Psychological Trauma: Theory, Research, Practice, and Policy

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Objective: To examine the relationship between maternal childhood trauma and early maternal caregiving behaviors (MCB). ***Method:*** Participants included 74 mother–infant dyads (maternal age 20–45 years; ethnicity 64.9% Latina) from a longitudinal pregnancy cohort study. Maternal childhood trauma was assessed during pregnancy with the childhood trauma questionnaire (CTQ). Observed mother–infant interactions at infant age 4 months were coded utilizing modified Ainsworth's MCB rating scales that assessed a range of behaviors (e.g., acceptance, soothing, and delight) which we analyze grouped together and will summarize using the term "maternal sensitivity." Linear regressions tested the associations between maternal childhood trauma and MCB. Primary analyses examined the relationships of MCB with (a) any maternal childhood trauma (moderate or greater exposure to physical abuse, sexual abuse, emotional abuse, physical neglect, and/or emotional neglect) and (b) cumulative childhood trauma. Secondary analyses examined the relationships between each type of childhood trauma and MCB. ***Results:*** Exposure to childhood trauma was not associated with MCB ($p = .88$). Cumulative childhood trauma score was associated with lower scores on MCB ($\beta = -1.88, p < .05$). Emotional abuse and emotional neglect were individually associated with lower scores on MCB ($\beta = -1.78$, $p = .04$; $\beta = -1.55$, $p = .04$, respectively). Physical abuse, sexual abuse, and physical neglect were not associated with MCB. ***Conclusions:*** Many mothers exposed to childhood trauma may be resilient to negative effects on parenting behaviors, while specific experiences of childhood trauma (emotional abuse, emotional neglect, and cumulative childhood trauma) may predict less sensitive early parenting behaviors.

Clinical Impact Statement
The impact of childhood trauma on very early parenting behaviors needs to be better clarified to identify parents who could most benefit from parenting interventions. This small, but methodologically rigorous, study of ethnically diverse mothers and infants provides preliminary results demonstrating that many mothers may be resilient to a limited exposure to trauma. Cumulative childhood trauma, and emotional abuse and neglect, however, predict less sensitive early parenting behaviors.

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Background

Many who experience childhood trauma demonstrate resilience (Yoon et al., 2021), while others experience lasting effects that can influence later parenting behaviors (Madigan et al., 2019; Savage et al., 2019). Maternal childhood trauma has been associated with offspring emotional, behavioral, and developmental problems (Cooke et al., 2021; Hetherington et al., 2020; McDonnell & Valentino, 2016; Racine et al., 2018; Schickedanz et al., 2018; Stepleton et al., 2018). These intergenerational effects of trauma have been proposed to be mediated, in part, by early parenting behaviors (Narayan et al., 2021). Sensitive and responsive caregiving behaviors nurture healthy infant development (Ainsworth et al., 2015; Rocha et al., 2020). Specifically, maternal caregiving behaviors (MCB) during early development have been associated with child emotion regulation, social skills, inhibitory control, and stress reactivity (Feldman & Eidelman, 2009; Hane & Fox, 2006; Hane et al., 2010; Rubin et al., 1997; Scherer et al., 2019). However, the association between maternal childhood trauma and parenting behaviors is not well understood, limiting the ability to identify which mother–infant dyads are at potential risk for less sensitive parenting behaviors and negative child outcomes.

While empirical evidence generally supports the hypothesis that maternal childhood trauma can negatively impact the quality of parenting behaviors, there is significant heterogeneity in findings of empirical studies. Two meta-analyses found small, negative associations between maternal childhood trauma and the quality of parenting behaviors (Madigan et al., 2019; Savage et al., 2019). Savage et al. (2019) found that maternal childhood trauma was inversely associated with the quality of parenting behaviors (i.e., sensitivity, engagement, and lack of hostility and intrusivity—$r = -.13, p < .05$; Savage et al., 2019). Effect sizes in the meta-analysis by Savage et al. (2019) were noted to be greater in older studies, as well as those examining aversive, potentially abusive parenting behaviors. Similarly, a meta-analysis by Madigan et al. (2019) demonstrated a modest association between maternal childhood trauma and abusive parenting behaviors ($k = 80; d = 0.45, 95\%$ CI $= [0.37–0.54]$), but noted that the smallest effect sizes were found in the studies with the most rigorous methodology (Madigan et al., 2019). These findings present a more optimistic view for resilience of mothers and infants and raise the question of whether less rigorous methodology has led to elevated, overly broad, estimates of associations between maternal childhood trauma and parenting behaviors.

Most studies on the relationship between maternal childhood trauma and parenting have relied on self-report of parenting behaviors. This may lead to an overestimate of the strength of the association between maternal childhood trauma and parenting behaviors. Self-report measures are heavily subject to biases, such as social desirability bias, and have been shown to have low correlation with objective behavioral measures (Unternaehrer et al., 2019; Van de Mortel, 2008). Observation of parent–child interactions is a more objective approach to assessing the quality of parenting behaviors (Bailey et al., 2012), and may better predict later child behavioral health outcomes compared to self-report of parenting (Feldman & Eidelman, 2009; Rocha et al., 2020). However, fewer studies have used this approach. In a recent systematic review by Lotto et al. (2021) demonstrating associations between maternal childhood adversities and negative parenting, 90% of the 29 included studies utilized self-report measures of parenting behaviors (Lotto et al., 2021).

The number of types of childhood trauma may also impact parenting behaviors. Co-occurrence of multiple types of childhood maltreatment is not unusual (Kim et al., 2017), yet few studies have examined the cumulative effects of multiple types of trauma on quality of early parenting. There is some evidence that cumulative maternal childhood trauma may be associated with extreme forms of negative parenting behaviors, such as abusive parenting (Langevin et al., 2021). However, studies examining the effect of cumulative maternal childhood trauma on positive parenting and on less severe forms of negative parenting (e.g., indicators of hostility and intrusivity) are lacking.

Finally, differing types of abuse (physical, sexual, and emotional) and neglect (physical and emotional) may have differing effects on parenting. For example, a study focusing on mothers of 4- to 6-year-old children found that maternal childhood emotional abuse, but not physical or sexual abuse, was associated with hostility in caregiving (Bailey et al., 2012). Emotional abuse and neglect have been less studied compared to other forms of trauma. Furthermore, the effect of maternal childhood emotional trauma on parenting behaviors has almost exclusively been based on self-report measures of parenting. To the best of our knowledge, only one other study utilized observed mother–infant interactions to examine the relationship between childhood emotional abuse and neglect and parenting (Pereira et al., 2012).

In this study, we utilized a prospective pregnancy cohort of predominantly low-income, ethnically diverse women to address gaps in the literature regarding the association between maternal childhood trauma and early MCB. We tested whether an overall measure of maternal exposure to any childhood trauma or cumulative trauma are associated with MCB. Next, to examine whether types of childhood trauma differ in their effects on parenting, we performed secondary analyses testing the association between each type of childhood trauma and MCB separately. Notably, this study contributes to the literature by utilizing an objective measure of parenting behaviors at infant age 4 months to detect the effects of differing maternal childhood trauma experiences on parenting during early infant development.

Method

This study included participants from a longitudinal study of healthy pregnant women ($N = 187$) that examined epigenetic modifications associated with maternal prenatal stress (Monk et al., 2016; Walsh et al., 2019). Study recruitment occurred from the years 2011–2016 through the Department of Obstetrics and Gynecology at Columbia University Irving Medical Center (CUIMC). All study procedures, including informed consent protocol, were approved by the New York State Psychiatric Institute/Columbia University Medical Center Institutional Review Board. Most participants were recruited during the first or second trimester of pregnancy (although several were recruited during the third trimester) by flyers and referrals from obstetricians and midwives in affiliated clinics. Exclusion criteria were serious health conditions, multifetal pregnancy, medications affecting the cardiovascular system, tobacco, alcohol, or recreational drug use, lacking fluency in English, and age younger than 18 or older than 45 years old. The study included three assessment time points (12–22 weeks, 23–28 weeks, and 34–36 weeks of pregnancy).

A fourth data collection session at infant age 4 months was completed during the second year of the study. The majority of mothers

enrolled in the study were eligible to participate with their infants, although only 48.1% ($n = 90$) participated in this additional postnatal session. Reasons for not participating included inability to contact the participant ($n = 89$, 47.6%), aging out of the study prior to implementation of follow-up session ($n = 1$, 0.5%), not showing up for the scheduled 4-month appointment ($n = 1$, 0.5%), family relocation ($n = 4$, 2.1%). Of the 90 participants in the postnatal session, 16 had missing data for the childhood trauma questionnaire (CTQ) and were not included in the current analyses, yielding a final sample size $N = 74$. The women who participated versus those who did not in the postnatal assessment did not differ in level of education, use of Medicaid as insurance, ethnicity, income, or any individual type of childhood trauma. Women who participated in the postnatal assessment versus those who did not were more likely to have had one or more types of childhood trauma ($p = .035$). This difference was no longer significant after correcting for multiple comparisons.

Demographic Information

Maternal age, ethnicity ($0 = non\text{-}Latina$, $1 = Latina$), and parity were self-reported at enrollment. Immigration and nativity information were not assessed. At the 34- to 37-week assessment, family annual income was assessed on a 6-point scale ($1 = \$0–\$15,000$ and $6 = above\ \$250,000$). Child's sex was obtained from the medical record. Infant's primary caregiver was assessed at the 4-month postnatal visit and was defined by maternal response to, "Who provides most of the care for your child?" ($0 = other$, $1 = mother$).

Childhood Trauma

Maternal childhood trauma was assessed with the CTQ (Bernstein et al., 2003). To reduce the potential influence of recollection of childhood trauma on maternal behaviors during mother–infant interactions, history of maternal childhood trauma was assessed during pregnancy at the enrollment session. The CTQ is one of the most widely used retrospective instruments for measurement of abuse and neglect during childhood and adolescence, with good validity and reliability (Baker, 2009). Frequency of exposure to traumatic experiences during childhood is assessed on the CTQ with 28 items using a 5-point Likert scale ($1 = never\ true$ to $5 = very\ often\ true$) across the following domains: physical abuse, emotional abuse, sexual abuse, physical neglect, and emotional neglect. (e.g., an item assessing sexual abuse, "When I was growing up, someone tried to make me do sexual things or watch sexual things.") Similarly to other studies in which CTQ scores did not follow a normal distribution (Aas et al., 2016), scores were log-transformed to normalize the distribution for all types of trauma. Cutoff values of moderate or greater exposure as defined in the CTQ manual (emotional abuse ≥ 13, physical abuse ≥ 10, sexual abuse ≥ 8, emotional neglect ≥ 15, and physical neglect ≥ 10; Bernstein et al., 2003) were used to create dichotomous variables of moderate or greater versus no or low exposure to each type of trauma. Using an approach described by Moog et al. (2018), an overall any trauma (yes/no) variable was created based on these five dichotomous variables with any trauma indicating at least moderate exposure to one or more of these five types of childhood trauma (Moog et al., 2018). A linear cumulative trauma variable (0–5 types of trauma) was created using the dichotomous variables for each trauma type. We further recategorized the

number of childhood trauma types into three groups (0 trauma, 1–2 types of trauma, and 3+ types of trauma).

MCB

At infant age 4 months, MCB was measured using a behavioral coding approach similar to that reported by Hane and Fox (2006). Video recordings were conducted during a free play interaction between mother and infant in the laboratory. Maternal behaviors during these tasks were coded using a modified version of Ainsworth's MCB rating scales (Ainsworth, 1976; Hane & Fox, 2006). Of Ainsworth's original 28 scales, the following 9-point rating scales were used: acceptance–rejection, sensitivity–insensitivity, consideration versus intrusiveness, effectiveness of soothing (and prevention), delight, appropriateness of play, quality of vocal behavior, quality of touch (physical contact). Raters provided a global rating ($1 = low$; $9 = high$) of each scale. For example, a score high in sensitivity indicated maternal behaviors such as attending and responding to the infant's signals and tolerating temporary loss of interest and moments of disengagement. To assure goodness of fit of the scales to this sample and the age of infants, only scales that demonstrated a normal data distribution were included in the composite MCB score. This approach led to the exclusion of the Appropriateness of Play scale. A final MCB composite was derived by averaging ratings for the remaining seven scales across each task and combining the average from each scale into a total MCB score. We use the term "maternal sensitivity" to indicate higher scores of MCB. Coding was completed by two trained coders (14% overlap in addition to six training cases) who were blind to other data in the study, with good reliability (intraclass correlations across scales = .69).

Maternal depressive symptoms were assessed at the 4-month postnatal visit by self-report using the Edinburgh Postnatal Depression Scale (EPDS), a 10-item depression screening questionnaire (Cox et al., 1987). A cutoff score of 11 on the EPDS demonstrates high sensitivity and specificity of detecting major depression in pregnant and postpartum women (Levis et al., 2020).

Statistical Analyses

The association between the predictors (primary predictors of any trauma and cumulative trauma and secondary predictors of different trauma types) and MCB were evaluated in linear regressions. Analyses included both an unadjusted regression model and a regression model adjusted for maternal age and Medicaid as insurance. Each predictor variable (any trauma, cumulative trauma, emotional abuse, physical abuse, sexual abuse, emotional neglect, physical neglect) was analyzed in a separate regression with MCB as the outcome variable. We utilized the Bonferroni correction method to correct for multiple comparisons. To determine covariates to include in the models, bivariate Pearson correlation coefficients were calculated for nine variables (maternal age, education, Medicaid as insurance, ethnicity, income, parity, depression score on EPDS, infant sex, and mother as primary caregiver) and MCB (see the online supplemental materials). Parity, depression score on EPDS, infant sex, and mother as primary caregiver were not correlated with MCB. The remaining five variables (maternal age, education, Medicaid as insurance, ethnicity, and income) were correlated with MCB. These five sociodemographic variables were highly correlated with one another. To better detect the effect of

the predictor variables by reducing collinearity, two of these five covariates (maternal age and Medicaid as insurance) were selected to be included in the adjusted model. Maternal age was selected as a known, strong predictor of parenting behaviors (Van Holland De Graaf et al., 2018), and Medicaid as insurance was selected as the second covariate because it had the lowest correlation with maternal age. Finally, a sensitivity analysis was performed to test whether there was a threshold level for cumulative maternal childhood trauma at which associations with MCB emerged. We examined MCB as the dependent variable in a regression utilizing the categorical cumulative maternal childhood trauma variable (0 trauma, 1–2 types of trauma, and 3+ types of trauma) and performed the least significant difference (LSD) post hoc comparison tests.

Results

Descriptive Characteristics

Sample characteristics are given in Table 1. Average participant age in this study was 29.43 years ($SD = 6.62$) at enrollment, and 64.9% ($n = 48$) identified as Latina. Medicaid as insurance was reported by 48.6% ($n = 36$) of the sample; 48.6% ($n = 36$) of the infants were male. The EPDS mean score was 4.73 ($SD = 3.56$). Nearly 40% of the participants reported childhood trauma (39.2%; $n = 29$). Of those with childhood trauma, 69.0% ($n = 20$) had 1–2 types of trauma and 31.0% ($n = 9$) had 3+ types of trauma. The most common type of trauma was sexual abuse (23.0%; $n = 17$) and the least common type was emotional abuse (13.5%; $n = 10$).

Associations Between Maternal Childhood Trauma and MCB

Primary outcome measures: As presented in Table 2, maternal experience of any type of childhood trauma (dichotomized yes/no) was not associated with MCB ($p = .882$), while cumulative trauma was associated with lower MCB ($\beta = -1.88$, $p = .047$). In the models adjusting for maternal age and Medicaid as insurance, as presented in Table 3, the association between cumulative trauma and MCB was marginally significant ($\beta = -1.74$, $p = .061$). In the sensitivity analysis with three categorical groups of cumulative trauma (0 trauma, 1–2 types of trauma, and 3+ types of trauma), after adjusting for maternal age and Medicaid as insurance, MCB significantly differed by the level of cumulative trauma, $F(2, 69) = 7.806$, $p = .007$. LSD post hoc tests revealed significant differences between those with 3+ types of trauma and the other two groups (vs. 0 trauma: $\beta = -.925$, $p = .030$; vs. 1–2 types of trauma: $\beta = -1.458$, $p = .002$) and the difference between 0 trauma and 1–2 types of trauma groups approached significance ($\beta = -.533$, $p = .087$).

Secondary outcome measures: Two of the five types of childhood trauma were associated with MCB: emotional abuse and emotional neglect were each associated with lower MCB ($\beta = -1.78$, $p = .036$; $\beta = -1.55$, $p = .038$, respectively). Physical abuse, sexual abuse, and physical neglect were not associated with MCB. In the models adjusted for maternal age and Medicaid as insurance, the same variables maintained significance (emotional abuse and emotional neglect were each associated with lower MCB—$\beta = -1.95$, $p = .014$; $\beta = -1.45$, $p = .036$, respectively). None of the regression analyses in the secondary analyses had significant results at the more

Table 1

Sample Characteristics (N = 74)

Variable	n (%)	M (SD)
Maternal age in years		29.43 (6.62)
Education years		14.70 (3.04)
Latina ethnicity (yes)	48 (64.5)	
Medicaid enrollment	36 (48.6)	
Income		
$0–$15,000	12 (16)	
$16,000–$25,000	15 (20.3)	
$26,000–$50,000	13 (17.6)	
$51,000–$100,000	19 (25.7)	
$101,000+	15 (20.3)	
Mother is primary caregiver (yes)	62 (83.8)	
First pregnancy (yes)	15 (20.3)	
Child sex (female)	38 (51.4)	
Edinburgh Postnatal Depression Scale score[a]		4.73 (3.56)
Any trauma (yes/no)[b]	29 (39.2)	
Cumulative trauma (0–5 types)[c]		0.82 (1.33)
0 types	45 (60.8)	
1 type	14 (18.9)	
2 types	6 (8.1)	
3 types	3 (4.1)	
4 types	4 (5.4)	
5 types	2 (2.7)	
Trauma types[d]		
Emotional abuse	10 (13.5)	8.36 (4.03)
Physical abuse	12 (16.2)	8.36 (4.03)
Sexual abuse	17 (23.0)	6.99 (3.22)
Emotional neglect	11 (14.9)	7.00 (4.19)
Physical neglect	11 (14.9)	9.31 (4.64)

[a] Administered at 4-month follow-up visit.   [b] The presence of one or more types of moderate or severe trauma versus no or low trauma based on the childhood trauma questionnaire (CTQ).   [c] Number of subtypes of trauma based on the five CTQ subscales.   [d] Based on the CTQ subscales. Scores were log-transformed for normalization.

stringent level of significance after correcting for multiple comparisons ($p = .007$).

Discussion

We found that combining all types of trauma into a dichotomous measure of any childhood trauma (yes/no) did not demonstrate an association between maternal childhood trauma and quality of MCB. Cumulative maternal childhood trauma, emotional abuse, and emotional neglect, however, were associated with less sensitive maternal behaviors during early mother–infant interaction assessments.

We expected that our primary predictor of any maternal childhood trauma (yes/no) would be associated with lower quality of MCB. However, our null findings may be consistent with the observation that studies of higher quality and studies published more recently tend to be less likely to find significant associations between childhood trauma and parenting behaviors (Madigan et al., 2019; Savage et al., 2019). Utilizing observational measures of parenting, as opposed to self-report measures, may reduce the likelihood of finding associations between childhood trauma and parenting behaviors. For example, a systematic review of observational studies by Vaillancourt et al. (2017) found that fewer than half of the studies demonstrated direct associations between childhood trauma and the quality of parenting behaviors during mother–child interactions (correlation coefficients ranging from $r = -.13$ to $r = -.35$, $p < .05$; Vaillancourt et al., 2017). These results are in contrast to a

Table 2

Unadjusted Linear Regression Estimating Maternal Care Behaviors by Maternal Childhood Trauma

Variable[a]	B	SE	p
Any trauma (yes/no)	0.04	0.31	.889
Cumulative trauma (0–5 types)	−1.88	0.91	**.047**
Trauma types[b]			
Emotional abuse	−1.78	0.83	**.036**
Physical abuse	−1.30	0.95	.176
Sexual abuse	0.12	0.81	.882
Emotional neglect	−1.55	0.73	**.038**
Physical neglect	−1.83	1.06	.089

[a] Each variable was analyzed in separate regression analyses. [b] Scores for each type of trauma were log-transformed.
Boldface indicates statistical significance ($p < .05$).

review article of primary studies based on self-report measures by Lotto et al. (2021) that found that 83% of the included studies demonstrated direct associations between childhood adversity and negative parenting (Lotto et al., 2021). Maternal childhood trauma may, therefore, more consistently influence a mother's perception of her own parenting behaviors than with objective parenting behaviors.

Another hypothesis for why some studies have found associations between maternal trauma and parenting behaviors while others have not may be because the association depends on whether participants experienced single versus multiple types of trauma. While there was no association between our primary predictor (any maternal trauma) and MCB, we did find an association between cumulative trauma and less sensitive MCB. These results are consistent with a cumulative risk hypothesis for understanding the effects of childhood trauma. Similar to the dose–response relationship found between cumulative adverse childhood experiences (ACEs) and psychiatric symptoms (Chapman et al., 2004), the number of types of childhood trauma may predict later parenting behaviors. A recent study focusing on childhood trauma among pregnant women also demonstrated a dose–response relationship between the number of trauma types and psychiatric symptoms (Garon-Bissonnette et al., 2022). Our results, together with these prior findings, suggest that a cumulative measure of childhood maltreatment types could be a more useful predictor of early parenting behaviors compared to a measure of exposure to any childhood trauma.

Table 3

Linear Regressions Estimating Maternal Care Behaviors by Maternal Childhood Trauma Adjusted for Maternal Age and Enrollment in Medicaid

Variable[a]	B	SE	p
Any trauma (yes/no)	0.08	0.29	.774
Cumulative trauma (0–5 types)	−1.74	0.89	.061
Trauma types[b]			
Emotional abuse	−1.95	0.77	**.014**
Physical abuse	−1.40	0.90	.123
Sexual abuse	0.23	0.75	.765
Emotional neglect	−1.45	0.68	**.036**
Physical neglect	−1.80	0.99	.074

[a] Each variable was analyzed in separate regression analyses. [b] Scores for each type of trauma were log-transformed.
Boldface indicates statistical significance ($p < .05$).

A similar model to understand the effects of cumulative trauma is the risk threshold model, whereby increased risk occurs only once a threshold for trauma is experienced (Karam et al., 2014). In our study, sensitivity analyses demonstrated that the differences in MCB by level of cumulative childhood trauma emerged among mothers with 3+ types of childhood trauma. Mothers with 3+ types of childhood trauma had lower MCB compared to those in both other groups (0 types and 1–2 types of trauma). This is similar to some prior findings. A study by Guyon-Harris et al. (2021) examining the relationship between different childhood trauma profile types and maternal behaviors during mother–infant interactions at infant age 12 months found that the profile type that most strongly predicted parenting behaviors was exposure to multiple types of childhood maltreatment (Guyon-Harris et al., 2021).

We additionally found that emotional abuse and emotional neglect, but not other forms of trauma, were associated with less sensitive MCB. This was not due to greater power for these analyses, as emotional abuse and emotional neglect were the least common types of trauma in this sample (13.5% and 14.9% prevalence, respectively). Compared to other types of trauma, emotional abuse and neglect have been the least studied and have the lowest agreement between prospective and retrospective measures (Baldwin et al., 2019). However, there is growing evidence that the report of emotional abuse and neglect impacts emotional well-being and parenting behaviors (Hughes & Cossar, 2016). Our results are consistent with a study by Pereira et al, (2012) (the only other study of emotional trauma, to the best of our knowledge, that utilized observed parenting behaviors) finding that emotional neglect was associated with lower maternal sensitivity (Pereira et al., 2012).

Finally, emotional abuse may be a risk factor for exposure to other types of trauma later in development, and account for some of the negative effects attributed to these other types of trauma (Hart & Glaser, 2011). Most studies focusing on a sexual abuse or physical abuse have not differentiated participants with co-occurring emotional abuse from those without exposure to emotional abuse. As suggested in a paper by Bailey et al. (2012), it is possible that the negative parenting behaviors that have been attributed to childhood sexual and physical abuse could be due, in part, to co-occurring emotional abuse and neglect (Bailey et al., 2012).

Future studies are needed to confirm the results of this small study and further probe the questions raised. Larger replication studies that have higher power are needed to test the patterns we detected, as the associations we found were only significant prior to applying a more stringent level of significance that adjusted for multiple comparisons ($p = .007$). Additionally, to answer the question of whether co-occurring emotional abuse and neglect may account for some of the prior associations found between sexual abuse and/or physical abuse and parenting behaviors, larger studies are needed. Each type of childhood trauma could be examined separately to differentiate the effect of single versus multiple trauma types within each category of trauma. In our sample, the prevalence of childhood emotional abuse was 13.5% and sexual abuse was 23.0%, whereas a large national sample found a prevalence of childhood emotional abuse to be 33.9% and of sexual abuse to be 16.3% in women. It is unclear why our sample had a lower prevalence of emotional abuse and slightly higher prevalence of sexual abuse compared to national samples, and replication in samples of women with a higher prevalence of emotional abuse would be valuable. Additionally, further exploration of the association between cumulative childhood

trauma and parenting behaviors is needed, including potential mediators of this effect such as mental health problems or lack of social support. Participants in this study had low mean EPDS scores and were overall healthy. Therefore, while in the analyses of potential covariates, we found no associations between depressive symptoms and MCB, our ability to detect potential effects of mood was limited. Studies in populations with higher prevalence of mood disorder symptoms are therefore needed to better examine mental health problems as a potential mediator of the effects of childhood trauma on parenting behaviors.

For parents with a history of childhood trauma, our results suggest that many who experience childhood trauma are resilient to negative effects on observed early parenting behaviors. Those with multiple types of childhood trauma and those who experience childhood emotional trauma, specifically, may be among those with a higher risk of less sensitive parenting behaviors. If so, however, effective interventions are available, such as parent–child interaction therapy (Thomas et al., 2017), to promote sensitive parenting behaviors.

Limitations

While the use of observed mother–child interactions was a strength of this study, it also presented methodological limitations: there is potential for unconscious bias of the coder to influence scoring of maternal behaviors. Due to the nature of coding video interactions, coders were unable to be blinded to factors including participants' appearance and speech patterns; demographic biases of the coders could influence results. Future studies should consider strategies to reduce potential unconscious biases. For example, computer-based micro-coding of certain aspects of maternal care, in addition to the human coding of behaviors, could be a method of reducing bias. Furthermore, studies critically examining sociocultural biases in the definitions of parenting quality are also needed. An additional study limitation was our relatively small sample size, limiting statistical power to detect the influence of factors known to affect MCB such as infant sex and maternal mental health problems. Finally, although more than half of our sample identified as Latina, we did not assess nativity or immigration information, and by excluding mothers who lacked fluency in the English language this study did not adequately represent marginalized populations.

Conclusions

These preliminary results indicate that resilience to the effects of childhood trauma on early parenting behaviors may be common for those with limited exposure to trauma. Cumulative trauma, emotional abuse, and emotional neglect may be more strongly associated with less sensitive early MCB compared to exposure to a single type of childhood trauma or to physical or sexual abuse. Future research is needed to better understand how different experiences of childhood trauma may influence parenting behaviors to identify and mitigate the intergenerational risks associated with childhood trauma.

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