Published in final edited form as:

Child Maltreat. 2018 February ; 23(1): 44–53. doi:10.1177/1077559517720070.

Longitudinal Relations Between Childhood Maltreatment, Maltreatment-Specific Shame, and Postpartum Psychopathology

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Abstract

The persistence of shame-based reactions to child maltreatment (CM) has been associated with poor posttraumatic adjustment. Despite evidence that the postpartum period is a vulnerable time for women with CM histories, little is known about the consequences of maltreatment-specific (MS) shame for postpartum functioning. The current study examined individual differences in MS shame among a sample of women during the postpartum period ($n = 100$) as well as prospective relations from MS shame to postpartum psychopathology at 6-, 12-, 15-, and 18-month postpartum. Linear growth curve (LGC) analyses showed that MS shame predicted higher levels of depression symptoms but not post-traumatic stress disorder (PTSD) symptoms at all time points whereas path analyses showed that shame mediated the relations from multi-maltreatment to both depression and PTSD symptoms at all time points. Results point to the long-term consequences of MS shame during postpartum and the importance of attending to shame in clinical care of maltreatment survivors who present with postpartum psychopathology.

Keywords

childhood maltreatment; multilevel models; perinatal adjustment; depression; post-traumatic stress disorder; shame

Shame is a central emotional consequence of childhood maltreatment (CM) that can persist long after the abuse ends (Feiring & Taska, 2005; Stipek, Recchia, McClintic, & Lewis, 1992). Feelings of shame about CM may resurface or intensify during the postpartum period as women reflect on their childhoods in the process of creating parenting identities (Wright,

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Declaration of Conflicting Interests

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

Fopma-Loy, & Oberle, 2012). The occurrence of shame in postpartum is worrisome, given it has been linked to heightened risk for various adjustment problems during adolescence and early adulthood (Feiring & Taska, 2005). Yet, we know little about the relation between maltreatment-specific (MS) shame and postpartum adjustment. The current study seeks to articulate these relations over 18-months postpartum. This is a vulnerable period for women with trauma histories (Wosu, Gelaye, & Williams, 2015) and information linking MS shame to postpartum adjustment would shed light on a potentially modifiable risk factor in assessment and intervention practices.

MS Shame and Psychopathology

Shame is a painful, self-conscious emotion and a common reaction to CM (Briere & Jordan, 2009; Feiring, Taska, & Lewis, 2002b; Stipek et al., 1992). It is a form of self-condemnation experienced as a desire to hide the damaged self from others (Feiring, Taska, & Lewis, 2002a). For some, shame subsides, whereas for others, its persistence is associated with a range of psychosocial problems. Accordingly, several evidence-based treatments for youth explicitly target the reduction of shame to reduce the negative consequences associated with CM (e.g., Cloitre, Cohen, & Koenen, 2011; Cohen, Mannarino, & Deblinger, 2006).

Of relevance to the current study is evidence linking MS shame to elevated symptoms of depression and post-traumatic stress disorder (PTSD). Longitudinal studies, though few, offer strong evidence for the role of shame in MS psychopathology. The persistence of shame over the year following abuse discovery is associated with higher levels of PTSD and depression symptoms 6 years later (Feiring et al., 2002a; Oh et al., 2016). Other cross-sectional studies with adults suggest that shame might mediate associations between CM histories and symptoms of PTSD and depression in college, community, and clinical samples (Coates & Messman-Moore, 2014; Kaysen, Scher, Mastnak, & Resnick, 2005; Srinivas, DePrince, & Chu, 2015; Wright, Crawford, & Del Castillo, 2009). Shame may also shape responses to later life stressors among those with CM histories. For example, Harper and Arias (2004) found that shame mediated associations between sexual assault and depressive symptoms among adult women with childhood histories of sexual abuse.

Taken together, these data suggest that MS shame may be one mechanism by which CM contributes to psychopathology (Feiring et al., 2002b). Several factors may underlie this link. First, the aversive nature of shame may trigger maladaptive regulation strategies (e.g., repetitive thinking about CM experiences, cognitive and behavioral avoidance) that interfere with healthy trauma processing and contribute to the onset and maintenance of depression and PTSD symptoms (Ehlers & Clark, 2000; Ehling, Frank, & Ehlers, 2008; Hatzenbuehler, Nolen-Hoeksema, & Dovidio, 2009; Oh et al., 2016). Over time, shame-driven beliefs (e.g., “I am a bad person because I was abused”) may also contribute to internal (e.g., “there is something about *me* that caused the abuse”), global (e.g., “I will always end up in abusive relationships”), and stable (“I am a bad person and nothing will change that”) negative self-attributions that are themselves associated with adjustment problems including depression and PTSD symptoms (Berntsen & Rubin, 2006, 2007).

Maltreatment-Related Shame During the Postpartum Period

The heightened stress and increased vulnerability to psychiatric disorders associated with the postpartum period makes it an important time to study MS shame (Munk-Olsen, Laursen, Pedersen, Mors, & Mortensen, 2006; Seng, Low, Sperlich, Ronis, & Liberzon, 2009). Childbirth itself is stressful for many women, and a history of CM increases women's risk for depression and PTSD symptoms during pregnancy and postpartum (Creedy, Shochet, & Horsfall, 2000; Seng et al., 2009). For some women, the intrusiveness or loss of control over one's body at childbirth may evoke powerlessness similar to the powerlessness felt during maltreatment (Finkelhor & Brown, 1985; Sperlich & Seng, 2008). In addition, women commonly revisit their childhoods during the transition into motherhood to understand their experiences of being parented and create their own identities as parents. When such recollections include maltreatment, they may be accompanied by negative thoughts, memories, and emotions, including shame (Wright et al., 2012).

Multiple Maltreatment, Shame, and Psychopathology

Many studies show that multiple types of child abuse and neglect, or multi-maltreatment, often cooccur (Spinazzola et al., 2014); however, cooccurrence rates among children and adolescents vary widely based on sample and methodology (e.g., definition of maltreatment/trauma; Prevoo, Stoltenborgh, Alink, Bakermans-Kranenburg, & Ijzendoorn, 2016). For example, some estimates suggest that multi-maltreatment occurs in approximately 17–36% in community samples (Centers for Disease Control and Prevention, 2010; Turner, Shattuck, Finkelhor, & Hamby, 2016), 59% in psychiatric settings (Boxer & Terranova, 2008), 77% of youth with at least one known past trauma (Briggs et al., 2013), and 58–90% among youth with open child protection cases (Kim, Mennen, & Trickett, 2016).

Many studies demonstrate that multi-maltreatment is related to maladaptive post-traumatic adjustment, including psychopathology and shame (Richmond, Elliot, Pierce, Aspelmeier, & Alexander, 2008). Liem and Boudewyn (1999) found that the number of CM experiences predicted higher depression symptoms. Ford, Wasser, and Connor (2011) found that PTSD was predicted by multi-maltreatment among children seeking psychiatric services in an outpatient clinic. In addition to higher rates of post-traumatic psychopathology, multi-maltreatment is related to increased shame as well as increased rates of revictimization among adults (Classen, Palesh, & Aggarwal, 2005; Davis, Petretic-Jackson, & Ting, 2001).

Current Study

Despite substantial evidence implicating shame as a mechanism for post-traumatic psychopathology (e.g., depression and PTSD symptoms), we know little about postpartum women's experience of MS shame. The importance of understanding postpartum experiences of shame is relevant not only to understanding of maternal postpartum well-being but also to maternal bonding, the quality of parenting behaviors, and infant development (Martinez-Torteya et al., 2014; Morelen, Menke, Beeghly, Rosenblum, & Muzik, 2016). Given extant data implicating shame as a mechanism through which maltreatment shapes later adjustment (Feiring & Taska, 2005; Feiring et al., 2002b), it seems

particularly relevant to study MS shame during the postpartum period as a potential target for intervention.

Accordingly, the goal of the current study was to examine prospective relations between MS shame and subsequent levels of symptoms of depression and PTSD over 18-months postpartum. We were interested in whether shame predicted the level and course of symptoms and whether shame mediated associations between maltreatment characteristics and postpartum psychopathology. Such knowledge could help identify women at risk for postpartum psychopathology and a target for intervention that may often be overlooked treatment.

The extant literature led us to anticipate that MS shame would predict symptom trajectories characterized by higher symptom levels of PTSD and depression as well as less remittance of symptoms over time. We also expected that multi-maltreatment would be associated with both shame and symptomatology and that early postpartum shame would mediate the relation between multi-maltreatment and subsequent postpartum psychopathology.

Method

Participants

Participants for the current study ($n = 100$) were a subset of a larger, longitudinal parent study examining the effects of maternal history of CM on mothers' and infants' adjustment and parenting outcomes. Participants for the parent study ($N = 268$) were recruited in one of the two ways: as postpartum follow-up to a parent study (previously reported in Martinez-Torteya et al., 2014) or through community advertisement at 6–8 weeks postpartum. Community posted flyers indicated that we were looking for mothers who experienced “difficult childhood upbringing,” were now parenting an infant, and were willing to participate in a study on their adjustment to motherhood during the postpartum period. Participants were nonpsychiatrically referred English-speaking women, aged 18 years and older, who were up to 4-months postpartum. Exclusion criteria included diagnoses of schizophrenia or bipolar disorder, substance use problems within the last 3 months, and mothers of infants with severe health/developmental problems or more than 6 weeks premature. Data collection for the longitudinal study spanned from 4- to 18-months postpartum. At different time points in the study, assessments were conducted in the home (6 months), the university-based playroom (15 months), or by phone (4, 12, and 18 months). The parent study oversampled for women with CM histories, with two thirds endorsing CM experiences ($n = 170/268$; 64%) on the Childhood Trauma Questionnaire (CTQ; Bernstein & Fink, 1998) that was administered at recruitment.

The sample for the current study ($n = 100$; $M_{\text{age}} = 29.5$ years, $SD = 5.9$ years) was restricted to women who reported a history of CM on the CTQ, completed during the 4- and 6-months postpartum assessments, and completed an in-person trauma interview about their CM experiences (Trauma Meaning Making Interview, TMMI; Simon, 2008) at 6-months postpartum. Because this interview was added after the study was initiated, the number of women who completed the interview is less than the number of women with maltreatment histories in the full sample. Mothers in this subsample included more Caucasians (65.7% vs.

52.2% in full sample) were slightly older (29.5 years vs. 28.8 in full sample) and were slightly less economically stable (50.5% income <US\$50,000 vs. 49% in full sample). Educational status did not vary (see Table 1). Demographic factors were representative of the general population at the sites of study (per comparison with census data).

Procedures and Measures

The study was approved by the institutional review boards of the academic institutions involved. Mothers in the study were assessed 5 times over an 18-month period as follows: 4-, 6-, 12-, 15-, and 18-month postpartum. Mothers provided verbal assent to participate in the 4-month telephone interview and written informed consent at the first 6-month home visit. The current study utilizes data collected during all five time points. During the 6-month home visit, mothers completed self-report questionnaires, a trauma interview, and a series of interactive tasks with their infant. Women completed depression and PTSD symptom measures at 6-, 12-, 15-, and 18-months postpartum. Participants were compensated up to US\$140.

Demographics—Mothers provided demographic information during the 4-month telephone interview. Following work by Sameroff, Seifer, Baldwin, and Baldwin (1993) indicating the incremental value of combined risk characteristics in accounting for maternal behavior, we created a 5-point demographic risk score. One point was assigned for each of the following dichotomized sociodemographic risk variables and then summed (possible and observed scores range from 0 to 5): non-White ethnic minority status, single-parent status (i.e., unmarried or unpartnered), low education (i.e., <high school diploma or General Educational Development), low family income (i.e., <US\$20,000 per year representing the federal poverty guidelines), and young maternal age (i.e., 21 years old).

Maltreatment characteristics—Information about CM characteristics were assessed at 6-months postpartum using a trauma history table developed for this study. Participants recorded on the table are the type, frequency, duration, and perpetrator identity for any CM experienced prior to age 16 years. The “multi-maltreatment” variable was the total number of maltreatment types (i.e., emotional, sexual, and physical abuse, and physical and emotional neglect) a woman endorsed ranging from 1 to 5. For example, if a woman experienced childhood sexual, emotional, and physical maltreatment, her multi-maltreatment score would be “3.”

MS shame—The two measures used to assess MS shame at the 6-month assessment were developed by Feiring and Taska (2005) and completed immediately following the trauma interview, during which women were invited to discuss their CM experiences and their thoughts and feelings about these experiences over time. Sample items from the 8-item shame questionnaire include “What happened to me makes me feel dirty” and “I feel ashamed because I think that people can tell from looking at me what happened.” The response scale for the shame items was modified from the original 3-point scale to a 5-point scale (*not at all true* = 1 to *very true* 5) to increase specificity. The second shame measure was pictorial and included five drawings of shameful postures (Feiring & Taska, 2005). For each picture, women rated how much the picture represented their feelings about their

maltreatment experiences using a 5-point Likert-type scale (*not at all true* 1 to *very true* 5). Reliability for each scale was acceptable, $\alpha = .91$ for the shame questionnaire and $\alpha = .89$ for the pictorial measure. The two measures were correlated ($r = .51, p < .00$) and thus subsequently totaled to create a 13-item shame composite that had good reliability at $\alpha = .92$. Scores for this composite ranged from 13 to 64 (observed in sample) with higher scores indicating higher shame.

Postpartum PTSD—The National Women’s Study PTSD Module (Resnick, Kilpatrick, Dansky, Saunders, & Best, 1993) measures 17 symptoms of PTSD for lifetime and current occurrence and yields a continuous symptom count (0–17) with higher scores indicating more symptoms of PTSD based on Diagnostic and Statistical Manual of Mental Disorders IV. In this study, we utilized current PTSD continuous symptoms scores at 6 months ($\alpha = .89$, observed range [OR]: 0–17), 12 months ($\alpha = .83$, OR: 0–12), 15 months ($\alpha = .88$, OR: 0–15), and 18 months ($\alpha = .85$, OR: 0–16). PTSD symptoms at 15 and 18 months were significantly positively skewed and corrected via square root transformation.

Postpartum depression symptoms—The 35-item Postpartum Depression Screening Scale (Beck & Gable, 2002) allows mothers to rate depressive symptoms on a scale of 1 (*strongly disagree*) to 5 (*strongly agree*). This measure was administered at 6 months ($\alpha = .96$, OR: 35–132), 12 months ($\alpha = .95$, OR: 34–127), 15 months ($\alpha = .96$, OR: 34–129), and 18 months ($\alpha = .95$, OR: 35–116). Scores are summed to create a severity score with higher scores indicating more symptoms of depression.

Missing Data

In the current sample, 25% of participants were missing data on the shame measure due to the measure being added after the study began. Depression and PTSD symptom scores were missing for 16% at 6 months, 29% at 12 months, and 25% at 15 months, and 25% at 18 months. Independent sample t tests and χ^2 tests showed no systematic relations on missingness among shame, depression, PTSD, and maltreatment characteristics, thus suggesting the data were missing at random. Missing data were handled using full information maximum likelihood in M Plus Version 7.11 (Muthén & Muthén, 1998–2014) which is an appropriate method for data missing at random and recommended when greater than 10% of data are missing (Graham, 2009; Newman, 2003, 2014).

Results

Descriptive Statistics

The means, standard deviations, and bivariate correlations between study variables are presented in Table 2. The t tests indicated neither symptoms of depression nor PTSD varied by whether the perpetrator was a parent figure (all $ps > .05$). However, multi-maltreatment was positively correlated with 6- and 12-month PTSD as well as with 12- and 15-month depression symptom scores. When considering maltreatment characteristics, 69% of mothers reported that a caregiver had been an abuser and 86.5% of women had experienced multi-maltreatment.

Results of independent sample *t* tests for perpetrator identity (i.e., parent vs. notparent) found no significant mean-level differences on MS shame, $t(71) = -0.17, p = .86$. A majority (87%) of participants experienced multi-maltreatment with higher multi-maltreatment scores associated with greater MS shame (see Table 2).

Primary Analyses

Shame as a predictor of postpartum symptom levels and course—The first set of analyses employed linear growth curve (LGC) modeling to examine whether MS shame assessed at 6-months postpartum predicted concurrent and subsequent symptom levels (i.e., depression and PTSD) across 18-months postpartum. The LGC was fit with random intercepts and random slopes with free variances for both the slope and intercept using M Plus Version 7.11 using maximum likelihood estimation to assess time-invariant changes of depression and PTSD symptoms across the postpartum period predicted by shame and significant maltreatment characteristics while controlling for total demographic risk (Muthén & Muthén, 1998–2014). The paths for the latent linear slope to depression and PTSD symptoms were set at 0, 6, 9, and 12, which correspond to 6-, 12-, 15-, and 18-months postpartum depression or PTSD symptoms, respectively, while controlling for demographic risk. Model fit was assessed using the χ^2 test of model fit ($\chi^2 > .05$), root mean square error of approximation (RMSEA $< .08$), comparative fit indices (CFI $> .95$), and standardized root mean square residual (SRMR $< .10$; Kline, 2011).

The first model examined the depression symptoms LGC trajectory and demonstrated good fit to the data, $\chi^2(14) = 16.45, p = .29$; CFI = .99; SRMR .09; RMSEA .05; confidence interval (CI) [0.00, 0.11]. Table 3 presents the estimates for this model. The R^2 for symptoms of depression was significant at all four time points postpartum (6 month: $R^2 = .73$; 12 month: $R^2 = .72$; 15 month: $R^2 = .65$; 18 month: $R^2 = .70$; all $ps < .01$). Shame predicted the intercept, but not the slope, indicating that shame was associated with depression at 6 months (the intercept) but did not predict rate of change in depressive symptoms over time (the slope). Examination of the means of depression across time indicates they are relatively stable (ranging from 68.09 to 70.01). Additionally, the analyses indicated that multi-maltreatment did not predict 6 months (the intercept) or the rate of change in symptoms of depression over time (the slope).

The second model predicted the PTSD symptom LGC trajectory and demonstrated poor fit to the data, $\chi^2(16) = 36.46, p = .01$; CFI .83; SRMR .12; RMSEA = .11; CI [0.06, 0.16]. Given the poor model fit, no further analyses were conducted.

Shame as a mediator between multi-maltreatment and subsequent postpartum symptoms—Path analyses were estimated to assess the direct and indirect effects of multi-maltreatment on shame and 6-, 12-, 15-, and 18-months postpartum symptom levels. Separate models were conducted for depression and PTSD symptoms, as the two are related but conceptually distinct. The direct effects tested were from demographic risk to maltreatment characteristics to MS shame to 6-, 12-, 15-, and 18-month depression or PTSD symptoms. The indirect effects were from maltreatment characteristics to 6-, 12-, 15-, and 18-month depression or PTSD symptoms via MS shame. Mediated

effects were tested using MacKinnon, Lockwood, and Williams (2004) method, which utilizes bootstrapped CIs, sampled 5,000 times, to indicate mediated effects in path analyses. Figure 1 illustrates the significant direct effects for the depression and PTSD models. The first set of path analyses examined direct and indirect path analyses from multi-maltreatment to MS shame to 6-, 12-, 15-, and 18-month depression symptoms. This model demonstrated good fit, $\chi^2(9) = 2.78, p = .97$; CFI = 1.00; SRMR = .04; RMSEA = .00; CI [0.00, 0.00]. Table 4 presents the values for the various paths in the model. Direct effects suggested that women with more multi-maltreatment reported more MS shame. Those with more shame reported significantly higher levels of depression symptoms at all time points. Finally, MS shame mediated the relation between multi-maltreatment and postpartum depression symptoms at all four time points.

The second set of path analyses examined direct and indirect analyses from multi-maltreatment to MS shame and then to 6-, 12-, 15-, and 18-month PTSD. Results suggested a good fit to the data, $\chi^2(9) = 9.81, p = .37$; CFI .99; SRMR .05; RMSEA = .03; CI [0.00, 0.12]. Table 5 presents the results for the various paths in the model. Like depression, multi-maltreatment was associated with more MS shame, and shame was related to higher levels of PTSD symptoms at 6-, 12-, and 15-months. Additionally, shame mediated the association between multi-maltreatment and PTSD at 6-, 12-, and 15-months. The path for shame mediating the association between multi-maltreatment and PTSD symptoms at 18-months was nonsignificant ($p = .053$).

Discussion

Women with CM histories are at elevated risk for developing symptoms of depression and PTSD during the postpartum period (Oh et al., 2016; Seng et al., 2009). The current study assessed whether women's experiences of MS shame might help to explain differential vulnerability to postpartum symptoms. Consistent with the literature noting the co-occurrence of maltreatment types and its cumulative effects, we found that multi-maltreatment was associated with greater MS shame during the postpartum period. Further, MS shame was associated with more symptoms of depression across all postpartum assessments. Shame also mediated the links between multi-maltreatment and symptoms of depression and PTSD. The following discussion highlights possible explanations, limitations, and implications of these findings.

Maltreatment-Related Shame and Psychopathology

Consistent with past research, we found that women with multi-maltreatment experienced greater shame (Hoglund & Nichols, 1995). Moreover, greater shame about their experiences of CM was associated with higher levels of depression and PTSD symptoms. These findings extend research linking multi-maltreatment with poor adult mental health (Edwards, Holden, Felitti, & Anda, 2003). Our findings underscore the importance of multi-maltreatment for a specific period of developmental vulnerability (i.e., postpartum) and point to a potential mechanism (i.e., shame) linking CM to adult mental health. Future studies including information about factors not available in the current study, such as more detailed maltreatment characteristics (e.g., timing, frequency) and history of mental health treatment

could be useful for further clarifying which women may be more vulnerable to MS shame in the transition to parenthood and related mental health problems. Shame about CM was associated with symptoms of depression and PTSD. Even when controlling for multi-maltreatment, more shame at 6-month postpartum predicted more severe depressive symptoms. Although shame did not predict changes in depression over time, it was associated with higher levels concurrent symptoms. Feelings of shame during the postpartum period may signal either a continuing pattern of shame or a reawakening of earlier shameful feelings about CM experiences. While the current study cannot distinguish between these possibilities, MS shame in adulthood may signal enduring difficulty maintaining a positive self-representation (Feiring & Taska, 2005; Wright et al., 2009). Disruptions in this core developmental competence have been associated with cognitive and emotional vulnerabilities to internalizing disorders (Sroufe, Egeland, & Carlson, 1999; Westen, 1994) and mediate associations between CM and subsequent internalizing disorders (Hankin, 2005; Sachs-Ericsson, Verona, Joiner, & Preacher, 2006). The current study extends these findings to the postpartum period, illustrating the significance of MS shame to depressive symptoms over an 18-month period. It will be important for future research to assess shame during the *prenatal* period to understand when such feelings become salient to maternal functioning. Additionally, experiences of post-childhood revictimization to the persistence, reoccurrence, and levels of MS shame also merit consideration. Finally, replication across other samples, perhaps using multiple types of measures (e.g., observational, physiological) are needed, given the current study's sole reliance on self-report measures.

The current findings are among the first to identify shame as a potential target of intervention for women suffering from postpartum depression symptoms. This has implications for health professionals working with postpartum women who are trauma survivors and suffer depression. Inquiring about shameful emotions about CM experiences may be validating to women who have survived past maltreatment as it shows concern for current emotional experiences and affirms the relevance of earlier experiences for current states. When sensitively offered, such concern may increase trust with the provider and enhance adherence with treatment. Moreover, targeting shame using empirically supported, trauma-focused approaches may result in decreased symptoms of depression.

Results from the PTSD trajectory model suggest shame may not predict linear changes in PTSD across the postpartum period. Quadratic patterns of change were tested, but the models were ill-fitting and therefore not reported. In the indirect model, shame mediated the relation between multi-maltreatment and PTSD for all time points but 18 months, supporting the theoretical argument that MS shame may affect the development or reoccurrence of psychopathology. Additional studies with larger samples are needed to decipher whether the marginal mediational effect found for PTSD symptoms at 18-months postpartum reflects a decreasing association over the postpartum period. Interestingly, the depression LGC model showed a good fit, whereas the PTSD LGC did not. Of note, depressive symptoms were more consistent (i.e., positively correlated at each time point, see Table 2) compared to PTSD symptoms, thus model fit may have been impacted by the stability of symptoms over time. In fact, another paper from our team found discrete PTSD symptom trajectory patterns across the perinatal period (Oh et al., 2016), suggesting that PTSD symptoms have more

discontinuity and fluctuation over time compared to depression symptoms, thereby impacting model fit. Further, given the overlap between depression and PTSD symptoms, it may be that the depression model accounts for the cognitive and affective symptoms that would be related to shame (e.g., low mood, negative thoughts about self), whereas the model with PTSD symptoms may reflect greater heterogeneity of symptoms (e.g., hypervigilance, hyperarousal). Future analyses including self-blaming cognitions and dissociation will aid in further elucidating the complex relations between shame and psychopathology (Feiring et al., 2002a, 2002b; Talbot, Talbot, & Tu, 2005). The current analyses focused on the postpartum period, but prior published data from this study point to the importance of also examining the prenatal period, as symptom trajectories across the two periods may vary or have different predictors (Oh et al., 2016; Seng et al., 2009).

A notable limitation of these analyses is the sample size. Additional research with larger samples of women with multi-maltreatment and from more demographically diverse samples is needed to assess the generalizability of the current findings. In the current sample, symptoms of depression and PTSD were significantly related within time points and more modestly associated over time. Studies with larger samples would allow researchers to control for relationships between symptoms within and over time to assess the unique relations of shame with depression and PTSD symptoms thus, more complex models, including more specific maltreatment characteristics. Although our sample was reflective of the demographics of the broader community (midsized town in the Midwest) and was comprised of a high-risk subgroup of women in the community (i.e., women with CM histories), the sample was predominately Caucasian, middle class, partnered women. Future research examining relationships of shame, depression, and PTSD symptoms across the perinatal period, among women with and without current and past maltreatment histories, will further aid us in understanding the unique effects of shame on depression and PTSD symptoms. Despite these limitations, we believe the results improve our understanding of MS shame and psychopathology during the postpartum period.

Summary and Clinical Implications

In summary, the current study underscores the likely presence and significance of MS shame during the postpartum period. Shame was relatively common and had serious implications for postpartum adjustment. The results suggest that MS shame is one mechanism between multi-maltreatment linking postpartum depression and PTSD symptoms. Maltreatment-related shame could be a notable target for assessment and treatment during the perinatal period. We hope that findings such as these will continue to inform early prevention and intervention efforts related to preventing or treating the development of MS shame. Interventions focusing on MS reactions (e.g., low self-compassion, power/control issues, intimacy issues, and meaning of the event) as completed in cognitive processing therapy and Acceptance and Commitment Therapy will aid women in revisiting and processing the CM, thereby reducing symptoms and stigmatizing reactions (Chard, Weaver, & Resick, 1997). Findings linking maternal depression symptoms to increased risk for later child psychopathology (Goodman et al., 2011) suggests that the benefits of such intervention efforts may extend beyond maternal mental health to affect infant and child adjustment. It is important to note that survivors of CM are a heterogeneous group in which there are many

stories of strength and resilience. It is our hope that researchers will continue to consider mechanisms that may buffer the impact of maltreatment experiences on later outcomes. Further, we hope that clinicians will assess for and target shame-related beliefs to help reduce MS stigma and shame and promote schema shifts that empower and encourage women.

Acknowledgments

Funding

The author(s) disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: This research was supported by grants to Maria Muzik from the National Institute of Health (RR017607-04, principal investigator [PI]: D. Scheingart; MH080147-01, PI: Muzik) and the Michigan Institute for Clinical and Health Research (UL1TR000433, PI: Muzik) as well as by grants to Valerie Simon from the National Institutes of Health (MH074997 and HD61230). Other authors have no financial disclosures to make.

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Figure 1. Model of shame mediating the relation between maltreatment characteristics and depression or post-traumatic stress disorder (PTSD) symptoms. Depression and PTSD values and indirect effects are presented in Tables 4 and 5. Asterisk (*) indicates significant direct effects in shame and depression model; symbol indicates significant direct effects in shame and PTSD model.

Table 1

Descriptive Statistics for Demographics.

Demographic	<i>n</i> /Percentage
Marital status	
Partnered	77
Not partnered ^a	23
Racial category	
Caucasian	65
African American	21
Asian or Pacific Islander	6
Latino	3
Biracial and other	4
Minority status ^a	34
Income	
Less than US\$15,000	16
US\$15,000–US\$25,000	11
US\$25,000–US\$50,000	23
US\$50,000+	49
Less than US\$20,000 ^a	23
Education	
Less than high school	5
High School degree or General Educational Development	6
Some college	25
AA degree	8
Vocational or technical degree	3
Bachelor's degree	29
Master's degree	17
Doctoral degree	6
High school or less ^a	11
Age	
21 years or younger ^a	9
22 years or older	91

Note. *n*'s may not total 100 due to missing information. AA = associate's degree.

^aRisk groups.

Table 2

Bivariate Correlations Among Primary Study Variables.

Variable	n	1	2	3	4	5	6	7	8	9	10	11
1. Total demographic risk	100	0.78 (1.03)										
2. Multi-maltreatment	100	0.12	2.74 (1.04)									
3. Self-reported shame	75	0.10	0.31**	32.41 (12.06)								
Depression symptoms												
4. 6 Months	84	0.10	0.21 ⁺	0.49**	70.01 (24.70)							
5. 12 Months	71	0.10	0.24*	0.48**	0.71**	69.44 (23.06)						
6. 15 Months	75	0.16	0.24*	0.59**	0.63**	0.66**	70.01 (23.19)					
7. 18 Months	75	0.09	0.20 ⁺	0.34**	0.62**	0.70**	0.67**	68.09 (22.1)				
PTSD symptoms												
8. 6 Months	84	-0.11	0.27*	0.59**	0.53**	0.55**	0.44**	0.51**	6.13 (4.61)			
9. 12 Months	71	0.14	0.34**	0.49**	0.29*	0.65**	0.37**	0.38**	0.48**	4.37 (3.67)		
10. 15 Months	74	0.09	0.23 ⁺	0.55**	0.36**	0.35**	0.67**	0.32**	0.50**	0.44**	4.16 (3.81)	
11. 18 Months	75	0.13	0.13	0.16	0.33**	0.41**	0.29*	0.61**	0.46**	0.42**	0.46**	3.71 (3.92)

Note. Means and standard deviations are listed in the diagonal. PTSD = post-traumatic stress disorder.

⁺ $p < .10$.* $p < .05$.** $p < .01$.

Table 3

Linear Model of Growth in Depression (Effects of Shame and Multi-maltreatment).

Direct Effects	<i>B</i>	Standard Error	Estimated/Standard Error	β
Model for initial status				
Intercept	32.91**	8.13	4.05	1.57
Shame	0.97**	0.21	4.67	0.55
Multi-maltreatment	2.51	2.33	1.08	0.12
Model for growth rate				
Slope	0.29	0.68	0.43	0.32
Shame	-0.01	0.02	-0.79	-0.18
Multi-maltreatment	0.01	0.20	0.07	0.02
Shame on demographic risk	1.11	1.25	0.89	0.10
Multi-maltreatment on demographic risk	0.12	0.10	1.18	0.12

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

Table 4
Shame Mediating the Relation Between Multi-maltreatment and Longitudinal Postpartum Depression.

Variable	B	Standard Error	Est./Standard Error	β	95% Confidence Interval [Lower, Upper]
Multi-maltreatment on demographic risk	0.12	0.10	1.19	.12	[-0.05, 0.28]
6-Month depression with 12-month depression	195.36***	60.70	4.87	.67	[211.35, 420.30]
15-Month depression with					
6-Month depression	181.90***	58.75	3.10	.46	[97.64, 296.50]
12-Month depression	203.72***	50.11	4.07	.54	[132.28, 296.71]
18-Month depression with					
6-Month depression	236.42***	56.71	4.17	.54	[155.70, 345.44]
12-Month depression	267.59***	55.28	4.84	.65	[190.34, 376.53]
15-Month depression	211.99***	58.24	3.64	.57	[129.66, 321.35]
Direct effects					
Multi-maltreatment on shame	3.78**	1.17	3.22	.33	[1.92, 5.72]
6-Month depression on shame	0.95**	0.22	4.30	.46	[0.58, 1.31]
12-Month depression on shame	1.04**	0.22	4.79	.52	[0.68, 1.38]
15-Month depression on shame	1.04**	0.20	5.26	.56	[0.69, 1.33]
18-Month depression on shame	0.76**	0.20	3.72	.41	[0.43, 1.09]
Indirect effects via shame					
Multi-maltreatment					
6-Month depression	3.60**	1.46	2.47	.15	[1.54, 6.30]
12-Month depression	3.91**	1.40	2.79	.17	[1.85, 6.37]
15-Month depression	3.92**	1.53	2.57	.18	[1.67, 6.71]
18-Month depression	2.87**	1.16	2.47	.13	[1.16, 4.96]

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 5
Shame Mediating the Relation Between Multi-maltreatment and Longitudinal Postpartum Post-Traumatic Stress Disorder (PTSD).

Variable	Coefficient	Standard Error	Est./Standard Error	β	95% Confidence Interval [Lower, Upper]
Multi-maltreatment on demographic risk	0.12	.10	1.14	.11	[-0.06, 0.27]
6-Month with 12-month PTSD	0.25 [*]	.12	2.10	.30	[0.15, 0.52]
15-Month PTSD with					
6-Month PTSD	0.23 [*]	.12	2.01	.28	[0.06, 0.44]
12-Month PTSD	0.32 ^{**}	.11	2.89	.39	[0.15, 0.52]
18-Month PTSD with					
6-Month PTSD	0.45 ^{***}	.12	3.82	.44	[0.06, 0.44]
12-Month PTSD	0.42 ^{***}	.12	3.53	.43	[0.24, 0.63]
15-Month PTSD	0.54 ^{***}	.14	3.74	.55	[0.32, 0.80]
Direct effects					
Multi-maltreatment on shame	4.05 ^{**}	.98	3.81	.34	[2.20, 6.11]
6-Month PTSD on shame	0.05 ^{**}	.01	4.50	.54	[0.03, 0.06]
12-Month PTSD on shame	0.05 ^{**}	.03	5.74	.54	[0.03, 0.07]
15-Month PTSD on shame	0.04 ^{**}	.01	4.62	.49	[0.03, 0.06]
18-month PTSD on shame	0.02	.01	2.18	.26	[0.01, 0.04]
Indirect effects via shame					
Multi-maltreatment					
6-Month PTSD	0.20 ^{**}	.07	2.93	.19	[0.10, 0.31]
12-Month PTSD	0.19 ^{**}	.07	2.99	.19	[0.10, 0.31]
15-Month PTSD	0.19 ^{**}	.07	2.98	.17	[0.07, 0.29]
18-Month PTSD	0.10 ⁺	.05	1.94	.09	[0.07, 0.29]

⁺ $p < .10$.

^{*} $p < .05$.

^{**} $p < .01$.

^{***} $p < .001$.