Child Abuse & Neglect 36 (2012) 180–189

Contents lists available at SciVerse ScienceDirect

Child Abuse & Neglect

# Childhood sexual abuse moderates the association between sexual functioning and sexual distress in women☆

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ARTICLE INFO

*Article history:*
Received 15 January 2011
Received in revised form
16 September 2011
Accepted 22 September 2011
Available online 3 March 2012

*Keywords:*
Sexual distress
Sexual functioning
Childhood sexual abuse

ABSTRACT

**Objective:** To assess the degree to which a history of childhood sexual abuse (CSA) moderates the association between sexual functioning and sexual distress in women.
**Method:** Women with ($n$ = 105, $M$ age = 33.71, 66.1% Caucasian) and without ($n$ = 71, $M$ age = 32.63, 74.7% Caucasian) a history of CSA taking part in a larger clinical trial completed self-report questionnaires at intake including the Sexual Satisfaction Scale for Women (SSS-W), the Female Sexual Function Index (FSFI), and the Trauma History Questionnaire (THQ).
**Results:** Desire, arousal, lubrication, and orgasm interacted with sexual abuse status in predicting sexual distress such that sexual functioning was more weakly associated with distress for women with a history of CSA. This disconnect was more pronounced for women who were abused by a family member.
**Conclusion:** CSA status serves as an important moderator of the association between sexual functioning and sexual distress in women. Specifically, women with a history of CSA show higher levels of distress in the context of good sexual functioning as compared to women without a history of CSA. Possible explanations and clinical implications are discussed.


## Introduction

It is well-established that difficulties with sexual functioning are common among women in the USA, with 1-year prevalence estimates ranging from 32% to 64% (Hayes, Dennerstein, Bennet, & Fairley, 2008; Laumann, Palik, & Rosen, 1999). Although published rates differ depending on definition and sample characteristics, the most common sexual functioning difficulty appears to be low sexual desire (64%), followed by difficulties with orgasm (35%), arousal (31%), and sexual pain (26%; Hayes, Bennet, Fairley, & Dennerstein, 2006). In many cases, these difficulties with sexual desire, arousal, orgasm, and pain can be classified as sexual dysfunctions. However, a majority of these problems do not constitute diagnosable female sexual dysfunction (FSD) because they are not associated with significant levels of personal or interpersonal distress (Hayes, Dennerstein, Bennet, & Fairley, 2008; Oberg & Fugl-Meyer, 2005; Shifren, Monz, Russo, Segreti, & Johanes, 2008) as required by DSM-IV-TR (American Psychiatric Association, 2000) criteria (indeed, a number of researchers have suggested that even sexual functioning difficulties associated with significant distress may not constitute sexual "dysfunctions" insofar as they may be natural consequences of negative relationships (Bancroft, Loftus, & Long, 2003; Tiefer, Hall, & Tavris, 2002) and not representative of any individual psychopathology). Recent studies suggest that only about one third of female sexual functioning difficulties are associated with significant levels of distress (Bancroft, Loftus, & Long, 2003) and that the

☆ This research was supported by Grant number R01 HD51676-3 from the National Institute for Child Health and Human Development to Cindy M. Meston. Its contents are solely the responsibility of the authors and do not necessarily represent the official views of the National Institute for Child Health and Human Development. The authors would like to acknowledge Madeline Massey for her help in data management.

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doi:10.1016/j.chiabu.2011.09.015

physical aspects of sexuality are generally weakly or moderately tied to levels of distress for women. The fact that sexual functioning (sexual desire, sexual arousal, ease of reaching orgasm, and the level of pain during or following sexual activity) is strongly tied to sexual distress (distress, worry, frustration, and anxiety regarding sexual activity) in some cases while weakly associated in others suggests the existence of important moderators of the association between these two constructs.

A number of factors have been shown to be related to women's sexual functioning and levels of sexual distress including anxiety (Minnen & Kampman, 2000), socio-economic status (Colson, Lemaire, Pinton, Hamidi, & Klein, 2006), and the state of the overall relationship (Bancroft et al., 2003; Oliver & Hyde, 1993; Peplau, 2003), and researchers are beginning to test whether these variables moderate the association between sexual functioning and distress. For example, one recent study found that relational intimacy and attachment anxiety serve as important moderators of this association (Stephenson & Meston, 2010b). An important factor that has been repeatedly linked to both sexual functioning and sexual distress, and which may serve a similar moderating role, is a history of childhood sexual abuse (CSA), defined here as unwanted sexual contact before the age of 16. Many studies have found that women with a history of CSA report poorer sexual functioning than women without a history of sexual abuse (NSA) across the lifespan (Dennerstein, Guthrie, & Alford, 2004), and have a higher prevalence of sexual dysfunction (Kinzl, Traweger, & Biebl, 1995; Leclerc, Bergeron, Binik, & Khalife, 2010; Loeb et al., 2002; Najman, Dunne, Purdie, Boyle, & Coxeter, 2005; Sarwer & Durlak, 1996). Women with CSA histories also report lower levels of sexual satisfaction relative to NSA women (Browne & Finkelhor, 1986; Jackson, Calhoun, Amick, Maddever, & Habif, 1990), as well as greater levels of sexual distress (Merrill et al., 2003; Rellini & Meston, 2007).

A number of findings suggest that sexual functioning may be more weakly linked to sexual distress in women with CSA histories compared to NSA women. For example, qualitative research indicates that, although women with CSA histories tend to report high levels of sexually related distress, many of these women report this distress without meeting diagnostic criteria for sexual dysfunction, that is, disruptions in functioning (Westerlund, 1992), suggesting that the two may be relatively independent in this population. Studies have also shown that women with CSA histories are less likely to attribute positive meaning to sexual behavior, even when fully sexually functional (Meston & Heiman, 2000) and may even experience increased negative affect during sexual arousal (Hall, 2007; Schloredt & Heiman, 2003), suggesting that these women may be highly distressed even when fully sexually functional. Additionally, clinical experts have suggested that women with CSA histories may be more likely to view sex as "instrumental rather than intimate" (Hall, 2007), tending to not subjectively engage in sex to the same degree as women without an abuse history, making it less likely that levels of functioning would strongly influence their distress levels. Indeed, a recent study found no significant relationship between sexual functioning and sexual satisfaction in a sample of 22 women with CSA histories (Leonard, Iverson, & Follette, 2008). Given these previous findings, we would predict that the link between sexual functioning and distress in women may differ as a functioning of CSA status, however, to our knowledge no previous research has directly tested a history of CSA as a moderator of the association between sexual functioning and distress. The current study will be the first to do so with the hypothesis that sexual functioning and distress will be more weakly related for women with a history of CSA as compared to those with no history of CSA.

However, this moderational role of abuse status may not be identical across the population of women with a history of CSA. Sexual abuse is a highly variable phenomenon (Hall, 2007) and it is possible that different types of abuse experiences may be associated with stronger or weaker ties between sexual functioning and sexual distress. Particular qualifying factors such as the level of sexual intrusiveness (i.e., the occurrence or absence of penetration) and the woman's relationship to the perpetrator are often predictive of the severity of outcomes with regards to sexual functioning and distress. In their comparison of women with CSA histories who had experienced genital penetration to women with CSA histories who had not, Lemieux and Byers (2008) found that genital penetration predicted more adverse sexual outcomes, such as lower sexual self-esteem, than non-penetrative CSA. Likewise, Sarwer and Durlak's (1996) study of CSA as a predictor of sexual dysfunction found that the occurrence of penetration significantly discriminated between women with CSA histories with and without dysfunction. In terms of perpetrator relationships, research has demonstrated that women sexually abused by a family member exhibit more negative sexual outcomes compared to women with CSA histories abused by non-familial abusers (Beitchman et al., 1992; Tsai, Feldman-Summers, & Edgar, 1979). These differential effects of subtypes of CSA suggest that the moderating effect of abuse status may in turn depend on the type of abuse experienced, with women having experienced penetrative CSA or abuse by a family member showing a weaker association between functioning and well-being than those experiencing non-penetrative CSA or abuse by a non-family member.

## Objective

The goal of the current study was to determine whether a history of CSA moderates the association between sexual functioning and sexual distress in women. We expanded upon prior research (e.g., Leonard et al., 2008) by directly comparing CSA and NSA women and by making important distinctions in order to elucidate CSA's moderational potential. First, we examined each aspect of sexual functioning (desire, arousal, lubrication, orgasm, and pain) separately based on (A) the conceptual difference between these aspects (i.e., high levels of lubrication do not equate to sexual desire), (B) evidence suggesting that difficulties with different aspects of functioning have differential risk factors (Jiann, Su, Yu, Wu, & Huang, 2009), and (C) evidence that these aspects of sexual functioning may be differentially related to sexual distress (Stephenson & Meston, 2010a). Second, we assessed whether different types of CSA (penetrative vs. non-penetrative and family vs. non-family perpetrator) were associated with stronger or weaker associations between functioning and distress within our CSA

sample. Based on previous research on the effects of CSA, we predicted that sexual functioning and distress would be weakly related in women with CSA histories as compared to NSA women, especially in cases where abuse included penetrative sex or was committed by a family member.

## Method

### *Participants and procedure*

Participants ($n = 176$) with and without a history of childhood sexual abuse were recruited from the community through advertisements in a local newspaper, advertisements posted in numerous locations throughout the campus of a large public university in the southwestern USA, and through online advertisements on www.craigslist.org and monetarily compensated for their participation. The advertisement for women with a history of CSA called for women with a history of sexual abuse who were experiencing sexual difficulties. The advertisement for women without a history of sexual abuse called for women who were experiencing sexual difficulties. Both advertisements stated the study involved answering questions and writing about personal experiences, including sexual behavior. Potential participants were screened for eligibility and received information regarding the study protocol in a telephone interview. Women were required to be at least 18 years of age and sexually active. Women who had experienced a traumatic event in the previous 3 months, had been a victim of sexual abuse in the past 2 years, or had been diagnosed with a psychotic disorder in the previous 6 months were excluded from participation regardless of their CSA history. Women who had experienced these events outside of the outlined time frames were permitted to participate in the present study. Involuntary childhood sexual abuse was defined as unwanted sexual activity prior to age 16, and included 1 or more of the following acts: oral, anal, or vaginal intercourse, penetration of the vagina or anus using objects or digits, or genital touching or fondling. For the purpose of the current study, participants who did not report incidents of sexual or physical abuse in childhood were established as a comparison group (NSA). All participants gave informed consent and all study protocol reported herein was approved by the University of Texas at Austin Institutional Review Board.

Although a portion of these participants went on to participate in a clinical trial of treatment for sexual dysfunction, the current hypotheses and analyses were unrelated to the goals of this wider study. Data for the current analyses were collected in initial assessment sessions. Both the NSA group ($n = 71$) and the CSA group ($n = 105$) answered demographic questions regarding their age, ethnicity, level of education completed, and relationship status. Afterward, the participants completed measures assessing sexual functioning, sexual distress, sexual abuse histories, and a number of other measures not reported here. The measures used in the current analyses (see *Measures* section) assume that individuals are currently in a sexually active relationship and, as such, participants who reported not being in a relationship or reported no sexual activity in the past month, were excluded from analyses. All demographics reported apply only to participants included in the present study.

### *CSA group*

The CSA group ($n = 105$) was an average age of 33.71 years ($SD = 9.86$) and primarily Caucasian (66.1%). Sexual preferences were assessed using the Kinsey Scale (Kinsey, Pomeroy, & Martin, 1948). Participants were instructed to place themselves on a continuum where 0 indicates that the respondent is exclusively heterosexual and 6 indicates that the respondent is exclusively homosexual. The CSA group yielded an average scale score of 2.24 ($SD = 1.63$), indicating a predominantly heterosexual group. The majority were married or in a committed relationship (87.3%) and had at least some college education (68.8%). Within this group, 80.8% of the women reported a penetrative sexual abuse experience and 38.5% reported a family member as the perpetrator. Of the women in the CSA group, 13 (12.4%) reported adult sexual abuse (unwanted sexual contact after the age of 16). Twelve reported abuse that included penetration and 5 reported abuse without penetration. The average age of adult penetrative abuse was 25.25 ($SD = 10.06$) and the average age of adult non-penetrative abuse was 22.4 ($SD = 4.78$).

### *NSA group*

Similar to the CSA group, the NSA group ($n = 71$) was of an average age of 32.63 years ($SD = 11.04$) and primarily Caucasian (74.7%). They yielded an average Kinsey scale score of 1.79 ($SD = 1.24$), indicating a predominantly heterosexual group. The majority had at least some college education (74.7%) and were married or in a committed relationship (64%). Of the women in the NSA group, 12 (17%) reported adult sexual abuse. Nine reported abuse that included penetration and 6 reported abuse without penetration. The average age of adult penetrative abuse was 23.44 ($SD = 5.89$) and the average age of adult non-penetrative abuse was 20.5 ($SD = 2.07$).

We tested for group differences in age, ethnicity, and sexual preference between CSA and NSA groups and found no significant differences in age or ethnicity. However, there was a significant difference in sexual orientation with women with a history of CSA rating themselves as slightly more homosexual than women without a history of CSA [$F(1, 170) = 4.3$, $p < .05$]. We re-ran all regression analyses reported below controlling for sexual orientation and found no substantive difference in results. As such, we reported the results obtained without controlling for sexual preference.

**Table 1**
Pearson's correlations, means and *SD*s for all study variables.

| Variable | 1 | 2 | 3 | 4 | 5 | 6 | CSA | | NSA | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | *M* | *SD* | *M* | *SD* |
| 1. Sexual Distress | 1 | .22** | .51** | .42** | .57** | .14 | 14.48 | 5.82 | 22.37 | 7.57 |
| 2. Sexual Desire | | 1 | .57** | .46** | .16* | .09 | 3.83 | 1.54 | 4.45 | 1.06 |
| 3. Sexual Arousal | | | 1 | .66** | .60** | .11 | 3.63 | 1.48 | 4.68 | .84 |
| 4. Lubrication | | | | 1 | .49** | .32** | 4.23 | 1.43 | 5.25 | .74 |
| 5. Orgasm | | | | | 1 | .12 | 3.03 | 1.74 | 4.36 | 1.56 |
| 6. Pain | | | | | | 1 | 4.27 | .56 | 4.80 | .65 |

Possible ranges of scores for each measure are as follows: Sexual Distress: 6–30; Sexual Desire, Sexual Arousal, Lubrication, Orgasm, and Pain: 1–6.
* $p < .05$.
** $p < .01$.

### *Measures*

*Sexual Distress*—The Sexual Satisfaction Scale for Women (SSS-W; Meston & Trapnell, 2005) is a measure used to assess women's sexual satisfaction and includes 30 items assessing 5 unique domains of satisfaction. The SSS-W has demonstrated high reliability (Cronbach's alpha = .94), as has its subscales (contentment = .83, communication = .74, compatibility = .85, personal concern = .90, relational concern = .88). Convergent and divergent validity has also been established using the SSS-W to differentiate between women with and without diagnosed sexual dysfunction (Meston & Trapnell, 2005). Importantly, this scale includes separate subscales assessing overall satisfaction with one's sex life (contentment) *and* distress regarding sexual difficulties (personal concern). Based on recent research suggesting that these 2 constructs may be independent of one another (Stephenson & Meston, 2010a), the current study used the personal concern subscale as the outcome of interest rather than the full scale. Items in this subscale are reverse coded and summed so that higher scores indicate less distress (higher well-being). In the current study, Cronbach's alpha was .90 for the personal distress subscale.

*Sexual Functioning*—Sexual functioning was assessed using the Female Sexual Function Index (FSFI; Rosen et al., 2000), a 19-item measure with items relevant to 6 domains: desire, arousal, lubrication, orgasm, satisfaction, and pain. The FSFI has demonstrated excellent reliability (Cronbach's alpha = .97) and validity in women with and without diagnoses of female orgasm disorder and hypoactive sexual desire disorder (Meston, 2003). FSFI subscale scores are attained by coding and summing individual items so that higher scores indicate higher levels of functionality. The satisfaction subscale was excluded from analyses because of its overlap with our outcome. In the current study, Cronbach's alpha was .93, .89, .93, .92, and .96 for desire, lubrication, arousal, orgasm, and pain respectively. Means and standard deviations for all continuous measures used in the current study can be found in Table 1. As outlined by Meyer-Bahlburg and Dolezal (2007), there are a number of difficulties that arise when administering the FSFI to non-sexually active women. Thus, as mentioned above, the current analyses include only women who were sexually active in the previous month.

*Childhood Sexual Abuse*—Incidents of childhood sexual abuse were assessed utilizing the Trauma History Questionnaire (THQ; Green, 1996), a 24-item self-report measure used to examine physical and sexual traumatic experiences. Questions on the THQ are in a yes/no format and when a respondent endorses a question, she is asked to provide her age at the time of the event as well as the event's frequency. The THQ has demonstrated test-retest reliability coefficients between .54 and .92 over a 2- to 3-month period (Norris & Hamblen, 2004). For this study, item 18 on the THQ ("Has anyone ever made you have intercourse, oral or anal sex against your will? If yes, please indicate nature of relationship with person, e.g., stranger, friend, relative, parent, sibling") was used to determine the nature of the abuse (penetrative or non-penetrative) and the identity of the perpetrator (familial or non-familial).

## Results

### *Associations between sexual functioning and sexual well-being*

We began by examining the strength of the relationship between sexual functioning and sexual distress for the sample as a whole. All FSFI domains except pain were significantly correlated with sexual distress (see Table 1). However, the strength of the relationship between functioning and distress ranged from weak ($r = .14$, *ns*) to moderate ($r = .572$, $p < .001$).

### *Group differences*

*CSA versus NSA.* We performed a multivariate analysis of variance (MANOVA) to examine differences between women with and without a history of CSA for sexual distress and the subscales of the FSFI. The overall model was significant [$F(6, 158) = 9.92$, $p < .001$] suggesting group differences in study variables. Component ANOVAs were significant for sexual distress [$F(1, 158) = 54.71$, $p < .001$], sexual desire [$F(1, 158) = 5.62$, $p < .05$], sexual arousal [$F(1, 158) = 21.56$, $p < .001$], lubrication

**Table 2**
Testing CSA status as a moderator of the association between sexual functioning (Desire, arousal, lubrication, and orgasm) and sexual distress.

| Outcome<br>Predictor | $\beta$ | $B$ | $SE$ | S-R | $F$ | $R^2$ |
|---|---|---|---|---|---|---|
| Outcome: Sexual Distress | | | | | 24.0*** | .30 |
| Sexual Desire | .38 | 2.93 | 1.00 | .22** | | |
| CSA Status | −.46 | −7.23 | 1.04 | −.47*** | | |
| Sexual Desire × CSA | −.31 | −2.76 | 1.16 | −.18* | | |
| Outcome: Sexual Distress | | | | | 38.98** | .42 |
| Sexual Arousal | .79 | 5.97 | 1.06 | .41*** | | |
| CSA Status | −.30 | −4.69 | 1.05 | −.33*** | | |
| Sexual Arousal × CSA | −.45 | −4.02 | 1.19 | −.26** | | |
| Outcome: Sexual Distress | | | | | 29.28*** | .35 |
| Lubrication | .59 | 4.41 | 1.21 | .28*** | | |
| CSA Status | −.37 | −5.64 | 1.12 | −.37*** | | |
| Lubrication × CSA | −.33 | −2.87 | 1.33 | −.17* | | |
| Outcome: Sexual Distress | | | | | 46.54*** | .46 |
| Orgasm | .65 | 4.99 | .79 | .45*** | | |
| CSA Status | −.34 | −5.31 | .97 | −.40*** | | |
| Orgasm × CSA | −.25 | −2.52 | .98 | .33** | | |

*Note*: S-R = semi partial coefficient.
* $p < .05$.
** $p < .01$.
*** $p < .001$.

[$F(1, 158) = 17.72$, $p < .001$], and orgasm [$F(1, 158) = 20.04$, $p < .001$]. The component ANOVA for sexual pain was not significant [$F(1, 158) = 1.92$, *ns*].

*Penetrative vs. non-penetrative CSA.* We performed a second MANOVA to test for differences within the CSA sample between women with and without a history of penetrative CSA for all of our study variables. The overall model was non-significant [$F(6, 89) = 1.76$, *ns*] suggesting no significant differences between these two groups.

*Family member vs. non-family member.* We performed a third MANOVA to test for differences within the CSA sample between women who had been abused by a family member and those who had been abused by someone outside the family. The overall model was non-significant [$F(6, 89) = .73$, *ns*] suggesting no significant differences between these two groups.

### *Moderators*

*CSA.* We performed a series of linear regression analyses with sexual distress regressed on CSA history (a dummy variable with CSA coded as 1 and NSA coded as 0) and each subscale of the FSFI (except satisfaction) in turn. We also included interactions between predictors.

Of the 5 analyses, 4 resulted in significant interactions between CSA status and sexual functioning. Specifically, desire [$R^2 = 30$, $F(3, 177) = 24$, $p < .001$; $\beta$ for interaction = −.31, $p < .05$], arousal [$R^2 = 42$, $F(3, 164) = 38.98$, $p < .001$; $\beta$ for interaction = −.45, $p < .001$], lubrication [$R^2 = 35$, $F(3, 166) = 29.28$, $p < .001$; $\beta$ for interaction = −.33, $p < .05$], and orgasm [$R^2 = 46$, $F(3, 165) = 46.54$, $p < .001$; $\beta$ for interaction = −.25, $p < .01$] interacted with CSA status in predicting sexual distress (see Table 2). Inspection of simple slopes showed that sexual desire and sexual distress were related for NSA women ($t = 3.15$, $p < .001$), but not for women with CSA histories ($t = .35$, *ns*). Additionally, while arousal ($t = 3.56$, $p < .001$), lubrication ($t = 2.73$, $p < .001$), and orgasm ($t = 4.28$, $p < .001$) were related to sexual distress for women with CSA histories, sexual distress was more strongly related to arousal ($t = 5.63$, $p < .001$), lubrication ($t = 3.66$, $p < .001$), and orgasmic functioning ($t = 6.34$, $p < .001$) for NSA women (see Fig. 1).

*Perpetrator relationship.* We conducted a series of linear regression analyses, using only the CSA sample, with sexual distress regressed on a dichotomous variable coded for whether the perpetrator of the CSA was a family member or not and each subscale of the FSFI (except satisfaction) in turn. We also included interactions between predictors. Of the 5 analyses, 2 resulted in significant or marginally significant interactions between relationship of the perpetrator and sexual functioning. Specifically, lubrication [$R^2 = 13$, $F(3, 96) = 4.63$, $p < .01$; $\beta$ for interaction = −.25, $p = .06$] and orgasm [$R^2 = 24$, $F(3, 95) = 9.31$, $p < .001$; $\beta$ for interaction = −.30, $p < .05$] interacted with relationship of the perpetrator in predicting levels of sexual distress for women with CSA histories (see Table 3). Inspection of simple slopes confirmed that, while lubrication ($t = 3.48$, $p < .001$) and orgasm ($t = 5.15$, $p < .001$) were related to sexual distress for women who had been abused by a non-family member,

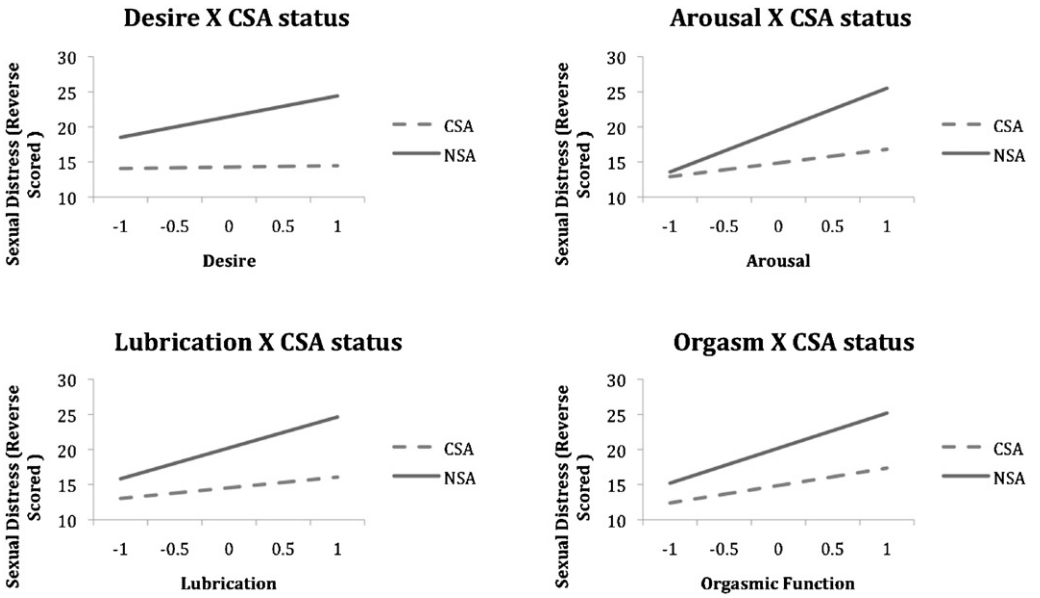


**Fig. 1.** Interactions between sexual functioning and history of childhood sexual abuse in predicting sexual distress.

**Table 3**
Testing type of abuse experienced (familial perpetrator vs. non-family perpetrator) as a moderator of the association between sexual functioning (Desire, arousal, lubrication, and orgasm) and sexual distress within the CSA sample.

| Outcome<br>Predictor | *β* | *B* | *SE* | S-R | *F* | $R^2$ |
|---|---|---|---|---|---|---|
| Outcome: Sexual Distress | | | | | 4.63** | .13 |
| Lubrication | .45 | 2.43 | .69 | .35** | | |
| Family vs. No Family | −.16 | −1.90 | 1.21 | −.16 | | |
| Lubrication × Family | −.25 | −2.02 | 1.06 | −.20† | | |
| Outcome: Sexual Distress | | | | | 9.31*** | .24 |
| Orgasm | .58 | 3.51 | .69 | .47*** | | |
| Family vs. No Family | −.15 | −1.78 | 1.18 | −.16*** | | |
| Orgasm × Family | −.30 | −2.88 | 1.19 | −.25* | | |

*Note*: S-R = semi partial coefficient.
* $p < .05$.
** $p < .01$.
*** $p < .001$.
† $p = .06$.

neither lubrication ($t = .55$, *ns*) nor orgasm ($t = .79$, *ns*) was related to sexual distress for women who had been abused by a family member (see Fig. 2).

*Penetrative vs. non-penetrative abuse.* We performed a series of linear regression analyses, using only the CSA sample with sexual distress regressed on a dichotomous variable coded for whether the abuse involved penetrative sex or not and each

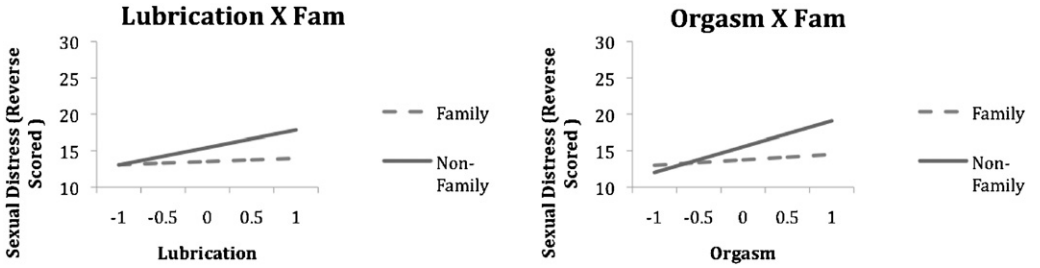


**Fig. 2.** Interactions between sexual functioning and type of CSA—familial perpetrator vs. non-familial perpetrator. *Note*: Scores for sexual functioning are based on standardized variables.

subscale of the FSFI (except satisfaction) in turn. We also included interactions between predictors. None of the analyses resulted in significant interactions between type of CSA and sexual functioning.

We also re-ran each of the regression models above controlling for whether or not the participant reported adult sexual abuse. Controlling for adult sexual abuse did not alter the findings. Thus, in the interest of parsimony, we report the models that do not control for adult sexual abuse.

## Discussion

The goal of the current study was to assess the degree to which a history of childhood sexual abuse moderates the association between sexual functioning and sexual distress in women. Our results suggest that abuse status is an important moderator, with sexual functioning being more strongly related to sexual distress for NSA women compared to women with CSA histories. In most cases, NSA women exhibited moderate to strong associations between functioning and distress while women with CSA histories exhibited weak or no relationship between the two. Upon visual examination of these interactions, it appears that, while women with and without a history of CSA may be similarly negatively affected by poor functioning, NSA women exhibit much lower levels of sexually related distress when reporting high levels of sexual functioning. In other words, high levels of sexual function do not necessarily translate into decreased distress as readily for women with a history of CSA. This disconnect between sexual functioning and sexual distress appears to be even more pronounced, in some cases, for women who were abused by a family member, with these women exhibiting virtually no relationship between multiple aspects of sexual functioning and sexual distress. None of these results were changed when controlling for adult sexual abuse suggesting that we are seeing the effects of *childhood* sexual abuse specifically. These results underscore recent findings showing that sexual functioning is not synonymous with one's sense of sexual well-being (Hayes, Dennerstein, Bennet, & Fairley, 2008; Shifren et al., 2008; Stephenson & Meston, 2010b) and suggest that the population of women with a history of CSA may be partially driving this phenomenon.

These findings build on earlier qualitative work suggesting a disconnect between sexual functioning and distress for women with a history of CSA (Westerlund, 1992) by showing quantitatively that these women tend to report high sexual distress even when experiencing high levels of sexual function. These results also suggest that the increased risk of clinically diagnosable sexual dysfunction in women with a history of CSA may be due more to differences in emotional reactions to sexual response than to differences in sexual functioning per se. This interpretation is supported by a number of studies that have found no significant difference in physiological arousal between women with and without a history of CSA (Meston, Rellini & Heiman, 2006; Rellini & Meston, 2011; Schloredt & Heiman, 2003). This is not to suggest that women with a history of CSA do not experience worse sexual function on average; rather, that they may experience even more distress regarding sexual activity and that many may experience clinically relevant levels of sexually related distress even in the context of "normal" sexual functioning.

These findings also raise the important question of *why* sexual functioning and sexual distress are weakly related in women with a history of CSA. While answering this question is beyond the scope of the current study, past research suggests a number of potentially complimentary possibilities, each of which can be examined in future studies. One straightforward explanation is that, while sexual distress has been shown to be contingent on a number of factors besides sexual functioning for most women (Bancroft et al., 2003), these contextual factors may be relatively more important for women with a history of CSA. For example, women with a history of CSA report worse social functioning than women without this history (Abdulrehman & De Luca, 2001; Tong, Oates, & McDowell, 1987), especially in intimate relationships (Mullen, Martin, Anderson, & Romans, 1994). Given their comparative lack of social support, factors like intimacy and trust may take on additional meaning for women with a history of CSA, making these factors more important in determining how distressing sexual activity is, overshadowing the effects of sexual functioning.

Another possibility is that women with a history of CSA may exhibit unique cognitive and affective processes surrounding their sexuality. As mentioned above, clinical experts have suggested that women with a history of CSA may lack a sense of ownership of their bodies, especially their sexual responses (Heiman, 2007) making physical aspects of sexual response less likely to strongly affect subjective well-being one way or another. Additionally, women with a history of CSA often experience psychological dissociation or flashbacks to the abuse during sexual activity (Hall, 2007). As such, many of these women may have limited awareness of their level of sexual response, making it much less likely that their level of functioning would strongly affect their level of distress.

There is also a large body of research suggesting that women with CSA histories are more likely to filter sexual experiences through negative self and sexual schemas and, as such, are much more likely to experience negative affect such as guilt, regret, and disgust during sexual arousal (Schloredt & Heiman, 2003; Wenninger & Heiman, 1998). These negative schemas are thought to stem from the shame and violation of trust that is often tied to early abuse experiences. The resulting negative reaction to sexual activity and one's own sexual "energy" (Matlz, 2001) not only makes it more difficult for these women to view themselves as sexual beings (Meston et al., 2006), but also may eliminate the positive effects of good sexual functioning. While women without a history of abuse may experience their own sexual response as pleasant and exciting, these same physical and mental responses may be seen as dangerous, shameful, and disgusting by women with a history of CSA. In effect, women with abuse histories may experience a "double bind" wherein low levels of functioning are distressing because they disrupt sexual activity while high levels of functioning are distressing because of the negative emotional response they

illicit. We would expect this pattern to be even more distinct for women abused by a family member because intrafamilial abuse tends to occur more frequently and over a longer period of time (Browne & Finkelhor, 1986), and represents a more salient violation of trust (Beitchman et al., 1992), causing sexual responses to be even more closely tied to feelings of guilt and anxiety. The pattern of our current data, wherein women with a history of CSA (especially those abused by a family member) showed high levels of sexual distress in the context of both high and low sexual function, corresponds well to this interpretation.

The current study had a number of limitations common to all studies utilizing self-report data including possible social desirability (Meston, Trapnell, & Gorzalka, 1998) and retrospective recall biases (Levine & Safer, 2002). Additionally, although our measures (FSFI, THQ) are validated and widely used, they come with a number of limitations. For example, although the FSFI is considered a "gold standard" for assessing female sexual function (Sand, Rosen, Meston, & Brotto, in press), it does not differentiate between vaginal intercourse and other types of sexual activity such as oral sex. Given recent findings showing that different types of sexual activity may be differentially related to sexual and overall well-being (Brody & Costa, 2009), it will be important to test whether the results presented here apply equally to all varieties of sexual activity. Additionally, while the THQ is considered an excellent measure due to its comprehensive assessment of traumatic and stressful life events, the measure does not address feelings typically associated with trauma, including fear and helplessness (Norris & Hamblen, 2004), nor does it measure the length and severity of the trauma experienced, factors which will be important to incorporate into future studies in this area. Also, a number of additional factors not measured in the current study may be important to consider when examining the link between sexual functioning and sexual distress. For example, CSA has been linked to lower frequency of sexual activity (Dennerstein et al., 2004), which could also account for the moderating effect of a history of abuse.

A number of the characteristics of the sample also limit the generalizability of the findings. First, each member of our sample was in a sexually active relationship. Although assuring that participants are sexually active is recommended when using the FSFI (Meyer-Bahlburg & Dolezal, 2007), it is quite possible that the associations measured in the current study may differ for women who are single and/or sexually inactive. Second, women taking part in the study reported some form of sexual functioning difficulty, meaning that the population of women with no sexual functioning difficulties is not represented. However, given that up to 58% of women report at least 1 recurrent difficulty with sexual functioning in the past year alone (Hayes et al., 2006) and that occasional difficulties with sexual functioning are almost universal (e.g., very few women reach orgasm during intercourse 100% of the time), we are hopeful that this specific inclusion criterion does not overly limit the generalizability of the results. Indeed, a number of women in our sample reported the highest possible levels of sexual functioning in a number of areas. Specifically, 14% reported the highest possible sexual desire score, 12.7% reported the highest possible sexual arousal score, 17.5% reported the highest possible lubrication score, and 9.9% reported the highest possible orgasm score (in each case a score of 6 on the corresponding FSFI subscale). Thus, while our sample is likely different from the general population in that each woman reported at least one area of impaired sexual functioning, there was adequate representation of the full range of sexual functioning as measured by the FSFI. Third, the present study included only women with "contact" forms of sexual abuse, such as, penetration, fondling, and so on. It is possible that other types of abuse (e.g., verbal abuse) would differentially affect the link between sexual functioning and distress and it will be important to examine these types of experiences in future studies.

We also urge caution in interpreting our null findings regarding group differences based on the type of CSA experienced due to the relatively low levels of statistical power for these analyses. For example, our sample included only 20 women whose abuse did not include penetration meaning that we would be unable to detect small or moderately sized differences between these groups. Lastly, experts in the field of psychology have outlined the difficulties inherent in testing and interpreting moderational relationships between variables when predictor variables are correlated with moderating variables (Kraemer, Stice, Kazdin, Offord, & Kupfer, 2001). As such, additional research is needed testing alternate models of the association between the factors explored here (we did examine a potential mediational model using the current data set, with sexual functioning mediating the association between CSA status and sexual distress, however, linear regressions and a Sobel test suggested no significant mediation).

Despite these limitations, the current findings have a number of important clinical implications. Firstly, our findings suggest that the initial target of treatment for female sexual dysfunction may differ depending on whether the client presents with a history of childhood sexual abuse. As discussed above, women who have been abused are more likely to experience shame and anxiety surrounding their own sexual responses. As such, implementing interventions to increase levels of functioning (e.g., directed masturbation, sensate focus, testosterone, etc.) may be contraindicated for these women because increasing their level of sexual response may actually increase their level of distress. It may be necessary in these cases to first address the woman's view of her own sexual functioning before implementing interventions to improve it. This suggestion mirrors the pioneering work of Wendy Maltz, whose hierarchy of sexual interaction (Matlz, 2001) posits that sexual energy, including one's own sexual response, can be channeled positively (i.e., as an indication of trust, caring, and emotional intimacy) or negatively (i.e., as an indication of danger and pain). For women with a history of abuse, the initial steps of treatment will often involve working with the client to move away from these negative interpretations of sexual activity and towards a goal of "authentic sexual intimacy". Indeed, attempting to immediately improve the sexual functioning of a woman with a history of abuse may akin to amplifying this sexual energy without first determining its valence, potentially increasing her distress surrounding sex rather than decreasing it.

Given that a high level of sexual functioning does not necessarily equate to a lack of sexually related distress for women with a history of CSA, we would expect that clinical interventions aimed specifically at improving sexual functioning may be less effective for this population both on the individual and aggregate levels. In support of this hypothesis, one recent trial found that women with a history of CSA showed less response to pharmacotherapy aimed at alleviating difficulties with genital arousal (Berman et al., 2001). One of the most interesting findings of this study was that, for women who did report increased genital arousal, 70% of those without a history of CSA found this change pleasant and satisfying while only 29% of those with a history of CSA viewed these changes positively (42% viewed them as neither pleasant or unpleasant). These findings complement our results in suggesting that changes in sexual functioning alone may not translate into positive clinical gains for women with a history of CSA.

Alternative treatments that specifically target the subjective experience of one's sexual response may be more beneficial for women with a history of CSA. Indeed, a recent clinical trial of a mindfulness-based psychoeducational intervention for women with sexual arousal disorder (Brotto, Basson, & Luria, 2008) found that women with a history of CSA improved significantly more than other participants on a number of factors including sexual distress and negative affect despite showing no significant increase in genital arousal as measured by vaginal pulse amplitude. These results further support our suggestion that cognitive and evaluative processes may be more important than sexual functioning per se in determining levels of sexual distress for women with a history of CSA. However, it is important to note that these clinical recommendations are not meant to apply to every client. Indeed, past research has found that, especially in college samples, a history of CSA may not be linked to negative outcomes (Schloredt & Heiman, 2003). In general, it is often best to openly explore issues surrounding abuse and sexual functioning with clients. For example, Heiman (2007) recommends using a question such as "What would it mean to you if you had no more orgasm difficulties?" She finds that reactions to this question can vary from "I would feel powerful" to "I would feel vulnerable". These different responses would likely indicate whether immediate attempts to improve levels of functioning are warranted.

In sum, the current study demonstrates that a history of CSA serves as an important moderator of the association between sexual functioning and sexual distress in women such that sexual functioning is more weakly associated with distress for women with a history of CSA. In contrast to previous studies identifying circumstances in which sexual distress remains low despite poor functioning (Stephenson & Meston, 2010b), we have highlighted a case where sexual distress is high despite high levels of sexual functioning. Both situations underscore the fact that sexual functioning does not equate to a sense of sexual well-being for women and that, to fully understand the factors underlying women's sexual experiences, we must take into account important contextual factors that determine when and why sexual functioning may or may not be of central importance.

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