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Longitudinal Pathways of Family Influence on Child Self-Regulation: The Roles of Parenting, Family Expressiveness, and Maternal Sensitive Guidance in the Context of Child Maltreatment

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Abstract

Maltreated children are susceptible to dysregulation, but developmental mechanisms at the family level that influence this process are understudied. In the current investigation, four mediators (positive parenting, positive and negative family expressiveness, and maternal sensitive guidance during reminiscing) were examined as process variables through which maltreatment relates to two dimensions of child emotional self-regulation (adaptive emotion regulation and lability/negativity) measured across three time points (baseline, 2 months, and 6 months later) using longitudinal mediation analysis with latent growth modeling. These processes were evaluated in the context of a randomized controlled trial of a brief intervention aimed at improving maternal sensitive guidance during reminiscing. Participants included 160 maltreating mothers randomized into intervention ($n = 81$) or control intervention ($n = 79$) conditions and 78 demographically matched, nonmaltreating mothers and their 3- to 6-year-old children ($N = 238$). In the primary analysis, maternal sensitive guidance at baseline mediated relations between early maltreatment and emotion regulation and lability/negativity at 6 months, and latent change in emotion regulation across the three time points. Additionally, the intervention predicted steeper positive change in emotion regulation. In the secondary analysis, there was evidence of indirect effects of the intervention on emotional self-regulation through maternal sensitive guidance, positive parenting, and positive family expressiveness. Implications and future directions are discussed.

Keywords

maltreatment; parenting style; family expressiveness; emotion socialization behaviors; emotion regulation; lability/negativity

Child maltreatment is associated with deficits across multiple domains of functioning, including self-regulation (see Cicchetti & Toth, 2005 for review). Approximately two decades ago, Eisenberg et al. (1998a, 1998b) proposed a pioneering model of parental socialization of child emotion and self-regulation, in which emotion-related socialization behaviors (ERSBs), such as parental reaction to and discussion of child emotion and emotional expressiveness, are featured to promote child self-regulation. Much of the extant evidence for this model is derived from typically developing families. Evaluating mechanisms of the socialization of regulation among maltreating families, in which there is evidence of breakdown in the quality of the parent-child relationship, and in which parents

are also prone to differences in ERSBs, provides an opportunity to evaluate existing models of regulation across a broader range of functioning. In line with Eisenberg et al. (1998a, 1998b), the current study extends past work to examine competing processes whereby early maltreatment may relate to two aspects of preschool-aged children's emotional self-regulation (adaptive emotion regulation and lability/negativity) using a longitudinal design. Additionally, a randomized controlled trial (RCT) specifically targeting one of these processes (maternal sensitive guidance during reminiscing) is evaluated.

Eisenberg and colleagues' (1998a, 1998b) socialization model identifies parental emotional expressiveness and the supportiveness with which parents respond to and discuss emotions with their children as central to child emotional development. In a later model focusing on emotion regulation, Morris, Silk, Steinberg, Myers, and Robinson (2007) theorize that child self-regulation is influenced by observation and modeling of behaviors, family emotional climate (e.g. positive parenting, emotional expressiveness), and specific parental behaviors related to the socialization of emotion. The current paper builds upon these two models to examine four mechanisms (positive parenting, positive and negative expressiveness, and maternal sensitive guidance during reminiscing) that may explain associations between maltreatment and children's emotion regulation among low SES maltreated and demographically-matched nonmaltreated children using a longitudinal design. Following a developmental psychopathology perspective, this study seeks to expand understanding of normative developmental processes of the etiology of self-regulation by examining these mechanisms among maltreating families who are characterized by extreme deviations in parenting behaviors that support adaptive development broadly (Cicchetti & Valentino, 2006), and emotion regulation, specifically. As such, the comprehensive examination of these parenting processes in maltreating and demographically similar nonmaltreating families, where a wider range of parenting processes and abilities are present, provides an important context to evaluate the applicability and generalizability of existing models built predominantly upon evidence from low risk community samples.

The current study examines two facets of children's emotional self-regulation: adaptive emotion regulation and lability/negativity. *Adaptive emotion regulation* refers to the ability to flexibly control emotional responses in order to engage optimally in one's environment, including the ability to recognize emotions and display situationally appropriate affect (Shields & Cicchetti, 1997; Shipman et al., 2007). *Lability/negativity* is a distinct facet of emotion regulation capturing negative affect dysregulation, mood erraticism, and the inappropriate tendency to react rapidly and negatively, and a corresponding difficulty in recovering from such negative reactions (Shields & Cicchetti, 1997). Early and chronic adverse experiences and multiple components of risk, including maltreatment, can set children up for dysfunction in both of these self-regulatory domains (Kim-Spoon et al., 2013; Loman & Gunnar, 2010).

The preschool period is key for studying regulation and socialization processes because self-regulation exhibits marked growth and sophistication during this time, while caregivers remain an important influence (Kopp, 1982). Additionally, abuse and neglect are most prevalent during early childhood, and early victimization is linked with more deleterious effects across the lifespan (Cicchetti & Valentino, 2006; USDHHS, 2017). Examination of

family and parent level factors that may explain the link between maltreatment and child functioning during this time is critical as a majority of maltreatment perpetrators are a biological parent, and as maltreating families are characterized by additional risks, including high family stress and insecure attachment relationships (Cicchetti & Valentino, 2006; Sedlak et al., 2010).

Notably, maltreated children show poorer adaptive emotion regulation and heightened lability/negativity compared with demographically similar nonmaltreated children (Kim-Spoon et al., 2013; Shipman et al., 2007). Supportive factors at the family and parent level (e.g. positive parenting, expressiveness, parental sensitivity during emotional discussions and interactions) have been linked to child adaptive emotion regulation and lability/negativity, including among maltreating families (Cole, Dennis, Smith-Simon, & Cohen, 2009; Eisenberg et al., 2001, 2003; Lunkenheimer, Shields, & Cortina, 2007; Shipman et al., 2007). Although some of these factors have been evaluated individually, there is a lack of comprehensive, longitudinal evaluation of theoretically-driven parenting processes that may uniquely contribute to child emotional self-regulation. Therefore, the current study simultaneously evaluates four mechanisms: positive parenting, positive and negative expressiveness, and sensitive guidance during reminiscing, as unique mediators that may explain associations between maltreatment and child dysregulation.

Positive Parenting and Child Self-Regulation

Positive parenting behaviors (e.g. warmth, responsivity, supportive demandingness) are theorized to influence child self-regulation through their reduction of negative arousal, which in turn facilitates appropriate strategies for self-regulation (Eisenberg et al, 1998a; Sroufe, 1996). Evidence links indices of positive parenting to better child self-regulation, including child compliance, effortful control, and emotion regulation (Baker, 2018; Fay-Stammbach, Hawes, & Meredith, 2014; Karreman, van Tuijl, van Aken, & Deković, 2006). Although much of this work is cross-sectional, longitudinal evidence also shows associations between positive parenting behaviors, such as autonomy support and responsivity, and child emotion regulation and executive functions among typically developing families (Bernier et al., 2010; Kochanska, Murray, & Harlan, 2000; Moilanen et al., 2010; Spinrad et al., 2012).

Maltreatment represents the most extreme deviation from positive parenting. Maltreating parents have lower parenting self-efficacy and are more likely to view their child as a problem, which may set the stage for a deleterious cycle whereby instances of maltreatment propagate further decay in parenting behaviors (Cicchetti & Valentino, 2006; Stith et al., 2009). In fact, in addition to instances of abuse or neglect, maltreating parents engage in less positive, responsive, and supportive behaviors with their children (Cicchetti & Valentino, 2006; Stith et al., 2009; Teti, 2016). As positive parenting is associated with child self-regulation in typically developing families, and given that maltreating parents struggle with these behaviors, this process may serve as a unique mediating mechanism whereby maltreatment contributes to child dysregulation.

Family Emotional Expressiveness

Emotional expressiveness (i.e. the frequency of positive and negative emotions in the family) is another mechanism relevant to the development of child self-regulation (Eisenberg et al., 1998a; Morris et al. 2007). Exposure to negative emotion and positive emotion in day-to-day family interactions poses implications for the development of effective schemas regarding what emotions mean and how they should be handled, which in turn, poses implications for how children handle and regulate their emotions (Dunsmore & Halberstadt, 1997; Thompson & Meyer, 2007). Although findings are inconsistent regarding relations between family expressiveness and child emotional self-regulation, higher positive and lower negative expressiveness have both been uniquely associated with better child emotion regulation in typically developing families (Eisenberg, et al., 2001, 2003; Garner & Power, 1996)

In addition to maltreated children being more likely to observe high levels of stress and conflict in the home (Cicchetti & Valentino, 2006), maltreating parents display more negative affect during parent-child interactions compared with nonmaltreating parents (for meta-analytic review, see Wilson, Rack, Shi, & Norris, 2008). In maltreating families, higher positive expressiveness is linked with better child self-regulation, and higher negative expressiveness is linked with poorer self-regulation (Haskett et al., 2012). In another study examining maltreating families, Milojevich and Haskett (2018) showed that negative, but not positive, expressiveness predicts child self-regulation, in that higher negative expressiveness predicts poorer self-regulation in preschool and early school-aged children. However, research on emotional expressiveness in maltreating families examined in tandem with other key mechanisms related to children's emotion regulation as theorized by Eisenberg et al. (1998a, 1998b) is limited.

Parent-Child Reminiscing and Child Self-Regulation

Past work in the areas of emotion socialization and parent-child reminiscing reveal the importance of informative and supportive parental input during discussions about children's past emotional experiences (see Fivush, Haden, & Reese, 2006 for review). Per Eisenberg et al.'s (1998a, 1998b) model, and in accordance with other work, parental input in this context is distinct from more general positive and warm behaviors and emotional expressiveness (Gottman, Katz, & Hooven, 1996; Morris et al., 2007). From an attachment perspective, parental sensitivity during discussions of children's past emotions provides a secure context for children to remember and reflect upon their emotions and the events surrounding them, and enables parents the opportunity to scaffold regulation after the arousal of the event has subsided (Fivush et al., 2006; Koren-Karie et al., 2003). Mothers who *emotionally socialize* their children by engaging in supportive and validating response (i.e. emotion coaching) to child emotion, tend to have children who are more emotionally and physiologically regulated (Gottman et al., 1996; Spinrad, Stifter, Donelan-McCall, & Turner, 2004). Relatedly, mothers who discuss children's past experiences (i.e. reminisce) in a sophisticated, elaborative, and supportive manner have children with better adaptive emotion regulation and lower lability/negativity (Leyva & Nolivos, 2015; Shipman & Zeman, 2001; Shipman et al., 2007; Speidel et al., 2019; Valentino et al., 2015).

Maltreating mothers exhibit differences in reminiscing compared with nonmaltreating mothers, including engaging in less elaboration, emotion talk, sensitive guidance, and validation of child emotion (Shipman et al., 2007; Shipman & Zeman, 1999; Speidel et al., 2019; Valentino et al., 2015). Cross-sectional evidence reveals that parental ERSBs in the context of reminiscing about positive and negative past events mediate associations between maltreatment and child emotion knowledge, emotion regulation, inhibitory control, and physiological regulation (Shipman et al. 2007; Speidel et al., 2019; Valentino et al., 2015). However, the mediating role of maternal reminiscing has not yet been evaluated in a longitudinal design, nor in the context of other mediators as theorized by Eisenberg et al. (1998a, 1998b) and Morris et al. (2007).

Reminiscing Interventions and Implications for Child Self-Regulation

Considering the developmental relevance of elaborative and emotionally supportive reminiscing, training parents in this area is a promising avenue for intervention, and has been linked to improvements in child emotion understanding, including among maltreating families (see Corsano & Guidotti, 2017; Salmon & Reese, 2016; Valentino, 2017 for reviews). Given the established links in the literature, improvements in parents' reminiscing may facilitate better child emotional self-regulation. In addition to expanding upon prior cross-sectional work on how maternal reminiscing relates to child emotional self-regulation longitudinally, the current study takes advantage of a RCT design wherein one group received training to improve maternal sensitive guidance during reminiscing. In addition to addressing the potential direct effects of the intervention on child emotional self-regulation over time, the current design also provides an opportunity to examine the experimental effects of the intervention on emotional self-regulation across the preschool period through changes in hypothesized family and parent mechanisms.

The Current Study

Informed by the integration of Eisenberg and colleagues (1998a, 1998b) and Morris and colleagues' (2007) theories of family processes that promote self-regulation, the current investigation examined the mediational effects of positive parenting, positive and negative family expressiveness, and maternal sensitive guidance during reminiscing between early maltreatment and child adaptive emotion regulation and lability/negativity using a longitudinal design with three measurement time points: baseline (T1), 2 months later (T2), and 6 months later (T3). The present study builds upon past work examining indirect effects of maltreatment on child self-regulation through maternal reminiscing in three ways. First, although these links have been established using cross-sectional designs, there is a dearth of work examining these relations using longitudinal data. Second, no prior work has assessed whether these four mediating variables serve unique predictive roles in influencing subsequent and longitudinal development of emotional self-regulation by considering them simultaneously in an at-risk population. Third, in the current study, after T1, a subset of maltreating families were randomly assigned to receive a brief intervention targeting maternal emotion understanding and sensitive guidance during reminiscing. The intervention is examined in order to isolate the effects of maltreatment and in order to evaluate the influence of receiving the intervention on emotional self-regulation and its change from T1

to T3. Notably, our model differs from Eisenberg et al. (1998a, 1998b) by examining an index of parenting style or the more general quality of the parent-child relationship (i.e. positive parenting) as a mediator rather than a moderator. Given the broad goals of the intervention, to lead to positive changes in parenting mechanisms, and our expectation that these changes would foster changes in child outcome, we felt that this indicator was better placed as a mediator rather than as a more static or contextual moderating variable.

Specifically, we hypothesized that: 1) Maltreated children would display poorer self-regulation at T3 and less positive change in self-regulation from T1 to T3 compared with nonmaltreated children. 2) Maltreating mothers would be lower in positive parenting, positive expressiveness, and sensitive guidance, and higher in negative expressiveness, compared with nonmaltreating mothers at T1. 3) Higher levels of positive parenting, positive expressiveness, and maternal sensitive guidance, and lower levels of negative expressiveness at T1 would predict better child emotional self-regulation at T3 and more improvement in self-regulation from T1 to T3. 4) Receiving a brief intervention targeting maternal sensitive guidance would predict better child emotional self-regulation at T3 and more improvement in emotional self-regulation from T1 to T3. 5) The four mediators at T1 would uniquely mediate associations between maltreatment and emotional self-regulation at T3 and its change from T1 to T3.

Method

Participants

Maltreating and nonmaltreating mother-child dyads were recruited in a city in the Midwest, United States to participate as part of a longitudinal RCT. Participating children were between the ages of 36 and 86 months ($M = 59.08$, $SD = 13.68$) at T1. Maltreating dyads were recruited through the Department of Child Services (DCS) and were operationalized as biological mother-child pairs with at least one substantiated case of child maltreatment, in which the mother was a perpetrator, and in which the child resided in the custody of the mother at the time of enrollment. Family Case Workers introduced the project to eligible participants with a verbal script and informational flyer, and those interested shared their contact information. Nonmaltreating dyads were operationalized as pairs with no prior involvement with DCS and were recruited from the local community in locations that serve similar demographic populations to the maltreating families, including Head Start and the housing authority. All participants provided informed consent and signed release forms granting access to their DCS records. A maternal interview and an intensive review of each family's case history were employed to corroborate the presence or absence of maltreatment. Only families that never received child protective services through DCS and indicated no evidence of maltreatment on the maternal interview were included in the nonmaltreating comparison sample.

To minimize the influence of language impairments or potential intellectual disability on the results of the study, mothers with Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4; Dunn & Dunn, 2007) standard scores less than two standard deviations below the mean (standard score < 60) were excluded from all analyses ($n = 6$ dyads dropped; $n = 1$ nonmaltreating, $n = 2$ maltreating intervention, $n = 3$ maltreating control). Additionally,

given previous findings that maltreatment might occur in nonmaltreatment comparison groups in longitudinal studies (Shenk, Noll, Peugh, Griffin, & Bensman, 2016), families' DCS records were reevaluated at T3. Records revealed that $n = 4$ comparison children experienced maltreatment before their T3 assessment. These four dyads were dropped from all analyses, resulting in a final sample of 238 mother-child dyads ($n = 160$ maltreating, $n = 78$ nonmaltreating). After the T1 assessment, maltreating families were randomly assigned to a brief intervention ($n = 81$), or a control condition ($n = 79$). See Table 1 for demographic characteristics of the final sample by group status, including test statistics from one-way ANOVA's and chi-square tests of independence used to assess for differences by group. The groups were matched on all demographic characteristics except for maternal ethnicity, $x^2(6, N = 238) = 20.06$, $p < .01$, in that there were more Hispanic mothers in the nonmaltreating group compared with both maltreating groups. Follow-up t-tests were conducted to evaluate for differences in outcomes based on ethnicity with Bonferroni correction and showed that Hispanic status did not relate to any of the model outcomes. Thus, maternal ethnicity was not statistically controlled for in the analyses.

Maltreatment Classifications

Families' DCS records were coded using the Maltreatment Classification System (MCS; Barnett, Manly, & Cicchetti, 1993) to provide a descriptive measure of the abuse and neglect that characterized the maltreating sample. *Sexual abuse* was defined as any sexual contact or attempted sexual contact between a child and an adult. *Physical abuse* was defined as the experience of physical harm or injury by intentional means. *Physical neglect* was defined as the failure to meet the child's basic needs, including the need for food, clothing, shelter, or safety. *Emotional maltreatment* was defined as chronic or extreme neglect or disregard of a child's emotional needs. *Moral-legal or educational maltreatment* was defined as caregiver exposure to, or encouragement of, child engagement in illegal activities or if the child did not receive age-appropriate education (see Barnett et al., 1993). Twenty percent of maltreating families' DCS records ($n = 32$) were double coded and reliability was established ($\kappa = 0.81 – 1.00$). DCS records from two maltreating families were unobtainable. MCS ratings were determined by information obtained in the DCS records and during the Maternal Maltreatment Classification Interview (MMCI; Cicchetti, Toth, & Manly, 2003), a structured interview based on the MCS.

Within the maltreatment group, 4.4% of children experienced sexual abuse, 12.7% experienced physical abuse, 65.2% experienced physical neglect, 60.8% experienced emotional maltreatment, and 38.6% experienced moral-legal or educational maltreatment. Subtype comorbidity was high, a pattern commonly found in the maltreatment literature (Manly, Kim, Rogosch, & Cicchetti, 2001), with 60.8% of the sample experiencing more than one subtype of maltreatment. Further details on severity, developmental timing, and chronicity in the current sample are available in (Valentino, Cummings, Borkowski, Hibel, Lefever, & Lawson, in press). Given the limited sample size and that subtype comorbidity was high, maltreatment subtype was collapsed to form a single maltreatment group.

Design and Procedure

The current study is part of a larger project, Fostering Healthy Development Among Maltreated Preschool-Aged Children, approved by the University of Notre Dame Institutional Review Board, protocol 12–06-376. After T1, maltreating mothers were randomized, stratified by child age and gender, to a brief intervention called Reminiscing and Emotion Training (RET), or a case management Community Standard (CS) condition. Families from the nonmaltreating community (NC) sample did not receive any intervention. At T1, T2, and T3, mother-child dyads participated in a joint reminiscing task, which was later coded for maternal sensitive guidance. Mothers also provided maternal report of positive parenting style, positive and negative family expressiveness, and child emotional self-regulation. Research staff conducting the assessments and trained coders were naive to family maltreatment and intervention group status.

Intervention Conditions

Reminiscing and Emotion Training—Based on previous reminiscing interventions (van Bergen et al., 2009, Valentino, Comas, Nuttall, & Thomas, 2013), the RET condition included six, weekly, one hour in-home training sessions in elaborative and emotionally supportive parent-child reminiscing that emphasized emotion understanding. Sessions were led by 3 bachelors-level home visitors henceforth referred to as family coaches. Specific behaviors targeted in the intervention sessions included training mothers to increase time in narrative conversation with their child, ask more open-ended questions (e.g. “What happened next?”), use descriptions building upon child contributions, make causal connections between child experience and emotion (e.g. “I could tell you felt sad because...”), and resolve negative emotions (e.g. “We went to get ice cream and you felt better.”). See (Valentino et al., in press) for more details on the intervention condition.

Community Standard—Maltreating families in the CS condition received no weekly home visiting intervention but did receive individualized case management services, including basic information about effective parenting practices in written form and referrals to relevant community resources based on family need. Mothers were also provided with cell phones, which offered easy access to the family coaches and a reliable means to contact service providers or other informal sources of support. See (Valentino et al., in press) for more details on the CS condition.

Measures

Positive parenting—Positive parenting was assessed using the Alabama Parenting Questionnaire-Preschool Revision (APQ-PR; Clerkin, Halperin, Marks, & Policaro, 2007). The APQ-PR is a 32-item parent-report measure rated on a 5-point Likert scale and yields three aspects of parenting: positive, inconsistent, and punitive parenting. The current investigation employs the positive parenting subscale, which includes 11 items related to positive parental involvement and responsivity. Sample items on this subscale include “You have friendly talk with your child” and “You praise your child when he/she behaves well”. One item on the subscale, “You ask your child about his/her day in school”, was dropped because it was not applicable for some younger children in the sample. Therefore, the final

subscale was composed of 10 items. Mean internal consistency across the three time points was good, $\alpha = 0.82$.

Positive and negative family expressiveness—The expressive style of the family was assessed using maternal report on a 24-item scale derived from the original Family Expressiveness Questionnaire (FEQ; Halberstadt, 1986). The FEQ yields 4 subscales, positive-dominant, positive-submissive, negative-dominant, and negative-submissive, which yield 2 broader domains: positive expressiveness and negative expressiveness. Sample items on the positive and negative expressiveness subscales include “Shows kindness for someone else’s troubles” and “Shows anger at someone else’s carelessness”, respectively. Mothers were instructed to rate the degree to which the presented items occur in their family using a 9-point Likert scale. Mean internal consistency across the three time points was $\alpha = 0.92$ for positive expressiveness and $\alpha = 0.85$ for negative expressiveness.

Mother-child reminiscing—Following the Autobiographical Emotional Events Dialogue protocol (Koren-Karie, Oppenheim, Haimovich, & Etzion-Carasso, 2000), mothers were asked to elect four past shared events (a time the child was happy, sad, angry, and scared) that were one-time occurrences. Mothers were instructed to write a reminder for each event on an index card and to, “Talk about these events as you normally would at home.” Most of the cue words focused on negative events given past research that discussions evoking negative emotions are more predictive of child well-being compared with discussions of positive emotions (Sales & Fivush, 2005). The happy event was discussed first and the order of the remaining three emotions was counterbalanced across participants. Observed parent-child reminiscing, including the current protocol, has been used in the literature across many child age ranges, including extensively among preschool and early-school aged children (Hsiao, Koren-Karie, Bailey, & Moran, 2015; Fivush et al., 2006; Koren-Karie, Oppenheim, & Getzler-Yosef, 2008).

Mother-child reminiscing coding and reliability: Reminiscing conversations were videotaped and subsequently coded according to the procedure outlined by Koren-Karie, Oppenheim, Haimovich, & Etzion-Carasso (2003). The procedure yields a measure of mothers’ reminiscing quality using a series of 9-point Likert scales that capture mothers’ appropriate involvement, support, and encouragement during the conversations. The scales include *focus on the task* (mothers’ attentiveness, including whether she deviated or went off topic), *acceptance and tolerance* (mothers’ encouragement child contributions without becoming critical), *involvement and reciprocity* (mothers’ active engagement and interest), *resolution of negative feelings* (mothers’ handling of negative emotions, including inappropriate emphasis or a healthy resolution), *structuring* (mothers’ success in fostering the process of jointly constructing four coherent narratives), *adequacy* (how well the constructed stories matched the given emotional themes), and *coherence* (how fluent and clear the stories were). Independent coders, blind to maltreatment status, coded the reminiscing videos. Inter-rater reliability was assessed with 20% of the videos and ICCs for the individual subscales ranged from .73 to .93. A composite sensitive guidance score was produced for each mother as an average of the seven subscales. This derivation follows past

work (Speidel et al., 2019; Valentino et al., 2014). Mean internal consistency of the sensitive guidance composite across the three time points was good, α = 0.90.

Adaptive emotion regulation and lability/negativity—Child emotion regulation and lability/negativity were assessed using maternal report on the Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997), a 24-item measure using a 4-point Likert scale to indicate how often the child displays certain affective behaviors or qualities. The ERC yields two subscales: emotion regulation and lability/negativity. The emotion regulation subscale includes items capturing adaptive regulation, including emotional self-awareness, situationally appropriate emotional displays, and empathy. Sample items on the emotion regulation subscale include, "Is empathetic toward others" and "Responds positively to neutral or friendly overtures by peers". The lability/negativity subscale captures negative affect reactivity and mood lability. Sample items on this subscale include "Exhibits wide mood swings" and "Is easily frustrated". The ERC is a well validated measure commonly used with maltreating samples (Kim-Spoon et al., 2013; Shields & Cicchetti, 2001; Shipman et al., 2007). Mean internal consistency across the three time points was α = 0.60 for emotion regulation and α = 0.83 for lability/negativity.

Data Analytic Plan

As is common of longitudinal studies, there was some attrition throughout the course of the project. Of the 238 dyads who completed the T1 assessment, $n = 218$ (91.6%) completed the T2 assessment, and $n = 206$ (86.6%) completed the T3 assessment. There were no differences by intervention group in whether families were lost to attrition or remained in the study, $x^2(2, N = 238) = 4.54$, *n.s.),* and there were no differences between families with missing data versus complete data on any demographic variables or variables in the analyses.

The primary objective of the current investigation was to assess the mediational roles of positive parenting, positive and negative expressiveness, and maternal sensitive guidance at T1 on associations between maltreatment and child emotional self-regulation at T3, and its change from T1 to T3. We examined this objective using two structural equation models, one for adaptive emotion regulation and the other for lability/negativity. In these models, the input variable, maltreatment, was labeled TO as maltreatment occurred prior to study enrollment. This input variable was dummy coded (1: maltreatment; 0: nonmaltreatment) and modeled to predict the four mediators and the latent regulation intercept and slope factors. All T1 variables were collected prior to randomization into intervention groups. Because we expected the intervention may influence variables collected after T1, an additional dummy coded variable (1: RET intervention provided; 0: RET intervention not provided) was included as a predictor of the latent outcomes. Thus, the effects of the intervention were statistically controlled for to isolate the effects of maltreatment and to examine whether status in the RET intervention predicted differences in child emotional self-regulation at T3 and improved change in regulation from T1 to T3. Child age at T1 was controlled for on emotional self-regulatory outcomes in both models.

Two latent factors were estimated for each model, one representing final levels of self-regulation (i.e. intercept) and the other representing change in self-regulation (i.e. slope).

Latent intercept factor loadings were fixed at 1.0 as the intercept is a constant for each individual across time. Given that we wished to examine regulation levels at T3 in our longitudinal model, and that we wanted to examine latent change from T1 to T3, the slope loading at T1 was set to −1.0, and the slope loading at T3 was set to 0.0. Thus, the interpretation of the model's estimated intercept mean and variance terms reflected mean self-regulation levels and between-person variance in self-regulation levels at T3, respectively. If a linear trend was appropriate for the data, the slope loading at T2 was set to −4/6. If a linear model was not appropriate for the data, the T2 slope loading was freely estimated so that fitted change trajectories more optimally corresponded to the actual trends in the data. Following McArdle and Nesselroade's (2014) recommendation, the residual variances of the three self-regulatory manifest variables were constrained to be the same to maintain a more parsimonious, theory-based model. Initial latent growth models examining patterns present in the longitudinal data were run in R 3.4.0 (R Core Team, 2017) using the lavaan package (Rosseel, 2012). Full structural equation models including predictors were run in Mplus (Mplus Version 8; Muthen & Muthen, 2017). To test the significance of the indirect effects, the bias-corrected bootstrap method (MacKinnon, Lockwood, and Williams, 2004) with 1,000 resamples was used to construct 95% confidence intervals for the indirect effects. Full information maximum likelihood estimation was used to handle missing data.

Results

Descriptive Statistics

Means, standard deviations, and intercorrelations among the primary variables are presented in Table 2. Descriptive statistics for the mediators and child outcomes across the three time points are presented by maltreatment group in Table 3. Next, we evaluated the mediational effects of positive parenting, positive family expressiveness, negative family expressiveness, and maternal sensitive guidance at T1 on the associations between maltreatment and child emotional self-regulation at T3 and change in emotional self-regulation from T1 to T3 using two structural equation models, one model for each self-regulatory outcome (see Figures 1 and 2).

Primary Analyses: Structural Equation Models with Mediators at T1

Emotion Regulation Modeling Procedure—The fit of the linear growth curve model was satisfactory, $x^2(3) = 8.60$, *n.s, CFI* = .97, *RMSEA* = .07. Thus, the full model was specified including using linear slope loadings for emotion regulation as proposed. In the full model, the residual variance estimate for the slope was negative, which may indicate that the variance is zero in reality (Verbeke & Molenberghs, 2009). Thus, the slope residual variance was fixed at 0.0 in the full model. The model fit of the final full structural equation model for emotion regulation was satisfactory, $x^2(12) = 24.52$, $p = .02$, *CFI* = .96, *RMSEA* = .07.

Lability/Negativity Modeling Procedure—The model fit of the linear growth curve model was not good, $x^2(3) = 17.45$, $p = .001$, *CFI* = .95, *RMSEA* = .14. Therefore, a latent basis coefficient model was run freely estimating the middle loading of the slope factor. The model fit improved significantly, $x^2(2) = 2.21$, *n.s., CFI* = 1.00, *RMSEA* = .00. Thus, the full

model was specified including all predictors using a latent basis coefficient model for lability/negativity. The T2 slope factor loading was estimated to be −.17, suggesting a steep change in lability/negativity from T1 to T2, and a tapering off at T3. The model fit of the final full structural equation model was good, $x^2(9) = 8.48$, *n.s., CFI* = 1.0, *RMSEA* = .00.

Adaptive Emotion Regulation Full Model (Figure 1)

Hypothesis one: Direct effects between maltreatment and child adaptive emotion regulation—Hypothesis one was partially supported. The direct effect between maltreatment and child emotion regulation at T3 (b^* = −0.13, *SE* = 0.09, p = .12) was nonsignificant, but the direct effect between maltreatment and change in emotion regulation from T1 to T3 (b^* = −.62., *SE* = 0.26, $p < .05$) was statistically significant, in that maltreated children were rated as showing less positive linear change in emotion regulation from T1 to T3.

Hypothesis two: Maltreatment predicting the four process variables—Hypothesis two was partially supported; the associations between maltreatment and positive parenting at T1 (b^* = 0.01, *SE* = 0.06, p = .91), positive expressiveness at T1 (b^* = −0.08, *SE* = 0.06, p = .20), and negative expressiveness at T1 (b^* = .10, *SE* = .06, p = .10) were nonsignificant, but the association between maltreatment and maternal sensitive guidance at T1 (b^* = −0.13, *SE* = 0.07, $p < .05$) was statistically significant in that maltreating mothers were lower in sensitive guidance.

Hypothesis three: Associations between the four process variables and child adaptive emotion regulation—Hypothesis three was partially supported. The association between positive parenting at T1 and emotion regulation at T3 (b^* = 0.22, *SE* = 0.10, $p < .05$) was significant in that higher positive parenting predicted higher child emotion regulation. However, positive parenting was not associated with change in emotion regulation from T1 to T3 (b^* = 0.10, *SE* = 0.31, p = .74). The association between positive expressiveness at T1 and child emotion regulation at T3 was statistically significant (b^* = 0.23, *SE* = 0.11, $p < .05$), in that higher positive expressiveness predicted higher emotion regulation. However, positive expressiveness was not associated with change in emotion regulation from T1 to T3 (b^* = −.21, *SE* = 0.37, p = .56). Negative expressiveness at T1 was not associated with child emotion regulation at T3 (b^* = −.10, *SE* = 0.10, p = .31) or change in emotion regulation from T1 to T3 (b^* = −0.29, *SE* = 0.29, p = .31). The association between sensitive guidance at T1 and emotion regulation at T3 was statistically significant (b^* = 0.38, *SE* = 0.09, $p < .001$) in that higher sensitive guidance predicted better regulation. Additionally, the association between sensitive guidance at T1 and change in emotion regulation from T1 to T3 was significant (b^* = .52, *SE* = 0.25, $p < .05$) in that higher levels of sensitive guidance predicted steeper positive linear change in emotion regulation.

Hypothesis four: Intervention effects—Hypothesis four was partially supported. Children of mothers who received the RET intervention did not differ in emotion regulation at T3 (b^* = 0.16, *SE* = 0.11, p = .13), but were rated as showing a significant difference in their change in emotion regulation from T1 to T3 (b^* = 0.69, *SE* = 0.27, p = .01), in that children whose mothers received the RET intervention were rated as showing steeper

positive linear change in emotion regulation compared with both nonmaltreated children and children in the CS condition.

Hypothesis five: Indirect effects—Hypothesis five was supported regarding maternal sensitive guidance as a mediator. There were statistically significant indirect effects of maltreatment on child emotion regulation at T3 (95% CI: −0.124, −0.007), and change in child emotion regulation from T1 to T3, through maternal sensitive guidance at T1 (95% CI: −0.261, −0.016). This was complete mediation for the effect between maltreatment and emotion regulation at T3 because the direct effect between maltreatment and emotion regulation at T3 (b^* = −0.13, SE = 0.09, p = .12) was not statistically significant. It was partial mediation for the effect between maltreatment and change in child emotion regulation from T1 to T3 because the direct effect between maltreatment and change in child emotion regulation from T1 to T3 was statistically significant (b^* = −0.62, SE = 0.26, p < .05).

Lability/Negativity Full Model (Figure 2)

Hypothesis one: Direct effects between maltreatment and child lability/negativity—Contrary to hypothesis one, the direct effects between maltreatment and child lability/negativity at T3 (b^* = 0.03, SE = 0.08, p = .73) and change in lability/negativity from T1 to T3 (b^* = −0.28, SE = 0.19, p = .15) were nonsignificant.

Hypothesis two: Maltreatment predicting the four process variables—Hypothesis two was partially supported and results mirror those presented above in the emotion regulation model.

Hypothesis three: Associations between the four process variables and child lability/negativity—Positive parenting at T1 was not associated with child lability/negativity at T3 (b^* = −.09, SE = 0.07, p = .20) or change in lability/negativity from T1 to T3 (b^* = 0.05 SE = 0.13, p = .70). Positive expressiveness at T1 was not associated with lability/negativity at T3 (b^* = −0.04, SE = 0.08, p = .59) or change in lability/negativity from T1 to T3 (b^* = .13, SE = 0.14, p = .36). In partial support of hypothesis three, the relation between negative expressiveness at T1 and child lability/negativity at T3 was statistically significant (b^* = .33, SE = 0.07,p < .001) in that higher negative expressiveness predicted higher child lability/negativity. However, negative expressiveness was not associated with change in child lability/negativity from T1 to T3 (b^* = .06, SE = 0.13, p = .61). Also in support of hypothesis three, the relation between maternal sensitive guidance at T1 and child lability/negativity at T3 was statistically significant (b^* = −0.28, SE = 0.07, p < .001), indicating that higher sensitive guidance predicted lower child lability/negativity. However, the relation between sensitive guidance and change in lability/negativity from T1 to T3 was not statistically significant (b^* = −.15, SE = 0.13, p = .27).

Hypothesis four: Intervention effects—Hypothesis four was not supported in this model; compared with the maltreatment control group, children of mothers who received the RET intervention did not differ in lability/negativity at T3 (b^* = −.001, SE = 0.09, p = .99) or change in lability/negativity from T1 to T3 (b^* = .23, SE = 0.17, p = .17).

Hypothesis five: Indirect effects—Hypothesis five was partially supported. In the indirect effect analysis, there was a statistically significant indirect effect of maltreatment on child lability/negativity at T3, through sensitive guidance at T1 (95% CI: 0.004, 0.083). This was complete mediation because the direct effect between maltreatment and child lability/negativity at T3 (b^* = 0.03, SE = 0.08, p = .73) was not statistically significant.

Secondary Models: Structural Equation Models with Time Varying Mediators

Given evidence for intervention effects, which may occur through changes in parenting behaviors, secondary analyses were conducted to examine associations between the intervention and child emotional self-regulation, through the four parenting variables at T2 and their latent change from T1 to T3. In these models, the RET intervention was modeled as an input variable along with maltreatment. The analyses revealed significant indirect effects of the intervention on child emotion regulation at T3 and change in emotion regulation from T1 to T3 through change in sensitive guidance from T1 to T3 (95% CI's: −2.760, −0.086; −2.428, −0.048, respectively). Additionally, there was evidence of an indirect effect of the intervention on child lability/negativity at T3 through sensitive guidance at T2 (95% CI: −0.422, −0.093), positive parenting at T2 (95% CI: −.109, −0.002), positive expressiveness at T2 (95% CI: 0.025, 0.165), and change in positive expressiveness from T1 to T3 (95% CI: 0.016, 0.219) Finally, there was an indirect effect of the intervention on change in lability/negativity from T1 to T3 through positive expressiveness at T2 (95% CI: 0.032, 0.272). See attached supplementary materials, including Figures S1 and S2 for a more detailed presentation of the secondary model results.

Discussion

The current study builds upon Eisenberg et al.'s (1998a, 1998b) heuristic model of the socialization of emotion by simultaneously evaluating the roles of four family and parent level mediators in an at-risk context. The joint examination of these potential mechanisms using longitudinal data provides an opportunity to increase understanding of processes by which early trauma and risk within the family system relate to change in child emotional self-regulation during the preschool years. The current investigation identified unique links between theoretically-informed emotion socialization and parenting factors and child adaptive emotion regulation and lability/negativity in a sample of maltreating and nonmaltreating families. Additionally, the present study provides some of the first evidence that training maltreating mothers to engage in more elaborative and emotionally supportive reminiscing is associated with beneficial direct and indirect effects on child adaptive emotion regulation and lability/negativity.

Our first hypothesis, that there would be direct effects between maltreatment and child adaptive emotion regulation and lability/negativity, was partially supported. Specifically, maltreated children were rated as exhibiting less positive change in emotion regulation from T1 to T3, corroborating similar findings linking maltreatment to dysregulation and adverse developmental trajectories in emotion regulation (Kim-Spoon & Cicchetti, 2013; Shipman et al., 2007). Inconsistent with our a priori hypotheses, there was not a direct effect of maltreatment on subsequent parent report of child lability/negativity or its change over time.

Notably, bivariate correlation results showed that maltreatment was associated with heightened lability/negativity at T1 ($r = .17$, $p = .01$) and T2 ($r = .17$, $p = .01$). Future work should consider a more detailed examination of maltreatment and supplement parent-report with observational measures of child emotional self-regulation to provide stronger measures of these constructs and effects. Additionally, although direct effects are useful, the present study identifies multiple processes of mediation whereby maltreatment does contribute to child adaptive emotion regulation and lability/negativity through maternal sensitive guidance, which supports a deeper understanding of the mechanisms by which dysregulation manifests in cases of early maltreatment.

In partial support of hypothesis two, significant associations were identified between maltreatment and lower observed maternal sensitive guidance; however, maltreatment did not predict lower positive parenting or emotional expressiveness in the primary analyses results. Although maltreating parents tend to engage in less positive emotions and behaviors (Teti, 2016), maltreating families may not be completely bereft of supportive behaviors. It is also important to note that nonmaltreating families were matched demographically to reflect similar risk, marked by low income and low education, so these families are also prone to disruptions in parenting processes (Conger, Conger, & Martin, 2010; Middlemiss, 2003). Additionally, our measures of positive parenting and expressiveness relied on parent report, whereas sensitive guidance was based on observational assessment. Although these parent report measures have been validated and did show significant bivariate correlations with child adaptive emotion regulation and lability/negativity in the hypothesized directions, future work should supplement parent-report with observational data of these constructs.

In support of hypothesis three, and consistent with Eisenberg et al (1998a, 1998b), the current study showed unique links between multiple parenting and emotion socialization processes and child emotional self-regulation. Namely, positive parenting, positive expressiveness, and maternal sensitive guidance uniquely predicted subsequent child adaptive emotion regulation. Further, sensitive guidance was associated with change in adaptive emotion regulation and lower subsequent lability/negativity, and negative expressiveness was associated with higher subsequent lability/negativity. Notably, intercorrelations revealed significant associations between all four mediators and both child adaptive emotion regulation and child lability/negativity, suggesting that all of these processes are in fact important for emotional self-regulation among at-risk children and families. These results add to the literature on emotion socialization by examining the nature of these processes in low-income families who are at risk for deficits in these parenting and socialization areas.

Of the four parenting processes, the current investigation provided the strongest evidence for maternal sensitive guidance during reminiscing as a mediator of associations between maltreatment and both indices of child emotional self-regulation, providing partial support for our fourth hypothesis. Specifically, sensitive guidance at T1 mediated associations between maltreatment and child adaptive emotion regulation and lability/negativity at T3, and latent change in adaptive emotion regulation from T1 to T3. Notably, these indirect effects were present when controlling for the effects of the other mediators, suggesting that it is not simply more general maternal warmth and supportiveness or emotionality, but

something specific to the structure and guidance with which maltreating mothers engage in discussions about children's past emotions, that drives this influence. Some past studies using cross-sectional designs have identified indirect effects of maltreatment on child emotion regulation, but not lability/negativity (Shipman et al., 2007; Speidel et al., 2019). In another study, Ellis et al. (2014) showed that maternal emotion coaching when reminiscing about negative emotional experiences mediates the relationship between increased family risk (defined as low income status, family stress, and maltreatment history) and child lability/negativity, but not adaptive emotion regulation. A larger sample size may have enhanced our ability to detect effects relative to prior work with smaller samples, and the present longitudinal analysis supports and extends prior cross-sectional work.

Further demonstrating the developmental importance of identifying sensitive guidance as a mediator between maltreatment and child emotional self-regulation, this study provides the first evidence for the effects of an intervention targeting maltreating mothers' sensitive input during reminiscing on emotional self-regulation. Specifically, the intervention was associated with steeper positive change in maternal report of child adaptive emotion regulation. Further, in our secondary analyses, there were indirect effects of the intervention on child emotion regulation and its change over time through change in sensitive guidance, and on child T3 lability/negativity through T2 sensitive guidance. The RET intervention was designed to improve the support and structure with which parents discuss past emotional events with their children, including discussion of the causes, consequences, and resolutions of negative emotions. Holding with Eisenberg et al.'s (1998a, 1998b) model, improving mothers' ERSBs in this context may serve as an avenue to improve children's arousal and reactivity in the face of an event and in turn their ability to understand their emotions and form effective strategies for handling emotions. Given that mothers reported on their children's self-regulation, it is possible that the intervention may have improved mothers' abilities to reflect upon emotions and enhanced their empathy for their children's emotions, thereby enhancing their perceptions of child emotion regulation.

In addition to indirect effects of the intervention through sensitive guidance, there was evidence of indirect effects on lability/negativity through T2 positive parenting, T2 positive family expressiveness and change in positive expressiveness from T1 to T3. Although the intervention specifically targeted one of the mechanisms in our models, it is possible that improvements in sensitive discussion of emotions may facilitate positive changes in other parenting and socialization behaviors, such as emotional expressiveness and positive parenting. The present findings did not show direct effects of the intervention on other parenting behaviors, but provide preliminary evidence of indirect effects of the intervention on child emotional self-regulation through other socialization processes. Further longitudinal work is needed in this area.

Our work provides promising initial evidence of mechanisms that may explain some of the association between early intervention and positive change in child self-regulation. These findings support and extend evidence for existing models of emotion socialization (Eisenberg et al., 1998; Morris et al., 2007), and corroborate and build upon past work (Shipman et al., 2007; Speidel et al., 2019) by considering maternal socialization during reminiscing simultaneously with other parenting and socialization processes and by

assessing self-regulation using a longitudinal design with a latent growth curve component. Compared with correlational designs, examining these mechanisms in an experimental design where one of the hypothesized mechanisms of change was manipulated, provides stronger evidence of the formative role of supportive emotion socialization in facilitating children's emotion regulation abilities.

These intervention effects compliment past work linking improvements in maternal reminiscing to improvements in child self-concept, memory, and emotion understanding (Corsano & Guidotti, 2017; van Bergen et al., 2009), and promote the utility of brief, targeted interventions for at-risk families. Brief interventions aimed at parental sensitivity tend to be more effective compared with longer, more broadly focused interventions (Bakermans-Kranenburg, van Ijzendoorn, & Juffer, 2003). In fact, among at-risk families, early, succinct, and targeted intervention may be particularly advantageous (Dozier et al., 2006; Moss, Dubois-Comtois, Cyr, Tarabulsy, St-Laurent, & Bernier, 2011; Valentino, 2017). The RET intervention is specifically designed to improve the structure and emotional support with which parents discuss past emotional events with their children. Improving mothers' reminiscing styles may facilitate children's abilities to understand and manage their emotions. Although it was not examined in these data, these interventions may improve mothers' own emotion understanding and emotion regulation, which in turn may facilitate further improvement across other parenting domains, such as more general sensitive, warm, and emotionally supportive parenting. Further longitudinal follow-up is needed to examine potential cascading effects of early intervention.

Limitations and Future Directions

The current work is novel in its simultaneous examination of positive parenting, positive and negative expressiveness, and maternal sensitive guidance as mediators between maltreatment and child emotional self-regulation, and in its use of longitudinal data and an RCT design. However, several limitations should be highlighted. Particularly, positive parenting, expressiveness, and child emotional self-regulation were measured via maternal report, which may have inflated associations due to common method variance. Additionally, social desirability may have influenced mothers' report, particularly in the intervention group, where mothers received training on emotionally supportive reminiscing. It is also possible that the intervention improved mothers' abilities to reflect upon emotions and/or their empathy for emotions, which enhanced their perceptions of child emotion regulation. Although the present study adds to the literature by using a multimethod approach, future work should employ more observation-based measures, particularly of child emotional self-regulation. Additionally, sensitive guidance was assessed in the context of parent-child reminiscing. Past work suggests that parental input during reminiscing is distinct from sensitive input in other contexts, such as shared book reading or free play (Leyva, Sparks, & Reese, 2012; Reese, Leyva, Sparks, & Grolnick, 2010). The current study shows that this behavioral context is distinct from more general positive involvement and emotional expressiveness in the home, but future work should examine whether parental ERSBs in other contexts may serve a similar or distinct role to ERSBs during reminiscing.

Another limitation is the narrow time span of the study. Change was expected to occur across the 6-months given that this project was conducted in the context of a RCT thought to bear implications for emotional self-regulation and that the preschool years are a sensitive period for rapid self-regulation development (Thompson & Meyer, 2007). Future work should examine change across a more protracted period and examine more complex patterns in parent and child behavior throughout childhood and beyond. Additionally, future work should examine more nuanced effects of maltreatment type and severity on parental ERSBs and child emotional self-regulation given evidence that variations in early adverse experiences are related to differences in child emotional functioning (Sheridan & McLaughlin, 2014; Pollak, Cicchetti, Hornung, & Reed, 2000). Past work with the present sample reveals that mothers of neglected children are particularly low in maternal elaborative reminiscing compared with nonmaltreating mothers (Lawson, Valentino, Speidel, McDonnell, & Cummings, 2018). Further examination of differences in ERSBs as a function of maltreatment type is needed to expand our understanding of mechanisms linking emotion socialization to maltreated children's emotional self-regulation.

Moving forward, processes whereby maltreatment relates to lower maternal sensitive guidance and in turn child emotional self-regulation and other key child outcomes should be a focus. Regarding the first association, maltreating parents' own dysregulation may influence how they perceive and discuss emotional events with their young children (Meyer, Raikes, Virmani, Waters, & Thompson, 2014). Regarding the second association, maternal sensitive input during emotional discussions, particularly about negative events, may inform child internal working models of regulation. In support of this notion, past work suggests that early parent-child interactions and child observations inform child representations of appropriate strategies for self-regulation, which may pose implications for child self-regulation (Eisenberg et al., 1998a, 1998b; Zimmerman, 2000). Evidence from typically-developing populations suggests that children's understanding of self-regulation strategies informs their actual self-regulation abilities (Cole et al., 2009), but this link remains relatively unexamined in at-risk contexts. In addition to self-regulation, it will be important for future work to examine other outcomes that are expected to be influenced by parental emotion socialization behaviors and in which maltreated children show vulnerabilities, such as internalizing and externalizing problems.

The current project builds upon Eisenberg et al.'s (1998a, 1998b) socialization of emotion model by informing understanding of the nature of emotion socialization and parenting processes and their moldability among families in which severe parenting transgressions have occurred and in demographically matched families. This provides an important starting point for future work on the socialization of regulation in low-income maltreating and nonmaltreating families. Our work provides strong evidence for the formative role of ERSBs, operationalized here as sensitive guidance during reminiscing about children's emotional experiences, in the development of emotional self-regulation. These findings encourage further work examining elements at the family and broader contextual level that might contribute to how parents socialize self-regulation in their young children in at-risk contexts, and the implications of these attitudes and behaviors on trajectories of change in emotional self-regulation across the childhood years.

Supplementary Material

Refer to Web version on PubMed Central for supplementary material.

References

Baker S (2018). The effects of parenting on emotion and self-regulation In Sanders MR & Morawska A (Eds.), Handbook of parenting and child development across the lifespan (pp. 217–240). Cham: Springer.

Bakermans-Kranenburg MJ, Van Ijzendoorn MH, & Juffer F (2003). Less is more: meta-analyses of sensitivity and attachment interventions in early childhood. Psychological bulletin, 129, 195 10.1037/0033-2909.129.2.195 [PubMed: 12696839]

Barnett D, Manly JT, & Cicchetti D (1993). Defining child maltreatment: The interface between policy and research In Cicchetti D & Toth SL (Eds.), Advances in applied developmental psychology: Child abuse, child development and social policy (pp. 7–73). Norwood, NJ: Ablex Publishing.

Bernier A, Carlson SM, & Whipple N (2010). From external regulation to self-regulation: Early parenting precursors of young children's executive functioning. Child development, 81, 326–339. 10.1111/j.1467-8624.2009.01397.x [PubMed: 20331670]

Cicchetti D, Toth SL, & Manly JT (2003). Maternal maltreatment classification interview. Unpublished manual, Mt. Hope Family Center, Rochester, NY.

Cicchetti D, & Valentino K (2006). An ecological transactional perspective on child maltreatment: Failure of the average expectable environment and its influence upon child development In Cicchetti D & Cohen DJ (Eds.), Developmental psychopathology. Risk, disorder, and adaptation (2nd ed., Vol. 3). New York: Wiley.

Clerkin SM, Halperin JM, Marks DJ, & Policaro KL (2007). Psychometric properties of the Alabama parenting questionnaire–preschool revision. Journal of Clinical Child and Adolescent Psychology, 36, 19–28. 10.1080/15374410709336565 [PubMed: 17206878]

Cole PM, Dennis TA, Smith-Simon KE, & Cohen LH (2009). Preschoolers' emotion regulation strategy understanding: Relations with emotion socialization and child self-regulation. Social Development, 18, 324–352. 10.1111/j.1467-9507.2008.00503.x

Conger RD, Conger KJ, & Martin MJ (2010). Socioeconomic status, family processes, and individual development. Journal of Marriage and Family, 72, 685–704. 10.1111/j.1741-3737.2010.00725.x [PubMed: 20676350]

Corsano P, & Guidotti L (2017). Parents' reminiscing training in typically developing and 'at-risk' children: a review. Early Child Development and Care, 1–14. 10.1080/03004430.2017.1289518

Dozier M, Peloso E, Lindhiem O, Gordon MK, Manni M, Sepulveda S, … & Levine S (2006). Developing evidence-based interventions for foster children: An example of a randomized clinical trial with infants and toddlers. Journal of Social Issues, 62, 767–785. 10.1111/j.1540-4560.2006.00486.x

Dunsmore JC, & Halberstadt AG (1997). How does family emotional expressiveness affect children's schemas?. New Directions for Child and Adolescent Development, 77, 45–68. 10.1002/cd.23219977704

Dunn LM, & Dunn DM (2007). PPVT-4: Peabody Picture Vocabulary Test-fourth edition. Minneapolis, MN: Pearson.

Eisenberg N, Cumberland A, & Spinrad TL (1998a). Parental socialization of emotion. Psychological inquiry, 9, 241–273. 10.1207/s15327965pli0904_1 [PubMed: 16865170]

Eisenberg N, Gershoff ET, Fabes RA, Shepard SA, Cumberland AJ, Losoya SH, … & Murphy BC (2001). Mother's emotional expressivity and children's behavior problems and social competence: Mediation through children's regulation. Developmental psychology, 37, 475 10.1037//0012-1649.37.4.475 [PubMed: 11444484]

Eisenberg N, Spinrad TL, & Cumberland A (1998b). The socialization of emotion: Reply to commentaries. Psychological Inquiry, 9, 317–333. 10.1207/s15327965pli0904_17

Eisenberg N, Valiente C, Morris AS, Fabes RA, Cumberland A, Reiser M, Gershoff ET, Shepard SA, & Losoya S (2003). Longitudinal relations among parental emotional expressivity, children's

regulation, and quality of socioemotional functioning. Developmental psychology, 39, 3–19. 10.1037/0012-1649.39.1.3 [PubMed: 12518805]

Ellis BH, Alisic E, Reiss A, Dishion T, & Fisher PA (2014). Emotion regulation among preschoolers on a continuum of risk: The role of maternal emotion coaching. Journal of child and family studies, 23, 965–974. 10.1007/s10826-013-9752-z [PubMed: 28572715]

Fay-Stammbach T, Hawes DJ, & Meredith P (2014). Parenting influences on executive function in early childhood: A review. Child Development Perspectives, 8, 258–264. 10.1111/cdep.12095

Fivush R, Haden CA, & Reese E (2006). Elaborating on elaborations: Role of maternal reminiscing style in cognitive and socioemotional development. Child development, 77, 1568–1588. 10.1111/j.1467-8624.2006.00960.x [PubMed: 17107447]

Garner PW, & Power TG (1996). Preschoolers' emotional control in the disappointment paradigm and its relation to temperament, emotional knowledge, and family expressiveness. Child Development, 67, 1406–1419. 10.1111/j.1467-8624.1996.tb01804.x [PubMed: 8890491]

Gottman JM, Katz LF, & Hooven C (1996). Parental meta-emotion philosophy and the emotional life of families: Theoretical models and preliminary data. Journal of Family Psychology, 10, 243–268. 10.1037/0893-3200.10.3.243

Halberstadt AG (1986). Family socialization of emotional expression and nonverbal communication styles and skills. Journal of personality and social psychology, 51, 827–836. 10.1037/0022-3514.5L4.827

Haskett ME, Stelter R, Proffit K, & Nice R (2012). Parent emotional expressiveness and children's self-regulation: Associations with abused children's school functioning. Child abuse & neglect, 36, 296–307. 10.1016/j.chiabu.2011.11.008 [PubMed: 22565040]

Hsiao C, Koren-Karie N, Bailey H, & Moran G (2015). It takes two to talk: Longitudinal associations among infant-mother attachment, maternal attachment representations, and mother-child emotion dialogues. Attachment & human development, 17, 43–64. 10.1080/14616734.2014.981671 [PubMed: 25482104]

Karreman A, van Tuijl C, van Aken MA, & Deković M (2006). Parenting and self-regulation in preschoolers: a meta-analysis. Infant and Child Development, 15, 561–579. 10.1002/icd.478

Kim-Spoon J, Cicchetti D, & Rogosch FA (2013). A longitudinal study of emotion regulation, emotion lability-negativity, and internalizing symptomatology in maltreated and nonmaltreated children. Child development, 84, 512–527. 10.1111/j.1467-8624.2012.01857.x [PubMed: 23034132]

Kochanska G, Murray KT, & Harlan ET (2000). Effortful control in early childhood: continuity and change, antecedents, and implications for social development. Developmental psychology, 36, 220 10.1037/0012-1649.36.2.220 [PubMed: 10749079]

Kopp CB (1982). Antecedents of self-regulation: a developmental perspective. Developmental psychology, 18, 199–214. 10.1037/0012-1649.18.2.199

Koren-Karie N, Oppenheim D, & Getzler-Yosef R (2008). Shaping children's internal working models through mother-child dialogues: the importance of resolving past maternal trauma. Attachment & Human Development, 10, 465–483. 10.1080/14616730802461482 [PubMed: 19016053]

Koren-Karie N, Oppenheim D, Haimovich Z, & Etzion-Carasso A (2000). Autobiographical Emotional Event Dialogues: Classification and scoring system. Unpublished manual, University of Haifa, Haifa, Israel.

Koren-Karie N, Oppenheim D, Haimovich Z, & Etzion-Carasso A (2003). Dialogues of 7-year-olds with their mothers about emotional events: Development of a typology In Emde RN, Wolf DP, & Oppenheim D (Eds.), Revealing the inner worlds of young children: The MacArthur Story Stem battery and parent-child narratives, (pp. 338–354). Oxford: Oxford University Press

Leyva D, & Nolivos V (2015). Chilean family reminiscing about emotions and its relation to children's self-regulation skills. Early Education and Development, 26, 770–791. 10.1080/10409289.2015.1037625

Leyva D, Sparks A, & Reese E (2012). The link between preschoolers' phonological awareness and mothers' book-reading and reminiscing practices in low-income families. Journal of Literacy Research, 44, 426–447. 10.1177/1086296X12460040

Loman MM, & Gunnar MR (2010). Early experience and the development of stress reactivity and regulation in children. Neuroscience & biobehavioral reviews, 34, 867–876. http://dx.doi.Org/10.1016/j.neubiorev.2009.05.007 [PubMed: 19481109]

Lunkenheimer ES, Shields AM, & Cortina KS (2007). Parental emotion coaching and dismissing in family interaction. Social Development, 16, 232–248. 10.1111/j.1467-9507.2007.00382.x

MacKinnon DP, Lockwood CM, & Williams J (2004). Confidence limits for the indirect effect: Distribution of the product and resampling methods. Multivariate behavioral research, 39, 99–128. 10.1207/s15327906mbr3901_4 [PubMed: 20157642]

Manly JT, Kim JE, Rogosch FA, & Cicchetti D (2001). Dimensions of child maltreatment and children's adjustment: Contributions of developmental timing and subtype. Development and psychopathology, 13, 759–782. [PubMed: 11771907]

McArdle JJ, & Nesselroade JR (2014). Longitudinal data analysis using structural equation models. Washington, DC, US: American Psychological Association 10.1037/14440-000

Meyer S, Raikes HA, Virmani EA, Waters S, & Thompson RA (2014). Parent emotion representations and the socialization of emotion regulation in the family. International Journal of Behavioral Development, 38, 164–173. 10.1177/0165025413519014

Middlemiss W (2003). Poverty, stress, and support: patterns of parenting behaviour among lower income black and lower income white mothers. Infant and Child Development: An International Journal of Research and Practice, 12, 293–300. 10.1002/icd.307

Milojevich HM, & Haskett ME (2018). Longitudinal associations between physically abusive parents' emotional expressiveness and children's self-regulation. Child abuse & neglect, 77, 144–154. https://doi.Org/10.1016/j.chiabu.2018.01.011 [PubMed: 29353718]

Moilanen KL, Shaw DS, Dishion TJ, Gardner F, & Wilson M (2010). Predictors of longitudinal growth in inhibitory control in early childhood. Social Development, 19(2), 326–347. 10.1111/j.1467-9507.2009.00536.x

Morris AS, Silk JS, Steinberg L, Myers SS, & Robinson LR (2007). The role of the family context in the development of emotion regulation. Social development, 16, 361–388. 10.1111/j.1467-9507.2007.00389.x [PubMed: 19756175]

Moss E, Dubois-Comtois K, Cyr C, Tarabulsy GM, St-Laurent D, & Bernier A (2011). Efficacy of a home-visiting intervention aimed at improving maternal sensitivity, child attachment, and behavioral outcomes for maltreated children: A randomized control trial. Development and psychopathology, 23, 195–210. [PubMed: 21262048]

Muthen LK, & Muthen BO (2017). Mplus (Version 8) [Computer software]. Los Angeles, CA: Author.

Pollak SD, Cicchetti D, Hornung K, & Reed A (2000). Recognizing emotion in faces: developmental effects of child abuse and neglect. Developmental psychology, 36(5), 679 10.1037//0012-1649.36.5.679 [PubMed: 10976606]

R Core Team (2017). R: A language and environment for statistical computing. R Foundation for Statistical Computing, Vienna, Austria URL https://www.R-project.org/.

Reese E, Leyva D, Sparks A, & Grolnick W (2010). Maternal elaborative reminiscing increases low-income children's narrative skills relative to dialogic reading. Early Education and Development, 21, 318–342. 10.1080/10409289.2010.481552

Rosseel Y (2012). lavaan: An R Package for Structural Equation Modeling. Journal of Statistical Software, 48, 1–36. URL http://www.jstatsoft.org/v48/i02/.

Sales JM, & Fivush R (2005). Social and emotional functions of mother–child reminiscing about stressful events. Social Cognition, 23, 70–90. 10.1521/soco.23.L70.59196

Salmon K, & Reese E (2016). The benefits of reminiscing with young children. Current Directions in Psychological Science, 25, 233–238. 10.1177/0963721416655100

Sedlak AJ, Mettenburg J, Basena M, Petta I, McPherson K, Greene A, et al. Fourth National Incidence Study of Child Abuse and Neglect (NIS–4): Report to Congress, Executive Summary. Washington, DC: U.S. Department of Health and Human Services, Administration for Children and Families; 2010.

Shenk CE, Noll JG, Peugh JL, Griffin AM, & Bensman HE (2016). Contamination in the prospective study of child maltreatment and female adolescent health. Journal of pediatric psychology, 41, 37–45. 10.1093/jpepsy/jsv017 [PubMed: 25797944]

Sheridan MA, & McLaughlin KA (2014). Dimensions of early experience and neural development: deprivation and threat. Trends in cognitive sciences, 18(11), 580–585. 10.1016/j.tics.2014.09.001 [PubMed: 25305194]

Shields A, & Cicchetti D (1997). Emotion regulation among school-age children: the development and validation of a new criterion Q-sort scale. Developmental psychology, 33, 906–916. 10.1037/0012-1649.33.6.906 [PubMed: 9383613]

Shields A, & Cicchetti D (2001). Parental maltreatment and emotion dysregulation as risk factors for bullying and victimization in middle childhood. Journal of clinical child psychology, 30, 349–363. 10.1207/S15374424JCCP3003_7 [PubMed: 11501252]

Shipman KL, & Zeman J (2001). Socialization of children's emotion regulation in mother–child dyads: A developmental psychopathology perspective. Development and psychopathology, 13, 317–336. 10.1017/S0954579401002073 [PubMed: 11393649]

Shipman KL, & Zeman J (1999). Emotional understanding: A comparison of physically maltreating and nonmaltreating mother-child dyads. Journal of Clinical Child Psychology, 28, 407–417. 10.1207/S15374424jccp280313 [PubMed: 10446690]

Shipman KL, Schneider R, Fitzgerald MM, Sims C, Swisher L, & Edwards A (2007). Maternal Emotion Socialization in Maltreating and Non-maltreating Families: Implications for Children's Emotion Regulation. Social Development, 16, 268–285. 10.1111/j.1467-9507.2007.00384.x

Speidel R, Valentino K, McDonnell CG, Cummings EM, & Fondren K (2019). Maternal sensitive guidance during reminiscing in the context of child maltreatment: Implications for child self-regulatory processes. Developmental psychology, 55, 110–122. 10.1037/dev0000623 [PubMed: 30335434]

Spinrad TL, Eisenberg N, Silva KM, Eggum ND, Reiser M, Edwards A, … & Hayashi A (2012). Longitudinal relations among maternal behaviors, effortful control and young children's committed compliance. Developmental Psychology, 48, 552 10.1037/a0025898 [PubMed: 22004341]

Spinrad TL, Eisenberg N, Cumberland A, Fabes RA, Valiente C, Shepard SA, Reiser M, Losoya SH, & Guthrie IK (2006). Relation of emotion-related regulation to children's social competence: A longitudinal study. Emotion, 6, 498–510. 10.1037/1528-3542.6.3.498 [PubMed: 16938090]

Spinrad TL, Stifter CA, Donelan-McCall N, & Turner L (2004). Mothers' Regulation Strategies in Response to Toddlers' Affect: Links to Later Emotion Self-Regulation. Social Development, 13, 40–55. 10.1111/j.1467-9507.2004.00256.x

Stith SM, Liu T, Davies LC, Boykin EL, Alder MC, Harris JM, … & Dees JEMEG (2009). Risk factors in child maltreatment: A meta-analytic review of the literature. Aggression and violent behavior, 14, 13–29.

Teti DM (Ed.). (2016). Parenting and Family Processes in Child Maltreatment and Intervention. Springer.

Thompson RA, & Meyer S (2007). Socialization of emotion regulation in the family. Handbook of emotion regulation, 249, 249–268. 10.1177/0165025413519014

U.S. Department of Health & Human Services, Administration for Children and Families, Administration on Children, Youth and Families, Children's Bureau. (2017). Child Maltreatment 2015. Available from http://www.acf.hhs.gov/programs/cb/research-data-technology/statistics-research/child-maltreatment

Wilson SR, Rack JJ, Shi X, & Norris AM (2008). Comparing physically abusive, neglectful, and non-maltreating parents during interactions with their children: A meta-analysis of observational studies. Child Abuse & Neglect, 32, 897–911. 10.1016/j.chiabu.2008.01.003 [PubMed: 18950859]

Valentino K (2017). Relational interventions for maltreated children. Child development, 88, 359–367. 10.1111/cdev.12735 [PubMed: 28138967]

Valentino K, Comas M, Nuttall AK, & Thomas T (2013). Training maltreating parents in elaborative and emotion-rich reminiscing with their preschool-aged children. Child abuse & neglect, 37, 585–595. 10.1016/j.chiabu.2013.02.010 [PubMed: 23548682]

Valentino K, Nuttall AK, Comas M, McDonnell CG, Piper B, Thomas TE, & Fanuele S (2014). Mother-child reminiscing and autobiographical memory specificity among preschool-age children. Developmental psychology, 50, 1197–1207. 10.1037/a0034912 [PubMed: 24219316]

Valentino K, Hibel LC, Cummings EM, Nuttall AK, Comas M, & McDonnell CG (2015). Maternal Elaborative Reminiscing Mediates the Effect of Child Maltreatment on Behavioral and Physiological Functioning. Development and Psychopathology, 27, 1515–1526. 10.1017/S0954579415000917 [PubMed: 26535941]

Van Bergen P, Salmon K, Dadds MR, & Allen J (2009). The effects of mother training in emotion-rich, elaborative reminiscing on children's shared recall and emotion knowledge. Journal of Cognition and Development, 10, 162–187. 10.1080/15248370903155825

Verbeke G, & Molenberghs G (2009). Linear mixed models for longitudinal data (3rd ed.). New York: Springer Series in Statistics.

Zimmerman BJ (2000). Attaining self-regulation: A social cognitive perspective. In Handbook of self-regulation (pp. 13–39). 10.1016/B978-012109890-2/50031-7

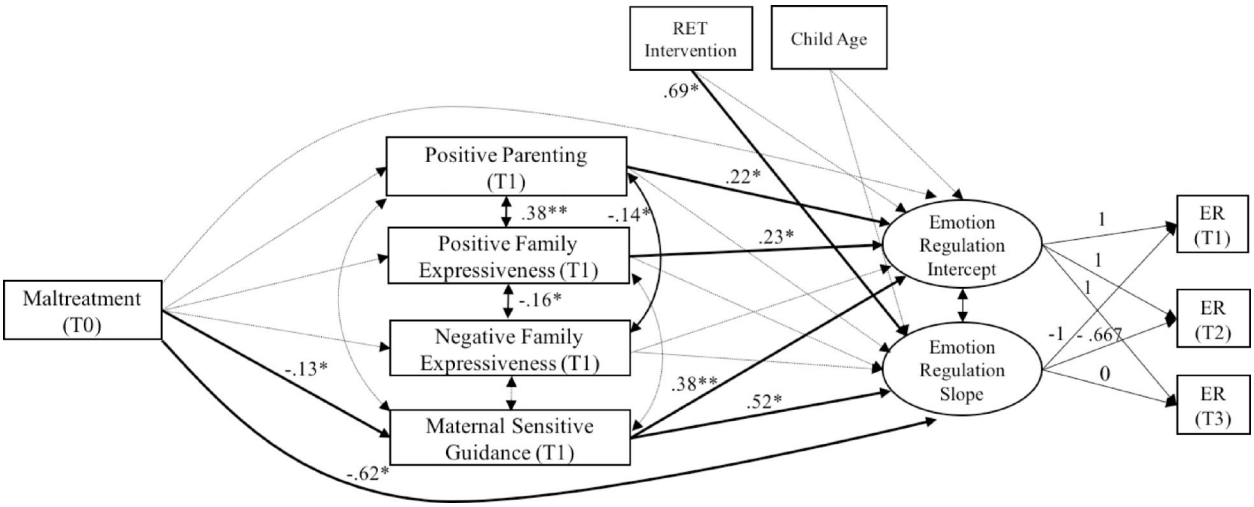

Figure 1.

Emotion regulation model. Structural equation model depicting the mediational roles of positive parenting, positive and negative family expressiveness, and maternal sensitive guidance (all measured at T1) on the relations between maltreatment and child adaptive emotion regulation at T3 and latent change in adaptive emotion regulation from T1 to T3. Nonsignificant pathways are indicated by thin dashed lines and statistically significant pathways are indicated by solid lines. Standardized coefficients are reported. ER = Emotion Regulation.

* $p < .05$, ** $p < .01$

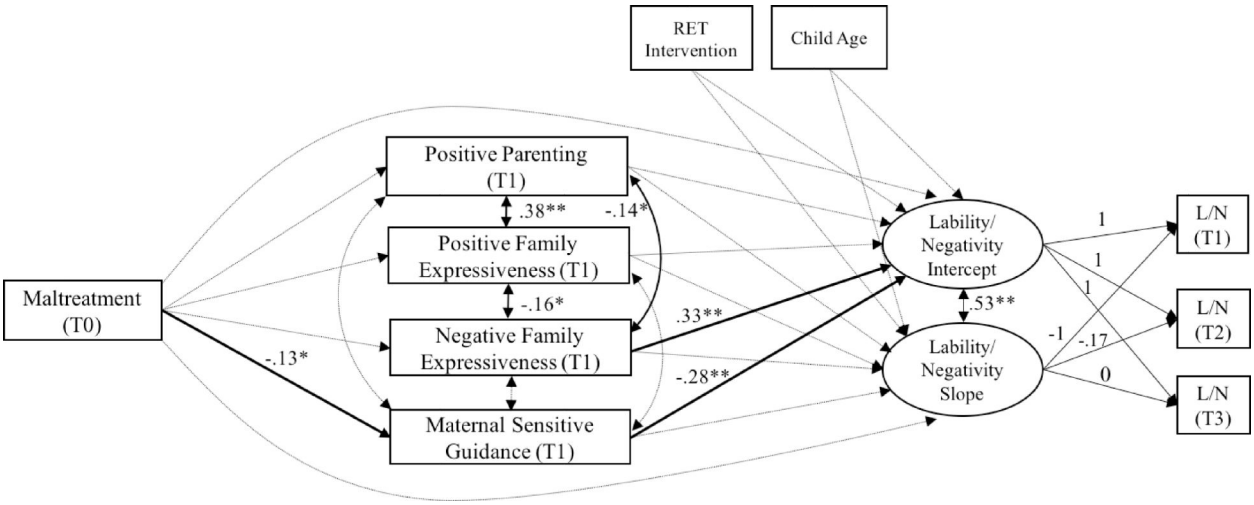

Figure 2.

Lability/negativity model. Structural equation model depicting the mediational roles of positive parenting, positive and negative family expressiveness, and maternal sensitive guidance at T1 on the relations between maltreatment and child lability/negativity at T3 and latent change in lability/negativity from T1 to T3. Nonsignificant pathways are indicated by thin dashed lines and statistically significant pathways are indicated by solid lines. Standardized coefficients are reported. L/*N* = Lability/Negativity.

* $p < .05$, ** $p < .01$

Table 1

Sample characteristics by maltreatment group

	Nonmaltreating (*n* = 78)		Maltreating (CS, *n* = 79)		Maltreating (RET, *n* = 81)		
Variable	***M***	***SD***	***M***	***SD***	***M***	***SD***	***F***
1. Maternal Age	30.61	6.89	29.42	5.48	29.92	5.35	0.80
2. Child Age	4.87	1.12	4.89	1.21	5.00	1.10	0.27
3. Maternal Language (PPVT-4)	86.65	12.50	83.23	10.25	87.32	12.54	2.67
	n		*n*		*n*		X^2
4. Child Sex							
Male	39		44		37		1.61
5. Maternal Ethnicity							
African American	32		39		26		20.06*
Caucasian	26		30		41		
Hispanic	19		5		8		
Multi-Racial	1		5		6		
6. Maternal Employment							
Employed	34		27		33		3.53
7. Maternal Education							
Some Grade/High School	15		31		23		13.44
High School/GED	24		22		30		
Some/Completed Trade Sch.	2		3		0		
Some College	25		17		19		
Bachelor's/Associate's/Higher Edu	12		6		9		
8. Family Income							
Less than $12,000	42		48		44		0.96
9. Marital Status							
Single	33		47		39		4.81

Note. Maternal PPVT-4 standard scores less than 60 dropped. ANOVAs and chi-square tests of independence were used to assess for differences by maltreatment group. CS = Community Standard, RET = Reminiscing and Emotion Training.

*$p < .01$.

Table 2

Intercorrelations, Means, and Standard Deviations Among Variables

	1	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	M	SD	min	max
1. Mai	--																				--	--	0	1
2. RET	.50**	--																			--	--	0	1
3.PPTI	.01	.06	--																		51.20	5.51	35	60
4. PPT2	.05	.08	.68**	--																	51.24	5.48	34	60
5.PPT3	.07	.09	.62**	.73**																	51.31	5.53	30	60
6. PFETI	−.08	−.03	.37**	.34**	.33**	--															6.78	1.60	1.0	9.0
7. PFET2	−.004	.02	.33**	.44**	.48**	.56**	--														7.12	1.36	1.5	9.0
8. PFET3	−.08	.03	.23**	.30**	.41**	53.**	.68**	--													7.13	1.35	1.8	9.0
9. NFET1	.10	−.01	−.14*	−.14*	−.21**	−.17*	−.14*	−.13	--												4.50	1.51	1.3	9.0
10.NFET2	.07	.02	−.20**	−.23**	−.22**	−.08	−.16*	−.16*	.56**	--											4.47	1.46	1.0	8.6
11.NFET3	.14*	.03	−.16*	−.17*	−.20**	−.12	−.15*	−.24**	.57**	.58**	--										4.27	1.45	1.0	8.6
12.MSGT1	−.13*	−.04	.07	.15*	.12	10	.15*	.13	−.07	−10	−.004	--									5.05	1.02	1.86	7.71
13. MSG T2	−.08	.17*	.10	.18**	.18*	.10	.23**	.19**	.01	.002	−.09	.38**	--								5.34	1.01	1.86	7.86
14. MSG T3	.04	.26**	.10	.11	.10	.09	.14	.14*	−.07	−.07	−.07	.39**	.50**	--							5.25	0.96	2.57	7.71
15.ER T1	−.05	−.03	.28**	.29**	.29**	.34**	.30**	.33**	−.08	−.06	−.04	.19*	.16*	.12	--						25.80	2.87	18	32
16.ER T2	−.01	.07	.23**	.32**	.28**	.27**	.44**	.37**	−.13	−10	−.14*	.35**	.23*	.20**	.57**	--					25.41	3.29	14	32
17. ER T3	−.11	.04	.27**	.37**	.39**	.26**	.33**	.34**	−.16*	−.16*	−.09	.30**	.22**	.14*	.55**	.57**	--				25.82	3.36	18	32
18.LN TI	.17**	−.05	−.22**	−.13	−.22**	−.24**	−.17**	−.15*	.36**	.33**	.32**	−.24**	−.19**	−.22**	−.34**	−.30**	−.41**				30.84	6.09	17	50
19.LNT2	.17**	.03	−.14*	−.25**	−.26**	−.14*	−.20**	−.15*	.34**	.50**	.44**	−.29*	−.20**	−.24**	−.20**	−.38**	−.37**	.65**	--		29.88	6.54	15	49

	1	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.	20.	M	SD	min	max
20. LN T3	.06	.04	−.19 **	−.33 **	−.33 **	−.17 *	−.16 *	−.14 *	.31 **	.40 **	.44 **	−.28 **	−.23 **	−.25 **	−.25 **	−.39 **	−.48 **	.64 **	.77 **	--	29.28	6.49	15	48

Note. Maternal PPVT-4 standard scores below two standard deviations of the mean were dropped. Mai = Maltreatment. RET = Reminiscing and Emotion Training intervention, PP = Positive Parenting, PFE = Positive Family Expressiveness, NFE = Negative Family Expressiveness, MSG = Maternal Sensitive Guidance, ER = Adaptive Emotion Regulation, LN = Lability/Negativity.

* $p < .05$

** $p < .01$

Table 3

Means and Standard Deviations of Study Variables by Maltreatment Group

	Nonmaltreating		Maltreating (CS)		Maltreating (RET)		
Variable	***M***	***(SD)***	***M***	***(SD)***	***M***	***(SD)***	***F***
Pos. Parenting T1 (*n* = 235)	51.12	(5.02)	50.80	(6.14)	51.68	(5.33)	0.51
Pos. Parenting T2 (*n* = 217)	50.87	(5.00)	51.00	(6.58)	51.88	(4.63)	0.71
Pos. Parenting T3 (*n* = 205)	50.81	(5.80)	51.13	(5.90)	52.04	(4.78)	0.90
Pos. Fam. Expressiveness T1 (*n* = 238)	6.96	(1.44)	6.68	(1.74)	6.71	(1.61)	0.75
Pos. Fam. Expressiveness T2 (*n* =217)	7.13	(1.24)	6.98	(1.54)	7.25	(1.29)	0.71
Pos. Fam. Expressiveness T3 (*n* =205)	7.28	(1.28)	6.94	(1.53)	7.18	(1.21)	1.12
Neg. Fam. Expressiveness T1 (*n* =234)	4.28	(1.40)	4.81	(1.67)	4.43	(1.44)	2.49
Neg. Fam. Expressiveness T2 (*n* =217)	4.32	(1.31)	4.64	(1.52)	4.46	(1.56)	0.86
Neg. Fam. Expressiveness T3 (*n* =206)	3.99	(1.21)	4.51	(1.64)	4.32	(1.44)	2.45
Sensitive Guidance T1 (*n* = 236)	5.24	(1.05)	4.92	(1.06)	4.99	(0.92)	2.10
Sensitive Guidance T2 (*n* =215)	5.45	(0.85)	4.99	(1.04)	5.59	(1.05)	7 44**
Sensitive Guidance T3 (*n* = 202)	5.19	(0.88)	4.96	(0.86)	5.62	(1.04)	8.40**
Emotion Regulation T1 (*n* = 232)	26.01	(2.66)	25.73	(2.92)	25.67	(3.02)	0.31
Emotion Regulation T2 (*n* = 209)	25.47	(3.06)	25.04	(3.53)	25.75	(3.27)	0.80
Emotion Regulation T3 (*n* = 199)	26.30	(3.12)	25.13	(3.49)	26.02	(3.42)	2.24
Lability/Negativity T1 (*n* = 229)	29.32	(5.56)	32.65	(6.08)	30.46	(6.17)	6.18**
Lability/Negativity T2 (*n* = 216)	28.31	(5.81)	31.16	(6.72)	30.18	(6.83)	3.72*
Lability/Negativity T3 (*n* = 202)	28.76	(5.93)	29.46	(6.58)	29.66	(7.04)	0.36

Note. Maternal PPVT-4 standard scores less than 60 dropped. F-values and p-values reported reflect uncorrected one-way ANOVA results of study variables by maltreatment group. CS = Community Standard, RET = Reminiscing and Emotion Training.

* $p < .05$

** $p < .01$