

Regular Article

Preventing child welfare reinvolvement: The efficacy of the Reminiscing and Emotion Training intervention

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Abstract

Child maltreatment is a pathogenic relational experience that creates risk for physical and psychological health difficulties throughout the lifespan. The Reminiscing and Emotion Training intervention (RET) was developed to support maltreated children's healthy development by improving parenting behavior among maltreating mothers. Here, we evaluated whether RET was associated with reductions in child welfare reinvolvement over the course of two years. The sample included 165 maltreating and 83 nonmaltreating mothers and their 3- to 6-year-old children who were enrolled in a longitudinal randomized controlled trial of RET. Maltreating mother-child dyads were randomly assigned to receive RET or an active control condition (community standard [CS]). Nonmaltreating dyads were a separate control group (nonmaltreating control). Comparing CS and RET dyads, there was a significant effect of RET on frequency of child welfare reinvolvement (substantiations and unsubstantiated assessments) during the two years following dyads' enrollment in the intervention, $t(163) = 2.02, p < .05$, Cohen's $d = 0.32$. There was a significant indirect effect of RET on child welfare reinvolvement through maternal sensitive guidance during reminiscing [95% CI $-0.093, -0.007$]. Results provide support for the efficacy of RET in preventing child welfare reinvolvement.

Keywords: child maltreatment; child welfare reinvolvement; intervention; prevention; reminiscing

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Introduction

Child maltreatment, including experiences of sexual abuse, physical abuse, neglect, and emotional abuse, is a widespread, global phenomenon (Stoltenborgh et al., 2015) that represents a failure of caregivers to provide an average expectable environment that fosters healthy child development (Cicchetti & Valentino, 2006). Over 3 million children were investigated for child maltreatment in the United States in 2020 (USDHHS, 2022), and evidence suggests that 37.4% of all children in the United States experience an official investigation before the age of 18 (Kim et al., 2017). More than three-quarters of perpetrators are children's caregivers (USDHHS, 2022), underscoring that child maltreatment is frequently a pathogenic relational experience occurring in the parent-child relationship (Cicchetti & Valentino, 2006). Child maltreatment is associated with a wide and alarming range of negative consequences throughout the lifespan; a meta-analysis by Carr et al. (2020) of 111 systematic reviews and meta-analyses demonstrated that child maltreatment poses increased risk for an assortment of physical (e.g., neurological, musculoskeletal, respiratory, cardiovascular, gastrointestinal, gynecological, genitourinary, metabolic, sleep, and psychosomatic difficulties and/or conditions) and mental (e.g., posttraumatic stress disorder,

dissociative disorders, anxiety disorders, depression, bipolar disorder, substance use disorders, eating disorders, psychotic disorders, disruptive behavior disorders, and personality disorders) health problems. Even more, the total lifetime economic burden of child maltreatment in the United States is estimated to be hundreds of billions of dollars (Fang et al., 2012).

There is a pressing need for evidence-based, scalable, and developmentally appropriate interventions for child maltreatment. Specifically, it is important to design and evaluate programs that seek to ameliorate poor outcomes for victims of child maltreatment and prevent child maltreatment, including first incidences as well as recurrences among families that have already experienced maltreatment. Etiological models of child maltreatment (e.g., Belsky, 1980, 1993; Cicchetti & Lynch, 1993; Cicchetti & Rizley, 1981; Cicchetti & Valentino, 2006) note that maltreatment is a complex and multiply determined phenomenon whereby many different pathways and constellations of factors can lead to the incidences of different maltreatment subtypes (see Assink et al., 2019; Hindley et al., 2006; Mulder et al., 2018; Stith et al., 2009, White et al., 2015 for reviews of risk factors for child maltreatment). The Ecological-Transactional Model of Child Maltreatment highlights that risk and protective processes at different levels of children's ecology (Bronfenbrenner, 1979) can exert reciprocal and transactional influences on each other to explain the etiology of child maltreatment and the developmental trajectories associated with victimization (Cicchetti & Lynch, 1993; Cicchetti & Rizley, 1981; Cicchetti & Valentino, 2006). At the macrosystem level, for example, cultural values and beliefs about parenting and violence

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may contribute to risk for child maltreatment. Community and neighborhood characteristics at the exosystem level (e.g., interconnectedness, service availability, poverty, crime) and microsystem-level family processes, such as parents' psychological difficulties, own histories of victimization, and parenting-related knowledge, attitudes, and behaviors, can further shape risk for child maltreatment.

Though child maltreatment risk is potentiated by factors at multiple ecological levels, child maltreatment is phenomenon that primarily occurs in the parent-child relationship (Cicchetti & Valentino, 2006). Accordingly, of all types of interventions for child maltreatment (see Landers *et al.*, 2018; Mikton & Butchart, 2009 for reviews), relational interventions that address parenting and/or target the parent-child relationship are particularly promising for both preventing and addressing the negative sequelae of child maltreatment (Guild *et al.*, 2017; Toth *et al.*, 2013; Valentino, 2017). There are several reasons relational interventions for child maltreatment warrant attention. Microsystem-level parenting processes are proximal to the child, relative to processes at other ecological levels, and they are also malleable targets for prevention programs (Valentino, 2017) – one recent meta-analysis demonstrated that relationship-based interventions for maltreated children are associated with large improvements in observed parent interactive behavior (Bergsund *et al.*, 2021). Furthermore, since many victims of child maltreatment remain in or eventually return to their family homes after child welfare investigations, it is important for programs to treat the parent-child relationship and enhance parent-child relational behavior to ensure children's ongoing safety and security (Valentino, 2017). From a developmental psychopathology perspective, intervening early in the lifetimes of children who have experienced maltreatment to support the parent-child relationship has the potential to initiate positive developmental cascades and interrupt negative developmental cascades. Indeed, supporting children's potential for successful navigation of salient developmental tasks (e.g., attachment security, self-regulation) enhances their likelihood of healthy, adaptive development throughout the lifespan. Finally, evidence suggests that longitudinal effects of maltreatment on children's adjustment are mediated by parents' difficulties with sensitive parenting (e.g., Speidel *et al.*, 2020; Valentino *et al.*, 2022), so relational interventions that aim to increase sensitive and decrease insensitive caregiving are crucial for promoting maltreated youths' resilient functioning.

Among families in which child maltreatment has already occurred, relational interventions that successfully improve parenting behavior and the parent-child relationship may lead to a central positive outcome beyond improved caregiving and child adjustment: reduced likelihood of child maltreatment recidivism. Child welfare reinvolvement is common among maltreating families (e.g., Jonson-Reid *et al.*, 2010). Though rates of reinvolvement vary widely according to the length of time families are followed (Hélie & Bouchard, 2010; Kohl *et al.*, 2009), evidence suggests that rates of reinvolvement are as high as 62.1% over 7.5 years (Drake *et al.*, 2006). Chronic child maltreatment is associated with particularly poor outcomes for victims (e.g., English *et al.*, 2005), underscoring the importance of secondary prevention programs (i.e., programs for families who are already involved in the child welfare system that aim to prevent child maltreatment recurrence, in contrast to primary prevention programs for families without prior child welfare involvement, which aim to prevent the onset of child maltreatment).

Encouragingly, several meta-analyses have found that relational and parent-oriented interventions can prevent recurrences of child maltreatment (Chen & Chan, 2016; Euser *et al.*, 2015; Gubbels *et al.*, 2019, 2021; Vlahovicova *et al.*, 2017; van der Put *et al.*, 2018). All these meta-analyses, except for Vlahovicova *et al.* (2017), included studies with different sample types (families from the general population, families at risk for child maltreatment, and families where child maltreatment had already happened), and overall pooled effect sizes collapsed across these sample types. However, effect sizes were also calculated specifically for evaluations of interventions with families who were already maltreating. Each of the meta-analyses and effect sizes described below included studies that measured maltreatment either by self-report or as substantiations.

Meta-analyses by Chen & Chan (2016) and Euser *et al.* (2015) both included randomized controlled trials of parenting programs and found effect sizes for preventing maltreatment recurrences to be $d = 0.28$ and $d = 0.35$, respectively. In contrast, Gubbels *et al.* (2019), Gubbels *et al.* (2021), van der Put *et al.* (2018), and Vlahovicova *et al.* (2017) all included quasi-experimental studies and randomized controlled trials. Focusing on parent training programs, Gubbels *et al.* (2019) found an effect size of $d = 0.365$. Gubbels *et al.* (2021) considered home-visiting programs and found an effect size of $d = 0.243$. Van der Put *et al.* (2018) included a wide range of types of relational and parent-oriented interventions and found an effect size of $d = 0.364$. Finally, Vlahovicova *et al.* (2017) focused specifically on studies that evaluated physical abuse recidivism, and only identified four studies with data that could be included in their meta-analysis. Authors found that the absolute risk reduction associated with parenting programs was 11 percentage points, but the pooled effect size was not significant when calculated as a risk ratio. In summary, though specific effect sizes across these meta-analyses varied, relational interventions are a promising avenue for preventing child welfare reinvolvement among maltreating families.

When evaluating prevention and intervention programs for maltreating families, it is important to consider programs' scalability, sustainability, and accessibility. Time-intensive interventions and therapies such as Parent-Child Interaction Therapy (e.g., Chaffin *et al.*, 2004, 2011) and Child-Parent Psychotherapy (e.g., Lieberman & Van Horn, 2008; Toth *et al.*, 2002) are associated with positive outcomes for at-risk youth and families. Indeed, Parent-Child Interaction Therapy has been shown to prevent child maltreatment recurrence among physically abusive parents (Chaffin *et al.*, 2004, 2011). These treatments, led by clinicians with advanced degrees and specialized certifications, are therefore useful and potentially even necessary for those families who are most at risk for child maltreatment. However, interventions which require provision by highly trained professionals (who may be in great demand and in short supply) and intensive dosage/duration (e.g., weekly or biweekly sessions for a year) may not be scalable, sustainable, and accessible for all communities and families. In contrast, brief interventions may be more feasible for families – especially those families who are either skeptical of treatment or facing barriers to treatment attendance – and appealing to child welfare systems because of lower cost and potential reach. Even more, intervention programs that can be administered by community providers without advanced degrees and time-intensive specialized certification may be able to reach a greater number of families. Supporting the use of brief interventions, meta-analytic evidence suggests that the most effective interventions for enhancing parental sensitivity

(Bakermans-Kranenburg et al., 2003) and preventing child maltreatment (Chen & Chan, 2016; van der Put et al., 2018) use fewer as opposed to more sessions.

In addition to scalability, sustainability, and accessibility, it is also important to consider the age range for which programs for maltreating families are designed, and how program content matches developmental timing. Several evidence-based, relational interventions – for example, the Nurse-Family Partnership (e.g., Olds et al., 1986, 1997), Promoting First Relationships (e.g., Kelly et al., 2008; Oxford et al., 2016a, 2016b; Spieker et al., 2012), Attachment Video-feedback Intervention (e.g., Cyr et al., 2022; Moss et al., 2011), and Attachment and Biobehavioral Catch-up (e.g., Bernard et al., 2012, 2015; Dozier et al., 2006) – have been effective at promoting positive outcomes among families with infants and toddlers by improving sensitive caregiving behavior (e.g., nonverbal responsiveness to children's cues). A subset of these programs (Nurse-Family Partnership, Promoting First Relationships, Attachment Video-feedback Intervention) has also been evaluated for effectiveness in preventing child welfare involvement and/or reinvolvement. Focusing on infancy and toddlerhood is important because risk of child maltreatment is highest for children under age 1 (USDHHS, 2022). Apart from the Attachment Video-feedback Intervention (e.g., Cyr et al., 2022; Moss et al., 2011), which has been evaluated for children birth to six, the majority of these programs focus on infancy and toddlers. However, there is also a need for empirically supported programs that are specifically designed and appropriate for families whose children are older, especially because families with children in the early-childhood age range (3- to 6-years-old) are at risk for child maltreatment recurrence.

When children enter early childhood, parent-child interactions are increasingly characterized by conversation, in addition to nonverbal behaviors (Thompson & Meyer, 2007). Accordingly, sensitive caregiving for children in early-childhood shifts and requires a different skillset than what is needed for sensitive caregiving toward infants and toddlers. Of particular importance, individual differences in the quality and quantity of how parents talk about emotions with their children have been theorized (e.g., Eisenberg et al., 1998; Nelson & Fivush, 2004) and shown (Valentino et al., 2021b; Valentino et al., 2022) to shape children's socioemotional and cognitive development. In the context of reminiscing (i.e., dyadic discussions about children's past emotional experiences), parents tend to vary in their sensitive guidance, or their engaged, coherent, and emotionally supportive behavior (Koren-Karie et al., 2003), and their elaboration, or their contributions to the conversation that add new details (Fivush et al., 2006). Through reminiscing conversations about children's past positive and negative emotional experiences, parents have the potential to teach children about social rules for expressing emotions and strategies for emotion regulation, support children's autobiographical memory and language development, and more generally, foster close relationships with their children. Evidence suggests that maltreating mothers have difficulties with emotion socialization behaviors and verbal engagement more broadly (e.g., Shipman & Zeman, 1999, 2001; Shipman et al., 2007; Valentino et al., 2013, 2019). Accordingly, a promising avenue for relational interventions that aim to prevent child welfare reinvolvement among families with children in early childhood is targeting maltreating parents' sensitive guidance and elaboration during reminiscing (Valentino et al., 2019).

The Reminiscing and Emotion Training intervention

The Reminiscing and Emotion Training intervention (RET; Valentino et al., 2019) was developed to support maltreated children's healthy development by improving sensitive and elaborative parenting behavior during reminiscing among maltreating mothers of preschool-aged children. A brief intervention administered by Bachelor's-level research staff, RET involves six weekly sessions in the home. During these visits, maltreating mothers are taught and practice communication skills, as well as emotion identification and regulation skills. More specifically, with the aid of video feedback, mothers learn to ask open-ended questions, build on their child's conversational contributions, talk about the causes and consequences of their child's emotions, and discuss how their child's past negative emotional experiences were resolved. Additional details about RET model can be found in Valentino et al. (2019).

Evidence from a randomized controlled trial of RET indicates that RET is associated with a host of positive outcomes for maltreating dyads. RET increases mothers' sensitive and emotionally supportive behavior (i.e., sensitive guidance) during conversations with their children about emotions (Valentino et al., 2019), and, one year later, increases children's emotional adjustment (Valentino et al., 2022), diurnal cortisol regulation (Valentino et al., 2021a), and autobiographical memory specificity (Valentino et al., 2021b). Evidence also suggests that RET has a significant indirect effect sequentially through maternal sensitive guidance (6-months post-intervention) and children's maladjustment (1-year post-intervention) on children's internalizing symptoms during the early months of the COVID-19 pandemic (approximately 3 years after the 1-year post-intervention assessment of children's maladjustment) (Behrens et al., 2022). While all these positive parent and child outcomes are important, child maltreatment interventions must also be successful at reducing future instances of maltreatment. Thus, the goal of the current study was to evaluate whether RET was associated with reductions in child welfare reinvolvement, and whether potential reductions in child welfare reinvolvement associated with RET were mediated by improvements in maternal sensitive guidance.

We were particularly interested in whether RET was associated with lower rates of child welfare reinvolvement (total number of official child welfare assessments, including instances that were substantiated and instances that were not substantiated), as opposed to substantiations alone. Our focus on reinvolvement was driven by evidence that unsubstantiated child welfare assessments (Burns et al., 2004; Drake et al., 2003; Drake, 1996; English et al., 2002; Kohl et al., 2009) and Child Protective Services contact, independent of underlying maltreatment, (Evangelist et al., 2023) are associated with deleterious outcomes for children. Although child welfare reinvolvement can be conceptualized in terms of whether a closed maltreatment case has been reopened, this method poses challenges. One challenge is, if a case is open when a new report comes in, an outcome variable reflecting whether cases were reopened would not capture the new report. Our focus on child welfare reinvolvement instead of cases reopened therefore circumvents this issue. Furthermore, in our state, all new reports are processed regardless of whether a case is currently opened or closed.

Therefore, in the present study, we evaluated two research questions. First, does RET prevent child welfare reinvolvement among mothers who have previously been named as the perpetrator of at least one substantiated incidence of child

maltreatment? We hypothesized that maltreating mothers who received RET would have fewer total instances of child welfare reinvolvement than maltreating mothers who did not receive RET during the two years following dyads' enrollment in the randomized controlled trial. Our second research question was, does maternal sensitive guidance during reminiscing at post-intervention mediate associations between group and new incidences of child welfare involvement? We hypothesized that RET would have an indirect association with total instances of child welfare reinvolvement over two years through maternal sensitive guidance during reminiscing at a post-intervention assessment. We also hypothesized that untreated maltreatment would have an indirect association with total instances of child welfare reinvolvement over two years through poor maternal sensitive guidance during reminiscing at a post-intervention assessment. As noted below in the method section, the randomized controlled trial of RET from which data for the present study are drawn included mother-child dyads with and without histories of substantiated child maltreatment. In this study, as well as in our prior work (Valentino *et al.*, 2019), nonmaltreating families were included to evaluate both the effects of RET and untreated maltreatment on relevant variables including maternal sensitive guidance during reminiscing.

Method

Participants

The sample included 165 maltreating and 83 nonmaltreating mothers and their 3- to 6-year-old children; mother-child dyads were enrolled in a longitudinal randomized controlled trial of RET in a middle-sized city in a midwestern state. Maltreating dyads were recruited through the Department of Child Services (DCS). DCS Family Case Workers presented a verbal script and an informational flyer about the study to eligible mothers. Maltreating mothers were eligible if they had been named as the perpetrator of at least one substantiated instance of child maltreatment. Nonmaltreating dyads were recruited from community locations that served low-income families, including Head Start, the Housing Authority, and the Special Supplemental Nutrition Program for Women, Infants, and Children office, and were eligible if they had no histories of maltreatment perpetration. Both maltreating and nonmaltreating mothers were required to have a 3- to 6-year-old child who lived at home with the mothers. Upon enrollment, all mothers provided informed consent and signed release forms giving the research staff permission to access their DCS records. DCS records and maternal maltreatment interviews were used to identify the presence or absence of DCS involvement, and when present, to confirm involvement of the target child. Additional details about the randomized controlled trial of RET can be found in Valentino *et al.* (2019).

Procedure

Maltreating and nonmaltreating mother-child dyads completed a 2-hour baseline assessment in the laboratory prior to randomization into intervention conditions (Time 1; T1). Dyads completed T1 on a rolling basis between 2013 and 2017. Subsequently, maltreating families were randomized to receive RET or be in an active control group (Community standard [CS]), while nonmaltreating families did not receive any services as an additional control group (nonmaltreating control [NC]). After the intervention – 8 weeks after T1 – RET, CS, and NC dyads were invited to complete an additional 2-hour laboratory assessment (Time 2; T2).

At both T1 and T2, mother-child dyads completed a reminiscing task. In addition, at T1, mothers' receptive language skills were assessed. Additional assessments as part of the larger longitudinal randomized controlled trial are not included in the present study's analyses.

DCS records for the full sample were reassessed by research staff in February 2022. DCS records were coded for dyads' frequency of child welfare reinvolvement during the two years post-study enrollment (two years following T1 visit date). For each dyad, child welfare reinvolvement included substantiated and unsubstantiated assessments. The two-year time window was selected as the interval of interest because it was the longest time frame available that preceded the COVID-19 pandemic for all dyads, as the pandemic influenced risk for and reporting of child maltreatment (Huang *et al.*, 2023; USDHHS, 2022).

Intervention conditions

Reminiscing and Emotion Training (RET) group

RET comprised six weekly, in-home training sessions conducted by Bachelor's level research staff. Broadly, RET aimed to improve mothers' sensitive guidance and elaboration during conversations with their children about past, shared emotional events. Mothers learn to ask open-ended questions, build on their child's conversational contributions, talk about the causes and consequences of their child's emotions, and discuss how their child's past negative emotional experiences were resolved. Sessions included video feedback where research staff highlighted moments where mothers demonstrated success in using the skills, gave positive feedback, and elicited mothers' feedback about what went well while actively avoiding negative feedback. RET also included dyadic emotion-related activities focused on promoting emotion identification, understanding the causes and consequences of emotions, and emotion regulation. RET mothers were given cell phones as part of their enrollment in the study and were contacted by research staff with at least four text messages per week between sessions. Text messages were chosen from a list of messages and tailored to the mother's identified strengths and needs. More details regarding RET and its components are available in previously published work (Valentino *et al.*, 2019).

Community standard (CS) group

Maltreating mothers randomized into the CS condition received enhanced case management services and written parenting materials. CS mothers did not receive weekly home visits but were given cell phones as part of their enrollment in the study and were contacted by research staff with at least four text messages per week, which were tailored to be relevant to mothers' case management needs and/or provided information about services (e.g., mothers were notified about free, local family-friendly events).

Nonmaltreating Control (NC) group

Nonmaltreating mother-child dyads did not receive any services and served as an additional control group (NC). Within the broader randomized controlled trial of RET, we were interested in including nonmaltreating families who were otherwise demographically comparable to the maltreating families in order to examine similarities and differences between RET and CS dyads, and CS and NC dyads. These comparisons allowed for evaluation of the effects of RET as well as untreated maltreatment on relevant variables including maternal sensitive guidance during reminiscing.

Measures and coding

Maltreatment status and child welfare reinvolvement

The Maltreatment Classification System (MCS; Barnett et al., 1993) was used to code DCS records. DCS records were first accessed and coded using the MCS when dyads were enrolled in the study in order to verify that nonmaltreating mothers had no history of child welfare involvement and that maltreating mothers were named as the perpetrator of at least one substantiated instance of child maltreatment. Original records were also used to calculate the total number of instances of maltreatment for maltreating families. Reliability was established by double coding 19% ($n = 32$) of the maltreating families' DCS records ($\kappa_s = 0.81$ – 1.00).

DCS records were accessed again by research staff in February 2022. For all dyads, the total number of instances of child welfare reinvolvement was extracted for the two years following dyads' T1 visit. This included the total number of child welfare substantiations and unsubstantiated assessments.

Sensitive guidance during reminiscing

Mother–child dyads reminisced at T1 and T2. At each time point, mothers were asked by research staff to identify four one-time past events experienced by the mother and child together in which the child felt happy, sad, scared, and angry. Mothers were instructed to discuss the events with their children as they normally would at home. Video recordings of reminiscing were coded for mothers' sensitive guidance using the Autobiographical Emotional Events Dialogue (Koren-Karie et al., 2003) coding manual.

A composite score for maternal sensitive guidance was created by averaging seven criteria, each rated on 9-point Likert scale, with higher scores indicating more of the given behavior: (1) shift of focus (i.e., how focused the mother was on completing the task), (2) acceptance and tolerance (i.e., how accepting and encouraging or impatient and critical the mother was of her child's contributions to the conversation), (3) involvement and reciprocity (i.e., how engaged the mother was throughout the conversation), (4) closure of negative feelings (i.e., how the mother handled negative emotions, emphasizing negative aspects or working to resolve the story and end it on a positive note), (5) structuring (i.e., how well the mother guided the process of creating the four stories), (6) overall adequacy (i.e., how accurately the stories matched the emotion cue), and (7) overall coherence (i.e., how clear the stories were). Interrater reliability was assessed by double coding 20% ($n = 50$) of the videotapes, with intraclass correlation coefficients for individual subscales ranging from 0.71 to 0.93. The sensitive guidance composite had good internal consistency ($\alpha = 0.89$ at both T1 and T2).

Maternal receptive language

Mothers were administered the Peabody Picture Vocabulary Test, Fourth Edition (PPVT-4; Dunn & Dunn, 2007) at T1. The PPVT-4 assesses receptive language skills and was assessed as part of the larger study given the language-based nature of the reminiscing task.

Analytic plan

There was some attrition from T1 to T2. Of the 248 mother–child dyads who participated in T1, $n = 226$ (91.1%) participated at T2. Attrition was not associated with intervention group at T2 ($\chi^2(2) = 5.10$, $p = 0.078$). Little's test of missing completely at random (Little, 1988) was conducted in SPSS, and results indicated

that the missing data did not violate the assumption of missing completely at random ($\chi^2(11) = 9.19$, $p = 0.604$). Thus, Full Information Maximum Likelihood estimation was used to handle missing data in the path analysis.

To evaluate the first research question – does RET prevent child welfare reinvolvement among mothers who have previously been named as the perpetrator of at least one incidence of child maltreatment – an independent samples *t*-test was run in SPSS. The frequency of DCS reinvolvement over two years was used the dependent variable, and group status (RET, CS) was used as a predictor. Cohen's *d* was used to examine effect size.

The second research question – does maternal sensitive guidance during reminiscing mediate associations between RET and new incidences of child welfare involvement – was assessed with a path analysis model in *Mplus*. Dummy-coded RET (1: RET intervention provided, 0: no RET intervention provided) and maltreatment (1: maltreating, 0: nonmaltreating) variables were included as predictors of maternal sensitive guidance at T2 and child welfare reinvolvement. In addition, maternal sensitive guidance at T2 was included as a predictor of child welfare reinvolvement, and indirect effects from RET and maltreatment to child welfare reinvolvement through maternal sensitive guidance at T2 were specified. Maternal sensitive guidance at T1 was included as an autoregressive control on maternal sensitive guidance at T2. Maternal receptive language was considered as a covariate on sensitive guidance at T1 and T2, given the language-based nature of the reminiscing task, and on the dummy-coded group variables. Model fit was evaluated with the chi-square test, the comparative fit index (CFI; Bentler, 1990), the root mean square error of approximation (RMSEA; Steiger, 1990), and the standardized root mean square residual (SRMR; Hu & Bentler, 1999). Finally, the percentile bootstrap method with 1000 resamples was used to construct 95% confidence intervals around indirect effects; intervals that did not contain zero were considered statistically significant.

Dummy coding enabled examination of group-wise comparisons. Specifically, we were able to test the effect of RET on maternal sensitive guidance during reminiscing, and on total child welfare reinvolvement, controlling for the effects of maltreatment; thus, the significance of the pathways of dummy-coded RET predicting maternal sensitive guidance and child welfare reinvolvement reflected differences between RET and CS groups. In addition, we were able to test the effect of maltreatment on maternal sensitive guidance during reminiscing, and on total child welfare reinvolvement, controlling for the effects of RET; thus, the significance of the pathways of dummy-coded maltreatment predicting maternal sensitive guidance and child welfare reinvolvement reflected differences between CS and NC groups.

Results

Descriptive statistics

At T1, mothers completed demographic questionnaires. Families were racially/ethnically diverse and primarily of low socioeconomic status in terms of income and educational attainment (see Table 1). RET, CS, and NC dyads did not significantly differ in terms of mothers' age, children's age, children's gender, mothers' education, mothers' income, or mothers' partnership status. However, there were significant differences regarding mothers' receptive language skills ($F(2, 245) = 82.08$, $p < 0.001$), mothers' frequency of MCS-codable maltreatment perpetration prior to enrollment in the study ($F(2, 245) = 3.41$, $p < 0.05$), and mothers' race/ethnicity ($\chi^2(4) = 10.81$, $p < 0.05$). Post hoc Bonferroni

Table 1. Sociodemographic characteristics of participants by maltreatment and intervention group

Variable	Nonmaltreating (<i>n</i> = 83)		Maltreating (CS, <i>n</i> = 82)		Maltreating (RET, <i>n</i> = 83)		<i>F</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
1. Maternal age	30.37	6.85	29.30	5.41	29.87	5.31	0.69
2. Child age	4.86	1.13	4.88	1.20	4.97	1.11	0.22
3. Maternal language (PPVT-4)	86.22	12.64	82.01	11.80	86.60	13.01	3.41*
4. Prior maltreatment perpetration	0	0.00	2.02	1.39	1.78	1.33	82.08***
	<i>n</i> (%)		<i>n</i> (%)		<i>n</i> (%)		χ^2
5. Child sex							0.74
Male	42 (50.6)		44 (53.7)		39 (47.0)		
6. Maternal ethnicity							10.81*
Black	34 (41.0)		41 (50.0)		27 (32.5)		
White	27 (32.5)		30 (36.6)		42 (50.6)		
Hispanic/Other	22 (26.5)		11 (13.4)		14 (16.9)		
7. Maternal education							10.60
Some middle or high school	18 (21.7)		32 (39.0)		24 (28.9)		
Completed high school/GED	25 (30.1)		24 (29.3)		31 (37.3)		
Some trade school/college	26 (31.3)		19 (23.2)		19 (22.9)		
Completed trade school/college	12 (14.5)		6 (7.3)		29 (10.8)		
Master's degree	2 (2.4)		1 (1.2)		0 (0.0)		
8. Family income							1.02
<\$12,000	45 (54.2)		50 (61.0)		45 (54.2)		
9. Marital status							4.88
Single	36 (43.4)		49 (59.8)		39 (47.0)		

Note. *N* = 248. ANOVAs and chi-square tests of independence were used to assess for differences by group. CS = community standard; RET = Reminiscing and Emotion Training; PPVT-4 = Peabody Picture Vocabulary Test, Fourth Edition. Prior maltreatment perpetration was calculated from the frequency of MCS-codable maltreatment perpetration prior to enrollment in the study.

p* < .05, ** *p* < .01, * *p* < .001.

comparisons revealed no significant differences in maternal receptive language between CS and NC groups ($p = 0.095$) and between RET and NC groups ($p = 1.00$), and a marginal difference between CS and RET groups ($p = 0.058$). Post hoc Bonferroni comparisons revealed a nonsignificant difference in mothers' frequency of MCS-codable maltreatment perpetration prior to enrollment in the study between CS and RET groups ($p = 0.492$), and significant differences between CS and NC ($p < 0.001$) and RET and NC ($p < 0.001$) groups. Finally, as a follow-up on the significant chi-square test for maternal race/ethnicity, adjusted standardized residuals were examined with a Bonferroni correction; there were no cells with significant adjusted standardized residuals.

Maternal receptive language was positively correlated with sensitive guidance at T1 ($r = 0.30$, $p < 0.001$) and T2 ($r = 0.25$, $p < 0.001$). In addition, maternal receptive language was negatively correlated with total instances of child welfare reinvolvement ($r = -0.17$, $p < 0.01$) and not significantly correlated with total substantiations ($r = -0.08$, $p = 0.228$). Mothers' frequency of MCS-codable maltreatment perpetration prior to enrollment in the study was negatively correlated with sensitive guidance at T1 ($r = -0.14$, $p < 0.05$) and T2 ($r = -0.10$, $p = 0.18$), and positively correlated with total instances of child welfare reinvolvement ($r = 0.26$, $p < 0.001$) and total substantiations ($r = 0.38$, $p < 0.001$).

Running these correlations with only maltreating mothers (CS and RET group mothers together) yielded the same pattern of findings, with a few exceptions: maternal receptive language was no longer significantly correlated with total instances of child welfare reinvolvement ($r = 0.13$, $p = 0.101$), and mothers' frequency of MCS-codable maltreatment perpetration prior to enrollment in the study was no longer significantly correlated with sensitive guidance at T1 ($r = -0.09$, $p = 0.268$) and T2 ($r = -0.06$, $p = 0.502$). Finally, using ANOVAs, maternal race/ethnicity was not significantly associated with sensitive guidance at T1 ($F(2, 243) = 1.50$, $p = 0.225$), sensitive guidance at T2 ($F(2, 219) = 2.03$, $p = 0.134$), total instances of child welfare reinvolvement ($F(2, 245) = 0.26$, $p = 0.776$), or total substantiations ($F(2, 245) = 0.42$, $p = 0.291$).

At T1, of the 165 children who had experienced child maltreatment, three were missing data on specific subtypes experienced. Among those with subtype data available, subtype comorbidity was high; 57.4% of the 162 children with subtype data at T1 had experienced two or more subtypes. A hierarchy representing the degree to which a particular form of maltreatment violates social norms (in order: sexual or physical abuse, neglect, emotional maltreatment, and moral-legal/educational maltreatment) was used to classify the 162 maltreated children with T1 subtype data into mutually exclusive subtype groups (e.g., Lawson

Table 2. Child welfare reinvolvement over two years by maltreatment and intervention group

	Nonmaltreating (<i>n</i> = 83)		Maltreating (CS, <i>n</i> = 82)		Maltreating (RET, <i>n</i> = 83)		<i>t</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Substantiations	0.06	0.24	0.38	0.75	0.30	0.60	0.73
Unsubstantiated Assessments	0.33	0.72	1.49	1.89	0.99	1.38	1.94*
Total Reinvolverment	0.39	0.82	1.87	2.08	1.29	1.55	2.02*

Note. *N* = 248. Independent samples *t*-tests compared CS and RET dyads. CS = community standard; RET = Reminiscing and Emotion Training. Total reinvolvement refers to the total number of official child welfare assessments, including instances that were substantiated and instances that were not substantiated.

p* < .05, ** *p* < .01, * *p* < .001.

et al., 2020; Manly et al., 1994). Children were classified as having experienced abuse (16.0%) if they had experienced sexual or physical abuse at T1 regardless of the presence/absence of other subtypes. Children were classified as having experienced neglect (55.6%) if they had experienced neglect at T1 but not sexual or physical abuse, regardless of the presence/absence of other subtypes. Children were classified as having experienced emotional maltreatment (22.8%) if they had experienced emotional maltreatment at T1 but not sexual abuse, physical abuse, or neglect, regardless of the presence/absence of moral-legal/educational maltreatment. Finally, 5.6% of the sample experienced moral-legal/educational maltreatment at T1 but not sexual abuse, physical abuse, neglect, or emotional maltreatment. Hierarchical classification at T1 was not significantly associated with total frequency of new substantiations ($F(3, 158) = 0.07, p = 0.977$) or total frequency of child welfare reinvolvement ($F(3, 158) = 1.60, p = 0.191$) over the two years following the intervention, even after controlling for the effects of RET, $F(3, 157) = 0.07, p = 0.977$ and $F(3, 157) = 1.51, p = 0.215$ for substantiations and child welfare reinvolvement, respectively.

Research question 1: Effect of RET on child welfare reinvolvement

Across two years, 26.8% of CS dyads, 43.4% of RET dyads, and 73.5% of NC dyads had no child welfare reinvolvement (total number of child welfare substantiations and unsubstantiated assessments). In Table 2, child welfare reinvolvement statistics are presented by group. Comparing CS and RET dyads, there was a significant effect of RET on frequency of total child welfare reinvolvement, $t(163) = 2.02, p = 0.022$ (one-tailed), Cohen's $d = 0.32$, supporting our hypothesis. On average, mothers in the CS group had 1.87 instances of reinvolvement ($SD = 2.08$), while mothers in the RET group had 1.29 instances of reinvolvement ($SD = 1.55$).

Post hoc analyses were conducted to examine whether this finding held when child welfare reinvolvement was dichotomized to reflect the presence or absence of reinvolvement, therefore giving less weight to dyads with more than one instance of reinvolvement. With this dichotomized reinvolvement variable, RET was associated with reduced reinvolvement, $\chi^2(1) = 4.93, p < 0.05$. Additional post hoc descriptive analyses indicated that maltreating dyads with no child welfare reinvolvement over two years ($n = 107$) and maltreating dyads with at least one instance of child welfare reinvolvement over two years ($n = 58$) were at significance in terms of mothers' age, $t(163) = 1.95, p = 0.053$, and mothers' frequency of MCS-codable maltreatment perpetration prior to enrollment in the study, $t(163) = 1.98, p = 0.050$. Maltreating mothers with no new child welfare reinvolvement

were marginally older ($M_{\text{age}} = 30.67$ years, $SD = 6.67$) and engaged in fewer instances of pre-enrollment maltreatment ($M_{\text{maltreatment}} = 1.62, SD = 1.35$) than mothers with at least one instance of child welfare reinvolvement ($M_{\text{age}} = 28.99$ years, $SD = 4.40$; $M_{\text{maltreatment}} = 2.06, SD = 1.35$). These two groups did not differ in terms of family income, children's age or gender, mothers' race/ethnicity, partnership status, and education.

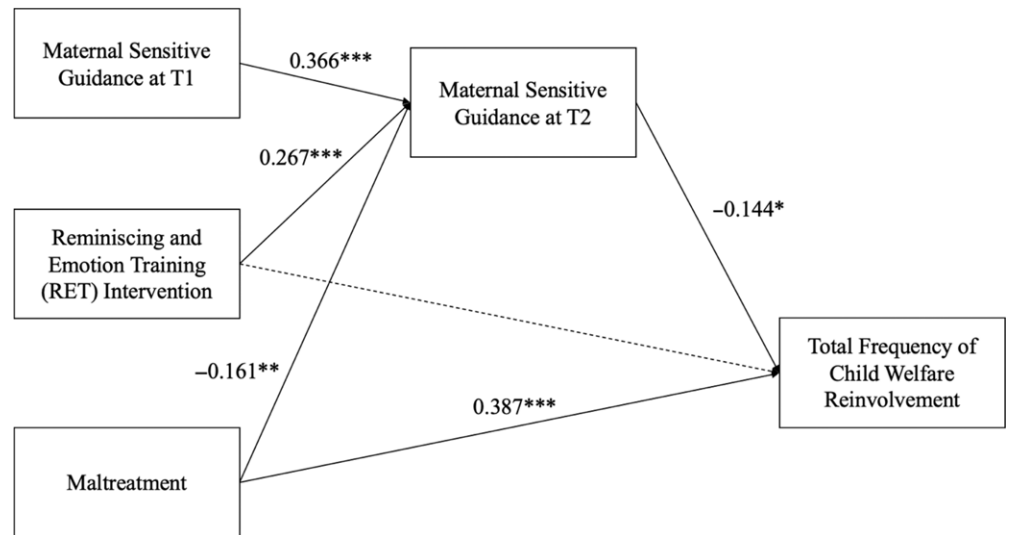
Research question 2: Indirect effects of RET and maltreatment on child welfare reinvolvement through post-intervention maternal sensitive guidance

Model fit for the path analysis was good across all four fit indices with maternal receptive language as a covariate on maternal sensitive guidance at T1 and T2 and the dummy-coded group variables ($\chi^2(2) = 7.630, p = 0.106$; CFI = 0.981; RMSEA = 0.060, SRMR = 0.039) and without maternal receptive language in the model ($\chi^2(3) = 6.724, p = 0.081$; CFI = 0.955; RMSEA = 0.071, SRMR = 0.044). Results, presented below, were identical with and without maternal receptive language included as a covariate on maternal sensitive guidance at T1 and T2 and the dummy-coded group variables. Therefore, for parsimony, the model without maternal receptive language is described below and presented in Figure 1. When total frequency of substantiations was included as the outcome variable in place of frequency of child welfare reinvolvement, model fit was also good ($\chi^2(3) = 5.131, p = 0.162$; CFI = 0.966; RMSEA = 0.054, SRMR = 0.037), and results were identical.

As expected, based on our prior work, RET was positively ($\beta = 0.267, S.E. = 0.074, p < 0.001$) and maltreatment was negatively ($\beta = -0.161, S.E. = 0.069, p < 0.01$) associated with maternal sensitive guidance at T2, controlling for maternal sensitive guidance at T1 ($\beta = 0.366, S.E. = 0.060, p < 0.001$). RET was not significantly associated with child welfare reinvolvement directly ($\beta = -0.122, S.E. = 0.076, p = 0.106$), but there was a significant direct effect of maltreatment on child welfare reinvolvement ($\beta = 0.387, S.E. = 0.059, p < 0.001$). Maternal sensitive guidance at T2 was negatively associated with child welfare reinvolvement ($\beta = -0.144, S.E. = 0.072, p < 0.05$). Finally, as hypothesized, there was a significant indirect effect of RET on frequency of DCS reinvolvement through maternal sensitive guidance during reminiscing at T2 [95% CI $-0.093, -0.007$]. In addition, there was a significant indirect effect of maltreatment on frequency of DCS reinvolvement through maternal sensitive guidance during reminiscing at T2 [95% CI $0.003, 0.065$].

To evaluate the robustness of the indirect effect of RET on frequency of child welfare reinvolvement through maternal sensitive guidance during reminiscing at T2, we conducted post hoc sensitivity analyses including several covariates. In different

Figure 1. Mediation model. *Note.* Path analysis model depicting the indirect effects of RET and maltreatment on frequency of child welfare reinvolvement through post-intervention maternal sensitive guidance during reminiscing. Nonsignificant pathways are indicated by thin dashed lines and statistically significant pathways are indicated by solid lines. Standardized coefficients are reported. RET (1: RET intervention provided, 0: no RET intervention provided); maltreatment (1: maltreating, 0: nonmaltreating); T1 = Time 1; T2 = Time 2. * $p < .05$, ** $p < .01$, *** $p < .001$.



models, the indirect effect remained significant when maternal age, maternal frequency of MCS-codable maltreatment prior to the intervention, and maternal race/ethnicity were each controlled for on total frequency of child welfare reinvolvement. Above, it is noted that the indirect effect also remains significant when maternal receptive language is covaried with maternal sensitive guidance at T1 and T2 and the dummy-coded group variables. However, when maternal receptive language is also covaried with frequency of child welfare reinvolvement, in addition to maternal sensitive guidance at T1 and T2 and the dummy-coded group variables, the indirect effect becomes nonsignificant [95% CI $-0.084, 0.001$].

Discussion

The present study evaluated whether RET (Valentino et al., 2019), a brief, relational intervention designed to support maltreated 3- to 6-year-old children's healthy development by improving maternal-sensitive guidance and elaboration during conversations about children's past emotional experiences, was associated with reductions in child welfare reinvolvement (total number of child welfare substantiations and unsubstantiated assessments) over two years. Furthermore, the indirect association between RET and total frequency of child welfare reinvolvement through maternal sensitive guidance was evaluated. Among a racially diverse, low-income sample of mothers who were recruited from the local DCS on the basis of having been named as the perpetrator of at least one substantiated instance of child maltreatment, mothers who were randomly assigned to receive RET had significantly fewer total instances of child welfare reinvolvement over two years than mothers who were randomly assigned to not receive RET, as hypothesized. In addition, in support of our hypothesis, the effect of RET on reductions in child welfare reinvolvement was mediated by mothers' post-intervention sensitive guidance during reminiscing.

Evidence from the present study suggests that RET is associated with the prevention of new instances of child welfare reinvolvement – an important feat given the wide-ranging consequences associated with child abuse and neglect in general (Carr et al., 2020; Fang et al., 2012), but especially chronic maltreatment (Jonson-Reid et al., 2010). The effect of RET on reduced child welfare

reinvolverment appears to be driven by RET-related improvements in maternal sensitive guidance during reminiscing. Poor maternal sensitive guidance during reminiscing was also a mechanism of risk linking untreated maltreatment to future child welfare reinvolvement. Indeed, maternal sensitive guidance at the post-intervention time point had a significant negative association with total number of child welfare reinvolvement instances. Mothers who were rated as higher in sensitive guidance (i.e., mothers were more focused, more involved, more accepting of children's emotions and contributions to the conversation, more likely to structure discussions to be coherent and adequate, and more likely to resolve discussion about children's negative emotional experiences with an emphasis on the positive) had fewer new instances of child welfare involvement. For maltreating mothers' whose sensitive guidance increased after participating in RET, mothers' relationship with their children may have improved in quality too. Mothers – with or without a history of maltreatment – who can engage in coherent and emotionally supportive behavior during conversations with their children about emotions may be more attuned to their children and more regulated themselves, and therefore be less likely to engage in negative caregiving behavior including child abuse and neglect.

As child maltreatment is a phenomenon that primarily occurs in the parent-child relationship, relational interventions that target the parent-child relationship have much promise for preventing child maltreatment recurrence and ameliorating the negative effects of maltreatment on children's development (Guild et al., 2017; Toth et al., 2013; Valentino, 2017). Whereas several existing relational intervention programs for maltreating families are designed to improve parental sensitivity among parents of infants and toddlers, fewer programs are developmentally appropriate for families with older children. With the exception of the Attachment Video-feedback Intervention (e.g., Cyr et al., 2022; Moss et al., 2011), most existing programs, including those for the early-childhood age range, tend to be intensive in dosage and duration, and require provision by highly trained clinicians. Therefore, the results of this study suggest that RET fills a crucial need in the child maltreatment treatment landscape as a brief (6-session) intervention, that can be provided by Bachelor's-level providers, designed specifically for maltreating mothers of preschool-aged children whose children are still in their custody. By targeting a

central form of sensitive caregiving for parents of preschoolers – sensitive guidance during conversations with children about their emotional experiences – RET is developmentally appropriate for families with preschool-aged children. Parental behaviors during such conversations during early childhood are impactful for children's emerging socioemotional and cognitive functioning (Eisenberg et al., 1998; Nelson & Fivush, 2004). Given evidence that maltreating mothers have difficulties with sensitive guidance and elaboration during reminiscing conversations (Valentino et al., 2019) and that poor sensitive guidance explains, in part, associations between maltreatment and risk for future recurrence, improving these specific behaviors among maltreating mothers should be a priority for programs aiming to promote positive developmental cascades for maltreated children.

The present study has a few limitations that underscore future directions for research. First, it is important to acknowledge that the indirect effect of RET on frequency of child welfare involvement through post-intervention maternal sensitive guidance during reminiscing was not significant when controlling for maternal receptive language on all variables in the model. Our descriptive analyses indicated that within the maltreating groups (RET and CS) there was no association between maternal receptive language and child welfare reinvolvement. However, maternal receptive language may be an important moderator of RET treatment effects, which is worth exploring in future research.

Second, though the use of child welfare records to assess child maltreatment has important advantages, not all child maltreatment is identified by authorities, and so records may underrepresent all new instances of child maltreatment in the sample. Relatedly, we had access to child welfare records in Indiana, and therefore do not know with certainty whether families may have moved and had child maltreatment in other states. Still, the present study involved a randomized controlled trial design, and we do not expect that one group would have moved out of state at a higher rate than the other. In 2021, the rate of geographic mobility in St Joseph County, Indiana was 13.8% and the majority of movement was within county and/or state (Census Reporter, 2021), so we expect that even if families enrolled in the study changed addresses, we would in most cases still have access to records of new instances of child welfare involvement. Nevertheless, it is interesting and important for future research to consider the role that geographic mobility may play in assessing child welfare-involved families longitudinally; this issue may be heightened in communities close to state borders. Another challenge to assessing child welfare reinvolvement is that there may be surveillance effects (i.e., an increase in reports due to frequent presence around or in a family's home as part of assessment or intervention services). This potential complication is important to acknowledge, but it did not likely play a role in our study, perhaps in part because of the brief nature of RET relative to more intensive home-visiting programs. Nonetheless, tracking dates of DCS case closures would be helpful in future research. It is possible that RET facilitated more efficient case closures, which could be additional, serial mediator of the effects of RET on child welfare reinvolvement.

Furthermore, the majority of participating families' races were Black or White, and all families were required to be fluent in English, so while the sample makeup reflected the local community demographically, the sample was not nationally or globally representative in terms of race, ethnicity, and culture.

Future research should seek to evaluate RET in samples of families with different racial/ethnic and cultural characteristics. It will also be important for future research to consider whether the RET intervention is more or less effective for preventing specific subtypes of child maltreatment. Finally, the time frames investigated in current study were all prior to the onset of the COVID-19 pandemic. Evidence suggests that the COVID-19 pandemic was associated with change in the frequency of child maltreatment reports to DCS in the United States (USDHHS, 2022) – specifically, there was a decrease in official reports but an increase in severe cases of child maltreatment, particularly during phases of the pandemic which involved lockdowns and school closings (Huang et al., 2023). Additional research is necessary to evaluate effects of the RET intervention over periods of time longer than two years, and to investigate whether the effectiveness of RET persisted after the societal changes associated with the onset of the COVID-19 pandemic.

Despite these limitations, the present study has a number of important strengths. This study marks the first investigation of the effects of RET on preventing child maltreatment recidivism. RET was evaluated as part of a randomized controlled trial, which enabled strong evidence for examining the effects of RET (by comparing maltreating mothers who received RET to maltreating mothers who did not). By including a sample of demographically similar nonmaltreating families, our research design furthermore enabled examination of the effects of untreated maltreatment (by comparing maltreating mothers who did not receive RET to nonmaltreating mothers) on relevant outcomes. An additional strength of the present study is that child maltreatment frequency was assessed from official DCS records, as opposed to self-report, which may be subject to inaccuracies. We were also able to examine the effects of RET on *all* child welfare reinvolvement – meaning, substantiated reports and unsubstantiated reports. Researchers advocate for examining both substantiated and unsubstantiated official child maltreatment assessments because unsubstantiated child welfare assessments are associated with negative outcomes, and decisions regarding substantiation may be subject to the availability of evidence (Burns et al., 2004; Drake et al., 2003; Drake, 1996; English et al., 2002; Kohl et al., 2009). Finally, our assessment of parenting behavior was observational, which allowed us to avoid potential discrepancies between how parents self-report their behavior and how they are observed to behave in a naturalistic conversation with their child.

Altogether, the present study provides important and exciting findings regarding the efficacy of RET in preventing child welfare reinvolvement over a two-year period. The effects of RET on reduced child welfare reinvolvement appear to operate through improvements in maternal sensitive parenting behavior, providing further support for the role of relational interventions for maltreating families (Valentino, 2017). As a brief intervention that is age-appropriate for maltreating families of preschoolers, RET fills an important gap in the child maltreatment prevention and intervention space.

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