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Pathways from parental adverse childhood experiences to child emotion regulation: The role of parent emotion regulation and emotion socialization

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Pathways From Parental Adverse Childhood Experiences to Child Emotion Regulation: The Role of Parent Emotion Regulation and Emotion Socialization

by

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Abstract

The present study evaluates the mediating role of parent emotion regulation (ER) and parent emotion-related socialization behaviors (ERSBs) in the relation between parent adverse childhood experiences (ACEs) and child ER. Caregivers of children ages 2 through 5 (inclusive) completed traditional and expanded ACEs scales, the Difficulties in Emotion Regulation Scale Short Form, the Coping with Toddlers' Negative Emotions Scale, and the Emotion Regulation Checklist. Data analysis involved correlation and mediation analyses. Parent *difficulties* in ER statistically mediated the association between parent ACEs and child ER such that a higher expanded ACEs score was associated with more parent difficulties in ER, and these difficulties were related to lower child ER. Although parent ER and supportive ERSBs independently contribute to child ER, data did not support a mediational role for ERSB or sequential mediation. Findings suggest that parent ER may be one avenue for the reduction of intergenerational transmission of trauma.

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Overview

Although there is a wealth of literature available to provide empirical support for the negative impact of parental adverse childhood experiences (ACEs) on subsequent generations, the specific mechanisms responsible for this intergenerational transmission are not clear. Emotion regulatory abilities set the stage for both the long-term and short-term socio-emotional success of young children, making emotion regulation (ER) a foundational construct in the field of child development. Although it is well-established that parenting factors play a role in shaping children's ER development (Baker, 2018; Thompson, 2013), and that ACEs can influence many factors related to parenting (Narayan et al., 2021; Treat et al., 2019; Treat et al., 2020), little research has connected the dots between these relations to investigate the mediating roles both of parent ER and parent emotion socialization in explaining the impact of parent ACEs on child ER. The present study aims to address this gap by testing a model that evaluates the mediational role of parent ER and emotion socialization behaviors in this relation.

Emotion Regulation

Emotion regulation can be conceived as the intentional or automatic manipulation of one's own emotional experiences and expressions in order to achieve a desired goal or outcome (Gross, 1998). According to Thompson (1994), such a goal may include in some way controlling the occurrence, duration, intensity, or expression of an emotion. Emotion regulation is a component of the broader umbrella of self-regulation, or the volitional control over one's own behavior and arousal in the service of certain goals and generally positive outcomes (Zeidner et al., 2005; Blair & Diamond, 2008). Children demonstrating more adaptive emotion regulation are consistently found to exhibit fewer internalizing and externalizing symptoms in both clinical and typical samples (Eisenberg, Spinrad, & Eggum, 2010). ER has also been found to predict

academic preparedness (Schatz et al., 2008) and academic success (Graziano et al., 2007). Furthermore, ER capacity appears to have a large impact on young children's social functioning as well. Indeed, both parents and teachers report higher levels of social competence and prosocial behavior among children with greater ER (Eisenberg, 2001; Williams & Berthelsen, 2017). Additionally, young children with more advanced ER skills may also perceive themselves to be both more socially accepted by peers and more competent (Maughan et al., 2007), suggesting that ER has implications for children's burgeoning self-esteem. The social impacts of poor ER may also have significant, long-term repercussions. In a longitudinal study, young children's observed emotion dysregulation during preschool significantly predicted peer rejection in middle childhood, which subsequently predicted their antisocial behavior reported by teachers in early adolescence (Trentacosta & Shaw, 2009). Emotion dysregulation has consistently been linked with later psychopathology and health problems, including anxiety, aggression, and eating pathology (McLaughlin et al., 2011; Monell et al., 2018), alcohol-related problems (Simons et al., 2017), and the development of PTSD following trauma exposure (Pencea et al., 2020).

Development of Emotion Regulation

Given that children's development of ER skills represents a critical foundational milestone with lifelong implications, it is important to understand how these skills develop as well as what factors aid or hinder their promotion. Emotion regulation can be either intrinsic or extrinsic (Gross, 2013). That is—it is important to consider both a caregiver's efforts to help a young child emotionally regulate (i.e., extrinsic ER) as well as their effort to support their young child's growing capacity to regulate their own emotions (i.e., intrinsic ER; Gross, 2013). Caregivers play a large role in helping young children transition from extrinsically regulating their emotions to intrinsically regulating them (Baker, 2018).

Models of Emotion Regulation Development

Several models have been proposed to help researchers investigate the role that parents and the broader family context play in helping to socialize children's emotions and shape their ER capacities. Two such models informing the present proposal include Eisenberg's (1998) model of the socialization of emotion and the tripartite model of the impact of the family on children's emotion regulation and adjustment (Morris et al., 2007).

Eisenberg's Model of the Socialization of Emotion. Efforts on the part of parents to help their children understand and regulate their emotions have been referred to in the literature collectively as "emotion-related socialization behaviors" (ERSBs), a key construct in Eisenberg and colleague's (1998) model of the socialization of emotion. In addition to parents' reactions to children's emotions, ERSBs include both parental discussion and parental expression of emotions. ERSBs can be supportive (e.g., responses that encourage emotion expression and are problem-focused) or unsupportive (e.g., responses characterized by parental distress or that punish or minimize child emotion). According to this model, a caregiver's ERSBs may directly influence child emotion-related outcomes, including how they understand, experience, express, and regulate emotions, and they may also influence child outcomes indirectly via their influence on children's emotional arousal (Eisenberg et al., 1998). These emotion-related outcomes subsequently have an impact on children's overall social behavior and social competence.

While parents' ERSBs may be the focal point of this model, these behaviors do not exist in a vacuum. Thus, Eisenberg's model identifies key predictors of ERSBs, as well as relevant potential moderators of the relation between ERSBs and child emotion-related outcomes. Predictors theorized to influence ERSBs include cultural factors, individual child characteristics,

individual parent characteristics, and the broader context within which the socialization behaviors are occasioned.

The Tripartite Model. The tripartite model of the impact of the family on children's emotion regulation and adjustment (Morris et al., 2007) bears significant resemblance to Eisenberg's model but focuses on how three distinct elements of a child's parenting or family environment influence the development of their emotion regulation specifically, as opposed to emotion socialization more broadly. These elements include children's observation of parents' emotions and ER, specific parenting practices that caregivers engage in related to emotions and ER, and the emotional climate of the family (Morris et al., 2007). According to this model, these three components influence children's adjustment directly, but also indirectly via their influence on children's ER. Similar to Eisenberg's model, each of these parenting and familial factors can be influenced by individual parent characteristics, which may include considerations such as parents' own ER, mental health, and caregiving history (Morris et al., 2007). Finally, and in line with a family systems view, many of the relations described in this model can be considered bidirectional. For example, not only do these family variables influence children's ER, but children's ER can also influence the family's emotional climate, parenting practices parents engage in, and the behaviors and emotions children observe in the home.

Thus, what both of these models share is an emphasis on the role of specific parenting behaviors and practices in the socialization of young children's emotions and ER, linking children's emotional development with their broader, long-term adjustment. Likewise, both models acknowledge the role that individual caregiver characteristics may play in influencing their ERSBs.

Evidence of the Effects of Parent ER and ERSBs on Children's ER

In line with both of these models, parents teach their children a great deal about emotions and emotion regulation through modeling. That is, by observing how their caregivers express and manage their own emotions (or do not, as the case may be), children develop expectations and beliefs about emotions and ER, which influence how they express and attempt to regulate their own emotions (Baker, 2018; Thompson, 2013). Thus, a caregiver who models effective strategies for dealing with difficult emotions like anger or sadness demonstrates both that emotions are manageable as well as how to respond effectively in emotional situations. In contrast, a parent who becomes dysregulated in the face of emotional arousal teaches their child that emotions are overwhelming and may also model ineffective regulatory strategies. And indeed, the literature base examining relations between parent emotion regulation and child emotion regulation consistently supports the presence of a positive association between parent ER and child ER (Binion & Zalewski, 2018; Crespo et al., 2017; Morelen et al., 2016; Samuelson et al., 2012). For example, in their study including over 400 mothers and their young children between ages three and seven, Crespo and colleagues (2017) reported a significant positive association between maternal ER difficulties and child ER difficulties (r = .22) and between maternal ER difficulties and child emotion lability/negativity (r = .37). Mothers' difficulty with emotion awareness, an important component of ER, was also significantly correlated with children's ER difficulties (r = .29) and children's emotion lability/negativity (r = .16). In their sample, child ER difficulties were further found to mediate the relation between parent ER difficulties and children's behavior problems, highlighting additional important implications of the association between parent ER and child ER.

Furthermore, parents' use of supportive emotion socializing behaviors, including emotion coaching strategies, is positively associated with children's ER (Eisenberg et al., 2001; Morris et

al., 2017). Parents who utilize emotion coaching are aware of their own, as well as their children's, emotions; take a stance that views negative emotions as opportunities for teaching and intimacy; validate children's emotions; help them label emotions; and collaboratively problem-solve (Gottman et al., 1996). How parents respond to their children's emotional displays, and in particular, to those that are negative in valence, influences how children evaluate and accept their own emotions (Thompson, 2013; Baker, 2018). For example, in a sample of maltreating mothers, maternal emotional support mediated the relation between maltreatment and children's emotional expression (Shipman & Zeman, 2001). Furthermore, mothers' emotional expressivity, a component of emotion socialization, is linked to children's emotional regulatory abilities, such that positive expressivity is associated with greater emotion regulation capacity, while maternal negative expressivity is associated with lower ER (Eisenberg et al., 2001).

While there is there is consistent support for a link between parents' ER and children's ER, and between emotion socialization practices and children's ER, it is unclear whether emotion socialization plays a mediating role between parent ER and child ER. One study failed to find support for emotion socialization as a mediator, instead finding that emotion socialization and parent emotion regulation had independent effects on children's ER (Binion & Zalewski, 2018). However, another study found partial support for the mediational role of emotion socialization on this relation (Morelen et al., 2016). In this study, maternal ER was inversely associated with unsupportive emotion parenting, defined as parental reactions that are punitive, minimizing, or characterized by distress, but not associated with supportive emotion parenting, which includes reactions that are emotion-focused, problem-focused, and that encourage emotion expression (Morelen et al., 2016). Further, unsupportive emotional parenting mediated the link

between maternal dysregulation and child *dysregulation*, but not the relation between maternal dysregulation and child regulation. Likewise, Kerns and colleagues (2017) found that mothers who were more emotionally dysregulated in response to child distress were more likely to accommodate their children's anxiety and engage in avoidant, rather than emotionally supportive, parenting. Overall, these data suggest that there may be a stronger relation between parent's emotion *dysregulation* and *unsupportive* emotion socialization behaviors than between parent's emotion regulation and supportive emotion socialization behaviors, and that supportive versus unsupportive parenting practices may be distinct constructs, as opposed to two ends of the same spectrum.

Ultimately, although the relation between parent ER, parent emotion socialization strategies, and child ER have been widely studied, and it appears clear that parent ER and child ER are associated with one another, more definitive conclusions regarding the precise relations between these three constructs altogether remain elusive.

Influence of Parent ACEs

Individual parenting factors and experiences may limit or promote a caregiver's ability to support children's ER development. For example, a parent's experience of early adversity can disrupt parenting behavior via its impact on parenting self-efficacy (Treat et al., 2020) and parent ER (Cloitre et al., 2019). Indeed, past literature has noted the deleterious effects of parental experiences of ACEs on next-generation child outcomes, including a positive association between parent ACEs and child internalizing and externalizing problems (Letourneau et al., 2019; Stepleton et al., 2018), social emotional problems (Treat et al., 2020), and negative affectivity (McDonald et al., 2019), highlighting the importance of using an intergenerational framework when examining child socioemotional outcomes.

Although limited work on parent ACEs has looked specifically at child ER as an outcome, the extant literature suggests that parent ACEs are associated with poorer ER outcomes among children. Gray and colleagues (2017) used respiratory sinus arrhythmia (RSA), a biomarker of ER, to evaluate the association between parent ACEs and child ER. Infants of parents with higher ACEs exhibited lower RSA reactivity during a procedure designed to elicit stress, suggesting that they were less successful at emotionally regulating than those infants of parents experiencing fewer ACEs (Gray et al., 2017). In a study assessing self-regulation outcomes as a latent variable that included a measure of observed ER, maternal ACEs were further found to be significantly negatively associated with child self-regulatory abilities broadly (Daniel, 2020).

Far more prevalent is the literature linking related constructs, such as maternal history of child maltreatment (i.e., not early adversity as measured by ACEs specifically), with child regulatory outcomes. For example, DeOliveira and colleagues (2004) found that mothers' experiences of physical and emotional abuse were associated with poor child ER capacities during a frustration task. Similarly, in a longitudinal study examining the effects of maternal childhood maltreatment on their offspring's regulatory abilities during preadolescence, maltreatment history was found to predict regulatory abilities indirectly via maternal controlling parenting behaviors, defined as psychological aggression, corporal punishment, and other nonviolent discipline strategies (Delker et al., 2014).

Given the mounting evidence pointing toward an association between parental ACEs and related constructs and diminished child ER abilities, it is important to consider parenting variables that may account for this relation. As discussed, and in line with both Eisenberg's (1998) and Morris' (2007) models, many parent and emotion-related parenting variables,

including parent ER and ERSBs have been found to relate to child ER outcomes. However, the relation between ACEs and each of these variables may be less clear cut. Although exposure to ACEs is consistently found to be negatively related to ER during adulthood, the specific relation between ACEs and ERSBs is less clear, as well as the role of ER in this relation.

ER difficulties have been implicated as a mediator accounting for the well-documented relations between ACEs and myriad negative physical and mental health outcomes, including psychological distress in general (Rudenstine et al., 2019); depression, PTSD, and self-reported physical well-being (Cloitre et al., 2019); interpersonal difficulties (Poole et al., 2018); and anxiety (Poole et al., 2017). That is—not only has adversity during childhood been consistently linked to ER difficulties in adulthood, but it is these particular ER difficulties that may account for the negative physical and mental health outcomes individuals with ACEs are more likely to experience in adulthood. Accordingly, ER has been a target of intervention among adults with a history of ACEs (Cameron et al., 2018).

As discussed, parents' ER can influence their emotion-related parenting practices (Hajal & Paley, 2020), and this may be particularly true when examining the association between parental emotional dysregulation and the use of unsupportive emotion parenting practices (Kerns et al., 2017; Morelen et al., 2016). However, the existing body of research has not yet ventured to link ACEs and emotion-related parenting practices directly. Indeed, as with other relations examined in the present proposal, the limited literature available focuses on the connection between a related construct, childhood maltreatment, and subsequent emotion-related parenting behaviors. For example, DeOliveira and colleagues (2004) evaluated emotion socialization behaviors among a sample of mothers of 4- to 6-year-olds and found that those mothers with a history of physical and emotional abuse responded to their children with more hostility and less

emotional availability during a free play and clean up task than mothers without such a history. Furthermore, mothers with a history of abuse were more likely to misinterpret infants' emotions (DeOliveira et al., 2004). Likewise, Rea and Schaffer (2016) found significant negative correlations between each type of childhood abuse and neglect measured and parent-reported emotionally supportive parenting behaviors. However, maltreatment history was not significantly related to parent-reported unsupportive parenting behaviors.

Another study focusing on parents of children between 8 and 12 tested a serial mediation model evaluating the effects of parent polyvictimization (i.e., sexual abuse, physical abuse, emotional maltreatment, and neglect) on children's emotion inhibition through parental ER and parents' unsupportive contingencies (i.e., low support for child emotions; Cabecinha-Alati et al., 2020). Not only did authors find support for the full sequential mediational model, but they also noted that polyvictimization had a direct effect on emotion socialization. Results further supported a significant indirect effect of polyvicitimization on emotion inhibition via unsupportive emotion socialization (i.e., independent of the effects of parent ER).

Taken together, the extant literature provides support for the negative relation between ACEs and parent ER and suggests that a maltreatment history may be associated with poorer emotion socialization behaviors, possibly indirectly via parent ER. Further clarity regarding the relation between ACEs and ERSBs, as well as the direct versus mediated nature of this relation, is needed.

Rationale for the Present Study

The ability to regulate one's emotions is predictive of many important developmental outcomes carrying lifelong implications for an individual's social and emotional well-being and long-term success. While parenting and family variables that contribute to children's ER

development have been widely studied, less is known about how potential risk factors, such as a parent's history of adversity during childhood, may operate to disrupt parents' ability to promote the development of ER among young children. Indeed, individual models have proposed that parenting practices related to emotions and emotion socialization influence children's ER development, and the extant literature appears to bear this association out. However, although various parent characteristics have been hypothesized to influence these factors, many of these relations remain untested.

The purpose of this study is to address these gaps in the literature by testing two statistical mediators that may account for the intergenerational effects of trauma and adversity on children's emotion regulation development: parent ER and parent ERSBs. Understanding these relations has significant implications for both primary and secondary intervention efforts; if parent ER and ERSBs are found to mediate this relation, interventions targeting these constructs among parents with a history of adversity during childhood may improve both parents' own emotional functioning as well as their children's.

Furthermore, if these constructs do indeed mediate the relation between parents' early adversity and child ER, it is important to distinguish the specific role of each mediator in this pathway. Because it is possible that parent ACEs influence ERSBs directly as well as indirectly via the effect of parent ACEs on parent ER, this study will test a model that allows for examination of the role of each mediator independently (see Figures 1-4), as well as serially, wherein parent ACEs may influence child ER development indirectly through the impact of ER on ERSBs (see Figure 5). Clarity regarding the extent of each potential mediator's role can improve precision and goal-identification among interventions targeting child ER development.

Finally, while many studies examining the intergenerational effects of early adversity have focused specifically on childhood maltreatment (i.e., measures of emotional and physical neglect and emotional, physical, and sexual abuse) as a narrower conceptualization of early adversity, the present study will measure early adversity using a broader framework that includes these forms of maltreatment in addition to other indices of household dysfunction, the Adverse Childhood Experiences scale (ACEs; Felitti et al., 1998) as well as neighborhood and community-based adversity (the Expanded Adverse Childhood Experiences Scale; Cronholm et al., 2015). The use of more inclusive measures of early adversity allows for the possibility of understanding whether and how cumulative adversity taking multiple forms may lead to disruptions in this pathway.

Aims of the Present Study

Specific Aim 1: To evaluate the relations between parents' early adversity, parents' *difficulties* in ER, parents' ERSBs, and children's ER abilities.

Hypothesis 1a: Parent ACEs will be negatively correlated with child ER.

Hypothesis 1b: Parent ACEs will be positively correlated with parent *difficulties* in ER.

Hypothesis 1c: Parent ACEs will be positively correlated with parent *unsupportive* emotion socialization responses and negatively correlated with parent *supportive* emotion socialization responses.

Hypothesis 1d: Parent *difficulties* in ER will be negatively correlated with child ER.

Hypothesis 1e: Parent *difficulties* in ER will be positively correlated with parent *unsupportive* emotion socialization responses and negatively correlated with parent *supportive* emotion socialization responses.

Hypothesis 1f: Child ER will be negatively correlated with parent *unsupportive* emotion socialization responses and positively correlated with parent *supportive* emotion socialization responses.

Specific Aim 2: To evaluate the simple statistical mediational effects of parent ER and parent ERSBs in accounting for different relations within the proposed model.

Hypothesis 2a: Parent *difficulties* in ER will mediate the association between parent ACEs and children's ER (see Figure 1).

Hypothesis 2b: Parent emotion socialization responses will mediate the association between parent ACEs and child ER (see Figure 2).

Hypothesis 2c: Parent *difficulties* in ER will mediate the association between parent ACEs and parent emotion socialization responses (see Figure 3).

Hypothesis 2d: Parent emotion socialization responses will partially mediate the association between parent *difficulties* in ER and child ER (see Figure 4).

Specific Aim 3: To test a multiple mediation model in which parent ER and parent ERSBs sequentially statistically mediate the relation between parent ACEs and child ER.

Hypothesis 3a: Parent *difficulties* in ER and parent *unsupportive* emotion socialization responses will sequentially mediate the association between parent ACEs and child ER such that higher ACEs will be associated with more *difficulties* in parent ER, which will subsequently be positively associated with parent *unsupportive* emotion socialization responses, which will be negatively related to child ER.

Hypothesis 3b: Parent *difficulties* in ER and parent *supportive* emotion socialization responses will sequentially mediate the association between parent ACEs and child ER such that higher ACEs will be associated with more *difficulties* in parent ER, which will

subsequently be negatively associated with parent *supportive* emotion socialization responses, which will be related to lower child ER (see Figure 5).

Methods

Participants

The present study utilized self-report data from a larger, cross-sectional, online study designed to evaluate parenting and family factors that influence children's development of self-regulation skills. Caregivers were eligible for participation in this study based on their age (i.e., they were at least 18), having at least one child aged 24 months or older, presently living in the United States or the United Kingdom, and socioeconomic risk (i.e., having at one point reported a self-rated score of 5 or lower on a 10-point subjective socioeconomic status scale). Participants were recruited via Prolific Academic, an online participant recruitment service, and all questionnaires were administered via an online survey that took about 60 to 75 minutes to complete. Participants were compensated $15.00 for their time.

Data were collected from 300 caregivers. Of the 300 caregivers who began the study, 76 respondents were excluded from completing the full survey automatically due to inconsistent responding or not having a child in the correct age range. Of the 224 participants remaining, there were 214 cases with complete data that were included in the study. Due to the very small number (n = 10) of cases with missingness that could not be explained by failing a consistency check, patterns of missingness could not be further probed using t-tests, and thus, only those cases with complete data were included in analyses.

Because data came from a sample that included participants residing in two different countries, and national and cultural factors may influence parenting styles, independent sample t-tests were used to examine between-group differences in key study variables based on whether

participants reported being located in the United States or the United Kingdom. No significant between-group differences were identified (all p values > .05). However, participants in the UK reported marginally higher average use of *supportive* emotion socializing behaviors (M = 17.367) compared to participants in the US, M = 16.68, $t(203) = 1.94$, p = .054. Because there were no significant differences between groups, however, the entire sample was analyzed together.

The majority of the caregivers (72.0%) identified as female (n = 154), with the remaining participants identifying as male (n = 59) or nonbinary (n = 1). The average age of participants was 33.5 years (range = 20-51 years). Children of caregivers who participated in the study were 58.0% male (n = 124) and 41.6% female (n = 89), with one child being described as nonbinary. The average age of children was 3.88 years (range = 2.5-5.5 years). Parents in the study experienced on average 3 ACEs (range = 0-10) as measured using the traditional ACEs scale and 5.32 ACEs (range = 0-20) expanded ACEs. The most commonly reported adverse experiences as measured by both traditional and expanded ACEs were emotional abuse (53.3% endorsed), living with a caregiver who was mentally ill (43.9% endorsed), physical abuse (40.8% endorsed), and parental separation (40.8% endorsed). Thirty-nine percent of the sample (n = 84) reported experiencing four or more traditional ACEs. In terms of socioeconomic status, parents' average self-rated SES was 4.42 (out of 10; range = 1-9), and the average reported household income was between $50,000 and $70,000 range. See Table 1 for a full breakdown of demographic characteristics of the sample.

Based on a sensitivity analysis using a sample size of 214, power set at .80, α =.05, and six predictors, this study should be sufficiently powered to detect an R^2 value at least as large as .066 (Faul et al., 2007). This effect size is smaller than those found in prior studies examining

relations proposed within this model (e.g., R^2 = .068 for the effect of ACEs on parent ER; Poole et al, 2017; R^2 = .09 for the effect of parent ER on parent ERSBs; Morelen et al., 2016; R^2 = .12 for the effect of parent ER on child ER; Crespo et al., 2017), supporting the use of a sample of this size for the present study.

Measures

Demographic Questionnaire

Demographic and eligibility questions were included to enable description of demographic characteristics of participants who enrolled and to identify potential covariates that may be relevant for analyses (see Appendix A). Sociodemographic variables included participant race, age, gender, education level, employment status, household income, marital status, and self-rated socioeconomic standing. Self-rated socioeconomic standing was measured by asking participants to select a number between 1 and 10 corresponding with a height along a ladder that most closely reflected their standing in society, where those at the top of the ladder (i.e., a *10*) had the most money, most education, and best jobs, and those at the bottom of the ladder (i.e., a *1*) had the least money, lowest education, and worst or no jobs. This question was asked of participants twice- once, when they initially signed up for Prolific, and again when they began the study. Although participants were only invited to complete the study if they originally endorsed a score of 5 or lower, participants were not excluded from participating if their self-rating was higher than 5 at the time of the study. Child demographic variables included age, race, and gender.

Adverse Childhood Experiences Scale

Traditional ACEs (ACE; Felitti et al., 1998). The ACE Questionnaire is a 10-item measure that retrospectively assesses whether an individual experienced certain forms of

adversity during the first 18 years of their life (see Appendix B). Items include questions regarding experiences of physical, emotional, or sexual abuse; physical or emotional neglect; and household dysfunction (e.g., witnessing domestic violence, having parents who were separated or divorced, or living with a household member who misused substances, was mentally ill, or was incarcerated). ACE scores range from 0 to 10, with 0 representing no exposure to any of the forms of adversity identified in the measure, and 10 representing exposure to all 10 experiences. This scale has good internal consistency (Cronbach's α = .88; Murphy et al., 2014) and good test-retest reliability for individual items and overall score (Dube et al., 2004).

Expanded ACEs (Cronholm et al., 2015). The expanded version of the ACEs questionnaire includes additional questions related to adversity that may occur outside of the home context, including experiencing racism, witnessing violence, living in an unsafe neighborhood, experiencing bullying, and living in a foster home during the first 18 years of life (see Appendix C). Furthermore, expanded ACEs exclude experiencing parent divorce or separation from qualifying as an adverse childhood experience. The use of expanded ACEs enables researchers to capture a broader range of experiences that may influence the health and well-being of diverse populations and paint a clearer picture of experiences of early adversity (Cronholm et al., 2015).

With the addition of five expanded items and exclusion of one traditional item, expanded ACEs capture 14 forms of adversity instead of 10. However, many items from the traditional ACEs measure are further broken down to capture varying levels of severity. For example, a single question querying about emotional abuse in the traditional ACEs questionnaire is divided into separate questions that distinguish experiences of being sworn at, insulted, or put down by caregivers from experiences of caregivers acting in a way that made them afraid they would be

physically hurt. Furthermore, while items in traditional ACEs are scored dichotomously (i.e., *Yes* or *No*), many expanded ACEs items are broken down into 3-, 4-, or 5-point frequency scales (e.g., *Never*, *Once*, or *More Than Once*), which have been individually dichotomized to reflect the presence or absence of the experience. For the purposes of the present study, each individual question was scored as present or absent based on criteria laid out by Cronholm and colleagues (2015), such that scores could range from 0 to 21.

Difficulties in Emotion Regulation Scale Short Form (DERS-SF; Kaufman et al., 2016)

The DERS-SF is an 18-item self-report measure adapted from the original, well-validated 36-item DERS (Gratz & Roemer, 2004; see Appendix D). The DERS-SF is used to evaluate ER problems in adolescents and adults and consists of six subscales, including Nonacceptance of Emotional Responses, Difficulties Engaging in Goal-Directed Behavior, Impulse Control Difficulties, Lack of Emotional Awareness, Limited Access to Emotion Regulation Strategies, and Lack of Emotional Clarity. A Total Difficulties score was calculated and used in the present study by combining subscale scores. Internal consistency across subscales for the DERS-SF is good (Cronbach's α ranges from .78 to .91), subscales correlate highly with the original 36-item DERS subscales (ranges from .90 to .97), and concurrent validity of the DERS-SF is comparable to the original DERS (Kaufman et al., 2016).

Coping with Toddlers' Negative Emotions Scale (CTNES; Spinrad et al., 2007)

The CTNES was adapted from the Coping with Children's Negative Emotions Scale (CCNES; Eisenberg et al., 1996; see Appendix E). Utilizing a series of 12 hypothetical situations that describe a toddler's negative (i.e., upset, angry, or distressed) reactions to a situation, the CTNES asks parents to rate how likely they would be to react in certain ways. A thirteenth item was added to this scale in the present study in order to capture an additional scenario

characterizing typical toddler behavior that may occur frequently and was not otherwise included in the measure. Each scenario provides seven possible reactions, which parents rate on a 7-point scale from *Very Unlikely* to *Very Likely* to be their reaction. The CTNES consists of seven subscales including Distress Reactions, Punitive Reactions, Minimizing Reactions, Expressive Encouragement, Emotion-Focused Reactions, Problem-Focused Reactions, and Granting the Child's Wish (Spinrad et al., 2007). Internal consistency ranges from good to excellent across most subscales (Cronbach's α ranges from .75 to .93) with the exception of the Granting the Child's Wish subscale, which is acceptable (Cronbach's α = .67). Test-retest reliability of scales is good (*r*s range from .65 to .81; Spinrad et al., 2007). A principal component factor analysis conducted by the scale's developers identified the Punitive Reactions and Minimizing Reactions subscales as belonging to a common Unsupportive Strategies factor, while Problem-focused, Emotion-Focused, and Expressive Encouragement subscales belonged to a common Supportive Strategies factor (Spinrad et al., 2007). As such, total supportive and unsupportive emotion socialization scores were calculated by summing scores from each factor's respective subscales.

Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997)

The ERC is a 24-item measure of children's ER designed to be completed by a parent or other adult (see Appendix F). This measure assesses children's affective lability, intensity, valence, flexibility, and situational appropriateness, and includes two subscales: Lability/Negativity and Emotion Regulation. The Lability/Negativity subscale includes items indicating poor ER capacity, and the Emotion Regulation subscale includes items indicating the presence of adaptive ER strategies. To capture overall effectiveness in utilizing ER strategies among children, a total ER score was calculated by combining the ER subscale score with the reverse-scored Lability/Negativity subscale score. Internal consistency is excellent for the

Lability/Negativity subscale (Cronbach's α = .96) and good for the Emotion Regulation subscale (Cronbach's α = .83; Shields & Cicchetti, 1997).

Results

Preliminary Analyses

Correlations and Covariates

To address Aim 1 and identify demographic covariates, bivariate correlations were run, yielding support for some, but not all, of the hypotheses related to this aim. See Table 2 for means, standard deviations, and correlations between key study variables. Although expanded and traditional ACEs were highly correlated (r = .94, p <.01), correlations between key study variables and both ACEs measures are reported since findings varied slightly depending on the measure used.

Hypothesis 1a stated that parent ACEs would be negatively correlated with child ER. Although traditional ACEs were not found to be associated with child ER, expanded ACEs were marginally negatively correlated with child ER (r = -.12, p = .09), suggesting that parents reporting more expanded (but not traditional) ACEs had children with slightly lower ER abilities. Support was found for Hypothesis 1b, which stated that parent ACEs would be positively associated with parent *difficulties* in ER. Significant correlations were observed for both traditional (r = .25, p < .01) and expanded (r = .22, p < .01) ACEs. However, Hypothesis 1c, which stated that parent ACEs would be positively correlated with *unsupportive* ERSBs and negatively correlated with *supportive* ERSBs, was not supported; there was no correlation found between parent ACEs (expanded or traditional) and supportive ERSBs, and analyses revealed an unexpected marginal negative correlation between parent traditional ACEs only and

unsupportive ERSBs and (r = -.12, p = .09), such that a higher traditional ACEs score was associated with fewer unsupportive ERSBs.

Hypothesis 1d predicted that parent *difficulties* in ER would be negatively correlated with child ER. Support was found for this hypothesis such that greater parental difficulties in ER was associated with poorer next-generation ER outcomes (r = -.21, p < .01). In contrast, Hypothesis 1e, which predicted that parent *difficulties* in ER would be positively correlated with *unsupportive* ERSBs and negatively correlated with *supportive* ERSBs, was not supported. Hypothesis 1f predicted a negative correlation between child ER and parent *unsupportive* ERSBs and a positive correlation between child ER and parent *supportive* ERSBs. While no significant correlation was found between child ER and parent *unsupportive* ERSBs, child ER was found to be positively correlated with parent *supportive* ERSBs, such that higher endorsement of more supportive emotion-related parenting practices was associated with better child ER (r = .37, p <.01).

Bivariate analyses between demographic variables and key study variables revealed significant associations between study variables of interest and parent age, self-reported socioeconomic status, and parent gender. Specifically, parent age was negatively associated with *unsupportive* ERSBs (r = -.20, p < .01) and parent *difficulties* in ER (r = -.20, p < .01), suggesting that older parents engaged in less *unsupportive* parenting and reported less difficulty regulating emotions. Higher self-reported SES was associated with lower traditional (r = -.23, p < .01) and expanded (r = -.24, p < .01) ACEs scores, less *difficulty* with ER (r = -.14, p = .04), and better child ER (r = .15, p = .03). Regarding gender, parent male gender identity was associated with the use of more *unsupportive* ERSBs (r = .24, p < .01) and fewer *supportive* ERSBs (r = -.26, p < .01). Child age was not correlated with any key study variables, nor was

household income. Given associations between key study variables and parent age, self-reported SES, and parent gender, these variables were subsequently included as covariates in mediational analyses.

Mediation Analyses

Multiple regression analysis was conducted examining the effects of key study variables and covariates on child ER and residuals generated by this model were plotted to assess for normality. Residuals for separate models including supportive and unsupportive ERSBs both appeared normally distributed, yielding support that standard errors and regression weights in the analyses that follow are unbiased.

Simple Mediation Analyses

The second aim of the present project was to evaluate the simple statistical mediational effects of parenting factors (ER and ERSBs) in accounting for relations among key study variables. All mediational analyses were conducted using the R version of PROCESS (Hayes, 2022) and bootstrapped 95% confidence intervals (5,000 iterations) were used to test for indirect effects. Because expanded and traditional ACEs were highly correlated and expanded ACEs are inclusive of more forms of adversity that capture the experiences of broader sociodemographic groups (Cronholm et al., 2015), models were run using expanded ACEs only.

Support for indirect effects was found for one hypothesized statistical mediation model. Specifically, Hypothesis 2a, which predicted that parent *difficulties* in ER would mediate the association between parent ACEs and child ER, was supported. Standardized path coefficients and standard errors for this model are presented in Figure 6. It was found that a higher expanded ACEs score was associated with more parent difficulties in ER, and these difficulties were

related to lower child ER. The effect of ACEs on child ER was significantly mediated by parent difficulties with ER, $b_{indirect}$ = -0.037, CI_{95} = -0.077 to -0.0082.

Hypothesis 2b predicted that parent ERSBs would mediate the association between parent ACEs and child ER. No support for indirect effects of either unsupportive ($b_{indirect}$ = 0.0060, CI_{95} = -0.011 to 0.033) or supportive ($b_{indirect}$ = 0.020, CI_{95} = -0.034 to 0.070) ERSBs was found. Hypothesis 2c predicted that parent *difficulties* in ER would mediate the association between parent ACES and parent ERSBs. Likewise, separate tests examining both supportive ($b_{indirect}$ = 0.022, CI_{95} = -0.0056 to 0.060) and unsupportive ($b_{indirect}$ = 0.010, CI_{95} = -0.016 to 0.044) ERSBs as the outcome variable revealed no significant indirect effects of parent ACEs on parent ERSBs via parent ER difficulties. Finally, Hypothesis 2d predicted that parent ERSBs would mediate the association between parent ER difficulties and child ER. Similarly, regardless of whether supportive ($b_{indirect}$ = 0.050, CI_{95} = -0.0070 to 0.12) or unsupportive ($b_{indirect}$ = -0.0040, CI_{95} = -0.026 to 0.011) ERSBs were tested for indirect effects, no significant indirect effects were detected.

Sequential Mediation Analyses

The third aim of this project was to test a multiple mediation model in which parent ER and ERSBs sequentially statistically mediate the relation between parent ACEs and child ER. Separate hypotheses were generated for models examining supportive versus unsupportive ERSBs. Hypothesis 3a predicted that parent *difficulties* in ER and parent *unsupportive* emotion socialization responses would sequentially mediate the association between parent ACEs and child ER such that higher ACEs would be associated with more *difficulties* in parent ER, which would subsequently be positively associated with parent *unsupportive* emotion socialization

responses, which would be negatively related to child ER. This pathway was not supported ($b_{indirect}$ = -0.0010, CI_{95} = -0.0070 to 0.0021).

Hypothesis 3b stated that parent *difficulties* in ER and parent *supportive* emotion socialization responses would sequentially mediate the association between parent ACEs and child ER such that higher ACEs would be associated with more *difficulties* in parent ER, which would subsequently be negatively associated with parent *supportive* emotion socialization responses, which would be related to lower child ER. The presence of indirect effects within this pathway was also not supported ($b_{indirect}$ = 0.0093, CI_{95} = -0.0022 to 0.027). Unstandardized beta coefficients for all mediations are presented in Appendix G.

Post Hoc Analysis

Given the dearth of significant findings related to supportive and unsupportive ERSBs, exploratory post hoc analyses were run to better understand associations between emotion-related parenting behaviors and ACES, parent ER, and child ER.

First, multiple regression analyses were run to examine whether parent ER and ERSBs uniquely contribute to child ER in the proposed model. The overall regression model incorporating *supportive* ERSBs was significant, $F(6, 207) = 10.03$, $p < .01$ and explained 22.5% of the variance in child ER. Parent *difficulties* with ER uniquely predict lower child ER (b = -0.04, $p < .01$), while supportive ERSBs were uniquely associated with better child ER (b = 0.11, $p < .01$) when controlling for other study variables and covariates.

When supportive ERSBs were replaced with unsupportive ERSBs, the model remained significant, $F(6, 207) = 2.75$, $p = .01$ but explained only 7.4% of the variance in child ER. Parent ER difficulties similarly predicted lower child ER (b = -0.03, $p < .01$), while *unsupportive* ERSBs did not contribute significantly to the model (b = -0.03, $p = .15$).

Because it is possible that certain aspects of supportive or unsupportive ERSBs may be more likely to be impacted by a parent's trauma history or ER, as well as more or less influential in children's ER development, bivariate correlations between individual CTNES subscales that comprise both supportive and unsupportive ERSBs and other key study variables were run to help tease apart their relative significance. CTNES subscales that correlated most highly with other key study variables included Problem-Focused Reactions, which was correlated with the Emotion Regulation subscale of the ERC ($r = .48$, $p < .01$), and the Distress Reactions subscale, which correlated with parent difficulties in ER ($r = .38$, $p < .01$) as well as the Lability/Negativity subscale of the ERC ($r = .34$, $p < .01$). Notably, based on principal component analytic work conducted by Spinrad and colleagues (2007), the Distress Reactions subscale is excluded from the unsupportive strategies factor, and thus was not included in original analyses.

The isolation of these subscales did not uncover any additional indirect effects. When the Problem-Focused reactions subscale was inserted into the sequential mediation model as a proxy for supportive ERSBs, and only the Emotion Regulation subscale of the ERC was used as the outcome variable, indirect effects remained nonsignificant ($b_{indirect} = 0.0069$, $CI_{95} = -0.0055$ to 0.023). Likewise, when the Distress Reactions subscale was inserted into the sequential mediation model as a proxy for unsupportive ERSBs, and only the Lability/Negativity subscale of the ERC was used as the outcome variable, indirect effects were not significant ($b_{indirect} = 0.0068$, $CI_{95} = -0.0046$ to 0.023).

Discussion

In order to improve the mental and emotional well-being of young children, it is important to identify pathways that influence the likelihood of adaptive versus maladaptive

outcomes. Emotion dysregulation is regarded as a transdiagnostic construct that is associated with a broad range of internalizing and externalizing psychopathology (Aldao et al., 2016; Cludius et al., 2020). Thus, different pathways that promote or undermine the development of adaptive ER in young children merit examination. The present study investigated the role of parenting factors related to children's ER development in the context of parental trauma, a known risk factor for adverse next-generation outcomes.

Parent Modeling and Socialization and Child ER

The present study replicated many of the findings of prior literature examining relations between these constructs. In line with previous findings, support was found for a small negative correlation between parent difficulties in ER and child ER (Binion & Zalewski, 2018; Crespo et al., 2017; Morelen et al., 2016; Samuelson et al., 2012) and a medium positive correlation between *supportive* ERSBs and child ER (Eisenberg et al., 2001; Morris et al., 2017). Additionally, although it was hypothesized that parent difficulties in ER would be associated with fewer *supportive* ERSBs based on theoretical connections between these constructs, the finding that parent difficulty with ER was not associated with parent *supportive* ERSBs in the present study is consistent with previous literature that failed to find a correlation between parent ER and *supportive ERSBs* (Morelen et al., 2016).

In contrast, the present study failed to replicate past findings linking parents' *unsupportive* ERSBs with child ER (Eisenberg et al., 2001; Morris et al., 2017), and parent ER difficulties and parent *unsupportive* ERSBs (Kerns et al. 2017; Morelen et al., 2016).

The Effects of Parent ACEs on Modeling and Socialization

While past studies have shown that parent ACEs and other measures of early adversity are correlated with worse ER outcomes among children (Gray et al., 2017; Daniel, 2020), the

present study found only marginal support for a small negative correlation between expanded ACEs and child ER. However, past literature examining these relations has included both behavioral observations and biomarkers of child ER rather than parent-reported ER. As such, difficulty replicating these findings could be due to methodological limitations of self-report data. Furthermore, the present study provided evidence that these constructs do share an indirect relation via parent ER, to be discussed in greater detail below.

To our knowledge, the present study was the first to examine the relation between parent ACEs and ERSBs. Past studies have shown that a parent's maltreatment history—a related construct—is associated with less use of *supportive* ERSBs, though findings regarding associations between maltreatment history and *unsupportive* ERSBs have been mixed (Cabecinha-Alati et al., 2020; DeOliveira et al., 2004; Rea and Schaffer, 2016). In contrast, the present study found no association between ACEs and supportive ERSBs, instead generating a counterintuitive finding: that traditional ACEs were marginally associated with *fewer* unsupportive ERSBs. These inconsistent and surprising findings further underscore the importance of teasing apart these relations and are discussed in further detail below.

The present study successfully replicated past findings regarding associations between parent ACEs and parent ER, contributing to the well-established evidence base that ACEs are positively associated with difficulties in ER (Cloitre et al., 2019; Rudenstine et al, 2019)

Pathways Between Parent ACEs and Child ER

Results of the present study suggest that parental ER may represent a useful target for interventions aiming to disrupt the intergenerational transmission of ACEs. Although prior studies have linked experiences of early adversity with emotion regulation difficulties in adulthood, as well as cross-generationally, and a wide literature base supports the presence of a

positive association between parent and child ER, the present study is the first to our knowledge that indicates that parent ER difficulties may serve as a mechanism explaining the pathway from parent ACEs to poorer child ER. Specifically, parents who endorsed experiencing more adversity during childhood reported greater difficulty with ER, which was associated with worse ER outcomes in their own children when controlling for parent age, gender, and subjective SES.

Results supported the presence of an association between parent supportive ERSBs and child ER and suggested that parent supportive ERSBs uniquely predict child ER even when accounting for the effects of parent ER, SES, gender, and age. However, there was no evidence that parent ERSBs (supportive or unsupportive) mediate either the relation between parent ACEs and child ER or the relation between parent ER and child ER. Prior literature has been mixed, with some studies finding support for a mediating role of parent *unsupportive* ERSBs on relations between parent and child *dysregulation* (Morelen et al., 2016) and others failing to find such support (Binion & Zalewski, 2018). Taken together, findings from the present study suggest that, although related to child ER, parent ERSBs may represent a less appropriate target among interventions whose goal is specifically to interrupt the intergenerational transmission of parent ACEs.

Many interventions targeting the cultivation of ER skills in young children have been developed with a primary focus on improving parents' emotion coaching and emotion socialization skills (i.e., targeting parent *behavior*). A review of these interventions reveals that they vary in terms of their attention to parent ER and its impact on parents' ability to engage in ERSBs (England-Mason & Gonzalez, 2020). Accordingly, while evaluations of these interventions have demonstrated improvements in targeted parent emotion socialization practices and related beliefs, the majority of these studies have failed to find support for improvements in

actual outcomes related to child ER, or did not measure child ER (England-Mason & Gonzalez, 2020). Of note, certain interventions have begun to shift their focus to placing a greater emphasis on parental ER, including an emotion coaching intervention for families exposed to intimate partner violence (Katz et al., 2020). In contrast to other interventions that lack such an emphasis, participation in this intervention has been associated with improvements in children's ER in addition to parenting practices (Katz et al., 2020), providing additional and practical support that parent ER may be an important avenue through which to disrupt the intergenerational transmission of trauma.

Is There a Relation Between Parental Emotion and Parental Behavior?

It is noteworthy that parent ER difficulties were not found to be associated with either supportive or unsupportive ERSBs in the present study despite the presence of both theoretical and empirical support for associations between these constructs (Eisenberg et al., 1998; Kerns et al., 2017; Morelen et al., 2016). In the present study, the only emotion-related parenting behavior found to be significantly associated with parent ER difficulties was distress reactions. Specifically, parents reporting greater difficulties with ER were more likely to report responding to their child's emotions with distress (i.e., unsupportive responding), which is logical if they are more prone to dysregulation in general.

Such findings raise questions regarding the impact of social desirability bias on self-reported parenting behavior, as well as the validity of the CTNES in measuring ERSBs in the present population. As noted, the CTNES was adapted from a similar measure (i.e., the Coping with *Children's* Negative Emotions Scale; Eisenberg et al., 1996) whose psychometric properties and robustness against social desirability bias have been established (Fabes et al., 2002). Furthermore, studies using the CCNES have demonstrated significant relations between parent

ER and parent supportive ERSBs in expected directions (e.g., Morelen et al., 2016). However, the adapted version utilized in the present study was developed more recently and has been less widely used. One potential explanation for the null findings within the present study is the possibility that parents may be more susceptible to social desirability bias when reporting on emotion-related parenting with respect to toddlers when compared to older children.

Furthermore, children in the majority of studies using the CTNES have ranged in age from 18 to 36 months (Eisenberg, Spinrad, Eggum, Silva, et al., 2010; Premo & Kiel, 2014; Spinrad et al., 2007). Given the broader age range of children being reported on in the present study (i.e., 2.5 to 5.5), it is also possible that the CTNES may fail to capture the emotion-related parenting experiences of parents of older children compared to those at the lower end of this age range, suggesting that the CCNES may have better captured the behavior of a portion of the age range represented in this sample (Fabes et al., 2010).

Finally, it is possible that these constructs were not related in the current sample because other factors were simply more likely to influence ERSBs than ER. For example, parents may prioritize supportive responding to younger children's emotions if they perceive that their emotional outbursts are more developmentally appropriate compared to older children's. In contrast, behavior that is perceived as "immature" may elicit harsher parenting. Examining how parental beliefs related to children's emotions and other possible predictors relate to parenting behavior at different ages could help to clarify these findings.

Strengths of the Present Study

Two major strengths of the present study include both its inclusion of fathers as well as its use of a more inclusive measure of early adversity. In contrast to prior literature, these

methodological considerations help to expand our understanding of the relations between these constructs among broader and more diverse populations of parents.

Parent Gender

Prior parenting literature largely focuses on maternal history, ER, and parenting behaviors. However, it is important to understand whether, and if so, *how*, relations between these constructs vary by parent gender, particularly as norms regarding family composition and traditional gender roles shift. In the present study, parental ERSBs did differ significantly by gender, which has been reported in other studies (Brown et al., 2015). On one hand, the fact that male parents reported significantly higher engagement in unsupportive emotion-related parenting practices and significantly lower engagement in supportive emotion-related parenting practices could be indicative of actual gender-based differences in parenting behaviors. However, it is also possible that emotion-related parenting may not vary significantly based on gender, but rather, that social desirability bias differentially impacts male and female parents' self-report of parenting behavior due to differing societal expectations of male versus female parents. That is—female parents may experience greater pressure to engage in certain parenting practices and not others due to traditional caregiver role expectations. The inclusion of male and female parents enables preliminary analyses of these differences that have important implications for intervention and future research.

Measuring Adversity

The present study was unique in its use of a broader measure of early adversity (i.e., ACEs) compared to past research which has focused on the intergenerational effects of childhood maltreatment specifically. Furthermore, the use of expanded (instead of traditional) ACEs further broadened the scope of what was being considered under the umbrella of adversity

in the present study. This is important, because past research has indicated that traditional ACEs may not sufficiently capture the full breadth of adversity experienced by diverse populations (Cronholm et al., 2015), thus limiting generalizability of study findings. Although traditional and expanded ACEs were highly correlated in the present study, two small differences emerged. First, expanded ACEs were found to be marginally negatively correlated with child ER, where no association was found between traditional ACEs and child ER. This finding suggests that using a broader measure of adversity may come closer to capturing the intergenerational effects of trauma on child ER and that certain aspects of adversity that occur outside of the household are also capable of exerting these intergenerational effects.

Additionally, parents reporting higher traditional ACEs scores reported engaging in marginally lower unsupportive ERSBs, though there was no association between expanded ACEs and unsupportive ERSBs. It could be that there is something protective about household adversity, compared to more community-based adversity, such that parents who experienced harsher or less supportive parenting themselves consciously avoid engaging in similar parenting practices. In contrast, parents who experienced more extra-familial adversity may be warier of how safe it is to be emotionally expressive and vulnerable around others (e.g., bullies) and be more likely to dismiss or punish these responses in their children out of a desire to protect them.

Limitations and Future Directions

Because of the "emotionally evocative" nature of parenting (Hajal & Paley, 2020, p. 404), a parent's ER capacity is likely an important factor contributing to myriad parenting processes regardless of past trauma. It is possible, however, that this may be particularly true among parents with a history of ACEs due to the well-documented associations between early adversity and difficulties with ER that may account for broader psychological distress and

psychopathology that could interfere with parenting (Cloitre et al., 2019; Poole et al., 2017; Rudenstine et al., 2019). Although the present study investigated the indirect effects of ACEs on child ER via parent ER and ERSBs, because ER and ERSBs both independently contribute to child ER, future studies should examine how these relations may be moderated by a parent's history of ACEs. Furthermore, given findings that demonstrated slight variation in relations based on the *types* of traumas being investigated (i.e., expanded vs. traditional ACEs), future studies should examine the moderating effects of different types of traumatic experiences in order to better tailor intervention efforts.

Despite efforts to increase the generalizability of findings by including fathers and broadening the nature of adversity studied, the present sample is still relatively homogeneous in terms of race, with the majority (i.e., over 80%) of parents identifying as White. Additionally, transgender and gender nonconforming parents are poorly represented in the present study. Furthermore, data came from an online participant recruitment site, and individuals who are motivated to and routinely engage in research may differ in meaningful ways from the general population. Future research would benefit from recruitment strategies that prioritize the inclusion of diverse participants in terms of race, ethnicity, and gender identity.

Another important consideration is the fact that the present data were collected in the context of an ongoing global pandemic. Studies have reported on the negative impacts of the COVID-19 pandemic on parenting distress and practices (McRae et al., 2021) as well as the buffering effects of parent emotion regulatory self-efficacy on child ER outcomes in the context of pandemic-related parenting stress (Chirumbolo et al., 2020). Data for the present study were collected between May and July of 2021. It is possible that the evolving nature of pandemic-related stress over time influenced emotion regulation and self-perceptions of parenting behavior

in meaningful ways and differentially based on individual family factors that are difficult to tease apart in the present study. Furthermore, parent ACEs were assessed via retrospective report. Past research has identified a broad range of factors that may bias recall of early experiences of adversity, including concurrent mental health, psychological distress, and chronic stress (Colman et al., 2015). Given that data were collected during a pandemic and from parents reporting increased socioeconomic stress, these factors could have led to over-reporting of ACEs in the present study.

Importantly, the present study was also cross-sectional in nature. As such, this study assesses for statistical mediation only, and no inferences can be made regarding causality. Thus, although data provide support for the notion that parent ER is an appropriate target for interrupting the intergenerational transmission of trauma, replicating these findings using a longitudinal dataset would lend more support for this assertion.

Concerns regarding the validity of self-report data underscore the importance of using a multimethod approach to data collection. For example, the inclusion of physiological measures of emotion regulation and behavioral observations of parenting practices and child ER would provide data that are less susceptible to these forms of bias and improve confidence in study findings. Future studies should use a multimethod approach and include embedded measures of social desirability bias to better understand its effects in parent self-report of behavior across child age and parent gender.

Conclusion

Findings from the present study have important clinical implications. Specifically, results suggest that enhancing a parent's ability to regulate their own emotions may be an important avenue through which to disrupt the intergenerational transmission of trauma and to improve ER

outcomes among children. Based on this finding and given the developmental salience and cascading effects of children's ER abilities, parenting interventions aiming to improve child ER should consider tailoring their approach and goals according to the ER abilities of parents, including those with a history of early trauma. Furthermore, screening for parental ER difficulties may assist with the identification of families most in need of intervention. Importantly, an approach that emphasizes parental ER has the capacity to be impactful both as primary and secondary intervention. That is—not only does this approach have the potential to prevent the initiation of maladaptive pathways in children, but it also may represent an opportunity to alter the developmental trajectory of parents whose pathways have been adversely affected by early life stress.

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Table 1

Demographic Characteristics of the Sample Population

Characteristic	Parent	Child
	% (n)	% (n)
Employment		
Full	42.5 (91)	
Part	25.2 (54)	
Not working	32.2 (69)	
Marital status		
Married	52.3 (112)	
Unmarried	47.7 (102)	
Race		
White	82.2 (176)	78.0 (167)
Black/African American	10.7 (23)	10.3 (22)
Asian	3.3 (7)	3.3 (7)
White and Black/African American	0.9 (2)	2.8 (6)
White and American Indian or Alaska Native	0.5 (1)	1.4 (3)
White and Native Hawaiian or Pacific Islander	0.5 (1)	0.0 (0)
White and Other	0.5 (1)	0.5 (1)
White and Asian	0.0 (0)	0.9 (2)
Other	1.4 (3)	2.8 (6)
Education		
< High school degree	0.9 (2)	
High school degree	23.8 (51)	
GED	0.5 (1)	
Some college	22.4 (48)	
Associate's degree	10.7 (23)	
Bachelor's degree	26.2 (56)	
Master's degree	13.6 (28)	
Professional degree	0.9 (2)	
Doctoral degree	1.4 (3)	

Note. $n = 214$.

Table 2

Means, Standard Deviations, and Bivariate Correlations of Key Study Variables

	M (*SD*)	Range (Possible)	1	2	3	4	5	6	7	8
1. Traditional ACEs	3.00 (2.51)	0-10 (0-10)								
2. Expanded ACES	5.32 (4.44)	0-20 (0-21)	.94**							
3. Child ER	6.38 (0.69)	4.45-7.80 (2-8)	-.07	-.12†						
4. Unsupportive ERSBs	5.48 (2.16)	2.08-11.67 (2-14)	-.12†	-.06	-.10					
5. Supportive ERSBs	17.02 (2.55)	7.25-21.00 (3-21)	.09	.03	.37**	-.33**				
6. Parent ER	15.16 (4.03)	7.33 – 29.33 (6-30)	.25**	.22**	-.21**	.05	.11			
7. Parent age	33.52 (6.06)	20-51 (18+)	-.05	-.04	.04	-.19**	.06	-.19**		
8. SES	(4.42 (1.24)	1-9 (1-10)	-.23**	-.24**	.15*	.10	-.02	-.14*	.02	
9. Parent gender	0.29 (0.48)		-.06	.01	-.04	0.24**	-0.26**	-0.02	.10	-.01

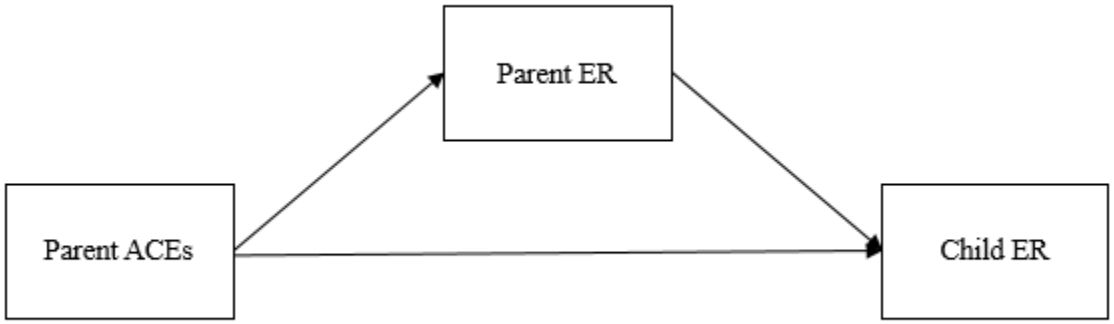
Note. ACEs = Adverse childhood experiences; ER = Emotion regulation; ERSB = Emotion-related socialization behaviors; SES = Socioeconomic status.

For parent gender, 0 = female, 1 = male; nonbinary parent *(n* = 1) excluded from correlations including gender.

† $p < .10$. * $p < .05$. ** $p < .01$.

Figure 1

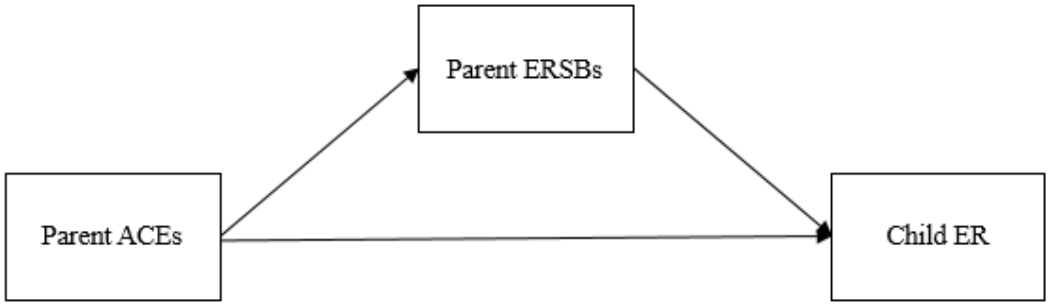
Proposed Mediation Model 1: Parent ER Will Mediate the Relation Between Parent ACEs and Child ER



Note. ER = ACEs = Adverse Childhood Experiences; ER = Emotion Regulation

Figure 2

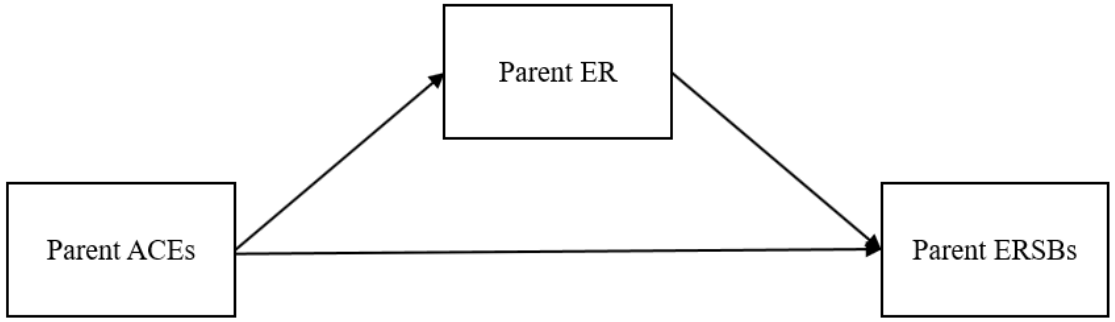
Proposed Mediation Model 2: Parent ERSBs Will Mediate the Relation Between Parent ACEs and Child ER



Note. ACEs = Adverse Childhood Experiences; ERSBs = Emotion-Related Socialization Behaviors; ER = Emotion Regulation

Figure 3

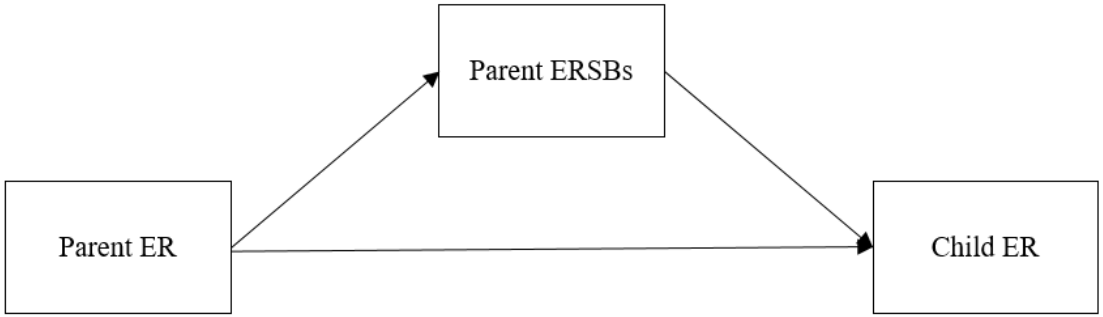
Proposed Mediation Model 3: Parent ER Will Mediate the Relation Between Parent ACEs and Parent ERSBs



Note. ACEs = Adverse Childhood Experiences; ER = Emotion Regulation; ERSBs = Emotion-Related Socialization Behaviors

Figure 4

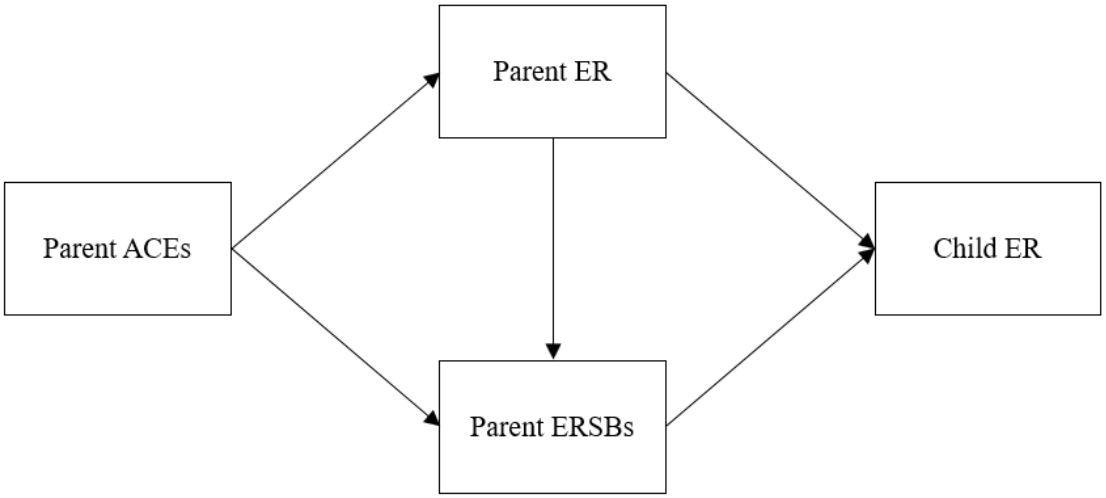
Proposed Mediation Model 4: Parent ERSBs Will Mediate the Relation Between Parent ER and Child ER



Note. ER = Emotion Regulation; ERSBs = Emotion-Related Socialization Behaviors

Figure 5

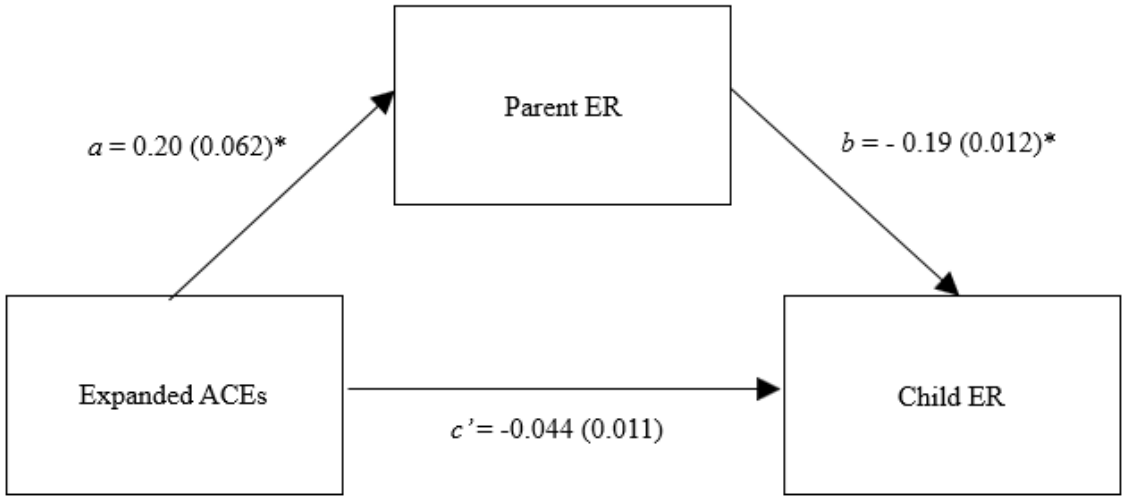
Proposed Multiple Mediation Model: Parent ER and ERSBs Will Sequentially Mediate the Relation Between Parent ACEs and Child ER



Note. ACEs = Adverse Childhood Experiences; ER = Emotion Regulation; ERSBs = Emotion-Related Socialization Behaviors

Figure 6

Parent ER Mediates the Relation Between Parent ACEs and Child ER



Note. This figure shows standardized regression coefficients. ACEs = Adverse Childhood Experiences; ER = Emotion Regulation.

*$p < .01$.

APPENDICES

Appendix A: Demographic Questionnaire

1. Please select your age in years.
under age 18
18
19
20
21
22
23
24
25
26
27
28
29
30
31
32
33
34
35
36
37
38
39

40
41
42
43
44
45
46
47
48
49
50
Above age 50

2. What is the highest level of education you have completed?
Less than a high school degree (*enter last grade completed*) _____
High school degree
GED (*enter highest grade completed prior to receiving*) _____
Some college (*enter years completed*) _____
Associate's degree (e.g., AA, AS)
Bachelor’s degree (e.g., BA, BS, BSW)
Master’s degree (e.g., MA, MS, MEd, MSW, MBA)
Professional degree (e.g., MD, DDS, DVM, JD)
Doctorate degree (e.g., PhD, EdD)

3. What is your race?

White
Black or African American
American Indian or Alaska Native
Asian
Native Hawaiian or Pacific Islander
Not listed _____

4. What is your ethnicity?
Hispanic or Latinx
Not Hispanic or Latinx

5. Please select your gender.
Female
Male
Not listed _____

6. In what way(s) does your household receive income? (*Select all that apply*)
Employment
Unemployment compensation
Disability/workman's compensation
Social security/SSI
Aid to Families with Dependent Children (AFDC)
Child support or alimony
Food stamps

Medicaid or Medicare
WIC/Women Infants and Children
Investments or rent
Family support (e.g., from parents, other relatives)

7. Please check which category on this list is closest to your household income last year:
Less than $10,000
Between $10,000-29,999
Between $30,000-49,999
Between $50,000-69,999
Between $70,000-99,999
Between $100,000-119,999
Between $120,000-139,999
Between $140,000-159,999
More than $160,000

8. What is your current relationship status (*select all that apply*)
Married
Divorced
Separated
Widowed
Never married
In a committed relationship

9. What is your current employment status? *(select all that apply)*
Employed full time
Employed part time (not looking for additional employment)
Employed part time (and currently looking for additional employment)
Unemployed looking for work
Not working by choice (stay at home with child(ren)/not looking for work)
Retired
Student
Disabled

10. Think of a ladder (see image below) as representing where people stand in society. At the top of the ladder are the people who are best off—those who have the most money, most education and the best jobs. At the bottom are the people who are worst off—who have the least money, least education and the worst jobs or no job. The higher up you are on this ladder, the closer you are to people at the very top and the lower you are, the closer you are to the bottom. Where would you put yourself on the ladder? Choose the number whose position best represents where you would be on this ladder.

1
2
3
4
5
6
7
8
9
10

11. Please enter your child's first name below so that we can personalize the survey questions for you. If you have more than one child between 2 and 4 years old, please enter the name of your youngest child in this age range. If you prefer, you may use initials. _____

12. What is your child's race? *(select all that apply)*
White
Black or African American
American Indian or Alaska Native
Asian
Native Hawaiian or Pacific Islander
Not listed _____

13. What is your child's ethnicity?
Hispanic or Latino
Not Hispanic or Latino

14. In what year was your child born? _____

15. What is their age **in months**? *(to help you calculate: exactly 3-years-old is 36 months, exactly 4-years-old is 48 months, and exactly 5- years-old is 60 months. So if your child turned 4-years-old 3 months ago, enter "51")* _____

16. Does your child have another parent or parental figure in their life that you regularly co-parent with? *(in other words, do you have a parenting partner?)*
Yes, lives in the home
Yes, lives out of the home
No

17. Please select your child's pronouns *(so that we can personalize later questions)*
he
she
they

18. Please select your child's pronouns *(so that we can personalize later questions)*
his
her
their

19. Please select your child's pronouns *(so that we can personalize later questions)*
him

her
them

20. Are you your child's biological parent?
Yes
No

If you are not your child's biological parent:
21. What is your relationship to your child?
Grandparent
Other relative (please list:) _____
Non-kin Foster parent
Non-kin Adoptive parent

If you are not your child's biological parent:
22. How old was your child when they were placed with you (*in months*)? _____

23. How many adults live in your household *(including yourself)?*
1
2
3
4
5 or more

24. How many children live in your household *(including your child)?*

Please include children who live in your household part time, such as step children.
1
2
3
4
5 or more

25. Does your child attend daycare or preschool outside of your home?
No
Yes (Please enter hours per week): _____

26. Was your child born prematurely?
Yes. Number of weeks gestation? _____
No

27. Does your child have any chronic health issues?
Stomach/digestive (e.g., chronic constipation)
Breathing/respiratory system (e.g., asthma)
Brain/nervous system (e.g., seizures)
Frequent ear infections (>2 within a year)
Developmental problem _____
Behavioral or emotional problem _____
Other _____
None

Appendix B: Adverse Childhood Experiences Scale (ACEs)

(Felitti et al., 1998)

Please mark “Yes” or “No” for each statement below.

While you were growing up, during your first 18 years of life:

	Yes	No
Did a parent or other adult in the household often or very often swear at you, insult you, put you down, or humiliate you? or Act in a way that made you afraid that you might be physically hurt?		
Did a parent or other adult in the household often or very often push, grab, slap, or throw something at you? or Ever hit you so hard that you had marks or were injured		
Did an adult or person at least 5 years older than you ever touch or fondle you or have you touch their body in a sexual way? or Attempt or actually have oral, anal, or vaginal intercourse with you?		
Did you often or very often feel that no one in your family loved you or thought you were important or special? or Your family didn't look out for each other, feel close to each other, or support each other?		
Did you often or very often feel that you didn't have enough to eat, had to wear dirty clothes, and had no one to protect you? or Your parents were too drunk or high to take care of you or take you to the doctor if you needed it?		
Were you parents ever separated or divorced?		
Was your mother or stepmother often or very often pushed, grabbed, slapped, or had something thrown at her? or Sometimes, often, or very often kicked, bitten, hit with a fist, or hit with something hard? or Ever repeatedly hit over at least a few minutes or threatened with a gun or knife?		
Did you live with anyone who was a problem drinker or alcoholic, or who used street drugs?		
Was a household member depressed or mentally ill, or did a household member attempt suicide?		
Did a household member go to prison?		

Appendix C: Expanded Adverse Childhood Experiences Scale (Expanded ACEs)

(Cronholm et al., 2015)

	More than once	Once	Never		
While you were growing up how often did a parent, step-parent, or another adult living in your home swear at you, insult you, or put you down?					
While you were growing up how often did a parent, step-parent, or another adult living in your home act in a way that made you afraid that you would be physically hurt?					
While you were growing up did a parent, step-parent, or another adult living in your home push, grab, shove, or slap you?					
While you were growing up did a parent, step-parent, or another adult living in your home hit you so hard that you had marks or were injured?					
	Yes	No			
During the first 18 years of life, did an adult or older relative, family friend, or stranger who was at least five years older than yourself ever touch or fondle you in a sexual way or have you touch their body in a sexual way?					
Attempt to have or actually have any type of sexual intercourse, oral, anal, or vaginal with you?					
	Very often true	Often True	Someti-mes true	Rarely true	Never true
There was someone in your life who helped you feel important or special.					

Your family sometimes cut the size of meals or skipped meals because there was not enough money in the budget for food					
	Many times	A few times	Once	Never	
How often, if ever, did you see or hear in your home a parent, step parent, or another adult who was helping to raise you being slapped, kicked, punched, or beaten up?					
How often, if ever, did you see or hear in your home a parent, step parent, or another adult who was helping to raise you being hit or cut with an object, such as a stick, cane, bottle, club, knife, or gun					
	Yes	No			
Did you live with anyone who was a problem drinker or alcohol?					
Did you live with anyone who used illegal street drugs or who abused prescription medications?					
While you were growing up, did you live with anyone who was depressed or mentally ill?					
Did you live with anyone who was suicidal?					
Did you live with anyone who served time or was sentenced to serve time in a prison, jail, or other correctional facility?					
	Many times	A few times	Once	Never	
How often, if ever, did you see or hear someone being beaten up, stabbed, or shot in real life?					
	Very often true	Often True	Someti-mes true	Rarely true	Never true

While you were growing up…How often did you feel that you were treated badly or unfairly because of your race or ethnicity?					
	All of the time	Most of the time	Some of the time	None of the time	
Did you feel safe in your neighborhood?					
Did you feel people in your neighborhood looked out for each other, stood up for each other, and could be trusted?					
How often were you bullied by a peer or classmate?					
	Yes	No			
Were you ever in foster care?					

Appendix D: Difficulties in Emotion Regulation Scale–Short Form (DERS-SF)

(Kaufman et al., 2016)

Please indicate how often the following statements apply to you.

	almost never (0-10%)	sometimes (11-35%)	about half the time (35-65%)	most of the time (66-90%)	almost always (91-100%)
I pay attention to how I feel.					
I have no idea how I am feeling.					
I have difficulty making sense out of my feelings.					
I care about what I am feeling.					
I am confused about how I feel.					
When I'm upset, I acknowledge my emotions.					
When I'm upset, I become embarrassed for feeling that way.					
When I'm upset, I have difficulty getting work done.					
When I'm upset, I become out of control.					
When I'm upset, I believe that I will end up feeling very depressed.					
When I'm upset, I have difficulty focusing on other things.					
When I'm upset, I feel guilty for feeling that way.					

When I'm upset, I have difficulty concentrating.					
When I'm upset, I have difficulty controlling my behavior.					
When I'm upset, I believe there is nothing I can do to make myself feel better.					
When I'm upset, I become irritated at myself for feeling that way.					
When I'm upset, I lose control over my behavior.					
When I'm upset, it takes me a long time to feel better.					

Appendix E: Coping with Toddlers' Negative Emotions Scale (CTNES)

(Spinrad et al., 2007)

In the following items, please indicate on a scale from 1 (very unlikely) to 7 (very likely) the likelihood that you would respond in the ways listed for each item. Please read each item carefully and respond as honestly and sincerely as you can. For each response, please select from 1-7.

If my child becomes angry because s/he wants to play outside and cannot do so because s/he is sick, I would:

	Very unlikely			Medium			Very likely
Feel upset myself.	1	2	3	4	5	6	7
Tell my child we will not get to do something else fun (i.e., watch T.V., play games) unless s/he stops behaving this way.							
Tell my child it's okay to be angry.							
Soothe my child and/or do something fun with my child to make my child feel better.							
Help my child find something s/he wants to do inside							
Tell my child that s/he is making a big deal out of nothing.							
Let my child play outside.							

If my child spills something and makes a big mess on the carpet, and then gets upset and cries, I would:

	Very unlikely			Medium			Very likely
	1	2	3	4	5	6	7
Comfort my child by picking my child up and/or trying to get my child to forget about the accident.							
Tell my child that s/he is overreacting or making a big deal out of nothing.							

Remain calm and not let myself get upset.							
Send my child to his/her room for making a mess.							
Help my child find a way to clean up the mess.							
Tell my child it is ok to be upset.							

If my child loses some prized possession (for example, favorite blanket or stuffed animal) and reacts with tears, I would:

	Very unlikely			Medium			Very likely
	1	2	3	4	5	6	7
Go and buy my child a new item.							
Help my child think of other places to look for the toy.							
Distract my child with another toy to make my child feel better.							
Tell my child that it is not that important.							
Tell my child it is his/her fault for not being careful with the toy.							
Feel upset myself.							
Tell my child it is okay to feel sad about the loss.							

If my child is afraid of going to the doctor or of getting shots and becomes quite shaky and teary, I would:

	Very unlikely			Medium			Very likely
	1	2	3	4	5	6	7
Tell my child to shape up or s/he won't be allowed to do something s/he likes to do (e.g., go to the playground).							

Tell my child that it is okay to be nervous or afraid.							
Tell my child that it's really no big deal.							
Comfort my child before and after the shot.							
Leave the doctor's office and reschedule for another time.							
Help my child think of ways to make it less scary, like squeezing my hand when s/he gets a shot.							
Get nervous myself.							

If my child is going over to spend the afternoon with a new babysitter and becomes nervous and upset because I am leaving him/er, I would:

	Very unlikely			Medium			Very unlikely
	1	2	3	4	5	6	7
Distract my child by playing and talking about all the fun s/he will have with the sitter.							
Feel upset and uncomfortable because of his/her reaction.							
Tell my child we will not get to do something else enjoyable (e.g., go to playground, get a special snack) if s/he doesn't stop behaving like that.							
Tell my child that it's nothing to get upset about.							
Change my plans and decide not to leave my child with the sitter.							
Help my child think of things to do that will make it less stressful, like me calling him/her once during the evening.							
Tell my child that it's ok to be upset.							

If my child becomes upset and cries because s/he is left alone in his/her bedroom to go to sleep, I would:

	Very unlikely			Medium			Very unlikely
	1	2	3	4	5	6	7
Become upset myself.							
Tell my child that if s/he doesn't stop crying, we won't do something fun when s/he wakes up.							
Tell my child it's okay to cry when s/he is sad.							
Soothe my child with a hug or kiss.							
Help my child find ways to deal with my absence (hold a favorite stuffed animal, turn on a nightlight, etc.)							
Stay with my child or take him/her out of his/her bedroom to be with me until s/he falls asleep.							
Tell my child that s/he is overreacting.							

If my child becomes angry because s/he is not allowed to have a treat (i.e., candy, ice cream) when s/he wants it, I would:

	Very unlikely			Medium			Very likely
	1	2	3	4	5	6	7
Send my child to his/her room.							
Give my child the snack that s/he wanted.							
Distract my child by playing with other toys or games.							
Tell my child that there is no reason to be upset.							
Tell my child that it's okay to feel angry.							

Help my child think of something that s/he is allowed to have between meals.							
Feel angry at my child's behavior.							

If my child becomes upset because I removed something that s/he should have not been playing with, I would:

	Very unlikely			Medium			Very likely
	1	2	3	4	5	6	7
Tell my child that if s/he touches it again s/he will not be allowed to do something enjoyable.							
Help him/her think of something else to do that is fun.							
Become upset myself.							
Tell my child it's okay to feel angry.							
Distract my child with something else interesting.							
Give my child what s/he wants.							
Ignore my child's upset reactions and take the object away.							

If my child wants me to play with him/her and I cannot do so right then (e.g., I am on the phone, in the middle of a conversation with someone) and s/he becomes upset, I would:

	Very unlikely			Medium			Very likely
	1	2	3	4	5	6	7
Feel upset myself.							
Tell my child there is nothing to be upset about.							
Help my child find something to do while s/he waits for me to play with him/her.							

Tell my child I won't play with him/her later if s/he doesn't stop behaving like that.							
Tell my child it's okay to be upset.							
Stop what I'm doing so I can play with him/her.							
Soothe my child and talk to him/her to make him/her feel better.							

If my child is playing with a puzzle or shape sorter toy and cannot fit a piece correctly, and gets upset and cries, I would:

	Very unlikely			Medium			Very likely
	1	2	3	4	5	6	7
Remain calm and not let myself get anxious.							
Take the toy away from him/her.							
Comfort him/her with a pat or kiss.							
Put the piece in for him/her.							
Tell my child it's okay to get frustrated and upset.							
Help my child figure out how to put the piece in correctly.							
Tell my child it's nothing to cry about.							

If my child has climbed onto a piece of playground equipment and gets stuck, and becomes nervous and begins to cry, I would:

	Very unlikely			Medium			Very likely
	1	2	3	4	5	6	7
Become anxious myself.							
Help my child figure out how to get down from the climber.							

Take my child down from the climber.							
Tell my child s/he shouldn't have gone up by his/herself.							
Tell my child it's nothing to get upset about.							
Comfort my child with words or a pat.							
Tell my child it's okay to be afraid.							

If my child fell down and scraped his/herself while trying to get a favorite toy, I would:

	Very unlikely			Medium			Very likely
	1	2	3	4	5	6	7
Become upset myself.							
Help my child figure out how to feel better (e.g., getting a band-aid).							
Distract my child with something else.							
Tell my child that s/he should be more careful.							
Tell my child it's nothing to get upset about.							
Tell my child it's okay to cry.							

If my child was given his/her favorite food for lunch on a green plate and s/he started crying because s/he wanted a blue plate, I would:

	Very unlikely			Medium			Very likely
	1	2	3	4	5	6	7
Tell my child that s/he can use the blue plate at dinner time.							
Tell my child it's nothing to get upset about.							
Soothe my child with a hug and draw his/her attention to his/her favorite food.							

Tell my child that if s/he doesn't stop crying, s/he won't get any lunch.							
Stay calm and not let myself get frustrated or upset.							
Tell my child it's okay to be upset.							
Move my child's lunch food to the blue plate.							

Appendix F: Emotion Regulation Checklist (ERC)

(Shields & Cicchetti, 1997)

Please rate how often your child has exhibited the following behaviors or emotional states within the past several weeks.

My child:

	Never	Sometimes	Often	Always
Is a cheerful child.				
Exhibits wide mood swings (for example, the child's emotional state is difficult to anticipate because s/he moves quickly from very positive to very negative emotional states).				
Responds positively to neutral or friendly overtures by adults.				
Transitions well from one activity to another (for example, does not become anxious, angry, distressed, or overly excited when moving from one activity to another).				
Can recover quickly from episodes of upset or distress (for example, does not pout or remain sullen, anxious, or sad after emotionally distressing events).				
Is easily frustrated.				
Responds positively to neutral or friendly overtures by peers.				
Tantrums easily.				
Is able to delay gratification.				
Takes pleasure in the distress of others (for example, laughs when another person gets hurt or punished; enjoys teasing others).				
Can modulate excitement in emotionally arousing situations (for example, does not get 'carried away' in high-energy play situations, or overly excited in inappropriate contexts).				
Is whiny or clingy with teachers or daycare providers.				

Is prone to disruptive outbursts of energy and exuberance.				
Responds angrily to limit-setting by adults.				
Can say when s/he is feeling sad, angry or mad, fearful or afraid.				
Seems sad or listless.				
Is overly exuberant when attempting to engage others in play.				
Displays flat affect (for example, expression is vacant and unexpressive; child seems emotionally absent).				
Responds negatively to neutral or friendly overtures by peers (for example, speaks in an angry tone of voice; or responds angrily and aggressively).				
Is impulsive.				
Is empathic toward others; shows concern or sadness when others are upset or distressed.				
Displays exuberance that others find intrusive or disruptive.				
Displays appropriate negative affect (for example, anger, fear, frustration, distress) in response to hostile, aggressive or intrusive acts by peers.				
Displays negative affect when attempting to engage others in play.				

Appendix G: Unstandardized Regression Coefficients

Unstandardized Regression Coefficients for Mediation Analyses

	Unstandardized beta coefficients *b* (95% CI)
Hypothesis 2a	
Direct effect of ACEs on parent ER	0.18* (0.056 to 0.30)
Direct effect of ACEs on child ER	-.0070 (-0.030 to0.015)
Direct effect of parent ER on child ER	-0.033* (-0.057 to 0.061)
Total effect of ACEs on child ER	-0.013 (-0.034 to 0.0090)
Indirect effect of ACEs on child ER via parent ER	-0.0060* (-0.012 to -0.0013)
Hypothesis 2b	
Indirect effect of ACEs on child ER via unsupportive ERSBs	0.0009 (-0.0018 to 0.0053)
Indirect effect of ACEs on child ER via supportive ERSBs	0.0028 (-0.0054 to 0.011)
Hypothesis 2c	
Indirect effect of parent ACEs on parent unsupportive ERSBs via parent ER	0.0050 (-0.0077 to 0.021)
Indirect effect of parent ACEs on parent supportive ERSBs via parent ER	0.013 (-0.0030 to 0.035)
Hypothesis 2d	
Indirect effect of parent ER on child ER via unsupportive ERSBs	-0.0007 (-0.0045 to 0.0018)
Indirect effect of parent ER on child ER via supportive ERSBs	0.0085 (-0.0012 to 0.020)
Hypothesis 3a	
Indirect effect of parent ACEs on child ER via parent ER and unsupportive ERSBs	-0.0002 (-0.0011 to 0.0003)
Indirect effect of parent ACEs on child ER via parent ER and supportive ERSBs	0.0015 (-0.0003 to 0.0043)
Post hoc analyses	
Indirect effect of parent ACEs on child ER via parent ER and problem-focused ERSBs	0.0007 (-0.0005 to 0.0023)
Indirect effect of parent ACEs on child lability/negativity via parent ER and distress ERSBs	0.0005 (-0.0004 to 0.0020)

Note. ACEs = Adverse childhood experiences; ER = Emotion regulation; ERSB = Emotion-related socialization behaviors.

* $p < .05$.