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## Childhood Sexual Trauma and Subsequent Parenting Beliefs and Behaviors

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### Abstract

Using propensity-matched controls, the present study examines the long-term adjustment of women reporting Childhood Sexual Trauma (CST) at or before the age of 14 in terms of parenting efficacy and parenting behavior. Data for these analyses were obtained from mother reports and from observational protocols from a longitudinal study of low-income, rural families. The novel use of propensity-matched controls to create a control group matched on family of origin variables provides evidence that, when women with CST are compared with the matched comparison women, females who experienced CST show poorer functioning across multiple domains of parenting (sensitivity, harsh intrusiveness, boundary dissolution), but not in parenting efficacy. Follow up moderation analyses suggest that the potential effects of trauma on parenting behaviors are not attenuated by protective factors such as higher income, higher education, or stable adult relationships. Implications for interventions with childhood sexual trauma histories and directions for future study are proposed.

### Keywords

childhood sexual trauma; sensitive parenting; harsh intrusive parenting; boundary dissolution; propensity matched design

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Childhood Sexual Trauma (CST) is related to numerous domains of adult functioning in women, including problems in the parental role (Trickett, Noll, & Putnam, 2011). However, not all women with CST have poor parenting outcomes (Alexander, Teti, & Anderson, 2000; DiLillo & Damashek, 2003). Methodological reasons may account for some of the heterogeneity of findings across studies, including issues related to sampling, definition of sexual trauma, and differences in the use of statistical controls in analyses. Scholars have noted that it is difficult to determine if the behaviors documented in sexual trauma survivors (e.g., parenting behavior) are related to the trauma per se, or to other early life risk factors such as low income or additional traumas experienced (Waldinger, Schulz, Barsky, & Ahern, 2006).

A key component that is still unclear in the trauma literature is how childhood sexual trauma may be linked to subsequent parenting behavior. While many previous studies have focused

on establishing the frequency with which survivors of childhood sexual trauma experience parenting difficulties, only recently have scholars begun to incorporate an analysis of how or under what conditions the experience of childhood sexual trauma may affect later parenting behaviors and thereby influence the development of children whose mothers have trauma histories. For example, recent findings suggest that a supportive marital relationship may serve as protective factors against negative parenting outcomes including perceived competence (Wright, Fopma-Loy, & Fischer, 2005), decreased parenting stress (Alexander et al., 2000), and greater use of authoritative parenting practices (Ruscio, 2001), compared to survivors with less support.

## Childhood Sexual Trauma and Subsequent Parenting Behaviors

There are numerous reasons why parenting behaviors may be associated with CST. First, CST survivors are likely to have grown up in a dysfunctional family environment that provided them with inadequate exposure to effective models of parenting (Godbout, Briere, Sabourin, & Lussier, 2014; Trickett et al., 2011), particularly in the event of intra-familial abuse. In their study exploring the relationship between CST and parenting practices, Kim, Trickett, & Putnam (2010) failed to find evidence for an association between childhood sexual abuse and suboptimal parenting independent of other childhood adversities. Therefore, some researchers have argued that the symptoms manifested in childhood trauma survivors, such as parenting difficulties, may develop from the dysfunctional family of origin rather than from the abuse itself (Waldinger et al., 2006). Second, prior research links maternal self-efficacy to her parenting behavior (Sanders & Woolley, 2005). The abuse experience and its associated symptoms (e.g., anxiety, depression) may diminish not only the survivors' ability to manage the demands of parenting, but also their confidence in their own childrearing abilities (DiLillo & Damashek, 2003). A number of reports reveal a general concern on the part of mothers with a history of CST about their abilities to parent their children. Previous findings suggest that mothers with CST histories compared to mothers without trauma histories felt more inadequate, negative, and incompetent as parents, had less appropriate perceptions of their child's need for autonomy, and had more unrealistic and rigid expectations for their child (Cohen, 1995).

Although a number of studies have examined the impact of childhood sexual abuse on parenting, few have focused on the theoretical domains of maternal sensitivity and harsh intrusive parenting. The ways in which parents interact with children has been linked to child adjustment in multiple domains, as well as to the development and maintenance of psychopathology. Reviews of the childrearing literature have identified two pivotal aspects of parenting, maternal sensitivity and harsh intrusiveness (Cox & Harter, 2003). Maternal sensitivity is the ability to recognize and respond both effectively and promptly to the distress and needs of one's child (Cox & Harter, 2003). In so doing, the parent or caregiver helps the child develop his or her own self-regulation by responding to the child's distress with support and sensitivity (Cassidy, 2008). Parents characterized as harsh and controlling emphasize children's compliance and the achievement of particular goals. Although prior research has linked CST to harsher discipline practices, the associations between CST and less sensitive or more harsh intrusive parenting specifically are less clear.

An additional, relatively understudied area of study is boundary violations in the parenting of mothers with CST histories. In one of the first empirical studies to examine the association between childhood sexual trauma and later parenting, Burkett (1991) found that, compared to non-abused mothers, mothers with a history of childhood sexual trauma were more self-focused and dependent on their children for emotional support. More recent findings by Alexander and colleagues (2000) support these findings, such that women with a history of sexual abuse who were dissatisfied with their relationship with their partner were significantly more likely to report engaging in an emotionally dependent role reversal relationship with their child compared to sexual abuse survivors who were satisfied with their partner or women without a history of sexual abuse. Often referred to as boundary dissolution, this manner of parenting is defined in the literature as “a form of parent child relationship disturbance in which the typical parent and child roles become distorted or even reversed” (Shaffer & Sroufe, 2005, p. 67). Researchers posit that although boundary dissolution may help the parent meet his or her own needs, it undermines the child's adjustment (Alexander et al., 2000) including the development of autonomy and self-concept (Macfie, McElwain, Houts, & Cox, 2005).

### **The Influence of Other Factors on Parenting**

Socio-demographic and relationship factors have been consistently linked to parenting practices, suggesting that parenting is not necessarily fixed in nature but rather may be contingent on the presence or absence of other factors. Models of the determinants of parenting behavior suggest that numerous factors including the individual characteristics of parents, relationships between couples, economic resources, and interactions among these factors all play a role in parenting behavior (Belsky, 1984). McLoyd (1998), for example, has argued that poverty increases parents' stress and decreases the psychological resources that can be dedicated to parenting, thereby increasing the use of less effective parenting strategies, such as more coercive control. Similarly, marital stability has been linked to parenting behaviors, such that disturbances in the marital relationship lead to poor parenting practices (Belsky, 1984; Erel & Berman, 1995). In addition, prior research indicates that higher levels of maternal education are linked with greater maternal sensitivity (Duncan & Magnuson, 2003; McLoyd, 1998).

Given that prior research links CST to numerous subsequent socio-demographic and relational factors including educational outcomes (Boden, Horwood, & Fergusson, 2007), marital stability (see Alexander et al., 2000), and economic well-being (Currie & Widom, 2010), it becomes important to examine how these factors may be related to the parenting of women with trauma histories. Since earlier findings that sexual trauma survivors typically report “having less interpersonal trust, less satisfaction in their relationships, and greater isolation” (Briere & Elliott, 1994, p. 62), it may be that the association between CST and subsequent parenting is contingent on the presence or absence of socio-demographic and/or relational factors such as marital stability.

## The Present Study

Building upon previous research, the present study uses a propensity matched design to examine long-term parenting outcomes associated with childhood sexual trauma independent of demographic correlates of these childhood experiences, and extends previous research by examining factors in the mothers' current context that may be related to less optimal parenting behaviors. The present study uses mothers' retrospective report of their own sexual trauma history to examine the subsequent parenting of women with and without sexual trauma history. The focus of this study is on females who were forced to engage in physical sexual contact against their will at or under the age of 14.

Propensity score matching, a relatively new technique that is gaining in popularity for causal inference across disciplines is used to allow estimates of the effect of maternal sexual trauma on adult functioning by creating matched groups based on background characteristics (e.g., poverty, additional trauma experienced). First, we examine group differences between women who report experiencing childhood sexual trauma and women who do not with regards to parenting efficacy, sensitive and harsh intrusive parenting, and boundary dissolution. Second, we test for the moderating effect of current income, maternal education, and marital stability on the associations between maternal childhood sexual trauma and parenting as potential protective factors in the associations between CST and subsequent parenting.

## Method

### Sample

The sample for the proposed study is drawn from the Family Life Project (FLP), a longitudinal, multi-method, multi-respondent study of rural poverty that explores the ways in which child, family, and contextual factors shape child development over time. A total of 1,292 families enrolled in the FLP by completing the first home visit when the family's infant was two months old. Of these, 144 biological mothers reported that they had experienced childhood sexual trauma at or before the age of 14. Using propensity score matching procedures, a contrast group was created based on carefully chosen covariates (the procedures for the propensity matching are described in greater detail in the analysis plan). Women who experienced childhood sexual trauma (as assessed by the Trauma History Interview, Green, 1996) were matched on mothers' childhood demographic variables to a group of women (controls) who have not experienced childhood sexual trauma ( $n=204$ ).

### Procedures

Two trained research assistants collected all data during home visits. All caregivers reading at the 8th grade level or above independently completed the questionnaires, while those reading below the 8th grade level had the questionnaires read to them by home visitors. At each visit, caregivers completed questionnaires regarding demographic variables, as well as questionnaires relating to child behavior, relationship quality, and parenting.

The data for the proposed study were collected at varying waves of data collection. The covariates for the matching procedure were drawn from the 2-month interview. The trauma

history data were collected at two different time points, either at the 36- or 60-month visit depending on time restrictions for the visit. Mothers only completed the trauma questionnaire once. At the 60-month visit, in addition to completing questionnaires, the primary caregiver and the child were video recorded in a semi-structured 15-minute dyadic play activity. A team of four coders scored the recordings for caregiver behavior.

## Measures

**Trauma history questionnaire**—At either the 36- or the 60- month home visit, participants completed the Trauma History Questionnaire (THQ; Green, 1996), a 24-item self-report measure that examines experiences with potentially traumatic events, such as crime, general disaster, and sexual and physical assault, using a yes/no format. For each event endorsed, respondents were asked to provide the frequency of the event, their age at the time the event occurred, and the nature of their relationship with the abuser. For the purposes of the proposed study, the item relating to sexual abuse/assault asked, “Has anyone ever done something sexual to you against your will, such as made you have intercourse, oral or anal sex, touched private parts of your body, or made you touch theirs, or otherwise forced you to have unwanted sexual contact?” Follow-up questions asked about the age at the time of the sexual trauma, frequency, and relationship of the victim to the perpetrator. The sub sample of women who reported experiencing sexual trauma at or before the age of 14 was used in this analysis. Cronbach's alpha for the sample (before propensity score matching) of women reporting childhood sexual trauma at or before the age of 14 in the FLP ( $n=144$ ) was .89.

**Mothers' family of origin information**—The variables for the propensity score matching were drawn from the 2-, 36-, and 60-month interviews. At the 2-month interview, mothers were asked if, when they were growing up (aged 0 -18), any family members with whom they lived received AFDC (Aid to Families with Dependent Children), food stamps, or Medicaid or lived in public housing. They were also asked the highest grade completed by the primary mother-figure that was in their childhood home, with the scale ranging from 0=no school to 22=PhD, where values 0-11 indicate highest grade level completed, and values 12-22 include milestones such as obtaining a Graduate Equivalency Diploma (GED) (12), graduating from high school (14), completing a four-year college degree (18), and obtaining a PhD (22). From either the 36- or 60-month interview, additional non-sexual traumas experienced in childhood (e.g., being mugged or beaten, experiencing natural disasters such as tornadoes or hurricanes) were also used in the matching procedure (i.e., Trauma History Questionnaire, Green, 1996).

**Parenting efficacy**—During the 60-month visit, mothers responded to an adapted shortened version of the Parental Beliefs Survey (PBS; Luster, Rhoades, & Hass, 1989). The adapted version included seven items from the original Beliefs Regarding Spoiling Subscale as well as seven items identified by factor analyses that load on a single Parental Efficacy factor (e.g., Barnett, Shanahan, Deng, Haskett, & Cox, 2010). Mothers responded to such prompts as “The way children turn out often has little to do with how their parents raise them.” All items were measured on a 6-point scale where 1=“Strongly Disagree” and

6=“Strongly Agree” with higher scores reflecting less parental efficacy. Cronbach's alpha was .79.

**Observed maternal parenting behaviors**—At the 60-month visit, mothers and children were asked to participate in two developmentally appropriate activities for the child that were filmed for later coding of parenting behavior. The tasks included (1) an activity involving the mother and child each building towers to match a model provided using wooden blocks; and (2) a card game called ‘slap-jack’. The two tasks lasted approximately 15 minutes in total. Six global rating scales of parent behavior (Cox & Crnic, 2002) were subsequently coded by trained coders observing the digital recordings. The codes included: sensitivity/responsiveness, support for autonomy, detachment/disengagement, stimulation of cognitive development, positive regard and negative regard. These scales were adapted from those used by the National Institute for Child Health and Human Development Study of Early Child Care and Youth Development (NICHD ECCRN, 1999). Coders rated parenting behaviors on a 7-point scale (1=not at all characteristic and 7=very characteristic). Both frequency and intensity of behavior or affect toward the child were considered. The sensitivity/responsiveness scale, adapted from Ainsworth, Blehar, Waters, and Wall (1978), describes the degree to which the parent was aware of and responsive to the child's bids and signals for attention and achieved synchrony with the child. The support for autonomy scale rates the parent's respect for the child as an individual and the extent to which the parent understands and recognizes the child's effort to gain autonomy and self-awareness. The detachment/disengagement scale describes the degree to which the parent was emotionally distant, uninvolved, or unaware of the child's signals or needs for appropriate facilitation or care. The stimulation of cognitive development scale measures the degree to which the parent engaged in age-appropriate behaviors that foster cognitive and physical development of the child. The positive regard scale rates the quantity and intensity of the parent's expression of positive feelings toward the child, including praise, smiling, physical affection, playful behavior, and overall enjoyment. The negative regard scale rates the parent's negative affect for the child including disapproving, harsh, or hostile vocalizations or facial expressions. All coders were blind to other information about the families.

Coders underwent training until acceptable reliability (ICC > .80) was achieved and maintained for each coder on every scale. Once acceptable reliability was established, coders began coding in pairs while continuing to code at least 20% of their weekly cases with a criterion coder. Reliability was based on the independent scores of coders. Each coding pair met biweekly to reconcile scoring discrepancies; the final consensus scores were used in all analyses. To inform compositing of variables, exploratory factor analysis was conducted with an oblique rotation (i.e., promax). The orthogonal factor analysis suggested the presence of two distinct, relatively independent composites for parenting behavior. On the basis of these factors, the individual subscales were composited to obtain overall sensitive parenting and harsh intrusive parenting scores. Sensitive parenting consisted of the mean of the reverse score for the detachment/disengagement scale and the scores for sensitivity/responsiveness, positive regard, and stimulation of cognitive development scales. Accordingly, higher scores on the sensitivity subscale reflect parenting behaviors that are child-centered, engaged, warm, and stimulating. Harsh intrusive parenting scores were



created by summing the mean of the harsh intrusiveness and negative regard scales. Thus, higher scores on the harsh intrusiveness subscale represent parenting behaviors that are parent-focused, harsh, and affectively negative. These measures have been successfully tested in other investigations (Barnett et al., 2010; Zvara, Mills-Koonce, Garrett-Peters, Wagner, Vernon-Feagans, & Cox, 2014).

Coders also rated one dyadic variable: *boundary dissolution* (Jacobvitz, Morgan, Kretchmar, & Morgan, 1991). Boundary dissolution captures parenting behaviors whereby a parent begins treating the child as her/his contemporary rather than taking charge and setting the necessary limits. In addition, the parent may treat the child as a partner (parentification), perhaps speaking in hushed, intimate tones, engaging in provocative teasing, or deferring to the child (i.e., letting him/her dictate the situation) when he/she needs the parent to take charge.

In this study, the boundary dissolution scale captures the extent to which the caregiver solicits inappropriate attention, affection, intimacy, or support from the child, rather than maintaining her attention on following the child's activities, cues, and directions. This code allows for both psychological and physical boundary dissolution. The scores for boundary dissolution were derived from a 7-point Likert-type scale ranging from 1 to 7, (on which 1=not at all characteristic and 7=very characteristic). In the current sample, average inter-rater reliability across pairs of coders was greater than .80 for sensitive and intrusive parenting as well as for boundary dissolution.

**Marital quality**—During the 60-month visit, mothers responded to the Marital Instability Scale, a 5-item subscale taken from the 13-item Dimension of Marital Quality Scale (Johnson, White, Edwards, & Booth, 1986). The instrument assesses perceptions of relationship instability as well as behaviors such as discussing divorce or breakup. Mothers responded to such questions as “Have you ever thought your marriage or relationship might be in trouble?” All items were measured on a 6-point scale where 1=“Never” and 6=“Yes, within the last 3 months” with higher scores reflecting greater instability. Cronbach's alpha was .72.

**Control and moderating variables**—Although childhood demographic variables from the family of origin were used in the propensity score matching, the present study uses current demographic information as control and moderating variables in the multivariate analysis. Poverty status, maternal education, ethnic minority status, and child sex have each been identified as important correlates of parenting (see Conger, Conger, & Martin, 2010, for a review) and thus the family's income-to-needs ratio, maternal education, and race and sex of the target child were included as covariates in this model. Because the family's income-to-needs ratio and maternal education showed stability over time, the 6-month assessment of these two variables was used in this analysis. Given that the overwhelming majority of African American families resided in one of the two study sites, study location was included to address a potential confound between site and ethnicity.

## Data Analysis Plan

Analysis of the proposed study consists of propensity score matching (PSM) and multivariate analysis of variance (MANOVA). In the first step, a PSM procedure was conducted to control for pre-existing differences between the treatments (experienced sexual trauma) and the controls (no CST). Propensity score matching for this study follows the method developed by Rosenbaum and Rubin (1983) and is conducted in several steps. The first step involves the selection of appropriate covariates from which to create the treatment and comparison samples. In the present study, childhood demographic information is defined by whether the participants' family of origin received AFDC (Aid to Families with Dependent Children), food stamps, or Medicaid or lived in public housing. Mothers' education level from the family of origin, as well as additional trauma's experienced in childhood (e.g., being mugged or beaten, experiencing natural disasters such as tornadoes or hurricanes) were used as the matching variables. The covariates for this study have been chosen based on theoretical and empirical considerations. Previous research has identified factors that are associated with risk for child sexual trauma including demographic variables such as income and parental education (Butler, 2013). Children who have experienced sexual trauma often come from home environments that can be characterized as having a lack of economic resources, parents with a low level of education, and adverse environmental conditions such as social isolation (Erickson & Egeland, 2002; Ethier, Couture, & Lacharité, 2004). The final step is to assess the quality of the matches using diagnostic statistics that reflect the similarity or balance across the two groups.

The next stage of the analysis plan for this study was to explore group differences between the women who reported having experienced CST and the propensity matched sample of women who did not experience childhood trauma (NCST) while controlling for maternal education and household income-to-needs ratio. All hypotheses were tested using MANOVA to draw inferences about the correlation between the groups. All tests were run with  $\alpha=0.05$  and were performed using SPSS (version 19.0).

## Results

### Preliminary Analyses

**Matching results and balance checking for matched sample**—Propensity score matching in the current study involved several steps and followed “exact match” procedures, allowing for replacements. Matching with replacements allows a given control or comparison unit to be included in more than one matched set (Hill & Reiter, 2006). Matching with replacement minimizes the propensity score distance between the matched comparison units and the “treatment” unit (CST mothers) by matching each unit to the nearest comparison unit, even if the comparison unit is matched more than once. The benefit to this type of matching is that it reduces bias because it does not ‘force’ a match to comparison units that may be different in terms of the estimated propensity score (Dehejia & Wahba, 2002). Therefore, in the present study we found the closest matches between 105 of the CST mothers and 99 of the NCST mothers. Thirty-nine (39) participants did not have exact matches, and thus were not included. We further examined the demographic characteristics of the CST group before ( $n=144$ ) and after ( $n=105$ ) the matching procedures



with regards to maternal age, race, education and income, and found no significant differences between the CST group before and after the matching procedures.

Thus, the PSM procedure yielded a sample of 204 women; 105 who experienced childhood sexual trauma matched to 99 women who did not. The matching methods performed well at reducing the standardized mean difference with each covariate when compared to the unmatched data (Table 1). Standardized biases of less than 0.25 imply the groups are well matched (Rubin, 2001). This means that with regard to the selected covariates, the two groups are more similar to each other than with the larger sample (i.e., the full FLP sample from which the comparison group was drawn). In addition, following the PSM, all matching variables were regressed on childhood trauma history. There were no significant differences between the groups post-matching on any of these variables. This means that, based on childhood family of origin variables, the two groups were statistically not different leaving childhood sexual trauma (yes or no) as the one differentiator among those variables considered.

**Descriptive statistics**—Of the 105 women in the CST group, 12% of the women reported sexual trauma before the age of 4, 59% between the ages of 4-11, and 29% between the ages of 12-14. Approximately half of the women in the CST group reported four or more sexual trauma experiences, and 55% reported that the perpetrator was either a parent or other relative (e.g., grandparent, uncle). Table 2 provides descriptive statistics for all variables of interest for the CST and NCST mothers. The present sample consisted of 105 women who reported a history of childhood trauma (CST) at or before the age of 14 matched to 99 women without CST history. The CST group was comprised of 57.1% European American and 42.9% African Americans, whereas the NCST group was comprised of 55.6% European American and 44.4% African Americans.

Independent sample t-tests were conducted to compare mean differences between the two groups with regards to descriptive information and found there was no significant difference between the two groups with regards to maternal age or maternal education. There was, however, a significant group difference noted with regards to mean family income-to-needs ratio,  $t(204) = 2.53, p < .001$ , meaning that, on average, the CST group reported significantly less current household income compared to the NCST group.

With regards to our parenting variables, the CST group, on average, had lower mean ratings of parent sensitivity and higher means ratings of harsh intrusive parenting and boundary dissolution than the NCST group. Bivariate correlation among the variables of interest suggests that CST was positively related to harsh intrusive parenting ( $r = .22, p < .01$ ), and boundary dissolution ( $r = .21, p < .05$ ), and inversely related to sensitive caregiving ( $r = -.23, p < .01$ ).

### Group Differences in Parenting Beliefs and Behaviors

A MANOVA model was tested that included parenting efficacy and all three domains of parenting behaviors. The overall model for parenting variables (i.e., sensitive parenting, harsh intrusive parenting, and boundary dissolution) was significant,  $F(4, 139) = 3.5, p < .05$ ; Wilkes Lambda = .91; Partial eta squared = .09. Review of the findings revealed that Box's test

of equality of covariance matrices for this model was not significant ( $p > .05$ ) and Levene's test of equality of error variances was also non-significant for the four dependent variables. When the results for the dependent variables were considered separately, only group differences among the observed parenting variables reached statistical significance. Mothers who experienced CST were observed to exhibit less sensitive parenting,  $F(1, 147) = 4.15$ ,  $p < .05$ , Partial eta squared = .03; more harsh intrusive parenting,  $F(1, 147) = 5.56$ ,  $p < .05$ , Partial eta squared = .04; and more boundary dissolution,  $F(1, 147) = 5.19$ ,  $p < .05$ , Partial eta squared = .04, than mothers who had not experienced CST.

### **Moderating Effects of Current Income, Education, and Marital Quality**

For the three observed parenting variables for which we found significant group differences, we examined whether current sociodemographic and relational variables (i.e., family income, maternal education, and marital instability) moderated the association between CST and parenting. We tested three models for each of the moderators, one each for sensitive parenting, harsh intrusive parenting and boundary dissolution. Each of the moderators was dichotomized using a median split (e.g., low or high income).

The overall model with current family income moderating the association between CST and parenting was only significant for harsh intrusive parenting,  $F(1, 204) = 4.18$ ,  $p < .05$ . The findings reveal a significant interaction between income and trauma, such that income may have a greater effect on the parenting of the NCST group than the CST group (see Figure 1).

We then tested the moderating effect of maternal education on childhood sexual trauma and the three domains of parenting. Education was dichotomized as “yes” or “no” to whether the mother had earned a high school diploma. The overall model with maternal education moderating the association between CST and parenting was only significant for sensitive parenting,  $F(1, 204) = 4.12$ ,  $p < .05$ . The analysis revealed a significant interaction between maternal education and trauma, such that education has an inverse effect on harsh parenting in the NCST group while there was no effect of education on parenting for the CST group (see Figure 2).

We next tested the moderating effect of marital instability on childhood sexual trauma and the three domains of parenting. Marital instability was dichotomized using a median split as “high” or “low” instability. Results suggest a significant interaction between marital instability and CST on sensitive parenting, such that the marital instability has a stronger effect on the NCST mothers than the CST mothers.

## **Discussion**

The present study contributes to the scientific literature on childhood sexual trauma and its potential long-term consequences in several important ways. By using a large sample of mothers with extensive self-report and observational data, we were able to employ propensity matching techniques to create groups of mothers with and without CST histories while controlling for additional maltreatment and trauma as well as other experiences of childhood adversity that may confound the experience of CST. This is an important methodological feature of the current study because (1) all studies of CST must be

correlational in design and (2) the use of retrospective reports of CST constrains our ability to use longitudinal designs to infer causation above and beyond potential confounds and selection effects. Thus, the use of propensity score matching offers the most straightforward approach to drawing causal inferences related to the lasting effects of CST (Lanza, Moore, & Butera, 2013).

The current findings are in keeping with early work that noted that because of the unique aspects of the abusive relationship, such as the secretive nature of the experience, betrayal of trust, and a sense of powerlessness, the effects of CST may not only be imparted in the immediate, but may last across the lifespan that go beyond problematic relationships with primary caregivers or other family-level problems (e.g., income, chaos). Further, although prior research has focused attention on the parenting behaviors of women with sexual trauma histories, no previous study has examined parenting outcomes using three domains of parenting derived from observational methods which allow for independent assessment of mother behavior while interacting with her child. Parenting observations offer the advantage of recording overt behavior, which may be less open to differing interpretations than are items on a self-report (Gardner, 2000). This is most notable with the parenting domain of boundary dissolution given that it is an unconscious interpersonal process (Alexander et al., 2000).

Our study did not find any significant differences between the CST group and the NCST group with parental efficacy, but did find group differences with regards to observed parenting behaviors on all three domains of parenting that we measured: sensitive caregiving, harsh intrusiveness, and boundary dissolution. Our findings differ from other studies on parenting efficacy and observed behaviors. For example, Fitzgerald, Shipman, Jackson, McMahon, and Hanley (2005) reported significant differences between mothers' reports of parenting efficacy, but did not find differences in observed parenting behaviors defined as supportive presence and quality of assistance in a problem-solving task. One possible explanation for the differences in the findings from these earlier studies and the present study may be due to sampling issues with the earlier studies. For example, the study by Fitzgerald and colleagues (2005) used a relatively small sample of mothers (17 mothers with trauma history compared to 18 mothers with no trauma history) and thus may have lacked power to detect differences in observed parenting between the groups. It could also be the case that sexual trauma history may be related to more subtle patterns of maladaptive interactive behavior, such as maternal withdrawal or detachment (Burkett, 1991). Subscales of our observational parenting measures capture a broad range of maternal behavior, including detachment and disengagement which are key concepts of an avoidance coping strategy. Thus, although mothers may report feeling efficacious with regards to parenting, in interactions with their child in tasks that may be cognitively or emotionally challenging, and in which children may require greater parental support, mothers with trauma histories were observed to be less sensitive and more intrusive in their caregiving than the mothers without similar trauma histories.

As prior investigations targeting the relationship between CST and subsequent parenting have noted, the trauma experience and its associated symptoms (e.g., anxiety, depression) may diminish the survivors' ability to manage the demands of parenting (DiLillo &

Damashek, 2003). Although parental sensitivity is multifaceted, one key component is support for children's needs and the ability to read signals from children related to what they may require from the caregiver. As previous studies (Briere & Elliot, 1994; Paolucci, Genuis, & Violato, 2001) found greater levels of depression and anxiety among women with trauma histories, it may be that CST and its negative consequences exacerbate the stresses of parenting and reduce available energy for parenting activities, thereby making the tasks of child-rearing especially challenging (Ruscio, 2001). Mothers with CST may be struggling with their own regulatory processes (e.g., depression) and thereby be less responsive to their children's bids compared to mothers without trauma history.

With regard to harsh intrusive parenting, whereas prior research has linked maternal sexual trauma to more punitive and harsh discipline practices, our study indicates that mothers with CST histories were also rated as being more intrusive and controlling than mothers without CST histories. As with sensitive parenting, it is likely that mothers with trauma histories are struggling with their own regulatory processes and therefore are more harsh in their interactions with their children. Harsh intrusive parenting is characterized as controlling behavior that emphasizes parent-centered behavior and children's compliance with mothers' agenda.

Confirming earlier reports (Alexander et al., 2000; Burkett, 1991) linking CST to boundary dissolution in parent-child interactions, the findings from this study reveal significant group differences for boundary dissolution. Mothers in the CST group, compared to mothers in the NCST group, were found through observational assessment to assume more of a child-like role in parent-child interactions. Although this pattern of interaction may provide a sense of support or security for the mother, it can have detrimental long-term effects on the child by interfering with child development. A key task for parents is to encourage autonomy/individuation and set limits to ensure both safety of the child and to teach compliance with social norms (Rutter & Sroufe, 2000). This task may be especially difficult for a parent who seeks to keep the child dependent in order to meet her own needs rather than to foster autonomy/individuation (Howes, Cicchetti, Toth, & Rogosch, 2000). From the child's perspective, gaining autonomy, individuation and ultimately separation from the parent in adolescence or young adulthood may be harder for children if they also provide companionship and support to the mother.

The cumulative risk literature posits that multiple risk factors such as poverty, maternal education, and relationship instability may be related to the parenting ability/capacity of women with CST histories (Wekerle, Wall, Leung, & Trocmé, 2007). The findings from the moderating analysis regarding current income, education, and marital stability provide further evidence that the effects of CST have long-term implications for the parenting ability/capacity of survivors. The results of the moderation analysis suggest two things. First, the potential effects of trauma on parenting behaviors are not attenuated by protective factors such as higher income, higher education, or stable adult relationships. Second, the potential effects of CST on parenting behaviors are actually most pronounced among mothers with higher incomes, higher education levels, and more stable adult relationships.

Similar to the findings from the current study, additional investigations have reported effects of intervening variables for the comparison group but not the maltreated group across other domains of adult functioning. For example, in their study examining the moderating role of relationship intimacy between CST and psychological wellbeing among a group of married and cohabiting survivors, Whiffen, Judd, and Aube (1999), reported that the strength of the positive association between relationship anxiety and self-reported depression was stronger for participants with no history of CST than for participants with a history of CST. Along the same lines, in a study linking attachment, CST, and adult psychological functioning, Aspelmeier and colleagues (2007) reported that although secure attachment to parents in childhood was moderately associated with lower self-reported levels of Dysphoria-related trauma symptoms for CST participants, these associations were significantly stronger for non-CST women in a sample of college students (Aspelmeier, Elliott, & Smith, 2007). These findings suggest that individual characteristics of the survivor may be related to long-term functioning. Future research will need to examine why some individuals may be more affected by environmental stressors and adversity or the extent to which they are positively influenced by environmental resources and supports.

Despite the strengths of this study, there are limitations. One issue is the reliance on retrospective reports of CST. As numerous researchers investigating the long-term effects of CST have posited, the passage of time may alter participants' recollections of the past (Goodman, Ghetti, Quas, Edelstein, Alexander, Redlich... & Jones, 2003). Additionally, some women may not have felt comfortable reporting their trauma history in the context of the research study. Therefore, it is possible that, within our control group, there may be women who experienced CST but did not report it. To the extent that women under-reported their trauma experiences, the findings reported here may be conservative estimates. In addition, although we used numerous variables from the family of origin for the matching procedure, we did not account for all of the potential confounders that might have been relevant to subsequent parenting of survivors, such as family dysfunction in the women's family of origin (e.g., parental marital conflict, mental health, or substance use). Further, the measure we used in the present study assessed only whether the mother reported a history of CST. It did not assess such factors as the severity of the trauma, the length of the trauma, or whether there were factors in the victims' context that may have exacerbated or ameliorated the effects of the trauma. Moreover, the study did not consider whether the participant was a first-time parent. Becoming a parent for the first time is challenging for most mothers, and may be especially so for women with CST histories. Future research will need to examine if childrearing behaviors vary for first-time mothers with CST histories compared to first-time mothers without CST histories. In addition, although age at time of abuse was reported, this factor was not taken into consideration during the matching procedure in order to allow us to get a sample large enough to examine group differences.

Given the significant number of women who report childhood sexual trauma, understanding the parenting behaviors among survivors is critical to understanding the potential for CST to have an indirect impact across multiple generations. The overall picture that emerged when women with childhood sexual trauma were compared with the matched comparison women was that females who experienced childhood sexual trauma demonstrated increased difficulties (on average) across multiple domains of parenting. These findings have

important implications for interventions for mothers reporting trauma history and their children. Practitioners working with sexual trauma survivors may find it useful to address the trauma independent of the more distal effects of poverty and relationship instability. In addition, the findings from the moderation analyses highlight that policies and programs to improve healthy parenting should address both social factors and history of trauma. Future research on the direct effects of CST in other areas of parental functioning, such as psychological well-being, intimate partner violence, and substance abuse, could increase our understanding of the stressors that affect the parenting capacities of trauma survivors and create service responses that enhance their own lives and the lives of their children.

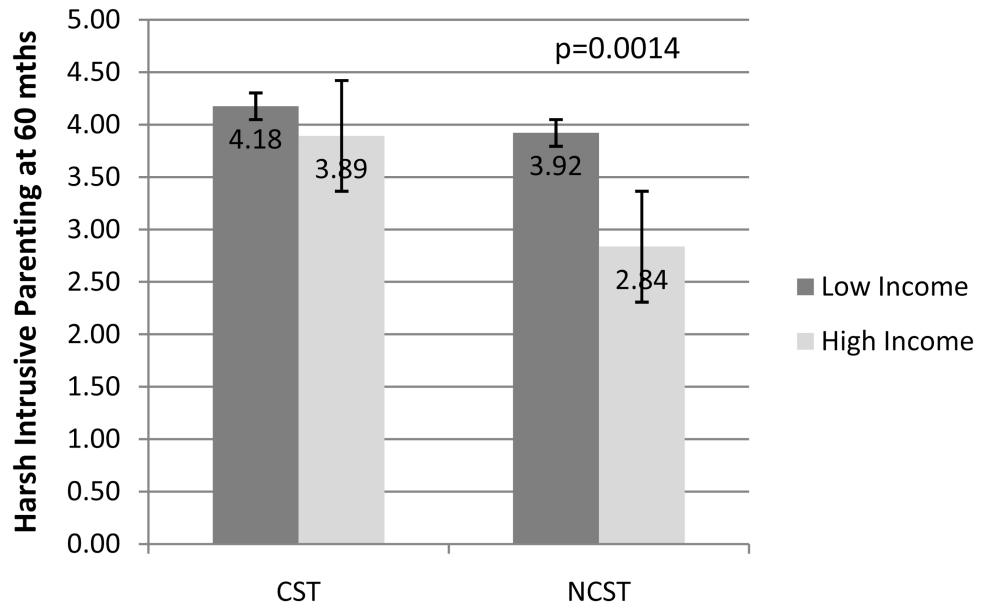
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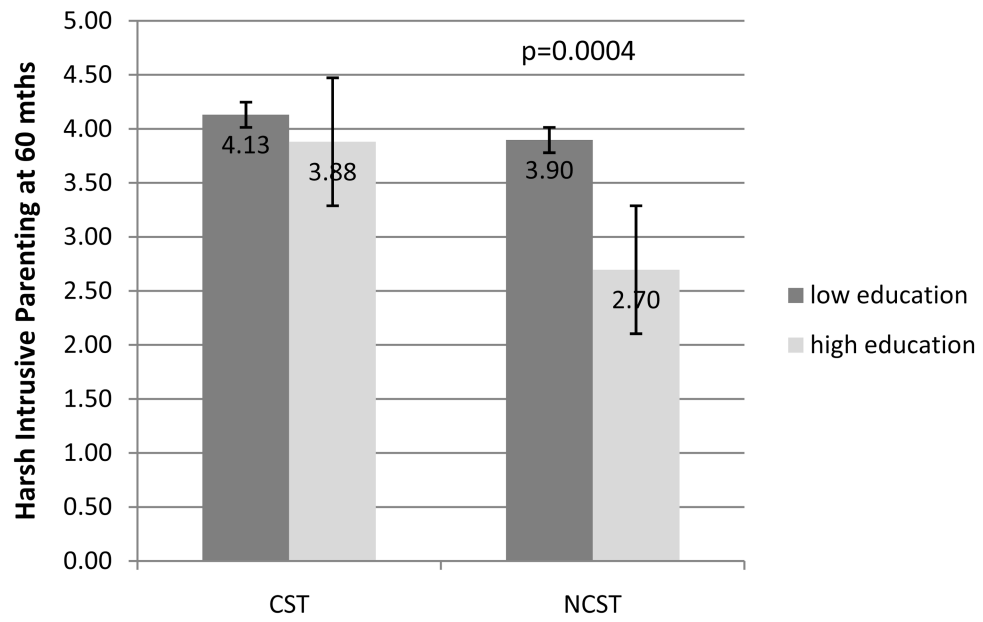


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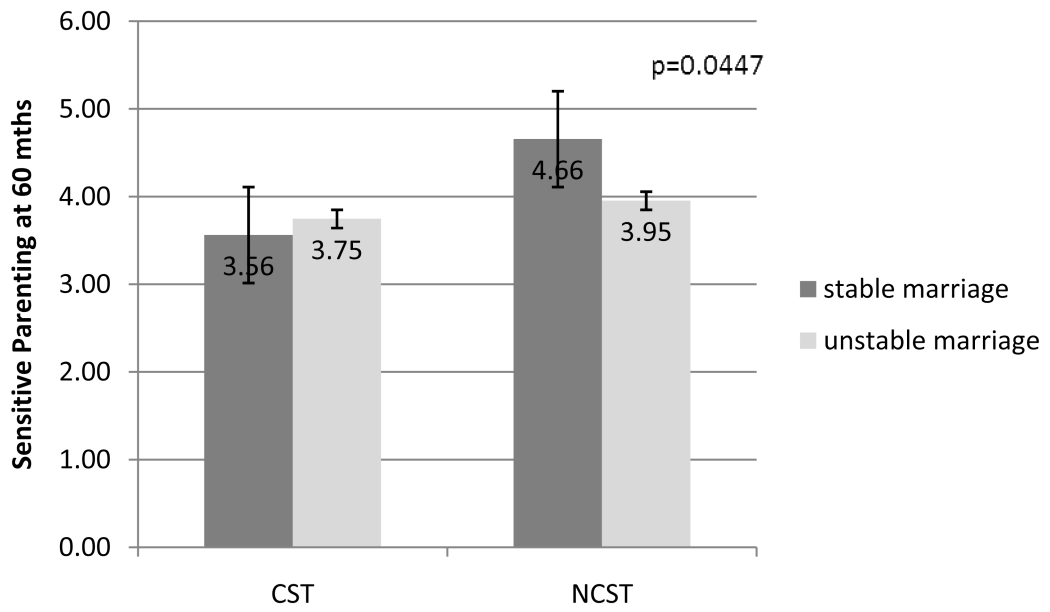
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**Figure 1.** Moderating effect of income on the association of childhood sexual trauma and harsh intrusive parenting.



**Figure 2.** Moderating effect of maternal education on the association of childhood sexual trauma and harsh intrusive parenting.



**Figure 3.** Moderating effect of marital stability on the association of childhood sexual trauma and sensitive parenting.

**Table 1**  
**Balance Checking Before and After Propensity Matching for Abused and Not Abused Sample**

	Before Matching		After Matching		
	SMD	p-value	SMD	p-value	
Childhood Demographics of the Mother				% reduction in bias	
Received Aid to Dependent Children	.019	.35	-.029	.32	12%
Received food stamps	.15	.07	.03	.44	24%
Received Medicaid	.05	.09	-.06	.14	22%
Received public housing	.05	.004	-.017	.54	17%
Mother education (from family of origin)	-.35	.002	-.19	.40	4.5%
Other trauma before age 14	.04	.006	-.02	.37	6.5%

Note. SMD: Standardized mean difference



**Table 2**  
**Descriptive Statistics for Childhood Sexual Trauma (CST) Group and Matched No**  
**Childhood Sexual Trauma Controls (NCST) on Key Variables**

Variable	CST Group ( <i>N</i> =105) <i>M</i> ( <i>SD</i> )	NCST Group ( <i>N</i> =99) <i>M</i> ( <i>SD</i> )
<i>Maternal and Household Characteristics:</i>		
Maternal age	25.5 (5.2)	26.1 (5.4)
Income to needs	1.40 (1.13)	2.10 (2.56)
Maternal education	14.1 (2.9)	14.5 (2.6)
Marital instability	1.97 (1.3)	1.5 (.91)
<i>Parenting:</i>		
Sensitivity	3.61 (1.00)	4.12 (1.22)
Harsh intrusiveness	4.08 (1.22)	3.46 (1.28)
Boundary dissolution	2.73 (1.22)	2.18 (1.12)

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