

Strained Parenting and Emotion Regulation

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Summary

The study examined the relationship between emotion regulation and parenting under emotional strain across various stress contexts—personal, familial, and environmental. Through four empirical studies, it investigated how different emotion regulation strategies, including reappraisal, mentalization, suppression, and rumination, affect parental well-being and functioning. The findings indicate that the use of reappraisal and mentalization serves as a protective factor during times of distress, whereas rumination and suppression are associated with higher levels of psychological distress and parental burnout. These results highlight the importance of providing emotional and cognitive support to parents—particularly those raising children with disabilities—to strengthen their resilience and parental functioning.

Keywords: parenting, emotion regulation, disabilities, parental burnout, rumination, mentalization, reappraisal, stress contexts.

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Abstract

This dissertation examined the complex relationship between emotion regulation (ER) strategies and strained parenting across various challenging contexts. Through four studies, we investigated how different ER strategies (including reappraisal, mentalizing, suppression, and rumination) influence parental well-being, parent-child relationships, and children's emotional development under conditions of heightened stress. The research focused on three key sources of parental strain: child-related factors, parent-related factors, and environmental stressors.

Study 1 included a systematic review examining how parents of children with disabilities regulate their emotions and how their ER tendencies relate to both parent and child outcomes. The review revealed that parents of children with disabilities experience higher levels of emotion dysregulation and use reappraisal less frequently compared to parents of typically developing children. While reappraisal was associated with better outcomes for both parents and children, rumination and suppression were linked to distress and negative parenting practices. Based on these findings, we proposed the Strained Parenting and Emotion Regulation (SPER) model, which explains how heightened negative emotions, limited cognitive resources, and disrupted parent-child interactions can create a cycle of emotion dysregulation.

Study 2 investigated the role of parental mentalization in mediating and moderating the relationship between parental depressive symptoms and children's ER abilities. Results showed that parental depressive symptoms were negatively associated with children's ER skills, mediated by parental pre-mentalizing modes. In addition, parental certainty about mental states emerged as a protective factor, weakening the link between parental depressive symptoms and

children's ER difficulties, whereas parental interest and curiosity did not moderate this relationship as expected. These findings highlight the crucial role of parental mentalizing capacity in shaping children's emotional development in the context of parental depression.

Study 3 examined ER as a buffer against COVID-19-related stress and mental health difficulties during the pandemic lockdowns. We investigated how factors at multiple levels of the socio-ecological system influenced maternal mental health during two peak periods of the pandemic in Israel. Results demonstrated that reappraisal was associated with lower distress levels, while suppression was linked to higher psychological distress.

Study 4 investigated the relationship between trait and state ER and parental burnout during the Israel-Hamas war that began in October 2023. We examined both dispositional tendencies and situational use of reappraisal and rumination through questionnaires and an emotion regulation task. Results showed that while trait reappraisal did not moderate the link between war-related stress and parental burnout, rumination significantly intensified this relationship. Additionally, state reappraisal effectively reduced negative emotions during the ER task, while rumination increased emotional distress.

Collectively, these studies reveal a complex bidirectional relationship between strained parenting and ER. While adaptive ER strategies, particularly reappraisal, consistently serve as protective factors across various stressful parenting contexts, the capacity to use these strategies may be compromised under conditions of chronic or acute stress. The findings highlight a paradox: parents under strain might benefit significantly from adaptive ER strategies, yet their ability to utilize these strategies may be impaired by the very stress they're experiencing. Our findings suggest that efforts to enhance parental ER skills should be accompanied by practical support to bolster parents' resources.

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1. General Introduction

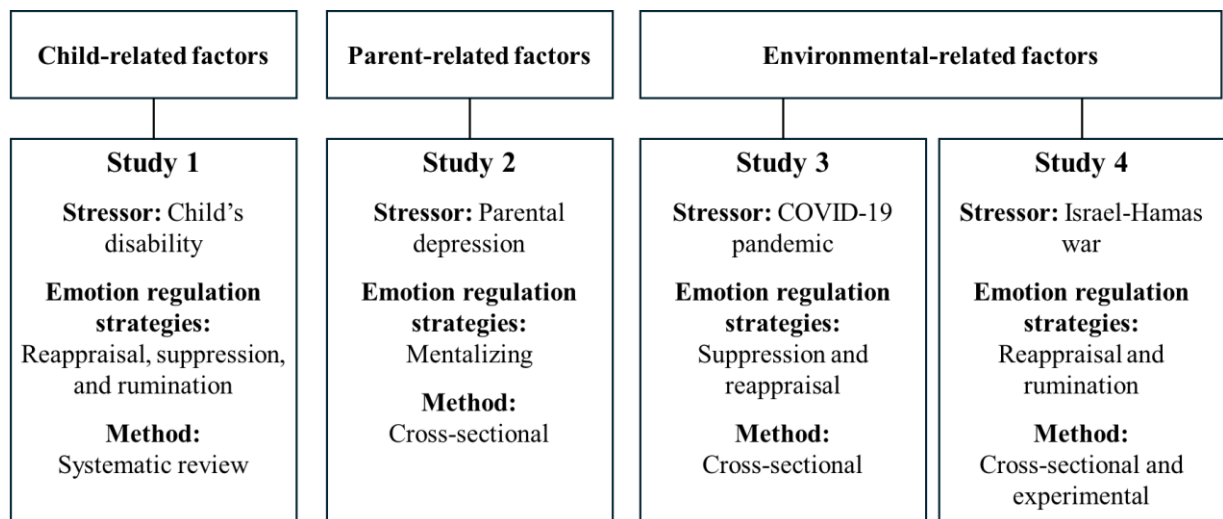
“Being a parent is the single greatest feeling on Earth. Not including those wonderful years I spent without a child, of course” –Ryan Reynolds

Parenthood can enhance psychological development and well-being, but parenting is hard work and often involves high stress (Bornstein, 2019). Parenting stress is a widespread phenomenon that has a crucial impact on the mental health of parents and their children, making it an important concept to investigate (Abidin, 1990, 1992; Deater-Deckard, 2008; Fang et al., 2022). Strained parenting refers to the distress parents experience when they perceive the demands of parenting as exceeding their available resources to cope with these demands (Deater-Deckard, 2008). This stress can significantly impact parents, children, and the parent-child relationship. Higher levels of parenting stress are associated with increased depression, anxiety, and fatigue in parents, as well as lower quality of parenting behavior. Additionally, it is linked to adverse outcomes in children, such as emotional and behavioral problems, socio-emotional dysfunction, and lower social competence (see review: Fang et al., 2022).

It has become apparent that family outcomes following the impact of a stressor event are the result of multiple factors interacting with each other (McCubbin & Patterson, 2014), therefore, examining different types and sources of stress is imperative. Psychological research on the sources of parenting stress has identified three main domains: parent, child, and situational (Abidin, 1992). The parent domain includes individual differences like personality traits and psychopathology. The child domain involves behavioral factors, including disabilities and disorders. The situational domain encompasses broader environmental, economic, cultural, and political contexts (Abidin, 1990, 1992). While significant research has been devoted to understanding parental stress and its contributing factors, there remains a notable gap in the literature regarding the protective and risk factors within each domain. The current dissertation

extends Abidin’s framework by incorporating emotion regulation (ER) strategies as key moderators in the stress process. By bridging Abidin’s parental stress model with ER research, this dissertation offers a nuanced understanding of how stress and coping mechanisms interact in parenting. The ability to regulate emotions is a crucial factor in determining resilience (Troy & Mauss, 2011). Therefore, I investigated the relationship between ER strategies (reappraisal, mentalizing, suppression and rumination) and parental and child’s well-being, across various sources of stress. Specifically, Study 1 examined child-related stress, focusing on parents of children with disabilities. Study 2 explored parental stress arising from parent-related factors, specifically, parental depression. Studies 3 and 4 investigated stress due to situational factors: Study 3 centered on the COVID-19 pandemic as a stressor, while Study 4 examined the Israel-Hamas war as the source of stress. Together, these set of studies shed light on the crucial role ER strategies play in parental well-being in different contexts and stress sources (see Figure 1 for the dissertation structure).

Figure 1. Overview of the dissertation structure



1.1. Sources of strained parenting

1.1.1. Strained parenting and child-related factors

Actual or perceived characteristics of children can contribute significantly to strained parenting. One of the strongest child-related factors that contribute to strained parenting is disorders and disabilities of the child's (Deater-Deckard, 2004). Previous studies have shown that parents of children with disabilities experience higher levels of depression (Scherer et al., 2019), more strained family relationships (Goudie et al., 2014), higher level of stress (Hayes & Watson, 2013) and higher level of fatigue (Giallo et al., 2016; Seymour et al., 2013), compared to parents of children with typical development. Parenting a child with a disability introduces unique challenges for parents' ER, as the child's disability often impacts their own ER development. Given the bidirectional nature of parent-child interactions, children with disabilities may place additional strain on their parents' ER capacities (Barrett et al., 2012). Therefore, it is essential to explore ER processes among parents of children with disabilities, understand how these processes differ from those of parents of typically developing children, and examine the connection between ER and parental mental health. Study 1 of the current dissertation presents a systematic review and a conceptual model linking emotion regulation to strained parenting among parents of a child with a disability (Keleynikov et al., 2023).

1.1.2. Strained parenting and parents-related factors

Numerous parent-related factors can serve as sources of stress, including demographic characteristics, personality traits, and parental functioning. Among these, parental psychopathology, particularly depression—stands out as a significant contributor to stress. Experiencing psychopathology during parenthood, especially parental depression, profoundly impacts both parental well-being and family dynamics (Thomason et al., 2014). According to previous findings, even mild levels of depression that do not meet the criteria for a major

depressive episode can have adverse effects on parents and their children (Sidor et al., 2011; Thomason et al., 2014). These adverse effects include lower well-being, negative parenting practices, and more emotional and behavioral problems among the child (see for review Field, 2010). Parental depression can negatively impact both parents' and children's ER abilities, as it often disrupts the mechanisms of ER and the socialization of ER within the family (Granat et al., 2017; Morris et al., 2007; Visted et al., 2018). That is, depressed parents frequently face difficulties in effectively regulating their emotions and in parental mentalizing—the ability to interpret behaviors as expressions of underlying mental states. As a result, they may model maladaptive emotional expression and regulation strategies while exhibiting an impaired capacity for self-reflection, potentially impairing their children's ER development (Granat et al., 2017; Schultheis et al., 2019; Visted et al., 2018). In the current dissertation, Study 2 explored the link between parental depression and child's emotion regulation and the moderating role of parental mentalization (Keleynikov et al., 2024a).

1.1.3. Strained parenting and environmental-related factors

Parenting does not occur in a vacuum; therefore, strained parenting can be related to environmental factors. The importance of considering environmental-related influences when studying family dynamics, parenting, and child development is well emphasized in Abidin work on parental stress (Abidin, 1992). Multiple stressors across various environmental layers can contribute to strained parenting (Abidin, 1990, 1992). For instance, the COVID-19 pandemic significantly increased parental stress, as parents were required to take on intensified educational responsibilities while simultaneously managing daily chores and work demands (Brown et al., 2020; Cluver et al., 2020). Research indicates that parents reported elevated stress levels, lower subjective well-being, and higher rates of burnout and depressive symptoms compared to non-parents (Adams et al., 2021; Kowal et al., 2020). Similarly, exposure to war has been shown to profoundly affect parental mental health, as well as parenting behaviors and

practices (Eltanamy et al., 2021; Kaniasty et al., 2012; Zanbar et al., 2023). A recent review highlighted that parent exposed to high levels of war-related stress exhibited increased harshness, hostility, and inconsistency, as well as diminished warmth in their interactions with their children (Eltanamy et al., 2021). In the current dissertation, we focused on two macro recent stressors: the COVID-19 pandemic crisis (Study 3; Keleynikov et al., 2024b) and the ongoing Israel-Hamas war (Study 4).

1.2. Emotion Regulation

Adapting to the stress and strains common during the parenthood phase requires parents to draw on their previous skills and experiences in mitigating stress and regulating their emotions adaptively (Maliken & Katz, 2013). Consequently, a crucial skill for effective parenting is emotion regulation (ER), which refers to the extrinsic and intrinsic processes that monitor, evaluate, and modify emotional reactions to achieve personal goals (Gross & Thompson, 2007). Parental ER is a critical process with far-reaching implications for parents, children, and family dynamics (Barros et al., 2015; Leerkes & Augustine, 2019; Roskam et al., 2023). Effective ER enables parents to manage their emotional responses while addressing the needs of their children, fostering a healthier parent-child relationship and overall family cohesion (Barros et al., 2015; Zimmer-Gembeck et al., 2022). As Dix (1991) aptly noted, “perhaps more than any other single variable, parents’ emotions reflect the health of the parent-child relationship” (p. 4). This regulation becomes even more vital under strained conditions, such as when parents face additional demands or during family stressors (Barros, 2015). Even in routine childrearing, parents must navigate emotionally charged situations requiring anticipatory problem-solving and emotional self-control (Zimmer-Gembeck et al., 2022). Thus, parental self-regulation is not only a cornerstone of effective parenting but also a buffer against the effects of stress on the family system.

Although ER is a critical psychological process with the potential to alleviate stress, research on regulatory functioning specifically adapted to caregiving contexts remains limited (Rutherford et al., 2015). This gap limits our understanding of how different strategies—adaptive or maladaptive—may serve to buffer or exacerbate the impacts of stress, across diverse parental contexts. That is, parental ER significantly influences a child’s development of regulation skills (Hajal & Paley, 2020; Morris et al., 2007). However, the reciprocal role of the child in shaping parental ER must also be considered, as highlighted by research on intergenerational cycles of behavior (Patterson, 2002). Additionally, it is essential to explore how parental psychopathology—including depression—affects parental ER within caregiving interactions, as these dynamics have profound implications for both parent and child outcomes. Moreover, the effectiveness and consequences of ER may vary significantly depending on the environmental context (Aldao, 2013; Doré et al., 2016; Troy et al., 2013). Thus, it is crucial to account for contextual influences, such as crises (e.g., pandemics or conflicts), when studying ER within family dynamics.

This work aims to address this critical gap by investigating how ER strategies enhance resilience or exacerbate the vulnerability of parents and their children across varying circumstances, including child, parental and environmental-related stressors. Our focus was on four ER strategies that are particularly relevant to the parenting and stress context: Reappraisal, mentalizing (which represents a specific form of affect regulation, e.g. Greenberg et al., 2017; Jurist, 2010), suppression, and rumination. Reappraisal and mentalizing are considered to be adaptive strategies that are often used in interventions aimed at reducing parental stress (Camoirano, 2017; Preuss et al., 2021). On the other hand, rumination and suppression are important determinants of negative emotions and behaviors among parents and have a unique and negative effect on ER socialization (Le & Impett, 2018; Stein et al., 2012).

1.2.1. Reappraisal

Reappraisal is the process by which individuals rethink an emotional event in a different way in order to change how they feel (Gross, 2008). Therefore, reappraisal enables people to change their emotional responses to the situation without avoiding it (Gross & John, 2003). Compared with other ER strategies, reappraisal leads to better personal outcomes in the long run, as indicated in reduced negative emotions, better social interactions, and overall improved well-being (Aldao et al., 2010; Gross & John, 2003; McRae, 2016). Relying on reappraisal during challenging parenting situations can reduce their emotional impact (Lorber, 2012). Consequently, it is unsurprising that reappraisal is associated with various positive parenting outcomes (Finkel et al., 2013; Zhang et al., 2023). Specifically, research indicates that reappraisal helps lower parenting stress and enhances resilience when facing challenges (Carreras et al., 2019).

While reappraisal is widely recognized as an adaptive emotion regulation strategy, it requires considerable cognitive effort (Milyavsky et al., 2019; Sheppes & Meiran, 2008). This demand makes reappraisal particularly challenging to use in situations involving intense emotional distress or depleted cognitive resources (Milyavsky et al., 2019; Sheppes et al., 2014; Sheppes & Meiran, 2008). For instance, individuals with depression demonstrate a lower tendency to use reappraisal compared to non-depressed individuals (see for review: Joormann & Stanton, 2016). Similarly, in high-intensity situations, people are less likely to choose reappraisal and instead tend to prefer less cognitively demanding strategies like distraction (Ford & Troy, 2019; Sheppes et al., 2014). Experimental studies further highlight that acute stress (Raio et al., 2013) and chronic stress (Golkar et al., 2014) impair individuals' ability to use reappraisal effectively. Consequently, it can be hypothesized that strained parents may exhibit a reduced tendency to engage in reappraisal or struggle to implement it successfully.

1.2.2. Mentalization

Mentalizing refers to the ability to understand and interpret both one's own and others' behaviors by attributing them to intentionally motivated mental states, such as emotions, desires, thoughts, wishes, and beliefs (Fonagy et al., 1991). While mentalization has not traditionally been categorized as a conventional ER strategy (Greenberg et al., 2017; Gross, 1998; Jurist, 2005, 2010), it is increasingly recognized as a closely related construct, with mentalization serving as a key predictor of effective ER abilities (Schwarzer et al., 2021, 2024). The ability to mentalize is particularly relevant in the parenting context, where a parent's ability to perceive their child as a psychological being with its own mental states—and to attune to these states—plays a critical role in shaping parenting behaviors and influencing child outcomes (Fonagy et al., 1991, 2016; Rutherford et al., 2015; Yatziv et al., 2020; Zeegers et al., 2017). For example, by recognizing that a child's challenging behavior may stem from unmet emotional needs, parents can regulate their emotional responses more effectively, reducing the risk of frustration or escalation. Research has shown that parental mentalizing is associated with secure attachment, greater parenting sensitivity, fewer internalizing and externalizing behaviors in children, and better ER of both the parent and the child (for review see Camoirano, 2017).

Research indicates that heightened emotional arousal is linked to a diminished capacity for mentalizing (Luyten et al., 2020), suggesting that parents under stress may struggle more with mentalizing. For instance, numerous studies have shown that parental depression can impair mentalizing abilities (for review see: Katznelson, 2014). Ramsauer and colleagues (2014) found that depressed mothers were less likely to reflect on their child's emotional needs and mental states compared to non-depressed mothers. These mothers also exhibited reduced sensitivity to their child's desires and struggles, often failing to recognize the child as a separate individual with distinct thoughts and feelings.

1.2.3. Suppression

Suppression is a response-focused strategy that involves the inhibition of emotion-related expressive behavior (Gross & John, 2003). Suppression is associated with negative psychological outcomes and worse interpersonal functioning (Cutuli, 2014; Gross & John, 2003; Niermeyer et al., 2019) and is usually considered to be a maladaptive ER strategy. In the context of parent-child interactions, parents may experience emotions that conflict with the emotions they wish to convey to their children, prompting them to suppress them (Le & Impett, 2018). However, relying on suppression during challenging interactions can impair parents' ability to respond sensitively to their children's needs (Karnilowicz et al., 2019). For example, parents who habitually suppress their emotions tend to exhibit more punitive and dismissive behaviors and are less engaged in emotional socialization, such as responding to their children's negative emotions (Hughes & Gullone, 2010; Karnilowicz et al., 2019; Waters et al., 2020). Yet, most of these studies weren't conducted in situations of high stress.

During stressful situations, one can assume that parents who convey calmness to their children, despite the anxiety that is contained within them (i.e. suppress their emotions), reassure the child that they are safe and that the situation is manageable, even when external circumstances are threatening. However, it is important to note that prolonged emotional suppression can have negative effects on the parent's mental health, increasing stress and triggering a heightened sympathetic response (Dan-Glauser & Gross, 2013; Webb et al., 2012), and harm children's adjustment to stress (Pat-Horenczyk et al., 2015). For example, a study conducted during the COVID-19 pandemic found that parental use of emotion suppression intensified the negative impact of pandemic-related stress on children's internalizing problems (Cohodes et al., 2022). In addition, studies conducted among parents with disabilities showed that suppression related to more parental distress (Hinman, 2019), and more negative parenting practices (Shenaar-Golan et al., 2017)

1.2.4. Rumination

Rumination, defined as the repetitive and persistent focus on the causes, consequences, and symptoms of one's negative emotions (Nolen-Hoeksema, 1991), can have a significant impact on parenting. In the context of parenting, which often involves heightened anxiety and self-doubt, rumination is particularly relevant. Parents frequently face situations where they question their decisions or feel overwhelmed by the demands of caregiving, creating fertile ground for ruminative thinking (Moreira & Canavarro, 2018). Moreover, rumination may impact parenting as it may hinder a parent's ability to respond to their child's cues effectively, due to diminished cognitive control and the influence of cognitive biases (Dejong et al., 2016; Stein et al., 2012). Research supports this idea, showing that maternal rumination is linked to later difficulties with bonding and attachment (Müller et al., 2013, Schmidt et al., 2016), and decreased parental responsiveness and sensitivity during parent-child interactions (Stein et al., 2012; Tester-Jones et al., 2016). Finally, both experimental and longitudinal studies have highlighted the role of rumination in the onset and progression of depression in adults (Nolen-Hoeksema et al., 2008; Watkins, 2008), suggesting that rumination may also negatively impact parents' mental health.

When considering strained parents, rumination is often viewed as a key risk factor that exacerbates the negative impact of stress on mental health (Cárdenas Castro et al., 2019; Venanzi et al., 2022). For example, rumination has been shown to intensify the relationship between COVID-19-related stress and parental burnout (Vertsberger et al., 2022). Furthermore, rumination was found to predict higher symptoms of PTSD, depression, and more substance use among war-exposed individuals (Jenness et al., 2016; Kelley et al., 2019; Morina, 2011). Among parents of children with disabilities, rumination has been linked to poor mental health (Megreya et al., 2020). Although rumination has clear negative consequences, individuals under strain are more likely to engage in this maladaptive strategy (Du et al., 2018; Koster et

al., 2011). For instance, research shows that individuals experiencing chronic stress tend to ruminate more over time (Nolen-Hoeksema et al., 1994). Similarly, self-reported stressful life events are linked to increased rumination over time (Michi et al., 2013). Moreover, individuals with depression or anxiety disorders show an increased tendency to use rumination (Joormann & Stanson, 2016; Olatunji et al., 2013), and so as parents of children with disabilities (Bonifacci et al., 2020).

1.3. Strained Parenting and Emotion Regulation

As mentioned above, adaptive ER strategies may mitigate the influence of stress on well-being while maladaptive ER strategies can enhance the effects of stress on psychological symptoms (Troy & Mauss, 2011). Indeed, reappraisal was found to be a protective factor against parental burnout (Lin et al., 2022), whereas rumination emerged as a risk factor for parental stress (Moreira & Canavarro, 2018). However, contextual and individual variation also plays an important role in how individuals utilize ER strategies and their effectiveness in reducing negative emotions (Aldao, 2013, Bonanno & Burton, 2013). For example, recent research highlights that emotion intensity influences the regulation process (Sheppes et al., 2014, Zimmermann & Iwanski, 2014). Specifically, at lower intensities, individuals tend to use reappraisal, an adaptive strategy for processing emotions. In contrast, higher intensities often prompt the use of avoidance strategies, such as distraction and suppression, which may disengage from emotions and further escalate their intensity (Sheppes et al., 2014; Zimmermann & Iwanski, 2014; Campbell-Sills et al., 2006). Likewise, a previous study showed that reappraisal is adaptive when stressors are uncontrollable but maladaptive when stressors can be controlled (Troy et al., 2013). These findings emphasize that ER strategies can have different results, depending on the characteristics of the stressor to which they are applied.

2. The Current Studies

The present studies aimed to explore the relationship between strained parenting and ER. Drawing on Abidin's (1990) framework, we examined three key sources of strained parenting: stressors related to the child's characteristics, the parent's characteristics, and broader environmental factors. These different sources of parental stress guided the informational structure of this dissertation. Specifically, **Study 1** concerned child-related stress, and included a systematic review examining how parents of children with disabilities regulate their emotions and how these ER tendencies relate to both the parents' and children's well-being, parenting practices, and the child's own ER. Specifically, this systematic review provided an overview of how ER is linked to mental health indicators and parenting practices among parents of children with disabilities. This review was performed according to PRISMA guidelines, which involve five steps: determining the research questions, identifying the relevant studies, assessing the quality of the studies, summarizing the evidence, and interpreting the results (Liberati et al., 2009). After the screening process, thirty-three peer-reviewed articles were included in the review. The cumulative age range of these children across all studies was 0–18 years.

Study 2, focused on strained parenting due to a parent-related factor (i.e. parental depression) and explored the moderating and mediating roles of parental mentalization in the link between parental depressive symptoms and children's ER abilities. Specifically, we focused on the three components of parental reflective abilities and examined each separately as a moderating or mediating variable in the relationship between parental depression and the child's emotion regulation. This approach allowed us to analyze how different aspects of reflective functioning influence the impact of parental depression on children's ER behaviors. The research encompassed a substantial and diverse sample, comprising parents of preschool-age children from various sectors and segments of the Israeli population. The sample consisted

of 732 parents (91% females; Mean age = 36.0, SD = 5.7), of children aged 2-7 years (51% females; Mean age = 4.9, SD = 0.9). The study variables were measured using online questionnaires, which included the PHQ-9 (Kroenke et al., 2001) to assess depression, the PRFQ (Luyten et al., 2017) to measure reflective functions, and the ERC (Shields & Cicchetti, 1997) to measure the child's emotion regulation. All the questionnaires were administrated and validated in Hebrew. Statistical analysis was conducted using the PROCESS mediation macro in SPSS (Hayes, 2017; Model 4), and linear regression.

Finally, Studies 3 and 4 focused on ER of parents experiencing environmental-related stress. **Study 3** was conducted during the COVID-19 pandemic and examined ER tendencies as a buffer against COVID-19-related stress and mental health difficulties. We have focused on the COVID-19 pandemic lockdowns, as longitudinal studies showed that there was a significant increase in the distress of parents during this period (Achterberg et al., 2021; Ferro et al., 2021). In the study, we used a social-ecological theoretical perspective to examine how factors at multiple levels of the socio-ecological system may account for the mental health effects of the COVID-19 outbreak on mothers. A repeated cross-sectional design was implemented, where each survey included a different sample of participants with similar socio-demographic characteristics. Data collection took place during two recruitment periods corresponding to peak periods of the COVID-19 pandemic in Israel. The first survey was administered from October to November 2020 (second lockdown). The second survey was conducted from January to February 2021 (third lockdown). The sample consisted of 575 mothers (Mean age 39.3, SD = 5.8), of children aged 0-18 (Mean age 7.6, SD = 3.6). The study variables measured using Hebrew validated questionnaires. ER tendencies were measured using the ERQ (Gross & John, 2003), and mental distress was measured using the DASS (Lovibond & Lovibond, 1995). To assess the social-ecological perspective that underpinned this study a hierarchical regression technique was used.

Study 4 took place during the Israel-Hamas conflict that started on October 7, 2023, and focused on the relationship between trait and state ER and parental burnout. We focused on two ER strategies: reappraisal, and rumination. Additionally, we used an ER task to assess the state use and efficacy of these strategies in mitigating negative emotions. This investigation therefore included both trait and state measures of emotion regulation strategies to present a more comprehensive view of the consequences of using these strategies during times of acute stress. The sample comprised of 588 parents (78% females; mean age = 37.8, SD = 7.4) of children aged 0-18 ($M = 6.8$ years, $SD = 4.6$). The study included a cross-sectional part in which we used questionnaires to measure the moderating role of ER tendencies on the link between war-related stress and parental burnout, using The study variables measured using Hebrew validated questionnaires. The second part of the study included an ER task. During the task, participants reported an adverse event stemming from the aftermath of the Israel-Hamas war within the parental sphere. They were then asked to write a letter to themselves to help them feel better about what happened. Immediately afterward, we assessed the extent to which participants used reappraisal and/or rumination and the efficacy of these strategies in reducing negative emotions.

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CHAPTER I

Emotion Regulation Among Parents Raising A Child With Disability: A Systematic Review And Conceptual Model.

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Emotion Regulation among Parents Raising a Child with Disability: A Systematic Review and Conceptual Model

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Abstract

To deal with the stress involved in parenting a child with a disability, parents might benefit from using adaptive emotion regulation (ER) strategies. ER may serve as a protective factor against psychological distress among parents of children with disabilities, as well as promote the healthy development of their child. In this paper, we delineate the factors that contribute to the use of adaptive and maladaptive ER strategies among parents of children with disabilities. To this end, a systematic review using the PRISMA guideline was conducted, targeting studies that examine ER in this population. Thirty-three eligible articles were identified and discussed. We first review which ER strategies have been examined among parents of children with disabilities and the implication of using these strategies on parents' well-being, parenting style, and child ER. Findings suggest that compared to their counterparts, parents of children with disabilities show emotion dysregulation patterns, which are associated with negative outcomes for both the parents and the child. Conversely, these parents utilize adaptive ER strategies to a lesser degree. Based on this literature review, we propose the Strained Parenting and Emotion Regulation (SPER) model, which posits that ER among parents of children with disabilities may be compromised due to three factors: intensified negative emotions, depleted cognitive resources, and challenging parent-child interactions. The SPER model emphasizes the presence of a vicious cycle, in which these three factors are presumably promoted by the use of maladaptive ER strategies, and their presence in turn limits the use of adaptive ER strategies, leading to the establishment of emotion dysregulation patterns in parents of children with disabilities.

Keywords Emotion regulation · Parents · Disabilities · Stress · Fatigue

Highlights

- The Strained Parenting and Emotion Regulation (SPER) Model delineates the links between parenting a child with a disability and emotion regulation, as well as the mechanisms mediating this link.
- Parents of children with disabilities show a higher tendency to use maladaptive and a lower tendency to use adaptive emotion regulation strategies vs. their counterparts.
- Parental emotion dysregulation is related to decreased well-being, less supportive parenting practices, and emotion dysregulation of the child.
- The SPER model suggests that emotion dysregulation results from intensified negative emotions, depleted resources, and impaired parent-child interaction.

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This overview presents recent findings on emotion regulation (ER) in parents of children with disabilities. Specifically, we review evidence on the habitual use of adaptive and maladaptive ER strategies and discuss the evidence for parents'

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tendencies to implement ER, as well as the implications of using these ER strategies on parents' and children's well-being. A core function of parenting includes regulating the high-intensity and complex emotions of the parent-child dyad. Studies show that parents with less optimal ER are more likely to experience mental distress, have problematic parent-child interactions, as well as model and reinforce a less ideal ER to their children (Bariola et al., 2012; Rutherford et al., 2015; Troy & Mauss, 2011). Having a child with a disability presents even greater challenges for parents' ER, as often the disability alters the child's ER development. Following, as parent-child interactions are bidirectional, children with disabilities can strain their parents' ER capacity (Barrett et al., 2012). Hence, it is crucial to study ER processes among parents of children with disabilities, how these processes may differ from parents of children without disabilities, and how ER is linked to their mental health. Yet, previous overviews have focused mainly on coping (Benson, 2014; Lai & Oei, 2014; Vernhet et al., 2019), a closely related concept that is nevertheless not specific to ER, since it encompasses a wider range of processes, including cognition, behavior, physiology, and sources of stress (Compas et al., 2017). The current review focuses solely on ER and adds to the literature in two aspects. First, provide a summary of the knowledge existing in the field thus far. Due to the diversity of methods used to measure ER, and because the types of children's disabilities varied, integration is even more essential in moving forward in this field of research. It is therefore advantageous to look beyond the results of one study and to incorporate existing findings regarding ER patterns of parents of children with disabilities. Second, based on the review of the literature it proposes a conceptual model that delineates the factors that may modulate the use of adaptive and maladaptive ER in parents of children with disability. The paper will conclude with a discussion of the reviewed material, as well as suggested further directions.

Parents raising a child with a disability must deal with the heavy burden on their daily lives caused by the numerous demands related to caring for their child's needs (Caicedo, 2014). These demands include managing the child's challenging behaviors (Thwala et al., 2015), financial demands, and employment restrictions (Goudie et al., 2014), as well as finding the time for therapies and diagnoses, all these may lead to burnout (Caicedo, 2014). In addition, such parents are at risk of experiencing stigma, social isolation (Cantwell et al., 2015), worry, and uncertainty about their child's future (Coughlin & Sethares, 2017). For all these reasons, caregiving on the part of parents of children with a disability requires a great deal of attention and time, which may lead to an increase in parental burnout, as well as intense and chronic negative emotions prompted by frequent moments of frustration, and intensified emotions (Coughlin & Sethares, 2017; Seymour

et al., 2013). These stressors can challenge these parents' ability to effectively manage their child's difficult behaviors (Deater-Deckard, 2008) and lead to chronic stress (Hayes & Watson, 2013). Studies have shown that compared to parenting a child without a disability, parents of children with a disability experience higher levels of anxiety and depression (Scherer et al., 2019), more strained family relationships, and a lower sense of parental capacity (Emerson, 2014; Goudie et al., 2014; Hayes & Watson, 2013). These parents also express higher levels of fatigue and burnout (Giallo et al., 2016; Seymour et al., 2013) and are vulnerable to chronic feelings of sorrow (Coughlin & Sethares, 2017). Although studies have also pointed to positive outcomes of parenting a child with disabilities (see for review Hastings & Taunt, 2002), overall these parents report higher emotional distress compared to parents of children without disabilities (Emerson, 2014; Hayes & Watson, 2013).

Emotion regulation had been often mentioned as a major predictor of psychological resilience factor in the face of stressors (Troy & Mauss, 2011), thus, it may serve as a protective factor against the stress caused by parenting a child with a disability. ER has been conceptualized as a process by which individuals modulate emotions and how they experience and express them, to appropriately respond to environmental demands such as stressful life events (Gross & Thompson, 2007). Among parents, ER is particularly important since parents who manifest adaptive ER also tend to exhibit more effective parenting behaviors, interact more positively with their children, and may help their children develop beneficial ER skills by modeling effective strategy use (Crandall et al., 2015). Some ER tendencies in parents have been shown to negatively impact the well-being of both the parents and the child, as well as increase levels of stress (Deater-Deckard et al., 2016; Hu et al., 2019).

ER strategies differ in terms of their implications for well-being as a function of personal and situational factors (Doré et al., 2016; Sheppes et al., 2011), yet certain strategies are often linked to good mental health, whereas others are often linked to unfavorable outcomes (see Aldao et al., 2010 for review). In the current review we explore the four most pertinent and extensively studied ER strategies in the context of parenting a child with a disability (Blackledge & Hayes, 2006; Gull & Husain, 2019; Kohlhoff et al., 2016); reappraisal, acceptance, suppression, and rumination (see Table 1). *Reappraisal* involves changing one's perspective to alter its emotional impact and is considered an adaptive strategy as it usually reduces negative affect (Gross & John, 2003). Another strategy that is broadly considered adaptive is *acceptance*, in which the individual adopts an open, observing, non-judgmental stance towards their emotions and internal experiences (Hayes et al., 2004). Parents of children with a disability might reduce negative emotions by positively reappraising the diagnosis of the

Table 1 Definitions and measures of the four emotion-regulation strategies examined in the present review

Strategy	Definition	Tools
<i>Reappraisal</i>	Reinterpreting emotional events in ways that change their emotional impact.	CERQ; ERQ; PERI; REAR-I
<i>Acceptance</i>	Receiving one's emotions without trying to change them.	AAQ-II; CERQ
<i>Suppression</i>	Restraining or controlling one's expressions of emotions.	CECS; ERQ; PERI
<i>Rumination</i>	Passive and repetitive thinking on the causes and consequences of negative affect.	CERQ; ERRI; RRS

AAQ Acceptance and Action Questionnaire, CECS Courtauld Emotional Control Scale, CERQ Cognitive Emotion Regulation Questionnaire, ERRI The Event Related Rumination Inventory, ERQ Emotion Regulation Questionnaire, PERI Parental Emotion Regulation Inventory, REAR-I Reactivity and Regulation Image task, RRS Ruminative Responses Scale

child as an opportunity to find a greater sense of meaning in their lives and their parenting role, or by accepting the emotions and thoughts that this diagnosis raises in them. We will also discuss two ER strategies that are mostly considered maladaptive: *suppression*, i.e., inhibiting ongoing emotion-expressive behavior (Gross, 1998), and *rumination*, i.e., repetitively, and passively thinking about the causes, consequences, and symptoms of one's negative affect (Nolen-Hoeksema, 1991). Parents who inhibits their emotional response or repetitively and passively reflect on the negative emotions evoked by their child's disability may experience higher distress levels. Yet, it is important to note that the terms "adaptive" and "maladaptive" should be considered heuristic since situational and contextual factors can influence whether or not a strategy ends up being adaptive or maladaptive (Bridges et al., 2004).

Despite growing interest in understanding the ER patterns of parents raising children with disabilities, no systematic review has been published on the associations between ER strategies and mental health indicators among this population. Broadly speaking, this review seeks to provide a summary of ER tendencies among parents of children with disabilities and whether they differ from the general parent population, as well as an overview of how ER is linked to well-being or mental health indicators among parents of children with disabilities.

Method

Data Sources and Screening

This review was performed according to PRISMA guidelines, which involve five steps: determining the research questions, identifying the relevant studies, assessing the quality of the studies, summarizing the evidence, and interpreting the results (Liberati et al., 2009). See the supplementary file for the PRISMA checklist that was used to inform this work. The online databases used in the literature review were, PsycINFO,

Scopus, Pubmed, and Web of science. A search of cited reference lists was also carried out. The search was limited to articles published in English in the past 15 years (from 2007 to 2022) to ensure that the studies covered a reasonable scope and were up to date. The review only included quantitative studies that were published in peer-review journals or published dissertations and theses. The keywords used for searching in the online databases included a combination of keywords relevant to ER ("emotion regulation" or "reappraisal" or "acceptance" or "rumination" or "suppression"), Parenthood ("parents" or "mother" or "father" or "caregiver") and disabilities ("disability" or "disorder" or "syndrome"). Figure 1 demonstrates a flow chart for the selection of studies included in the literature review.

Inclusion and Exclusion Criteria

Papers that met the following inclusion criteria were considered for full review: (1) focused primarily on parents of non-adult children (18 years and below); (2) the child has been diagnosed as having a disability by an authorized person; (3) the study was a quantitative study that evaluated how parents regulate their emotions with the help of questionnaires or an experiment; (4) the study was published in English within a peer-reviewed journal or it is a published dissertation/thesis. The exclusion criteria were: (1) samples including parents diagnosed with disabilities; (2) studies focusing on parental training programs or validation tools; (3) studies focusing only on emotion co-regulation; (4) reviews and/or meta-analysis.

Study Selection

Of the 326 articles identified in the database search and 16 articles identified via reference lists screening, 173 remained after duplicates were removed. One hundred and one articles were excluded after the title and abstract screening because they did not meet the inclusion criteria. A total of 72 papers were reviewed in full. Of the 72 papers retained for a full

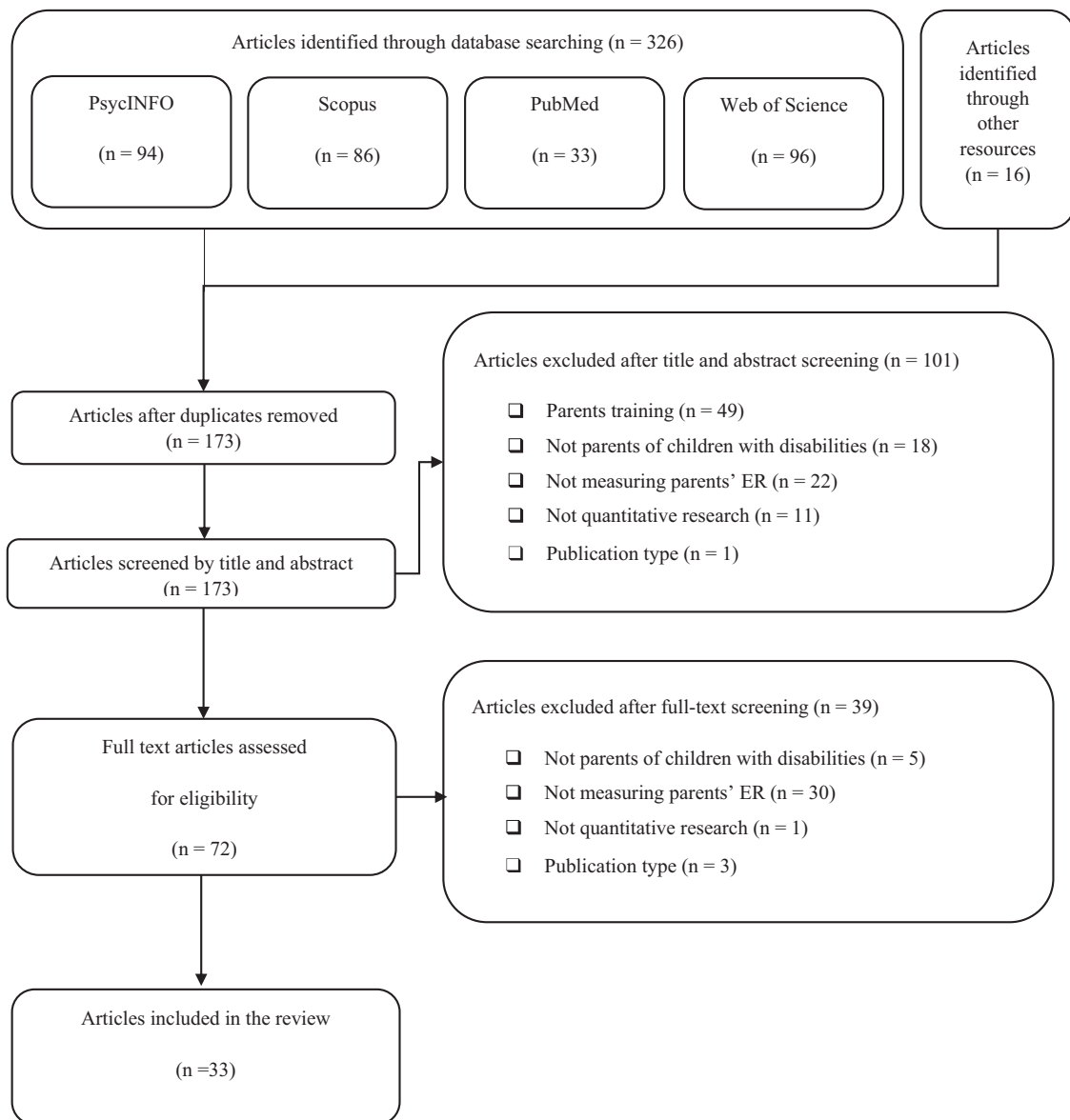


Fig. 1 The search process for the literature review

review, five papers were excluded because they were not conducted in a sample of parents raising a child with a disability, 30 papers did not measure parental ER, one study was not quantitative research, and three papers were excluded because of publication type. Finally, thirty-three peer-reviewed articles were included in this review (see Table 2).

Results

Description of Studies Reviewed in This Article

A total of thirty-three studies were finally chosen for review in this paper. Parents in the reviewed studies had at least one

child who was diagnosed with a disability. The cumulative age range of these children across all studies was 0–18 years, though it should be noted that several studies did not report the age of the child in their study. These 33 articles include 11 papers that compare parents raising a child with a disability to parents raising a child without a disability in their ER patterns and 22 papers that examined the outcomes of different ER strategies on parents' well-being.

Emotion Dysregulation

ER involves awareness and understanding of emotions, acceptance of emotions, the ability to control impulsive behaviors when experiencing negative emotions, and the

Table 2 Emotion regulation of parents raising a child with a disability

Author	Sample	Child characteristics	Study design	ER measures	Results summary
<i>Comparison of ER in parents of children with disabilities and parents of children without disabilities.</i>					
Aguilera et al. (2021)	N = 65 parents, including 29 parents of children with developmental language disorder (24 mothers), and 36 parents of children without the disorder (30 mothers).	Children (5 females; M age = 11 years) and adolescents (7 females; M age = 15 years) with developmental language disorders.	Longitudinal	DERS	Differences between the parents' groups in emotion dysregulation were not significant. Parental ER correlated with the child's emotion regulation skills.
Bizzi and Pace (2019)	N = 100 parents (50 couples), including 18 couples of children with a diagnosis of disruptive behavior disorder (mothers M age = 44 years, fathers M age = 47 years), and 32 couples of children with no clinical symptoms (mothers M age = 47 years, fathers M age = 50 years).	Children diagnosed with disruptive behavior disorder (age range = 8–12 years)	Cross-sectional	ERQ	Fathers of children diagnosed with disruptive behavior disorder tend to use reappraisal less than comparison, whereas no difference in paternal use of suppression was found. A tendency to use reappraisal negatively correlated with the child's disruptive behavior.
Bonifacci et al. (2020)	N = 100 parents (50 couples), including 25 couples of children with a learning disability, and 25 couples of parents of children without a learning disability.	Children with a learning disability (60% females; M age = 10 years)	Cross-sectional	RRS	Parents of children diagnosed with a learning disability tend to use rumination more than comparison. A tendency to use rumination positively correlated with the child's tendency to use rumination.
Costa et al. (2017)	N = 78 (age range = 26 to 53 years) including 37 parents of children diagnosed with ASD (84% females) and 41 parents of children without ASD (88% females).	Children with ASD (32 males; M age = 9 years)	Cross-sectional	ERQ	Parents of children diagnosed with ASD tend to use reappraisal less than comparison. A tendency to use reappraisal predicted parents' well-being.
Megreya et al. (2020)	N = 90 mothers (M age = 39 years), including 30 mothers in each group (ASD, intellectual disability, and children without disability).	Children with ASD (17 girls; M age = 7 years) or with intellectual disability (16 girls; M age = 8 years)	Cross-sectional	CERQ	Mothers of children diagnosed with ASD tend to use reappraisal less than mothers of children with typical development. There was no difference between mothers of children with intellectual disabilities and mothers of children with typical development. A tendency to use reappraisal was negatively related to anxiety and depression, while a tendency to use rumination was positively related to anxiety and depression.
Özyurt et al. (2017a)	N = 142 mothers, including 64 mothers of children with anxiety disorders (M age = 38 years), and 78 children without disorders (M age = 37 years).	Children diagnosed with an anxiety disorder (93 females; M age = 10 years).	Cross-sectional	DERS	Mothers of children diagnosed with anxiety disorders showed greater emotion dysregulation than comparison. Mothers' emotion dysregulation was positively related to the frequency of the child's dysregulation.
Özyurt et al. (2017b)	N = 148 mothers including 61 mothers of children with ADHD (M age = 36 years) and 87 of children without ADHD (M age = 37 years).	Children diagnosed with ADHD (122 males; M age = 10 years).	Cross-sectional	DERS	Mothers of children diagnosed with ADHD showed greater emotion dysregulation than comparison. Mothers' emotion dysregulation was negatively related to the child's empathy level.

Table 2 (continued)

Author	Sample	Child characteristics	Study design	ER measures	Results summary
Quetsch et al. (2018)	N = 60 parents (95% mothers), including 34 parents of children with disruptive behaviors, and 26 parents of children displaying typical behavior.	Children diagnosed with disruptive behavior disorder (age range = 2–8 years)	Cross-sectional	DERS	Parents of children diagnosed with disruptive behavior disorder showed greater emotion dysregulation than comparison. Parents' emotion dysregulation was negatively correlated with children's ER skills.
Rea et al. (2019)	N = 26 mothers (M age = 39 years), including 10 mothers of children with ASD, and 16 mothers of children without ASD.	Children with ASD (63% males; M age = 9 years)	Cross-sectional	ERQ	Being a mother of a child diagnosed with ASD was negatively related to the tendency to use reappraisal. Mothers broader Autism phenotype symptoms (Subclinical characteristics and symptoms of Autism) predicted lower use of reappraisal.
Shenaar-Golan et al. (2017)	N = 177 parents (83% mothers), including 98 parents of children diagnosed with ADHD (M age = 43 years), and 79 parents in the control group (M age = 41 years).	Children diagnosed with ADHD (age range = 6–12 years)	Cross-sectional	PERI	Parents of children diagnosed with ADHD tend to use reappraisal and suppression more than comparison. A higher tendency to use reappraisal was negatively related to unsupportive parental behaviors.
Wald et al. (2018)	N = 91 mothers (M age = 44 years), including 49 mothers of children with an anxiety disorder, and 42 mothers of typical children.	Children diagnosed with an anxiety disorder (age range = 10–17 years)	Experimental	REAR-I	Mothers of children diagnosed with anxiety disorder demonstrated deficits on all measures of reappraisal. Reappraisal ability and spontaneous use of reappraisal was positively related to the child's anxiety level.
<i>ER in parents of children with disabilities</i>					
Aydin (2022)	N = 273 parents (81% mothers).	Children diagnosed with ASD (205 males; age range = 3–6 years).	Cross-sectional	DERS	Emotion dysregulation significantly predicted the child's problem behaviors and was negatively related to mindful parenting.
Carpita et al. (2021)	N = 120 parents (60 couples; M age = 40).	Children diagnosed with ASD (age range = 18–72 months).	Cross-sectional	RRS	A tendency to use rumination was positively related to symptoms of mental disorders.
Chen et al. (2022)	N = 275 parents (181 mothers; M age = 37, 75 fathers; M age = 39).	Children diagnosed with ODD (195 males; M age = 9 years).	Longitudinal	DERS	Earlier parent ER predicted subsequent child ER (negative ER), while child ER (positive ER) reverse predicting parent ER in the following estimate time points. Children's ODD symptoms enhanced the difficulties of both child and parent ER whereas the difficulties of parent ER in turn enhanced children's ODD symptoms.
Gershky and Gray (2018)	N = 112 parents (57% mothers).	Children diagnosed with ADHD (60 males; M age = 10 years)	Cross-sectional	DERS	Emotion dysregulation was positively related to coercive parenting.
Hinman (2019)	N = 42 mothers (M age = 37 years).	Children diagnosed with ASD (83% males; age range = 2–6 years).	Cross-sectional	ERQ	A tendency to use suppression was positively related to stress level.

Table 2 (continued)

Author	Sample	Child characteristics	Study design	ER measures	Results summary
Hu et al. (2018)	N = 29 parents (26 mothers; M age = 40 years).	Children diagnosed with ASD (25 males; M age = 8 years).	Cross-sectional	DERS	The child's physiological ER functioning moderated the relationship between parental emotion dysregulation and the child's core ASD symptoms.
Hu et al. (2019)	N = 422 (211 couples; Fathers' M age = 42 years; mothers' M age = 39 years).	Children diagnosed with ASD (age range = 7–12 years).	Cross-sectional	DERS	Emotion dysregulation was positively related to parental stress and negatively related to parental care.
Jones et al. (2014)	N = 110 parents (65% mothers; M age = 45 years).	Children diagnosed with ASD (83% males; M age = 13 years).	Cross-sectional	AAQ-II	Acceptance mediated the relationship between the child's behavior problems and parental well-being. Significant mediation effects were found to be associated with maternal anxiety, depression, stress, and paternal depression.
Jones (2018)	N = 194 (53% mothers; M age = 38 years).	Children diagnosed with ASD (M age = 7 years).	Cross-sectional	AAQ-II	A tendency to use acceptance was positively related to the family's quality of life.
Jusko and Szczepanska-Gieracha (2020)	N = 60 (85% mothers; M age = 38 years).	Children with disabilities (M age = 13 years).	Cross-sectional	CECS	A tendency to use suppression was positively related to anxiety and depressive symptoms.
Kambouras (2018)	N = 594 parents (95% mothers; M age = 39 years).	Children diagnosed with ASD (77% males; M age = 9 years).	Cross-sectional	AAQ-II	A tendency to use acceptance predicted lower levels of parental anger and anxiety/sadness, and higher levels of happiness. Lower acceptance predicted parents' use of over-reactive discipline while higher acceptance predicted parents' use of lax discipline.
Kielb et al. (2019)	N = 85 mothers (M age = 41 years).	Children diagnosed with intellectual disability.	Cross-sectional	CERQ	A tendency to use intrusive ruminations predicted posttraumatic stress symptoms.
Kohlhoff et al. (2016)	N = 84 parents (99% mothers; M age = 32 years).	Toddlers with conduct problems (54 females; M age = 3 years).	Cross-sectional	ERQ	A tendency to use reappraisal was negatively related to parental depressive symptom and hostile discipline and positively related to labeled praise (as observed during structured parent-child play tasks).
Lin et al. (2019)	N = 239 parents (148 mothers; M age = 37, 91 fathers; M age = 38).	Children diagnosed with ODD (171 males; M age = 10 years).	Cross-sectional	DERS	Parental emotional dysregulation was related to child ODD symptoms, harsh parenting practices, child depressive symptoms, and child emotion dysregulation.
Lloyd and Hastings (2008)	N = 91 mothers (M age = 42 years).	Children diagnosed with intellectual disability (64 males; M age = 11 years)	Longitudinal	AAQ	A tendency to use acceptance was related to symptoms of anxiety and depression over time. Acceptance was found to be a marginally significant predictor of maternal stress.

Table 2 (continued)

Author	Sample	Child characteristics	Study design	ER measures	Results summary
MacDonald et al. (2010)	N = 99 fathers (M age = 47 years).	Children diagnosed with intellectual disability (67 males; M age = 11 years).	Cross-sectional	AAQ-II	A tendency to use acceptance predicted fathers' perceptions of positive gain associated with raising a child with an intellectual disability, less stress, and fewer symptoms of anxiety and depression. Acceptance was also found to mediate the impact of children's behavior problems on paternal stress, anxiety, and depression.
Rayan and Ahmad (2017)	N = 104 parents (70% mothers; M age = 36 years).	Children diagnosed with ASD (73% males).	Cross-sectional	Reappraisal Subscale of the CERQ	A higher tendency to use reappraisal was negatively related to parental distress.
Slattery et al. (2017)	N = 146 parents (97% mothers; M age = 39 years).	Children with developmental disabilities (M age = 9 years).	Cross-sectional	Reappraisal Subscale of the CERQ	A tendency to use reappraisal positively related to optimism and benefit finding (the degree to which parents believe caring for a child with a developmental disability has positively impacted upon their lives).
Van Der Veek et al. (2009a)	N = 621 parents at the first time point (64% mothers; M age = 41 years), and 261 parents at the second time point (72% mothers; M age = 40 years)	Children diagnosed with down syndrome (M age = 7 years)	Prospective	CERQ	A higher tendency to use rumination was positively related to stress, whereas a higher tendency to use reappraisal was negatively related to stress. Prospectively, acceptance was related to more stress, whereas reappraisal was related to less stress.
Van Der Veek et al. (2009b)	N = 427 parents (64% mothers; M age = 41 years).	Children diagnosed with down syndrome (M age = 7 years).	Cross-sectional	CERQ	A higher tendency to use reappraisal predicted more positive affect. A higher tendency to use rumination predicted depressive symptoms.
Weiss et al. (2012)	N = 228 parents (93% mothers).	Children diagnosed with ASD (M age = 12 years).	Cross-sectional	AAQ-II	A tendency to use acceptance was negatively related to mental health problems.
Zhang et al. (2013)	N = 102 mothers (M age = 32 years).	Children diagnosed with ASD (85 males; M age = 5 years).	Cross-sectional	ERRI	A tendency to use intrusive rumination negatively predicted specific dimensions of posttraumatic growth, such as finding new possibilities, personal strength, and spiritual change.

AAQ Acceptance and Action Questionnaire, ADHD Attention deficit hyperactivity disorder, ASD Autistic Spectrum Disorder, CECS Courtauld Emotional Control Scale, CERQ Cognitive Emotion Regulation Questionnaire, DERS Difficulties in Emotion Regulation Scale, ERRI The Event Related Rumination Inventory, ERQ Emotion Regulation Questionnaire, ODD Oppositional Defiant Disorder, PERI Parental Emotion Regulation Inventory, REAR-I Reactivity and Regulation Image task, RRS Ruminative Responses Scale

ability to use situationally appropriate ER strategies flexibly (Gratz & Roemer, 2004). The relative absence of any or all these abilities may indicate the presence of emotion dysregulation. The review of the literature indicates that compared to parents of a child without a disability, parents of children with a disability have overall higher rates of dysregulated emotion (Özyurt et al., 2017a, 2017b; Quetsch et al., 2018; although see Aguilera et al., 2021 for other results). Emotion dysregulation among parents of children with disabilities was shown to be associated with reduced parents' well-being (Hu et al., 2019), less supportive parenting practices (Aydin, 2022; Gershby & Gray, 2018; Hu et al., 2018; Hu et al., 2019; Lin et al., 2019), child's difficult behaviors (Aydin, 2022; Hu et al., 2018; Lin et al., 2019) as well as emotion dysregulation and lower empathy in the child (Aguilera et al., 2021; Chen et al., 2022; Hu et al., 2018; Lin et al., 2019; Özyurt et al., 2017a, 2017b; Quetsch et al., 2018). In addition, a longitudinal study by Chen et al. (2022) found that symptoms of Oppositional Defiant Disorder (ODD) among children enhanced ER difficulties among both the children and their parents. In turn, difficulties in parents' ER enhanced the child's symptoms of ODD (Chen et al., 2022). The following sections discuss both the tendency to use and the implications of using adaptive and maladaptive ER strategies in parents of children with disabilities.

Reappraisal

Reappraisal can be particularly effective for parents of children with disabilities, as it is adaptive mostly in situations of uncontrollable stress (Troy et al., 2013). Yet, several studies have demonstrated that parents of children with disabilities, such as behavior and anxiety disorders (Bizzi & Pace, 2019; Wald et al., 2018, 2020) or developmental disabilities (Costa et al., 2017; Megreya et al., 2020; Rea et al., 2019), use reappraisal to a lesser extent than parents of a child without a disability. This is unfortunate since the habitual use of reappraisal among these parents was found to be positively associated with parental well-being (Costa et al., 2017; Slattery et al., 2017; Van Der Veek et al., 2009b), and the child's ability to reappraise (Wald et al., 2018, 2020). Furthermore, using reappraisal was found to be associated with supportive parenting (Kohlhoff et al., 2016; Shenaar-Golan et al., 2017) and less parental distress, in both cross-sectional (Kohlhoff et al., 2016; Megreya et al., 2020; Rayan & Ahmad, 2017; Van Der Veek et al., 2009a), and prospective studies (Van Der Veek et al., 2009a). While the use of reappraisal is considered highly adaptive, this strategy requires cognitive effort (Sheppes & Meiran, 2008). In other words, reappraisal is costly and difficult to implement under intense emotional load or when cognitive resources are depleted

(Sheppes et al., 2014; Sheppes & Meiran, 2008). Since parents raising a child with a disability show heightened levels of stress and fatigue, their executive resources may be limited, making this strategy less preferable and hard to implement.

Acceptance

Acceptance is a relatively ambiguous concept with several definitions (MacDonald et al., 2010). Garnefski et al. (2001) defined acceptance as accepting what has been experienced and resigning oneself to it. Hayes et al. (2004) considered that acceptance also involves an abandonment of dysfunctional change agendas and an active process of accepting and being aware of uncomfortable thoughts and emotions. Thus, whereas Garnefski's definition treats acceptance as submission to the situation, Hayes' definition treats it as making peace with the situation as is. Acceptance is highly pertinent to the context of parenting a child with a disability, in that the unexpected disability of the child often puts parents in a situation they cannot control and may need to accept along the way. Thus, parents raising a child with a disability are likely to benefit from accepting themselves and their child (Lloyd & Hastings, 2008). Studies on parents of children with disabilities based on Hayes' conceptualization of acceptance found that higher use of acceptance was related to better well-being both cross-sectionally (Jones, 2018; Jones et al., 2014; Kambouras, 2018; MacDonald et al., 2010; Weiss et al., 2012) and prospectively (Lloyd & Hastings, 2008). In addition, Kambouras (2018) found that lower use of acceptance predicted parents' use of over-reactive discipline and lesser use of lax discipline. However, studies based on Garnefski's conceptualization of acceptance found no effect of habitual use of acceptance on parents' well-being (Megreya et al., 2020; Van Der Veek et al., 2009a, 2009b). Acceptance may be non-intuitive to implement as it requires relinquishing the illusion of control, which can be especially difficult for individuals who experience high levels of anxiety and depression (Singer & Dobson, 2009). Therefore, populations experiencing high levels of stress, fatigue, and emotional overload, such as parents raising a child with a disability (Hayes & Watson, 2013), may find it difficult to implement acceptance and may turn instead to other, less adaptive, strategies (Golkar et al., 2014).

Suppression

A focus on parental suppression is particularly important given that it can result in specific consequences for both parents and children (Le & Impett, 2016). Concerning parents raising a child with a disability, the habitual use of suppression was found to be related to more parental

distress (Hinman, 2019; Juszko & Szczepanska-Gieracha, 2020), as well as more negative parenting practices (Shenaar-Golan et al., 2017). Very few studies have compared parents of children with a disability to parents of children without a disability in terms of the use of suppression; thus, no firm conclusions can be drawn. One study that did examine the differences in suppression use found a greater tendency to use suppression in parents of children with ADHD, compared to parents of children without ADHD (Shenaar-Golan et al., 2017). However, another study did not find such a difference (Bizzi & Pace, 2019).

Rumination

Rumination is known to predict the onset and maintenance of depression and other psychopathologies (Nolen-Hoeksema, 1991). Rumination is a form of preoccupation, which may affect parents' ability to effectively process the child's cues and therefore results in reduced contingency and sensitivity during parenting behavior (Stein et al., 2012). The few studies conducted on this topic show that parents of children with learning disabilities report a greater tendency to engage in rumination (Bonifacci et al., 2020) compared to parents of a child without a disability. However, when parents of children with more severe disabilities, such as autism or intellectual disability, were compared to their counterparts, no difference was found in their use of rumination (Megreya et al., 2020). Rumination in parents of children with diverse disabilities has been linked to poor mental health, and symptoms of depression, anxiety, and stress (Carpita et al., 2021; Kiełb et al., 2019; Megreya et al., 2020; Van Der Veek et al., 2009a, 2009b), as well as to lower posttraumatic growth (Zhang et al., 2013). In addition, habitual engagement in rumination in parents of children with learning disabilities was reported to be positively correlated with the child's tendency to ruminate (Bonifacci et al., 2020).

Discussion

The literature review suggests that parents raising a child with a disability have higher rates of dysregulated emotion and tend to use reappraisal to a lesser extent than parents of a child without a disability. The findings regarding the use of suppression and rumination are less clear, but overall, it seems that parents of children with ADHD and learning disabilities tend to use these strategies more than their counterparts. This is unfortunate since all studies reviewed in the current paper found that reappraisal and acceptance have positive outcomes for the well-being of parents of children with disabilities, while emotion dysregulation, rumination, and suppression have a negative effect.

Following this literature review and findings, we have developed the Strained Parenting and Emotion Regulation (SPER) model. This model explains why and how the high demands of caring for a child with a disability contribute to emotion dysregulation in parents. Specifically, we suggest that increased levels of stress, frustration, strained family relationships depression, anxiety, fatigue, and burnout in these parents leads to depleted executive resources, intensified negative emotions, and difficulties in the parent-child relationship. These may result in emotion dysregulation and the use of maladaptive ER strategies among both the parent and the child. The lesser use of adaptive ER strategies, as well as the increased use of maladaptive strategies, makes this population vulnerable to depression and emotional distress, which only reinforces this vicious cycle, as illustrated in Fig. 2.

The SPER model

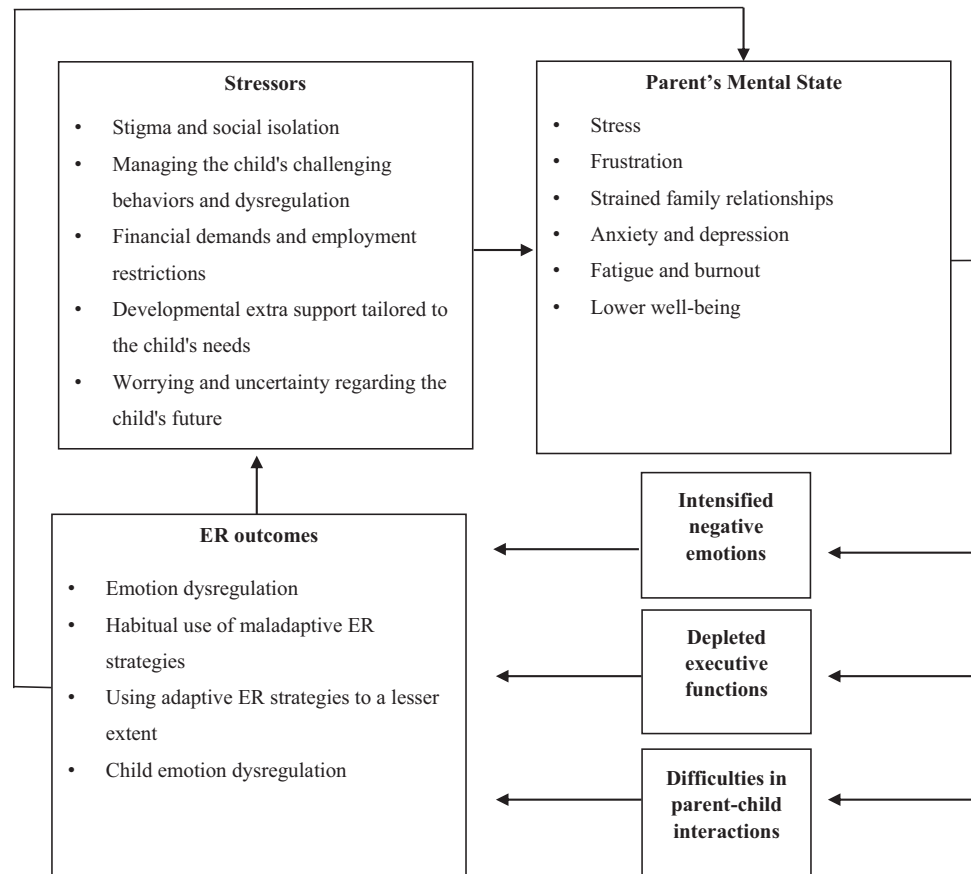
The literature review suggests that three main mechanisms impair ER processed in parents raising a child with a disability: intensified emotions, depleted executive resources, and difficulties in parent-child interaction.

Intensified negative emotions

Children with disabilities have characteristics that make them more likely to elicit intense and frequent negative emotions in parents than typically developing children (Emerson, 2014). These characteristics include difficult behaviors (Costa et al., 2017), functional difficulties (Cai-cedo, 2014), and emotion dysregulation (Quetsch et al., 2018). Consequently, parents of children with disabilities are exposed to high-intensity and frequent negative affect within the parenting context (Deater-Deckard, 2008). This constant need to cope with distress may degrade parental self-regulation abilities and deplete their self-regulatory system (Baumeister et al., 2007), making parents raising a child with a disability more vulnerable to experiencing difficulties in ER. Behavioral and neurological studies have found that in situations where emotional arousal is high, cognitively demanding ER strategies, such as reappraisal, are less likely to be chosen (Shafir et al., 2016; Sheppes et al., 2011). This corroborates findings showing that it is more difficult (and cognitively costly) to reappraise a situation that elicits strong (vs. weak) negative emotions (Ortner et al., 2016).

Furthermore, neuroimaging studies have found that depressed individuals present difficulties in recruiting brain regions involved in the cognitive control of emotion during instructed reappraisal (Johnstone et al., 2007). These findings corroborate the suggestion that depressed individuals have more difficulties using reappraisal (Joormann &

Fig. 2 ER in parents of a child with a disability



Michael Vanderlind, 2014). This may also explain why parents of children with disabilities, who often experience symptoms of depression (Scherer et al., 2019), exhibit difficulties adaptively regulating their emotions. The opposite trajectory may also exist, in that, a lack of regulation abilities can also lead to depressive symptoms (Aldao et al., 2010; Joormann & Michael Vanderlind, 2014).

Depleted executive resources

Executive functions comprise the set of processes that enable goal-directed behavior (working memory, response inhibition, and set-shifting; (Miyake et al., 2000). These processes are essential for the implementation and execution of ER strategies (Ochsner et al., 2012). Because different ER strategies tap somewhat different executive demands, regulatory choices are sensitive to the costs and benefits associated with each regulatory option in a particular context (Sheppes et al., 2011). Thus, no matter how effective a particular ER strategy may be, if a person does not have the cognitive resources required to use it, it is unlikely to be implemented (Urry & Gross, 2010). Impaired executive functions have been found in situations such as stress (Raio et al., 2013), burnout (Deligkaris et al., 2014), and fatigue (Lorist et al., 2005), all of which characterize

parents raising a child with a disability. Therefore, depleted executive resources in these parents may result in difficulties in implementing adaptive ER strategies.

Individuals who experience chronic stress or are exposed to repeated pressures tend to have difficulties regulating their emotions in an adaptive manner (Golkar et al., 2014). This is because stress impairs executive functions, including cognitive flexibility, working memory, and attentional control (Arnsten, 2009; Raio et al., 2013). Exposure to stress can cause a rapid loss of prefrontal cognitive abilities, and exposure to more prolonged stress causes architectural changes in prefrontal dendrites (Arnsten, 2009), which play a key role in the successful execution of emotion regulation (Ochsner et al., 2012).

Parents raising a child with a disability also report high levels of burnout (Gérain & Zech, 2018), which is also linked to the depletion of executive resources (Deligkaris et al., 2014). Burnout is defined as a state of physical, emotional, and mental exhaustion that results from long-term involvement in emotionally demanding situations (Schaufeli & Greenglass, 2001). Burnout is associated with a decline in three main cognitive functions: executive functions, attention, and memory. Specifically, it was found that individuals with burnout symptoms performed significantly worse on tasks measuring sustained attention,

memory, inhibition, and executive functions compared to people without burnout symptoms (for a review see Deligkaris et al., 2014). In line with these behavioral findings, brain imaging studies show that burnout affects limbic structures, especially the amygdala and regions of the prefrontal cortex which is involved in ER (Golkar et al., 2014). Thus, it is conceivable that parents raising a child with a disability, who experience high levels of burnout (Giallo et al., 2016; Hayes & Watson, 2013; Seymour et al., 2013), will demonstrate impaired executive functions, and therefore will have difficulties adaptively regulating their emotions.

Fatigue, defined as an enduring sense of physical and mental exhaustion not easily relieved by rest, is a health outcome that can also harm executive functions (Lorist et al., 2005). Individuals with chronic fatigue demonstrate increased suppression (Rimes et al., 2016), and after sleep deprivation, individuals were found to be less emotionally expressive in response to both positive and negative emotional video clips (Palmer & Alfano, 2017). A study that examined brain activity during fatigue found that fatigue was associated with reduced activity in the lateral prefrontal cortex (Suda et al., 2009), which is important for the implementation of adaptive ER strategies (Parvaz et al., 2012). Thus, it is reasonable to assume that parents of children with disabilities, who often experience high levels of fatigue (Giallo et al., 2016; Hayes & Watson, 2013; Seymour et al., 2013), will show difficulties adaptively regulating their emotions.

Difficulties in parent-child interaction

Another important factor for ER is parent-child interactions. Family experiences are the cornerstone for the development of children's ER (Morris et al., 2007), but family processes are transactional and bidirectional (Lengua & Kovacs, 2005); hence, child dysregulation may also impact parents' subsequent ER. In other words, the child's emotional and behavioral dysregulation may challenge parental emotional control, while the parent's lack of emotional control can also provoke disruptive behavior and emotional difficulties in the child (Deater-Deckard, 2008). Therefore, children with disabilities, who are tend to be more dysregulated (McClure et al., 2009; Samson et al., 2014; Shaw et al., 2014), are likely to tax their parents' ER (Quetsch et al., 2018).

Furthermore, parents process information and learn how to act more optimally as a function of their experiences (Baumeister & Vohs, 2007) and the child's feedback and response (Deater-Deckard, 2008). Specifically, the child's response promotes learning and alters guidelines for the future behaviors of the parent (Baumeister & Vohs, 2007). Children with disabilities often provide less overt social

cues to their parents due to their disabilities or are less effectively regulated by their social environment (Hickey et al., 2020). Therefore, the child's unclear feedback or prolonged dysregulation are likely to influence the parents' future ER choices (Bonanno & Burton, 2013). To illustrate, a mother who must deal with her toddler's tantrums can reappraise the situation (e.g., "He's just very tired and will calm down soon") in a purposeful attempt to stave off her anger, but if her child keeps on screaming despite her regulatory efforts, she might try to regulate her emotions in a different way, such as to suppress her emotions or to distract herself.

Gaps in the Literature and Future Directions

Several limitations should be noted with regard to the literature on ER in parents of children with disabilities. First, most studies have examined dispositional ER using self-report questionnaires. Although questionnaires can provide important information on the ways parents of children with disabilities regulate their emotions, they are predominantly trait-based, and insensitive to situational circumstances (Aldao et al., 2015; Doré et al., 2016; Sheppes et al., 2011). Future studies should also include a laboratory measure of the spontaneous application of defined forms of ER in specific situations. In addition, self-report questionnaires are subject to potential biases, such as social desirability. Thus, questionnaires should be augmented by other methods that can provide more objective evidence as to the ER strategies used by parents raising a child with a disability. Furthermore, most studies have been cross-sectional; longitudinal studies, as well as lab studies that use manipulation, may help uncover the developmental trajectory and causal relationships between ER and emotional well-being in this population. Second, the child's developmental stage can be a significant factor in the context of parental ER difficulties (Cole et al., 2013). In this review the ages of the children were heterogeneous, but in order not to make the review too narrow, we chose papers across all age groups. However, we are aware of the limitation it creates. The impact of child's age on parental ER needs to be examined in future studies.

Third, various child (disability type, level of functioning) and parental (age, gender, income) characteristics are likely to be associated with different effects on ER and by extension on parents' well-being (Emerson, 2014). The current paper reviewed studies on ER in parents of children with diverse disabilities, such as learning disabilities, autism, ADHD, and anxiety disorders, making it hard to define the underlying mechanisms of specific disabilities. For example, researchers commonly report that families of children with autism spectrum disorder (ASD) experience more parental stress than families of children diagnosed

with other disabilities such as Down syndrome, cerebral palsy, or intellectual disabilities (Hayes & Watson, 2013). This may imply that the ER strategies used by the parents may be dependent on the type of disability of their child. Further studies are therefore needed to better probe the associations between different disabilities, parents' characteristics, and ER. One parental characteristic which is extremely relevant in the context of ER is gender. Only three of the papers reviewed in the current paper tested gender differences in ER. Two of these papers have not found gender differences in ER (Aguilera et al., 2021; Gershby & Gray, 2018), and the third paper found that mothers tended to use more rumination than fathers (Carpita et al., 2021). In light of findings suggesting that mothers have a greater impact on children's ER development than fathers do (Bariola et al., 2012) and that females exhibit different ER patterns than males (Nolen-Hoeksema & Aldao, 2011; Nolen-Hoeksema, 2012; Tamres et al., 2002), gender is an important factor to consider when studying parental ER. We recommend future studies consider gender in their analyses.

Fourth, alongside environmental contributions, there are genetic contributions to individual differences in ER (Hawn et al., 2015). There are some disabilities with a genetic basis, so parents of children with disabilities may also exhibit mild forms of these symptoms. This has been observed in parents of children with autism spectrum disorder (Bishop et al., 2004), learning disabilities (Shalev et al., 2001), and ADHD (Starck et al., 2016). All of these disorders are related to the impairment of executive functions (Hosenbocus & Chahal, 2012), which in turn can lead to difficulties in ER (Sheppes & Meiran, 2008). Hence, it is possible that parents' ER is also impaired due to the presence of the disorder and not merely a result of life experiences. Fifth, most studies on the ER of parents of children with disabilities have examined reappraisal and suppression which emerge relatively later in the process model of emotion regulation (Gross, 1998). There are practically no studies on strategies such as situation selection and situation modification in this population. Compared to later strategies such as reappraisal and suppression, earlier strategies demand fewer cognitive resources (Gross, 2015), and therefore might be especially effective for parents raising a child with a disability. For that reason, it is important to consider evaluating the use of situation selection and situation modification strategies as well.

Finally, many studies have underscored that well-being is affected not only by the type of ER implemented but also by individuals' ability to determine the need for regulation and flexibility in selecting the most appropriate strategy (see Aldao et al., 2015). Therefore, future studies should examine not only parents' tendency to use a particular ER strategy, but also their ability to be flexible in switching between

strategies (Sheppes et al., 2014). In addition, it is important to consider that the nature and consequences of ER are likely to depend on the motives it is intended to serve and parental attitudes towards these emotions (Tamir, 2016).

Conclusion

This review discussed findings showing that parents of children with disabilities demonstrate less efficient ER patterns. Following these findings, we have presented the SPER model which posits that parents of children with disabilities experience higher levels of psychological distress, burnout, and fatigue, as well as strained family relationships, compared to parents of children without a disability. Consequently, they have depleted executive resources, intensified negative emotions, and difficulties in parent-child interactions. All of these are related to a curtailed ability to implement adaptive ER strategies, and to increased use of maladaptive strategies. The use of maladaptive ER strategies has been linked to an increase in stress, anxiety, and depression levels, as well as to ER difficulties of the child, which creates a recurring vicious cycle, leading to the establishment of maladaptive ER patterns in parents of children with disabilities. This results in a paradox: parents of children with disabilities might benefit the most from using adaptive ER strategies since they experience high emotional distress, but the mechanisms required to support such regulatory needs may be impaired in parents who are stressed, emotionally exhausted, or experiences emotional overload.

The results of the current review are in line with findings from a growing number of studies on parenting interventions, which propose that the inclusion of ER skills in parenting intervention programs, such as Cognitive Behavioral Therapy (CBT) and Acceptance and Commitment Therapy (ACT), may help support parent and child outcomes (for a review see Sanders & Mazzucchelli, 2013). The present review highlights the importance of such interventions, especially for parents of children with disabilities, as they experience higher emotional distress and fatigue than parents of children without a disability. Nevertheless, this model suggests that improving the ER skills of parents of children with disabilities will not necessarily be sufficient to improve their mental health, because the resources necessary for effective ER may be depleted in this population. Therefore, intervention programs that aim to help parents of children with disabilities should be integrative. Thus, these programs shouldn't just focus on improving emotion regulation skills, but also increase the resources available to parents so that they can utilize these skills (for example, by providing them with financial assistance, assistance at home, and improved parent-child interactions). The SPER model also emphasizes

the need to better understand the mechanisms underlying ER difficulties in parents of children with disabilities, since understanding these mechanisms can serve to build evidence-based interventions for these parents. Besides parenting a child with disabilities, the SPER model can be applied to situations where parenting is strain due to child difficulties, even if those difficulties aren't officially classified as disabilities, for example chronic emotional crises or physical illnesses in children.

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Compliance with Ethical Standards

Conflict of Interest The authors declare no competing interests.

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CHAPTER II

The Role of Parental Mentalizing on the Link Between Parental Depression and Child Emotion Regulation

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RESEARCH ARTICLE

The role of parental mentalizing on the link between parental depression and child emotion regulation

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Abstract

Background: Parental depression has consistently been shown to impact child's emotion regulation (ER), with limited research on risk and protective factors, especially in preschoolers. Grounded in Morris and colleagues' model of emotion socialization, this study addresses this gap by examining the mediating and moderating roles of parental mentalizing (reflective functioning).

Aims: We aimed to explore whether pre-mentalizing modes mediate the link between parental depressive symptoms and the child's ER tendencies and whether parental interest and curiosity and parental certainty about mental states can buffer this link.

Materials & Methods: The study sample included 732 parents (91% females) of children aged 3–7 years. To assess parental mentalizing, the Parental Reflective Functioning Questionnaire was used. Child ER skills were assessed with the Emotion Regulation Checklist, and depression was assessed with the Patient Health Questionnaire.

Results: Findings demonstrated a negative link between parental depressive symptoms and children's ER skills, mediated by heightened parental pre-mentalizing modes. Contrary to expectations, parental interest and curiosity did not moderate this link, but parental certainty about mental states emerged as a protective factor, weakening the link between depressive symptoms and child ER skills.

Conclusion: The results contribute to the understanding of ER development, particularly in the context of parental depressive symptoms, emphasizing parental mentalizing as a pivotal factor within this intricate dynamic.

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KEYWORDS

emotion regulation, emotion socialization, parental depression, parental mentalizing, parental reflective functioning, preschoolers

INTRODUCTION

During preschool, children gradually learn to regulate their emotions, a process vital for many dimensions of children's development (Feng et al., 2008; Kopp, 1989). Emotion regulation (ER) is often defined as a set of processes that enable individuals to monitor, evaluate and modify their emotional reactions (Gross, 1998). Children's ER skills significantly impact various aspects of functioning and are considered a transdiagnostic risk factor for the development of various psychiatric disorders (Lynch et al., 2021). For example, research indicates that deficits in ER are associated with increased behavioural problems, challenges in peer relationships and mental health issues including depression and anxiety (see for reviews: Sala et al., 2014; Zeman et al., 2006). Conversely, children with good ER skills tend to exhibit better academic performance and enhanced social abilities (Graziano et al., 2007; Harrington et al., 2020). Recognizing the importance of ER for children's adjustment and functioning highlights the need to identify the factors that contribute to the development of ER skills.

During preschool age, children learn to handle their emotions in different ways. At first, they rely on their parents to regulate emotions, but as they grow, they become more differentiated and learn how to regulate themselves (Feng et al., 2008; Montroy et al., 2016). This development involves mastering a diverse set of behavioural strategies, enabling them to adeptly manage their emotions (Cole et al., 2009). During this time, the child learns how to regulate emotions, without the need for adult assistance. According to Morris model of emotion socialization (2007), the process of ER in this age heavily depends on both personal factors such as temperament and genetic dispositions, as well as external factors that mostly include parental-related factors. These factors include parental ER tendencies, parenting practices and psychopathology among parents.

Parental depression and children emotion regulation

When discussing parental psychopathology and its effect on children's ER, a significant area of research focusses on the impact of parental depression (Wu et al., 2020).

In their review, Morris et al. (2007) suggest that parents shape children's ER across three crucial areas. First, children acquire ER skills through observation of their parents. Past research indicates that individuals experiencing depression often struggle with effective ER and parental mentalizing (the ability to infer behaviour as an expression of mental states), and therefore might provide maladaptive models of emotional expression and regulation as well as impaired capacity to self-reflect to their children (Granat et al., 2017; Schultheis et al., 2019; Visted et al., 2018). As children learn to regulate their emotions by watching and imitating their parents, children with depressed parents might learn unhealthy ways to manage their emotions (Keleynikov et al., 2023; Silk et al., 2006; Wu et al., 2020). Second, the family's emotional atmosphere, indicated by attachment quality, parenting styles and marital relationship quality, impacts children's ER. Parental depressive symptoms could potentially impact each of these domains, shaping children's ER abilities as a result. For example, parents experiencing depression frequently exhibit diminished positive affect and responsiveness during interactions with their children (Campbell et al., 2004). These parents may also demonstrate increased negativity and hostility as well as reduced sensitivity and responsiveness in face-to-face interactions, thereby elevating the risk of self-regulatory challenges in their children (Choe et al., 2013; Wolford et al., 2019). Depressed parents also might have impaired parental mentalizing, which lays the foundation for attachment security (Schultheis et al., 2019). Third, ER is influenced by particular parenting practices and behaviours linked to emotional socialization, including reactivity and understanding of the child's mental state (Morris

et al., 2007). Existing findings (e.g. Feng et al., 2008; Liu et al., 2017; Silk et al., 2006) indicate disrupted emotional socialization mechanisms in families with depressed parents. These studies have revealed atypical affective interactions, with depressed parents being less responsive to their children's emotions, and displaying less positive and more negative affect (Liu et al., 2017). However, these studies have not measured parental mentalizing, which is the focus of this study.

Parental mentalizing

Parental mentalizing is defined as the ability of parents to recognize their children's mental states and to explain and give meaning to their behaviour in terms of thoughts, desires and expectations (Slade, 2005). Research has demonstrated that parental mentalizing comprises three essential reflective functions: pre-mentalizing modes, certainty about the child's mental states, and interest and curiosity about the child's mental states (Luyten et al., 2017; Rutherford et al., 2013). Pre-mentalizing modes represent a rejection of or defence against mentalization (i.e. the incapacity to enter one's child's subjective world), as seen by a tendency to make maladaptive attributions about the child. Certainty about mental states indicates a parent's level of confidence in attributing mental states to their child, as well as their awareness of the complexity and privacy of mental states. Interest and curiosity about the child's mental state demonstrate a parent's desire and active curiosity to understand their child's inner world. With that being said, very high scores on these dimensions might indicate hypermentalizing, reflecting parents' failure to recognize the child's opacity of mental states, or an excessive or intrusive interest in the child's mental states (Luyten et al., 2017). While pre-mentalizing modes are seen as a transdiagnostic risk factor demonstrated in diverse mental health disorders including depression, certainty and interest and curiosity regarding mental state are considered key protective factors that mitigate the adverse consequences of multiple psychopathological conditions (for review, see: Luyten et al., 2020). Therefore, in this study, pre-mentalizing modes will be examined as a mediating factor in the link between parental depressive symptoms and the child's ER, while certainty and interest and curiosity about mental state will be examined as moderating factors.

Parental mentalizing and children emotion regulation

Parental mentalizing seems to be a key factor in fostering the ability of ER in young children (see for review: Camoirano, 2017). For example, a recent study revealed that toddlers of mothers with better mentalizing abilities handle distress better by seeking comfort, while toddlers of mothers with lower ability tend to become aggressive (Borelli et al., 2021). Accordingly, maternal mentalizing significantly influences children's ER skills, highlighting its positive impact. Furthermore, it was found that better parental mentalizing predicted better ER skills in their children, via higher parental competence (Gordo et al., 2020) and attachment style (Nijssens et al., 2020). One explanation for these consistent findings is that parents with high mentalizing capacities are better able to assist their children in learning how to make sense of their own mental states, thereby developing self-mentalizing capacities and ultimately leading to better self-regulation (Álvarez et al., 2022; Camoirano, 2017; Fonagy & Target, 1997). These findings support our assumptions that mentalizing may mitigate the effects of parental depressive symptoms on subsequent child ER.

Parental mentalizing and parental depression

Importantly, mentalizing is not merely a trait-like capacity of an individual; rather, it is dynamic and influenced by the interpersonal context, as well as by the levels of stress and arousal, with very high or very low arousal being linked with a decreased ability to mentalize (Luyten et al., 2020). That is, individuals

who experience depressive symptoms might report lower parental mentalizing due to various reasons (Georg et al., 2023). First, depression is related to emotion dysregulation, which has been found to predict greater levels of pre-mentalizing, that is a non-mentalizing mode (see for review: Schultheis et al., 2019). Second, depressive symptoms relate to lower self-esteem and may therefore harm the parent's confidence in their parenting abilities (Dix & Meunier, 2009). A lack of confidence can lead to self-doubt and hesitation in responding to the child, making it difficult to engage in reflective and attuned parenting practices (Gordo et al., 2020). Moreover, depression is characterized by negative thought patterns, self-criticism and feelings of worthlessness. These cognitive patterns can impair the parent's judgement and perception of their child's behaviour, making it difficult to understand their child's mental state (Georg et al., 2023).

Although Georg et al. (2023) found that parental mentalizing are not always impaired in depressed parents, with variations depending on the assessment measures used, many studies support the claim that parental depression compromises mentalizing capacities (see for review: Katznelson, 2014). For instance, Ramsauer et al. (2014) concluded that depressed mothers had lower mentalization as they were less likely to reflect on their child's needs and mental states than non-depressed mothers. Moreover, they showed a lack of understanding and sensitivity towards their child's needs and wishes, and they had difficulties in seeing the child as an independent entity separately from them. Also, Krink et al. (2018) reported that higher levels of depressive symptoms were associated with more pre-mentalizing modes among mothers. Notably, there was no statistically significant connection between maternal depression and their scores related to interest and curiosity regarding mental states. It is therefore can be inferred that depressive symptoms do not necessarily relate to the degree of mothers' interest and curiosity in understanding their child's inner states, it might be that these specific mentalizing capacities are more stable and trait-oriented. Instead, depressive symptoms are primarily connected to a reduction in the capacity of mothers to reflect on themselves and others, contributing to a heightened likelihood of distorted perceptions of self and child (Khoshroo & Seyed Mousavi, 2022; Krink et al., 2018).

The current study

Building upon the literature in this field, it becomes evident that when parents have elevated levels of depressive symptoms, they might demonstrate a lower ability to identify and understand their children's emotions, which subsequently might affect the child's own mentalizing and ER abilities (Georg et al., 2023; Sprecher et al., 2023). These findings led us to examine whether pre-mentalizing modes will serve as a mediating factor, explaining how parental depression affects the child's ER. Simultaneously, we also tested whether certainty and interest, and curiosity regarding mental states will each play a moderating role, influencing the strength of this relationship. Hence, this study seeks to explore the potential mediating role of parental pre-mentalizing modes in the connection between parental depressive symptoms and their children's ER skills. Additionally, we aim to investigate the moderating influence of certainty and curiosity in this relationship. Our hypotheses are as follows: (1) Parents with depressive symptoms will lean towards pre-mentalizing modes, contributing to the child's emotional dysregulation. (2) High parental curiosity and certainty regarding the child's mental state will mitigate the detrimental effects of depressive symptoms on child development.

METHOD

Participants

This study was part of a larger study aimed at examining distress symptoms among kindergarten teachers, preschool children and their parents during the COVID-19 pandemic (see: <https://osf.io/qde24/>). This paper focusses only on the consequences of parents' characteristics on preschoolers' emotion

regulation; therefore, the kindergarten teacher-related data were not included. The sample size was calculated as follows: First, based on previous studies that examined the Pearson's correlation coefficient ($r \sim 0.2-0.3$) between different variables among parents and the desired sample for measuring these r values with a 95% confidence interval, a power analysis was performed at $\alpha = .05$; Power = 0.80. According to this calculation, the desired sample size is about $N = 193$ for $r = 0.2$ and $N = 84$ for $r = 0.3$ (Bujang & Baharum, 2016). The inclusion criteria was being a parent of a child in pre-school age. Sample in this study consisted of 732 parents (91% females; Mean age = 36.0, SD = 5.7), of children aged 3–7 years (51% females; Mean age = 4.9, SD = 0.9). The majority of the parents (93%) were in a relationship/married, 4% were divorced or separated, 2% were single, and 1% were widows. Parents had average of 2.9 children (SD = 1.4), and 15.5 (SD = 2.4) years of education (which reflects that most of them had B.A.). Our sample demonstrated a representative distribution across the diverse segments of the Israeli population, comprising 87% Jewish parents, 12% Arabic and 1% from other demographic segments. The participants exhibited diverse levels of religiosity, including secular (40%), traditional (24%), religious (32%), ultra-Orthodox (2%) or other (2%).

Procedure

This cross-sectional study was conducted amidst the COVID-19 pandemic in Israel, a period characterized by heightened levels of depression symptoms among parents (Feinberg et al., 2022). The research encompassed a substantial and diverse sample, comprising parents of preschool-age children from various sectors and segments of the Israeli population. The research received ethical approval from two committees: the Ethics Committee of the Office of the Chief Scientist at the Israeli Ministry of Education (file number 12077) and the Ethics Committee of the Faculty of Education at the University of Haifa (file number 520/21). Data collection occurred between April and July 2022, spanning from the end of the fifth wave to the peak of the sixth wave of the COVID-19 pandemic in Israel. During this period, there was a significant increase in the number of people infected in Israel, following the spread of a new variant (Israel Ministry of Health, 2022). The survey was conducted in both Hebrew and Arabic, aligning with the participants' native languages. The study aimed to gather comprehensive data by employing a cluster probability sampling method based on geographical regions established by the Ministry of Education. However, due to a low response rate using the probability sampling method, convenience sampling techniques were also utilized. This involved reaching out to potential participants through social networks, particularly Facebook and WhatsApp. Data collection was conducted anonymously through Qualtrics. Parents who completed the survey received a POP IT toy for their child.

Measures

Parental current depressive symptoms: Depression was assessed using the Patient Health Questionnaire (PHQ-9; Kroenke et al., 2001), which is a 9-item self-report brief diagnostic measure for depression. Importantly, due to ethical considerations, the item concerning suicidal tendencies was omitted from the questionnaire in this study; therefore, the questionnaire included only eight items. Participants were asked about the frequency of their experience with various depressive symptoms over the past 2 weeks (such as 'Little interest or pleasure in doing things') on a 4-point Likert scale, ranging from 0 (not at all) to 3 (nearly every day). The total score, ranging from 0 to 18, reflects the severity of depressive symptoms, with higher scores indicating more pronounced symptoms. Cronbach's alpha coefficient was good ($\alpha = .89$) in this sample.

Parental mentalizing: Parental mentalizing was evaluated using the Parental Reflective Functioning Questionnaire (PRFQ; Luyten et al., 2017), an 18-item self-report survey scored on a 7-point Likert

scale. The PRFQ consists of three subscales: The first subscale examines certainty about mental states and captures whether parents are excessively certain or uncertain about their child's mental states (e.g.—‘I always know what my child wants’). The second subscale measures interest and curiosity in mental states, reflecting parents' curiosity about their child's emotional states (e.g. ‘I am often interested in understanding how my child feels’). These dimensions can emerge in a maladaptive fashion as hyper-mentalizing (parents who are overly certain or curious about their child's mental state) or hypo-mentalizing (parents who lack confidence or interest in their child's mental state). The scoring for predicting high or low scores on the Certainty in Mental States and Interest and Curiosity subscales of the PRFQ has no cut-offs. This suggests that moderate levels of both subscales may be more optimal, while either low or very high levels may be more dysfunctional. The third one assesses pre-mentalizing modes, indicating a rejection or defence against mentalizing (e.g.—‘My child sometimes gets sick to keep me from doing what I want to do’). In this study, the Cronbach alphas for pre-mentalizing modes, certainty about mental states, and interest and curiosity in mental states were acceptable ($\alpha = .74$, $\alpha = .70$, $\alpha = .82$), respectively.

Children's emotion regulation: Children's emotion regulation ability was measured with the Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997) completed by parents. The checklist comprises 24 items that assess the child's regulation abilities (e.g.—‘My child can say when he/she is feeling sad, angry, or mad, fearful or afraid’). Parents rate each item on a 4-point scale, ranging from 0 (almost never) to 3 (almost always). A total score of emotion regulation, ranging from 0 to 72, was calculated by reversing negatively weighted items and summing the scores on each item, with higher scores indicating more adaptive emotion regulation (Ramsden & Hubbard, 2002). In this study, the Cronbach's alpha coefficient was good ($\alpha = 0.84$).

COVID-19-related stress: Measured by the COVID-19 Concerns Questionnaire (Khouri et al., 2022), where parents rated their worry on a Likert scale of 1–5 (1—‘not at all’, 5—‘extremely’). The questionnaire covered health concerns for the participant and their relatives (3 items), economic/employment concerns (3 items), mental and interpersonal well-being concerns (4 items) and the pandemic's impact on children (3 items). The total score was the average of all 13 items, with an excellent internal reliability of $\alpha = .90$.

Data analysis

All the analyses were conducted using the SPSS.27 software (Armonk, NY: IBM Corp). First, the means, standard deviations and bivariate correlations among the study variables were investigated. Next, to estimate the indirect effect of parental current depression on child emotion regulation via parental pre-mentalizing modes as the mediator, we employed the PROCESS mediation macro in SPSS (Hayes, 2017; Model 4). This method directly measures the size of the mediating effects using 5000 bootstrapped samples and allows to perform regression analysis without needing the data to follow a normal distribution. When the confidence intervals of the indirect effect of a mediator do not include 0, it is considered statistically significant. In addition, parental certainty as well as interest and curiosity about their child's mental state were examined as moderators of the link between current depressive symptoms and the child's emotion regulation skills using multivariate linear regression. In the first step, COVID-19-related stress was entered as a covariate. Parental depressive symptoms, parental interest and curiosity as well as parents' certainty of the child's mental state were entered in Step 2. Finally, the interactions between parental depressive symptoms and parental mentalizing were entered in the third step to explore the moderating effects. To account for the potential contribution of stress attributed specifically to the COVID-19 on the outcomes, COVID-19-related stress was included as a single covariate in all analyses.

RESULTS

Descriptive statistics

Table 1 displays the means and bivariate Pearson's correlation coefficients. There was a positive correlation between current parental depressive symptoms and pre-mentalizing modes ($r = 0.31, p < .001$), as well as a negative correlation between parental depressive symptoms and the child's emotion regulation skills ($r = -0.23, p < .001$). Pre-mentalizing modes exhibited a negative association with the other two reflective functions, namely certainty about mental states ($r = -0.08, p < .05$) and interest and curiosity about mental states ($r = -0.09, p < .05$), as well as with the child's emotion regulation skills ($r = -0.47, p < .001$). Additionally, certainty about mental states and interest and curiosity about mental states were positively correlated with each other ($r = 0.25, p < .001$) and with the child's emotion regulation abilities ($r = 0.25, p < .001$; $r = 0.11, p < .01$, respectively).

Mediation analyses

Model 4 in the SPSS PROCESS macro was used to test the mediation effect of parental pre-mentalizing modes on the link between parental current depressive symptoms and child ER skills, with COVID-19-related stress as the covariate (**Figure 1**). Results are presented in **Table 2**. The model explained 23.5% of the variance in child ER ($F(3,728) = 74.33, p < .001$). Supporting our hypothesis, the study found a direct effect of parental depression on the child's ER skills, so children of parents who reported higher depressive symptoms had lower ER skills, as indicated by parents' reports (total effect; $B = -0.25, t = -3.94, p < .001$). When the parental pre-mentalizing mode was included in the analysis as a mediator, this coefficient was no longer statistically significant (direct effect; $B = -0.10, t = -1.70, p = .09$). The direct link between parental current depressive symptoms and parental pre-mentalizing modes was positive and significant ($B = 0.04, t = 5.63, p < .001$), suggesting that when parental depressive symptoms are high, so is the tendency of parents to exhibit pre-mentalizing modes. Next, parental pre-mentalizing

TABLE 1 Descriptive statistics.

	Mean (SD)	1	2	3	4
1. Parental depressive symptoms	5.4 (5.3)				
2. Pre-mentalizing modes	1.9 (0.9)	0.31***			
3. Certainty about mental states	4.5 (1.1)	-0.06	-0.08*		
4. Interest and curiosity	5.6 (0.9)	0.04	-0.09*	0.25***	
5. Child ER	54.8 (8.5)	-0.23***	-0.47***	0.25***	0.11**

Abbreviation: SD, standard deviation.

* $p < .05$. ** $p < .01$. *** $p < .001$.

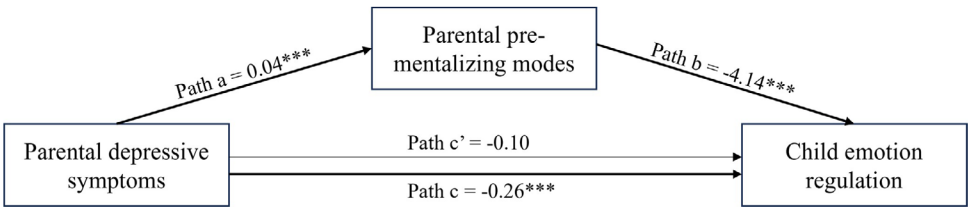


FIGURE 1 The mediating role of pre-mentalizing modes between parental depressive symptoms and child ER, accounting for COVID-19-related stress. All coefficients are unstandardized. *** $p < .001$; bold lines represent significant paths.

modes exhibited a direct link to the child's ER skills ($B = -4.14, t = -12.50, p < .001$). Finally, the indirect link between parental depressive symptoms and the child's ER via pre-mentalizing modes was significant ($B = -0.15, p < .001$). COVID-19-related stress was not a significant predictor of the child's ER ($B = -0.59, t = -1.78, p = .08$).

Moderation analyses

To test for a potential moderating effect of parental mentalizing on the link between current parental depressive symptoms and a child's emotion regulation skills, we conducted a multivariate regression analysis, with the child's ER skills serving as the dependent variable. The results of these analyses are presented in Table 3.

First, COVID-19-related stress seems to predict worse ER skills among the child ($b = -1.96, t = -6.22, p < .001$). Second, the results showed that parental depressive symptoms predict lower ER skills in the child ($b = -0.23, t = -3.66, p < .001$). Additionally, parental certainty about mental states and parental

TABLE 2 Total, direct and indirect effects of the mediation model.

	<i>b</i>	SE	95% CI	
			Boot LLCI	Boot ULCI
Depression → PM (path a)	0.04***	0.01	0.02	0.05
PM → Child ER (path b)	-4.14***	0.33	-4.79	-3.50
Total effect (path c)	-0.26***	0.07	-0.39	-0.13
Direct effect (Path c')	-0.10	0.06	-0.22	0.02
Indirect effect				
Depression → PM → Child ER	-0.15***	0.04	-0.23	-0.09

Abbreviations: ER, emotion regulation; PM, pre-mentalizing modes.

*** $p < .001$.

TABLE 3 Moderation analyses.

	<i>R</i> ²	<i>F</i>	<i>B</i>	SE	β	<i>t</i>
<i>Model 1</i>						
COVID-19-related stress	0.5	38.7***	1.96	0.32	-0.22	-6.22***
<i>Model 2</i>						
COVID-19-related stress	0.13	27.28***	-1.39	0.35	-0.16	-4.00***
Depression			-0.23	0.06	-0.15	-3.66***
Parental CM			1.62	0.27	0.22	6.06***
Parental IC			0.66	0.33	0.07	2.04*
<i>Model 3</i>						
COVID-19-related stress	0.14	19.71***	-1.43	0.35	-0.16	-4.14***
Depression			-1.23	0.38	-0.76	-3.22***
Parental CM			1.08	0.38	0.15	2.85**
Parental IC			0.22	0.45	0.02	0.48
Depression × CM			0.10	0.05	0.30	2.00*
Depression × IC			0.09	0.06	0.34	1.49

Abbreviations: CM, certainty about mental states; IC, interest and curiosity.

* $p < .05$. ** $p < .01$. *** $p < .001$.

interest and curiosity predict higher ER skills in the child ($b = 1.62, t = 6.06, p < .001$; $b = .66, t = 2.04, p < .05$, respectively).

For the moderation analysis, the interaction between parental depressive symptoms and parental certainty about mental states significantly predicts the child's ER skills ($b = .10, t = 2.00, p < .05$). This indicates that higher parental certainty weakens the negative impact of parental depressive symptoms on child ER skills (Figure 2a). However, the interaction between parental depressive symptoms and parental interest and curiosity was not significant ($b = .09, t = 1.49, p = .14$), indicating that these factors do not moderate the relationship (Figure 2b). This model accounted for 14% of the variance, $F(6,725) = 19.71, p < .001$. This finding indicates that parental certainty weakens the link between parental depressive symptoms and child ER skills (see Figure 2a), while the interest and curiosity factor does not (Figure 2b).

DISCUSSION

The current study's purpose was to explore whether parental pre-mentalizing modes mediate the link between current parental depressive symptoms and child ER and whether parental interest and curiosity, as well as certainty about the child's mental state, moderate this link. The theoretical framework drawn from Morris et al. (2007) model of emotion socialization guided our investigation into how parental factors, particularly depressive symptoms, contribute to the development of children's ER abilities. As expected, we have found a negative link between parental depressive symptoms and children's ER skills. This link was mediated via a higher tendency of parental pre-mentalizing modes. Next, consistent with our hypothesis, parental certainty about mental state was found to be a protective factor against the adverse effects of parental depression on child development, as it was associated with a weaker link between parental depressive symptoms and child ER skills. However, in contrast to our expectations, parental interest and curiosity about mental states did not moderate this link.

Consistent with existing literature (Camoirano, 2017; Ghanbari et al., 2023; Sprecher et al., 2023), our study revealed that high levels of both parental certainty and interest and curiosity about mental states demonstrated a significant positive correlation with ER skills among preschoolers. This implies that when parents exhibit greater certainty and curiosity regarding their child's mental state, the likelihood of the child displaying proficient ER skills increases. We also found a significant negative association between parental depressive symptoms and children's ER skills. This finding aligns with previous research demonstrating the impact of parental mental health on children's emotional development

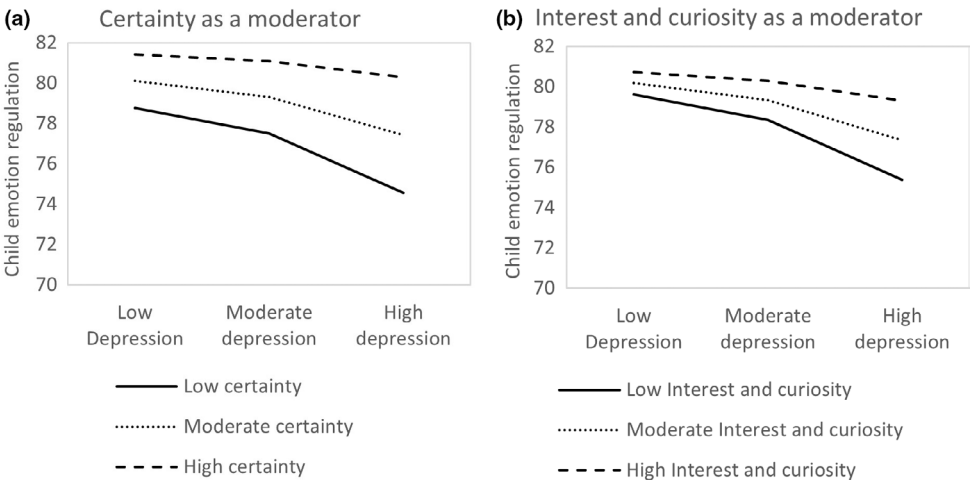


FIGURE 2 Interaction between paternal depression and parental reflective functions as predictors of the child's emotion regulation. (a) Certainty about mental states as a moderator. (b) Interest and curiosity as a moderator.

(Álvarez et al., 2022; Ghanbari et al., 2023; Gordo et al., 2020). According to the model of emotional socialization (Morris et al., 2007), this link can be explained indirectly by more negative atmosphere within the family, maladaptive parental modelling of ER and reduced tendency to use parenting practices (influenced by mentalizing) that foster ER.

The findings of the present study are in line with this model, as parental pre-mentalizing modes, which is an important parenting emotion-related ability, or lack thereof, were found to mediate the link between parental depressive symptoms and the child's ER skills. Accordingly, parents with higher levels of depressive symptoms were more likely to exhibit pre-mentalizing modes, suggesting a limited ability for mentalizing of the child's mind. Importantly, these pre-mentalizing modes were found to be directly correlated with children's ER, indicating that parental mentalizing capacities play a crucial mediating role in the transmission of ER skills to children. That is, depression can hinder parents' ability to reflect on their child's mental states, presumably due to cognitive distortions associated with the condition (Georg et al., 2023). Thus, in their interactions with their children, they are consistently more inclined to resort to pre-mentalizing modes, that are strongly associated with elevated psychological distress. This tendency towards pre-mentalizing modes may potentially hinder the child's ER abilities, as parents who struggle with adopting a 'meta-position' towards the other's experience exhibit deficiency in using mental states as a reliable source of information, thus experiencing more confusion and difficulty in identifying their child's mental state, and might also exhibit a tendency to experience confusion between self and other (Luyten et al., 2020). In turn, they may find it challenging to assist the child in understanding their own emotional states. These parents may also model less effective ER strategies to their children (Shai et al., 2023), ultimately resulting in the development of less adaptive ER tendencies (Camoirano, 2017; Feng et al., 2008). Noteworthy, however, that this study is cross-sectional, therefore the current findings cannot establish causality or determine the direction of these relationships.

Previous study revealed that interest and curiosity in mental states, as well as certainty about mental states, were not significantly associated with parental depression (Krink et al., 2018). This suggests that parents' engagement with their child's mental states and their awareness of mental opacity potentially remain unaffected by the severity of their depressive symptoms. On the other hand, the limited ability to mentalize, as indicated by the pre-mentalizing modes subscale, is linked to depression. Consequently, interest and curiosity in mental states and certainty about mental states were explored as moderating variables presumably capable of mitigating the impact of depression on a child's ER, rather than serving as mediating variables. That is, we explored interest and curiosity in mental states and certainty about mental states as conditions that modify the primary relationship between parental depressive symptoms and the child's ER (moderation) instead as the underlying mechanism driving this relationship (mediation).

Consistent with previous findings (e.g. Ghanbari et al., 2023), our results revealed that parental certainty about mental states weakened the link between parental depressive symptoms and children's ER skills. This suggests that a parent's certainty about their child's mental states may act as a protective factor, mitigating the negative impact of depressive symptoms on children's ER. It is possible that this effect may be at least partially associated with their ability to reflect on both their own mental states and their child's both separately and interdependently. Such reflection could be associated with the parents' ability to take the perspective of their child and support them in adaptively regulating their emotions in a manner that assists their child in learning how to manage their own emotional states (Fonagy & Target, 1997).

In contrast, the interaction between depression and parental interest and curiosity did not reach statistical significance. Accordingly, while it is possible that certainty regarding mental states may provide parents with a sense of competence and security, diminishing the correlation between depression and the child's regulatory abilities, parental interest and curiosity may not necessarily bring a sense of competence to a parent, particularly for those dealing with depression that reduces self-esteem. Thus, while our results are consistent with previous studies depicting the positive link between parental interest and curiosity and the child ER skills (Álvarez et al., 2022; Ghanbari et al., 2023; Gordo et al., 2020), our hypothesis regarding the moderating effect of parental interest and curiosity on the link between parental

depression and child's ER was not confirmed. Further examination of our data showed that the current sample was relatively high in this subscale (reporting a high mean score), with participants reporting levels one standard deviation above the sample average actually reporting nearly maximal levels of this capacity, namely, exhibiting hypermentalizing (Luyten et al., 2017). This might reflect the parent's anxiousness about the child's mind: the parent becomes less available and attentive to the child's actual experience in a way that may be associated with feelings of overwhelm and even intrusiveness. Another possible explanation is that a child in distress or emotionally overwhelmed due to low ER capacities leaves the parent in a state of constant misunderstanding and wondering about the child's mental state. In this situation, the opposite relationship exists, that is, the child's difficulties contribute to the parent's difficulty, which manifests itself in the parents' hypermentalizing (Luyten et al., 2017). Future research could delve deeper into understanding the nuanced interplay between parental mentalizing dimensions and depressive symptoms in shaping children's emotional development.

Limitations

While our study provides valuable insights, several limitations should be acknowledged. The cross-sectional design limits our ability to establish causal relationships and longitudinal research is needed to explore the temporal dynamics of these associations and assess the interplay between the study variables over time. For example, as mentalizing is dynamic and influenced by the interpersonal context, it is possible that child ER capacities may impact parents' capacity to mentalize, which in turn might impact parents' depressive symptoms. Utilizing longitudinal, cross-lagged designs would enable to assess reciprocal effects. However, it is important to highlight that the study employed a sizable and representative sample, encompassing diverse sectors and various socioeconomic strata within the population. A second limitation is related to the reliance on parental self-report measures, with no child or preschool teachers independent report measures used, which may introduce bias particularly in the context of mentalizing. If parents possess lower mentalizing abilities, their reports on their child's mental state or behaviour (ER tendencies in this case) may be subject to increased bias. Therefore, future studies could benefit from incorporating multi-method assessments such as interviews and observational measures, such as the Parent Development Interview (PDI; Slade, 2005) to measure parental reflective functions, a preschool teacher report, or a frustration task to measure the child's ER skills (Calkins et al., 1999). Third, we used the PHQ to measure depression, although this scale has good diagnostic properties, it assesses a current depressive episode (Gilbody et al., 2007). Future studies will benefit from using clinically diagnosed depressed parents. Another limitation regarding this scale is that due to ethical considerations the item concerning suicidal tendencies was removed, which might affect the results. Lastly, this study was conducted during the COVID-19 pandemic, a factor that made it particularly valuable, since parents during this period showed high depression symptoms. Yet, it is important to acknowledge the potential impact of pandemic-related stress on the study results, potentially leading to lower mentalizing capacities in parents beyond the symptoms of depression. While the researchers introduced COVID-19-related stress as a control variable, the broader context of the pandemic could still have influenced the outcomes.

Conclusions and clinical implications

Our study aimed to investigate the mediating role of parental pre-mentalizing modes in the link between current parental depressive symptoms and child ER, as well as the moderating role of parental certainty and parental interest and curiosity, on this link. The current study focussed on preschool children, recognizing this stage as pivotal for the development of ER skills (Feng et al., 2008). The research sample, comprehensive and representative, comprised parents from different strata and sectors within the Israeli population. The results of this study contribute to the growing body of literature on preschool children emotional

development in the context of parental psychopathology. Understanding the mediating and moderating factors involved in this complex process is essential for informing targeted interventions aimed at promoting children's emotional well-being, particularly in the presence of parental depressive symptoms. More specifically, the current study highlights the importance of promoting parental mentalizing while working with families, and particularly with parents who are experiencing depressive symptoms that may jeopardize mentalizing capacities. Indeed, a growing body of evidence has demonstrated that targeting parental mentalizing in clinical trials enhanced family functioning and improved parent–child interactions (Byrne et al., 2020; Lo & Wong, 2020; Slade et al., 2020), and that parental mentalizing is linked with more adaptive ER skills and psychological functioning among parents and their children (Camoirano, 2017; Shai et al., 2023). Our findings suggest that mentalizing might be particularly relevant in the context of parental depression, as it is not only underlying the link between parental depression and child's ER, but it may also buffer the negative impact of parental depression on child's ER. Thus, we suggest that professionals working therapeutically with families, and particularly with parents who are currently experiencing depressive symptoms may benefit from using therapeutic interventions enhancing parental mentalizing. Specifically, in this context, it is important to encourage parents to adopt a mentalizing stance towards their children, namely, adopt their child's perspective and treat them as a separate psychological agent whose actions are motivated by their own mental states (Hertzmann et al., 2017; Sharp & Fonagy, 2008). This also includes assessing their child behaviour and emotional reactions with curiosity, focusing on perspective-taking, and reflecting on their own reactions and mental states (Luyten et al., 2017). It would be potentially helpful to assist parents in identifying their tendencies to prementalizing modes (e.g. notice interpretations that might stem from their own depressive mental states and related negativity) and to hypermentalizing (e.g. notice when they are excessively worrying about their child mental state) and recognizing the specific interpersonal context where these tendencies are activated. Thereby, keeping their child in mind and gaining more reflectivity and flexibility in interpreting their child mental states and experience more certainty in their ability to do so. In turn, the capacity to better mentalize their child may assist parents who are dealing with depressive symptoms in being more attuned to their children's needs and regulating their emotions more accurately, thus potentially fostering the child's ER skills (Ghanbari et al., 2023; Hertzmann et al., 2016; Luyten et al., 2020). Moreover, given that parents who are dealing with depressive symptoms might experience difficulties in creating a therapeutic alliance (Kendra et al., 2014), validating parents' perspectives and accepting their reluctances in trusting, while reflecting on their state of mind in a non-judgemental, mentalizing therapeutic stance, may foster the therapeutic alliance and enhance parental mentalizing. Notably, however, these clinical suggestions should be further examined in future studies, focusing on implementing mentalization-based interventions among parents who are experiencing depressive symptoms.

AUTHOR CONTRIBUTIONS

Mor Keleynikov: Conceptualization; investigation; writing – original draft; methodology; visualization; writing – review and editing; formal analysis; project administration; resources. **Joy Benatov:** Supervision; conceptualization; investigation; writing – original draft; writing – review and editing. **Dana Lassri:** Supervision; conceptualization; investigation; writing – original draft; writing – review and editing. **Noga Cohen:** Writing – review and editing; conceptualization; investigation; writing – original draft; supervision.

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CONFLICT OF INTEREST STATEMENT

The authors have no conflict of interest to declare.

DATA AVAILABILITY STATEMENT

The data are available upon request from the corresponding author.

ETHICS STATEMENT

This study was approved and reviewed by the Ethics Committee of the Office of the Chief Scientist at the Ministry of Education (file number 12077) and the Ethics Committee of the Faculty of Education at the University of Haifa.

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CHAPTER III

Maternal distress during the COVID-19 outbreak: A socio-ecological perspective

Mor Keleynikov, Noga Cohen & Joy Benatov

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RESEARCH ARTICLE

Maternal distress during the COVID-19 outbreak: A socio-ecological perspective

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Abstract

Introduction

Mothers faced an increased risk of adverse mental health outcomes during the COVID-19 pandemic compared to other populations. However, there is little data on the factors that placed mothers at increased risk of distress.

Aims

The present study explored a range of individual, familial, and environmental factors associated with psychological distress in mothers during the COVID-19 pandemic.

Method

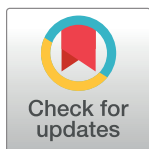
This repeated cross-sectional study was composed of a convenience sample of mothers who completed an online survey that included a demographic questionnaire, an emotion regulation questionnaire, and the Depression, Anxiety, and Stress scale. The survey was administered during the second and third lockdowns in Israel in 2020–2021.

Results

The study included 575 mothers (M age = 39). The findings of a hierarchical regression indicated that individual-level factors, composed of age and emotion regulation tendencies predicted psychological distress. The family-level factors of household income and number of children in the family also predicted distress. In terms of environmental-level factors, COVID-19-related media consumption and school status (open or closed) were also significant predictors of psychological distress. Importantly, the results showed that the most important predictors of psychological distress in mothers during the COVID-19 outbreak were school closures, household income, and the use of adaptive and maladaptive emotion regulation strategies.

Conclusions

The findings highlight the intersection of individual, familial, and environmental factors in mothers' mental health during crises.



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Introduction

At the beginning of 2020, the COVID-19 virus spread rapidly across the globe, and was declared a global pandemic by the World Health Organization in March [1]. To prevent the pandemic from spreading, governments implemented a variety of steps that included the closing of non-essential services, travel restrictions, quarantines, and school lockdowns [2]. Although these restrictions were crucial to mitigating the spread of the disease, they also constituted a burden on the population. The pandemic affected parents in particular, who needed to take on a much more intense educational role while trying at the same time to deal with daily chores and work [2, 3]. Findings collected during the pandemic indicated that mothers tended to report higher stress levels and lower subjective well-being [3, 4], as well as higher levels of burnout and depressive symptoms than non-parents and fathers [5, 6]. Maternal psychological distress can impair job functioning, impede family interactions, affect children's mental health, and may contribute to divorce and child mistreatment [6–8]. Since women are mostly responsible for childcare, with studies showing that mothers devote almost twice as much time to household and childcare responsibilities as fathers [9], the current study focused on mothers.

While studies have investigated the risk factors associated with mental distress in mothers during the COVID-19 pandemic, the majority have either concentrated primarily on pregnant women or failed to adopt a comprehensive, holistic approach to examining these factors [10]. Nevertheless, delving into the experiences of mothers is essential since the insights gleaned are likely to extend beyond the immediate context of the pandemic, and are applicable to other crises, including war and natural disasters. This broader understanding is instrumental not only to bolstering the resilience of individual families but also in terms of contributing to overall economic and communal stability. There is growing acknowledgment of the need to consider multi-level factors as contributors to mental health [11]. The current study thus drew on Bronfenbrenner's Socio-Ecological theory [12] to identify the factors that contribute to mental health problems in mothers. This type of holistic approach not only explores individual coping resources but also encompasses broader contexts by examining factors at the family and environmental levels. In times of adversity, this type of investigation is needed to carry out and plan for more comprehensive mental health policies and interventions for mothers.

Socio-Ecological Theory posits that mental health is affected by the microsystem, mesosystem, exosystem, macrosystem, and chronosystem. The microsystem refers to individual-level factors, the exosystem covers family-level factors, the mesosystem includes factors within one's proximal environment, and the macrosystem extends to wider social factors. Although the Socio-Ecological model has often been used to predict children's mental conditions, it can also be applied to parents [13]. Previous studies have found that parents' mental state is affected by multiple factors such as available mental resources, financial status, the quality of the marital relationship, and their offspring's mental and physical health [13–15]. Therefore, investigating risk and resilience factors in mothers requires consideration of both individual and contextual factors, making Socio-Ecological Theory a suitable framework.

The current study thus implemented a social-ecological theoretical perspective to examine how factors at multiple levels of the socio-ecological system may account for the deleterious mental health effects of the COVID-19 outbreak on mothers. Below we briefly summarize the key factors identified in previous studies conducted during the COVID-19 pandemic that may be related to maternal stress. These include individual-level factors (e.g., age and emotion regulation tendencies), family-level factors (e.g., relationship status, number of children in the family, household income, children's age, and parenting a disabled child), and environmental-level factors (e.g., school status, media exposure, as well as the level of direct exposure to COVID-19).

Individual-level factors

Studies on individual differences in the use of emotion regulation strategies have led to a better understanding of emotional distress in general, and during the COVID-19 pandemic in particular [16–18]. *Emotion regulation (ER)* refers to any process that influences the manifestation, intensity, or duration of an emotional response [19, 20]. ER tendencies can serve as significant predictors of parental outcomes during a pandemic, since they have been shown to moderate the association between specific personality traits [such as neuroticism] and mental health [18–20]. The two most common strategies individuals use to regulate their emotions are known as suppression and reappraisal [17]. Suppression entails inhibiting the behavioral expressions of emotions. Reappraisal is a cognitive strategy that entails reinterpreting a situation that evokes negative emotions more positively. While reappraisal is commonly considered to be an adaptive strategy related to resilience, suppression is usually viewed as a non-adaptive strategy associated with psychological distress [17, 21]. In the context of the COVID-19 outbreak, mothers with a higher tendency to use reappraisal may have been able to see the situation in a more flexible and positive light, whereas the habitual use of suppression may have exacerbated the negative emotions experienced in situations resulting from the pandemic. Several studies conducted during peak COVID-19 periods found that parental use of adaptive ER strategies moderated the association between COVID-19-related stress and parental burnout [22], as well as children's stress reactions [23]. A study on parents indicated that a reappraisal intervention could reduce parents' stress levels during the COVID-19 outbreak [24].

In addition to ER, age is also considered to be an important predictor of maternal distress [25]. Specifically, older parents are considered to have better strategies to cope with distress [26]. During the COVID-19 pandemic, younger mothers were found to be at higher risk for mental distress symptoms than older mothers [27].

Family-level factors

Within Socio-Ecological Theory, family-level factors including pre-existing and pandemic-specific risk and resilience factors are considered to shape mothers' mental state. For example, a study conducted during the COVID-19 outbreak found that children's mental health and child-parent conflicts contributed to parenting stress [28]. Family-level factors may affect mothers' well-being when they are associated with high demands (e.g., having young children, having many children), low resources (e.g., when the household income is low), or both (e.g., being a single mother, parenting a child with a disability). These family-level factors were found to increase vulnerability to parental distress during COVID-19 [29–31]. One of the main family-level factors considered to influence mothers' mental state, especially during the COVID-19 pandemic, was relationship status [31–33]. Specifically, some of the most challenging aspects of the pandemic [e.g., childcare, financial concerns, restrictions on social life, and loneliness] were amplified for single parents who had to combine work and childcare without the support of a partner. A recent study showed that single parents tended to report more parental stress than partnered parents during the COVID-19 outbreak [4, 33]. In addition, being married mediated the association between children's psychological symptoms and parental mental health [32]. Household financial strain is also a major source of stress for parents because of the unstable or unsafe situations it creates [27, 31]. During the pandemic, low-income families reported struggling to meet basic needs and arranging for childcare. They also reported suffering from other forms of money-related stress, such as worries about their financial status in the future [34].

The number of children in the family also plays a role in mothers' mental health. For example, a study conducted during the COVID-19 outbreak on a large sample of more than 50,000

participants from 26 countries and territories found that increases in individuals' perceived stress levels were directly correlated with the number of children in their households [4]. This may be because the financial and emotional burden is higher in families with many children. Children's ages can also impact mothers' mental state, such that parents of younger children tend to report greater difficulties than parents of older children [28, 35]. The developmental needs of younger children may have been more stressful and demanding for mothers during the pandemic because these children were entirely dependent on their caregivers during lockdowns and required constant supervision and parental involvement [36].

Finally, although the negative consequences of the pandemic were evident in mothers around the world [2, 6, 28], some familial constellations emerged as more vulnerable than others. Mothers of children with developmental disorders (DD) are one example, given their children's difficulty coping with change and the discontinuation of treatments which were indispensable for these children [37]. The effects of COVID-19 on parents of children with DD have been examined in quite a few studies (for a review see [29]), in which parents of children with DD reported significantly greater anxiety, depression, stress, and a greater decrease in quality of life than parents of typically developing (TD) children [29, 30]. Furthermore, during the pandemic, parents of children with DD reported having difficulties dealing with their children's behavior problems and feeling as though they could not meet their children's needs at home [38]. They reported having concerns over the functional, social, and behavioral implications of the lockdowns on their children [29, 38].

Environmental-level factors

Socio-Ecological Theory takes factors within an individual's societal environment into account that can have both a direct and indirect impact on psychological distress [12]. Exposure to COVID-19 was an important environmental-level factor in terms of pandemic-related mental distress. According to Bridgeland and colleagues [39], COVID-19 exposure can be measured on two levels: direct exposure to the virus (i.e., the individual or a family member had COVID-19 or was in quarantine due to exposure to the virus), and indirect exposure (i.e., media exposure). For example, individuals who were directly exposed to the COVID-19 virus (e.g., either when individuals were in contact with people who then contracted with COVID-19 or were directly exposed to an infected individual) experienced greater mental distress [40]. A study that assessed the psychological impact of the COVID-19 lockdowns in Italy found that having a family member who was in quarantine was related to higher levels of anxiety and stress [41]. A recent review highlighted that being in quarantine was one of the most reliable predictors of symptoms of mental distress [42].

In terms of indirect exposure, there is robust evidence for an association between media exposure and various negative psychological outcomes during public crises [43]. For instance, the amount of time U.S. adults spent watching television on the day of the September 11th attacks and the following days was correlated with symptoms of post-traumatic stress disorder [44]. Likewise, a survey conducted in China reported an association between exposure to COVID-19 information on social media and the prevalence of depression and anxiety [45]. In the U.S., increased exposure to a wider variety of media sources and spending more time on social media were linked to heightened levels of mental distress [46]. Another environmental factor that was likely to influence mothers' psychological distress during the pandemic was the unpredictable opening and closing of schools [37]. During lockdowns, educational institutions often shut down, thus disrupting students' routines and curtailing their support networks. Mothers were often forced to step in as teachers while working themselves [2]. Although some parents perceived the quarantine as a positive experience, mainly because it led to a closer

relationship with their children [47], most mothers reported a considerable burden during the pandemic [2, 6]. Mothers who home-schooled their children during the COVID-19 outbreak reported higher levels of psychological distress than those who did not home-school or had no school-aged children [48].

The current study

This study drew on Ecological Systems Theory [12] to examine the socio-ecological determinants of maternal distress during the first year of the COVID-19 pandemic in Israel. The data consisted of individual-level factors, family-level factors, and environmental-level factors. Three general hypotheses were formulated, related to each socio-ecological level:

1. In terms of individual-level factors, younger mothers, as well as mothers who tend to use suppression more frequently and reappraisal to a lesser extent were predicted to report greater levels of psychological distress.
2. In terms of family-level factors, single mothers, mothers with more children in the family, mothers facing greater financial difficulties, having younger children or a child with DD were predicted to report greater psychological distress.
3. In terms of environmental-level factors, mothers whose children's school was closed, mothers who were more closely exposed to COVID-19, or mothers who consumed more media related to the COVID-19 pandemic were expected to report higher mental distress.

Method

Procedure

The current study investigated maternal distress during the first year of the COVID-19 outbreak in Israel. Using a repeated cross-sectional design, data collection took place during two recruitment periods corresponding to peak periods of the COVID-19 pandemic in Israel. The first survey was administered from October 16 to November 15, 2020 (second lockdown). The second survey was conducted from January 16 to February 1, 2021 (third lockdown). The questionnaires were administered during two separate lockdown periods to explore the potential variations between them. This approach not only aimed to identify differences but also sought to increase the sample size, thereby facilitating a broader generalization of the results. During the periods when the questionnaires were administered, social distancing regulations, as well as restrictions on social gatherings, were in force. Almost all educational institutions were closed with the exception of certain special education schools, community educational institutions (for example in kibbutzim), and classes for children whose parents are essential workers (for example, schools in hospitals for children of medical staff). The participants completed an online survey administered via the Qualtrics platform (Qualtrics, Provo, UT). Before completing the questionnaire, they received a detailed explanation about the study and signed an informed consent form. The surveys were distributed via Facebook and school administrators. Participants who completed the survey were entered into a lottery to win a tablet, and two participants received a tablet at the end of data collection. The study was reviewed and approved by the University of Haifa IRB committee, license number: 286/21. All participants participated in the research voluntarily and anonymously and provided their informed consent to participate in this study.

Participants

A repeated cross-sectional design was implemented, where each survey included a different sample of participants with similar socio-demographic characteristics. The inclusion criteria

included being a mother above the age of 18, with at least one child younger than 18 living at home. An a-priori power analysis using G*power software indicated that a sample size of 123 participants was needed to detect a moderate effect size in a regression analysis with 80% power and an alpha of 0.05. Six hundred and twenty-five participants completed the questionnaire. The participants were recruited using a convenience sampling method. The final sample consisted of 575 mothers (Mean age 39.3, SD = 5.8).

Measures

Individual-level factors. The individual-level factors were age and ER tendencies. Age was measured on a single open question where respondents were asked to indicate how old they were in years. Age was entered into the analysis as a continuous variable. Trait ER tendencies were measured using the Emotion Regulation Questionnaire (ERQ; [17]). The ERQ is made up of 10 statements that assess cognitive reappraisal (e.g., “I control my emotions by changing the way I think about the situation I’m in”), and expressive suppression (e.g., “I keep my emotions to myself”). Participants respond on a 7-point scale ranging from 1 (strongly disagree) to 7 (strongly agree). The Cronbach alpha internal consistency in the current sample was .85 for the reappraisal scale and .78 for the suppression scale.

Family-level factors. These factors included relationship status (in a relationship/not in a relationship), number of children in the family, household income (below/above average), child’s age (in years), and parenting a child with a disability (yes/no). Parents with multiple children were instructed to respond to the questionnaire with reference to a specific child of their choice. This approach was implemented to ensure that the responses were focused on the experiences and characteristics of a single child within the family, thereby maintaining the clarity and specificity of the data collected, as done in previous studies (e.g., Spinelli et al. [2]). Relationship status, household income, and the child’s disability were entered as categorical variables, while child’s age and the number of children in the family were entered into the analysis as continuous variables.

Environmental-level factors. The environmental factors included school status, media consumption, as well as the amount of direct exposure to COVID-19. School status was composed of one question where parents were asked to report whether their child’s school had been closed or open the previous week. Media exposure was assessed by asking the number of hours daily that the respondents spent consuming media coverage of COVID-19. Possible exposure to COVID-19 was a categorical factor and was assessed using a checklist created for this study. The checklist was composed of five yes or no questions (e.g., “Have you been diagnosed with COVID-19?”; “Have you been tested for COVID-19?”; “Have you been in quarantine in the past month?”; “Has someone close to you been diagnosed with COVID-19?”; “Has someone close to you died from COVID-19?”). A “yes” response to any of the items was coded as possible COVID-19 exposure.

Outcome variable. Psychological distress was evaluated on the Depression Anxiety Stress Scale (DASS; [49]). The DASS is a 21-item self-report questionnaire that assesses emotional distress by examining how often during the previous week the respondent experienced symptoms of depression (e.g., “I felt that life was meaningless”), anxiety (e.g., “I felt scared without any good reason”) and stress (e.g., “I found it hard to wind down”). The participants respond on a 4-point scale ranging from 0 (did not apply to me at all) to 3 (applied to me very much or most of the time). The Cronbach alpha internal consistency for the current sample was .90 for the depression scale, .86 for the anxiety scale, and .91 for the stress scale. Due to the high correlation between the different subscales, the total score was used in the analysis (Cronbach alpha for the entire scale = .95).

Data analysis. The data were analyzed using the Statistical Package of the Social Sciences (SPSS 25.0, IBM Corp.). Descriptive statistics and Pearson correlations were calculated for all variables. Then, a hierarchical regression technique was used to examine whether family-level factors and environmental factors accounted for a significant portion of the unique variance beyond that accounted for by individual-level factors. To assess the social-ecological perspective that underpinned this study [12], the ‘enter’ method within each block was used to determine the predictive strength of the individual-level factors (Block 1), family-level factors (Block 2), and environmental factors (Block 3) on parental distress. This made it possible to investigate the relative contributions of familial and environmental factors to mothers’ distress symptoms after the influence of individual-level factors had been considered. An alpha level of .05 was used for all statistical analyses. All data are publicly available via the Open Science Framework and can be accessed at <https://osf.io/ka4v8/>.

Results

Preliminary analyses

The participants reported having 2.5 children on average ($SD = 1.0$), with a mean age of 7.6 years ($SD = 3.6$); 21% of the mothers indicated having at least one child with a developmental disability. Most mothers had an above-average household income (77%) and 89% were married or in a relationship. Over half of the participants reported that their child’s school was closed at the time (second or third lockdown) they completed the survey (55%). Table 1 lists the descriptive statistics for all the study variables. The mothers in both lockdowns were similar on all variables except for direct exposure and media exposure to COVID-19 ($\chi^2(1) = 23.41, p < .001, \chi^2(4) = 9.72, p < .05$ respectively), indicating greater direct exposure during the third as compared to the second lockdown, but lower media exposure during the third vs. the second lockdown. School status also differed between lockdowns (during the third lockdown more schools were open; $\chi^2(1) = 9.89, p < .01$).

Table 2 lists the bivariate correlations between all the study variables and measures of psychological distress. All the individual-level factors as well as household income, child age, media exposure, and school status were significantly correlated with psychological distress. The magnitude of the relationships between the predictor variables and psychological distress ranged from low ($-.12$) for both household income and school status to moderate ($.25$) for suppression.

Predictive analysis

A hierarchical linear regression analysis was conducted to identify the significant predictors of maternal distress during the two COVID-19 lockdowns. The total DASS score served as the dependent variable. The first step, which included individual-level factors (age and ER strategies), accounted for 11% of the variance in maternal distress, $F(3, 571) = 23.70, p < .001$. In this step, all the variables significantly predicted maternal distress (see Table 3). The second step, in which family-level factors were added (including relationship status, household income, number of children, child age, and child disability), was significant, $F(8, 566) = 10.76, p < .001$, and accounted for 13% of the variance in maternal distress. This step added significantly to the model, accounting for an additional 2% of the variance in the maternal distress score, $F_{\text{change}}(5, 566) = 2.74, p > .05$. In this step, the number of children in the family ($\beta = .11, t = 2.56, p < .05$) and household income ($\beta = -.09, t = -2.13, p < .05$) significantly predicted maternal distress. The third step, which included environmental factors (direct exposure to COVID-19, media exposure, and school status), was also significant, $F(11, 563) = 10.17, p < .001$, and accounted for a total of 16% of the variance in mothers’ psychological distress.

Table 1. Descriptive statistics.

	Second lockdown n = 310	Third lockdown n = 265	Total N = 575	Statistics
Individual-level factors				
Age [M (SD)]	39.6 (5.8)	39.0 (5.8)	39.3 (5.8)	t (573) = 1.09
Reappraisal [M (SD)]	4.6 (1.3)	4.5 (1.3)	4.6 (1.3)	t (573) = 1.43
Suppression [M (SD)]	2.9 (1.4)	2.9 (1.3)	2.9 (1.4)	t (573) = -0.13
Family-level factors				
relationship status [n (%)]				χ^2 (1) = 2.26
<i>In a relationship</i>	271 (87%)	242 (91%)	513 (89%)	
Number of children [M (SD)]	2.5 (1.0)	2.5 (.9)	2.5 (1.0)	t (573) = -0.29
Household income [n (%)]				χ^2 (1) = 1.79
<i>Below average</i>	66 (21%)	69 (26%)	135 (23%)	
<i>Above average</i>	244 (78%)	196 (74%)	440 (77%)	
Child's age [M (SD)]	7.8 (3.6)	7.4 (3.7)	7.6 (3.6)	t (573) = 1.42
Child's disability [n (%)]				χ^2 (1) = 0.04
<i>Child has TD</i>	245 (79%)	210 (79%)	455 (79%)	
Environmental-level factors				
School status [n (%)]				χ^2 (1) = 9.89**
<i>Closed</i>	188 (61%)	126 (48%)	314 (55%)	
<i>Open</i>	122 (39%)	139 (53%)	261 (45%)	
Direct exposure [n (%)]				χ^2 (1) = 23.41***
<i>possible COVID-19 exposure</i>	148 (48%)	179 (68%)	327 (57%)	
Media consumption [n (%)]				χ^2 (4) = 9.72*
<i>Once or twice a day</i>	197 (64%)	152 (57%)	349 (61%)	
<i>2–5 times a day</i>	74 (24%)	57 (22%)	131 (23%)	
<i>6–10 times a day</i>	20 (6%)	37 (14%)	57 (10%)	
<i>10–20 times a day</i>	11 (4%)	10 (4%)	21 (4%)	
<i>More than 20 times a day</i>	8 (3%)	9 (3%)	17 (3%)	
Outcome measure				
DASS total score [M (SD)]	15.0 (11.3)	16.2 (10.6)	15.6 (11.0)	t (573) = -1.38

Note: Bold results are statistically significant

*p < .05.

**p < .01.

***p < .001. TD = typical development

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symptoms. This step added significantly to the model, accounting for an additional 3% of the variance in parental distress score, $F_{\text{change}}(3, 563) = 7.60, p < .001$. In this step, media exposure ($\beta = .13, t = 3.28, p < .001$), and school status ($\beta = -.13, t = -3.05, p < .01$) significantly predicted maternal distress.

Discussion

The COVID-19 pandemic is acknowledged to have constituted a severe psychological threat to individuals worldwide [1]. This study took a social-ecological approach to examine individual, familial, and environmental factors contributing to maternal distress during times of enduring stress. The findings showed that in terms of individual differences, the risk factors for psychological distress included being younger, as well as a greater tendency to use suppression and a lower tendency to use reappraisal. In terms of family-level factors, more children and lower

Table 2. Pearson correlations.

	1	2	3	4	5	6	7	8	9	10	11
1. Reappraisal											
2. Suppression	.07										
3. Age	.04	.02									
4. Relationship status ^a	-.11**	-.03	-.31***								
5. Number of children	.04	-.01	.03	.21***							
6. Household income ^b	.02	-.05	.08	.11**	.03						
7. Child's Age	.06	.08	.57***	-.19***	.22***	.03					
8. Child's disability ^c	.03	.17***	.12**	-.08*	.11*	-.11**	.03				
9. COVID-19 Exposure ^d	-.01	-.03	-.10*	-.01	.01	-.04	-.06	.06			
10. Media exposure	-.04	.06	-.05	.01	.04	-.02	.06	-.08*	.07		
11. School status ^e	.06	.05	.01	-.01	.01	-.01	-.11*	.40***	.01	-.10*	
12. psychological distress	-.16***	.25***	-.13**	-.00	-.13**	-.12**	-.08	.02	.03	.16***	-.12**

Note: Bold results are statistically significant

a: 0 = single; 1 = in a relationship; b: 0 = below average; 1 = above average; c: 0 = child has typical development; 1 = child has a disability; d: 0 = no direct exposure; 1 = direct exposure; e: 0 = school closed; 1 = school open.

*p < .05

**p < .01

***p < .001

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household income predicted higher maternal distress. In terms of environmental factors, higher media exposure and school closure predicted higher psychological distress. The third regression model, which included all factors, revealed that all the variables remained significant predictors of psychological distress. Overall, this pattern of results underscores the importance of taking a wide range of factors into account when aiming to understand mothers' distress during a crisis, including personal, familial, and environmental variables.

The results supported the first hypothesis by showing that being young, having a higher tendency to use suppression, and a lower tendency to use reappraisal predicted greater psychological distress in mothers. While it is possible that the elevated psychological distress of younger mothers could be explained by their first-time motherhood, there was no correlation between the number of children and the mother's age, suggesting that first-time motherhood was less likely to account for this finding. Alternatively, the increased distress in younger mothers might be due to their inexperience with parenthood, whereas older mothers, who are more experienced, may have developed effective coping strategies for dealing with these challenges [26, 50]. Future intervention programs should consider providing training and assistance to young mothers on ways they can regulate negative emotions and cope with distress.

In terms of ER, participants who reported more frequent use of reappraisal also reported lower distress levels, whereas mothers reporting more frequent use of suppression reported higher psychological distress. These variables had the largest effect size. These findings are consistent with previous research showing that individuals who suppress their emotions tend to have more symptoms of anxiety, depression, and stress [17, 21]. By contrast, reappraisal might have helped mothers see the pandemic restrictions in a more positive light, find ways to use this time more productively, and therefore experience fewer symptoms of distress. Previous works have shown the beneficial outcomes of reappraisal during the COVID-19 pandemic [16, 18, 20, 24].

The second hypothesis concerning the influence of family-level factors on maternal distress was partially supported. Two family-level factors significantly predicted psychological distress:

Table 3. Predictors of maternal distress: Hierarchical regression.

	Predictors	B	S.E	β	t	p	95% CI		VIF
							LL	UL	
Step 1							19.32	32.64	
	Reappraisal	-1.52	.34	-.18	-4.50	< .001	-2.18	-.85	1.01
	Suppression	2.10	.32	.26	6.54	< .001	1.47	2.73	1.01
	Age	-.25	.08	-.13	-3.28	< .001	-.39	-.10	1.00
Step 2							22.92	40.00	
	Reappraisal	-1.49	.34	-.18	-4.41	< .001	-2.15	-.83	1.02
	Suppression	2.06	.33	.25	6.32	< .001	1.41	2.69	1.05
	Age	-.25	.10	-.13	-2.66	.008	-.44	-.07	1.64
	Relationship status	-.77	1.53	-.02	-.50	.62	-3.77	2.23	1.22
	Number of children	1.23	.48	.11	2.56	.01	2.17	.29	1.16
	Household income	-2.21	1.04	-.09	-2.13	.03	-4.24	-.17	1.04
	Child's Age	.04	.15	.01	.23	.82	-.26	.33	1.62
	Child's disability	-.10	1.11	-.00	-.09	.92	-2.28	2.08	1.09
Step 3							20.37	37.83	
	Reappraisal	-1.38	.33	-.16	-4.14	< .001	-2.03	-.72	1.03
	Suppression	1.98	.32	.25	6.17	< .001	1.35	2.61	1.06
	Age	-.22	.09	-.11	-2.30	.02	-.40	-.03	1.66
	Relationship status	-.94	1.51	-.03	-.62	.53	-3.90	2.02	1.22
	Number of children	-1.27	.47	-.11	-2.69	.007	-2.20	-.34	1.16
	SES	-1.99	1.02	-.08	-1.95	.05	-3.99	-.01	1.05
	Child's Age	-.07	.15	-.02	-.47	.64	-.37	.23	1.66
	Child's disability	1.61	1.19	.06	1.35	.18	-.73	3.95	1.30
	COVID-19 Exposure	.25	.87	.01	.29	.77	-1.45	1.95	1.03
	Media exposure	1.42	.43	.13	3.28	< .001	.57	2.27	1.04
	School status	-2.87	.94	-.13	-3.05	.002	-4.72	-1.02	1.22

Note: Bold results are statistically significant; CI = confidence interval; LL = lower limit; UL = upper limit; VIF = variance inflation factor.

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household income and the number of children in the family. Mothers reporting a lower than average income or those with more children had a greater risk of experiencing mental distress during economic crises such as the COVID-19 pandemic [27, 31]. A previous study found that during the pandemic, low-income parents found it difficult to afford extra childcare services and were unable to provide enough computers for their children's online learning [27, 34]. Mothers had to help children with homeschooling, which may have also contributed to distress, especially in families with more children [4, 51]. These findings emphasize the unmet need to provide financial assistance to lower income families to reduce the enormous burden of COVID-19-induced psychological distress. Unlike other studies (for reviews see; [29, 30]), in this study, parenting a child with a disability, relationship status, and age of the child did not significantly predict mental distress in mothers. Parenting a disabled child was not associated with higher maternal distress, presumably because at the times the survey was conducted most special education schools were still open, whereas almost all regular education schools were closed. The reopening of special education institutions may explain the similar levels of distress in both lockdowns.

Interestingly, direct exposure to the COVID-19 virus did not predict maternal distress, despite studies suggesting that having a family member who contracted COVID-19 or being in quarantine were related to high anxiety and stress [41, 42]. An effect for this variable may not

have been observed because the survey was during the second and third lockdowns, not the first, so that participants may have gotten used to the presence of COVID-19, and hence experienced less distress. Moreover, when distributing the questionnaires, individuals were presented with the chance to receive COVID-19 vaccination. This proactive measure could potentially have mitigated the psychological distress that relates to COVID-19 exposure [52]. However, it is noteworthy that studies conducted in Germany and France indicated that the second lockdown was correlated with higher levels of psychological distress compared to the first [52, 53].

The findings also showed that media exposure was a major predictor of maternal distress. Although individuals often turn to the media for information during a crisis to alleviate anxiety stemming from uncertainty [54], evidence suggests that repeated media exposure is more likely to increase anxiety through secondary traumatization [55] where exposure to the trauma of others can lead to anxiety and fear. In light of this finding, media companies should take ethics and humanistic considerations into account when covering a crisis event, especially when the public is already distressed. In addition, policymakers, public health campaigns, and other stakeholders bear the responsibility of ensuring that media information is accurate and not manipulated to induce fear or to gain more views.

School status (open or closed) was one of the strongest predictors of maternal distress during the COVID-19 period. Studies have shown that parents' stress levels during school closures were significantly higher than before school closures [56]. Parents needed to oversee their children's care and education at home for an indeterminate time, while having to work as well. School closure may have led parents to feel incompetent, stressed, and anxious about their child's future [2, 35]. Hence, the closure of educational institutions should only be considered as a final recourse in crises. If such closures become inevitable, parents should be provided with the tools and support to facilitate their children's education. This may involve offering online training for parents and requiring employers to adjust parents' work hours when working from home.

Strengths and limitations

The present study has a number of limitations. First, we relied on repeated cross-sectional data, which did not allow us to examine within-person changes in mental health. Therefore, we cannot draw causal inferences from the data. Second, the dissemination of the online survey via social networks may have limited the scope of the survey to specific population groups. However, there is growing evidence that supports the usefulness of social media platforms, especially in confined or difficult-to-access populations, such as parents of children with DD [57]. Addressing participants online helped us to obtain a large and varied participant pool, thereby boosting the study's potential to draw valid conclusions and generalize the findings to a larger population. Third, children's developmental disability was reported by the parents, and they were not required to provide or present a medical diagnosis. Furthermore, most special education institutions were open during the survey, while state educational institutions were mostly closed, which may be why having a child with DD did not predict maternal distress. Fourth, while this study extensively examined a diverse range of variables at the individual, familial, and environmental levels, thus providing a comprehensive understanding of the complex interactions between individual traits, family dynamics, and broader societal factors, the mothers' work status was not examined. Given that mothers who had to work remotely during the COVID-19 pandemic were reported exhibited a decline in well-being [58], future research should incorporate this variable.

Conclusion

This study applied Socio-Ecological Theory [12] to extend previous research on mental health risks and protective factors impacting maternal distress during the COVID-19 outbreak. We found that a variety of individual, familial and environmental factors could account for a significant amount of variance in mothers' psychological distress during the pandemic. In particular, reappraisal emerged as an intra-personal resilience factor, while suppression emerged as a risk factor. These findings emphasize the importance of internal psychological resources in the ability to deal with crises. On the other hand, differences in levels of distress were also found in characteristics that are more difficult or cannot be influenced, such as age, socioeconomic status, and the number of children in the family. A better understanding of how socio-ecological factors affect mental health during the COVID-19 pandemic is critical to inform public policies aimed at reducing mental distress in a large and significant population such as mothers. For example, it would be beneficial to offer ER interventions, especially for parents who are at risk of distress, such as parents from low socio-economic backgrounds, or with a larger number of children. This strategic application of interventions aligns with the imperative to address both internal resilience factors and external socio-ecological determinants in promoting mental well-being. Additionally, considering the profound impact of the media on the mental health of individuals in crises, it is imperative for policymakers to utilize this influence responsibly. Rather than exacerbating anxiety, they should leverage the media as a force for good, by providing tools to help people cope effectively. Introducing stress management techniques, mental health centers, and economic support can serve as invaluable resources for empowering individuals to navigate crises with resilience and well-being. Finally, educational institutions play a significant role in mothers' mental well-being. Thus, closing schools should be the last resort, and other less restrictive social distancing measures, such as wearing masks or studying in smaller groups, should be considered in the future. The immanent risks of climate change and population growth suggest there are likely to be other such crises in the future [59]. Therefore, finding the factors that increase resilience constitutes a necessary step to support humans' physical and mental health. The findings here point to the importance of routine and educational frameworks, as well as the role of individual characteristics in times of crisis.

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CHAPTER IV

Trait and State Emotion Regulation and Parental Wellbeing During War

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Trait and State Emotion Regulation and Parental Wellbeing During War

ABSTRACT

The Israel-Hamas war and the events of October 7th caused psychological distress among the entire population in Israel, including parents. This study explores the role of emotion regulation in buffering war-related stress and its impact on parental burnout and negative mood. One month after October 7th, 566 parents (79% females, mean age = 37.9) were assessed for their emotion regulation tendencies (traits) and the effectiveness of two strategies—reappraisal and rumination—in mitigating negative emotions (state emotion regulation). Participants completed an emotion regulation task involving writing about a personal adverse event related to the war's aftermath and subsequently wrote a self-directed letter to promote emotional relief. Findings revealed that while trait reappraisal correlated with lower parental burnout, rumination significantly moderated the relationship between war-related stress and burnout, exacerbating stress effects. Additionally, state reappraisal reduced negative emotions, while rumination heightened them. These results highlight the importance of emotion regulation, particularly the protective role of reappraisal and the detrimental effects of rumination, in managing the psychological impact of acute war-related stress. This study provides valuable insights into parental mental health during crises and emphasizes the need to promote adaptive emotion regulation strategies to support parental well-being in high-stress environments.

Key Words: Emotion regulation; War; Parenting; Family; Rumination; Reappraisal; Trauma; Parental burnout

INTRODUCTION

The lives of Israeli citizens changed on October 7th, 2023, when the Israel-Hamas war broke out. The attack led to the murder of 1145 Israelis and the kidnapping of 250 children, women, and men. The fighting caused thousands of people to lose their loved ones and over 300,000 people had to be evacuated from their homes (Hasson-Ohayon & Horesh, 2024; Levi-Belz et al., 2024). Nearly all Israelis were affected by the traumatic aftermath in some way (Pitcho, 2024), either directly or through distressing media. Psychological distress surged, with PTSD, depression, and anxiety rates nearly doubling compared to two months earlier (Levi-Belz et al., 2024). These findings align with previous research linking war exposure to increased stress due to political, economic, and existential instability (see for review: Bogic et al., 2015).

Parents are a critical group requiring more research focus during war for several reasons. First, beyond managing their own distress, parents significantly influence how well children adapt to war-related stress (Eltanamy et al., 2021; Slone & Shoshani, 2017). Studies show that parental functioning and the home environment can buffer the effects of children's war exposure on their psychological and behavioral symptoms (Slone & Mann, 2016). Additionally, wartime parenting involves unique stressors, such as protecting children, coping with school closures, and addressing children's emotional challenges. Finally, research shows that war exposure also impacts parenting behaviors and practices (Eltanamy et al., 2021; Kaniasty et al., 2011; Zanbar et al., 2023). A recent review revealed that parents who experienced high war exposure exhibited increased harshness, hostility, inconsistency, and reduced warmth toward their children (Eltanamy et al., 2021). One parental aspect worth emphasizing as it has a severe effect on family dynamics and children's development is parental burnout (Mikolajczak et al., 2018, 2022). Parental burnout involves overwhelming exhaustion,

emotional distancing from children, and feelings of ineffectiveness (Roskam et al., 2017). Research indicates that parental burnout not only undermines parents' mental health but also contributes to increased stress and anxiety in children (Mikolajczak et al., 2022), making it a critical area for investigation during times of war.

While wars and other large-scale stressors harm mental health, not everyone reacts the same way. Protective and risk factors, such as emotion regulation, shape individual responses to stress. Emotion regulation (ER) involves cognitive and behavioral processes to manage emotions in line with goals (Gross, 1998). The ability to self-regulate one's emotions is a well-documented predictor of adjustment to stress and better outcomes for parenting behaviors in particular (Keleynikov et al., 2023; Rutherford et al., 2015; Troy & Mauss, 2011; Vertsberger et al., 2022). More particularly, mothers' ER has been shown to moderate the link between maternal PTSD and children's emotional dysregulation in war-exposed families (Pat-Horenczyk et al., 2015). Furthermore, studies conducted during the COVID-19 pandemic found that ER strategies moderated the link between pandemic-related stress and parental burnout and well-being (e.g., Keleynikov et al., 2024; Preuss et al., 2021; Vertsberger et al., 2022). These findings highlight the importance of ER for both parental mental health and effective parenting under stress.

Many studies on war adjustment have focused on trait ER, which refers to habitual or dispositional use of a strategy. In contrast, state ER involves choosing a strategy in a specific situation (Mcrae, 2013). While trait ER highlights general patterns and links to well-being, it often requires participants to give generalized responses across contexts, limiting insights into context-specific impacts (Heiy & Cheavens, 2014), which is highly relevant for parents in extreme situations such as parenting during war (Hajal & Paley, 2020). Thus, this study examines both trait and state ER to provide a comprehensive view of their effects during acute stress. We focused on two key strategies relevant to stress and trauma: cognitive reappraisal

and rumination (Lewis et al., 2018). Reappraisal involves rethinking situations more positively, generally benefiting psychological health (Gross & John, 2003), while rumination, defined as repetitive thinking, predicts anxiety and depression (Nolen-Hoeksema et al., 2008). Studies have offered that rumination and reappraisal are both driven by the same cognitive mechanism, which is the inability/ability to inhibit irrelevant negative information (Cohen et al., 2014). During wartimes, studies show that trait reappraisal moderates the influence of war experiences on mental health problems, including anxiety, depression, negative affect, and PTSD symptoms (Amone-P'Olak et al., 2019; Jenness et al., 2016; Nickerson et al., 2017; Osgood et al., 2023). Rumination, on the other hand, was found to predict higher symptoms of PTSD, depression, and more substance use among war-exposed individuals (Jenness et al., 2016; Kelley et al., 2019; Morina, 2011).

In the parenting context, studies show that parents who effectively employ adaptive ER strategies (i.e., higher use of reappraisal and lower use of rumination) can mitigate the adverse effects of stress exposure on mental distress (Cárdenas Castro et al., 2019; Jenness et al., 2016; Venanzi et al., 2022). For instance, rumination strengthened the link between COVID-19 stress and parental burnout, whereas reappraisal weakened it (Vertsberger et al., 2022). However, these findings may be different in a situation of acute stress such as exposure to war. In addition, there may be a difference between the effectiveness of the strategies under specific situations, so it is also important to examine the state use of these strategies within the context of the war.

The current study

ER is essential for managing stress (Troy & Mauss, 2011), especially for parents in crises like war (Hajal & Paley, 2020). One month after the October 7th attack, we examined whether trait ER moderates the link between war-related stress and parental burnout, focusing on reappraisal and rumination. We also evaluated how effectively these strategies reduce

negative emotions using an ER task, where participants reflected on a parental stressor and wrote a letter to help themselves feel better. They reported their mood and the ER strategies used. We hypothesized that trait reappraisal would weaken the stress-burnout link, while rumination would strengthen it. We also expected that using state reappraisal would reduce negative emotions, whereas state rumination would increase them see preregistration: https://osf.io/qnmec/?view_only=99355893b58d4d19b25e8af852958fc2).

METHOD

Procedure

Participants were recruited through social media platforms like Facebook and WhatsApp. Parents with at least one child under 18 were invited to join a survey on coping during the war. Of the 623 respondents, 566 were included after excluding those who failed attention checks or didn't meet the criteria. The study, approved by the university of Haifa, and was preregistered (https://osf.io/qnmec/?view_only=99355893b58d4d19b25e8af852958fc2). This study is part of a larger investigation on parents exposed to the Israel-Hamas war, only relevant measures are described. Participant recruitment began on November 10, 2023, about a month after the Israel-Hamas war started, and ended on November 25, when a hostage deal freed most children, and a temporary truce began. During this period, hundreds of thousands of Israelis were called for reserve duty, with intense fighting in Gaza and rocket fire in northern Israel from Syria and Lebanon (IDF, 2024). Respondents accessed the anonymous survey via Qualtrics and completed an emotion regulation task along with questionnaires. All participants were given the option to receive a \$10 gift voucher.

Measures

War exposure: This questionnaire, adapted from the Political Life Event Scale (Slone & Hallis, 1999), included 10 yes/no items and one on missile-alarm frequency. It had two

subscales: five items on direct war exposure (e.g., *"I was injured during the war"*) and five on indirect exposure (e.g., *"Someone close to me was killed during the war"*).

War-related stress: This 4-item scale, designed for this study, measured subjective threat related to war exposure. Participants rated their feelings on a 5-point Likert scale (1 = not at all, 5 = very much) regarding statements like: *"Your life was in danger," "the lives of your family members were in danger," "your family members were at risk of being hurt,"* and *"I felt helpless."* The scale showed strong internal consistency ($\omega = 0.89$).

Trait reappraisal: The reappraisal subscale of the Emotion Regulation Questionnaire (ERQ; Gross & John, 2003) was used to measure trait use of reappraisal. This self-report subscale includes six items (e.g., *"When I want to feel more positive emotion... I change what I'm thinking about"*). Responses are rated using a 7-point scale with 1 (strongly disagree) and 7 (strongly agree). The omega coefficient was strong ($\omega = 0.84$) in the current study.

Trait rumination: The 5-item brooding subscale of The Ruminative Responses Scale (RRS; Nolen-Hoeksema & Morrow, 1991) was used to measure the tendency of passively focus on one's negative mood or situation (e.g., *"I was thinking why can't I handle things better?"*). Respondents rated the questionnaire items on a scale from 1 (almost never) to 4 (almost always). For this scale, the Omega coefficient was strong ($\omega = 0.85$).

Parental burnout: The Parental Burnout Assessment (PBA; Roskam et al., 2017) is a 23-item questionnaire used to measure parental burnout. We obtained permission for its use and translation, which was carried out by two Hebrew-speaking psychology researchers. An English native speaker then back-translated the items, and an independent researcher ensured that the meanings were consistent. Parents rated their frequency of experiencing each item (e.g., *"I feel completely run down by my role as a parent"*) on a seven-point Likert scale (1 = Never,

7 = Every day), with higher scores indicating greater burnout. The scale demonstrated strong internal consistency ($\omega = 0.97$).

Emotion regulation task: The task consisted of five stages: (1) Participants recalled and briefly described a personally upsetting parenting event from the past two weeks. (2) They rated the event's intensity and controllability (1 to 5) and their negative affect using PANAS items (Watson et al., 1988). (3) Participants wrote a letter to themselves addressing the event to alleviate negative emotions (detailed instructions are available on OSF). (4) They rated their use of reappraisal (e.g., "I thought about the situation differently") and rumination (e.g., "I thought over and over about the situation") (Katz et al., 2017), then re-rated their negative affect. (5) While we collected data on additional strategies, this study focused on reappraisal and rumination.

Data analysis

The data were analyzed using JASP Version 0.18.3 (JASP Team, 2024). To test the first hypothesis regarding the moderating effect of trait ER on the relationship between war-related stress and parental burnout, linear regression was employed. To test the second hypothesis on the effect of state reappraisal and rumination on negative affect, a repeated measures ANOVA was conducted. Importantly, to avoid possible effects related to the content of the events, we controlled the event's perceived controllability and intensity as reported by the participant.

Transparency and openness

To ensure transparency in our research, we preregistered our hypotheses and study design before data collection. The preregistration and all research materials, are available on OSF: https://osf.io/qnmec/?view_only=99355893b58d4d19b25e8af852958fc2

RESULTS

Participant characteristics

The sample included 566 parents (79% female; mean age = 37.9, SD = 7.4) of children aged 0-18 living at home (M = 6.8 years, SD = 4.6). See Table 1 for more details. Out of the sample, 20% stated that their spouse was drafted into reserve service, and 6% reported that they were displaced from their home following the attack. The study participants also reported a high percentage of exposure to war-related events, as detailed in Table 1. Regarding parental burnout 12% of parents experienced moderate, and 7% reported severe burnout.

Table 1. Participants war-exposure

Direct exposure		Indirect exposure	
Was in real danger	5%	A close person to them was injured	26%
Was injured	1%	A close person to them was kidnapped	13%
Serves in the army/police	5%	A close person to them was murdered	30%
Was evacuated	6%	A close person to them is a survivor of	35%
A rocket hit their residential area	32%	the terrorist attack	

Correlation analysis

Table 2 lists the means, standard deviations, and Pearson correlation coefficients between the study variables. War exposure was not correlated with parental burnout. While war-related stress was associated with a higher tendency to use trait rumination and higher parental burnout. Reappraisal was negatively correlated with parents' tendency to use rumination and with parental burnout. Finally, there rumination was linked to parental burnout.

Table 2. Means, Standard Deviations, and Correlations (N=556)

	M	SD	1	2	3	4	5
1. Direct war exposure	0.53	0.84					
2. Indirect war exposure	2.86	2.04	0.30***				
3. War-related stress	10.76	3.89	0.14***	0.23***			

4. Trait reappraisal	4.73	1.11	-0.02	0.09*	-0.01		
5. Trait rumination	10.56	3.48	0.04	0.05	0.23***	-0.16***	
6. Parental burnout	29.51	29.76	0.07	0.03	0.23***	-0.14**	0.48***

Note: * $p < .05$, ** $p < .01$, *** $p < .001$

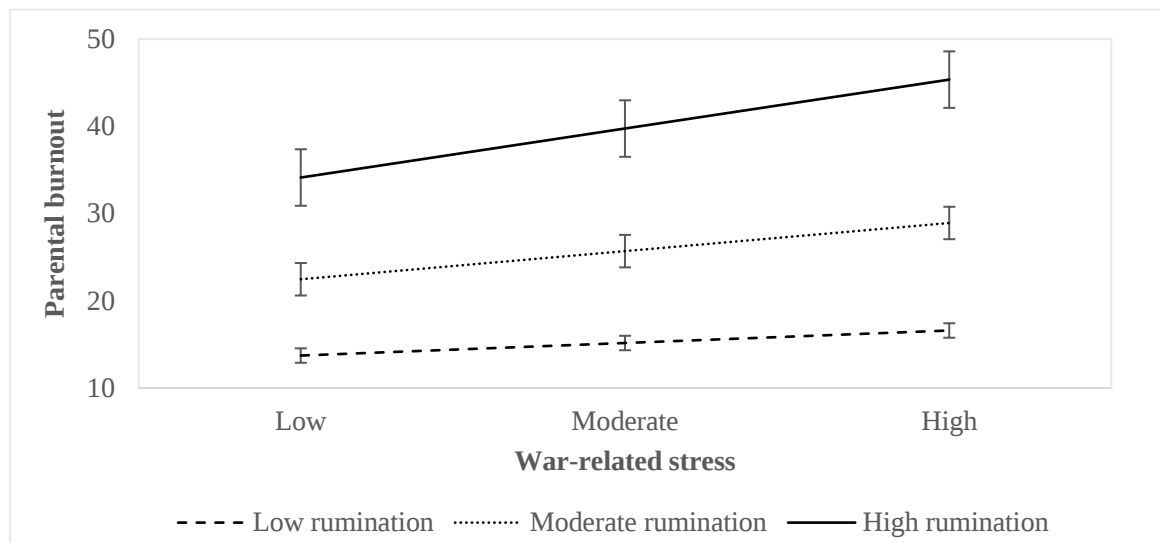
Trait emotion regulation as a moderator of the link between war-related stress and parental burnout

We conducted a regression analysis to examine whether the link between war-related stress and parental burnout is moderated by reappraisal and rumination. The model accounted for 26% of the variance, $F(5, 539) = 38.64$, $p < .001$. The effect of war-related stress was marginally significant ($B = 2.92$, $t = -1.77$, $p = .077$). Trait reappraisal contributed to the prediction of parental burnout ($B = -1.23$, $t = -2.01$, $p = .045$), while rumination did not ($B = 1.01$, $t = 0.89$, $p = 0.372$). In contrast to our hypothesis, reappraisal did not moderate the link between war-related stress and parental burnout ($B = 0.06$, $t = 1.39$, $p = .165$). Yet supporting our prediction, the war-related stress X rumination interaction was a significant predictor for parental burnout ($B = 0.20$, $t = 2.52$, $p = .012$). Simple slope analysis indicated in low level of rumination there was no significant link between war-related stress and parental burnout ($B = 0.33$, $t = 0.82$, $p = .41$), whereas moderate and high levels of rumination did ($B = 0.88$, $t = 3.02$, $p = .003$; $B = 1.63$, $t = 4.08$, $p < .001$, respectively), see Figure 1.

Table 3. Linear regression analysis with parental burnout as the outcome variable

	B	SD	t	p
War-related stress	2.92	1.65	1.77	.077
Reappraisal	-1.23	0.61	-2.01	.045
Rumination	1.01	1.13	0.89	.372
War-related stress X Reappraisal	0.06	0.04	1.39	.165
War-related stress X Rumination	0.20	0.08	2.52	.012

Figure 1. Trait rumination moderates the link between war-related stress and parental burnout



State emotion regulation analysis

In this study, participants completed a state emotion regulation task aimed at improving affect. They were asked to write about a negative event that happened in the past two weeks within the parental sphere. The events reported by parents varied, with many highlighting the challenge of explaining the war to their children and managing children's fears. For example, one participant shared, "My 8-year-old daughter saw images of kidnapped children and asked if she could be kidnapped too. I didn't know how to answer her. Since seeing those pictures, she's been afraid to leave the house without me". Other challenges included managing parents' anxieties (e.g., "Since the war, every time my 5-month-old daughter's cries it triggers my anxiety, I just feel I can't function as a parent"), feelings of guilt (e.g., "When my daughter said, 'A hug from mom is the best,' I thought of the children and parents who can't hug, and I felt guilty and helpless"), and coping with a partner's reserve enlistment (e.g., "My husband has been in the reserves since the war began, and I feel overwhelmed and impatient with our three children"). After writing about the negative event, parents were asked to write a comforting letter to themselves that can make them feel better, report their emotion regulation strategies, and re-rate their negative mood.

Repeated measures ANOVA was conducted to examine the effect of state reappraisal on negative affect before and after the emotion regulation task. The perceived controllability and intensity of the event were entered as covariates. First, results showed a significant main effect for time, $F(1, 381) = 5.45, p < .05, \eta^2 = 0.014$, suggesting the emotion regulation task was beneficial in reducing negative affect. Next, an interaction emerged between time and state use of reappraisal, $F(2, 381) = 3.17, p = .04, \eta^2 = 0.016$. As illustrated in Figure 2a, high levels of reappraisal were effective in mitigating the negative emotions elicited by adverse events. Furthermore, the interaction between time and state use of rumination was significant, $F(2, 381) = 4.61, p = .011, \eta^2 = 0.022$. Accordingly, high use of rumination was associated with an increase in the subjects' negative mood, as can be seen in Figure 2b.

Figure 2. Repeated Measures ANOVA of negative affect before and after emotion regulation task

Figure 2a. Repeated Measures ANOVA with state reappraisal as the between-subject variable

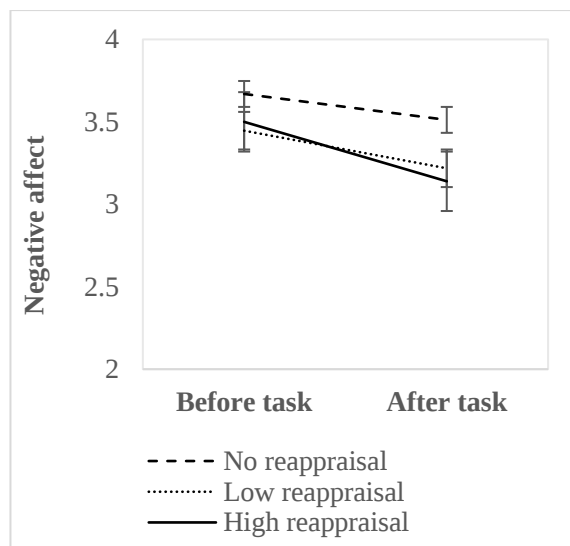
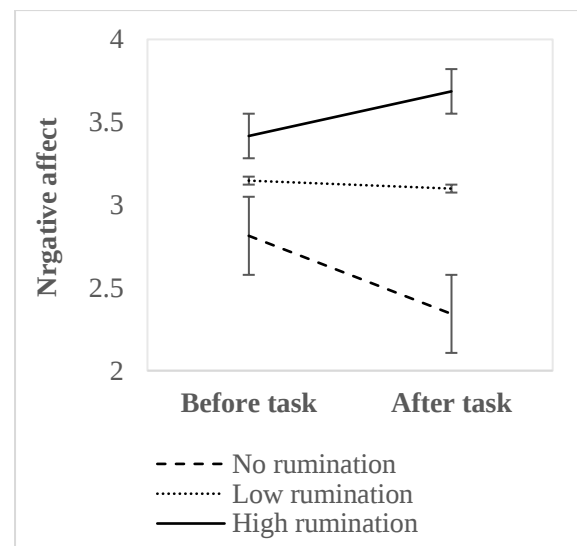


Figure 2b. Repeated Measures ANOVA with state rumination as the between-subject variable



DISCUSSION

This study investigates how trait emotion regulation influences the relationship between war-related stress and parental burnout, while also examining state emotion regulation's role in managing negative emotional responses. To our knowledge, this is the first study to explore both trait and state emotion regulation among parents during war. The study focused on two strategies: reappraisal, which involves reframing a situation to alter its emotional impact, and rumination, characterized by repetitive thinking about distressing situations. Our findings indicate that reappraisal is associated with lower parental burnout, while rumination exacerbates the impact of war-related stress, increasing the risk of burnout. We also explored the effects of state ER by having participants recall a specific negative parenting situation. Results showed that spontaneous reappraisal effectively reduced negative emotions triggered by war-related adversity, whereas rumination was linked to an increase in these emotions. These findings underscore the critical role of ER among parents, particularly during wartime.

The traumatic events of the October 7th attack and subsequent war profoundly affected participants, with many grieving, fearing for loved ones, and dealing with ongoing security threats. Parents faced challenges such as explaining the situation to their children, managing their children's anxiety, and maintaining routines amidst fears, often without educational support or while partners were on reserve duty. The study found a high prevalence of parental burnout, with 7% experiencing severe burnout—significantly higher than in other Eastern Mediterranean countries like Egypt (2.6%), Lebanon (5.5%), Italy (0.6%), and Turkey (0.4%) (Roskam et al., 2021). These findings highlight the need to examine resilience factors during crises such as war.

The current study's findings suggest that reappraisal is linked to lower parental burnout within the context of war, but it did not moderate the link between war-related stress and burnout. Reappraisal appears to have helped parents manage their demands by altering the

meaning attributed to events and the emotions experienced. Previous studies have identified reappraisal as a key resilience factor across various stressors (Riepenhausen et al., 2022; Troy et al., 2010). Our findings partly support this claim, as although there was a negative relationship between reappraisal tendencies and parental burnout, this strategy did not moderate the adverse outcomes of parental exposure to war. On the other hand, rumination tendencies emerged as a risk factor for parental burnout. A recent meta-analysis (Brandão et al., 2024) found rumination significantly increases parental burnout, but the current study is the first to explore its effects in a war context. Our findings suggest that the stress caused by the war intensified the demands parents faced, and when they had fewer adaptive resources to cope—such as a tendency to use rumination—it contributed to parental burnout.

In the current study we aimed to understand how ER affects parents during wartime, assessing both trait and situational influences on negative mood. Parents described a negative event they experienced since the war's onset and reported their ER strategies. As hypothesized, the use of reappraisal was linked to reduced negative emotions, demonstrating its effectiveness even in acute stress scenarios. Although some previous research has suggested that people often struggle to apply reappraisal during intense negative situations (Sheppes et al., 2014; Wessa et al., 2024), our findings indicate that this strategy can be effective in reducing negative emotions even in the face of acute stress such as during war. This may be because war exposure represents an uncontrollable stressor, a type for which reappraisal has been found to be particularly beneficial (as opposed to controllable stressors: Troy et al., 2013). Alternatively, reappraisal may be impaired shortly after acute stress but less affected in the longer aftermath (Wessa et al., 2024).

The observed effect of state rumination revealed that it was related to increased negative emotions and was consistent with previous studies (see for review: Lyubomirsky et al., 2015). Some researchers have proposed that stress may impair executive functions, making

it difficult to prevent the entry of or remove negative information from working memory and difficulty disengaging from unwanted negative thoughts, leading to rumination, which is associated with increased negative mood and depressive symptoms (Joormann et al., 2006; Keleynikov et al., 2023; Snyder & Hankin, 2016). The findings of the current study support this claim and extend our understanding of the impact of state rumination in highly stressful contexts, such as parental exposure to war.

Limitations

Although this study provides valuable insights into the relationship between ER, war-related stress, and parental burnout, several limitations should be acknowledged. First, the cross-sectional design of the study limits our ability to establish causality between the variables, as we can only infer associations rather than direct cause-and-effect relationships. Second, the reliance on self-reported questionnaires introduces potential biases, such as social desirability bias and inaccuracies in participants' self-assessments of their emotional responses and burnout levels. Additionally, the use of convenience sampling, which included mainly Jewish participants recruited via social media, may limit the generalizability of the findings. The sample's homogeneity in terms of ethnicity and recruitment method might not fully capture the experiences of other demographic groups affected by the war. These limitations suggest that future research should consider longitudinal designs, more diverse sampling methods, and additional measures to enhance the accuracy and generalizability of the findings. With that being said, it is worth noting that our study is unique as it captured parents' initial reactions to the early stages of the Israel-Hamas war and examined both trait and state emotion regulation tendencies.

Conclusions

In conclusion, this study emphasizes war's tremendous negative effects on the population, especially on parents and children, while focusing on parental burnout and the mental health of this population. In addition, the study sheds light on the critical role of ER strategies, namely reappraisal and rumination, in managing the psychological impact of war-related stress on parents. Our findings demonstrate that reappraisal serves as a protective factor as a state ER strategy, potentially mitigating the adverse effects of such stress and reducing negative emotions. Conversely, rumination emerges as a significant risk factor, intensifying negative emotions and increasing the vulnerability to parental burnout. By examining both trait and state ER, we have highlighted the dynamic interplay between these strategies and their implications for parental well-being in the context of acute stress. These insights underscore the importance of promoting adaptive ER strategies, like reappraisal, to support parents in managing the challenges of parenting during wartime, and point to the need for further research to explore interventions that can enhance these skills in high-stress environments.

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3. General Discussion

This dissertation explored how adaptive emotion regulation (ER) strategies—specifically reappraisal and mentalizing—contribute to enhancing resilience. It also examined how maladaptive ER strategies, such as rumination and suppression, heighten vulnerability in parents coping with various challenges, including child-related, parental, and environmental stressors.

3.1. Summary of the Research Findings

Study 1 – Reappraisal, suppression, and rumination among parents of children with disabilities

Study 1 focused on parental stress that arises from the child's characteristics. The study involved a systematic review exploring ER patterns among parents of children with disabilities. Results showed that the tendency to use reappraisal among these parents was associated with better outcomes for both the parents and children, as well as improved parenting practices. In contrast, parents' use of rumination and suppression was related to lower mental health of the parents and the child and more negative parenting practices. In addition, we have found that parents of children with disabilities experience higher levels of emotion dysregulation than parents of children without disabilities and tend to use reappraisal less frequently. Based on this review, we proposed the Strained Parenting and Emotion Regulation (SPER) model, which posits that ER difficulties in parents raising a child with special needs arise from heightened negative emotions, limited cognitive resources, and disrupted parent-child interactions. The SPER model highlights a vicious cycle, where these factors impair adaptive ER strategies, reinforcing emotion dysregulation in parents of children with disabilities.

Study 2 – Prenatal mentalizing among parents with depressive symptoms

Study 2 focused on parental characteristics as the source of parental stress. This study investigated how parental mentalizing (reflective functioning) mediates and moderates the relationship between parental depressive symptoms and children's ER abilities. Specifically, we examined whether pre-mentalizing modes mediate the link between parental depressive symptoms and children's ER tendencies and whether parental interest and curiosity or certainty about mental states buffer this relationship. The results indicated that parental depressive symptoms were negatively associated with children's ER skills, mediated by parental pre-mentalizing modes. That is, parents with higher depressive symptoms showed a higher tendency to pre-mentalizing modes, reflecting limited capacity to understand their child's mind. These modes were directly linked to children's ER, highlighting the key role of parental mentalizing in shaping children's ER skills. Although parental interest and curiosity did not moderate this link as expected, parental certainty about mental states served as a protective factor, weakening the link between parental depressive symptoms and children's ER difficulties.

Study 3 – Reappraisal and suppression among parents during the COVID-19 pandemic

Studies 3 and 4 examined environmental factors as contributors to parental stress. Study 3 focused on ER as a resilience factor for mothers' distress during the COVID-19 pandemic lockdowns. The study adopted a Socio-Ecological perspective and explored a range of individual, familial, and environmental factors associated with psychological distress in mothers during the COVID-19 pandemic. In terms of ER, participants who reported more frequent use of reappraisal also reported lower distress levels, whereas mothers reporting more frequent use of suppression reported higher psychological distress. ER tendencies had the

largest effect size in predicting maternal distress, even greater than raising a child with disabilities or the child's school is closed.

Study 4 – Reappraisal and rumination among parents during the Israel-Hamas war

This study examined how state and trait reappraisal and rumination influence the impact of war-related stress on parental burnout and mood. The study was conducted in November 2023, about one month after the October 7th attack and amidst the ongoing Israel-Hamas war. Results showed that trait reappraisal did not moderate the link between war-related stress and parental burnout while rumination significantly intensified this link. Additionally, state reappraisal reduced negative emotions, whereas rumination heightened them.

3.2. General conclusion

The Abidin Model of the determinants of parenting stress (Abidin, 1990) posits that the characteristics of children, parents, and the environment all contribute to the experience of parental stress. This dissertation builds upon Abidin's framework by introducing ER strategies as crucial moderators in the stress process. The empirical findings from this set of studies provide robust support for integrating ER strategies into the model. Each study offers unique and meaningful theoretical and practical insights. However, when viewed collectively, several key themes emerge that warrant further discussion. The following section will elaborate on these central themes.

Reappraisal serves as a protective factor for strained parents

The current studies' finding implies that reappraisal consistently relates to positive outcomes for the parent, parenting, and the child, and serves as a protective factor against different types of stressors in the family. For example, in the context of chronic stress, such as parenting a child with a disability, our systematic review suggests that parents' tendency to use reappraisal is associated with parental well-being, supportive parenting, and better ER abilities

of the child. Likewise, reappraisal tendencies were found to be beneficial during times of heightened stress, as it was linked to lower distress during the COVID-19 pandemic lockdowns, and to lower parental burnout during the Israel-Hamas war. Furthermore, the state use of reappraisal was linked to reduced negative emotions triggered by war-related events that happened within the parenting context, demonstrating its effectiveness even in acute stress scenarios. These findings are unexpected, as previous research has suggested that reappraisal tends to be less effective for individuals experiencing chronic (Golkar et al., 2014) or acute stress (Raio et al., 2013; Wessa et al., 2024). This may be because the stress sources we examined represent an uncontrollable stressor, a type for which reappraisal is particularly beneficial (as opposed to controllable stressors: Troy et al., 2013). Overall, these findings highlight the unique and robust protective role of reappraisal for parents navigating both chronic and acute family stressors, underscoring the efficacy of reappraisal in the face of family-related challenges.

Parental mentalizing plays a key factor in the child's ER among depressed parents

Our findings support the idea that parents with high mentalizing capacities are better equipped to help their children understand and interpret their own mental states. This, in turn, may foster the development of self-mentalizing skills in children, ultimately enhancing their capacity for self-regulation (Camoirano, 2017; Fonagy & Target, 1997). Moreover, our results highlight the particular importance of parental mentalizing in the context of parental depression. Specifically, mentalizing appears to play a dual role: not only does it underlying the relationship between parental depression and a child's ER skills, but it also has the potential to mitigate the adverse effects of parental depression on the child's ability to regulate emotions. That is, parents experiencing higher levels of depressive symptoms may struggle to effectively mentalizing their child's thoughts and feelings. As a result, they may find it difficult to help

their child make sense of their own emotional states, which can, in turn, impair the child's development of self-regulation skills.

Suppression is linked to lower parental mental health in stressful context

Previous studies suggest that suppression may have unique consequences within parent-child relationship, as parents frequently strive to protect their children from exposure to negative emotions (Le & Impett, 2016). However, the effects of suppression on parents' mental health are consistently negative. Suppression has been repeatedly associated with heightened mental distress and reduced well-being in high-stress contexts such as the COVID-19 pandemic and parenting children with disabilities. With that being said, the consequences of parents' reliance on suppression as an ER strategy for their children and parenting practices are complex and yield mixed findings. For instance, in our systematic review on ER of parents raising children with disabilities, one study linked suppression to unsupportive parental behaviors. At the same time, another study found no association between suppression and children's behavioral symptoms. These discrepancies may be explained by situational factors, such as the severity of parenting stress or the child's needs. The impact of suppression might depend on the interaction between parental goals (e.g., shielding the child from distress) and the demands of the situation. Future research could explore these contextual influences to better understand suppression's nuanced effects on parenting and child outcomes.

Rumination is a major risk factor for strained parents' mental health

Parental rumination is a salient factor in the parenting literature, with previous studies showing its negative impact on the mental health of both the parent and the child (see for review: Dejong et al., 2016). Extending this understanding, our results highlight the relevance of parental rumination in a broader range of stressful contexts, including parenting a child with disabilities and navigating the challenges of wartime. These findings highlight rumination as a

significant risk factor for parental mental health and parenting abilities, across various stressful situations. Emphasizing that when parents become preoccupied with their own negative emotions or the challenging circumstances they face, their ability to effectively process and respond to their child(ren)'s needs may be impaired (DeJong et al., 2016; Stein et al., 2009, 2012). This can strain parent-child relationships, amplify feelings of parental inadequacy, and heighten the risk of parental burnout and distress as was found in studies 1 and 4.

The bidirectional relationship between strained parenting and ER

The current dissertation aimed to explore the relationship between strained parenting and ER, particularly in high-stress circumstances like disability caregiving, war, and global crises. We have gained insights into the reciprocal relationship between ER and parental stress. The findings suggest that strained parenting relates to maladaptive ER in parents. For example, in our systematic review (Study 1), we observed that parents of children with disabilities tend to rely less on adaptive ER strategies such as reappraisal, indicating that chronic stress might hinder effective ER. Furthermore, in Study 2, parents with higher levels of depression showed a heightened parental pre-mentalizing mode, highlighting how emotional distress can limit reflective capacities essential for adaptive parenting. Conversely, the findings indicate that adaptive ER can reduce parental stress, even in crises. For instance, in Studies 3 and 4, we found that reappraisal served as a protective factor against parental distress during high-stress events, such as the COVID-19 pandemic and the Israel-Hamas war. At the same time, rumination and suppression emerged as risk factors that intensified distress.

Building on these findings, we developed the Strained Parenting and Emotion Regulation (SPER) model, which explains why and how strained parenting contributes to emotion dysregulation in parents. Specifically, we propose that heightened levels of stress and burnout in these parents lead to depleted executive resources, intensified negative emotions,

and challenges in the parent-child relationship. This combination may result in emotion dysregulation in both the parent and child, making these parents particularly vulnerable to distress, thereby reinforcing a self-perpetuating cycle. Study 2 validated the model by demonstrating that parental mentalizing mediates the relationship between parental depressive symptoms and children's ER. Studies 3 and 4 further supported the model, revealing that ER strategies can either mitigate or exacerbate the negative effects of parental stress, well-being, and burnout, depending on the strategy employed. Another study we have conducted but was not included in this dissertation, supported this model, by showing that strained parenting (i.e. parenting a child with a disability) was associated with increased maternal burnout, which was mediated by a lesser use of reappraisal, which eventually predicted maternal depression (Keleynikov et al., under review).

The findings from the current set of studies reveal a paradox: while parents under strain might benefit significantly from using adaptive strategies can significantly help parents manage stress, the capacity to use these strategies may be compromised in parents experiencing high levels of stress, emotional exhaustion, or overwhelm, as evidenced in Study 1. Notably, both reappraisal and mentalizing were shown to effectively enhance parental well-being across various sources of stress. Thus, intervention programs for stressed parents should focus on improving ER skills but also aim to enhance parents' cognitive and emotional resources through means such as financial assistance, in-home support, and access to professional services.

Limitations and Future Directions

Although the four studies make valuable and innovative contributions, they also share limitations that should be considered in future research. First, despite employing a variety of methodologies—such as literature reviews, cross-sectional designs, and an ER task—none of these approaches allows us to examine causality in the observed associations. For example, in

Study 4, while the findings suggest that reappraisal may mitigate the impact of war-related stress on parental burnout, these relationships may be bidirectional. That is, higher levels of parental burnout could, in turn, exacerbate perceptions of war-related stress and reduce the effective use of reappraisal strategies. While the studies provide robust evidence of relationships between variables, supported by theoretical grounding, experimental and longitudinal designs are necessary to validate these findings. Such approaches would allow for a deeper exploration of alternative causal pathways and the dynamic interplay of these factors over time.

Next, all studies within the current work have relied on self-report measures, which may introduce biases such as social desirability or inaccurate recall. Future research could benefit from incorporating more objective measures to provide a more nuanced understanding of the observed phenomena. For instance, physiological indicators like skin conductance, heart rate, and brain imaging could offer valuable insights into emotional and stress responses. Additionally, observational methods or reports from other sources—such as a partner or the subject’s child—could complement self-reports, reducing potential biases and enriching the data with diverse perspectives.

Another limitation of the current study lies in the biological sex distribution of the participants, as all experiments were conducted with a pronounced female majority. This imbalance could have a meaningful impact on the findings. For example, prior research indicates that maternal use of suppression influences children's stress responses, whereas paternal use of suppression does not produce the same effect (Waters et al., 2020). Additionally, studies in the general population reveal significant sex-based differences in both the usage patterns and outcomes of emotion regulation strategies (Nolen-Hoeksema, 2012). These disparities highlight the importance of achieving a more balanced representation of sexes in future research to enhance the generalizability and depth of the findings.

Summary

The studies in this dissertation collectively highlight the critical role various ER strategies play in strained parenting contexts and their impact on both parental well-being and child outcomes. Reappraisal consistently emerged as a protective factor, supporting parents, parenting practices, and children across chronic and acute stressors. Parental mentalizing was shown to be vital for fostering children's ER, especially in contexts of parental depression, where it mitigated the adverse effects of depressive symptoms. Suppression and rumination emerged as a significant risk factor, exacerbating stress and parental burnout. Our findings underscore the critical importance of examining ER strategies across diverse situations to fully understand their impact on parenting and family dynamics. They also emphasize the significant advantages of employing adaptive ER strategies within the parenting context. Therefore, we suggest there is a need for tailored intervention programs that focus on enhancing emotion regulation (ER) skills while simultaneously addressing situational factors. Such programs would empower parents to effectively manage diverse stressors, promoting a positive and nurturing family environment.

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ויסות רגשי והורות במצבי דחק

מור קלייניקוב

תקציר

עבודת דוקטורט זו עוסקת בחקר הקשר המורכב בין אסטרטגיות ויסות רגשי לבין הורות במצבי לחץ בהקשרים מאתגרים ומגוונים. באמצעות ארבעה מחקרים, בחנו את האפקט של אסטרטגיות אלו על רווחת ההורים, היבטים שונים של ההורות, והתפתחותם הרגשית של הילדים תחת תנאי דחק. המחקר התמקד בארבע אסטרטגיות מרכזיות: הערכה מחדש (Reappraisal – שינוי פרשנות המצב כדי להפחית את השפעתו הרגשית), מנטליזציה (Mentalizing – הבנת מצבים מנטליים של העצמי ושל אחרים), דיכוי (Suppression – עיכוב ביטויים רגשיים), ורומינציה (Rumination – חשיבה חזרתית-מעגלית). שלושה מקורות עיקריים לדחק הורי נבחנו: גורמים הקשורים בילד, גורמים הקשורים בהורה, ומקורות דחק סביבתיים.

מחקר 1 כלל סקירה שיטתית שבחנה את אסטרטגיות ויסות הרגש של הורים לילדים עם מוגבלויות ואת הקשר בין נטיות אלה לבריאות הנפשית של ההורים וילדיהם. הסקירה העלתה כי הורים לילדים עם מוגבלויות חווים רמות גבוהות יותר של דיסרגולציה רגשית ומשתמשים פחות בהערכה מחדש לעומת הורים לילדים בעלי התפתחות תקינה. נמצא כי הערכה מחדש קשורה לתוצאות חיוביות עבור ההורים והילדים, בעוד שרומינציה ודיכוי קשורים לבריאות נפשית ירודה ולדפוס הורות שליליים. על סמך ממצאים אלו, פותח מודל הוויסות הרגשי של הורים תחת דחק (SPER), המציע כיצד רגשות שליליים מוגברים, משאבים קוגניטיביים מוגבלים, ואינטראקציות שליליות בין הורים לילדיהם עשויים ליצור מעגל של דיסרגולציה רגשית.

מחקר 2 בחן את תפקיד המנטליזציה ההורית בתיווך ומיתון הקשר בין תסמיני דיכאון הוריים לבין יכולות הוויסות הרגשי של הילדים. הממצאים הצביעו על כך שתסמיני דיכאון הוריים קשורים באופן שלילי למיומנויות הוויסות הרגשי של הילדים, בתיווך מצבים של פרה-מנטליזציה הורית. בנוסף, דאואת הורית לגבי מצבים מנטליים התגלתה כגורם מגן המחליש את הקשר השלילי בין תסמיני דיכאון הוריים לבין קשיי ויסות רגשי של הילדים. לעומת זאת, עניין וסקרנות הוריים לא מיתנו את הקשר. הממצאים מדגישים את חשיבותה של מנטליזציה הורית בהשפעה על ההתפתחות הרגשית של הילדים בהקשר של דיכאון הורי.

מחקר 3 בחן את הוויסות הרגשי כגורם מגן מפני דחק הקשור למגפת הקורונה ומצוקה נפשית במהלך הסגרם שהוטלו בעקבות המגפה. חקרנו כיצד גורמים ברמות שונות של המערכת האקולוגית של ההורה השפיעו על בריאות הנפש של אימהות במהלך שתי תקופות שיא של המגפה בישראל. התוצאות הראו כי הערכה מחדש הייתה קשורה לרמות מצוקה נמוכות יותר, בעוד שדיכוי היה קשור למצוקה פסיכולוגית גבוהה יותר. נטיות הוויסות הרגשי הראו את גודל האפקט הגדול ביותר בניבוי מצוקת אימהות, גדול אף יותר מגורמים משמעותיים אחרים כמו גידול ילד עם מוגבלות או סגירת בתי ספר.

מחקר 4 בחן את הקשר בין ויסות רגשי תכונתי ומצבי לבין שחיקה הורית במהלך מלחמת "חרבות ברזל" שפרצה בשביעי לאוקטובר 2023. בחנו שימוש תכונתי ומצבי בהערכה מחדש ורומינציה באמצעות שאלונים ומטלת ויסות רגשי. התוצאות הראו כי בעוד שהערכה מחדש כתכונה לא מיתנה את הקשר בין לחץ הקשור למלחמה לבין שחיקה הורית, רומינציה הגבירה משמעותית קשר זה. בנוסף, שימוש מצבי בהערכה מחדש הפחית ביעילות רגשות שליליים במהלך מטלת הוויסות הרגשי, בעוד שרומינציה הגבירה מצוקה רגשית.

מחקרים אלו מצביעים על קשר מורכב ודינמי בין הורות תחת דחק לבין ויסות רגשי. בעוד שאסטרטגיות אדפטיביות כמו הערכה מחדש משמשות גורם מגן משמעותי, יכולת השימוש בהן עשויה להיפגע בתנאי דחק מתמשכים או קיצוניים. הממצאים מבליטים פרדוקס מרכזי: הורים בתנאי דחק יכולים להפיק תועלת רבה מוויסות רגשי אדפטיבי, אך הלחץ עצמו עלול לפגוע ביכולתם ליישם אסטרטגיות אלו. בהתאם, יש לשלב בתוכניות התערבות לשיפור מיומנויות ויסות רגשי גם תמיכה מעשית לחיזוק משאבי ההורים.

ויסות רגשי והורות במצבי דחק

מאת: מור קלייניקוב

בהנחיית: פרופסור נוגה כהן וד"ר ג'וי בנטוב

חיבור לשם קבלת התואר: "דוקטור לפילוסופיה"

דוקטורט פרסומים

אוניברסיטת חיפה

הפקולטה לחינוך

המחלקה לחינוך מיוחד

פברואר 2025

ויסות רגשי והורות במצבי דחק

מור קלייניקוב

חיבור לשם קבלת התואר: "דוקטור לפילוסופיה"

דוקטורט פרסומים

אוניברסיטת חיפה

הפקולטה לחינוך

המחלקה לחינוך מיוחד

פברואר 2025