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**Emotional and Behavioral Health among Portuguese Toddlers during the COVID-19 Crisis: The Impact
of Social Isolation and Caregiving Distress**

Abstract

The COVID-19 pandemic has led to significant changes in the lives of families with young children. The present study aimed to explore whether child social isolation due to the COVID-19 crisis was associated with toddlers' emotional and behavioral health (EBH) and whether this association was moderated by caregiving distress, during the second mandatory lockdown in Portugal. Participants included 315 toddlers and their primary caregivers. Caregivers were invited to complete a set of questionnaires in order to report about toddlers' social isolation from other significant family members, other children, and activities outside the house, and to provide ratings of caregiving distress and toddlers' EBH. Family socioeconomic factors, including stressors resulted from the pandemic, were also measured. Significant interaction effects, independent of child sex and sociodemographic factors, between COVID-19-related social isolation and caregiving distress emerged in the prediction of toddlers' EBH: COVID-19-related social isolation was found to be a significant predictor of both emotional/behavioral competencies and problems, but only among toddlers exposed to higher levels of caregiving distress. This study evidences the negative impact of the COVID-19 crisis on the functioning of Portuguese families and toddlers' EBH. It emphasizes the importance for policies to consider the implications of the COVID-19 crisis for young children, and to provide psychosocial support to families in order to reduce caregiving distress and, thus, prevent children's mental health problems.

Keywords COVID-19; social isolation; caregiving distress; toddlers; emotional/behavioral health

The COVID-19 pandemic led to significant changes in the lives of families with children in terms of their social, family, and work dynamics (Pombo et al., 2021). Such changes may have resulted in significant stressors for children with an impact on their developmental trajectories. In fact, evidence on the effects of the COVID-19 pandemic on children around the World has suggested a negative impact on the emotional and behavioral health (EBH) of children aged 3-18 years old, such as higher irritability, fear, anxiety, and depression (Feinberg et al., 2021; Jiao et al., 2020; Loades et al., 2021; Orgilés et al., 2020). Despite such findings, less is known about the impact of COVID-19 in younger children, particularly in Portugal, the locale where the research reported herein was conducted. This is quite surprising, given that the pandemic experience and related stressors (e.g., social isolation) might be threatening to toddlers' mental health, particularly in the case of families experiencing higher levels of caregiving distress, which has reportedly increased during the pandemic (Spinelli et al., 2021) and is a strong predictor of child wellbeing (Sher-Censor et al., 2018). In an attempt to shed light on how the pandemic affected the development of Portuguese toddlers and their caregivers, we investigated the relations between COVID-19-related social isolation, caregivers' perceived caregiving distress, and toddlers' EBH during the second year of COVID-19.

COVID-19 Pandemic in Portugal

In March 2020, COVID-19 was characterized as a pandemic (World Health Organization, 2020) and the first cases of infection in Portugal were reported (Direção Geral de Saúde, n.d.). In order to slow down the rate of transmission, the Portuguese government rapidly declared a state of emergency with a mandatory lockdown of the population, which started being alleviated in May 2020 (Diário da República Eletrónico [DRE], 2020). Some studies showed the negative impact of this lockdown on the psychological well-being and mental health of Portuguese adults, such as increased anxiety, sadness, and anger (Dias et al., 2020), and on the functioning of children across various domains (Pombo et al., 2021; Poppe et al., 2021). In January 2021, the second year of the COVID-19 pandemic, Portugal registered its third – and worse to date – peak of infections. The country was near collapse and reported the World's highest rate of daily new confirmed cases and deaths per million people (European Centre for Disease Prevention and Control, 2021). There was an increase of 300% in deaths and 140% in hospital admissions (Direção Geral de Saúde, n.d.). The government, once again, declared mandatory lockdown of the population. People were confined to home, educational settings and business in general closed, social interaction and movement between locations were restricted, a curfew was imposed, and working from home was required whenever possible. These restrictions would only start to be eased in April 2021 (DRE, 2021a, 2021b) accompanied by a strong investment in vaccination.

COVID-19, Child EBH and Caregiving Distress

The lockdown restrictions presented a particularly big challenge for families with young children. Besides resulting in numerous socioeconomic stressors related to the family such as financial loss, reduction of income due to loss of job or lay-off measures, difficult access to essential goods (Achterberg et al., 2021; Calvano et al., 2021), the lockdown resulted in relational stressors for toddlers that are potentially threatening for their EBH (Aguiar et al., 2021; Feinberg et al., 2021). Accordingly, some studies found a deterioration in the EBH of children and adolescents during the pandemic, reporting higher levels of internalizing and externalizing problems (Feinberg et al., 2021), depression, anxiety (Loades et al., 2021), irritability, difficulty concentrating, nervousness, feelings of loneliness, and worries (Orgilés et al., 2020), in comparison to before the pandemic.

An important example of the relational stressors produced by the lockdown is the social isolation that has limited toddlers' interaction with other children and extended family, which are significant agents in their development, and might impact children's mental health (Loades et al., 2020). In fact, a significant body of research have shown the crucial and unique role of toddlers' early socialization with these agents for the development of a wide range of socioemotional and behavior competencies, such as empathy, prosocial behaviors, and compliance (Brownell & Brown, 1992; Vandell, 2000). This can be particularly concerning in the context of the Portuguese society because the participation of extended family, namely grandparents, in children's lives is highly valued and relied on (Glaser et al., 2013). COVID-19 restrictions also limited toddlers' opportunity to engage in activities outside home, which are important for toddlers' wellbeing and are associated with multiple positive outcomes, such as social skills, confidence, and emotional control (Burdette & Whitaker, 2005).

However, decreased opportunities for socialization due to the pandemic does not necessarily mean that young children will be harmed for life, as interactions with others, at home, remained. Here, we argue that difficulties may arise when social isolation is coupled with a family environment that is unable to respond to the child's needs, including those that emerge from the challenges posed by social isolation. Confined at home, and with the loss of opportunities for learning and interact with other significant figures, young children had to rely heavily and almost exclusively on the supportive role of their parents, who were also facing a myriad of stressors as a consequence of the pandemic (e.g., financial loss, lack of social support). These stressors, in turn, may have exacerbated parents' stress levels and emotional difficulties, leaving them less available to respond adequately to their children's needs (Bate, Pham, & Borelli, 2021).

Consistently with the above, studies have reported higher levels of parenting stress (i.e., the discrepancy between the situational demands of the parental role and parents' perceived personal resources to cope with them; e.g., Abidin, 1992), as well as more difficulties in the parent-child relationship, in the context of the COVID-19 crisis (Achterberg et al., 2021; Aguiar et al., 2021; Calvano et al., 2021), which are important and well-known determinants of EBH in children (Abidin, 1992). A few studies showed that increased parenting stress due to the pandemic was associated with more socioemotional problems and poorer emotional regulation in preschoolers, school-age children, and adolescents (Achterberg et al., 2020; Spinelli et al., 2021). Also, importantly for the study reported herein, authors have documented a significant association between COVID-19-related stressors (e.g., physical distancing) and youth psychopathology, highlighting that such an association appears to be particularly exacerbated among children exposed to disruptions in the caregiving environment, including high levels of parenting stress, limited parenting availability, and parents' emotional difficulties due to the pandemic (Cohodes et al., 2021). The stressors of COVID-19 can therefore impact the EBH of children differently, depending on the quality of care experienced by the child. Notwithstanding the relevance of those results, yet to be explored is whether similar mechanisms operate in younger children. This is the focus of the present report.

The current study

To our knowledge, the few studies available to date exploring the impact of COVID-19 crisis on children's well-being were focused on preschool-aged or older children. The impact of COVID-19 on the lives of toddlers and their families is less explored, calling for the urgent need of data. Toddlerhood is a period marked by critical social and emotional development that is crucial for all aspects of functioning throughout life span (Sroufe, 1995). Furthermore, the examination of the impact of COVID-19 has mostly relied on stressors related to the family, such as financial impact, resource impact, and/or psychological impact on parents, and has considered to a less extent the putative role of stressors related to the toddler, most notable social isolation. The consideration of such an experience is crucial given evidence of the negative impact of COVID-19-related social isolation among older children (Loades et al., 2020), but also considering the role of toddlers' socialization with various agents to optimal EBH (Sroufe, 1995; Vandell, 2000). Also poorly explored is whether the impact of COVID-19-related social isolation on toddlers' EBH may be buffered (or exacerbated) by the caregiving environment, that acts, in the early years of life, as the primary context for child's development.

In light of the research gaps identified, this study sought to examine the impact of child social isolation and caregiving distress on Portuguese toddlers' EBH, while also controlling for the potential influence of

COVID-19 economic hardship and other relevant sociodemographic factors (e.g., child sex, maternal education), during the 2021 mandatory lockdown in the country. Most notably, we examined if child social isolation due to the COVID-19 crisis was associated with toddlers' EBH and if this association was moderated by caregiving distress. On the basis of previous research, we hypothesize that social isolation would predict more difficulties in toddlers' EBH, especially among those children exposed to high levels of caregiving distress.

Method

Participants and procedure

Participants included 315 healthy toddlers (169 boys) aged 18 to 36 months old ($M = 26.73$ months, $SD = 5.71$) and their primary caregivers (279 mothers, 35 fathers, 1 grandmother) recruited from childcare centers and social media platforms in Portugal. Exclusion criteria included toddlers' diagnosis of chromosomal disorders, intellectual disability, and neurodevelopmental disorders.

Primary caregivers ranged in age from 21 to 55 years ($M = 35.15$ years, $SD = 5.61$). Seventy-four percent had completed a university degree, 21.3% had completed high school, and the remaining 4.7% had completed nine or less years of education. Eleven percent were unemployed and 2% were in lay-off due to the pandemic. The majority of the caregivers were married or living under civil union (86%), 11% were single, 1% were widowed, and 2% were divorced or separated. Twenty-eight toddlers were born prematurely (i.e., before 37 weeks of gestation). The great majority (92%) of toddlers were attending childcare center services. Most of them had no sibling (54.4%) or had one sibling (39.2%). Twenty-eight toddlers lived with other adults in the household (e.g., grandmother), besides their parents. Seventeen toddlers were separated from at least one parent due to COVID-19 infection of parents or child.

The study was disseminated in online parent groups and childcare centers, inviting the primary caregivers of children within the target age range for participation. An online link was provided to caregivers to complete a set of questionnaires, between January 2021 and May 2021, corresponding to the second lockdown in the country, which occurred during the third wave of the pandemic in Europe. Participants received no financial compensation for taking part in the study. The study was approved by the institutional review board of the University [blinded review] and informed consents were obtained from all participants included in the study.

Measures

Child Emotional and Behavioral Health. The well-known Brief Infant-Toddler Social and Emotional Assessment (BITSEA; Briggs-Gowan et al., 2004) was used to assess the caregiver's perception of child EBH. The BITSEA includes 42 items rated on a 3-point Likert scale (1 = Not true/Rarely to 3 = Very True/Often) and

yields two scales: (i) the Competence Scale (11 items; e.g., Item 15, “Is affectionate with loved ones”), assessing emotional and behavioral abilities (e.g., symbolic and imitative play, empathy); and (ii) the Problem Scale (31 items; e.g., Item 9, “Has less fun than other children”), assessing emotional and behavioral difficulties (e.g., aggression, defiance, overactivity, negative emotionality). Greater scores in the Competence Scale indicate greater emotional/behavioral competence and greater scores in the Problem Scale indicate greater emotional/behavioral impairment. In this study, the internal consistency for the Competence Scale was $\alpha = .60$ and for the Problem scale was .70.

Child COVID-19-related social isolation. A social isolation scale was developed to screen for stressors related to social isolation experienced by children due to COVID-19. Caregivers were asked to indicate whether the child experienced the following items due to the pandemic: (1) the child had limited opportunities to interact with other significant family members, (2) the child had limited opportunities to interact with other children, and (3) the child had limited opportunities to participate in activities outside the house. Participants were instructed to rate each item on a 3-point scale (1 = *don't agree at all/not at all* to 3 = *agree completely/a lot*). All items proved to be significantly intercorrelated (all $p < .001$). Scores were summed to create a child COVID-19-related social isolation score ($\alpha = .69$); higher scores reflect greater social isolation.

Caregiving distress. For the assessment of caregiving distress, participants reported on perceived daily parenting stress, on their availability to care for the child and on the psychological impact from COVID-19. Regarding parenting stress, caregivers completed the parenting stress subscale of the Daily Hassles Questionnaire (Kanner et al., 1981). This subscale includes nine items concerning stressors related to the daily activities of parenthood, rated on a 5-point scale (0 = *no hassle* to 4 = *big hassle*). Items were summed to obtain a final score ($\alpha = .87$; $M = 6.21$, $SD = 5.59$); greater scores indicate elevated parenting stress. Caregivers also rated their availability to care for the child during the pandemic based on two items (“Due to the COVID-19 pandemic, I have less time to be with my child”; “Due to the COVID-19 pandemic, I have been less emotionally available to interact with my child”) using a 3-point scale (*don't agree at all/not at all* to *agree completely/a lot*). The two items were found to be significantly associated ($r_s = .39$, $p < .001$) and were then summed ($M = 2.76$, $SD = .98$, range 1-6). Finally, the psychological impact from COVID-19 on caregivers was measured based on the single item (“I have become depressed because of the Coronavirus [COVID-19]”) ($M = 1.71$, $SD = .83$, range 1-4) from the psychological impacts scale of the Coronavirus Impacts Questionnaire (Conway, Woodard, & Zubrod, 2020), following previous studies (Kerr et al., 2021), using a 4-point scale (*not true of me at all* to *very true of me*). Parenting stress, parental availability and the psychological impact from COVID-19 all

proved to be significantly correlated ($p < .001$). Scores were standardized and then combined, resulting in a caregiving distress composite. Higher scores indicate increased caregiving distress.

Demographics and COVID-19 economic hardship in the family. Participants answered questions about several sociodemographic factors, including their age and sex, years of education, marital status, number of children, age and sex of the target child, as well as COVID-19 economic hardships in the family. Regarding COVID-19 economic hardships, caregivers were asked to rate on a 4-point scale (*not true at all* to *totally true*) whether the family experienced the following economic stressors due to the pandemic: (1) negative impact in the household finances, (2) reduction of the household income due to job loss, and (3) difficulty in acquiring essential goods such as food and toilet paper. Scores of each item were summed to create a COVID-19 economic hardship score ($\alpha = .70$; $M = 4.62$, $SD = 2.01$). Higher scores reflect increased socioeconomic risk.

Data analysis

Data were analyzed using IBM SPSS Statistics version 27. Bivariate correlations among study variables were examined, as well as between toddlers' EBH and sociodemographic variables to identify potential covariates. Main analyses were then performed to examine the relations between toddlers' EBH, social isolation and caregiving distress. Two moderation analysis were performed separately for toddlers' emotional/behavioral problems and toddlers' emotional/behavioral competencies as dependent variables using the PROCESS macro for SPSS (Hayes, 2012). For each of the models, COVID-19 economic hardship and sociodemographic variables selected based on the preliminary analysis' findings were entered as covariates, COVID-19-related social isolation was entered as independent variable, and caregiving distress was entered as moderator variable. The PROCESS macro provides regression estimates of the independent and moderator variables as well as their interaction using bootstrapping methods (5000 bootstrapped samples) that are robust to non-normality.

Results

Preliminary analysis: descriptive statistics and bivariate correlations

Descriptive statistics for the study variables can be found in Table 1.

Regarding stressors related to COVID-19, most children were reported to have somewhat or very limited opportunities (score of 2 or higher) to interact with other family members ($n = 279$, 88.5%), with other children ($n = 274$, 87%), or to participate in outdoor activities ($n = 280$, 88.8%). Moreover, 19.6% ($n = 62$) and 44.4% ($n = 140$) of caregivers somewhat or completely agreed that they had less time or were less emotionally available (score of 2 or higher) to interact with their child due to the pandemic, respectively. Moreover, 57.7% ($n = 182$) of caregivers agreed (score of 2 or higher) with the statement "I have become depressed because of COVID-19". In

addition, for 56.2% ($n = 178$), 7% ($n = 22$), and 33% ($n = 105$) of families, the COVID-19 pandemic had some to very negative impact (score of 2 or higher) on the overall family finances, on the acquisition of essential goods, and had led to a reduction in family income due to the loss of jobs, respectively.

Correlations between child EBH and covariates

Examination of potential demographic covariates revealed no significant correlations between toddlers' EBH and child age or caregiver's age, sex, marital status, number of children, employment status or area of residence (all $p > .05$). Girls were reported to have significantly less emotional/behavioral problems ($t(342) = -2.66, p = .008$) and higher emotional/behavioral competencies ($t(313) = 4.47, p < .001$) than boys. Maternal education ($r_s = -.14, p = .014$) and COVID-19 economic hardship ($r = .18, p = .001$) were significantly correlated with more emotional/behavioral problems. Maternal education was also significantly correlated with child emotional/behavioral competencies ($r_s = .19, p < .001$). No other statistically significant correlations were observed. Based on these results, in the subsequent analyses, we controlled for the effect of child sex, maternal education and COVID-19 economic hardship on toddlers' EBH.

Correlations between child EBH, predictor and moderator

Regarding the relations between child EBH and main study variables, COVID-19-related social isolation was found to be significantly correlated with toddlers' emotional/behavioral problems ($r = .15, p = .010$), but not with child competencies. Caregiving distress was significantly correlated with more emotional/behavioral problems ($r = .25, p < .001$) and with less emotional/behavioral competencies ($r = -.13, p = .025$). Greater social isolation was significantly correlated with higher levels of caregiving distress ($r = .28, p < .001$).

Main analysis: Predicting child EBH

Table 2 presents the moderation analyses assessing the main and interaction impact of COVID-19-related social isolation and caregiving distress on toddlers' emotional/behavioral competencies and problems, while controlling for the effect of child sex, maternal education, and COVID-19 economic hardship.

Predictors of toddlers' emotional/behavioral competencies

According to the Table 2, and regarding covariates, both child sex ($\beta = -1.40, p < .001, 95\% \text{ CI: } -1.97, -.79$) and maternal education ($\beta = .77, p = .03, 95\% \text{ CI: } .02, 1.48$) proved to be significant predictors of child emotional/behavioral competencies. COVID-19-related social isolation and caregiving distress did not emerge as individual predictors of child emotional/behavioral competencies. However, the interaction of these two variables proved significant ($\beta = -.09, p = .041, 95\% \text{ CI: } -.17, -.01$). As illustrated in Figure 1, COVID-19-related

social isolation predicted less emotional/behavioral competencies ($\beta = -.39, p = .022, 95\% \text{ CI: } -.72, -.06$), but only among toddlers exposed to high levels of caregiving distress. The final model accounted for 10% of the variance.

Predictors of emotional/behavioral problems

Regarding the covariates, child sex ($\beta = 1.51, p = .010, 95\% \text{ CI: } .36, 2.71$) emerged as a significant predictor of toddlers' emotional/behavioral problems. COVID-19-related social isolation, but not caregiving distress, was found to be a significant individual predictor of more child emotional/behavioral problems ($\beta = .41, p = .042, 95\% \text{ CI: } .03, .79$). The interaction involving COVID-19-related social isolation and caregiving distress also proved significant ($\beta = .25, p = .004, 95\% \text{ CI: } .06, .45$) (see Table 2). Follow-up analysis revealed that the effect of COVID-19-related social isolation on child emotional/behavioral problems was significant for toddlers exposed to medium ($\beta = .40, p = .043, 95\% \text{ CI: } .01, .79$) and high levels ($\beta = 1.02, p = .002, 95\% \text{ CI: } .38, 1.66$) of caregiving distress, but not for children experiencing low levels of caregiving distress (see Figure 2). The final regression model accounted for 14% of the variance.

Discussion

The present cross-sectional study explored the impact of the second mandatory lockdown in Portugal, which occurred during the third peak of the COVID-19 pandemic in Europe, on the well-being of toddlers and their families, by examining the putative associations between COVID-19-related social isolation experienced by the child, caregiving distress, and toddlers' EBH (including competencies and problems), while controlling for the effect of COVID-19 economic hardship and other sociodemographic factors (i.e., child sex, maternal education).

Results revealed no significant main effect of COVID-19-related social isolation or caregiving distress on toddlers' emotional/behavioral competencies. However, social isolation was found to be a significant individual predictor of toddlers' emotional/behavioral problems. This result may suggest that although the COVID-19 crisis may not have an impact on the normative development of toddlers' emotional/behavioral abilities, it may represent a disruptive experience triggering the manifestation of emotional/behavioral problems. Such possibility is certainly in line with COVID-19 recent literature showing that stressors related to the pandemic, most notably isolation and quarantine, negatively impacts child and youth mental health (Cohodes et al., 2021; Feinberg et al., 2021; Jiao et al., 2020; Loades et al., 2020; Orgilés et al., 2020), as well as with an extensive body of literature showing the importance of toddlers' early socialization with adults and peers (Brownell & Brown, 1992; Vandell, 2000) and participation in outdoor activities (Burdette & Whitaker, 2005)

for their EBH. However, it also points to the need of more research, anchored on a longitudinal design, to better understand the impact of COVID-19 on the EBH of very young children, including both competencies and problems. After all, to date, most studies were exclusively focused on the examination of emotional and behavioral problems – and not competencies – in the context of the pandemic.

In line with our hypothesis, caregiving distress was found to be a significant moderator of the relation between COVID-19-related social isolation and more emotional/behavioral competencies and problems in toddlers. As a result of the pandemic, caregivers experienced many changes to their routines: e.g., parents had to work from home while struggling with childcare or to work at essential jobs, had to face daily concerns about the health and well-being of the family, and some had to deal with job insecurity. Not surprisingly, studies have been pointing to an increase of parenting stress levels, burnout and emotional distancing from the child, and other negative outcomes for parents (e.g., anxiety, depression) in the context of COVID-19 (Achterberg et al., 2021; Aguiar et al., 2021; Calvano et al., 2021). This might be particularly concerning in the case of Portuguese families, where both parents usually work a high number of working hours (Torres et al., 2014) and often count on the support of extended family members - particularly grandparents - for childcare, which may hamper their capacity to manage the demands of both childcare and work in a situation of lockdown.

It is well-established that such factors may impair parents' ability for understanding and respond properly to their child's needs and engage in supportive and adaptive parenting behavior or (Abidin, 1992); thus, having a pervasive impact on child EBH (Lim & Shim, 2021). In fact, recent studies have shown that higher levels of parenting stress due to the COVID-19 crisis were associated with more negative parenting practices such as punitiveness (Wolf et al., 2021) and emotional abuse (Calvano et al., 2021), less parent-child closeness (Chung et al., 2022), and less involvement in children's activities (Spinelli et al., 2021). In line with such findings, recall that, in the present study, most of the caregivers agreed that lockdown had an impact on their emotional well-being, and almost half reported being less emotionally available to interact with their child due to the pandemic.

The significant moderations observed in this report suggest that in times of crisis, such as a pandemic, caring for the well-being of caregivers may serve as an important strategy to protect young children from the negative impact of stressors, such as social isolation, on their EBH. This is supported by theoretical considerations highlighting that early supportive relationships with caregiving adults, during the first years of life, are fundamental to children's adaptive emotional and behavioral functioning (Bowlby, 1969, 1973). It is also consistent with years of research suggesting that sensitive and responsive parenting can mitigate the detrimental impact of early negative events (Ruberry et al., 2018), as well as with recent work pointing to a

multifinality in the effect of COVID-19 on child functioning and development – i.e., not all children experienced difficulties due to the pandemic – which is likely explained by multiple factors, including family ones (Chung et al., 2022; Cohodes et al., 2021; Conway et al., 2020).

Maternal education and COVID-19 economic hardship were revealed to be significantly associated with toddlers' emotional/behavioral competencies and problems. It is well established that parental education and other family socioeconomic factors (e.g., employment, income) are, per se, strong predictors of toddlers' EBH (Conger & Donnellan, 2007). The pandemic has significantly increased families' exposure to socioeconomic challenges such as job or income loss that represented a major threat to parents' and toddlers' well-being (Aguiar et al., 2021). Furthermore, for parents who continued their job activities from home, the balance between work and family demands within the household was a major challenge, especially for those who lived in poor housing conditions or in situations of vulnerability (Craig & Churchill, 2021; Usher et al., 2020). In fact, previous studies showed that families exposed to higher socioeconomic disadvantage during the COVID-19 crisis, including job loss, were at particular risk for maladaptive parenting practices (Calvano et al., 2021) and deterioration in parent and child well-being (Feinberg et al., 2021). Moreover, sex emerged as a significant predictor of toddlers' EBH. These findings are in line with previous research suggesting that boys tend to experience emotional/behavioral difficulties more often than girls (Briggs-Gowan et al., 2004).

The present study extends a growing body of research showing the negative impact of the COVID-19 pandemic on children's and caregivers' functioning. Results highlighted the importance of providing support to caregivers during (current and future) public health crises, such as a pandemic, to prevent and reduce their experienced stress and toddlers' emotional/behavioral problems. Such support could be provided, for example, through online and/or telehealth interventions including stress management, parenting counseling, promotion of coping skills, capitalization of protective factors, accessing of social support, and/or support for dealing with specific lockdown measures such as home schooling. Feinberg et al. (2021) suggested that positive coparenting (i.e., parents' mutual support and childrearing coordination) could also be a powerful target to support families in a period of public health crisis, following a strong body of evidence showing that coparenting quality plays a significant role in promoting parents' mental health, positive parenting, and children's adjustment (Feinberg & Jones, 2018). Policies should take into consideration the implications of the COVID-19 crisis for children's and parents' emotional well-being and promote psychosocial support interventions not only for the immediate but also for the future. Such support may be particularly relevant for families exposed to socioeconomic disadvantages.

Limitations and future directions

Some limitations of the present study should be acknowledged. First, the cross-sectional nature of the data did not allow to determine causality. For a better understanding of the long-term impact of the COVID-19 crisis, future research should include the longitudinal examination of the COVID-19 effects on toddlers' EBH, associated mechanisms and pathways, as well as potential risk and resilience factors. Second, the assessment of toddlers' EBH was conducted through parental report, which may be more vulnerable to bias (Bornstein et al., 2015). In future studies assessing toddlers' EBH in the context of the COVID-19 crisis, it would be relevant to use direct observational measures, whenever possible. Third, ninety-three percent of toddlers in our sample were attending childcare center services, which is a strong protective factor for toddlers' EBH. Therefore, generalization of results to toddlers who do not attend childcare services should be made carefully. Furthermore, most of the caregivers in our sample were highly educated. Such limitation combined with the fact that the data were collected through an online survey that limited the reach of families with no access to a web connection, might limit the generalization of results to families living in extreme socioeconomic risk conditions. Furthermore, 86% of the children were raised in two-parent households. Therefore, our results are not generalizable to single-parent families, who are more vulnerable to COVID-19 stressors according to previous research (Hertz, Mattes, & Shook, 2021). The internal consistency of the BITSEA Competence scale was found to be below .70, very similar to the results obtained in other studies (e.g., $\alpha = .65$, Briggs-Gowan et al., 2004), and therefore findings should be interpreted carefully. Other aspects that were not considered in the present study and should be addressed by future studies include the examination of both parents' stress experience and the impact on toddlers' functioning, the examination of high-risk groups such as toddlers with an intellectual disability or neurodevelopmental disorders, and the cross-cultural comparison of the effects of the COVID-19 crisis on families between different countries.

Conclusion

Our study provides novel and preliminary evidence of the negative impact of the COVID-19 crisis on the functioning of Portuguese families and toddlers' emotional/behavioral problems. During public health crises such as COVID-19, it might be relevant to provide and strengthen psychosocial support to parents and toddlers and reducing caregiving distress may be an important way of promoting toddlers' EBH. Additional research should explore the long-term impact of COVID-19 stressors on caregiver adjustment and child development while identifying resilience factors. This is critical to preventing and minimizing the negative consequences of future pandemics on the well-being of children and their parents.

371 **Statements**

372 **Conflict of interest** All authors declare no competing interests.

373 **Ethical Standards** The ethical requirements followed the guidelines present in the 1964 Declaration of Helsinki

374 and its later amendments. Ethics approval was obtained from the University [blinded review].

375 **Consent to participate** All participants provided informed consent to participate.

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384 Table 1
 385 *Descriptive Statistics.*

	<i>M</i>	<i>SD</i>	Min - Max
Child age (in months)	26.73	5.71	18 – 36
Caregivers' age (in years)	35.15	5.61	21 – 55
COVID-19 economic hardships	4.62	2.01	2 – 12
COVID-19-related social isolation	6.89	1.56	3 – 9
Caregiving distress	-.01	1.65	-2.09 – 5.95
Child emotional/behavioral problems	9.57	5.50	0 – 34
Child emotional/behavioral competencies	18.00	2.75	8 – 22
	<i>n</i>	<i>%</i>	
<i>Sex, children</i>			
Boy	169	53.7	
Girl	146	46.3	
<i>Education, caregivers</i>			
Less than high school	15	4.7%	
High school	67	21.3%	
University degree	233	74%	
<i>Marital status, caregivers</i>			
Married/civil union	250	86%	
Divorced/separated	7	2.2%	
Single	36	11.4%	
Widowed	2	.6%	

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Table 2

387 *Moderation Analysis of Toddlers' COVID-19-Related Social Isolation and Caregiving Distress on Toddlers' EBH.*

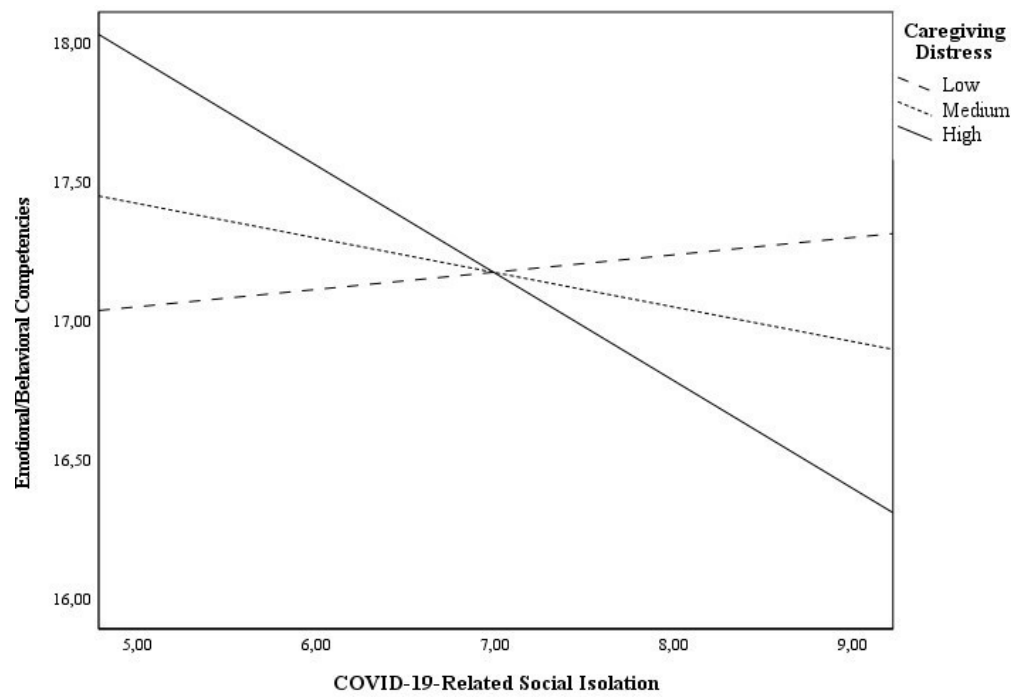
	Emotional/Behavioral Competencies *			Emotional/Behavioral Problems **		
	<i>B</i>	<i>p</i>	CI (95%)	<i>B</i>	<i>p</i>	CI (95%)
Child sex	-1.40	.000	-1.97, -.79	1.51	.010	.36, 2.71
Caregivers' education	.77	.03	.02, 1.48	-.36	.60	-1.80, .98
COVID-19 economic hardship	-.08	.33	-.26, .08	.13	.44	-.20, .49
COVID-19 social isolation	-.16	.11	-.35, .02	.41	.042	.03, .79
Caregiving distress	.64	.06	.06, 1.24	-1.25	.055	-2.63, .13
COVID-19 social isolation x caregiving distress	-.09	.041	-.17, -.01	.25	.004	.06, .45

* $R = .32$, $R\text{-sq} = .10$, $F = 5.69$, $p = .000$ ** $R = .37$, $R\text{-sq} = .14$, $F = 8.20$, $p = .000$

CI = Confidence interval

Child sex was coded as 1 = female, 2 = male

388

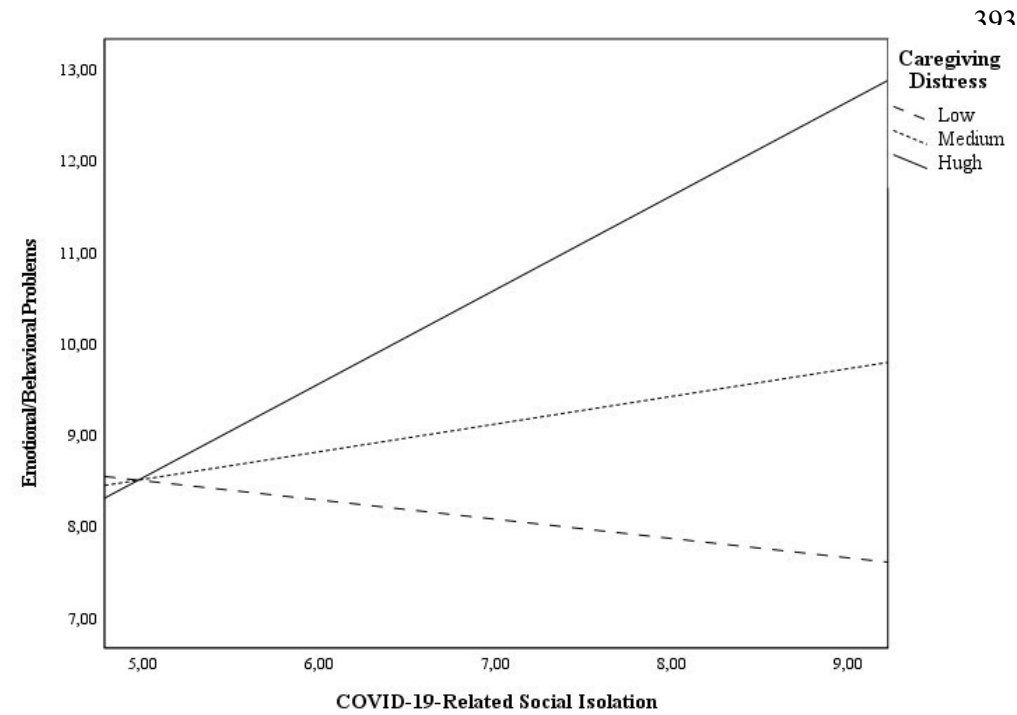


389

390 *Figure 1.* Caregiving distress moderates the effects of COVID-19-related social isolation on toddlers'

391 emotional/behavioral competencies.

392



406 *Figure 2. Caregiving distress moderates the effects of COVID-19-related social isolation on toddlers'*
407 *emotional/behavioral problems.*