



Published in final edited form as:

*Dev Psychol.* 2019 January ; 55(1): 110–122. doi:10.1037/dev0000623.

## Maternal Sensitive Guidance During Reminiscing in the Context of Child Maltreatment: Implications for Child Self-Regulatory Processes

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### Abstract

The manner in which mothers engage in emotional discussion, or reminisce, with their young children about past emotional experiences poses important ramifications for child socioemotional and cognitive development. Maltreating mothers may have difficulty engaging in emotionally supportive reminiscing. The current study examined the role of maternal sensitive guidance during reminiscing as a process variable that may explain associations between child maltreatment and three child self-regulatory dimensions: lability/negativity, emotion regulation, and inhibitory control. Participants included 111 maltreating and 65 demographically matched, non-maltreating mothers and their 3- to 6-year-old children ( $N = 176$ ). The dyads participated in a joint reminiscing task about four past, emotional shared experiences. Mothers reported on their children's emotion regulation and lability/negativity while children participated in a behavioral assessment of inhibitory control. Results indicated that maltreating mothers engaged in less sensitive guidance when reminiscing compared to non-maltreating mothers. In the main analysis, maternal sensitive guidance mediated relations between maltreatment and child emotion regulation and inhibitory control, respectively, but not lability/negativity.

### Keywords

maltreatment; mother-child reminiscing; emotion regulation; lability/negativity; inhibitory control

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Early child maltreatment relates to a host of adverse developmental outcomes, including early internalizing, externalizing, and peer-related problems (Trickett & McBride-Chang, 1995), behavioral and physiological dysregulation (Cicchetti & Rogosch, 2001; Kim & Cicchetti, 2010), and later psychopathology, including anxiety, depression, posttraumatic stress disorder, and substance abuse (Molnar, Buka, & Kessler, 2001). In the United States, approximately 683,000 substantiated cases of child maltreatment occurred in 2015, which is likely an underestimate given that many cases of maltreatment go unreported and/or unsubstantiated (U.S. Department of Health & Human Services, 2017). Highlighting the salience of parent-child relationships to maltreatment, in 91.6% of documented cases in 2017, one or both parents were the perpetrators of maltreatment, and in 77.1% of cases, the victimized child was not removed from the home (USDHHS, 2017). Aside from specific instances of abuse and neglect, maltreating families are characterized by a pervasive pathogenic parent-child relationship, illustrated, for example, by disorganized attachment

organization during infancy and toddlerhood (Cicchetti & Toth, 2005). The parent-child relationship is critical to understanding the potential mechanisms through which maltreatment relates to adverse developmental outcomes; however, less is known about specific parent-child interactions that characterize maltreating families during the preschool period.

During the preschool years, caregivers can begin to increasingly discuss past experiences with their children, and sensitive responsivity during these parent-child emotional discussions about past events is linked to child self-regulatory development (Eisenberg, Cumberland, & Spinrad, 1998). Evidence shows that children who have experienced maltreatment are susceptible to difficulties in self-regulation (Kim & Cicchetti, 2010; Pears, Fisher, Bruce, Kim, Yoerger, 2010) and that parent-child reminiscing is a factor that promotes young children's self-regulation (Laible, 2004; Salmon & Reese, 2016). However, relatively little is known about how maltreating caregivers discuss past emotional experiences with preschool-aged children. The identification of mechanisms by which maltreatment relates to difficulties in self-regulation, such as parental sensitivity during discussion of child emotion, poses important implications for understanding how this early risk may be conferred from a developmental framework.

## The Parent-Child Relationship and Self-Regulatory Development

Self-regulatory capacities develop significantly throughout infancy and the preschool period, and although individual and neurobiological factors also contribute, caregivers play a fundamental role in this process (Calkins & Hill, 2007; Thompson & Meyer, 2007). For instance, in early development, sensitive caregivers entrain patterns of regulation into their infants by serving as sources of external regulation. During this time, distressed infants rely on caregivers to provide the support they require to regulate their emotions, and sensitive caregivers aid in calming their infants and restoring them to a tolerable emotional state (Sroufe, 2005). In cases of insensitive parenting, including early maltreatment, caregivers may fail to provide an appropriate response to child distress and may even be the source of distress from which the child is seeking relief, posing negative ramifications for the development of self-regulatory strategies.

Throughout early childhood, the cues children use to elicit parental assistance in self-regulation become increasingly sophisticated and autonomous, with the caregiver remaining an important supporting figure. Whereas infants cry in distress until the caregiver responds, toddlers might move to seek out their caregiver, and preschoolers begin to articulate and discuss their feelings with caregivers (Thompson & Meyer, 2007). These day-to-day caregiver-child discussions about past experiences can influence children's developing understanding of emotion and their engagement in increasingly regulated or dysregulated behaviors (Eisenberg et al., 1998; Thompson & Meyer, 2007). In fact, research and theory indicate that caregivers' reactions to preschool-aged children's emotional displays, particularly their negative emotional displays, influences child regulatory outcomes, including attentional regulation and negative reactivity (Eisenberg & Fabes, 1994; Eisenberg et al., 1998; Thompson & Meyer, 2007). Thus, the preschool age is an important

transitioning period during which children's developing self-regulation skills are susceptible to parental response to child emotion.

Conceptually speaking, self-regulatory abilities map onto one of two broader components of self-regulation: reactive or "bottom-up", versus effortful or "top-down" self-regulation (Bridgett, Burt, Edwards, & Deater-Deckard, 2015; Eisenberg & Spinrad, 2004). *Reactive self-regulation* reflects automatic processes linked to subcortical structures and more biological or temperamental systems, and represents attention and behavior that is more impulse- and stimulus-driven (Bridgett et al., 2015). Distinctively, *effortful self-regulation* reflects voluntary processes linked to neural structures within the frontal lobe and the anterior cingulate cortex, whereby an individual's attention and behaviors are more cognitively, rather than automatically or reflexively, controlled. According to Bridgett et al. (2015), effortful self-regulation further divides into two components, behavioral and emotional self-regulation, with behavioral self-regulation including abilities such as attentional control and executive functioning, and emotional self-regulation including specific emotion regulation strategies such as reappraisal.

To provide a holistic representation of the two broader components of self-regulation (reactive and effortful) as well as the two subcomponents of effortful control (behavioral and emotional), the current study focuses on three specific self-regulatory elements: lability/negativity, emotion regulation, and inhibitory control (Bridgett et al., 2015). *Lability/negativity* reflects a reactive self-regulatory process, and refers to the stimulus-driven tendency to inappropriately and rapidly respond to negative emotional stimuli and a difficulty in recovering from such negative emotional reactions (Kim-Spoon, Cicchetti, & Rogosch, 2013). *Emotion regulation* reflects an emotional dimension of effortful self-regulation, and refers to the ability to moderate emotional arousal in order to engage optimally in the environment by possessing emotional self-awareness and engaging in situationally appropriate affective displays (Kim & Cicchetti, 2010; Shields & Cicchetti, 1997). *Inhibitory control* reflects a behavioral dimension of effortful self-regulation, and refers to the ability to control attention, behavior, or emotion to restrain an automatic response in order to act appropriately given the demands of the current environment (Diamond, 2013). These abilities reflect three distinct components of a child's self-regulatory repertoire that are susceptible to parental behavioral influence, and exhibit notable development during early childhood (Bridgett et al., 2015).

There is empirical support for links between early maltreatment and heightened lability/negativity and emotion dysregulation, and poorer inhibitory control in children (Shipman et al., 2007; Kim & Cicchetti, 2010; Shields & Cicchetti, 1997; Pears et al., 2010). Additionally, positive parenting behaviors, including warmth and responsiveness to child distress, have been linked with lower child lability/negativity and heightened emotion regulation and inhibitory control (Cole, Dennis, Smith-Simon, & Cohen, 2009; Lunkenheimer, Shields, & Cortina, 2007; Olson, Bates, & Bayles, 1990). Thus, evidence indicates that these three components of child self-regulation are influenced by elements of the quality of the early parent-child relationship. However, there is a dearth of literature examining the mediational role of parental emotion-related behaviors, including maternal

sensitive guidance during parent-child discussions of child emotion, in associations between early maltreatment and child self-regulation.

## Emotion Socialization and Mother-Child Reminiscing

Theorists argue that almost all developmental processes begin in social interactions – particularly verbal interactions – between experts and novices, or in this case, parents and their children (Fivush, Haden, & Reese, 2006; John-Steiner & Mahn, 1996). In these interactions, sensitive mothers may serve as experts, informing children about how to properly identify, understand, and regulate emotions during discussions about specific past emotions. Thus, sensitive verbal interactions that guide a child’s understanding of past emotional experiences should be related to children’s self-regulatory abilities. Additionally, as children who have experienced maltreatment are at heightened risk for difficulties with self-regulation, sensitive maternal verbal input during parent-child discussions may serve as a mechanism that explains some of the link between early maltreatment and child self-regulation.

Mothers who *emotionally socialize* their children by engaging in supportive and emotionally validating instruction about past experiences impart on their children greater emotional awareness and more effective coping and emotion regulation skills (Gottman, Katz, & Hooven, 1996; Spinrad, Stifter, Donelan-McCall, & Turner, 2004). Mothers who adopt less supportive and more emotionally invalidating responses during emotional discussions tend to have children who suppress negative emotions and display heightened emotion dysregulation (Berlin & Cassidy, 2003; Shipman, Schneider, Fitzgerald, Sims, Swisher, & Edwards, 2007; Shipman & Zeman, 2001). Similarly, mothers who engage with their children in emotional discussion about past personal experiences (i.e. reminisce) in a sophisticated and *elaborative* manner that adds new information and encourages child participation through the use of open-ended questions, tend to have children with stronger autobiographical memory skills, sense of self, language, emotion understanding, and peer competence (Fivush, 2007; Fivush et al., 2006; Valentino et al., 2014). Children of mothers with low elaborative reminiscing styles, particularly in the context of reminiscing about past negative emotional experiences, exhibit comparative deficits in autobiographical memory skills, emotion understanding, emotion regulation, and sense of self (Fivush, 2007; Fivush & Vasudeva, 2002; Valentino et al., 2014). Thus, empirical evidence examining parental emotion socialization and mother-child reminiscing indicate the importance of informative, supportive, and engaging parental communication during discussions about children’s past emotional experiences for children’s self-regulatory functioning.

Although it is clear that beyond specific instances of abuse or neglect, parent-child interactions among maltreating families are characterized by inappropriate caregiving, less is known regarding specific parenting behaviors that link experiences of child maltreatment to children’s later self-regulatory development. In particular, there is limited research on the manner in which maltreating mothers emotionally socialize and reminisce with their young children. We recognize the use of a labeling descriptor may place undue blame on mothers who have perpetrated maltreatment against their child; however, for the sake of conciseness and consistency with past literature, mothers who have at least one substantiated DCS report

of maltreatment against the target child will be referred to as “maltreating mothers” and mothers with no past DCS history will be referred to as “non-maltreating mothers”. There is evidence that maltreating mothers differ from demographically matched, non-maltreating mothers in elements of their reminiscing with preschool (Valentino et al., 2015) and school-aged children (Shipman et al., 2007). Specifically, maltreating mothers differ in the *quantity* of their elaborative reminiscing (i.e. the frequency of open-ended wh- questions, yes/no questions, elaborative statements, and positive confirmations of child contributions) with their preschool-aged children (Valentino, Hibel, Cummings, Nuttall, Comas, & McDonnell, 2015). There is also evidence that maltreating mothers validate their children’s emotions less and invalidate them more during past event discussions with school-aged children (Shipman et al., 2007). However, no previous studies have evaluated maltreating mothers’ elaborative *quality* (i.e. sensitive guidance) beyond validation of emotion, including how supportive mothers are while providing appropriate warmth, structure, and encouragement in discussing and resolving negative emotions, during the preschool period.

In cross-sectional designs, the extent to which mothers elaborate during reminiscing has been shown to mediate associations between maltreatment and child receptive language, emotion knowledge, and diurnal cortisol decline (Valentino et al., 2015). In the only previous study to evaluate the quality with which maltreating mothers reminisce, Shipman and colleagues (2007) found that observed maternal validation and invalidation of child emotion and self-reported emotion coaching strategies mediated the relation between maltreatment and child emotion regulation. These findings indicate that the content and quality of mothers’ emotion-based dialogues are important parenting behaviors where maltreating mothers display differences, and these behaviors may serve a mediational role in linking early risk to multiple child outcomes.

The present study builds upon these past works in three ways. First, we examine maternal sensitive guidance, which expands the assessment of reminiscing quality beyond the frequency of certain utterances (e.g., degree of elaboration) and validation of child emotion, to include mothers’ focus and involvement, acceptance and encouragement of child contributions, and skill at structuring the dialogue, resolving negative emotions, and facilitating joint construction of appropriate and coherent memories (see also Koren-Karie, et al., 2003). Second, whereas Shipman and colleagues (2007) studied school-age children, we examine preschool-age children, as this is a crucial time during which children’s self-regulation strategies are growing increasingly autonomous, but are susceptible to caregiver input (Kopp, 1982). Third, in addition to the aspects of child self-regulation included in Shipman et al. (2007), we examine inhibitory control. Inhibitory control is a distinct behavioral form of effortful self-regulation that is also influenced by sensitive parental behaviors (Olson et al., 1990), enabling for the examination of child self-regulation using a multimethod approach that taps both behavioral and emotional elements of effortful self-regulation. Additionally, inclusion of inhibitory control assessed via a child performance task provides the added benefit of not relying solely on parent report of child self-regulation. Thus, the current study expands upon past literature that has shown mediational effects of maternal reminiscing and emotion socialization behaviors on the link between maltreatment and child outcomes by examining the mediational effect of maternal sensitive guidance

during reminiscing on associations between maltreatment and child lability/negativity, emotion regulation, and inhibitory control.

## Hypotheses

The objectives of the current study were to examine how maltreating and non-maltreating mothers differ in terms of maternal sensitive guidance during reminiscing and to assess indirect pathways between maltreatment and preschool-age children's lability/negativity, emotion regulation, and inhibitory control, through maternal sensitive guidance. Specifically, we hypothesized that: 1) maltreating mothers would demonstrate less sensitive guidance than non-maltreating mothers during reminiscing, 2) maltreated children would be higher in lability/negativity and lower in emotion regulation and inhibitory control compared to non-maltreated children, 3) maternal sensitive guidance during reminiscing, regardless of maltreatment experience, would be negatively associated with child lability/negativity, and positively associated with child emotion regulation and child inhibitory control, and 4) maternal-sensitive guidance during reminiscing would mediate associations between maltreatment status and each of the three child self-regulation outcomes.

## Method

### Participants

Maltreating and non-maltreating mother-child dyads were recruited in a city in the Midwest United States to participate as part of a broader, longitudinal randomized clinical trial. Data for the current investigation are taken from the baseline laboratory assessment only. Participating children were between the ages of 36 and 85 months ( $M = 59.47$ ,  $SD = 13.33$ ). Maltreating mother-child families were operationalized as biological mother-child pairs with at least one substantiated case of child maltreatment, in which the mother was named as a perpetrator against the child, and in which the child resided in the custody of the biological mother at the time of enrollment. Non-maltreating mother-child dyads were operationalized as pairs with no prior involvement with the Department of Child Services (DCS).

Maltreating dyads were recruited through DCS. Family Case Workers introduced the project to eligible participants with a verbal script and informational flyer, and those interested shared their contact information and were subsequently contacted to participate. Maltreating families received services as usual per their involvement with DCS and no services were discontinued as part of their involvement in this study. Non-maltreating dyads 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 non-maltreating comparison sample.

To minimize the influence of language impairments and potential intellectual disability on the results of the study, mothers with Peabody Picture Vocabulary Test, Fourth Edition

(PPVT-4; Dunn & Dunn, 2007) standard scores lower than 70 were excluded from all analyses, resulting in a final sample of 176 mother-child dyads ( $n = 111$  maltreating,  $n = 65$  nonmaltreating). See Table 1 for demographic characteristics of the final sample by maltreatment group, as well as test statistics from independent samples t-tests and chi-square tests of independence used to assess for differences by maltreatment group. Maltreating and non-maltreating families were matched on all demographic characteristics except for marital status. Non-maltreating mothers were more likely than maltreating mothers to be married or living with a partner, (54% non-maltreating, 28% maltreating),  $\chi^2(2, N = 176) = 11.75, p < .01$ . Follow-up t-tests were conducted to assess whether marital status related to any of the outcomes in the model; maintaining family-wise p-value at .05 with Bonferroni correction, marital status did not significantly predict maternal sensitive guidance, lability/negativity, emotion regulation, or inhibitory control. Thus, marital status 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 maltreatment subtypes that characterized the maltreating sample. The subtype categories include sexual abuse, physical abuse, physical neglect, and emotional maltreatment. *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 (Barnett et al., 1993). Severity, (ranging from 1 to 5, with 5 representing the most severe), chronicity, and developmental timing of each maltreatment incident were also rated. Over 25% 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 using 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. Inclusion in the maltreatment group required at least one documented substantiation in the DCS record. Families with DCS assessments only, but no substantiation, did not meet inclusion criteria for either the maltreatment or nonmaltreatment group. Given that subtype comorbidity was high, a pattern commonly found in the maltreatment literature (Manly, Kim, Rogosch, & Cicchetti, 2001), and that the abuse groups were relatively small, maltreatment subtype was collapsed to form a single maltreatment group.

Within the maltreatment group, 4.6% of children experienced sexual abuse, 12.8% physical abuse, 67.0% physical neglect, and 54.1% emotional maltreatment. Comorbidity was high, with 60.6% of the sample experiencing more than one subtype of maltreatment; including 36.7% with 2 subtypes, 20.2% with 3 subtypes, and 3.7% with 4 subtypes of maltreatment. All maltreating families had at least one DCS case in which the mother was named a perpetrator. The statistics above reflect subtype percentages for all maltreatment, by any perpetrator. Specific to maternal perpetration, 0% of children experienced sexual abuse, 10.1% physical abuse, 66.1% physical neglect, and 49.5% emotional maltreatment.

In addition to maltreatment perpetrated by the mother, 71 children (65% of the maltreatment group) also experienced maltreatment by another perpetrator. Among those with additional perpetrators, and specific to perpetration by other, 7.0% of children experienced sexual abuse, 11.3% physical abuse, 26.8% physical neglect, and 71.8% emotional maltreatment. The number of DCS reports in which the target child was a documented victim ranged from 1 to 7 reports, with 65.7% of children experiencing 1 reported instance, 24.1% with 2 reported instances, 4.6% with 3 reported instances, 3.7% with 4 reported instances, and 1.8% with 5 or more reported instances. Of the maltreated children, 22.2% experienced a documented case of maltreatment during infancy (36 months or younger) but not during preschool (older than 36 months), 15.7% experienced maltreatment during infancy as well as preschool, and 62.0% experienced maltreatment during preschool only. The maximum severity of physical and sexual abuse experienced by children ranged from 1 to 4 ( $M = 1.64$ ,  $SD = 1.01$ ;  $M = 3.20$ ,  $SD = 1.30$  respectively), and the maximum severity of emotional maltreatment and physical neglect ranged from 1 to 5 ( $M = 2.85$ ,  $SD = 1.01$ ;  $M = 3.04$ ,  $SD = 1.16$  respectively). Thus, the present sample reflects a broad range of severity, chronicity, and developmental timing of maltreatment.

### Design and Procedure

The project, *Fostering Healthy Development Among Maltreated Preschool-Aged Children*, was approved by the University of Notre Dame Institutional Review Board and granted approval number 12–06-376. At the time of writing, participants were still being enrolled in the baseline data collection of the broader longitudinal study. As part of the baseline assessment, mother-child dyads participated in a joint reminiscing task. Additionally, mothers completed a parent-report measure of child lability/negativity and emotion regulation, and children participated in a behavioral task as a measure of inhibitory control. The research staff conducting the assessments and the trained coders were naive to family maltreatment status.

### Measures

**Mother-child reminiscing.**—Following the protocol outlined by the Autobiographical Emotional Events Dialogue (AEED; Koren-Karie, Oppenheim, Haimovich, & Etzion-Carasso, 2000), mothers selected four past emotional events that were one-time occurrences and were experienced by the mother and child together. The occurrences were a time the child was happy, sad, angry, and scared. Most of the events were focused around negative emotions given past research suggesting that discussions evoking negative emotions are more predictive of child well-being compared to discussions of positive emotions (Sales & Fivush, 2005). Mothers were instructed to write a brief reminder for each event on an index card and received the instruction to, “Talk about these events as you normally would at home.” The happy event was discussed first and the order of the remaining three emotions was counterbalanced across participants.

**Lability/negativity and emotion regulation.**—Child lability/negativity and emotion regulation were assessed using the Emotion Regulation Checklist (ERC; Shields & Cicchetti, 1997), a 24-item measure designed to be completed by an adult familiar with the child (e.g. parent, teacher, or counselor). Mothers completed the measure using a 4-point



Likert scale to indicate how often the child displays certain affective behaviors or qualities, including appropriate expression of emotions and the ability to adapt emotional responses to the environment. The ERC yields two subscales: *lability/negativity* and *emotion regulation*. The lability/negativity subscale captures arousal, negative affect reactivity, and mood lability. Sample items in this subscale include “Exhibits wide mood swings” and “Is easily frustrated”. The emotion regulation subscale examines adaptive regulation, including emotional self-awareness, socially 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 two subscales were moderately negatively correlated ( $r = -.39, p < .01$ ), suggesting that they reflect distinct aspects of child self-regulatory functioning.

The ERC was initially developed and validated for use with a maltreated and demographically-matched non-maltreated sample of children, and has been demonstrated to show strong convergent validity with a more comprehensive, observation-based, emotion regulation Q-scale measure, as well as discriminant validity from other aspects of child functioning, including measures of autonomy, agreeableness, neuroticism, anxiety, and depression (Shields & Cicchetti, 1997). Beyond the initial authors’ report, the measure has been further validated on maltreating samples (Kim-Spoon, et al., 2013; Langevin, Cossette, & Hébert, 2016; Shields & Cicchetti, 1998; Shields & Cicchetti, 2001). Shields & Cicchetti (1998) conducted a factor analysis in which distinct self-regulatory factors emerged from more general behavioral problems such as aggression and attention problems using the ERC and the Child Behavior Checklist-Teacher’s Report Form (CBCL-TRF) items. The ERC has also been used in longitudinal studies where it has been shown to be distinct from, yet predictive of, broader indices of emotional adjustment, while controlling for autoregressive effects (Kim & Cicchetti, 2010; Kim-Spoon et al., 2013).

**Inhibitory control.**—Inhibitory control was assessed using the Day/Night task (Gerstadt, Hong, & Diamond, 1994), a modified Stroop task that has been used extensively to measure inhibitory control and executive functioning in younger populations. Past evidence indicates that executive functioning is a unitary construct during the preschool years (Fuhs & Day 2011). In this task, children were required to respond “day” when shown a picture of the moon, and “night” when shown a picture of the sun. Performance was measured across 16 trials. Children received 0 points for an incorrect response, 1 point for a self-corrected response, and 2 points for a correct response; scores were summed and ranged from 0 to 32 (Nuttall, Valentino, Comas, McNeill, & Stey, 2014; Skowron, Cipriano-Essel, Gatzke-Kopp, Teti, & Ammerman, 2014).

### Coding and Reliability

The reminiscing conversations were videotaped, transcribed verbatim, and coded using the video and transcripts according to the procedure outlined by Koren-Karie et al. (2003). The video recordings served as the primary source of information for coding purposes given that they enabled consideration of verbal and nonverbal cues of the sensitive guidance of the interaction. Transcripts were used for supplementary purposes to complement the video when needed. The coding procedure yields a measure of mothers’ sensitive guidance using a

series of 9-point Likert scales. The scales included *Focus on the task* (how focused the mother was on completing the task, taking into account whether she deviated or went off topic), *Acceptance and tolerance* (how compliant and encouraging the mother was of the child's contributions without becoming critical or defensive), *Involvement and reciprocity* (how actively engaged and interested the mother was throughout the discussion), *Resolution of negative feelings* (how the mother dealt with negative emotions, taking into account whether there was inappropriate emphasis or a healthy resolution to the story), *Structuring* (how well the mother fostered the process of jointly constructing four coherent stories), *Adequacy* (how well the constructed stories properly matched the given emotional themes), and *Coherence* (how fluent and clear the stories were).

Past work from the same dataset (Lawson, Valentino, Speidel, McDonnell, & Cummings, in press) and a similar dataset (Valentino et al., 2014) using the same coding scheme refer to this construct as maternal reminiscing quality. The current investigation refers to this construct as maternal sensitive guidance to provide a more specific descriptor of the quality of maternal behavior being assessed, and to remain consistent with the original authors of the coding scheme, who use this term (Koren-Karie, Oppenheim, Yuval-Adler, & Mor, 2013). Four independent coders, blind to maltreatment status, coded the reminiscing videos. Inter-rater reliability was assessed with 20% of the videos and intra-class correlation coefficients 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 (Valentino et al., 2014). Internal consistency of the sensitive guidance composite was good,  $\alpha = 0.89$ .

### Analytic Strategy

The two overarching objectives of the current study were to assess differences between maltreating and nonmaltreating mothers in their sensitive guidance during reminiscing, and to examine the indirect effects of maltreatment on child lability/negativity, emotion regulation, and inhibitory control, via maternal sensitive guidance. The overall composite as well as individual AEED subscale scores were used to assess for differences between maltreating and non-maltreating mothers' reminiscing, and the composite sensitive guidance scores were used for the purposes of testing the models for direct and indirect effects. First, we evaluated for specific differences in maternal sensitive guidance between maltreating and non-maltreating mothers. This analysis was run in SPSS Version 24, using an analysis of variance (ANOVA) predicting the overall maternal sensitive guidance composite from maltreatment status. Next, we followed up with a multivariate analysis of variance (MANOVA) predicting the seven individual sensitive guidance subscales from maltreatment status and corrected univariate tests to identify which specific aspects of reminiscing differed between maltreating and non-maltreating mothers.

Second, the indirect effect analysis was conducted in Mplus (Mplus Version 8; Muthén & Muthén, 2017) using full information maximum likelihood estimation to handle missing data. To examine the mediational role of maternal sensitive guidance during reminiscing between child maltreatment and children's regulatory outcomes, we implemented the bias-corrected bootstrapmethod suggested by MacKinnon, Lockwood, and Williams (2004),

using 1,000 resamples to construct 95% confidence intervals around the product coefficient of the indirect effects of maltreatment via maternal sensitive guidance on child lability/negativity, emotion regulation, and inhibitory control, with child age covaried on the three self-regulatory outcomes.

## Results

### Descriptive Analysis

Means, standard deviations, and intercorrelations among the primary variables are presented in Table 2. None of the primary variables had problematic skew, so no transformations were performed. Sample means and standard deviations for the maternal sensitive guidance composite, individual sensitive guidance subscales, and child self-regulation dimensions by maltreatment group are presented in Table 3. Child age was significantly related to child inhibitory control ( $b^* = 0.51$ ,  $SE = 0.07$ ,  $p < 0.001$ ), such that older children exhibited better inhibitory control. Child age was not related to parent-reported emotion regulation ( $b^* = 0.07$ ,  $SE = 0.08$ ,  $n.s.$ ) or lability/negativity ( $b^* = -0.02$ ,  $SE = 0.08$ ,  $n.s.$ ).

### Main Analyses

**Maltreatment and Maternal Sensitive Guidance Analysis.**—The ANOVA predicting maternal sensitive guidance composite scores from maltreatment status was statistically significant  $F(1, 174) = 5.52$ ,  $p < .05$ , with maltreating mothers engaging in less sensitive guidance during reminiscing compared to nonmaltreating mothers, in line with hypothesis 1. The MANOVA predicting the seven individual subscales (shift of focus, acceptance and tolerance, involvement and reciprocity, closure of negative feelings, structuring, adequacy, and coherence) from maltreatment status was also statistically significant,  $F(7, 168) = 2.29$ ,  $p < .05$ , Wilk's  $\Lambda = .91$ , partial  $\eta^2 = .09$ . Follow-up, univariate testing revealed significant differences between maltreating and nonmaltreating mothers in acceptance and tolerance,  $F(1, 174) = 10.22$ ,  $p < .01$ , adequacy  $F(1, 174) = 6.56$ ,  $p < .05$ , and coherence  $F(1, 174) = 4.42$ ,  $p < .05$ . Using a Tukey correction to correct for multiple testing, the differences between maltreating and nonmaltreating mothers in adequacy and coherence do not remain statistically significant, but the difference in maternal acceptance and tolerance does remain statistically significant ( $p < .05$ ).

**Indirect Effect Analysis.**—Next, using the maternal sensitive guidance composite scores, we evaluated the indirect effect of maternal sensitive guidance on associations between maltreatment and maternal report of lability/negativity and emotion regulation, and child inhibitory control (see Figure 1). The model was fully saturated. In line with hypothesis 1, maltreatment was negatively associated with maternal sensitive guidance ( $b^* = -0.18$ ,  $SE = 0.07$ ,  $p < .05$ ), in that maltreating mothers engaged in less sensitive guidance compared to nonmaltreating mothers. In support of hypothesis 2, the direct effect between maltreatment and maternal report of child lability/negativity was statistically significant ( $b^* = 0.20$ ,  $SE = 0.07$ ,  $p < .01$ ), with maltreated children rated as exhibiting heightened lability/negativity compared to nonmaltreated children. Contrary to hypothesis 2, the direct effects were not statistically significant between maltreatment and maternal report of child emotion regulation ( $b^* = -0.06$ ,  $SE = 0.07$ ,  $n.s.$ ) or child inhibitory control ( $b^* = -0.03$ ,  $SE = 0.06$ ,

*n.s.*). Hypothesis 3 was partially supported; maternal sensitive guidance was positively associated with maternal report of child emotion regulation ( $b^* = 0.21$ ,  $SE = 0.08$ ,  $p < .01$ ) and child inhibitory control ( $b^* = 0.21$ ,  $SE = .08$ ,  $p < 0.01$ ), but was not significantly associated with maternal report of child lability/negativity ( $b^* = -0.14$ ,  $SE = 0.08$ ,  $p = .08$ ). Maternal report of lability/negativity and emotion regulation were significantly, negatively correlated ( $b^* = -0.35$ ,  $SE = 0.07$ ,  $p < .001$ ). Associations were nonsignificant between lability/negativity and inhibitory control ( $b^* = -0.07$ ,  $SE = 0.08$ , *n.s.*), and emotion regulation and inhibitory control ( $b^* = -0.10$ ,  $SE = 0.08$ , *n.s.*).

In support of Hypothesis 4, the indirect effect of maltreatment on maternal report of emotion regulation via maternal sensitive guidance was estimated to lie between  $-0.088$  and  $-0.007$  with 95% confidence. Because the 95% confidence interval did not contain zero, we concluded that the indirect pathway between maltreatment and child emotion regulation via maternal sensitive guidance is statistically significant. Similarly, the indirect effect of maltreatment on child inhibitory control via maternal sensitive guidance was estimated to lie between  $-0.087$  and  $-0.008$  with 95% confidence. Because the 95% confidence interval did not contain zero, we concluded that the indirect effect between maltreatment and child inhibitory control via maternal sensitive guidance is statistically significant. In contrast, the indirect effect of maltreatment on maternal report of lability/negativity via maternal sensitive guidance was estimated to lie between  $-0.001$  and  $0.071$  with 95% confidence. Because the 95% confidence interval included zero, we concluded that the indirect effect of maternal sensitive guidance on the association between maltreatment and lability/negativity is not different from zero, and thus, is not statistically significant. Thus, hypothesis 4 was partially supported, as maternal sensitive guidance significantly mediated relations between maltreatment and both indices of top-down self-regulation: maternal report of child emotion regulation and child inhibitory control, but not bottom-up self-regulation via maternal report of lability/negativity.

## Discussion

The current study identifies maternal sensitive guidance during reminiscing as an underlying mechanism through which maltreatment relates to child self-regulation. Specifically, the sensitive guidance with which mothers engage their preschool-aged children in emotional discussion is identified as an important process through which maltreatment relates to top-down, effortful self-regulation, namely emotion regulation and inhibitory control. These results are particularly salient given that among maltreated children, poor self-regulation has been related to other important outcomes, including academic competence (Pears et al., 2010), peer acceptance and rejection (Kim & Cicchetti, 2010), and internalizing and externalizing problems (Alink, Cicchetti, Kim, & Rogosch, 2009).

A mother who reminisces with sensitive guidance actively accepts and encourages her child's contributions and appropriately resolves negative feelings while providing the necessary structure and support to jointly create coherent stories with her child (Koren-Karie et al., 2003; Oppenheim, Koren-Karie, & Sagi-Schwartz, 2007). In support of our first hypothesis, maltreating mothers were less likely to engage in this type of supportive dialogue compared to demographically matched, nonmaltreating mothers. This provides the

first empirical evidence to show that maltreating mothers engage in less sensitive guidance during reminiscing than demographically matched nonmaltreating mothers. In particular, maltreating mothers were less accepting and encouraging of child contributions to the dialogue. These findings build upon past literature that has identified differences in how maltreating mothers reminisce compared to nonmaltreating mothers (Shipman et al., 2007; Valentino et al., 2015), by using a measure that allows for a rich evaluation of mothers' sensitive guidance during emotional conversations.

In partial support of our second hypothesis, maltreated children were rated by mothers as exhibiting higher lability/negativity compared to nonmaltreated children, replicating findings in other maltreated samples (Shields & Cicchetti, 1997; Shipman et al., 2007). We did not find a direct association between child maltreatment and maternal report of child emotion regulation, although such patterns have been revealed in past research (Pears et al., 2010; Shipman et al., 2007). Mothers who have perpetrated abuse or neglect may be more likely to focus on overt negative child behaviors, rather than examples of positive regulation, which may explain the differences found between maltreated and nonmaltreated children's lability/negativity but not their emotion regulation. Also in contrast with our hypothesis, maltreatment was not directly associated with child inhibitory control. Whereas some past literature identifies a significant relation between maltreatment and child inhibitory control (Pears et al., 2010; Skowron, et al., 2014), other work has reported nonsignificant links between maltreatment and inhibitory control (Valentino, Bridgett, Hayden, & Nuttall, 2012). Importantly, significant indirect effects between maltreatment and these two components of top-down self-regulation, mediated by maternal sensitive guidance, were identified. Thus, although direct effects were expected, the identification of indirect factors that may explain the relationship between early risk and child self-regulation supports a deeper and more nuanced understanding of the mechanisms by which this early risk is conferred.

Although maternal sensitive guidance during reminiscing was significantly associated with emotion regulation and inhibitory control, it was only marginally related to lability/negativity, providing partial support for our third hypothesis. These results suggest that maternal sensitive guidance during reminiscing may not serve the same function for distinct elements of child self-regulation. In particular, effortful elements of child self-regulation, that is, emotion regulation and inhibitory control, may be particularly susceptible to influence from maternal input during emotional conversational contexts in early childhood. This poses important implications for our understanding of both typical and atypical development, as associations between maternal sensitive guidance and child self-regulation were found regardless of children's maltreatment history. Importantly, past longitudinal research has highlighted the influence of child self-regulatory capacities on subsequent trajectories of development in at-risk children. For instance, Kim-Spoon et al. (2013) identified child emotion regulation as a mediator between child lability/negativity and later internalizing symptomology in both maltreated and nonmaltreated children. Looking forward, longitudinal research examining the influence of maternal sensitive guidance over time is needed to further unpack what we know about how top-down and bottom-up self-regulatory abilities develop, and how maternal verbal input during early childhood influences these trajectories of typical and atypical development.

In addition to identifying direct links between maternal sensitive guidance and child effortful self-regulation, the current study identified mediational effects of maternal sensitive guidance between maltreatment and child emotion regulation and inhibitory control, but not lability/negativity, offering partial support for our final hypothesis. These results corroborate and build upon those of Shipman et al. (2007), who found that maternal emotion socialization skills mediated the association between maltreatment and child emotion regulation, but not lability/negativity. One explanation for why maternal sensitive guidance was a significant mediator for emotion regulation and inhibitory control but not lability/negativity may be that cognitively-based processes such as emotion regulation and inhibitory control may be more easily molded by the dyadic, everyday communicative interactions and socialization processes between a mother and child. In contrast, reactive, temperament-based processes may be influenced differently at this age. Alternatively, early maltreatment may be linked to experiences of extreme fear and trauma, which may have a more direct influence on the unhealthy manifestation of child lability/negativity, compared to child emotion regulation or inhibitory control. Some evidence suggests the importance of using sensory motor, body-based techniques, in addition to talk and play, in combating effects of trauma on affect and behavioral dysregulation (Ogden, Minton, & Pain, 2006; Warner, Koomar, Lary, & Cook, 2013). Thus, links between maltreatment and lability/negativity may be less, or differentially, mediated by cognitive-based influences such as maternal dialogue during emotional conversations.

### Limitations and Future Directions

The current study adds to the existing literature by identifying an important mechanism that explains some of the association between early adverse experience and child self-regulatory abilities; however, limitations of the current study merit consideration. Although the current investigation adds to the literature by using a multimethod approach, examining multiple facets of self-regulation using both parent-report and child behavioral measures, future investigations should use multiple tasks and multiple reporters (e.g. fathers, teachers, and/or child) to assess child self-regulation. Given the range of ages in the current sample, older children may have approached ceiling performance on the day/night task, which may have contributed to our null findings in assessing for a direct effect of maltreatment on inhibitory control. Additionally, two of the three child self-regulatory constructs relied on maternal report, as such, reporter bias may have influenced the results. Although the measure used to examine emotion regulation and lability/negativity was developed and validated on maltreating families (Shields & Cicchetti, 1997), it is important to consider that maltreating and non-maltreating mothers may differ in their reporting of child behaviors. For instance, although maltreating mothers rated their children as more highly labile and emotionally reactive, we do not know if this difference is attributable to a true difference in maltreated children's lability/negativity, or another factor, such as maltreating mothers' lower levels of acceptance toward child emotion. Additionally, maternal report on child lability/negativity may be closely linked with child behavior problems more generally, and thus, may not reflect a completely distinct element of child self-regulation. Other measures of self-regulation, such as delay of gratification or frustration tolerance, could also be used to examine child self-regulation, and incorporation of more observation-based measures will be important for future examination of these processes. However, the fact that the same patterns

of findings emerged for emotion regulation and inhibitory control, but not lability/negativity, provides some additional evidence of the convergent and discriminant validity of the ERC subscales, and that these discrete facets map onto top-down and bottom-up elements of self-regulation.

An additional limitation is the cross-sectional nature of the data. With an analysis of indirect effects, it is vital to recognize that the reminiscing and self-regulation data were collected at the same time point and therefore, no causal claims or claims of developmental change can be inferred. However, this study serves as an important baseline for future longitudinal investigation of the relations between early parent-child emotional interactions and developmental trajectories of self-regulation in at-risk children. Additionally, in the current study, maltreatment subtype was collapsed to form a single maltreatment group and more nuanced factors such as severity of maltreatment were not considered. The limited number of sexual and physical abuse experiences precluded examination of maltreatment subtype in the current study. An important direction for future studies will be to examine whether mothers who perpetrate abuse are qualitatively different in their sensitive guidance compared to neglectful mothers. The processes whereby maternal sensitive guidance influences the link between maltreatment and child self-regulation may differ depending upon the type of maltreatment a child experiences. The current findings cannot speak to these differences. Thus, another important direction for future research is to advance more nuanced assessment of the effects of these variations in maltreatment on these processes. In addition to the effects of subtype, research and theory indicate building and cascading effects of maltreatment, and the influence of developmental timing, severity, and chronicity of maltreatment (Cicchetti & Valentino, 2006; Manly, et al., 2001; Masten & Cicchetti, 2010). Future research should also aim to untangle the potentially differential or compounding influences of these factors on child self-regulation. Additionally, further research should examine the roles of influences beyond mothers. For instance, the communication styles of fathers, grandparents, and siblings, and broader family-wide relations and interactions reflect important contextual influences, but their effects remain largely understudied (Fivush et al., 2006; Karreman, van Tuiji, van Aken, & Dekovi , 2006).

The context for the present findings is limited to a single behavioral observation between the mother and child. It is possible that dialogue and interactions within other conversational contexts, such as dialogic reading (e.g. when mothers ask questions and create an interactive dialog during shared book reading) or free play may play a similar role in child self-regulatory functioning compared to reminiscing, or that more general difficulties in the mother-child relationship may characterize broader difficulties in maltreating mother-child interactions that are not necessarily specific to reminiscing interactions. Although the current data cannot speak to the unique relevance of maternal reminiscing over other conversational contexts, theory and evidence indicate that parent-child reminiscing represents a distinct relational interaction that is particularly important for fostering aspects of child cognitive and socio-emotional functioning (Fivush, et al., 2006; Laible, 2004; Reese, Leyva, Sparks, & Grolnick, 2010).

For instance, in a study comparing the effects of training in dialogic reading versus elaborative reminiscing in a low-income, ethnically diverse sample, Reese et al. (2010)

showed that elaborative maternal reminiscing training related to higher quality in child narratives compared to dialogic reading training. Sparks and Reese (2013) showed that maternal elaborative reminiscing linked to elements of child language and literacy development, namely semantic and print knowledge, whereas maternal elaborative discourse during shared book reading did not. Moreover, Laible (2004) showed that talk during maternal reminiscing predicted maternal perceptions of child effortful control and negative reactivity, whereas talk during storybook reading did not relate to these constructs (Laible, 2004). Thus, reminiscing and talk during activities such as storybook reading may serve distinct developmental purposes, and may pose differing implications for aspects of child functioning. Future research should examine maternal verbal interactions across multiple contexts to confirm whether reminiscing specifically, or sensitive communication more broadly, is linked to child self-regulation.

The present study was conducted using an at-risk sample from the Midwest United States, and therefore these findings are not necessarily generalizable to other cultural contexts where mother-child reminiscing may not serve the same function, or may not be a common cultural practice (Nelson & Fivush, 2004; Wang & Fivush, 2005). Maternal sensitive guidance during reminiscing may serve as only one potential mechanism by which risk can confer to effortful elements of child self-regulation in families from a Western cultural context. The nature of this mechanism may look different in different cultural contexts, and as such, there are likely well-regulated children in other cultural contexts who may experience little, or different, mother-child reminiscing (Wang & Fivush, 2005).

Although the current investigation establishes maternal sensitive guidance during reminiscing as a relational skill that maltreating mothers engage in less compared to non-maltreating mothers, it is unclear what individual variables explain why maltreating mothers engage in less sensitive guidance during emotional reminiscing. Many factors may contribute, including mothers' own trauma history, current psychopathology, emotional avoidance, and reflective functioning. For instance, mothers' emotional avoidance may be linked to an emotion regulation strategy of traumatic avoidance due to experience of past trauma (Amos, Furber, & Segal, 2011), and mothers who perpetrate maltreatment often have a personal history of maltreatment and trauma (DiLillo & Damashek, 2003; Dixon, Browne, & Hamilton-Giachritsis, 2005). This avoidance may influence how mothers reminisce, or fail to reminisce, with their children about past emotional experiences. Interestingly, mothers with stronger resolutions of past personal traumas engage in more sensitive guidance and narrative coherence when reminiscing with their children (Koren-Karie, Oppenheim, & Getzler-Yosef, 2008).

Another possible explanation for why maltreating mothers engage in less sensitive guidance during reminiscing relates to their reflective functioning, or their ability to understand and think about their own and their children's mental states, and connect them to behavior (Slade, 2005). Early in development, poor maternal reflective functioning relates to more disrupted mother-infant affective communication (Kelly, Slade, & Grienenberger, 2005). Reflective functioning may be particularly influential in early childhood as emotional communication strategies continue to grow increasingly complex, because if mothers are unable to appropriately reflect on their own and their child's mental states, they may be less



likely to discuss emotions in a responsive and supportive manner. Future research should focus on examining the individual difference factors that influence maternal sensitive guidance given the important role that maternal sensitive guidance plays as a mechanism linking maltreatment to child self-regulation.

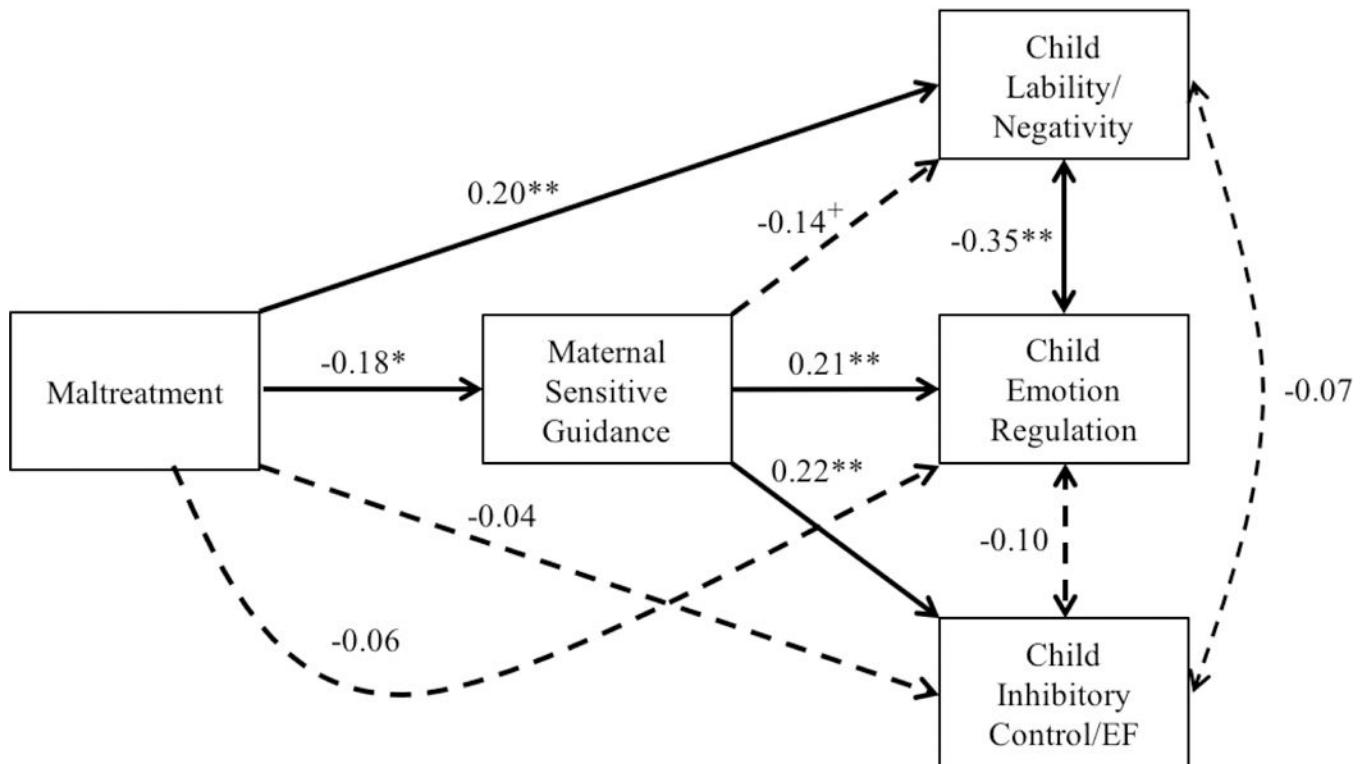
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**Figure 1.** Indirect Pathway Model: Child age covaried on lability/negativity, emotion regulation, and inhibitory control. Model coefficients reflect standardized values.  $^+p < 0.07$ ,  $*p < 0.05$ ,  $^{**}p < 0.01$ .

**Table 1**

## Sample Characteristics by Maltreatment Group

Variable	Maltreating ( <i>n</i> = 111)		Nonmaltreating ( <i>n</i> = 65)		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
1. Maternal Age	29.67	5.43	30.31	6.73	.81
2. Child Age	4.95	1.13	4.95	1.10	.04
3. Maternal Language (PPVT-4)	87.18	9.80	87.85	9.73	.44
	<i>n</i> (%)		<i>n</i> (%)		$\chi^2$
4. Child Sex					.29
Male	61 (55.0%)		33 (50.8%)		
5. Child Ethnicity					3.59
African American	40 (36.0%)		28 (43.1%)		
Caucasian	33 (29.7%)		11 (16.9%)		
Hispanic and Other	38 (34.2%)		26 (39.7%)		
6. Maternal Employment					1.76
Employed	40 (36.0%)		29 (44.6%)		
7. Maternal Education					7.35
Some Bottom or High School	38 (34.2%)		13 (20.0%)		
Completed High School/GED	35 (31.5%)		18 (27.7%)		
Some Trade School or College	26 (22.5%)		20 (30.8%)		
Completed Trade School or Bachelor's/Associate's Degree	11 (9.9%)		12 (18.4%)		
Master's Degree	1 (.9%)		2 (3.1%)		
8. Family Income					.723
Less than \$12,000	62 (55.9%)		32 (49.2%)		
9. Marital Status					11.75*
Married or Living with Partner	31 (27.9%)		35 (53.8%)		

*Note.* Maternal PPVT-4 standard scores less than 70 dropped. Independent samples t-tests and chi-square tests of independence were used to assess for differences by maltreatment group. Equal variance was assumed for all independent t-tests.

\*  $p < .01$ .

**Table 2**  
 Summary of Intercorrelations and Standard Deviations Among Study Variable

Variable	1	2	3	4	5	6	7	8	9	10	11	12	13	M	SD
1. Maltreatment	—													—	—
2. Maternal Sensitive Guidance	-.18*	—												5.14	1.04
3. Shift of Focus	-.08	.68**	—											6.07	1.18
4. Acceptance and Tolerance	-.24**	.77**	.42**	—										5.30	1.33
5. Involvement and Reciprocity	-.09	.82**	.46**	.66**	—									5.38	1.41
6. Closure of Negative Feelings	-.02	.55**	.31**	.41**	.34**	—								4.20	.92
7. Structuring	-.14	.89**	.54**	.65**	.75**	.40**	—							5.10	1.36
8. Adequacy	-.19*	.83**	.47**	.50**	.56**	.35**	.69**	—						5.47	1.51
9. Coherence	-.16*	.88**	.55**	.53**	.63**	.39**	.74**	.84**	—					4.43	1.57
10. Lability/negativity	.22**	-.18**	-.19*	-.19*	-.04	-.07	-.13	-.16*	-.20**	—				30.65	6.08
11. Emotion Regulation	-.10	.23**	.04	-.04	.07	.11	.13	.29**	.30**	-.39**	—			25.83	2.99
12. Inhibitory Control	-.06	.29**	.19*	.19*	.20**	.06	.24**	.28**	.36**	-.09	-.02	—		21.48	11.16
13. Child Age	.00	.14	.06	.06	-.01	.03	.12	.18*	.26**	.26**	.09	.53**	—	6.07	1.18

Note. Maternal PPVT-4 standard scores less than 70 dropped.

\* p<0.005.

\*\* p<0.01.

**Table 3**

Means and Standard Deviations of Study Variables by Maltreatment Group

Variable	Maltreating		Nonmaltreating		<i>F</i>	<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>		
Maternal Sensitive Guidance	5.00	1.05	5.38	1.00	5.52	.02
Shift of Focus	6.00	1.25	6.20	1.03	1.19	.28
Acceptance and Tolerance	5.06	1.34	5.71	1.21	10.22	.002
Involvement and Reciprocity	5.28	1.43	5.54	1.37	1.38	.24
Closure of Negative Feelings	4.19	0.92	4.23	0.92	0.08	.77
Structuring	4.95	1.32	5.35	1.41	3.57	.06
Adequacy	5.25	1.49	5.85	1.47	6.56	.01
Coherence	4.24	1.55	4.75	1.56	4.42	.04
Lability/Negativity	31.44	6.36	28.85	5.12	8.91	.003
Emotion Regulation	25.64	3.12	26.21	2.73	1.56	.21
Inhibitory Control	20.99	11.58	22.28	10.48	0.53	.47

*Note.* Maternal PPVT-4 standard scores less than 70 dropped. *F*-values and *p*-values reported reflect uncorrected one-way ANOVA results of study variables by maltreatment group.