Original Article

Mental Health Distress in Families During the First Year of the COVID-19 Pandemic

Findings From a Help-Seeking Sample

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Abstract: *Theoretical Background:* Increased mental health distress in children and families during the COVID-19 pandemic has been widely reported in studies. *Aim:* During the first year of the COVID-19 pandemic (i. e., 2020 – 2021), we examined a help-seeking sample for child distress and the associations with parent distress, quality of life, and COVID-19-specific factors, aiming to describe families seeking help. *Method:* We conducted an online survey in help-seeking families (N = 169, children aged 5 – 17 years). *Results:* Children's anxiety and depression did not exceed clinical cutoffs but quality of life did. Only parental and child depressiveness were related. Child emotion regulation was shown to be the only relevant predictor of child anxiety, depressive symptoms, and quality of life, whereas no parental or COVID-19-related factors reached significance. *Discussion and Conclusion:* Specifics of our help-seeking sample differed from other COVID-19 studies, highlighting the relevance of taking a closer look at specific samples to provide custom-fit support.

Keywords: anxiety, depression, coping, prevention, parent, child, family

Psychische Belastung in Familien während der COVID-19-Pandemie. Erkenntnisse aus einer hilfesuchenden Stichprobe

Zusammenfassung: *Einleitung:* Eine erhöhte psychische Belastung von Kindern und Familien während der COVID-19-Pandemie wurde vielfach in Studien gefunden. In unserer Studie adressierten wir hilfesuchende Familien und untersuchten deren spezifische Belastung und mögliche zusammenhängende Faktoren, um zukünftige Präventionsprogramme passgenau auszugestalten. Die Annahmen waren, dass eine erhöhte Belastung bei Kindern vorlag, kindliche und elterliche Psychopathologie assoziiert sind und familiäre Faktoren die kindliche Psychopathologie erklären. *Methoden:* Im Rahmen einer altersübergreifenden Längsschnitt- und Interventionsstudie erhoben wir Ausgangsdaten von hilfesuchenden Familien (n = 169, Kinder im Alter von 5 – 17 Jahren). Wir untersuchten die von den Eltern eingeschätzte Psychopathologie des Kindes (Angst, depressive Symptome, Lebensqualität) sowie potenzielle Begleitfaktoren (psychische Probleme der Eltern, Emotionsregulation, Umgang mit kindlichen Emotionen, COVID-19-bedingter Stress). *Ergebnisse:* Die von den Eltern berichtete psychische Belastung der Kinder überstieg nicht die klinischen Grenzwerte für Angst und depressive Symptome. Die Lebensqualität wurde jedoch unterhalb des Grenzwerts bewertet. Einzig elterliche und kindliche Depressivität waren korreliert. Die kindliche Emotionsregulation erwies sich als einziger relevanter assoziierter Faktor für kindliche Angst, depressive Symptome und Lebensqualität, während keine elterlichen oder COVID-19-bezogenen Faktoren Signifikanz erreichten. *Diskussion:* Unsere hilfesuchende Stichprobe unterschied sich von anderen Studien zur psychischen Gesundheit von Kindern, da Kinder in der aktuellen Studie weniger belastet waren als in zahlreichen anderen Studien. Auch zeigte sich ein Unterschied zu anderen Studien mit Blick auf die fehlende Assoziation zwischen elterlicher und kindlicher Psychopathologie, die in anderen Studien oft, wenn auch nicht immer, gefunden wird. Die Suche nach Hilfe ist somit möglicherweise nicht allein durch die Belastung durch psychische Probleme bedingt. Eine weitere Untersuchung nach spezifischen Merkmalen von Populationen getrennt (wie z. B. Hilfesuchverhalten) scheint somit sinnvoll. Präventionsprogramme sollten die Belastung der Familie berücksichtigen.

Schlüsselwörter: Angst, Depression, Prävention, Eltern, Kind, Familie

Mental health distress increased during the COVID-19 pandemic (for an overview, see Kauhanen et al., 2023; Panchal et al., 2023; Samji et al., 2022). Although an increase in depressive and anxiety symptoms was the main finding (Kauhanen et al., 2023; Samji et al., 2022), higher levels of irritability and anger were also reported (Panchal et al., 2021). Previous research on catastrophes and endemic events suggests that affected individuals

experience acute mental health distress but might also be affected in the long-term (e.g., Meewisse et al., 2011). Therefore, even though the pandemic phase of COVID-19 has been declared over, mental health strains will remain and possibly increase. This increase meets a system that struggled to support all help-seeking patients even before the pandemic (e.g., Plötner et al., 2022). Thus, we need accessible, low-threshold, and evidence-based (preventative) mental health care but also a detailed description of families seeking help. A specific understanding of help-seeking families can help practitioners target mental health care interventions accordingly.

Mental Health Distress in Families During the COVID-19 Pandemic

Children and families alike were significantly vulnerable to the stress of the COVID-19 pandemic and the accompanying restrictions (e.g., Gadermann et al., 2021, Gayatri & Irawaty, 2022). Mental health distress in more than one family member (e.g., Cheung & Theule, 2016; Wesseldijk et al., 2018) can add to individual vicious circles of maladaptive coping with emotions, family conflict, and psychopathology (e.g., Middeldorp et al., 2016). Thus, one family member being affected can lead to an upward spiral of increasing mental health strain both in children and in parents. At the same time, there is potential for a downward spiral that releases mental health distress in one party if the other is treated (e.g., Schneider et al., 2013).

To effectively prevent and mitigate psychological distress, research on potential associative risk and protective factors is essential: In a systematic review with mostly population-based samples, younger age, female gender, and prepandemic mental illness emerged as relevant risk factors (Panchal et al., 2023) as did family conflict, worry, and difficulty with online learning during the pandemic in an online sample (Magson et al., 2021). At the same time, connectedness and social relationships emerged as relevant protective factors (Jones et al., 2022; Magson et al., 2021; Panchal et al., 2023).

Furthermore, general insights into emotions and psychopathology suggest other relevant family factors might be individual emotion regulation (ER) deficits (e.g., Aldao et al., 2010; Compas et al., 2017) and how parents cope with their child's negative emotions (e.g., Morris et al., 2007, 2017). The latter factor relates to the process of emotion (regulation) development, as the child develops ER strategies in the family context, for example, shaped by parenting behavior, family climate, and parent psychopathology (e.g., Morris et al., 2007, 2017). That is, the refinement of said ER strategies unfolds with parents' assistance during childhood and adolescence (Morris et al., 2007). Summing up, both child and parent psychopathology should be included as potential associations for mental health distress in children as well as the child's individual ER strategies and parents' coping with the child's negative emotions. Complementing previous studies in the general population, we aimed to describe these factors in families seeking help, that is, in potentially more distressed families.

The Current Study

The current study delved into a comprehensive description of a help-seeking sample during the COVID-19 pandemic to examine an index child's and their parents' psychopathology and other family factors. Our objective was to extend previous insights from representative studies (e.g., Racine et al., 2021; Ravens-Sieberer et al., 2022) by focusing on a specific group of families seeking assistance and describing potential correlational factors within this sample, thereby informing prevention strategies. We assumed that child mental health distress would exceed established clinical cutoff values. We further expected child psychopathology to be positively related to parent psychopathology. We conducted exploratory analyses into how various factors (i.e., social isolation, COVID-19-related events and distress, ER, etc.) predict child psychopathology within this distinctive sample.

Method

Study Design

The current study used cross-sectional data from a sample of help-seeking families participating in a stepped-care program for mental health distress. We have previously described the longitudinal design in a study protocol (Langhammer et al., 2021). The intervention ("Stressfrei nach Corona", Langhammer et al., 2021) consisted of a first step (chatbot online intervention) and, if necessary, a second step (synchronous digital group program) that were both based on cognitive behavior therapy and specifically adapted to the pandemic. All procedures contributing to this work complied with the ethical standards of the relevant national and institutional committees on human experimentation and with the Helsinki Declaration of 1975, as revised in 2013. The study protocol was registered at the German Clinical Trial Register (DRKS00023220; https://www.drks.de) and approved by the local ethics committee (#2020–35). The program

was offered to children, adolescents, and adults alike. Data on all participating adults are reported elsewhere (Hilbert et al., 2022). The current study focused on baseline data.

Participants

We advertised the study using official press releases and mailing lists of the local university and social media (Instagram, Facebook). We further dispatched information material to mental health care providers and emailed corporate health management offices. Finally, the program was promoted in local and national newspaper, radio, and TV interviews.

Parents could join as either individuals targeting their own well-being or as parents targeting their child's health distress. We examined the baseline data of parents of children aged 5–17 years who registered for the stepped-care program from the beginning of the program, September 1, 2020, until the end of the recruitment phase, April 15, 2021. The survey was opened in a web browser by 410 people. Of these, 264 started the survey, 94 were excluded due to incomplete data, and one asked for data removal, resulting in a sample of 169 participants with a complete dataset. A further 21 had to be excluded as their children did not fit the inclusion criteria because they were older or younger or their age was not reported, resulting in a final sample of 148. Parents were asked to report on their child's health distress (Survey 1) and their own health distress (Survey 2). Since a few adolescents participated directly and self-reported about their symptoms ($n = 21$) and those few datasets could not be assigned to parents, those self-reports were not included further in the analysis. Also, not all parents completed the self-report questionnaire, resulting in missing data of 83 parents. Thus, the analyses with parent self-report rely on a smaller sample size of 65.

Procedure

The study was conducted fully online. Parents registered with their email address and then received a link for participation. The email address was separately stored for the duration of the study to contact participants. At baseline, participants provided data on sociodemographic information (age, sex, children, education) and completed questionnaires on COVID-19-related questions and the index child's psychopathology.

Psychometric Measures

Assessment of Parental Distress

Parental distress was assessed with a German translation of the Patient Health Questionnaire (PHQ-9, Version C). This allows for both dimensional measurement (severity of symptoms) and categorical determination (cutoffs for clinically relevant symptomatology). Version C of the PHQ-9 is a validated instrument for the assessment of depressive (nine items) and anxiety/panic (seven items) symptoms (Gräfe et al., 2004; Kroenke et al., 2002; 2010; Spitzer et al., 2006). Quality of life was assessed with the 8-Item Short-Form Health Survey (SF-8; Ware et al., 2001). Cutoffs exist for all questionnaires (PHQ-9; Manea et al., 2012; Generalized Anxiety Disorder 7 [GAD-7], Spitzer et al., 2006; SF-8, Ware et al., 2001). Internal consistency was excellent for all measures (PHQ-9: $\alpha = .882$; GAD-7: $\alpha = .896$; SF-8: $\alpha = .869$).

Assessment of Child Distress

The adolescent version of the PHQ (PHQ-A) asks about depressive symptoms (nine items) as well as personal impairment within the past 2 weeks (Richardson et al., 2010). For a broader range of distress but not essential to the overall study, the subscales hyperactivity, conduct problems, and prosocial behaviors were assessed with 15 items of the Strength and Difficulties Questionnaires (SDQ; Woerner et al., 2004). Also, a measure of life quality was implemented (KIDSCREEN-10; Ravens-Sieberer et al., 2005, 2014). Finally, a short version (Ahlen et al., 2018) of the Spence Child Anxiety Scale (SCAS; Spence et al., 2003) measured anxiety symptoms with 19 items. Parents of younger children (aged 5–10 years) and of adolescents (aged 11–17 years) reported on all symptoms. All questionnaires show good psychometric qualities (Ahlen et al., 2018; Richardson et al. 2010; Spence et al., 2003; Woerner et al., 2004) and serve as dimensional (severity of symptoms) and categorical (cutoffs for clinically relevant symptomatology) measures, analogous to the measurement of psychopathology in adulthood. Internal consistency was excellent for most measures (PHQ-A: $\alpha = .821$, KIDSCREEN-10: $\alpha = .798$, SCAS: $\alpha = .827$). The SDQ subscales showed very low to acceptable consistency (conduct problems: $\alpha = .029$, hyperactivity: $\alpha = .068$, prosocial behaviors: $\alpha = .788$). As we aimed to assess externalizing behavior with the SDQ but the scales did not show sufficient internal consistency, we excluded the SDQ. Subscales have previously been found to be not always reliable (Stone et al., 2010).

Parental Coping

The Coping With the Child's Negative Emotions Scale (CCNES; Fabes et al., 2002) assesses parental reactions to

their child in emotionally challenging situations. Owing to length restrictions, only the nonsupportive subscales *minimizing* and *punitive* reactions were used, for a total of 18 items on which parents were asked to rate the probability of use on a 7-point Likert scale. We used age-adapted versions for younger children (aged 5–10 years) and adolescents (aged 11–17 years), which were merged using a *z* standardization. The CCNES shows good psychometric properties in general (Fabes et al., 2002) and in our sample (internal consistency of subscales α = .761–.789).

Stress-Inducing Factors Related to the COVID-19 Pandemic

We aimed to capture pandemic-specific parameters that could potentially influence the desire for help. This included financial burdens and burdens due to social restrictions and distance schooling. Participants reported on event-related stress on a 5-point Likert scale (ranging from *not at all* to *a lot/very much*) or with *yes* or *no*. For some items (see Results section), parents reported on both the current situation at the time of assessment and retrospectively for the period during the first lockdown.

Emotion Regulation

ER was assessed using separate questionnaires for children (Emotion Regulation Questionnaire for Children and Adolescents, ERQ-CA; Gullone & Taffe, 2012) and adults (Emotion Regulation Questionnaire, ERQ; Gross & John, 2003). These questionnaires assess the strategies reappraisal (six items) and suppression (four items), asking how much the items apply on a 7-point Likert scale. All questionnaires show good psychometric properties in general (Gross & John, 2003; Gullone & Taffe, 2012) and in our sample (internal consistency of subscales α = .632–.917).

Data Analysis

Participant characteristics and COVID-19-specific effects are described using descriptive statistics. The relation between child and parent psychopathology was calculated using Pearson correlations. Finally, we exploratively describe the association of child psychopathology with potentially relevant factors in a multiple hierarchical regression (i.e., Step 1: parental coping with child's negative emotions; Step 2: child ER; Step 3: parental ER; Step 4: COVID-19-related events and distress) for child depression, child anxiety, and child quality of life as criteria in separate analyses. Analyses were conducted using IBM SPSS version 29.0; *p* values were set at .05.

Results

Participants Characteristics

Children on whom parents reported (i.e., the index children) were around 9 years old (*M* = 9.28 years, *SD* = 3.24, range = 5.01–17.59 years) with a wide age span in parents (mothers: *M* = 41.98 years, *SD* = 6.30, range = 27.99–56.38 years; fathers: *M* = 44.71 years, *SD* = 7.04, range = 29.45–69.45 years). The mean age of the youngest child in the house was 6.54 years (*SD* = 3.46, range = 0–14 years) and of the oldest child, 10.07 years (*SD* = 4.53, range = 5–23 years). Further descriptive information is presented in Electronic Supplementary Material ESM 1.

Parents reported about worries regarding COVID-19, general health care, and other factors. The following variables stood out with a mean score of > 2 (i.e., "some distress"): burden due to contact restrictions and the impression that social relationships have suffered (for a full overview, see Tables 1–3). Further concerns and effects of COVID-19 are listed in Tables 2 and 3.

Frequent concerns (i.e., > 50 %) about the child as reported by parents in the sample were loneliness, boredom, aggression, tension, worries, loss of concentration, and family conflict. Interestingly, almost all symptoms dropped in frequency from the first lockdown to the current situation (slight change of weight and intrusive thoughts). Slower pace of daily life and more time in the family were frequently (i.e., > 50 %) affirmed as positive effects.

Parental assessment of child psychopathology as a mean score was not above the clinical cutoff in the symptom questionnaires but was below the cutoff in the quality of life questionnaire. Parents self-rated above the cutoff of clinical relevance in the area of depressiveness (see Table 4). Notably, about one third of the children were regarded as clinically affected for anxiety and depression. Further, almost half of the parents exceeded the cutoff for anxiety and depression.

Relation of Parental and Child Psychopathology

A significant relation was found between parental and child psychopathology for depressive symptoms, $r = .300$, $p = .008$, between child depressive symptoms and parent quality of life, $r = .238$, $p = .038$, and between parent and child quality of life, $r = -.250$, $p = .030$ (see Table 5), but these did not remain significant after application of a Bonferroni correction for multiple testing (all analyses exceeded the new significance level of $p < .006$).

Table 1. COVID-19-related events and distress (parent report on a 5-point Likert scale ranging from 1 = *not at all* to 5 = *a lot/very much*

	Degree of distress from *not at all* to *very much* *M (SD)*
I was concerned that my child would not receive adequate medical care for other conditions (e. g., postponing treatment, not getting appointments with a primary care physician)	1.04 (1.25)
My child was concerned that he/she would not receive adequate medical care for other conditions (e. g., postponing treatment, not getting appointments with a primary care physician)	0.43 (.99)
The contact restrictions have put an overall strain on my child	2.93 (1.01)
I have the impression that my child's social relationships, e. g., with friends or family members, have suffered long-term damage	2.00 (1.22)
My child has the impression that his/her social relationships, e. g., with friends or family members, have suffered long-term damage	2.01 (1.42)
My child has been concerned about our financial situation (e. g., rent, living expenses)	0.52 (0.94)
I would assign my child to a risk group	0.41 (0.98)

Table 2. Current COVID-19-related concerns (parent report on child)

	Frequency of "yes" *N* = 169
I was concerned that my child had COVID-19, but no test was done or a test was not done in a timely manner	20 (11.8 %)
My child was concerned that he/she had COVID-19, but no test was done or a test was not done in a timely manner	14 (8.28 %)
My child was sick with COVID-19	0 (0 %)
My child was already burdened by mental health problems or a mental disorder before the pandemic	33 (19.5 %)
My child has developed mental health problems or a mental disorder	56 (33.1 %)

Table 3. COVID-19-related symptoms (parent report on child)

	Frequency of "yes" during first lockdown (Spring 2020) *N* = 169	Frequency of "yes" at the time of assessment (Fall 2020 to Spring 2021) *N* = 169
Loneliness	123 (72.8 %)	101 (59.8 %)
Boredom	138 (81.7 %)	110 (65.1 %)
Aggression	87 (51.5 %)	77 (45.6 %)
Physical arousal	120 (71.0 %)	109 (64.5 %)
Sleeping problems	75 (44.4 %)	69 (40.8 %)
Anxiety	83 (49.1 %)	77 (45.6 %)
Worries	110 (65.1 %)	96 (56.8 %)
Lack of drive	74 (43.8 %)	67 (39.6 %)
Dejection	76 (45.0 %)	68 (40.2 %)
Loss of concentration	99 (58.6 %)	95 (56.2 %)
Loss of control	50 (29.6 %)	55 (32.5 %)
Change in weight	30 (17.8 %)	43 (25.4 %)
Intrusive thoughts	33 (19.5 %)	41 (24.3 %)
Interpersonal conflict	117 (69.2 %)	105 (62.1 %)
Deceleration[a]	98 (58.0 %)	83 (49.1 %)
More time in family[a]	124 (73.4 %)	113 (66.9 %)

Note. [a]Positive items.

Table 4. Mental health distress

	Children $N = 148$			Parent $N = 65$		
	Parent report *M (SD)*	% above/below cutoff	Clinical cutoff	Self-report *M (SD)*	% above cutoff	Clinical cutoff
Anxiety	15.14 (7.46)	32.5	>17	9.69 (5.09)	45.5	≥ 10
Depressive Symptoms	8.27 (5.38)	34.3	≥ 10	10.51 (5.89)	45.5	≥ 10
Quality of life	33.41 (5.62)	89.9	< 41	23.22 (6.07)	n.a.	

Note. n.a. = not applicable. Anxiety child – Spence Child Anxiety Scale (SCAS); anxiety parent – Generalized Anxiety Disorder (GAD); depressive symptoms child – Patient Health Questionnaire for Adolescents (PHQ-A); depressive symptoms parent – Patient Health Questionnaire (PHQ); quality of life child – KIDSCREEN; quality of life parent – 8-Item Short-Form Health Survey (SF-8).

Table 5. Relation between child and parent psychopathology ($n = 77$)

	Parent – anxiety	Parent – depressive symptoms	Parent – quality of life
Child – anxiety	.198	.108	.135
Child – depressive symptoms	.217	.300*	.238*
Child – quality of life	-.103	–.143	–.250*

Note. Anxiety child – Spence Child Anxiety Scale (SCAS); anxiety parent – Generalized Anxiety Disorder (GAD); depressive symptoms child – Patient Health Questionnaire (PHQ-A); depressive symptoms parent – Patient Health Questionnaire (PHQ); quality of life child – KIDSCREEN; quality of life parent – 8-Item Short-Form Health Survey (SF-8). *No longer significant after Bonferroni correction.

Regression Models on Child Mental Distress

Depressive Symptoms

A hierarchical multiple regression analysis with child depressive symptoms as criterion resulted in only child reappraisal as a significant predictor, β = –.502, for the significant overall model, $R^2 = .285$, $F_{(3,60)} = 7.97$, $p < .001$.

Anxiety Symptoms

A hierarchical multiple regression analysis with child anxiety symptoms as criterion resulted in child (β = –.286) and parent (β = .309) reappraisal as significant predictors, but only with a trend toward significance for the overall model, $R^2 = .403$, $F_{(5,58)} = 2.25$, $p = .062$.

Quality of Life

A hierarchical multiple regression analysis with child quality of life as criterion resulted in child reappraisal (β = .288) and child suppression (β = –.300) as significant predictors, for the significant overall model, $R^2 = .403$, $F_{(13,50)} = 2.59$, $p = .008$. For a detailed overview, see Electronic Supplementary Material ESM 2.

Discussion

This study aimed to describe a sample of children and parents who sought help for child mental health during the first year of the COVID-19 pandemic. The main findings were (a) reported distress for children mainly concerned quality of life and not depressive or anxiety symptoms, (b) specific associations between parent and child psychopathology were not found, and (c) ER appeared as the single significant predictor of children's psychopathology.

The World Health Organization has highlighted the tremendous impact of the pandemic on mental health,[1] leaning on a meta-analysis including 80,879 youths showing a prevalence rate of 25.2% for elevated levels of depressive symptoms and 20.5% for anxiety symptoms. Contrary to previous studies assessing child mental health distress during the pandemic (e.g., Ravens-Sieberer et al., 2022), our sample did not report elevated levels of child mental health distress: This was only found for quality of life and not for depressive or anxiety symptoms (Finding a). This contradicts findings of the adult sample in our project (Hilbert et al., 2022). However, it should be acknowledged that parents reported anxiety or depressive symptoms exceeding the clinical cutoff for about one third of the children. This is in line with other research (e.g., Cost et al., 2021) and supports the need to discuss the heterogeneity of

[1] https://apps.who.int/iris/rest/bitstreams/1412184/retrieve (retrieved on June 28, 2022).

the population, that is, not all are equally distressed but some are affected more than others. Although there is consensus that the pandemic brought about mental health distress (Kauhanen et al., 2023; Panchal et al., 2023; Samji et al., 2022), larger reviews have also pointed out that the pandemic's impact might not be as high as often discussed for the majority of the population (Newlove-Delgado et al., 2023). However, child mental health distress might not have been the (only) relevant factor for parents seeking help for their child – they might have been spurred by elevated levels of parent depression. Depressive symptoms can be accompanied by a feeling of being overwhelmed in handling child care (Russell, Tamling et al., 2021) and with cognitive biases that might affect the parent's view of their child and the child's need for help (Everaert et al., 2012). As such, parents' depressive symptoms in our sample might have interfered with the view of their child's need for help. Thus, overall parental family strain should be considered for both help-seeking behavior and prevention programs. In our underlying study protocol (Langhammer et al., 2021), we had assumed a general association between child and parent psychopathology, which was not found when applying Bonferroni corrections (Finding b). This is inconsistent with studies on mental health distress in families (e.g., Ahmadzadeh et al., 2019; Hentges et al., 2021). However, whereas the meta-analysis found an association between parents' and their offspring's internalizing symptoms, this was not found in all original studies and led to only a small overall effect (Ahmadzadeh et al., 2019). Still, this was somewhat surprising, as COVID-19 restrictions relied heavily on restrictions of social contacts and thus a withdrawal of social reinforcement for all family members. A large number of studies have now shown that parent–child interaction and parental resilience are protective factors for child internalizing symptoms (e.g., Russell, Tomkunas et al., 2022), leading to the assumption that something other than parent psychopathology behavior might be at play, but this was not addressed in our study. Interestingly, worries regarding contact restrictions did not emerge as a relevant predictor of child distress. Instead, a stable predictor across all symptoms of distress was child ER (Finding c). This fits with past research (Compas et al., 2017) and provides evidence that ER may be a crucial factor in reinforcing distress, but also a possible target for prevention. COVID-19-relevant worry or parental management of negative emotions was not found to be predictive of child distress. It is possible that these factors implicitly reinforce stress but do not have a direct effect on increasing child distress. Especially a lack of influence of parental coping on child psychopathology was somewhat surprising, as previous studies have repeatedly shown the relevance of parents for child mental health during the pandemic (e.g., Bate et al.,, 2021; Russell, Tomkunas et al., 2022). However, this could have been because we focused on negative parental risk factors, whereas other studies also focused on protective parental factors.

Further need for discussion arises regarding both the recruitment and the composition of our sample. Although studies have shown in many cases that families and children in particular were distressed by the pandemic, we were able to collect full data from only 148 families during the period of our study, compared with data from adults (n = 1,269, Hilbert et al., 2022). This extends the question of who seeks help: Is it less a question of distress than of access? Our intervention was designed to be low threshold and was broadly advertised in the local and national media. Potentially, the crucial trigger was less the acute child mental health distress and more the other stress factors, such as organizational issues regarding school. It is also conceivable that despite an extremely low threshold (online access, anonymity, etc.), stigma played a role. Further, it is conceivable that particularly distressed families had fewer of the resources needed to participate (e.g., no digital devices, too little time). Finally, the assessment of help-seeking behavior in children and adolescents themselves might have led to different results. However, although we invited adolescents age 11–17 years to self-report, participation was low. Thus, our study indicates that in addition to developing and extending evidence-based interventions, a strong focus on access to services (e.g., in direct contact via schools and contact persons there) is necessary to target hard-to-reach yet at-risk populations. Even effective, evidence-based prevention misses its aim if it does not reach the target population.

Although a substantial proportion of the adult sample participated in the stepped-care intervention (Hilbert et al., 2022), this was not the case for the family subsample. Our final goal of analyzing the applicability of a stepped-care approach was hence not achieved owing to low recruitment and, thus, there was a limited sample size in the family subsample. This may impact the current results. However, these difficulties lead to new directions for research such as tackling stigma and accessibility. Also, as in many COVID-19 studies, we needed to draw from other areas of research such as catastrophes and therefore did not include all moderators that have now been shown to be relevant (e.g., parent–child discussion; Magson et al., 2021). Finally, the study was available nationwide in Germany but recruitment largely focused on Berlin and neighboring areas in Brandenburg. Our sample was thus relatively urban, a population that might have had different struggles from those of residents in less populated areas in Germany during the pandemic.

As the COVID-19 pandemic has not been the sole crisis but one of many (e.g., climate crisis, refugee crisis due to war; e.g., Vergunst & Berry, 2022) and mental health care

is limited (cf. Plötner et al., 2022), now more than ever evidence-based prevention and individual but low-level access to treatment is key (Moreno et al., 2020). We therefore need research on potential mediators (e.g., ER, social support) to effectively use limited resources in indicated prevention. The current study points to the relevance of ER for child mental health distress, which could be addressed in prevention programs. Keeping our limited online sample size in mind, outreach programs might lead to better utilization than our program: School programs for students come to mind using a stepped-care approach. After informing all students about mental health and, thus, increasing mental health literacy, students at risk could receive low-level and on-site mental health care in school or – if necessary – be referred to psychotherapy (e.g., Evans et al., 2005; Rones & Hoagwood, 2000). Finally, patient and public involvement might be a way to target and engage hard-to-reach groups as early as in the planning stage and adapt a prevention program to their needs (Sellars et al., 2021). Still, further research on both the mechanism of impact of global crises and the effectiveness of prevention programs for these crises is necessary to inform mental health care.

Electronic Supplementary Material

The electronic supplementary material is available with the online version of the article at https://doi.org/10.1026/0942-5403/a000461

ESM 1. Sociodemographics.

ESM 2. Regression models on child mental distress.

References

Ahmadzadeh, Y. I., Eley, T. C., Leve, L. D., Shaw, D. S., Natsuaki, M. N., Reiss, D., Neiderhiser, J. M., & McAdams, T. A. (2019). Anxiety in the family: A genetically informed analysis of transactional associations between mother, father and child anxiety symptoms. *Journal of Child Psychology and Psychiatry*, *60*(12), 1269 – 1277. https://doi.org/10.1111/jcpp.13068

Ahlen, J., Vigerland, S., & Ghaderi, A. (2018). Development of the Spence children's anxiety scale-short version (SCAS-S). *Journal of Psychopathology and Behavioral Assessment*, *40*, 288 – 304.

Aldao, A., Nolen-Hoeksema, S., & Schweizer, S. (2010). Emotion-regulation strategies across psychopathology: A meta-analytic review. *Clinical Psychology Review, 30*(2), 217 – 237.

Bate, J., Pham, P. T., & Borelli, J. L. (2021). Be my safe haven: Parent–child relationships and emotional health during COVID-19. *Journal of Pediatric Psychology*, *46*(6), 624 – 634.

Cheung, K., & Theule, J. (2016). Parental psychopathology in families of children with ADHD: A meta-analysis. *Journal of Child and Family Studies*, *25*, 3451 – 3461.

Compas, B. E., Jaser, S. S., Bettis, A. H., Watson, K. H., Gruhn, M. A., Dunbar, J. P., Williams, E., & Thigpen, J. C. (2017). Coping, emotion regulation, and psychopathology in childhood and adolescence: A meta-analysis and narrative review. *Psychological Bulletin*, *143*(9), 939.

Cost, K. T., Crosbie, J., Anagnostou, E., Birken, C. S., Charach, A., Monga, S., Kelley, E., Nicolson, R., Maguire, J. L., Burton, C. L., Schachar, R. J., Arnold, P., D., & Korczak, D. J. (2021). Mostly worse, occasionally better: Impact of COVID-19 pandemic on the mental health of Canadian children and adolescents. *European Child & Adolescent Psychiatry, 31*, 671 – 684. https://doi.org/10.1007/s00787-021-01744-3

Evans, S. W., Mullett, E., Weist, M. D., & Franz, K. (2005). Feasibility of the MindMatters school mental health promotion program in American schools. *Journal of Youth and Adolescence*, *34*, 51 – 58.

Everaert, J., Koster, E. H., & Derakshan, N. (2012). The combined cognitive bias hypothesis in depression. *Clinical Psychology Review, 32*(5), 413 – 424.

Fabes, R. A., Poulin, R. E., Eisenberg, N., & Madden-Derdich, D. A. (2002). The Coping with Children's Negative Emotions Scale (CCNES): Psychometric properties and relations with children's emotional competence. *Marriage & Family Review, 34*(3 – 4), 285 – 310. https://doi.org/10.1300/J002v34n03_05

Gadermann, A. C., Thomson, K. C., Richardson, C. G., Gagné, M., McAuliffe, C., Hirani, S., & Jenkins, E. (2021). Examining the impacts of the COVID-19 pandemic on family mental health in Canada: Findings from a national cross-sectional study. *BMJ Open*, *11*(1), e042871.

Gayatri, M., & Irawaty, D. K. (2022). Family resilience during COVID-19 pandemic: A literature review. *The Family Journal*, *30*(2), 132 – 138.

Gräfe, K., Zipfel, S., Herzog, W., & Löwe, B. (2004). Screening psychischer Störungen mit dem "Gesundheitsfragebogen für Patienten (PHQ-D)" [Screening of mental disorders with the Health Questionnaire for Patients (PHQ-D)]. *Diagnostica*, *50*(4), 171 – 181. https://doi.org/10.1026/0012-1924.50.4.171

Gross, J. J., & John, O. P. (2003). Individual differences in two emotion regulation processes: Implications for affect, relationships, and well-being. *Journal of Personality and Social Psychology*, *85*(2), 348.

Gullone, E., & Taffe, J. (2012). The emotion regulation questionnaire for children and adolescents (ERQ–CA): A psychometric evaluation. *Psychological Assessment*, *24*(2), 409.

Hentges, R. F., Graham, S. A., Plamondon, A., Tough, S., & Madigan, S. (2021). Bidirectional associations between maternal depression, hostile parenting, and early child emotional problems: Findings from the all our families cohort. *Journal of Affective Disorders*, *287*, 397 – 404.

Hilbert, K., Boeken, O., Asbrand, J., Seemann, S., Langhammer, T., Praxl, B., Horváth, L., Ertle, A., & Lueken, U. (2022). Who is seeking help for psychological distress associated with the COVID-19 pandemic? Characterization of risk factors in 1269 participants accessing low-threshold psychological help. *PLoS One, 17*(7), e0271468. https://doi.org/10.1371/journal.pone.0271468

Jones, S. E., Ethier, K. A., Hertz, M., DeGue, S., Le, V. D., Thornton, J., Lim, C., Dittus, P. J., & Geda, S. (2022). Mental health, suicidality, and connectedness among high school students during the COVID-19 pandemic – Adolescent Behaviors and Experiences Survey, United States, January–June 2021. *MMWR Supplements*, *71*(3), 16.

Kauhanen, L., Wan Mohd Yunus, W. M. A., Lempinen, L., Peltonen, K., Gyllenberg, D., Mishina, K., Gilbert, S., Bastola, K., Brown, J. S. L., & Sourander, A. (2023). A systematic review of the mental health changes of children and young people before and during

the COVID-19 pandemic. *European Child & Adolescent Psychiatry, 32*(6), 995 – 1013.
Kroenke, K., Spitzer, R. L., & Williams, J. B. (2002). The PHQ-15: Validity of a new measure for evaluating the severity of somatic symptoms. *Psychosomatic Medicine*, *64*(2), 258 – 266.
Kroenke, K., Spitzer, R. L., Williams, J. B., & Löwe, B. (2010). The patient health questionnaire somatic, anxiety, and depressive symptom scales: A systematic review. *General Hospital Psychiatry*, *32*(4), 345 – 359.
Langhammer, T., Hilbert, K., Praxl, B., Kirschbaum, C., Ertle, A., Asbrand, J., & Lueken, U. (2021). Mental health trajectories of individuals and families following the COVID-19 pandemic: Study protocol of a longitudinal investigation and prevention program. *Mental Health & Prevention, 24*, 200221. https://doi.org/10.1016/j.mhp.2021.200221
Magson, N. R., Freeman, J. Y. A., Rapee, R. M., Richardson, C. E., Oar, E. L., & Fardouly, J. (2021). Risk and protective factors for prospective changes in adolescent mental health during the COVID-19 pandemic. *Journal of Youth and Adolescence, 50*(1), 44 – 57. https://doi.org/10.1007/s10964-020-01332-9
Manea, L., Gilbody, S., & McMillan, D. (2012). Optimal cut-off score for diagnosing depression with the Patient Health Questionnaire (PHQ-9): A meta-analysis. *CMAJ*, *184*(3), E191–E196.
Meewisse, M. L., Olff, M., Kleber, R., Kitchiner, N. J., & Gersons, B. P. (2011). The course of mental health disorders after a disaster: Predictors and comorbidity. *Journal of Traumatic Stress*, *24*(4), 405 – 413.
Middeldorp, C. M., Wesseldijk, L. W., Hudziak, J. J., Verhulst, F. C., Lindauer, R. J., & Dieleman, G. C. (2016). Parents of children with psychopathology: Psychiatric problems and the association with their child's problems. *European Child & Adolescent Psychiatry*, *25*, 919 – 927.
Moreno, C., Wykes, T., Galderisi, S., Nordentoft, M., Crossley, N., Jones, N., Cannon, M., Correll, C., Byrne, L., Carr, S., Chen, E. Y. H., Gorwood, P., Johnson, S., Kärkkäinen, H., Krystal, J. H., Lee, J., Lieberman, J., López-Jaramillo, C., Männikkö, M. ... & Arango, C. (2020). How mental health care should change as a consequence of the COVID-19 pandemic. *The Lancet Psychiatry, 7*(9), 813 – 824.
Morris, A. S., Criss, M. M., Silk, J. S., & Houltberg, B. J. (2017). The impact of parenting on emotion regulation during childhood and adolescence. *Child Development Perspectives, 11*(4), 233 – 238.
Morris, A. S., Silk, J. S., Steinberg, L., Myers, S. S., & Robinson, L. R. (2007). The role of the family context in the development of emotion regulation. *Social Development, 16*(2), 361 – 388.
Newlove-Delgado, T., Russell, A. E., Mathews, F., Cross, L., Bryant, E., Gudka, R., Ukoumunne, O. C., & Ford, T. J. (2023). Annual research review: The impact of Covid-19 on psychopathology in children and young people worldwide: Systematic review of studies with pre-and within-pandemic data. *Journal of Child Psychology and Psychiatry, 64*(4), 611 – 640.
Panchal, U., Salazar de Pablo, G., Franco, M., Moreno, C., Parellada, M., Arango, C., & Fusar-Poli, P. (2023). The impact of COVID-19 lockdown on child and adolescent mental health: Systematic review. *European Child & Adolescent Psychiatry*, 32. 1151 – 117. https://doi.org/10.1007/s00787-021-01856-w
Plötner, M., Moldt, K., In-Albon, T., & Schmitz, J. (2022). Einfluss der COVID-19-Pandemie auf die ambulante psychotherapeutische Versorgung von Kindern und Jugendlichen [Impact of the COVID-19 pandemic on outpatient psychotherapeutic care for children and adolescents]. *Die Psychotherapie*, *67*(6), 469 – 477.
Racine, N., McArthur, B. A., Cooke, J. E., Eirich, R., Zhu, J., & Madigan, S. (2021). Global prevalence of depressive and anxiety symptoms in children and adolescents during COVID-19: A meta-analysis. *JAMA Pediatrics*, *175*(11), 1142 – 1150.
Ravens-Sieberer, U., Erhart, M., Devine, J., Gilbert, M., Reiss, F., Barkmann, C., Siegel, N. A., Simon, A. M., Hurrelmann, K., Schlack, R., Hölling, H., Wieler, L. H., & Kaman, A. (2022). Child and adolescent mental health during the COVID-19 pandemic: Results of the three-wave longitudinal COPSY study. *Journal of Adolescent Health*, *71*(5), 570 – 578.
Ravens-Sieberer, U., Gosch, A., Rajmil, L., Erhart, M., Bruil, J., Duer, W., Auquier, P., Power, M., Abel, T., Czemy, L., Mazur, J., Czimbalmos, A., Tountas, Y., Hagquist, C., Kilroe, J., & the European KIDSCREEN Group. (2005). KIDSCREEN-52 quality-of-life measure for children and adolescents. *Expert Review of Pharmacoeconomics & Outcomes Research, 5* (3), 353 – 364.
Ravens-Sieberer, U., Herdman, M., Devine, J., Otto, C., Bullinger, M., Rose, M., & Klasen, F. (2014). The European KIDSCREEN approach to measure quality of life and well-being in children: Development, current application, and future advances. *Quality of Life Research, 23*(3), 791 – 803.
Richardson, L. P., McCauley, E., Grossman, D. C., McCarty, C. A., Richards, J., Russo, J. E., Rockhill, C. & Katon, W. (2010). Evaluation of the Patient Health Questionnaire-9 Item for detecting major depression among adolescents. *Pediatrics*, *126*(6), 1117 – 1123.
Rones, M., & Hoagwood, K. (2000). School-based mental health services: A research review. *Clinical Child & Family Psychology Review*, *3*(4).
Russell, B. S., Tambling, R. R., Horton, A. L., Hutchison, M., & Tomkunas, A. J. (2021). Clinically significant depression among parents during the COVID-19 pandemic: Examining the protective role of family relationships. *Couple and Family Psychology: Research and Practice, 10*(3), 190.
Russell, B. S., Tomkunas, A. J., Hutchison, M., Tambling, R. R., & Horton, A. L. (2022). The protective role of parent resilience on mental health and the parent–child relationship during COVID-19. *Child Psychiatry & Human Development, 53*, 183 – 196. https://doi.org/10.1007/s10578-021-01243-1
Samji, H., Wu, J., Ladak, A., Vossen, C., Stewart, E., Dove, N., Long, D., & Snell, G. (2022). Mental health impacts of the COVID-19 pandemic on children and youth – A systematic review. *Child and Adolescent Mental Health*, *27*(2), 173 – 189. https://doi.org/10.1111/camh.12501
Schneider, S., In-Albon, T., Nuendel, B., & Margraf, J. (2013). Parental panic treatment reduces children's long-term psychopathology. *Psychotherapy and Psychosomatics*, *82*(5), 346 – 348.
Sellars, E., Pavarini, G., Michelson, D., Creswell, C., & Fazel, M. (2021). Young people's advisory groups in health research: Scoping review and mapping of practices. *Archives of Disease in Childhood*, *106*(7), 698 – 704.
Spence, S. H., Barrett, P. M., & Turner, C. M. (2003). Psychometric properties of the Spence Children's Anxiety Scale with young adolescents. *Journal of Anxiety Disorders, 17*(6), 605 – 625. https://doi.org/10.1016/S0887-6185(02)00236-0
Spitzer, R. L., Kroenke, K., Williams, J. B., & Löwe, B. (2006). A brief measure for assessing generalized anxiety disorder: The GAD-7. *Archives of Internal Medicine*, *166*(10), 1092 – 1097.
Stone, L. L., Otten, R., Engels, R. C., Vermulst, A. A., & Janssens, J. M. (2010). Psychometric properties of the parent and teacher versions of the strengths and difficulties questionnaire for 4-to 12-year-olds: A review. *Clinical Child and Family Psychology Review*, *13*, 254 – 274.
Vergunst, F., & Berry, H. L. (2022). Climate change and children's mental health: A developmental perspective. *Clinical Psychological Science*, *10*(4), 767 – 785.
Ware, J. E., Kosinski, M., Dewey, J. E., & Gandek, B. (2001). How to score and interpret single-item health status measures: A

manual for users of the SF-8 health survey. *Lincoln, RI: QualityMetric Incorporated*, *15*(10), 5.
Wesseldijk, L. W., Dieleman, G. C., van Steensel, F. J. A., Bartels, M., Hudziak, J. J., Lindauer, R. J. L., Bögels, S. M., & Middeldorp, C. M. (2018). Risk factors for parental psychopathology: A study in families with children or adolescents with psychopathology. *European Child & Adolescent Psychiatry*, *27*, 1575–1584.
Woerner, W., Becker, A., & Rothenberger, A. (2004). Normative data and scale properties of the German parent SDQ. *European Child & Adolescent Psychiatry*, *13*, ii3–ii10.

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Conflict of Interest
K.H. is a scientific advisor and received virtual stock options of Mental Tech GmbH, which develops an AI-based chatbot providing mental health support. The Mental Tech GmbH also provided the chatbot Aury, which was the first stepped-care intervention in this project. All other authors declare no conflict of interest.

Publication Ethics
This article contains studies on minors and their parents that were conducted by the authors. A written declaration of consent has been obtained from all those involved in the survey. The research project has been ethically and legally advised by the responsible ethics committee.

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