environment were measured only during the pandemic. Structural equation modeling was used for analysis.

**Results:** After pre-pandemic MPD and perceived maternal rejection were controlled, MPD was positively associated with rejection during the pandemic. Pandemic-related

Author note: We thank the school administration staff and participating families for making this study possible. We also thank our large research team and undergraduate students who collected data from different cities in Türkiye. Lastly, we thank to Özlü Aran for her valuable feedback on the manuscript. The data that support the findings of this study are available from the corresponding author upon request due to the ongoing process of the project.

This is an open access article under the terms of the Creative Commons Attribution-NonCommercial License, which permits use, distribution and reproduction in any medium, provided the original work is properly cited and is not used for commercial purposes. © 2023 The Authors. *Family Relations* published by Wiley Periodicals LLC on behalf of National Council on Family Relations.

anxiety and home chaos, but not social support, predicted maternal rejection through MPD.

ncfr

**Conclusion:** Mothers' COVID-19–related experiences were related to increased MPD, which also predicted increased maternal rejection as perceived by children.

**Implications:** The results should be considered in developing programs for mothers facing stressful circumstances. In particular, we recommend programs that promote equal role division in the family, which could support maternal well-being, alleviate MPD, and improve the mother–child relationship.

#### **KEYWORDS**

chaos, COVID-19 pandemic, maternal psychological distress, perceived rejection, perceived social support

Maternal mental health plays a crucial role in the well-being of both mothers and their interactions with children (Cavalcante et al., 2020). As one facet of mental health, maternal psychological distress (MPD) refers to the presence of emotional and psychological symptoms, including a range of negative emotions such as anxiety, depression, stress, and worry, which serve as indicators of impaired mental health (Russell et al., 2020). MPD affects parenting by disrupting mothers' ability to provide care and support to their children. This increase in emotional unavailability and inconsistency in parenting behaviors can be perceived by their children as rejecting parenting (Rohner et al., 2005). Children perceiving maternal rejection are more likely to suffer from lower self-esteem, increased aggression, or lower academic achievement (Khaleque & Rohner, 2012; Rohner et al., 2005). On the other hand, receiving higher levels of parental warmth and acceptance is a protective factor related to positive developmental outcomes, such as enhanced social competence and increased ego resilience (Kim et al., 2007). Existing literature highlights the critical association between MPD and maternal rejection, but there is a need to examine the antecedents of this crucial link (Son et al., 2020).

Two theories provide a theoretical lens for the antecedents of parent-child relationships. First, the process of parenting model emphasizes the link between parents' psychological wellbeing and parenting behaviors (Belsky, 1984; Belsky & Jaffee, 2006). Belsky conceptualized three domains of determinants of parenting behavior: parent characteristics (i.e., psychological resources), social-contextual factors (i.e., social support), and child characteristics. The theory states that the indirect effect of sources of support and stress on parenting behavior will be through the psychological resources of the parent (Belsky & Jaffee, 2006; Farmer & Lee, 2011).

Second, contributing to Belsky's model, the transactional stress and coping theory (Lazarus & Folkman, 1984; Obbarius et al., 2021) emphasizes that individuals' response to a stressful situation depends on their perception of stressors and the available resources. This theory views coping as a dynamic process in response to negative emotions, and coping mechanisms encompass a variety of strategies influenced by the interplay between an individual's own perception and the context surrounding them. In this regard, mothers' cognitive appraisal, involving the evaluation of stressors and available resources, plays a vital role in their mental health. Two styles of coping strategies are explained. Problem-focused coping is about efforts to address specific challenges arising from a crisis, and emotion-focused coping entails the management of emotional responses to crisis-related issues (Algorani & Gupta, 2023). For example, during the pandemic, people used problem-focused approaches like finding new activities to replace those affected by isolation and adjusting daily routines for well-being. Families dealt with COVID-19 by adopting strategies such as wearing masks, washing hands more, and practicing social distancing. However, when facing situations beyond their control, like others'

health choices, families turned to emotion-focused strategies such as positive reinterpretation and emotional regulation (Baker & Berenbaum, 2007). Building upon these frameworks, the present study investigates differences in MPD through an unprecedented COVID-19 pandemic and its association with perceived maternal rejection by children. To better understand the precursors of MPD (and test its mediating role), we also investigate COVID-19 anxiety, household chaos, and perceived social support as individual and contextual factors that play a role in MPD during the COVID-19 pandemic.

## COVID-19 impact on families

The COVID-19 pandemic has had profound effects on families and the psychological well-being of parents worldwide for more than 3 years (Banko-Ferran et al., 2022; Cameron et al., 2020; Feinberg et al., 2022). The burden on parents has significantly increased as they tried to balance work, child care, and household chores (Marzilli et al., 2021; Neubauer et al., 2021). Families with school-aged children have faced challenges in their daily routines and relationships, especially as they adapted to the new normal of homeschooling and limited in-person communication with peers and teachers (Benneker et al., 2023; Prime et al., 2020). On March 11, 2020, Türkiye reported its initial case of COVID-19, marking the onset of a significant surge in cases across the country (Seker et al., 2020; Turkish Ministry of Health, 2020). After the first case, widespread lockdowns, stay-at-home directives, and quarantine measures led to swift transformations in living conditions for families and communities. The resultant impact of these changes, compounded by the pandemic-induced restrictions, had notable consequences on the physical and mental wellbeing of individuals (Bekaroğlu & Yılmaz, 2020). Existing gender roles in Turkish cultural norms already convey that women bear a greater burden of domestic responsibilities, encompassing child care, daily household tasks, and providing emotional support to the family (Sakallı-Uğurlu et al., 2018). The imposition of stay-at-home orders during the pandemic further intensified these responsibilities, especially for mothers. Along with added responsibilities, disrupted home routines, and pandemic-related uncertainties, mothers' daily stress levels likely escalated, potentially leading to increased MPD and negative parent-child relationships during the pandemic (Adams et al., 2021; Kerr et al., 2022; Marchetti et al., 2020; Spinelli et al., 2020). For example, a recent study examining the antecedents of parenting-style changes during the pandemic with 1,787 Turkish mothers of preschool children confirmed that mothers with more depressive symptoms reported less warmth and more punitive parenting (Corapci et al., 2023). This growing evidence links individual and contextual stressors to parenting practices (Chung et al., 2022; Xu & Zheng, 2023), highlighting the new range of stressors families have experienced and threats posed to maternal and child well-being due to the pandemic (Chung et al., 2022).

There have been controversial findings regarding the adjustment of parents during the pandemic. Some families indicated positive transformations and even thriving, attributing these changes to factors like a heightened amount of time spent together as a family (Evans et al., 2020). Previous studies on coping strategies can offer insights into why families striving to restore equilibrium may exhibit diverse well-being and functioning outcomes (Gedaly et al., 2023). A recent study examining adjustment disorder symptoms among 244 parents and nonparents showed a negative association between emotional stability and adjustment symptoms in nonparents. In contrast, for parents' adjustment disorder, symptoms did not differ with emotional stability levels (Kestler-Peleg et al., 2022). One possible explanation is that parents might have an overarching self-perception as caregivers, which brings out more resilient attitudes (Kestler-Peleg et al., 2022). In addition, the change in the level of psychological distress varies across individuals. A large-scale cohort study conducted with almost 12,000 mothers from the United States revealed maternal profiles of high and low change in psychological distress levels during the pandemic (Bastain et al., 2022). Although some mothers adapted easily to the new living conditions and enjoyed spending more time with their children, other mothers

77

experienced elevated levels of psychological distress (Calarco et al., 2020). These recent findings highlight that not everyone experienced an increase in stress during the pandemic, underscoring the importance of examining individual perceptions of the pandemic and differences in MPD for family health researchers to understand the factors influencing these variations.

ncfr

## COVID-19 anxiety

In accordance with the transactional stress and coping theory framework, maternal perception of the situation emerges as one critical predictive factor for changes in MPD. The unprecedented nature of the pandemic triggered a wide range of emotional responses in individuals, including heightened fears and anxiety about the impact of the illness and a constant sense of alertness. Previous research has shown that in stressful circumstances, parents can exhibit a more hostile style toward their children (Freisthler et al., 2022). For example, after an impactful earthquake in Türkiye, parents showed more hostile parenting and less tolerance toward their children (Yumbul et al., 2018). Growing research on the pandemic has also documented that parents' fear of COVID-19 is associated with decreased psychological well-being (Chen et al., 2022). Similarly, parents' perception of the threat was associated with more coercive and hostile parenting (Hanetz-Gamliel et al., 2021). Therefore, assessing mothers' anxiety about COVID-19 as an indicator of their perception of the current illness situation could be a critical factor in predicting MPD and, indirectly, parental rejection.

## Household chaos

Alongside individual experiences, contextual factors play a significant role in how mothers cope with the challenges posed by the pandemic. In the pandemic context, adjusting daily routines and schedules to sustain healthy functioning could be considered a problem-focused coping strategy (Gedaly et al., 2023). With changing daily routines and increased time spent at home, the impact of these changes on family members becomes more pronounced. Household chaos is characterized by elevated levels of confusion and disorganization within the home environment (Emond, 2020). The overstimulation and unpredictability in chaotic households can impede effective communication and interaction between family members, ultimately affecting the quality of parent-child relationships (Mills-Koonce et al., 2016). Also, household chaos is closely associated with symptoms of MPD, such as depression, anxiety, and stress (Yalcintas et al., 2021). Chaotic home environments, such as the absence of family activities and daily routines like family dinners, have been linked to adverse parenting behaviors and poorer child outcomes (Glynn et al., 2021). Relatedly, research on the COVID-19 pandemic has consistently demonstrated that higher levels of household chaos are linked to less responsive, less stimulating, and more intrusive parenting practices (Andrews et al., 2021; Marsh et al., 2020; Nelson et al., 2023). Similarly, in Türkiye, parents frequently encountered issues related to disorganization and disruptions in family responsibilities during the pandemic (Barış & Taylan, 2020). On the positive side, continuing family activities during the pandemic such as having dinner is associated with positive parenting practices (Gedaly et al., 2023). As time spent at home dramatically increased during the pandemic, focusing on the role of household chaos plays an important role for maternal mental health and parent-child relationships.

## Perceived social support

Another factor that aids mothers in coping with psychological distress is the level of support they receive from their immediate environment. Perceived social support refers to an

individual's perception of the assistance they receive from people in their immediate or extended social circle, including family members, spouses or romantic partners, and friends, to help them navigate the challenges of daily life (Lippold et al., 2018; Thompson et al., 2006). The presence of strong social support can serve as a protective factor for maternal mental health, primarily by reducing feelings of isolation and aiding mothers in managing the challenges of motherhood more effectively, and it is especially critical in challenging times (Bavel et al., 2020; Henrichs & Witteveen, 2023).

During the pandemic, people began to seek more support from others, and parents' perceptions of social support were found to be negatively correlated with their state of anxiety (Kaya et al., 2021; Liu et al., 2021; Ren et al., 2020). For instance, a study involving nearly 3,000 Chinese participants discovered that when the perceived uncontrollability of the situation was higher, social support as perceived from sources other than family or close friends (e.g., colleagues or classmates) was associated with increased levels of depressive symptoms during the pandemic (Liu et al., 2021), whereas having the support of family and friends was associated with fewer depressive symptoms. Although the lockdowns and stay-at-home orders implemented during the pandemic may have restricted mothers' access to in-person social support, opportunities for maintaining social relationships and receiving support from others may have still existed through means such as telephone or video calls (Weaver & Swank, 2021). Additionally, despite the heightened distress and uncertainty during the pandemic, these challenging times might have also led to an increased sense of social connectedness in the family due to time spent together (Bavel et al., 2020; Evans et al., 2020; Xiao, 2024).

## Demographic characteristics

In addition to the factors mentioned above, there are potential confounding variables such as maternal educational attainment, child age, and gender, as these variables could affect the change in MPD and perceived maternal rejection. Maternal educational attainment is a significant predictor of various family resources that strongly influence children's well-being and maternal mental health (Jackson et al., 2017). Research suggests that mothers with higher levels of education tend to experience lower parenting anxiety and a greater sense of fulfillment, finding more joy and purpose in their roles, and mothers with low educational attainment are more at risk of experiencing MPD (Alonzi et al., 2021; Fakhrunnisak & Patria, 2022). This was also the case during the pandemic (Wei et al., 2021). Additionally, there might be differences in the challenges associated with children's developmental stages (Nomaguchi & Milkie, 2020). Research has suggested that providing care to school-age children is linked to higher levels of depression when compared to caring for younger children (Myrskylä & Margolis, 2014; Nomaguchi, 2012). According to Luthar and Ciciolla (2016), mothers' satisfaction with parenting reaches its lowest point when their children are in middle school, a period marked by relatively high levels of children's rejection, negativity, and maladjustment. Similarly, in the context of the pandemic, the impact was stronger for mothers of children in middle school (Eales et al., 2021). Considering the changing nature of parenting challenges across developmental stages, it is crucial to account for the role of children's age in the pandemic in the current research.

Regarding perceived maternal rejection, research has shown differences across age groups (Gómez-Ortiz et al., 2019). The role of perceived rejection tends to be more pronounced in childhood but diminishes in early adolescence and subsequent years, likely due to the declining central role of parents in adolescents' lives (Gómez-Ortiz et al., 2019). Lastly, although child gender does not have a direct link with MPD or maternal rejection (Ali et al., 2015), a large-scale retrospective meta-analysis on perceived rejection showed that higher maternal acceptance was associated with better psychological adjustment in adulthood for males. Although there are no specific findings regarding child age and gender during the COVID-19 pandemic, considering the previous literature, it is essential to consider these factors.

#### 79

## The current study

Recognizing the potential long-term consequences of the pandemic on families and parents (Fong & Iarocci, 2020; Sonuga-Barke & Fearon, 2021), it is crucial to gain a deeper understanding of how factors within the family environment influence MPD and perceived parental rejection. First, research, not limited to the pandemic context, consistently showed that MPD has a negative association with parenting. Yet, these studies primarily rely on parents' own reports. Thus, it is unclear how MPD is associated with children's perceptions of parents. Second, especially in the pandemic context, growing research emphasized the increase in MPD, yet there are still unanswered questions for determining who is at more risk. We capitalized on a larger project that had started before the pandemic, allowing us to explore the interplay between mothers' pandemic-related experiences and children's perceived rejection. Importantly, we controlled for pre-pandemic levels of MPD and perceived maternal rejection.

The primary objective of the current study is to examine the link between MPD and perceived parental rejection by children. Another aim was to investigate the relationships between various individual and contextual factors, including maternal COVID-19 anxiety, household chaos, and social support, and how these factors relate to MPD and, indirectly, perceived maternal rejection through MPD during the pandemic. Furthermore, in our model (see Figure 1), we covaried for child age, gender, and maternal education levels, as well as perceived maternal rejection and MPD reported prior to the pandemic.

Drawing from the relevant literature, we formulated the following hypotheses:

- 1. MPD during the COVID-19 pandemic would be positively related to perceived maternal rejection of their children during the pandemic.
- 2. Maternal pandemic-related anxiety and household chaos would exhibit positive associations with MPD during the pandemic. However, perceived social support by mothers would be negatively linked to MPD during the pandemic.
- 3. The relationships between maternal COVID-19 anxiety, household chaos, perceived social support from mothers, and perceived maternal rejection would be indirectly associated with perceived maternal rejection by children mediated by MPD.

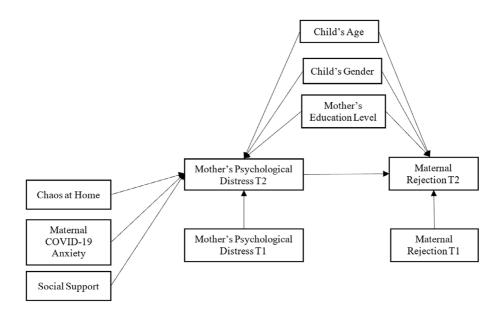


FIGURE 1 Hypothesized model

## **METHOD**

ncfi

## **Participants**

This study is part of a nationwide project investigating antecedents of parenting, child, and adolescent outcomes in a representative sample of 5,500 mother-child dyads in Türkiye. However, due to the school closures in Türkiye, representative data collection was interrupted, and we only reached only 16% of the planned data. The pre-pandemic sample (Time 1) was selected by the Turkish Statistical Institute (TURKSTAT) using the probability proportional to size sampling method to represent the 12 Nomenclature of Territorial Units for Statistics (NUTS) in Türkiye. According to the sampling methodology, TURKSTAT selected 15 schools from each NUTS (five each for primary school, middle school, and high school), and the research team subsequently chose one classroom at random from each grade, ranging from first grade to 11th grade. The Time 1 data were collected during the pre-pandemic period (January-February 2020), shortly before March 11, 2020, when the first case of COVID-19 was identified in Türkiye (Seker et al., 2020; Turkish Ministry of Health, 2020). At Time 1, participants were 888 mothers and 834 children in Grades 1 to 11, comprising the period from the beginning of primary school to the junior year in high school (see supplemental materials for detailed sample information). The Time 2 data were collected during the pandemic (November–December 2020), which marked one of the most intense periods for various measures such as lockdowns, stay-at-home orders, and the implementation of quarantine protocols in Türkiye. For Time 2, the participants of Time 1 were contacted again 8 months after the first data collection while the pandemic was going on. Because a school year passed after Time 1, data were collected from third and fourth grades for primary school, sixth to eighth grades for secondary school, and 10th to 12th grades for high school. Fifth- and ninth-grade students were excluded from the study due to the school transition of participants (from primary to elementary school and from elementary school to high school). Second-grade participants were also not included in the study because, in Time 1, a different data collection method was used (an animation character was asking the questions). After these exclusions, 471 mothers were contacted again, and 318 mother-child dyads participated in Time 2. Ranging from 25 to 55, the average age of the mothers was 37.13 (SD = 5.67). Children ranged between 7 to 18 years of age, with an average of 11.57 (SD = 3.05). A significant portion of the mothers had limited educational attainment. One hundred sixteen (36.6%) mothers either had no formal education or were primary school graduates, 71 (22.3%) mothers were elementary school graduates, 98 (30.8%) mothers were high school graduates, and 27 (8.5%) mothers were university graduates. Most mothers (n = 250, 78.6%) were homemakers. A total of 122 (38.4%) primary, 118 (37.1%) elementary, and 78 (24.5%) high school students participated in the study (see Table 1 for sample demographics).

Due to the considerable attrition in sample size, we compared mean differences in the demographic characteristics of participants who endured and who dropped out. The results of independent samples *t*-test analyses showed no significant differences concerning maternal age, *t* (779) = -.50, p = .62; education level, t(786) = -1.36, p = .18; and child age, t(715) = 1.24, p = .22. In addition, there were no significant differences in MPD, t(770) = 1.33, p = .19, and perceived maternal rejection, t(753) = 1.32, p = .19. Furthermore, Levene's test for equality of variances showed no differences except for children's ages (see Supplemental Table S1 for additional analyses).

## Procedure

Before the data collection, necessary permissions were taken from the Institutional Review Board at Middle East Technical University (protocol no: 2017-SOS-213 and 157-ODTU-2020) and the Research Department in the Ministry of Education in Türkiye. A month before the

	Time 1		Time 2		
	n	%	n	%	
Education level					
Illiterate	12	1.5	2	0.6	
Literate with no formal education	11	1.4	2	0.6	
Primary school	288	36.5	112	35.2	
Elementary school	164	20.8	71	22.3	
High school	232 29.4		98	30.8	
Bachelor's	74	74 9.4		8.5	
Master's	6	0.8	5	1.6	
PhD	1	0.1	0	0	
Occupational status					
Not occupied/homemaker	597	75.8	250	78.6	
Working in paid jobs	115	14.6	39	12.3	
Working in unpaid family jobs	44	5.6	18	5.7	
Running their own business	32	4.1	11	3.5	
Marital status					
Married	735	93.3	303	95.5	
Divorced	24	3.1	7	2.2	
Widowed	13	1.6	6	1.9	
Child gender					
Female	497	56.7	180	56.6	
Male	380	43.3	138	43.4	
Child school type					
Primary school	344	39.4	122	38.4	
Elementary school	316	36.2	118	37.1	
High school	212	24.3	78	24.5	

COVID-19 precautions were implemented in Türkiye (January–February 2020), Time 1 data were collected from volunteering participants in person at schools via tablets. After maternal data collection was completed, data from the children were collected during school time via tablets in the following days. Due to restrictions and schools continuing remote education schedules from November 2020 to January 2021, Time 2 data were collected via an online survey platform (www.qualtrics.com). In cases where families had no internet access, telephone interviews were conducted (n = 18). In total, 318 mothers and children participated in Time 2, and all analyses were conducted with this sample. Mothers completed the COVID-19 Anxiety Scale; the short form of the Depression, Anxiety, and Stress Scale; the Multidimensional Scale of Social Support; and the Chaos in the Family Environment Scale. Children were asked to fill out the Parental Acceptance Rejection Scale. Participants responded to the questionnaires in random order.

## Instruments

The short form of the Depression Anxiety Stress Scale (DASS), including 21 items with a 4-point Likert scale (0 = never to 3 = always), was given to the mothers to assess MPD at both

time points (Lovibond & Lovibond, 1995; Sarıçam, 2018; Yılmaz et al., 2017). This scale includes three dimensions: depression, anxiety, and stress (e.g., "I felt so unhappy and sad"). The internal consistency of the scales is high both in the original scale development study (Cronbach's  $\alpha s = .84-.91$ ; Lovibond & Lovibond, 1995) and in the adaptation study (Cronbach's  $\alpha s = .75-.81$ ; Yılmaz et al., 2017). Similarly, the scale's reliability is high for both time points: Time 1 Cronbach's  $\alpha = .94$  and Time 2 Cronbach's  $\alpha = .96$ . A composite score of the scale is calculated for each time point. Higher scores indicate higher psychological stress in mothers.

The Parental Acceptance-Rejection Questionnaire–Child Form was given to the children and adolescents to examine perceived maternal rejection at two time points as children's report of parenting (Anjel & Erkman, 1993; Rohner, 1991). The scale consists of 24 items rated on a 4-point Likert scale (0 = never, 3 = always) with four subscales: warmth/affection, aggression/ hostility, neglect/indifference, and undifferentiated rejection (e.g., "My mother does not pay any attention to me"). The internal consistency of the scales was high both in the original scale development study (Cronbach's  $\alpha s = .72-.90$ ; Rohner, 1991) and in the adaptation study (Cronbach's  $\alpha s = .82-.96$ ; Anjel & Erkman, 1993). Similarly, the overall reliability of the scale in the current study is high for both time points: Cronbach's  $\alpha = .90$  at Time 1 and Cronbach's  $\alpha = .93$  at Time 2. A total perceived rejection score is created by reversing the items related to warmth and then taking the mean of all items. Higher scores refer to higher perceived maternal rejection by children.

In order to measure mothers' COVID-19 anxiety at Time 2, a questionnaire with eight 4-point Likert (1 = never, 4 = always) questions were developed for this study based on the measures in previous pandemics such as swine flu (Wheaton et al., 2012). In their original Swine Flu Inventory, there were questions about individual concerns and the general spread of the pandemic, and the scale had high internal consistency (Cronbach's  $\alpha = .85$ ). We adopted questions specifically related to individual concerns and changed the wording. For example, we changed the question "How likely is it that you could become infected with Swine Flu?" to "How often have you worried about getting infected by the Coronavirus?" The results of the exploratory factor analyses indicate that the questionnaire includes only one factor (item selection for scale development and factor analysis results are provided in the supplementary materials). The reliability of the scale is high (Cronbach's  $\alpha = .89$ ). The mean score of all items is used for mothers' COVID-19 anxiety in the analyses. Higher scores on this questionnaire are interpreted as higher maternal COVID-19 anxiety.

The Confusion, Hubbub, and Order Scale (CHAOS) measures chaos in the family environment at Time 2 (Demir, 2019; Matheny et al., 1995). This 6-point Likert-type scale (1 = not true at all, 6 = totally true) includes 15 items (e.g., "There is often a fuss going on at our home."). The internal consistency of the scales is high both in the original scale development study (Cronbach's  $\alpha$  = .79; Matheny et al., 1995) and in the adaptation study (Cronbach's  $\alpha$  = .93; Demir, 2019). The reliability of the scale is .84. The composite score of chaos is calculated by taking the sum of all items. Higher scores indicate higher chaos in the family environment.

The Multidimensional Scale of Social Support Scale was used to measure the perceived social support of the mothers at Time 2 (Eker et al., 2001; Zimet et al., 1988). The scale, including 12 items with a 5-point Likert type (1 = very strongly disagree to 5 = very strongly agree), has three dimensions measuring support from family, friends, and significant others (e.g., "My family really tries to help me."). The internal consistency of the scales is high both in the original scale development study (Cronbach's  $\alpha s = .85-.91$ ; Zimet et al., 1988) and in the adaptation study (Cronbach's  $\alpha s = .80-.95$ ; Eker et al., 2001). The reliability of the scale is high for the current study (Cronbach's  $\alpha = .93$ ). An overall social support score is calculated by the mean average of all items. Higher mean scores indicate more perceived social support of mothers. Additionally, mothers were asked to provide their children's birth date and gender, and maternal educational attainment was assessed using a multiple-choice question with options ranging from illiterate to graduate education (1 = illiterate to 8 = Ph.D. degree).

ncfi

## Data analytic plan

A bivariate correlation analysis was conducted to test the associations between variables. The main analytic tool was structural equation modeling (SEM) using AMOS (Version 25; Arbuckle, 2019). Specifically, a path analysis with 1,000 bias-corrected bootstrapping was used to simultaneously test the direct and indirect effects (i.e., mediating effects). Analyses were conducted using maximum likelihood estimators.

ncfi

In the proposed model, maternal COVID-19 anxiety, household chaos, and social support of mothers were tested as the predictors of perceived maternal rejection at Time 2 through MPD at Time 2. While testing these links, MPD at Time 1 and perceived maternal rejection at Time 1 were added to the model as control variables for Time 2 measures. Additionally, because participants of the study come from a wide age range and various educational backgrounds, possible confounding variables, namely, mothers' education level, children's age, and gender, are added as covariates for both maternal rejection at Time 2 and MPD at Time 2 (see Figure 1 for details).

# RESULTS

## **Preliminary analysis**

The correlation analysis reveals that all predictor variables, mothers' pandemic-related anxiety, perceived social support, and household chaos, are significantly associated with MPD at Time 2. Additionally, MPD at Time 2 is significantly associated with the outcome variable, perceived maternal rejection at Time 2. Regarding the bivariate correlations between predictor variables and the outcome variable, although perceived social support and chaos in the home environment are significantly associated with the perceived maternal rejection at Time 2, mothers' pandemic-related anxiety is not associated with the outcome variable. Additional information regarding bivariate correlations for the study variables is presented in Table 2.

Results of the dependent sample *t*-test analysis show that MPD during the pandemic is higher than before the pandemic. Even though mean maternal rejection does not differ across time, a further examination of individual change scores in terms of perceived maternal rejection,

	1	2	3	4	5	6	7	8	9	10
1. Rejection (T1)	1									
2. Rejection (T2)	.84**	1								
3. Psy. distress (T1)	.14*	.19**	1							
4. Psy. distress (T2)	.12*	.21**	.55**	1						
5. COVID-19 anxiety	08	05	.06	.13*	1					
6. Chaos	.10	.12*	.07	.16**	.03	1				
7. Social support	14*	21**	37**	30**	.12*	07	1			
8. Child age	.11*	.27**	.15**	.24**	02	.11	16**	1		
9. Child gender	.11	.09	06	.01	04	04	07	.15*	1	
10. Maternal education	08	.12	14*	09	01	04	.17**	16**	07	1

TABLE 2 Pearson correlations among the study variables

Note. T1= Time 1; T2 = Time 2; Psy. distress = psychological distress. \*p < .05. \*p < .001.

83

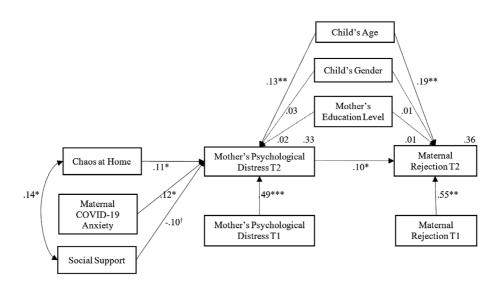
calculated by subtracting Time 2 scores from Time 1, showed that 44.8% of participants reported a decrease in perceived rejection. In comparison, 43.3% of the participants reported an increase in perceived rejection, and 11.9% of the participants reported no change in perceived rejection.

## Main findings

ncfi

The results of the model test with direct effects showed a good fit,  $\chi^2(25) = 59.86$ , p < .001; comparative fit index (CFI) = .91, goodness-of-fit index (GFI) = .96, adjusted goodness-of-fit index (AGFI) = .92, Tucker-Lewis index (TLI) = .83, root-mean-square error of approximation (RMSEA) = .07 (90% confidence interval [CI] [.05, .09]), standardized root-mean-square residual (SRMR) = .07. However, the direct paths from the antecedents of MPD to maternal rejection at Time 2 and the path from MPD to maternal rejection at Time 2 were not significant. Therefore, a reduced model without those direct effects was tested. The reduced model also fit the data well,  $\chi^2(28) = 63.06$ , p < .001; CFI = .91, GFI = .96, AGFI = .92, TLI = .85, RMSEA = .06 (90% CI [.04, .08]), SRMR = .08. Comparison of these two models yielded no significant difference between the models,  $\Delta \chi^2 = 3.20$ ,  $\Delta df = 3$ , p > .05. Thus, the model without direct effects was accepted as the last model. There were no substantive differences in the results in terms of the model fits and path coefficients,  $\chi^2(28) = 63.06$ , p < .001; CFI = .91, TLI = .85, RMSEA = .06 (90% CI [.04, .08]), SRMR = .08. In the model, as predicted, maternal COVID-19 anxiety and household chaos predicts MPD positively,  $\beta = .12, 95\%$  CI [.03, .21], p < .01,  $\beta = .11$ , 95% CI [.01, .20], p < .05, respectively. Yet, perceived social support only shows a trend toward significance in association with decreases in MPD,  $\beta = -.10$ , 95% CI [-.20, .01], p = .08. Additionally, MPD is associated with increases in maternal rejection,  $\beta = .10, 95\%$  CI [.01, .19], p < .05 (see Figure 2).

Regarding indirect links in the model, maternal COVID-19 anxiety and household chaos were associated with increases in maternal rejection through MPD,  $\beta = .01$ , bias-corrected bootstrapped 95% CI [.001, .023], p = .015;  $\beta = .001$ , bias-corrected bootstrapped CI [.000,



**FIGURE 2** Results of the path analysis *Note*. Standardized coefficients were reported. \*p < .05. \*\*p < .01.  $^{\dagger}p = .08$ .

.002], p = .027, respectively. However, the association between social support and maternal rejection through MPD showed only a trend for the significance,  $\beta = -.01$ , bias-corrected bootstrapped CI [-.016, .000], p = .057. As anticipated, pandemic-related experiences of mothers predicted perceived maternal rejection through MPD even after controlling for MPD and rejection before the pandemic, except for social support.

ncfr

In addition, the model also considered possible confounding variables, maternal educational attainment, child's age, and gender. Among these variables, MPD was not significantly related to the child's gender,  $\beta = .03$ , 95% CI [-.06, .13], p > .05, and maternal educational attainment,  $\beta = .02$ , CI [-.06, .12], p > .05. Similarly, neither child's gender nor maternal educational attainment had a significant link with maternal rejection at Time 2,  $\beta = .01$ , CI [-.08, .10], p > .05;  $\beta = .01$ , CI [-.08, .11], p > .05, respectively. The only significant covariate was the child's age both for MPD,  $\beta = .13$ , CI [.02, .23], p < .01, and maternal rejection at Time 2,  $\beta = .19$ , CI [.10, .28], p < .01. The explained variance of MPD and maternal rejection for their antecedents was  $R^2 = .33$ , CI [.21, .41], p < .05, and  $R^2 = .36$ , CI [.24, .46], p < .01, respectively.

## DISCUSSION

Many studies have indicated that MPD has increased since the beginning of the COVID-19 pandemic (Adams et al., 2021; Eales et al., 2021; Kerr et al., 2022; Marchetti et al., 2020; Spinelli et al., 2020). However, recent findings show that some mothers are less affected by the negative consequences of the pandemic, and they have a more developed sense of parenting (Bastain et al., 2022; Xiao, 2024). Given that not all mothers are equally affected by the challenges posed by the pandemic, it is important to further investigate factors that might lead to individual differences in MPD during the pandemic. The current study extends the growing literature on families during the pandemic by focusing on the link between MPD and children's perceived maternal rejection. In addition, we examined the antecedents of the change in MPD from the pre-pandemic to the peri-pandemic periods to further understand the conflicting findings in the literature.

We found that mothers reported higher MPD when experiencing anxiety due to the pandemic and encountering increased household chaos. MPD also served as an underlying mechanism in the relationship between COVID-19 anxiety and maternal rejection, such that heightened concerns related to the pandemic were associated with increased MPD, which subsequently led to an increase in maternal rejection. However, social support did not significantly predict decreases in MPD during the pandemic.

## Maternal psychological distress and perceived maternal rejection

The comparison of MPD levels across two time points reveals an increase in MPD during the pandemic compared to the pre-pandemic period. This finding is consistent with the many reports examining mothers during the pandemic (e.g., Adams et al., 2021; Kerr et al., 2022). Going beyond existing studies in Western society, we have gained a nuanced understanding of the associations between MPD and maternal rejection in a non-Western cultural context and during a difficult transitional period. The sample can be considered as a risk group because the mothers had predominantly low educational attainment and were homemakers. As the cultural context emphasizes mothers being responsible for home routines, increased MPD could be attributed to risks not being evenly distributed for families during the pandemic (Sakallı-Uğurlu et al., 2018). This rise in MPD may serve as a signal of the accumulation of multiple risks, including marital problems and household issues (Cavalcante et al., 2020).

85

ncfi

Confirming the first hypothesis, increased MPD during the pandemic was related to higher levels of perceived maternal rejection by their children, even after controlling for pre-pandemic conditions and accounting for maternal educational attainment, child age, and gender. This finding is parallel to previous findings in Türkiye. Corapci et al. (2023) also emphasized that depressive symptoms of toddlers' mothers were associated with negative parenting practices. Our result extends these previous findings by examining parenting from the perspectives of older and a larger group of children and adolescents (e.g., Chen et al., 2022; Corapci et al., 2023; Thomson et al., 2023). Moreover, as we did not find a significant association between educational attainment and MPD, this shows the unique predictor power of MPD on rejection.

## Maternal COVID-19 anxiety

Recent studies on parents' emotional experiences showed that increased fear or the perception of more threats was related to higher levels of anxiety (Hanetz-Gamliel et al., 2021; Wissemann et al., 2021). However, unlike general anxiety, people experienced more specific anxiety related to the COVID-19 disease during the pandemic. Thus, a distinguishing feature of the current study is its focus on the role of this disease-specific anxiety. Confirming the second and third hypotheses, our findings showed that mothers' pandemic-related anxiety increased mothers' psychological distress and indirectly led to an increase in children's perceived maternal rejection even after accounting for pre-pandemic levels. Similar to the framing of the stress and coping theory (Lazarus & Folkman, 1984), having more concerns related to stressful circumstances was related to increased MPD. This is in line with the findings showing that when mothers perceive the situation as more controllable, their children show less negative mental health symptoms, highlighting the importance of emotional coping skills for parents (Li et al., 2023). Recognizing this direct link highlights the importance of cultivating effective emotion coping skills for parents. It also contributes to the broader understanding of stress and coping theories, particularly in the context of unprecedented and stressful circumstances such as a pandemic. Moreover, perceived controllability of a stressful situation is subsequently associated with parent-child relationships. Therefore, interventions that not only address maternal anxiety directly but also promote a sense of control over the challenging circumstances can have the potential to mitigate the adverse effects on both maternal and child well-being.

## Household chaos

Confirming the second and third hypotheses, we found that an increase in household chaos was associated with increased MPD, which in turn, was associated with higher perceived maternal rejection during the COVID-19 pandemic after accounting for maternal educational attainment, child age, and gender. Notably, this moderate association persists even after accounting for pre-pandemic measures of both MPD and rejection and is aligned with prior literature highlighting the substantial connection between household chaos and MPD (Adams et al., 2021; Kracht et al., 2021; Nelson et al., 2023; Yalcintas et al., 2021). Previous findings in the Turkish cultural context showed that household chaos was related to mothers' self-reports of negative parenting for preschool children (Corapci et al., 2023). The current study expands these findings by emphasizing MPD as a mechanism.

Overall, results for maternal COVID-19 anxiety and household chaos provided support for both the process of parenting model, which posits that parenting outcomes reflect individual and contextual factors (Belsky, 1984; Belsky & Jaffee, 2006), and the transactional stress and coping theory, which suggests that parents' cognition of the situation and problem-focused

coping has a role on handling stress (Lazarus & Folkman, 1984; Obbarius et al., 2021). Recent research on problem-focused coping mechanisms employed by mothers during the pandemic sheds light on adaptive strategies in the face of unprecedented challenges (Gedaly et al., 2023). Studies have demonstrated that mothers have exhibited a range of problem-focused coping strategies to navigate the complexities imposed by the pandemic (Eales et al., 2021). These include active problem-solving behaviors such as restructuring daily routines, seeking alternative sources of support, and implementing health-related measures such as increased handwashing and mask wearing. Moreover, it is important to emphasize the importance of recognizing individual variations in coping strategies, as mothers could exhibit a range of coping strategies in response to the stressors associated with the pandemic (Eales et al., 2021).

## Social support

Both theoretical frameworks presented in the current study underscored the significance of social support for maternal well-being and parenting, particularly in challenging circumstances (Belsky, 1984; Thompson et al., 2006). Recent research by Kaya et al. (2021) further supports this by demonstrating that perceived social support mitigates the adverse effects of the pandemic on individuals' mental health. However, in our study, although there was a notable trend toward significance in direct and indirect associations with MPD and maternal rejection, the results did not reach statistical significance. One plausible explanation for unsupported hypotheses could be the participants' inclination to report higher social support levels, potentially influenced by increased time spent at home (Bavel et al., 2020; Evans et al., 2020; Xiao, 2024), as evidenced by a high mean level of perceived social support (M = 3.98, SD = .95). Additionally, social support had a positive correlation with COVID-19 anxiety. This finding might be interpreted as a contradicting result; however, considering the uncertain nature of the COVID-19 pandemic in the early phases, people with higher COVID-19 anxiety might have felt compelled to engage in more support-seeking behaviors (Liu et al., 2021). As people sought more support from their immediate environments, such as interactions with family members or conversations with friends and relatives via video chats or phone calls, their exposure to more illness-related information might have increased their COVID-19-related anxiety (Jo et al., 2020).

Lastly, the scale items assessing perceived social support predominantly focused on the existence of support sources (e.g., "There is a special person who is around when I am in need"). In contrast, a recent study highlighted a significant association between parental well-being and instrumental social support, such as sharing responsibility for household chores or child care (Chen et al., 2022). One possible explanation could be that our study primarily concentrated on perceived social support in terms of the existence of support sources, such as having someone available when needed, which might not fully capture the instrumental support involving practical assistance with household responsibilities or child care. Future investigations could benefit from a more comprehensive examination of various aspects of social support, encompassing both emotional and instrumental dimensions, to gain a more in-depth understanding of its role in maternal well-being and parenting during challenging circumstances, such as the ongoing COVID-19 pandemic.

## **Demographic characteristics**

As demographic characteristics, we examined the associations of maternal educational attainment, child gender, and age with MPD and maternal rejection. Whereas previous studies found that mothers with higher educational attainment demonstrated better coping and mental health

outcomes during the pandemic and had better parent-child relationships, our study did not reveal a significant association (Cavalcante et al., 2020; Wei et al., 2021). This lack of significance might be attributed to the fact that most mothers in our sample were homemakers both before and during the pandemic. Their pre-existing roles in managing household chores could have contributed to the nonsignificant findings regarding maternal educational attainment with MPD and rejection. Another control variable in the current study was child gender. Though we did not explicitly outline an association for child gender, existing studies on parental rejection have highlighted gender differences in adult children (Ali et al., 2015). Consequently, there might be potential long-term variations in this relationship. Although research on COVID-19 is currently focusing on the short-term impact of the pandemic, future longitudinal studies can unveil these lasting consequences.

As the last control variable, child age significantly correlated with MPD and rejection. Studies on parenting during the pandemic have suggested that mothers of younger school-aged children are at higher risk of psychological distress (Babore et al., 2023; Chen et al., 2022). On the contrary, in the current study, the associations of child age with MPD and perceived rejection were positive, showing that older children and adolescents reported more rejection while their mothers reported higher levels of psychological distress. This contradicting finding could be due to the specific lockdown rules in Türkiye. In the early phases of the pandemic, individuals under 20 years of age were only allowed to go outside once a week for only 2 hours (Ministry of Interior of the Republic of Türkiye, 2020). In the face of these regulations, older children and adolescents might have experienced difficulties in meeting their increased need for autonomy. Due to lessened personal space and time during the pandemic and fewer opportunities to see their peers, older children and adolescents might have been affected more and might have experienced more conflicts with their mothers, which could be the underlying reason for the increased MPD and perceived maternal rejection by children (Benneker et al., 2023). Another explanation could be that mothers shifted their attention to younger children. Supporting this possibility, recent research on challenges and resilience during the pandemic has revealed a theme of dynamics of parental attention that emphasizes increased attention toward younger children (Eales et al., 2021). On a positive note, a study on adolescents' motivation for home-based learning found that parents who supported autonomy positively influenced their children's academic achievements in online education (Benneker et al., 2023). Considering the recent findings, we can suggest that targeted parental support can make a significant difference in adolescent development, offering practical insights for interventions and family strategies in challenging circumstances.

## Limitations and recommendations

The findings of the current study should be considered in light of its limitations. First, the data of the current study are from two consecutive time points but have a cross-sectional design. The results should be interpreted with caution as the study cannot establish causality, and the analysis has a correlational nature. This means that the study can only identify associations between variables and cannot determine the direction of causality. Thus, there is still a need for replication of findings in a longitudinal design. Second, using different data collection methodologies across two time points could be considered as a limitation. In the pre-pandemic period, data were collected in person during school visits, but during the pandemic, participants filled out the questionnaires via an online platform. However, during the school visits, participants completed the questionnaires using handheld tablet computers. Therefore, the participants were assumed to be familiar with using screens to respond to the questionnaire. Even with this minor methodological difference, the findings of the current study underscored important associations. Furthermore, the standardized coefficients of the indirect links were considerably low. With

Family Relation

regard to these weak coefficients, the significant indirect links should be interpreted carefully. However, considering the advantage of having tested the pre-pandemic conditions of the participants and relying on the reports of not only mothers but also children, the overall findings of the study provide important information for families. Another limitation of the study is the wide age range of the children in the sample, which included students from the third to the 11th grade. Including children at different developmental stages might confound the findings through their differential experiences. To address this issue, we covaried for child age and found that older children might perceive their mothers as more rejecting. Finally, because of time concerns and the specifics of the previously obtained data, the sample size was not convenient for group comparisons. Studies with larger sample sizes could be designed to examine the differences across developmental stages.

Despite these limitations, the current study has elucidated crucial associations between COVID-19–related stressors and MPD, maternal rejection, and the role of possible factors that might buffer these negative associations. First, pre-pandemic measures were controlled in the analyses. Thus, the negative effect of the pandemic on both maternal rejection and mothers' psychological distress could be observed clearly. Second, a specific measure of COVID-19 anxiety was developed to evaluate mothers' worries about the disease. Third, the current study has provided data from a non-WEIRD (Western, educated, industrialized, rich, and democratic) sample, as the sample has underrepresented mothers of middle to low socioeconomic from Türkiye. Fourth, the data were collected from two sets of respondents to consider both mothers' and children's perspectives.

Further studies might concentrate on the role of the emotion regulation strategies of mothers in coping with pandemic-related anxiety and identify high-risk groups for negative parenting. Accordingly, intervention programs might be developed to improve mothers' emotion regulation strategies. Previous programs aiming at emotion regulation strategies, such as cognitive reappraisal and self-compassion, proved to be effective in decreasing parenting stress according to the mother's individual stress level (Preuss et al., 2021). Thus, the increased MPD as a negative consequence of pandemic-related stress might be alleviated. Additionally, limiting exposure to social media and news on television as a personal precaution might be a possible solution for addressing the increased pandemic-related anxiety of mothers.

## **Practical implications**

The study's findings have significant implications for both future research and practical applications. In the context of the COVID-19 pandemic, extraordinary circumstances are prone to diminish responsive and positive parenting. It is crucial for parents and professionals working with families to recognize the importance of managing distress in challenging situations. Notably, families from disadvantaged backgrounds may be more susceptible to COVID-19 anxiety and household chaos, emphasizing the need for targeted support. The disrupted mental health of mothers and the negative perceptions of parents by adolescents during unprecedented times highlight potential risks to parent–child relationships.

Although negative views during adolescence are expected, the inability of adolescents to fulfill their autonomy needs under pandemic conditions may escalate conflicts. Parents should consider the needs of adolescents, encouraging them to assume responsibilities. The study also reveals a negative association between household chaos, MPD, and an indirect link with maternal rejection. Therefore, establishing daily routines, planning family activities, involving adolescents in household chores, and assigning responsibilities could alleviate MPD and reduce perceived maternal rejection. Public educators and social workers can utilize these findings to design intervention programs, particularly aimed at alleviating mothers' workloads, managing chaotic home environments, and emphasizing the importance of family routines. Overall, given the substantial impact of COVID-19 on psychological health, the study underscores the necessity of implementing essential services, including online support programs and family counseling, to empower parents, children, and adolescents in successfully navigating the challenges posed by pandemics.

## FUNDING INFORMATION

The study was supported by two grants from the Scientific and Technological Research Council of Türkiye (TÜBİTAK): (a) before COVID-19 assessment was funded by Project 118K033-118K034-118K035 and (b) during COVID-19 assessment was funded by Project 120K385. The first, second, and fourth authors were awarded PhD scholarships from the Scientific and Technological Research Council of Türkiye (TÜBİTAK). None of the funders or sponsors of this research had any role in the design and conduct of the study; collection, management, analysis, and interpretation of data; preparation, review, or approval of the manuscript; or decision to submit the manuscript for publication.

#### ORCID

Ayşe Büşra İplikçi Dhttps://orcid.org/0000-0001-6632-4647 Yağmur İlgün Dhttps://orcid.org/0000-0002-7363-6654 Aybegüm Memisoglu-Sanli Dhttps://orcid.org/0000-0002-4397-4513 Basak Sahin-Acar Dhttps://orcid.org/0000-0001-9312-515X Aysun Doğan Dhttps://orcid.org/0000-0003-1885-8796 Deniz Tahiroglu Dhttps://orcid.org/0000-0003-3871-8811 Sibel Kazak Berument Dhttps://orcid.org/0000-0001-5670-0610

### REFERENCES

- Adams, E. L., Smith, D., Caccavale, L. J., & Bean, M. K. (2021). Parents are stressed! Patterns of parent stress across COVID-19. Frontiers in Psychiatry, 12, Article 626456. https://doi.org/10.3389/fpsyt.2021.626456
- Algorani, E. B., & Gupta, V. (2023). Coping mechanisms. In *StatPearls*. StatPearls Publishing. https://www.ncbi.nlm. nih.gov/books/NBK559031/
- Ali, S., Khaleque, A., & Rohner, R. P. (2015). Pancultural gender differences in the relation between perceived parental acceptance and psychological adjustment of children and adult offspring: A meta-analytic review of worldwide research. *Journal of Cross-Cultural Psychology*, 46(8), 1059–1080. https://doi.org/10.1177/0022022115597754
- Alonzi, S., Park, J. E., Pagán, A., Saulsman, C., & Silverstein, M. W. (2021). An examination of covid-19-related stressors among parents. *European Journal of Investigation in Health, Psychology and Education*, 11(3), 838–848. https://doi.org/10.3390/ejihpe11030061
- Andrews, K., Dunn, J. R., Prime, H., Duku, E., Atkinson, L., Tiwari, A., & Gonzalez, A. (2021). Effects of household chaos and parental responsiveness on child executive functions: A novel, multi-method approach. *BMC Psychol*ogy, 9, Article 147. https://doi.org/10.1186/s40359-021-00651-1
- Anjel, M., & Erkman, F. (1993). The transliteral equivalence, reliability, and validity studies of the Parental Acceptance-Rejection Questionnaire (PARQ) mother-form: A tool for assessing child abuse [Unpublished master's thesis]. Institute of Social Faculty of Education, Boğaziçi University.
- Arbuckle, J. L. (2019). Amos (Version 25.0) [Computer program]. IBM SPSS.
- Babore, A., Trumello, C., Lombardi, L., Candelori, C., Chirumbolo, A., Cattelino, E., Baiocco, R., Bramanti, S. M., Viceconti, M. L., Pignataro, S., & Morelli, M. (2023). Mothers' and children's mental health during the Covid-19 pandemic lockdown: The mediating role of parenting stress. *Child Psychiatry and Human Development*, 54(1), 134–146. https://doi.org/10.1007/s10578-021-01230-6
- Baker, J. P., & Berenbaum, H. (2007). Emotional approach and problem-focused coping: A comparison of potentially adaptive strategies. *Cognition and Emotion*, 21(1), 95–118. https://doi.org/10.1080/02699930600562276
- Banko-Ferran, D., Gihleb, R., & Giuntella, O. (2022). The impact of COVID-19 on mental health. In K. F. Zimmermann (Ed.), Handbook of labor, human resources and population economics (pp. 1–18). Springer.
- Barış, I., & Taylan, H. (2020). Küresel salgın sürecinde Türkiye'de aile içi sorunlar [The family problems in Turkey during the global pandemic]. NOSYON: Uluslararası Tophum ve Kültür Çalışmaları Dergisi, Special Issue of Gürsoy Akça, 5, 13–32.
- Bastain, T. M., Knapp, E. A., Law, A., Algermissen, M., Avalos, L. A., Birnhak, Z., Blackwell, C., Breton, C. V., Duarte, C., Frazier, J., Ganiban, J., Greenwood, P., Herbstman, J., Hernandez-Castro, I., Hofheimer, J., Karagas, M. R., Lewis, J., Pagliaccio, D., Ramphal, B., ... Margolis, A. (2022). COVID-19 pandemic experiences

- Bavel, J. J. V., Baicker, K., Boggio, P. S., Capraro, V., Cichocka, A., Cikara, M., Crockett, M. J., Crum, A. J., Douglas, K. M., Druckman, J. N., Drury, J., Dube, O., Ellemers, N., Finkel, E. J., Fowler, J. H., Gelfand, M., Han, S., Haslam, S. A., Jetten, J., ... Willer, R. (2020). Using social and behavioural science to support COVID-19 pandemic response. *Nature Human Behaviour*, 4(5), 460–471. https://doi.org/10.1038/s41562-020-0884-z
- Bekaroğlu, E., & Yılmaz, T. (2020). COVID-19 ve psikolojik etkileri: Klinik psikoloji perspektifinden bir derleme [COVID-19 and Psychological Effects: A Review in Clinical Psychology Perspective]. Nesne, 8(18), 573–584.
- Belsky, J. (1984). The determinants of parenting: A process model. *Child Development*, 55(1), 83–96. https://doi.org/10. 2307/1129836
- Belsky, J., & Jaffee, S. R. (2006). The multiple determinants of parenting. In D. Cicchetti & D. J. Cohen (Eds.), Developmental psychopathology: Risk, disorder, and adaptation (pp. 38–85). John Wiley & Sons.
- Benneker, I. M. B., Lee, N. C., & van Atteveldt, N. (2023). Mindset and perceived parental support of autonomy safeguard adolescents' autonomous motivation during COVID-19 home-based learning. *npj Science of Learning*, 8, Article 4. https://doi.org/10.1038/s41539-023-00153-2
- Calarco, J. M., Anderson, E. M., Meanwell, E. V., & Knopf, A. (2020). "Let's not pretend it's fun": How COVID-19-related school and childcare closures are damaging mothers' well-being. *SocArXiv*. https://doi.org/10.31235/osf. io/jyvk4
- Cameron, E. E., Joyce, K. M., Delaquis, C. P., Reynolds, K., Protudjer, J. L. P., & Roos, L. E. (2020). Maternal psychological distress & mental health service use during the COVID-19 pandemic. *Journal of Affective Disorders*, 276, 765–774. https://doi.org/10.1016/j.jad.2020.07.081
- Cavalcante, M. C. V., Lamy, Z. C., França, A. K. T. C., Pereira, M. U. L., Ferraro, A. A., Barbieri, M. A., & Lamy-Filho, F. (2020). Psychological distress and mother-child relationship: Influence of life context on a population sample (BRISA) through the use of directed acyclic graphs (DAG). *Brazilian Journal of Medical and Biological Research*, 54(1), Article e10080. https://doi.org/10.1590/1414-431X202010080
- Chen, C. Y., Byrne, E., & Vélez, T. (2022). A preliminary study of Covid-19-related stressors, parenting stress, and parental psychological well-being among parents of school-age children. *Journal of Child and Family Studies*, 31(6), 1558–1569. https://doi.org/10.1007/s10826-022-02321-1
- Chung, G., Lanier, P., & Wong, P. Y. J. (2022). Mediating effects of parental stress on harsh parenting and parent-child relationship during Coronavirus (COVID-19) Pandemic in Singapore. *Journal of Family Violence*, 37, 801–812. https://doi.org/10.1007/s10896-020-00200-1
- Corapci, F., Yavuz, H. M. & Sümer, N. (2023). Predictors of mothers' perceived change in warm and punitive parenting during COVID-19. Journal of Child and Family Studies. https://doi.org/10.1007/s10826-023-02716-8
- Demir, U. (2019). The relationship between home chaos and children's social competence [Unpublished master's thesis]. Institute of Education, Yıldız Technical University.
- Eales, L., Ferguson, G. M., Gillespie, S., Smoyer, S., & Carlson, S. M. (2021). Family resilience and psychological distress in the COVID-19 pandemic: A mixed methods study. *Developmental Psychology*, 57(10), 1563–1581. https:// doi.org/10.1037/dev0001221
- Eker, D., Arkar, H., & Yaldız, H. (2001). Çok Boyutlu Algılanan Sosyal Destek Ölçeğinin gözden geçirilmiş formunun faktör yapısı, geçerlik ve güvenirliği [Factorial structure, validity, and reliability of revised form of the Multidimensional Scale of Perceived Social Support]. *Türk Psikiyatri Dergisi*, 12(1), 17–25.
- Emond, J. A. (2020). Household chaos: A risk factor for adverse child outcomes gains attention in public health. *BMC Public Health*, 20, Article 596. https://doi.org/10.1186/s12889-020-08680-y
- Evans, S., Mikocka-Walus, A., Klas, A., Olive, L., Sciberras, E., Karantzas, G., & Westrupp, E. M. (2020). From "it has stopped our lives" to "spending more time together has strengthened bonds": The varied experiences of Australian families during COVID-19. *Frontiers in Psychology*, 11, Article 588667. https://doi.org/10.3389/fpsyg. 2020.588667
- Fakhrunnisak, D., & Patria, B. (2022). The positive effects of parents' education level on children's mental health in Indonesia: A result of longitudinal survey. *BMC Public Health*, 22(1), Article 949. https://doi.org/10.1186/s12889-022-13380-w
- Farmer, A. Y., & Lee, S. K. (2011) The effects of parenting stress, perceived mastery, and maternal depression on parent–child interaction. *Journal of Social Service Research*, 37(5), 516–525. https://doi.org/10.1080/01488376. 2011.607367
- Feinberg, M. E., Mogle, J. A., Lee, J.-K., Tornello, S. L., Hostetler, M. L., Cifelli, J. A., Bai, S., & Hotez, E. (2022). Impact of the COVID-19 pandemic on parent, child, and family functioning. *Family Process*, 61(1), 361–374. https://doi.org/10.1111/famp.12649
- Fong, V. C., & Iarocci, G. (2020). Child and family outcomes following pandemics: A systematic review and recommendations on COVID-19 Policies. *Journal of Pediatric Psychology*, 45(10), 1124–1143. https://doi.org/10.1093/jpepsy/ jsaa092
- Freisthler, B., Price Wolf, J., Chadwick, C., & Renick, K. (2022). Daily stress and use of aggressive discipline by parents during the COVID-19 pandemic. *Journal of Family Violence*, 37(7), 1101–1109. https://doi.org/10.1007/s10896-021-00340-y

91

- Gedaly, L. R., Cifelli, J. A., Feinberg, M. E., & Hostetler, M. L. (2023). Parents' family coping strategies during the pandemic: Effects on parent and child well-being. *Journal of Family Issues*. Advance online publication. https:// doi.org/10.1177/0192513X231162980
- Glynn, L. M., Davis, E. P., Luby, J. L., Baram, T. Z., & Sandman, C. A. (2021). A predictable home environment may protect child mental health during the COVID-19 pandemic. *Neurobiology of Stress*, 14, Article 100291. https:// doi.org/10.1016/j.ynstr.2020.100291
- Gómez-Ortiz, O., Romera, E. M., Jiménez-Castillejo, R., Ortega-Ruiz, R., & García-López, L. J. (2019). Parenting practices and adolescent social anxiety: A direct or indirect relationship? *International Journal of Clinical and Health Psychology*, 19(2), 124–133. https://doi.org/10.1016/j.ijchp.2019.04.001
- Hanetz-Gamliel, K., Levy, S., & Dollberg, D. G. (2021). Mediation of mothers' anxiety and parenting in children's behavior problems during COVID-19. *Journal of Child and Family Studies*, 30, 2732–2743. https://doi.org/10.1007/ s10826-021-02115-x
- Henrichs, J., & Witteveen, A. B. (2023). Commentary: Promoting positive mental health during pregnancy—reflections on L\u00e4hdepuro et al. (2023). Journal of Child Psychology and Psychiatry, 64(5), 817–819. https://doi.org/10.1111/ jcpp.13727
- Jackson, M. I., Kiernan, K., & McLanahan, S. (2017). Maternal education, changing family circumstances, and children's skill development in the United states and UK. *The ANNALS of the American Academy of Political and Social Science*, 674(1), 59–84. https://doi.org/10.1177/0002716217729471
- Jo, S.-H., Koo, B.-H., Seo, W.-S., Yun, S.-H., & Kim, H.-G. (2020). The psychological impact of the coronavirus disease pandemic on hospital workers in Daegu, South Korea. *Comprehensive Psychiatry*, 103, Article 152213. https://doi.org/10.1016/j.comppsych.2020.152213
- Kaya, H., Ayık, B., Tasdelen, R., Ercis, M., & Ertekin, E. (2021). Social support promotes mental health during the COVID-19 outbreak: A cross-sectional study from Turkey. *Psychiatria Danubina*, 33(2), 217–224. https://doi.org/ 10.24869/psyd.2021.217
- Khaleque, A., & Rohner, R. P. (2012). Transnational relations between perceived parental acceptance and personality dispositions of children and adults: A meta-analytic review. *Personality and Social Psychology Review*, 16(2), 103– 115. https://doi.org/10.1177/1088868311418986
- Kerr, M. L., Fanning, K., Engbretson, A., Buttitta, K. V., Borelli, J. L., Smiley, P. A., & Rasmussen, H. F. (2022). Fathers' emotional experiences while parenting toddlers: A qualitative exploration. *Early Child Development and Care*, 192(12), 1982–1997. https://doi.org/10.1080/03004430.2021.1960517
- Kestler-Peleg, M., Pitcho-Prelorentzos, S., Mahat-Shamir, M., Kagan, M., & Lavenda, O. (2022). Being a parent, emotional stability, and adjustment disorder symptoms in the face of COVID-19. *Family Relations*, 71(4), 1325–1338. https://doi.org/10.1111/fare.12745
- Kim, E., Han, G., & McCubbin, M. A. (2007). Korean American maternal acceptance—rejection, acculturation, and children's social competence. *Family and Community Health*, 30(2), 33–45. https://doi.org/10.1097/01.FCH. 0000264879.88687.32
- Kracht, C. L., Katzmarzyk, P. T., & Staiano, A. E. (2021). Household chaos, maternal stress, and maternal health behaviors in the United States during the COVID-19 outbreak. *Women's Health*, 17. https://doi.org/10.1177/ 17455065211010655
- Lazarus, R. S., & Folkman, S. (1984). Stress, appraisal, and coping. Springer.
- Lippold, M., Glatz, T., Fosco, G., & Feinberg, M. (2018). Parental perceived control and social support: Linkages to change in parenting behaviors during early adolescence. *Family Process*, 57(2), 432–447. https://doi.org/10.1111/ famp.12283
- Li, D., Li, W., & Zhu, X. (2023). Parenting style and children emotion management skills among Chinese children aged 3-6: The chain mediation effect of self-control and peer interactions. *Frontiers in Psychology*, 14, Article 1231920. https://doi.org/10.3389/fpsyg.2023.1231920
- Liu, C., Huang, N., Fu, M., Zhang, H., Feng, X. L., & Guo, J. (2021). Relationship between risk perception, social support, and mental health among general Chinese population during the COVID-19 pandemic. *Risk Management and Healthcare Policy*, 14, 1843–1853. https://doi.org/10.2147/RMHP.S302521
- Lovibond, P. F., & Lovibond, S. H. (1995). The structure of negative emotional states: Comparison of the Depression Anxiety Stress Scales (DASS) with the Beck Depression and Anxiety Inventories. *Behaviour Research and Therapy*, 33(3), 335–343. https://doi.org/10.1016/0005-7967(94)00075-U
- Luthar, S. S., & Ciciolla, L. (2016). What it feels like to be a mother: Variations by children's developmental stages. Developmental Psychology, 52(1), 143–154. https://doi.org/10.1037/dev0000062
- Marchetti, D., Fontanesi, L., Di Giandomenico, S., Mazza, C., Roma, P., & Verrocchio, M. C. (2020). The effect of parent psychological distress on child hyperactivity/inattention during the COVID-19 lockdown: Testing the mediation of parent verbal hostility and child emotional symptoms. *Frontiers in Psychology*, 11, Article 567052. https:// doi.org/10.3389/fpsyg.2020.567052
- Marsh, S., Dobson, R., & Maddison, R. (2020). The relationship between household chaos and child, parent, and family outcomes: A systematic scoping review. *BMC Public Health*, 20(1), Article 513. https://doi.org/10.1186/s12889-020-08587-8

ncfi

Marzilli, E., Cerniglia, L., Tambelli, R., Trombini, E., De Pascalis, L., Babore, A., Trumello, C., & Cimino, S. (2021). The COVID-19 pandemic and its impact on families' mental health: The role played by parenting stress, parents' past trauma, and resilience. *International Journal of Environmental Research and Public Health*, 18(21), Article 11450. https://doi.org/10.3390/ijerph182111450

ncfr

- Matheny, A. P., Jr., Wachs, T. D., Ludwig, J. L., & Phillips, K. (1995). Bringing order out of chaos: Psychometric characteristics of the confusion, hubbub, and order scale. *Journal of Applied Developmental Psychology*, 16(3), 429– 444. https://doi.org/10.1016/0193-3973(95)90028-4
- Mills-Koonce, W. R., Willoughby, M. T., Garrett-Peters, P., Wagner, N., & Vernon-Feagans, L. (2016). The interplay among socioeconomic status, household chaos, and parenting in the prediction of child conduct problems and callous-unemotional behaviors. *Development and Psychopathology*, 28(3), 757–771. https://doi.org/10.1017/ S0954579416000298
- Ministry of Interior of the Republic of Türkiye. (2020). Koronavirüs ile mücadele kapsamında Yeni kısıtlama ve tedbirler genelgeleri [Circular on new restrictions and measures within the scope of the fight against coronavirus]. https://www.icisleri.gov.tr/koronavirus-ile-mucadele-kapsaminda-sokaga-cikma-kisitlamalari—yeni-kisitlama-ve-tedbirler-genelgeleri
- Myrskylä, M., & Margolis, R. (2014). Happiness: Before and after the kids. *Demography*, *51*(5), 1843–1866. https://doi. org/10.1007/s13524-014-0321-x
- Nelson, J. A., Hafiz, M., Compton, C. L., & Villarreal, D. L. (2023). Household chaos and mother-adolescent communication. *Journal of Family Psychology*, 37(4), 547–553. https://doi.org/10.1037/fam0001074
- Neubauer, A. B., Schmidt, A., Kramer, A. C., & Schmiedek, F. (2021). A little autonomy support goes a long way: Daily autonomy-supportive parenting, child well-being, parental need fulfillment, and change in child, family, and parent adjustment across the adaptation to the COVID-19 pandemic. *Child Development*, 92(5), 1679–1697. https://doi.org/10.1111/cdev.13515
- Nomaguchi, K. M. (2012). Parenthood and psychological well-being: Clarifying the role of child age and parent-child relationship quality. Social Science Research, 41(2), 489–498. https://doi.org/10.1016/j.ssresearch.2011.08.001
- Nomaguchi, K. M., & Milkie, M. A. (2020). Parenthood and well-being: A decade in review. Journal of Marriage and Family, 82(1), 198–223. https://doi.org/10.1111/jomf.12646
- Obbarius, N., Fischer, F., Liegl, G., Obbarius, A., & Rose, M. (2021). A modified version of the transactional stress concept according to Lazarus and Folkman was confirmed in a psychosomatic inpatient sample. *Frontiers in Psychology*, 12, Article 584333. https://doi.org/10.3389/fpsyg.2021.584333
- Preuss, H., Capito, K., van Eickels, R. L., Zemp, M., & Kolar, D. R. (2021). Cognitive reappraisal and self-compassion as emotion regulation strategies for parents during COVID 19: An online randomized controlled trial. *Internet Interventions*, 24, Article 100388. https://doi.org/10.1016/J.INVENT.2021.100388
- Prime, H., Wade, M., & Browne, D. T. (2020). Risk and resilience in family well-being during the COVID-19 pandemic. *The American Psychologist*, 75(5), 631–643. https://doi.org/10.1037/amp0000660
- Ren, J., Li, X., Chen, S., Chen, S., & Nie, Y. (2020). The influence of factors such as parenting stress and social support on the state anxiety in parents of special needs children during the COVID-19 Epidemic. *Frontiers in Psychology*, 11, Article 565393. https://doi.org/10.3389/fpsyg.2020.565393
- Rohner, R. P. (1991). Handbook for the study of parental acceptance and rejection. Rohner Research Publications.
- Rohner, R. P., Khaleque, A., & Cournoyer, D. E. (2005). Parental acceptance-rejection: Theory, methods, crosscultural evidence, and implications. *Ethos*, 33(3), 299–334. https://doi.org/10.1525/eth.2005.33.3.299
- Russell, B. S., Hutchison, M., Tambling, R., Tomkunas, A. J., & Horton, A. L. (2020). Initial challenges of caregiving during COVID-19: Caregiver burden, mental health, and the parent-child relationship. *Child Psychiatry and Human Development*, 51(5), 671–682. https://doi.org/10.1007/s10578-020-01037-x
- Sakallı-Uğurlu, N., Türkoğlu, B., & Kuzlak, A. (2018). How are women and men perceived? Structure of gender stereotypes in contemporary Turkey. Nesne Psikoloji Dergisi, 6(13), 309–336. https://doi.org/10.7816/nesne-06-13-04
- Sarıçam, H. (2018). The psychometric properties of the Turkish version of Depression Anxiety Stress Scale-21 (DASS-21) in health control and clinical samples. *Journal of Cognitive Behavioral Psychotherapy and Research*, 7(1), 19–30. https://doi.org/10.5455/JCBPR.274847
- Seker, M., Ozer, A., Tosun, Z., Korkut, C., & Doğrul, M. (2020). TUBA Covid-19 küresel salgın değerlendirme raporu [TUBA Covid-19 global pandemic assessment report]. Turkish Academy of Sciences.
- Son, H., Lee, Y. A., Ahn, D. H., Doan, S. N., Ha, E. H., & Choi, Y. S. (2020). Antecedents of maternal rejection across cultures: An examination of child characteristics. SAGE Open, 10(2). https://doi.org/10.1177/2158244020927040
- Sonuga-Barke, E., & Fearon, P. (2021). Editorial: Do lockdowns scar? Three putative mechanisms through which COVID-19 mitigation policies could cause long-term harm to young people's mental health. *Journal of Child Psychology and Psychiatry*, 62(12), 1375–1378.
- Spinelli, M., Lionetti, F., Pastore, M., & Fasolo, M. (2020). Parents' stress and children's psychological problems in families facing the COVID-19 outbreak in Italy. *Frontiers in Psychology*, 11, Article 1713. https://doi.org/10.3389/ fpsyg.2020.01713
- Thompson, R. A., Flood, M. F., & Goodvin, R. (2006). Social support and developmental psychopathology. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology: Risk, disorder, and adaptation* (pp. 1–37). John Wiley & Sons.

- Thomson, K. C., Jenkins, E., Gill, R., Hastings, K. G., Richardson, C. G., Gagné Petteni, M., McAuliffe, C., & Gadermann, A. M. (2023). Parent psychological distress and parent-child relationships two years into the COVID-19 pandemic: Results from a Canadian cross-sectional study. *PloS One*, 18(10), Article e0292670. https://doi.org/ 10.1371/journal.pone.0292670
- Turkish Ministry of Health. (2020). Genel koranavirüs tablosu [General table for coronavirus]. https://covid19.saglik.gov.tr/TR-66935/genel-koronavirus-tablosu.html
- Weaver, J. L., & Swank, J. M. (2021). Parents' lived experiences with the Covid-19 pandemic. *The Family Journal*, 29(2), 136–142. https://doi.org/10.1177/1066480720969194
- Wei, Z., Gao, M. Y., Fewtrell, M., Wells, J., & Yu, J. Y. (2021). Maternal mental health and well-being during the COVID-19 pandemic in Beijing, China. World Journal of Pediatrics, 17, 280–289. https://doi.org/10.1007/s12519-021-00439-8
- Wheaton, M. G., Abramowitz, J. S., Berman, N. C., Fabricant, L. E., & Olatunji, B. O. (2012). Psychological predictors of anxiety in response to the H1N1 (swine flu) pandemic. *Cognitive Therapy and Research*, 36(3), 210–218. https://doi.org/10.1007/s10608-011-9353-3
- Wissemann, K., Mathes, B., Meyer, A., & Schmidt, N. B. (2021). COVID-related fear maintains controlling parenting behaviors during the pandemic. *Cognitive Behaviour Therapy*, 50(4), 305–319. https://doi.org/10.1080/16506073. 2021.1878274
- Xiao, H. (2024). Did the COVID-19 pandemic make better parents? A qualitative exploration of parents' experiences during a historic period. *Family Relations*, 73(1), 133–153. https://doi.org/10.1111/fare.12961
- Xu, J., & Zheng, Y. (2023). Parent- and child-driven daily family stress processes between daily stress, parental warmth, and adolescent adjustment. *Journal of Youth and Adolescence 52*, 490–505. https://doi.org/10.1007/s10964-022-01691-5
- Yalcintas, S., Pike, A. & Oliver, B. R. (2021). Household chaos and child behavior problems predict maternal wellbeing. *Psychiatric Quarterly*, 92, 1817–1824. https://doi.org/10.1007/s11126-021-09947-2
- Yılmaz, Ö., Boz, H., & Arslan, A. (2017). Depresyon Anksiyete Stres Ölçeği'nin (DASS 21) Türkçe kısa formunun geçerlilik güvenilirlik çalışması [The validity and reliability of depression stress and anxiety scale (DASS21) Turkish short form]. *Finans Ekonomi ve Sosyal Araştırmalar Dergisi*, 2(2), 78–91.
- Yumbul, C., Wieling, E., & Celik, H. (2018). Mother-child relationships following a disaster: The experiences of Turkish mothers living in a container city after the 2011 Van earthquake. *Contemporary Family Therapy*, 40(3), 237– 248. https://doi.org/10.1007/s10591-017-9445-7
- Zimet, G. D., Dahlem, N. W., Zimet, S. G., & Farley, G. K. (1988). The Multidimensional Scale of Perceived Social Support. Journal of Personality Assessment, 52(1), 30–41. https://doi.org/10.1207/s15327752jpa5201\_2

## SUPPORTING INFORMATION

Additional supporting information can be found online in the Supporting Information section at the end of this article.

How to cite this article: İplikçi, A. B., İlgün, Y., Memisoglu-Sanli, A., Aydoğdu Sözen, E., Sahin-Acar, B., Doğan, A., Tahiroglu, D., & Berument, S. K. (2024). Role of pandemic-related experiences and maternal psychological distress in maternal rejection. *Family Relations*, 73(1), 74–94. https://doi.org/10.1111/fare.12984

ncfi