Research on Child and Adolescent Psychopathology (2022) 50:837–851
https://doi.org/10.1007/s10802-021-00889-8

The Structure of Emotion Dialogues: Maternal Reminiscing Factors Differentially Relate to Child Language and Socio-Emotional Outcomes

Christina G. McDonnell[1] · Monica Lawson[2] · Ruth Speidel[3] · Kaitlin Fondren[3] · Kristin Valentino[3]

Accepted: 14 December 2021 / Published online: 29 January 2022

Abstract

Mother–child reminiscing about past emotional experiences is one aspect of emotion socialization that facilitates child socio-emotional and cognitive outcomes. To advance understanding of the multidimensional nature of this clinically significant transdiagnostic process, the current investigation examined the structure of maternal reminiscing and how emergent factors related to child outcomes across two diverse samples (total $N = 337$). Sample one included 102 mothers and their preschool-aged children from community agencies, and sample two included 235 mothers and their preschool-aged children, the majority of whom had experienced substantiated maltreatment. Dyads completed a reminiscing task coded for multiple aspects of maternal reminiscing style (frequency and scale-based coding), assessments of child receptive language and internalizing and externalizing problems, and measures of parenting. Factor analyses confirmed that maternal reminiscing was best defined by three factors: (1) structural elaborations, (2) emotional attributions, and (3) sensitive guidance, and this three-factor structure was invariant across samples, maltreatment, maternal race, and child sex. When controlling for other dimensions of caregiver-reported parenting behavior, reminiscing sensitive guidance was significantly positively associated with child language and negatively with child internalizing and externalizing symptoms. In contrast, emotional elaborations were associated with higher child internalizing concerns. When controlling for caregiver-reported parenting and observed maternal sensitivity, structural elaborations negatively and emotional attributions positively related to child internalizing symptoms, whereas reminiscing factors did not significantly predict child externalizing symptoms nor child language. Distinct aspects of maternal reminiscing behavior are differentially related to child outcomes. Limitations and implications for understanding and measuring emotion socialization interactions are discussed.

Keywords Emotion socialization · Emotion dialogues · Parenting · Mother–child reminiscing

✉ Christina G. McDonnell
christina.mcdonnell@uwyo.edu

Monica Lawson
monica.lawson@utsa.edu

Ruth Speidel
rspeidel@nd.edu

Kaitlin Fondren
kfondren@nd.edu

Kristin Valentino
Kristin.valentino@nd.edu

[1] Department of Psychology, University of Wyoming, Laramie, WY 82071, USA

[2] Department of Psychology, University of Texas at San Antonio, San Antonio, TX 78249, USA

[3] Department of Psychology, University of Notre Dame, Notre Dame, IN 46556, United States

Mother–child reminiscing about past emotional events is one aspect of emotion socialization that facilitates child socio-emotional and cognitive functioning (Fivush et al., 2006). Parent–child discussions of emotional experiences are a central target of parenting programs (Wareham & Salmon, 2006), and teaching emotional communication is a key component of parent–child interaction interventions associated with large effect sizes in improving parenting and child behavior (Kaminski et al., 2008). Thus, reminiscing and emotion coaching interventions have emerged as a cost-effective option for improving parenting skills and child outcomes among at-risk dyads (see England-Mason & Gonzalez, 2020, for review), including families that have experienced maltreatment (Valentino et al., 2019). More broadly, supportive emotional conversations are central to many forms of cognitive-behavioral therapies, including

trauma-focused treatments and interventions for internalizing disorders (Carpenter et al., 2015; de Arellano et al., 2014). Expanding the scope of behavioral parenting training approaches to include content on enhancing parent–child emotional interactions and improving emotion coaching is increasingly being considered for externalizing disorders such as oppositional defiant disorder (Salmon et al., 2009) and attention deficit/hyperactivity disorder (Chronis-Truscano et al., 2016), as well as autism (Rispoli et al., 2019).

Given the transdiagnostic clinical significance of emotion dialogues, specifying the multidimensional nature of discussions about past emotional events has important implications for understanding the nature of mother–child reminiscing and for refining interventions targeting parent–child emotional communication. Knowing which aspects of parent–child emotional conversations are related to children's outcomes is essential for understanding what to try to enhance or support in parenting interventions. Moreover, evaluating whether aspects of emotion reminiscing dialogues are related to children's outcomes beyond other types of parenting variables will inform our growing understanding of the potential added benefit of emotion socialization interactions beyond traditional behavioral management techniques for parenting interventions. Thus, the current study aims to determine (1) the underlying structure of maternal contributions to reminiscing via factor analysis, (2) associations among emergent factors and clinical outcomes commonly targeted via emotion coaching interventions (i.e., child internalizing/externalizing behavior problems, child language), and (3) whether reminiscing factors are associated with child outcomes over and above general parenting factors.

Dimensions of Maternal Reminiscing

Maternal reminiscing varies along several dimensions, including how often a mother elaborates and evaluates child contributions as well as the affective tone of her engagement. Thus, reminiscing can be measured in various ways, including frequency-based schemes that code each individual utterance (has also been referred to as micro-coding, or elaborative quantity) and scale-based global rating schemes that code the overall interaction using Likert rating scales (has also been referred to as macro-coding, or elaborative quality; Leyva et al., 2020; Valentino et al., 2014). Whereas some reminiscing tasks invite mother–child dyads to discuss any past shared events (Larkina & Bauer, 2010), others explicitly require discussion of past emotional events when the child felt certain ways (e.g., stressful events; Sales & Fivush, 2005). Maternal and child contributions to past emotional event discussions are the focus of the current study because reminiscing about negative emotional experiences is most closely related to children's socioemotional outcomes (Laible, 2011).

Maternal elaboration is most commonly rated using frequency coding (or micro-coding) that reflects how often the mother enriches and scaffolds the dialogue with a range of elaborative content, such as the amount of detail provided by mothers and open-ended questions asked of the child (see Waters et al., 2019, for review). In these frequency/micro-coding approaches, high elaborative mothers are defined as making frequent new statements, questions, or confirmations of child contributions that serve to structure the conversation (Fivush et al., 2006; Sales & Fivush, 2005; Valentino et al., 2014). Maternal elaboration can vary by content, including whether elaborations are used to structure the conversation around basic facts of what happened versus emotional states (Bird et al., 2006; McDonnell et al., 2016; Reese et al., 2007), with some research finding that emotional and non-emotional aspects of maternal reminiscing are distinct dimensions (Raikes & Thompson, 2008).

Global, scale-based ratings of elaboration (macro-coding) are grounded in attachment and self-determination perspectives of maternal reminiscing, which posit that the frequency of maternal elaborations can be distinguished from the affective tone in which the elaborations are delivered (Cleveland & Morris, 2014; Koren-Karie et al., 2008). In these scale-based coding systems, reminiscing is measured by rating sensitive and emotionally supportive aspects of maternal reminiscing behavior on a Likert-type scale (e.g., acceptance, involvement, reciprocity rated on a scale from 1–9; Koren-Karie et al., 2008). Thus, scale-based rating intends to capture characteristics of maternal support beyond the frequency of elaboration, including emotional attunement and responsiveness.

Little research has directly compared these different methods of measuring reminiscing, and it is unclear how strongly frequency-based (micro-coding of elaborative quantity) and scale-based (macro-coding of elaborative quality) methods overlap. One prior study found moderate inter-correlations among frequency-based (composite variable of frequency of elaborations) and scale-based (overall macro-ratings of elaboration from 1–5) measures of elaboration, suggesting that these constructs are related yet still distinct (Leyva et al., 2020). Evaluating the factor structure of multiple dimensions of scale-based and frequency-based measures of maternal reminiscing would advance understanding of the extent to which all of these ways of measuring maternal reminiscing reflect one underlying factor, or if they better represent meaningfully distinct dimensions.

Establishing that factors underlying maternal reminiscing behavior are invariant across samples or participant characteristics is important for showing that these dimensions can be measured similarly and meaningfully compared across different samples and participants. Given that the majority

of the extant reminiscing literature has focused on White families, there is an urgent need to examine reminiscing across cultures and among racially and ethnically diverse parent–child dyads (Salmon & Reese, 2016). There is also great interest in examining the association of child sex with maternal elaborative style in order to understand whether parents may differentially socialize children of different gender identities through emotion conversations (see Waters et al., 2019 for meta-analysis). In addition, comparing reminiscing across maltreating and non-maltreating families is important for understanding how difficulty with emotion conversations may mediate the association between maltreatment with important child outcomes, and thus inform intervention for children experiencing abuse or neglect and their caregivers (Valentino et al., 2019). Therefore, examining whether factors underlying maternal reminiscing are invariant across parent race or ethnicity, child sex, and maltreatment status is important for determining whether reminiscing dimensions reflect similar constructs and can be validly compared across groups.

Dimensions of Reminiscing in Relation to Child Outcomes

To fully understand the multidimensional nature and clinical utility of mother–child reminiscing, it is essential to identify which dimensions of maternal reminiscing correspond most closely to children's socio-emotional and language outcomes. Child behavioral problems are an important aspect of socio-emotional development and are commonly targeted within parent–child interventions; training parents in emotional communication is thought to enhance parent–child interaction patterns and improve children's emotional competence, thereby reducing internalizing and externalizing difficulties (Wareham & Salmon, 2006). Parent–child conversations also play a critical role in the development of child language and narrative skills (Reese et al., 2010a, b), which longitudinally predict fewer emotional and behavioral problems during the preschool period (Salmon et al., 2016).

Different aspects of maternal reminiscing may be differentially related to child outcomes, and understanding these relations is important for focusing interventions depending on the clinical goal (e.g., enhance language skills, versus reduce behavior problems). For example, Leyva and colleagues (2020) found that the frequency of elaboration was more strongly related to child cognitive outcomes such as memory, whereas scale-based coding of elaboration was more strongly associated with child socio-emotional outcomes such as emotion regulation. Reminiscing factors related to emotion, including the frequency with which mothers discuss emotional states and the extent to which they provide sensitive guidance to children in these discussions, may relate most strongly to internalizing and externalizing behavioral concerns because they most directly facilitate children's emotional competence. In contrast, reminiscing factors related to non-emotional content, such as elaborations concerning facts and details of past events, may be more closely related to children's language as they may provide more opportunities for rehearsal of details, which could foster linguistic and narrative abilities.

Maternal reminiscing behavior is associated with other aspects of parenting such as parental sensitivity (Reese et al., 2019). Thus, it is important to determine which reminiscing factors are associated with child outcomes, over and above other related dimensions of parenting. Reminiscing appears to be a unique conversational context that is distinct from other kinds of parent–child talk (Laible, 2004; Leyva et al., 2012). However, whether reminiscing about past emotional experiences uniquely facilitates children's outcomes beyond general behavioral parenting skills remains unclear. While some studies show that adding an emotion coaching component (e.g., training parents to label, accept, and ask questions about children's feelings) to behavioral parent training programs results in improved parenting (Salmon et al., 2009) and child behavior (Chronis-Tuscano et al., 2016), others have found that emotion coaching components do not have incremental value beyond general parent management training (Salmon et al., 2014). Direct evaluation of the predictive validity of emotional reminiscing for children's outcomes beyond other types of parental behavior has important implications for understanding the unique contribution of emotional event discussions to children's well-being.

Goals of the Current Study

The goals of the current investigation are to explicate (1) the factor structure of maternal reminiscing across two diverse samples of mothers and their preschool-aged children, (2) how emergent factors relate to parenting and child language and socio-emotional outcomes, and (3) whether reminiscing factors predict children's outcomes over and above general parenting factors. The following hypotheses were examined:

1. We anticipated that maternal reminiscing would be defined by three factors: including a separate scale-based factor reflecting the overall emotionally supportive nature of reminiscing and two frequency-based factors representing the frequency of non-emotional/structural and emotional elaborations. Prior work has distinguished structural and emotional elaborative content (Raikes & Thompson, 2008), frequency-based and scale-based coding strategies (Leyva et al., 2020), and suggests that the affective tone of maternal reminiscing

is defined by aspects of reminiscing distinct from the frequency of elaborations (Koren-Karie et el., 2008).
2. Regarding correlates of reminiscing factors, we hypothesized that the scale-based reminiscing factor reflecting overall emotional support and the emotional elaborations factor (frequency-based) would be most strongly associated with children's internalizing and externalizing behavior, whereas non-emotional/factual elaborations would most strongly relate to children's language.
3. The anticipated associations between the reminiscing factors and child outcomes were expected to remain significant when controlling for other parenting dimensions.

Method

Participants

Sample One Sample one included 102 mother–child dyads recruited from the community, including Head Start preschool centers, as part of a larger study examining reminiscing among English-speaking mothers (M_{age} = 30.55; SD_{age} = 7.26) and their children. Children (54% male) were between 3.5 and 6 years old (M = 5.45, SD = 0.86). The sample was racially diverse, and the majority of mothers were unmarried, had an annual income below $12,000, and had a high school education or less (see Table 1). Because

Table 1 Demographic Characteristics and Descriptive Statistics

	Sample One N = 102		Sample Two N = 235	
Factor or Variable	%		%	
Maternal race or ethnicity				
Black / African American	60%		40%	
White	21%		40%	
Hispanic/Latino/a	10%		14%	
Bi/Multiracial or other endorsed	9%		5%	
Family income < $12,000/year	51%		56%	
Married	27%		19%	
Maternal education				
Some high school	23%		30%	
High school/GED	29%		32%	
Some trade/college	35%		26%	
Completed trade/college/MA	14%		13%	
Maternal Reminiscing Variables	Valid *n*	*M(SD)*	Valid *n*	*M(SD)*
Focus on the Task	101	6.12 (1.17)	235	6.04 (1.17)
Acceptance and Tolerance	101	5.83 (1.17)	235	5.27 (1.28)
Involvement and Reciprocity	101	5.42 (1.38)	235	5.31 (1.40)
Closure of Negative Feelings	101	4.34 (1.17)	235	4.20 (0.87)
Structuring	101	5.27 (1.23)	235	4.95 (1.36)
Number of Positive Attributions	100	2.74 (2.29)	235	3.28 (3.09)
Number of Negative Attributions	100	2.45 (2.27)	235	8.89 (5.52)
Number of Elaborations	100	14.52 (9.29)	235	13.98 (10.84)
Number of Yes/No Questions	100	17.10 (9.56)	235	17.31 (10.87)
Number of Wh- Questions	100	10.89 (6.74)	235	8.44 (6.45)
Number of Confirmations	100	2.78 (2.70)	235	1.86 (2.26)
Child language	99	94.94 (15.96)	228	90.60 (15.96)
APQ Inconsistent Parenting	100	16.18 (4.24)	234	16.27 (4.09)
APQ Positive Parenting	94	53.18 (5.76)	232	51.18 (5.56)
APQ Punitive Parenting	101	9.88 (2.60)	231	8.81 (2.33)
Q-Sort Sensitivity	––	––	231	0.43 (.40)
Child internalizing	100	51.45 (12.61)	234	4.24 (2.98)
Child externalizing	100	49.74 (11.72)	235	8.51 (4.06)

APQ Alabama Parenting Questionnaire. Internalizing and Externalizing were measured via the Child Behavior Checklist (CBCL) t-scores in sample one, and the Strengths and Difficulties Questionnaire (SDQ) in sample two. Percentile values are rounded to the nearest whole number

of the verbal nature of the reminiscing task, participants were excluded if maternal language scores on the Peabody Picture Vocabulary Test (PPVT-4; Dunn & Dunn, 2007) were more than two standard deviations below the sample mean (less than standard score of 63; $M = 86.75$, SD = 11.83). Overall, 104 mothers participated in the study, but two were dropped as outliers for this reason.

Sample Two Participants included 235 children (51% male) between 3 and 6 years of age (Mage = 4.93, $SD = 1.14$) and their mothers (Mage = 29.88, $SD = 5.92$) participating in a longitudinal randomized clinical trial of a brief parenting intervention. Data were drawn from the baseline assessment only. No dyads had yet been assigned to receive the intervention. One hundred and sixty-five of these families had substantiated maltreatment with the mother named as a perpetrator. Maltreating dyads were recruited from the Department of Child Services (DCS) in a medium-sized Midwestern city. The other 83 families were demographically comparable in terms of race and income but had no current or previous involvement with DCS for maltreatment. Nonmaltreating families were recruited in the same community at Women, Infants, and Children (WIC) health clinics, the housing authority, and Head Start. All children were living with their biological mothers. Demographic characteristics are presented in Table 1. Consistent with sample one, participants were excluded if maternal language scores on the Peabody Picture Vocabulary Test (PPVT-4; Dunn & Dunn, 2007) were more than two standard deviations below the sample mean (less than standard score of 60; $M = 84.95$, $SD = 12.72$). Overall, 248 mothers participated, but six were dropped as outliers for language scores and seven were dropped for not completing the reminiscing task, leaving a total sample size of 235.

Procedure

Across both samples, mothers and their children completed an assessment protocol lasting two hours. Measures utilized in our analyses are described (see Valentino et al., 2014, 2019, for detailed descriptions of study protocol). After obtaining informed consent from mothers and assent from children, mothers and children completed assessment measures independently from one another with trained research staff. Midway through the session, mother–child dyads participated in the joint reminiscing task. Procedures for both studies were approved by the University of Notre Dame Institutional Review Board.

Measures

Mother–child Reminiscing In both samples, mothers and children were instructed to discuss four past events with each other as if they were at home. Before beginning, mothers elected four past events involving times their child felt certain ways, and cue words differed across samples. For sample one, mothers elected (1) a happy event (e.g., a birthday party), (2) a stressful event (e.g., trip to the emergency room), (3) a conflict event (e.g., argument about cleaning up), and (4) a separation event (e.g., child going to daycare). For sample two, mothers elected times when the child felt happy (e.g., going to the playground), scared (e.g., being chased by a dog), sad (e.g. losing a pet), and mad (e.g., fighting with siblings). All dyads in both samples discussed the happy event first, and the order of the remaining events was counterbalanced. Conversations usually lasted between 1–13 min. Dialogues were then video recorded and transcribed verbatim. The same rating scheme was coded across both samples.

Frequency-based Coding Maternal reminiscing was coded from the dialogue transcripts using a frequency-based scheme (micro-coding) wherein each utterance (subject-verb preposition) was coded for elaborative content. Maternal elaborative content included the number of (1) Wh- questions (open-ended questions; e.g., 'where'), (2) Yes–no questions (closed-ended questions), (3) elaborations (mother adding new information), (4) confirmations (mother confirms a child contribution), (5) negative emotion attributions (e.g., 'you felt scared'), and (6) positive emotion attributions ('you felt happy'). Reliability was achieved for all coders on at least fifteen percent of either sample (average $ICC \geq 0.80$). Emotion questions occurred at too low of a frequency to be considered (mean < 1.00 in sample two).

Scale-based Global Coding The Autobiographical Emotional Events Dialogue scheme (AEED; Koren-Karie et al., 2008) was used to rate maternal reminiscing using Likert scales rated from 1–9 (macro-coding). Higher scores indicate higher levels of the behaviors assessed via the scale. Scales included (1) focus on the task (mother is focused on task completion, does not shift focus to irrelevant details), (2) acceptance and tolerance (mother enables the child to express a wide range of emotional themes without judgment), (3) involvement and reciprocity (mother is positively engaged and interested in the child and their stories), (4) closure of negative feelings (mother guides stories with negative themes towards positive resolutions emphasizing child coping), and (5) structuring (mother facilitates construction of coherent narratives). Reliability was achieved by all coders on twenty percent of both samples (mean $ICC > 0.80$).

Maternal Report of Parenting The Alabama Parenting Questionnaire – Preschool Revision (APQ-PR; Clerkin et al., 2007) was administered to mothers in both samples to obtain maternal report of parenting behaviors. The APQ-PR contains 32 items rated on a 5-point Likert scale. The

inconsistent/negative parenting subscale refers to parental perception of the extent to which they attend to and consistently respond to their children (e.g., "you threaten to punish your child and then do not actually punish him/her", "you get so busy that you forget where your child is and what he/she is doing"). The positive parenting subscale refers to the extent to which parents report engaging in behaviors related to positive attention and regard (e.g., "you have a friendly talk with your child", "you compliment your child when he/she has done something well"). The punitive parenting subscale reflects the extent to which the parent engages in harsh physical punishment and yelling.

Observed Parental Sensitivity In sample two only, maternal sensitivity was objectively rated from 20 min video-recordings of mother–child free play sessions using the Mini Maternal Behavior Q-Sort (MBQS; Pederson, Moran, & Bento, 2013). Mothers were video taped for ten minutes engaged in a free play activity with their child at both the laboratory and at home. Coders then completed the MBQS based on twenty minutes of video. Coders sorted 25 items describing maternal behavior into five categories based on how like or unlike the mother each descriptor was. These behavioral categorizations were then correlated with a sensitivity prototype established based on Ainsworth's original conceptualizations of sensitive parenting behavior, yielding a sensitivity measure shown to be valid, reliable, and convergent with other assessments of caregiving behavior (Tarabulsy et al., 2009). All coders achieved acceptable reliability, established as an average $ICC > 0.80$, on twenty percent of the sample.

Child Language The Peabody Picture Vocabulary Test – Fourth Edition (PPVT-4; Dunn & Dunn, 2007) was administered to assess child receptive language across both samples. The PPVT-4 is a standardized, norm-referenced assessment requiring children to identify pictures corresponding with vocabulary words presented aloud. The PPVT-4 is widely used in the reminiscing literature as a measure of children's language abilities.

Child Internalizing and Externalizing Difficulties In sample one, the Child Behavior Checklist (CBCL; Achenbach, 1991) was administered to mothers to obtain parental report of child behavioral concerns. The CBCL generates internalizing (e.g., depression, anxiety, somatization) and externalizing (e.g., aggression, conduct problems) standardized composite t-scores, with higher levels reflecting higher levels of maladaptive socio-emotional symptoms. In sample two, the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997) was administered to mothers. The SDQ contains 25 items rated as either 0 (not true), 1 (somewhat true), or 2 (certainly true) of their child. The SDQ yields internalizing (average of emotional and peer problems subscales) and externalizing (average of conduct and hyperactivity subscales) composites, with higher scores reflecting high levels of problematic behaviors (Goodman et al., 2010). The SDQ and CBCL correspond closely with one another (Stone et al., 2010), and the internalizing and externalizing scores from both measures were transformed to Z-scores (put on the same scale) to evaluate behavioral problems in the full combined sample.

Analytic Strategy

First, confirmatory factor analyses were conducted in the full combined sample in order to determine whether the structure of maternal reminiscing was best defined by one (all indicators reflect one general reminiscing factor), two (indicators load onto either an elaborative or sensitive guidance factor), or three (indicators load onto separate scale-based and emotional and non-emotional frequency-based factors) factor solutions, using geomin rotation and maximum likelihood robust (MLR) estimation. Missing data was handled using full information maximum likelihood. Factor solutions were evaluated for model fit using root mean square error of approximation (RMSEA values ≤ 0.08 indicate ideal fit; Browne & Cudeck, 1993), Bentler's comparative fit index (CFI values ≥ 0.90), the Tucker-Lewis Index (TLI values ≥ 0.95), and the standardized root mean square residual (SRMR ≤ 0.08) (Hu & Bentler, 1999). Second, we used the stepwise procedure outlined by Little (2013) to ascertain structural invariance of the best-fitting model across several dimensions. We tested configural (whether overall factor structure fits well across subsamples), metric (factor loadings set to be equivalent across subsamples), and scalar (item intercepts set to be equivalent across subsamples) invariance. Higher levels of factorial invariance are acceptable if the change in model fit is negligible (e.g., SRMR change less than 0.030 for metric and 0.010 for scalar, change in CFI and RMSEA does not exceed 0.010-0.015; Chen, 2007). Invariance was examined across samples (which utilized different sets of cue words to assess reminiscing), maltreatment, child sex, and maternal race (African American/Black versus White). Only these two race categories were evaluated due to power (sample size for other groups was too small to examine).

Third, factor scores from the best-fitting model were used to examine correlations for emergent factors with parenting, child internalizing and externalizing behavior problems, and child language. Finally, using the full sample, we used a structural equation model path analysis to examine whether maternal reminiscing factors were associated with children's outcomes (child receptive language, internalizing, externalizing) over and above parenting, controlling for child sex, age, maternal race, maltreatment status, and sample. Given

that only sample two also included an additional measure of observed parental behavior from a different task, we also ran this path analysis separately within the second sample only to examine whether reminiscing was associated with child outcomes even with observed parental sensitivity in the model.

Results

Preliminary Analyses

Table 1 presents descriptive statistics for primary study variables. Reminiscing quantity variables with skew greater than one were square-root transformed to reduce skewness. Information regarding missing data is also reported in Table 1; a small portion of data was missing and imputed via full information maximum likelihood estimation. All reminiscing variables were standardized prior to substantive analyses.

Confirmatory Factor Analyses and Factorial Invariance

A series of confirmatory factor analyses were conducted to evaluate the structure of maternal reminiscing indicators. The one- (RMSEA = 0.172, CFI = 0.683, TLI = 0.605, SRMR = 0.125) and two-factor (RMSEA = 0.104, CFI = 0.887, TLI = 0.856, SRMR = 0.074) models did not yield adequate fit to the data. The hypothesized three-factor model wherein factors, from here on labeled maternal structural elaborations, emotional attributions, and sensitive guidance, formed separate dimensions had adequate model fit across all fit indices (RMSEA = 0.086, CFI = 0.926, TLI = 0.901, SRMR = 0.060). The three-factor model is presented in Fig. 1.

Factorial invariance of the reminiscing structure across the two samples was evaluated to determine whether the three-factor solution derived in the joint sample was acceptable across samples. First, the three-factor solution was fitted to equivalent configuration in both samples; this baseline configural model had acceptable model fit (see Table 2). Next, metric and scalar invariance tests were applied sequentially to the three-factor baseline model. Setting each corresponding loading in the two samples to be equal (metric invariance) and imposing equality constraints on each observed intercept (scalar invariance) did not result in significant change to the fit indices (see Table 2). Thus, the factorial structure is equivalent across the two samples, which utilized distinct sets of cue words for assessing reminiscing. Factorial invariance of the three-factor model was also evaluated by maltreatment status to determine whether the model was equivalent across maltreating and non-maltreating parents, maternal race to examine whether the model was comparable between mothers who identified as Black versus White, and child sex to examine comparability across boys and girls. The baseline configural model had adequate fit across all three tests, and subsequent tests of metric and scalar invariance did not result in significant change to the fit indices supporting invariance across maltreatment status, maternal race, and child sex (see Table 3).

Correlates of Reminiscing Factors

Factor scores were constructed from the three-factor solution described above. Correlations among reminiscing factors are presented in Table 3; results from the combined full sample are presented below the diagonal, whereas results are presented separately across samples above the diagonal (sample one presented first, followed by sample two after the '/'). In the full sample, structural and emotional elaborations were strongly intercorrelated, and sensitive guidance and structural elaborations were moderately intercorrelated. In contrast, sensitive guidance was weakly correlated with emotional elaborations. Similar patterns were observed when examined separately in each sample.

No gender differences were observed for any of the reminiscing factors in the full sample, including structural elaborations ($t(334) = 0.36$, $p = 0.716$, Cohen's d = 0.04), emotional attributions ($t(334) = 1.09$, $p = 0.275$, Cohen's d = 0.12), and sensitive guidance ($t(334) = 0.08$, $p = 0.934$, Cohen's d = 0.01). Child age was unrelated to the reminiscing factors in the full sample, and weakly positively correlated with sensitive guidance in sample one. Lastly, no differences were observed for any of the reminiscing factors by maternal race (race coded as 4-part variable including mothers who identified as African American/Black, Latino/a/Hispanic, White, or multiracial/other), including structural elaborations ($F(3,334) = 0.30$; $p = 0.825$, eta-squared = 0.00), emotional attributions ($F(3,334) = 0.82$, $p = 0.483$, eta-squared = 0.01), and sensitive guidance ($F(3,334) = 1.10$, $p = 0.351$, eta-squared = 0.01).

Correlations for the reminiscing subscales with parenting and child outcomes are presented in Table 3, with the full sample below the diagonal. For child outcomes, sensitive guidance and structural elaborations demonstrated similar patterns of correlations, as both were positively correlated with child language and negatively correlated with internalizing. Only sensitive guidance was negatively correlated with externalizing. Emotional attributions were not significantly correlated with any of the child outcomes. For relations with other parenting variables, both structural elaborations and sensitive guidance were negatively correlated with caregiver report of inconsistent parenting and positively correlated with observed maternal sensitivity. Emotional attributions were unrelated to the other parenting variables.

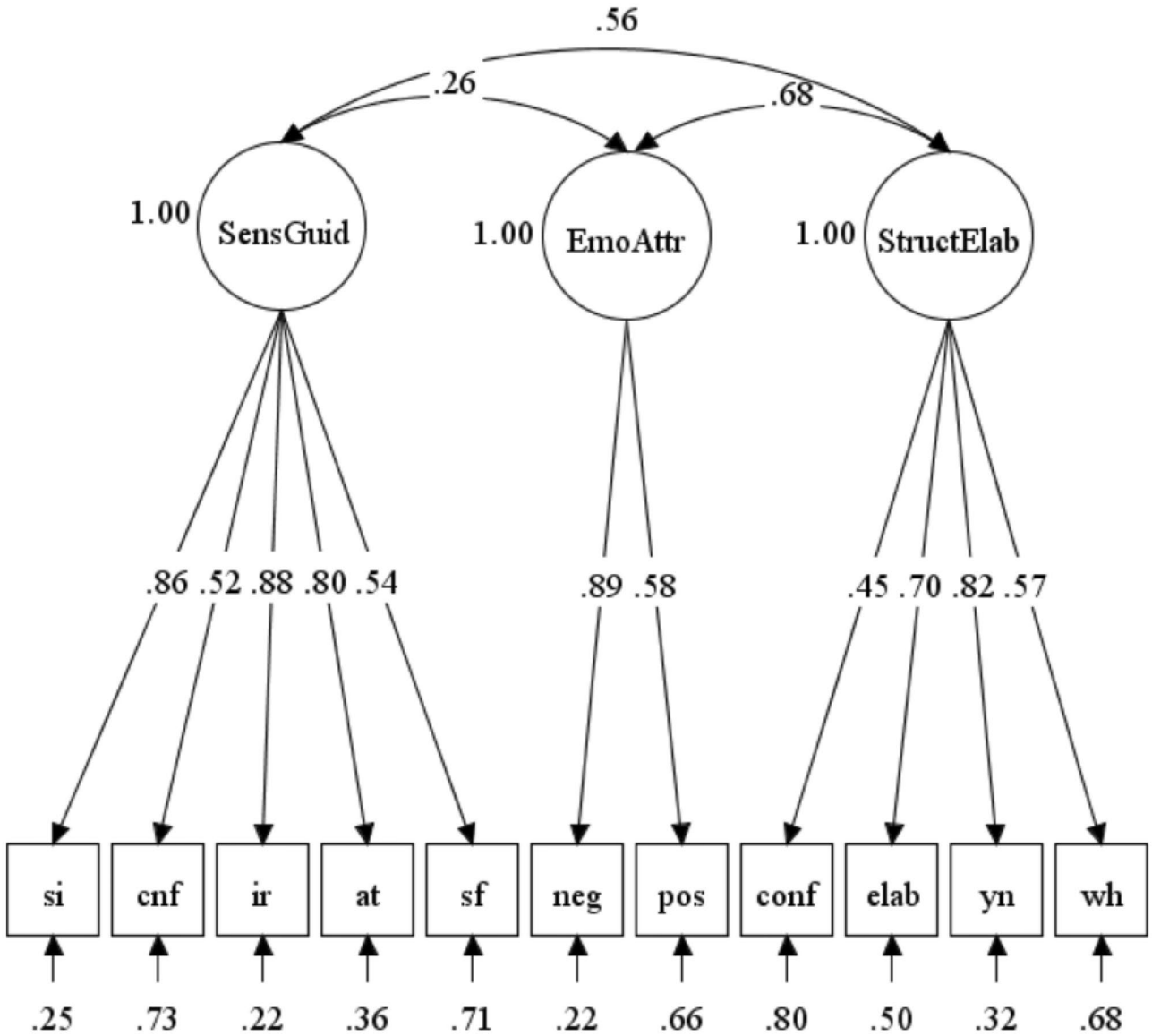

Fig. 1 Three-Factor CFA Model of Maternal Reminiscing. Values represent standardized loadings. SensGuid = sensitive guidance. EmoAttr = emotional attributions. StructElab = structural elaborations. si = structuring of interaction (macro-code), cnf = closure of negative feelings (macro-code), ir = involvement and reciprocity (macro-code), at = acceptance and tolerance (macro-code), sf = shift of focus (macro-code), neg = negative emotional attributions (micro-code), pos = positive emotional attributions (micro-code), conf = confirmations (micro-code), elab = memory elaborations (micro-code), yn = yes/no closed ended questions (micro-code), wh = open-ended (e.g., what, where, when, why) questions (micro-code)

Predictive Power of Reminiscing Factors beyond Parenting for Child Outcomes

A saturated path analysis was utilized to more stringently evaluate whether reminiscing factors were related to child outcomes (language, internalizing, and externalizing), over and above general parenting factors (parent report of positive, inconsistent, and punitive parenting on the APQ), controlling for maltreatment status, sample, maternal race, and child sex and age (see Fig. 2). Significant pathways are presented as solid lines, marginal pathways are presented as dashed lines, and non-significant pathways and paths for covariates and covariances were omitted from Fig. 2 for ease of interpretation. Even when accounting for APQ parenting dimensions, reminiscing sensitive guidance was significantly associated with all child outcomes, such that higher levels of sensitive guidance were associated with higher receptive language and lower levels of child internalizing and externalizing behavior problems. In contrast, the emotional elaborations factor was significantly positively associated with

Table 2 Structural Invariance Analyses

Model tested	*df*	RMSEA	Δ RMSEA	CFI	Δ CFI	SRMR	Δ SRMR	Pass?
Samples/cue words								
Configural	82	0.090	—	0.922	—	0.066	—	—
Metric	90	0.084	0.006	0.926	0.004	0.069	0.003	Yes
Scalar	98	0.078	0.006	0.931	0.005	0.069	0.000	Yes
Maltreatment status								
Configural	82	0.090	—	0.921	—	0.064	—	—
Metric	90	0.084	0.006	0.924	0.003	0.068	0.004	Yes
Scalar	98	0.080	0.004	0.925	0.001	0.069	0.001	Yes
Maternal race								
Configural	82	0.090	—	0.921	—	0.067	—	—
Metric	90	0.081	0.009	0.929	0.008	0.069	0.002	Yes
Scalar	98	0.084	0.003	0.917	0.012	0.074	0.005	Yes
Child sex								
Configural	82	0.102	—	0.902	—	0.070	—	—
Metric	90	0.095	0.007	0.907	0.005	0.073	0.003	Yes
Scalar	98	0.092	0.003	0.904	0.003	0.075	0.002	Yes

df = degrees of freedom. RMSEA = root mean square error of approximation. CFI = comparative fit index. SRMR = standardized root mean square residual

internalizing, such that more emotional elaborations were related to more internalizing behavior problems.

To examine this path analysis when accounting for observed maternal sensitivity, the same model was examined in sample two only (the only sample in which the maternal sensitivity task was administered). Figure 3 presents the saturated path analysis in sample two, with all APQ variables and reminiscing factors in addition to Q-sort rated maternal sensitivity considered as predictors, while controlling for maltreatment status, maternal race, and child sex and age. As above, significant pathways are presented as solid lines, marginal paths as dashed lines, and all other paths omitted for ease of interpretation. In this model, the paths for sensitive guidance became marginally non-significant for child receptive language and child internalizing, and non-significant for externalizing. Instead, higher Q-sort-rated sensitivity was significantly associated with lower levels of child externalizing concerns. The emotional elaborations factor continued to be significantly positively associated with higher levels of internalizing concerns, whereas the structural elaborations factor was significantly negatively associated with internalizing concerns.

Discussion

The goal of this study was to explicate the multidimensional structure of mother–child emotional reminiscing, and our findings advance the literature in three primary ways. First, results confirm a three-factor structure of maternal reminiscing across two diverse samples utilizing different sets of cue words, defined by maternal structural elaborations, emotional attributions, and sensitive guidance. Second, this factor structure was invariant across samples, maltreatment status, child sex, and maternal race. Third, reminiscing factors demonstrated unique and at times opposing patterns of relations with child language and behavior outcomes. Controlling for other caregiver-reported parenting dimensions, reminiscing sensitive guidance was associated with all outcomes (higher child language, lower child internalizing and externalizing), although these associations were reduced when controlling for maternal sensitivity behavior in the smaller second sample. Emotional attributions were related to *more* internalizing concerns in all models, whereas structural elaborations were significantly associated with *fewer* internalizing concerns only when accounting for maternal sensitivity.

Factor Structure of Reminiscing

Consistent with our first hypothesis, factor analyses confirmed that maternal reminiscing was defined by sensitive guidance (the overall emotionally supportive nature of reminiscing via scale-based coding), emotional attributions (how often the mother verbally contributes emotional content to the discussion), and structural elaborations (how often the mother verbally contributes non-emotional content regarding the details of what occurred). This supports prior research distinguishing between the content of elaborations and the manner in which they are delivered (Cleveland & Morris, 2014; Larkina & Bauer, 2010; Valentino et al., 2014), and between non-emotional and emotional content (McDonnell

Table 3 Correlates of Reminiscing Factors and Primary Study Variables

Variable	1	2	3	4	5	6	7	8	9	10
1. Structural elabs	—	**0.72***/0.80*****	**0.63***/0.62*****	0.19+/-0.04	.10/**.26*****	-0.15/**-0.16***	-0.05/-0.09	0.08/-0.10	-0.11/**-0.13***	-0.13/0.01
2. Emotional attrbs	0.78***	—	**0.27***/0.32*****	-0.03/0.03	.00/.12+	-0.09/-0.01	0.07/0.00	-0.05/-0.09	-0.15/-0.09	-0.17 + /0.04
3. Sensitive guidance	0.62***	0.30***	—	**0.24***/.06	**0.34***/0.24*****	-0.20+/-0.**23*****	**-0.22*/-0.16***	0.14/0.01	**-0.29****/-0.11	-0.14/-0.06
4. Child age	0.02	0.01	0.10+	—	0.25*/0.13+	-0.16/0.06	-0.14/-0.01	0.05/0.02	-0.14/-0.07	0.00/0.07
5. Child language	**0.21*****	0.08	**0.27*****	0.18**	—	-0.18+ / -0.15*	-0.09/-0.10	0.00/-0.05	-0.25*/-0.15*	-0.02/-0.06
6. Internalizing	**-0.15****	-0.03	**-0.22*****	0.01	-.016**	—	0.78***/0.43***	-0.22*/-0.12+	0.34***/0.28***	0.27**/0.24***
7. Externalizing	-0.08	0.02	**-0.18****	-0.04	-0.10+	0.54***	—	-0.21*/-0.25***	0.38***/0.35***	0.36***/0.42***
8. APQ positive	-0.05	-0.08	0.05	0.06	-0.01	-0.15**	-0.24***	—	-0.21*/-0.14*	-0.25*/-0.27***
9. APQ inconsistent	**-0.13***	-0.11 +	-0.16**	-0.08	-0.18**	0.30***	0.36***	-0.16**	—	0.35***/0.48***
10. APQ punitive	-0.03	-0.02	-0.08	0.09 +	-0.02	0.24***	0.39***	-0.22***	0.43**	—
11. Sensitivity	**0.20****	0.05	0.28***	-0.21**	0.05	-0.17*	-0.23***	0.14*	-0.13+	-0.20**

Elabs elaborations. *Attrbs* attributions. Results from the full combined sample are presented below the diagonal. For Q-sort sensitivity, this variable was only part of sample two (results are only presented once below the diagonal). Results separately across samples are presented above the diagonal, with sample one presented first and sample two presented after the '/'. Significant associations are bolded for ease of interpretation. $^{*}p < .05$; $^{**}p < .01$, $^{***}p < .001$. APQ = Alabama Parenting Questionnaire

et al., 2016; Raikes & Thompson, 2008). The use of two diverse samples with different sets of reminiscing cue words supports that these factors represent robust, replicable dimensions defining maternal emotional reminiscing. Moreover, this factor structure was invariant across maltreatment status, child sex, and maternal race, further emphasizing that this three-factor model represents the structure of reminiscing well across these subsamples and can reliably be utilized to evaluate group differences across these participant characteristics, pending replication of these findings. Overall, results underscore that multiple behaviors underlie emotional reminiscing, a complex interaction wherein parents socialize children's emotions through the use of various strategies. Moreover, finding that 1- and 2-factor models did not adequately fit the data further supports that these methods of coding are distinct from one another, and that attempting to combine these coding methods into one composite variable may not be statistically appropriate.

Unique interrelations among reminiscing factors with one another were observed. Across both samples, sensitive guidance was strongly related to the frequency of structural elaboration, but only weakly to moderately correlated with the frequency of emotional attributions. Importantly, this suggests that *how well* a mother reminisces by being accepting of children's emotions and resolving negative emotions may be distinct from *how often* they reference emotional states during past event discussion (McDonnell et al., 2016). Moreover, although structural elaborations and emotional attributions were strongly intercorrelated with each other, they demonstrated distinct and in some cases opposite patterns of associations with child outcomes, further emphasizing that these are distinct aspects of maternal reminiscing.

Reminiscing Factors in Relation to Child Language and Socio-Emotional Outcomes

Dimensions of maternal reminiscing demonstrated differential patterns of relations with child outcomes. At the correlation level in the full sample, both structural elaborations and sensitive guidance were positively associated with child language and negatively associated with child internalizing, whereas only sensitive guidance was negatively correlated with externalizing behavioral problems. These results underscore the importance of structural elaborations and sensitive guidance during reminiscing about emotional experiences for children's language and socioemotional outcomes (Fivush et al., 2006; Wareham & Salmon, 2006). Relative to other parenting behaviors in path analysis models, our hypotheses were partially supported regarding the incremental predictive power of reminiscing factors for child outcomes. Reminiscing factors were significantly associated with child outcomes, although in opposing ways and results differed depending on which of the parenting indicators were

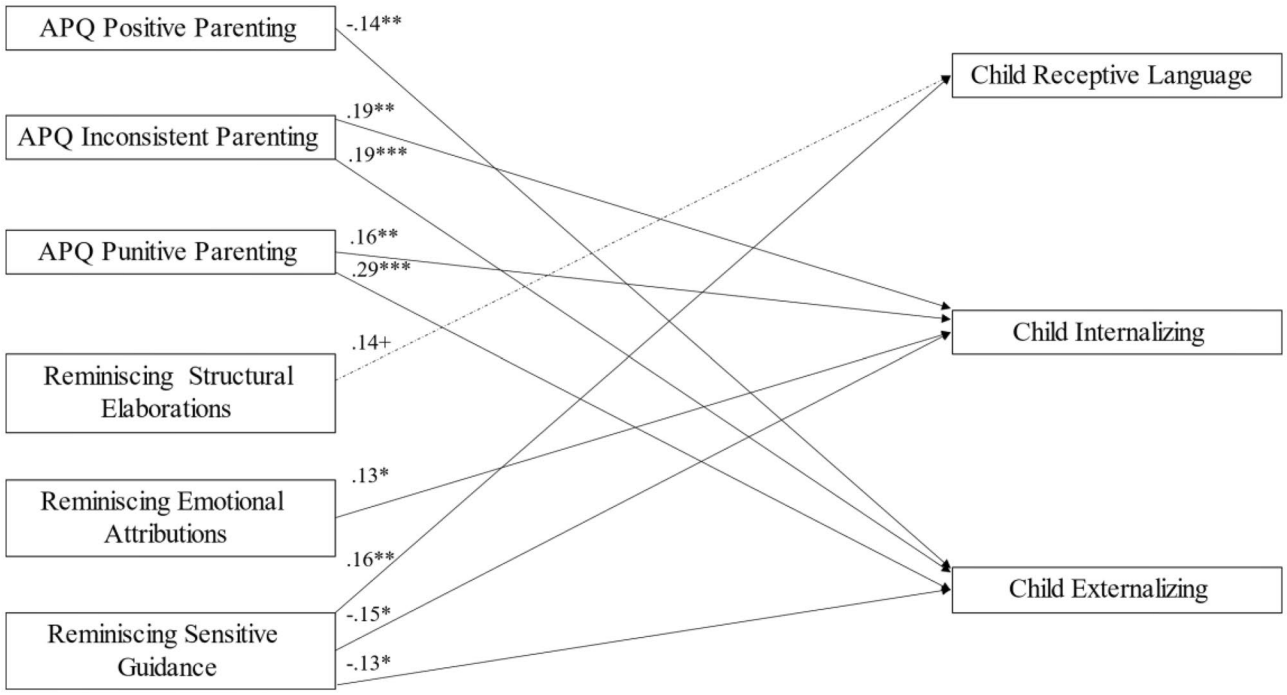

Fig. 2 Path Analysis in Full Sample *$p<.05$; ** $p<.01$; *** $p<.001$, +$p<.10$. Path coefficient values are standardized estimates. APQ = Alabama Parenting Questionnaire. Reminiscing variables are factor scores from the 3-factor model. Solid lines represent significant paths, and dashed lines represent marginal paths. Non-significant paths, and paths for covariates and for covariances among the 3 dependent variables were omitted for ease of interpretation. Covariates were maternal race (mother identification as Hispanic (yes/no), and mother identification as Black (yes/no), sample, maltreatment, child age, and child sex. The three child dependent variables were co-varied, with a significant covariance between child internalizing and externalizing

included in the model. We now briefly summarize the pattern of associations for each of the three reminiscing factors.

First, reminiscing sensitive guidance was significantly associated with all of the child outcomes in the first path analysis when controlling for caregiver-reported parenting dimensions on the APQ, including higher receptive language and lower child internalizing and externalizing. Sensitive guidance was the only reminiscing factor to predict lower levels of behavior problems for children in this model, which is consistent with prior work suggesting that broader measures of the affective nature of maternal reminiscing may better facilitate children's socio-emotional outcomes than the frequency of elaboration (Valentino et al., 2014). However, when accounting for observed parental sensitivity (in the second path analysis including only the second sample), these associations were attenuated and became marginal or non-significant. This suggests that accounting for other domains of parenting behavior may weaken the association for sensitive guidance, although the weaker associations may also be due to the smaller sample size in the second model (with parental sensitivity). Future research is needed to clarify these relations.

Second, emotional attributions were associated with higher child internalizing problems in both path analysis models, even when accounting for caregiver report of parenting on the APQ and observed parental sensitivity. This finding may reflect a number of possibilities, and is consistent with research showing that mothers who engage in high elaboration about emotion have children with more internalizing concerns (Hernandez et al., 2018). It is possible that a high frequency of emotional references is unproductive, and that this floods the child with emotions in a way that predicts worse emotional outcomes (e.g., higher internalizing symptoms; Fivush & Sales, 2006). However, given that the cross-sectional nature of the data precludes identification of direction of effects among these variables, it is also possible that parents talk about emotions more often with children higher in internalizing symptoms as part of an adaptive strategy for discussing emotions more with children who may have more negative emotional experiences. Moreover, only main effects were examined; the association for emotional elaborations with child outcomes may depend on the context of other aspects of maternal behavior during reminiscing. Future longitudinal research examining these possibilities is necessary to inform intervention strategies (e.g., before teaching parents to talk more frequently about emotions in past conversations, research is needed to clarify whether, in what contexts, and for whom this may be an adaptive strategy).

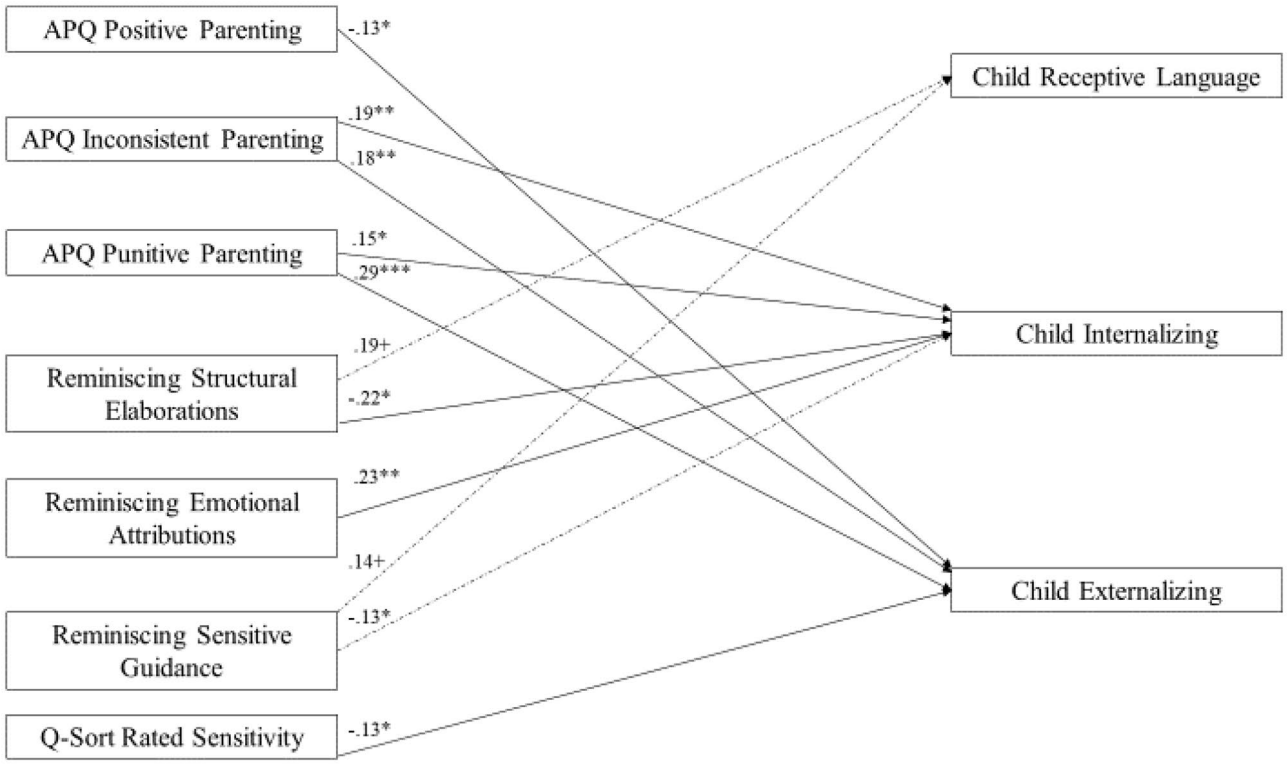

Fig. 3 Path Analysis in Sample 2 Accounting for Observed Maternal Sensitivity *$p<.05$; ** $p<.01$; *** $p<.001$, +$p<.10$. Path coefficient values are standardized estimates. APQ = Alabama Parenting Questionnaire. Reminiscing variables are factor scores from the 3-factor model. Solid lines represent significant paths, and dashed lines represent marginal paths. Non-significant paths, and paths for covariates and for covariances among the 3 dependent variables were omitted for ease of interpretation. Covariates were maternal race (mother identification as Hispanic (yes/no), and mother identification as Black (yes/no), sample, maltreatment, child age, and child sex. The three child dependent variables were co-varied, with a significant covariance between child internalizing and externalizing

Third, structural elaborations were significantly associated with lower child internalizing concerns in sample two, and only marginally associated with higher child language in the full sample. Thus, the reliability of this association is unclear, and future research is needed to clarify the role of the frequency of elaboration about non-emotional content in child outcomes. Contrary to hypotheses, structural elaborations did not better predict child cognitive outcomes than the other reminiscing factors. Across the models, only sensitive guidance was significantly related to higher child language (although the effect was attenuated/non-significant when accounting for parental sensitivity in the smaller second sample).

Taken together, these findings suggest that it is essential for reminiscing researchers to operationalize maternal behaviors during emotion dialogues in multiple ways, and to consider scale-based measures of sensitive guidance (macro-coding) in addition to elaborative frequency of emotional and non-emotional content (micro-coding) in order to fully capture clinically relevant aspects of emotion socialization (Leyva et al., 2020). More broadly, these findings support that reminiscing about past emotional experiences is an interactional context that is associated with children's language and behavioral outcomes beyond other types of parenting variables, although some findings vary in strength and significance depending on which indicators of parenting are accounted for. Future research examining reminiscing dimensions along with multiple dimensions of parenting in relation to child outcomes is critical for understanding whether training parents in emotional communication is an intervention technique that would have added benefit beyond traditional behavioral parent training skills for reducing children's behavior problems. More broadly, our results suggest that when designing interventions to train parents in emotional communication, care should be taken to not merely encourage parents to increase the frequency of emotional references. Rather, it may be helpful to teach parents the range of skills they may use during emotion dialogues, and highlight that distinct types of strategies may be helpful for diverse child outcomes.

Limitations and Future Directions

Several limitations of this study must be noted. First, the cross-sectional data prevented analysis of the direction of

associations among study variables. Longitudinal research would inform understanding of how the structure of reminiscing may change over time, as well as how emotional reminiscing prospectively predicts children's outcomes. In addition, the small relations between structural elaboration and child language may be due to measuring both constructs at the same time, which could underestimate potential associations that may emerge over time and across development. For example, parental reminiscing during the preschool period prospectively predicts child language during adolescence (Reese et al., 2020), and intervention studies suggest that as mothers become more elaborative they facilitate their children's language skills over time (for reviews, see Corsano & Guidotti, 2019; Reese et al., 2010a b). Thus, it is possible that there is a developmentally emergent lag in associations between reminiscing with child language, such that the positive effects of elaboration on child language take time to emerge.

Moreover, the present findings may not generalize to investigations of reminiscing about past, non-emotional events or more complex emotional discussions. Furthermore, only mothers participated and examination of father contributions to reminiscing is a critical direction for future research and interventions (Wilson et al., 2016). It is essential for research to replicate the factor structure obtained in the current investigation, and to evaluate factorial invariance in more diverse samples with larger sample sizes for children from different racial, ethnicity, or gender identities. Moreover, mothers and children did not present with clinical diagnoses. It is essential for future work to examine the structure of emotion socialization behaviors in clinical samples, such as children with early behavioral and conduct problems or neurodevelopmental disorders (McDonnell et al., 2017). In addition, although the high representation of mothers with financial insecurity and low levels of education is a significant strength because these populations are underrepresented in prior reminiscing research, it is unclear whether the factor structure observed in the current data would emerge in samples with higher levels of formal education. Lastly, the current study only considered main effects of the reminiscing factors on children's outcomes, and not potential moderation with other factors.

In conclusion, our findings demonstrate that maternal elaboration during past emotional event reminiscing is a multidimensional construct comprised of distinct factors on which mothers may vary. Understanding how to best measure and operationalize these complex, dyadic interactions is critical for advancing developmental and clinical research in this area. This has important clinical implications, as emotion socialization represents a promising avenue for intervention and reminiscing is a malleable behavior that can be improved with brief intervention (Cleveland & Morris, 2014; McCabe et al., 2017; Van Bergen et al., 2018).

Funding This work was supported by the Eunice Kennedy Shriver National Institute of Child Health and Human Development under grant R01HD071933-01A1 (PI K. Valentino), and the Institute for Scholarship in the Liberal Arts at the University of Notre Dame.

Compliance with Ethical Standards

Ethical Approval The data for the current study are drawn from research projects approved by the University of Notre Dame Institutional Review Board, and were performed in accordance with the ethical standards as laid down in the 1964 Declaration of Helsinki and its later amendments.

Consent to Participate All caregivers provided informed consent for their and their child's participation, and signed release forms granting access to their DCS records (for the second sample involving maltreating families).

Conflict of Interests The authors declare they have no conflicts of interest.

References

Achenbach, T. M. (1991). *Child behavior checklist for ages 4–18*. TM Achenbach.

Bird, A., Reese, E., & Tripp, G. (2006). Parent-child talk about past emotional events: Associations with child temperament and goodness-of-fit. *Journal of Cognition and Development, 7*(2), 189–210.

Browne, M. W., & Cudeck, R. (1993). Alternative ways of assessing model fit. In K. A. Bollen & J. S. Long (Eds.), *Testing structural equation models* (pp. 111–135). Sage.

Carpenter, A. L., Puliafico, A. C., Kurtz, S. M., Pincus, D. B., & Comer, J. S. (2014). Extending parent–child interaction therapy for early childhood internalizing problems: New advances for an overlooked population. *Clinical Child and Family Psychology Review, 17*(4), 340–356.

Chen, F. F. (2007). Sensitivity of goodness of fit indexes to lack of measurement invariance. *Structural Equation Modeling, 14*, 464–504.

Chronis-Tuscano, A., Lewis-Morrarty, E., Woods, K. E., O'Brien, K. A., Mazursky-Horowitz, H., & Thomas, S. R. (2016). Parent–child interaction therapy with emotion coaching for preschoolers with attention-deficit/hyperactivity disorder. *Cognitive and Behavioral Practice, 23*(1), 62–78.

Clerkin, S. M., Halperin, J. M., Marks, D. J., & Policaro, K. L. (2007). Psychometric properties of the Alabama parenting questionnaire–preschool revision. *Journal of Clinical Child and Adolescent Psychology, 36*(1), 19–28.

Cleveland, E. S., & Morris, A. (2014). Autonomy support and structure enhance children's memory and motivation to reminisce: A parental training study. *Journal of Cognition and Development, 15*(3), 414–436.

Corsano, P., & Guidotti, L. (2019). Parents' reminiscing training in typically developing and 'at-risk'children: A review. *Early Child Development and Care, 189*(1), 143–156.

de Arellano, M. A. R., Lyman, D. R., Jobe-Shields, L., George, P., Dougherty, R. H., Daniels, A. S., & Delphin-Rittmon, M. E. (2014). Trauma-focused cognitive-behavioral therapy for children and adolescents: Assessing the evidence. *Psychiatric Services, 65*(5), 591–602.

Dunn, D. M., & Dunn, L. M. (2007). *Peabody picture vocabulary test: Manual*. Pearson.

England-Mason, G., & Gonzalez, A. (2020). Intervening to shape children's emotion regulation: A review of emotion socialization parenting programs for young children. *Emotion, 20*(1), 98.

Fivush, R., Reese, E., & Haden, C. A. (2006). Elaborating on elaborations: Role of maternal reminiscing style in cognitive and socioemotional development. *Child Development, 77*(6), 1568–1588.

Goodman, R. (1997). The Strengths and Difficulties Questionnaire: A research note. *Journal of Child Psychology and Psychiatry, 38*(5), 581–586.

Goodman, A., Lamping, D. L., & Ploubidis, G. B. (2010). When to use broader internalising and externalising subscales instead of the hypothesised five subscales on the Strengths and Difficulties Questionnaire (SDQ): Data from British parents, teachers and children. *Journal of Abnormal Child Psychology, 38*(8), 1179–1191.

Havighurst, S. S., Wilson, K. R., Harley, A. E., Kehoe, C., Efron, D., & Prior, M. R. (2013). "Tuning into Kids": Reducing Young Children's Behavior Problems Using an Emotion Coaching Parenting Program. *Child Psychiatry & Human Development, 44*(2), 247–264.

Hernandez, E., Smith, C. L., Day, K. L., Neal, A., & Dunsmore, J. C. (2018). Patterns of parental emotion-related discourse and links with children's problem behaviors: A person-centered approach. *Developmental Psychology, 54*(11), 2077.

Hu, L. T., & Bentler, P. M. (1999). Cutoff criteria for fit indexes in covariance structure analysis: Conventional criteria versus new alternatives. *Structural Equation Modeling: A Multidisciplinary Journal, 6*(1), 1–55.

Kaminski, J. W., Valle, L. A., Filene, J. H., & Boyle, C. L. (2008). A meta-analytic review of components associated with parent training program effectiveness. *Journal of Abnormal Child Psychology, 36*(4), 567–589.

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*(4), 465–483.

Laible, D. (2004). Mother-child discourse in two contexts: Links with child temperament, attachment security, and socioemotional competence. *Developmental Psychology, 40*(6), 979.

Laible, D. (2011). Does it matter if preschool children and mothers discuss positive vs. negative events during reminiscing? Links with mother-reported attachment, family emotional climate, and socioemotional development. *Social Development*, *20*(2), 394–411.

Larkina, M., & Bauer, P. J. (2010). The role of maternal verbal, affective, and behavioral support in preschool children's independent and collaborative autobiographical memory reports. *Cognitive Development, 25*(4), 309–324.

Leyva, D., Reese, E., Laible, D., Schaughency, E., Das, S., & Clifford, A. (2020). Measuring parents' elaborative reminiscing: Differential links of parents' elaboration to children's autobiographical memory and socioemotional skills. *Journal of Cognition and Development, 21*(1), 23–45.

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*(4), 426–447.

Little, T. D. (2013). *Longitudinal structural equation modeling*. Guilford press.

McCabe, A., Hillier, A., Da Silva, C. M., Queenan, A., & Tauras, M. (2017). Parental mediation in the improvement of narrative skills of high-functioning individuals with autism spectrum disorder. *Communication Disorders Quarterly, 38*(2), 112–118.

McDonnell, C. G., Valentino, K., Comas, M., & Nuttall, A. K. (2016). Mother–child reminiscing at risk: Maternal attachment, elaboration, and child autobiographical memory specificity. *Journal of Experimental Child Psychology, 143*, 65–84.

McDonnell, C. G., Valentino, K., & Diehl, J. J. (2017). A developmental psychopathology perspective on autobiographical memory in autism spectrum disorder. *Developmental Review*.

Pederson, D.R., Moran, G., & Bento, S. (2013). *The Maternal Behaviour Q-Sort (MBQS): Assessing maternal sensitivity and the quality of the mother-infant interaction.* University of Western Ontario Child Development Study Group.

Raikes, H. A., & Thompson, R. A. (2008). Conversations about emotion in high-risk dyads. *Attachment & Human Development, 10*(4), 359–377.

Reese, E., Bird, A., & Tripp, G. (2007). Children's Self-esteem and Moral Self: Links to Parent-Child Conversations Regarding Emotion. *Social Development, 16*(3), 460–478.

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*(3), 318–342.

Reese, E., Macfarlane, L., McAnally, H., Robertson, S. J., & Taumoepeau, M. (2020). Coaching in maternal reminiscing with preschoolers leads to elaborative and coherent personal narratives in early adolescence. *Journal of experimental child psychology*, *189*, 104707.

Reese, E., Meins, E., Fernyhough, C., & Centifanti, L. (2019). Origins of mother–child reminiscing style. *Development and Psychopathology, 31*(2), 631–642.

Reese, E., Sparks, A., & Leyva, D. (2010). A review of parent interventions for preschool children's language and emergent literacy. *Journal of Early Childhood Literacy, 10*(1), 97–117.

Rispoli, K. M., Malcolm, A. L., Nathanson, E. W., & Mathes, N. E. (2019). Feasibility of an emotion regulation intervention for young children with autism spectrum disorder: A brief report. *Research in Autism Spectrum Disorders*, *67*, 101420.

Sales, J. M., & Fivush, R. (2005). Social and emotional functions of mother-child reminiscing about stressful events. *Social Cognition, 23*(1), 70–90.

Salmon, K., Dadds, M. R., Allen, J., & Hawes, D. J. (2009). Can emotional language skills be taught during parent training for conduct problem children? *Child Psychiatry and Human Development, 40*(4), 485–498.

Salmon, K., Dittman, C., Sanders, M., Burson, R., & Hammington, J. (2014). Does adding an emotion component enhance the Triple P– Positive Parenting Program? *Journal of Family Psychology, 28*(2), 244.

Salmon, K., O'Kearney, R., Reese, E., & Fortune, C. A. (2016). The role of language skill in child psychopathology: Implications for intervention in the early years. *Clinical Child and Family Psychology Review, 19*(4), 352–367.

Stone, L. L., Otten, R., Engels, R. C., Vermulst, A. A., & Janssens, J. M. (2010). Psychometric properties of the parent and teacher versions of the strengths and difficulties questionnaire for 4-to 12-year-olds: A review. *Clinical Child and Family Psychology Review, 13*(3), 254–274.

Tarabulsy, G. M., Provost, M. A., Bordeleau, S., Trudel-Fitzgerald, C., Moran, G., Pederson, D. R., & Pierce, T. (2009). Validation of a short version of the maternal behavior Q-set applied to a brief video record of mother–infant interaction. *Infant Behavior and Development, 32*(1), 132–136.

Valentino, K., Cummings, E. M., Borkowski, J., Hibel, L. C., Lefever, J., & Lawson, M. (2019). Efficacy of a reminiscing and emotion training intervention on maltreating families with preschool-aged children. *Developmental Psychology, 55*(11), 2365.

Valentino, K., Nuttall, A. K., Comas, M., McDonnell, C. G., Piper, B., Thomas, T. E., & Fanuele, S. (2014). Mother–child reminiscing and autobiographical memory specificity among preschool-age children. *Developmental Psychology, 50*(4), 1197–1207.

Van Bergen, P., Salmon, K., & Dadds, M. R. (2018). Coaching mothers of typical and conduct problem children in elaborative parent-child reminiscing: Influences of a randomized controlled trial on reminiscing behaviour and everyday talk preferences. *Behaviour Research and Therapy, 111*, 9–18.

Wareham, P., & Salmon, K. (2006). Mother-child reminiscing about everyday experiences: Implications for psychological interventions in the preschool years. *Clinical Psychology Review, 26*(5), 535–554.

Waters, T. E., Camia, C., Facompré, C. R., & Fivush, R. (2019). A meta-analytic examination of maternal reminiscing style: Elaboration, gender, and children's cognitive development. *Psychological Bulletin, 145*(11), 1082.

Wilson, K. R., Havighurst, S. S., Kehoe, C., & Harley, A. E. (2016). Dads Tuning In to Kids: Preliminary Evaluation of a Fathers' Parenting Program. *Family Relations, 65*(4), 535–549.