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Avoiding Experiences: Sexual Dysfunction in Women with a History of Sexual Abuse in Childhood and Adolescence

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Abstract Women with a history of sexual abuse during childhood/adolescence experience a high rate of sexual dysfunction. Evidence also suggests that they often use avoidant coping strategies, such as substance abuse, dissociation, and emotional suppression, which are likely factors implicated with their psychopathology. There is a dearth of information on potential psychological mechanisms affecting the sexuality of these women. Therefore, it is relevant to investigate whether avoidance, an important cognitive mechanism associated with anxiety disorders, relates to sexual functioning in this population. In this study, participants with ($N = 34$) and without ($N = 22$) a history of sexual abuse prior to age 16 years completed questionnaires on severity of sexual abuse, sexual functioning, and a tendency to avoid experiences. A three-step hierarchical regression investigated the effects of childhood/adolescent sexual abuse and avoidance tendencies on different aspects of sexual functioning. A significant interaction between childhood/adolescent sexual abuse and avoidance tendencies was found for orgasm function, with the combination of sexual abuse and avoidance tendencies explaining lower orgasm function. These findings suggest that, for women with a history of early sexual abuse, the tendency to avoid interpersonal closeness and avoid emotional involvement predicts orgasm functioning.

Keywords Avoidance · Childhood sexual abuse · Female sexual function · Orgasm function

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Introduction

Survivors of childhood/adolescent sexual abuse (here abbreviated as CSA) are more likely to experience an array of psycho logical dysfunctions as a result of their early trauma, including depression, anxiety, posttraumatic stress disorder (PTSD), impaired self reference, and dissociation (Banyard, Williams, & Siegel, 2001; Coffey, Leitenberg, Henning, Turner, & Bennett, 1996; Gratz, Bornovalova, Delany-Brumsey, Nick, & Lejuez, 2007; Leonard & Follette, 2002; Merrill, Thomsen, Sinclair, Gold, & Milner, 2001; Shapiro & Levendosky, 1999; Steel, Sanna, Hammond, Whipple, & Cross, 2004; Ullman, Townsend, Filipas, & Starzynski, 2007). In fact, sexual abuse was included in the *Diagnostic and Statistical Manual of Mental Disorders* (American Psychiatric Association, 1994) as a significant factor in the development of a variety of psychological symptoms in adulthood (Steel et al., 2004).

Researchers have also shown an increasing interest in the relationship between a history of CSA and sexual dysfunction (for a review, see Leonard & Follette, 2002). Among the different types of female sexual dysfunctions in CSA survivors, Leonard, Iverson, and Follette (2008) found that problems with orgasm were the most commonly reported, with 45% of participants with a history of CSA falling within the clinical range of orgasm dysfunction as diagnosed utilizing the Derogatis Interview for Sexual Functioning (DISF; Derogatis, 1997). However, it is important to note that, despite rates of sexual difficulties being higher among women with a history of CSA than in the population at large, a large portion of women with a history of abuse are able to have functional and satisfactory sexual experiences (Loeb et al., 2002; Merrill et al., 2001; Rellini & Meston, 2007; Steel et al., 2004; Tremblay, Hebert, & Piche, 1999), indicating that sexual abuse may interact with other factors to increase risk for sexual dysfunction in adulthood. While there is a wealth of research on the relationship between CSA and

adult sexual and psychological well-being (e.g., Leonard & Follette, 2002; Steel et al., 2004; Tremblay et al., 1999), a paucity of studies have attempted to test factors that may interact with a history of CSA, such as physiologic, cognitive, and affective responses, in the development and maintenance of sexual dysfunction in CSA survivors (Rellini, 2008).

Recently, researchers have started to address individual differences that may mediate or moderate the relationship between a history of CSA and adult sexual functioning. In particular, researchers have focused on individual differences that are malleable (changeable) and therefore can be addressed through treatment. Studies on mental health outcomes of adults exposed to sexual trauma have identified a number of these malleable characteristics, including the cognitive evaluation of the abuse and related events, attributional styles, self-blame and guilt, support resources, and coping styles (Banyard et al., 2001; Leonard & Follette, 2002; Merrill et al., 2001; Steel et al., 2004; Tremblay et al., 1999). On the other hand, research on treatment development has found abundant evidence of the negative effects of avoidance behavior; in particular, the literature has focused on experiential avoidance (Chawla & Ostafin, 2007).

Experiential avoidance is the unwillingness to experience negatively-evaluated private events, such as thoughts, feelings, sensations or memories. An individual uncomfortable with interoceptive experiences (i.e., physiological changes, such as increased heart rate and perspiration) has the tendency to make subsequent attempts to reduce, numb or alleviate these experiences (Batten, Follette, & Aban, 2001). Attempts to numb the experiences include developing chronic worries, dissociating, consuming alcohol, binge-purge eating or self-harming behaviors (Chawla & Ostafin, 2007; Rosenthal, Rasmussen Hall, Palm, Batten, & Follette, 2005). While the tendency to use avoidance to cope with negative affectivity caused by memories of the abuse may at first provide some relief from trauma-related stress, avoidance has been identified as a prominent risk factor for psychological problems in trauma survivors (Holtforth, 2008).

The categorization of human behavior into avoidant and approach behavior has a long history (Democritus, 460–370 BC), starting with the observation that the guide for human action is the immediate pursuit of pleasure and the avoidance of pain. Furthermore, the approach-avoidance distinction has been present in the field from the early stages of scientific psychology, when James described pleasure as a "tremendous reinforcer" and pain a "tremendous inhibitor" of behavior (Elliot, 2006). Today, the approach-avoidance distinction is present in all of the major theoretical psychological traditions, including psychoanalytic, behaviorist, humanistic, cognitive, and biological theories (Elliot & Covington, 2001). It should be noted that, while avoidance may be associated with impairments in mental health and functioning, it is not always construed as a problematic behavioral response within these theoretical approaches.

Approach and avoidance behaviors are basic instinctual forces; however, individual differences exist in the amount people tend to use them in their daily lives. Individuals who are more "hard-wired" to avoid threats often react with avoidance behavior in situations when danger is not imminent or not real. Paradoxically, this over-utilization of avoidance can lead to negative outcomes because avoidance strengthens the fear beliefs (Elliot, 2006). Holtforth (2008) illustrated this paradox in two ways: first, in deliberate avoidance, the object being avoided becomes more accessible in the mind and exerts a stronger negative influence on mental functioning. Secondly, while avoidance behaviors may solve the present problem, they might lead to other problems with negative long-term effects, such as a woman who avoids confronting her spouse with her desire for another child. The avoidance of the conversation may initially prevent conflict, but, in the end, may cause decreasing marital satisfaction or depression (Holtforth, 2008).

In order to apply the concept of general avoidance tendencies to sexual function, let us consider a woman who has experienced sexual abuse and who has a tendency to over-utilize avoidant behavior. Memories of the sexual abuse may increase negative affect preceding or during sexual activities. Indeed, studies have reported that some CSA survivors experience guilt about feeling sexual desire or arousal (Davis & Petretic-Jackson, 2000; Walser & Kern, 1996). Because of the tendency to avoid negative emotional experiences, the woman may be more likely to disregard the appetitive aspect of the sexual experience and may, therefore, experience difficulties becoming sexually aroused or reaching an orgasm [this would be in agreement with Barlow's (1986) model of sexual arousal dysfunction]. In the future, the woman may choose to engage in avoidant behaviors (i.e., dissociation, distractions or avoiding sexual activities all together) in an attempt to prevent experiencing the unpleasant sensations associated with the sexual stimulation. Over time, avoidance could lead to the strengthening of the association between the negative affectivity and the sexual stimulation and this, undoubtedly, would lead to sexual dysfunctions, including problems becoming sexually aroused, reaching orgasm or experiencing desire. On the other hand, a woman with a similar history of CSA but who has a general tendency to select approach or appetitive behaviors may be more focused on the pleasure derived from the sexual experience and may be less likely to focus on the negative affectivity. By focusing on the positive sexual cues, sexual arousal would increase and eventually lead to an enjoyable sexual experience.

To date, only a few studies have focused on the potential effects of avoidance on sexual function and satisfaction in CSA survivors. Merrill, Guimond, Thomsen, and Milner (2003) found that women with a history of CSA who reported using more avoidant coping strategies immediately following their childhood sexual experiences also reported higher levels of sexual concerns and lower numbers of sex partners than those women who relied less on avoidant coping strategies. In their study, the measure of avoidance was specific to avoidance of trauma-related memories and the measure of sexual functioning was derived from two subscales of a 100-item measure of psychological sequelae of

trauma, the Trauma Scale Inventory (Briere, Elliott, Harris, & Cotman, 1995), that only indirectly addressed sexually relevant constructs. Other research reports that experiential avoidance following childhood trauma was related to sexual satisfaction, but no information was available on sexual function (Leonard et al., 2008; Polusny & Follette, 1995). While these studies provide important preliminary results, the replication and extension of these findings is warranted. In particular, the present study aimed at adding to the extant literature by utilizing a more sophisticated measure of sexual functioning and measuring general avoidance tendencies rather than the more focused avoidance of trauma-related activities or abstinence from sexual activities used in previous studies.

Individual differences in the tendency to avoid or pursue experiences were measured with the Pursuing-Distancing Scale (P-D Scale), the first reliable and valid questionnaire to assess an individual's general tendency to approach or avoid interpersonal contact (Bernstein, Santelli, Alter-Reid, & Androsiglio, 1985). Pursuing represented connectedness and togetherness (approach) while Distancing represented individuality, privacy, and avoidance of emotional involvement for self-protection (avoidance). Based on evidence that individuals vary in their tendency to approach or avoid (Carver, Sutton, & Scheier, 2000), that avoidant behavior has been shown to have negative psychological outcomes, such as increased anxiety symptoms (Holtforth, 2008), and that CSA severity predicts adult sexual dysfunction in some, but not all, individuals (for a review, see Rellini, 2008), it was hypothesized that a more severe history of CSA would predict overall greater avoidance tendencies. It is important to note that, in agreement with previous studies criticizing the variability of CSA definitions in the literature and advocating the need for a continuous measure of CSA severity (Roosa, Reyes, Reinholtz, & Jo Angelini, 1998; Slep & Heyman, 2004), we utilized a measure of CSA severity rather than a categorical variable. Second, we hypothesized an interaction effect of avoidance and CSA severity on sexual functioning; among women with more severe CSA, levels of avoidance were expected to predict greater sexual problems while for women with no or lower severity of CSA the relationship between avoidance and sexual functioning was not expected to be significant. Relevant to sexuality, there is a paucity of research focused on individuals who are high on *both* approach and avoidance. For this reason, we conducted exploratory analyses but made no empirically based prediction on what would happen when an individual high in avoidance was also high in approach.

Method

Participants

Participants were 32 adult women with a history of CSA and 22 adult women with no history of CSA (NSA) recruited from a medium-sized urban community through newspaper advertisements and fliers. During a phone screening to assess inclusion and exclusion criteria, participants were asked whether they had any unwanted sexual experience before the age of 16 when their genitals were touched or penetrated by somebody five or more years older (using Finkelhor, Hotaling, Lewis, and Smith's [1989] definition). People who answered positively were included in the CSA group. Individuals who had unwanted sexual experiences that did not include genital touching or penetration or women who had unwanted sexual experiences only after age 16 were excluded from the study. Women who denied any unwanted sexual experience at any point in their lives were included in the NSA group. The accuracy of inclusion criteria was checked at the end of the study when participants were asked, during a clinical interview, to give a general description of any unwanted sexual experience to confirm they were included in the right group. To be part of the study, participants were required to be pre-menopausal, proficient in English, and currently sexually active. Only participants between the ages of 25 and 35, were included in the study. The lower bound for age was included in order to exclude women with sexual dysfunction, especially orgasm dysfunction, resulting from a lack of experience and to allow enough time for corrective sexual experiences following abuse. Exclusion criteria of all participants included having experienced trauma within the past 3 months, being currently involved in a sexually abusive relationship or currently taking beta blockers or anxiolytic medications. Furthermore, participants were excluded if they had active symptoms of schizophrenia, delusions, hallucinations or bipolar disorder within the past 6 months, due to the impact these psychiatric disorders have on a participant's ability to reliably answer questions.

The average age for participants with no history of CSA was 27.6 years (SD = 2.79; range, 25–33) and 77.3% reported an annual household income ≤$50,000. The majority of the people in the sample were Caucasian women in a committed relationship with at least some college education (see Table 1).

The average age for participants in the CSA group was 30.25 years (SD = 5.58; range, 24–44) and 90.6% of participants reported an annual household income of $50,000 or lower. The NSA group, on average, was 3 years younger than the CSA group, a difference that was statistically significant, $t(52) = -2.02$, $p < .05$ (see Table 1). The type of abuse survivors experienced was evaluated using the Child Sexual Abuse Measure (CSAM) (adapted from Finkelhor et al. [1989]), which addressed coerced acts perpetrated by a person at least 5 years older that occurred before the age of 16, including sexual kissing and hugging, exposure or fondling of the genitals, and vaginal, oral, and anal penetration. In our sample, unwanted sexual acts by a stranger were uncommon, while forced sexual activities by an acquaintance were most often reported. In terms of the specific sexual acts, unwanted sexual touching of the genitals was most frequently reported in our sample, and anal penetration was the most infrequent (see Table 2).

Table 1 Demographic characteristics as a function of group

Group	NSA $N=22$ M (SD)	CSA $N=34$ M (SD)	t
Age	27.6 (2.8)	30.3 (5.9)	2.0*
	N (%)	N (%)	χ^2
Education			4.8*
Some college or more	22 (100.0)	25 (78.1)	
Relationship status			3.6
Single	2 (9.1)	3 (9.4)	
Dating	2 (9.1)	7 (21.9)	
Committed relationship	15 (68.2)	14 (43.8)	
Married	3 (13.6)	8 (25.0)	
Income ≤$50,000	17 (77.3)	29 (90.6)	1.8
Ethnicity			
White	15 (68.2)	26 (81.3)	1.2
Non-White	9 (42.9)	9 (28.1)	1.2

* $p<.05$

Table 2 Frequency and percentage of different type of sexual abuse reported by women in the CSA group ($N=34$)

Relationship with perpetrator	Stranger N (%)	Acquaintance N (%)	Family N (%)
Sexual touch	1 (3.1)	25 (78.1)	21 (65.6)
Vaginal intercourse	0 (0.0)	19 (59.4)	2 (6.2)
Oral sex	0 (0.0)	22 (68.8)	11 (34.4)
Anal penetration	1 (3.1)	1 (3.1)	2 (6.2)

Note: Multiple types of abuse were common and cells are not mutually exclusive

Measures

Sexual Abuse

The Childhood Trauma Questionnaire (CTQ) (Bernstein & Fink, 1998) and the Childhood Sexual Abuse Measure (CSAM; adapted from Finkelhor et al. [1989]) were used to assess a history of sexual abuse during childhood and/or adolescence. The CTQ is a 60-item scale developed to assess childhood physical, sexual, and emotional abuse as well as physical and emotional neglect. Responses to questions beginning "When you were growing up" were reported on a 5-point Likert type scale, with higher answers indicating more perceived CSA severity. Internal consistency estimates were high for each of the four factors (Cronbach's αs = .79–.94) and the whole scale ($\alpha=.95$). Test–retest reliabilities were good for the individual factors (.80–.83) and the whole scale (.88) (Bernstein & Fink, 1998). For this study, the main CTQ variable utilized was the sexual abuse subscale (CTQ-SA).

We utilized the CSAM to collect data on the type of sexual abuse experienced by the participants. The CSAM is a 13-item survey of childhood/adolescent experiences involving specific sexual activities that are used to measure type of abuse, duration and severity of abuse, and the survivor's relationship to the abuser. Participants were asked to respond to each question with experiences prior to the age of 16 and women with a history of CSA were asked to identify their age at the time of their first abuse and last abuse experiences. These data were used for descriptive purposes.

Sexual Function

The Female Sexual Function Index (FSFI) was used to assess sexual problems (Rosen et al., 2000). The 19 item scale is divided into six domains: Desire, Arousal, Lubrication, Orgasm, Satisfaction, and Pain. The FSFI has high test–retest reliability ($r=$ .79–.86) and high internal consistency with Cronbach's $\alpha>.82$. Responses are indicated using a 1–5 likert scale. Researchers have determined a cut-off score for FSFI-total to be 26.5 for distinguishing sexual function from dysfunction, with scores lower than the cut-off signifying dysfunction (Wiegel, Meston, & Rosen, 2005). For this study, we utilized the Desire, Arousal, and Orgasm factors of the FSFI given their adequate sensitivity and specificity to discriminate between people with clinical levels of sexual dysfunction.

Approaching and Avoiding

The P-D Scale was used to assess the individual tendency to approach (Pursuing) or avoid (Distancing) experiences (Bernstein et al., 1985). The 80-item questionnaire specifically measures the preferred manner of interpersonal contact in regards to Pursuing and Distancing in six domains: Cognitive, Emotional, Social style, Communicative, Sensation seeking, and Withholding tendency (anality). Participants were asked to indicate whether they agreed with statements by circling "yes" or "no." Examples of items on the P-D are: "When I talk to people, I like to make frequent eye contact" (Pursuing), "I find it easy to trust people" (Pursuing), and "I find entertaining at my house a burden" (Distancing). In the original validation study, internal consistency for item to total score had a mean point-biserial correlation of .31, and internal consistency for item to domain had a mean point-biserial correlation of .46, suggesting that Pursuing and Distancing were separate constructs. Scores on this scale were correlated with the Rathus Assertiveness Scale, the Zuckerman Sensation-Seeking Scale, Form V, the Eysenck Personality Inventory extraversion score, and the Bem Sex Role Inventory (Santelli, Bernstein, Zborowski, & Bernstein, 1990), and a significant negative point-biserial correlation between marital status and Distancing scores indicated appropriate convergent validity (Bernstein et al., 1985). This scale provides a comprehensive measure of the tendency to avoid experiences (Distancing) in a

variety of situations and therefore was able to capture a snapshot of the individual's general avoidance tendency.

Physiological Sexual Arousal (VPA)

Vaginal responses to neutral and erotic videos were assessed using vaginal photoplethysmography (Geer, Morokoff, & Greenwood, 1974). This tampon-size device, equipped with a placement bar to standardize the position of the probe, utilizes a light source and a light detector to measure changes in the amount of light deflected from the capillary bed of the vaginal wall. During states of sexual arousal, the vasoengorgement of the genitals changes the amount of light deflected and this provides an indirect measure of physiological sexual arousal. The vaginal pulse amplitude (VPA) signal was sampled 80 times/s and the amplitude of each pulse wave was recorded in millivolts (mV). An increase in signal amplitude indicates change in deflected light and therefore an increase in physiological sexual arousal. In agreement with standardized methodologies to analyze these psychophysiological data (Prause & Janssen, 2006), data reduction consisted of computing the average of the VP signal during 30 consecutive seconds of maximum pulse amplitude (peak-to-trough distance) during the erotic video and during the neutral video. We eliminated movement artifacts using visual inspection of the data. The percentage of increase in pulse amplitude based on the individual's baseline was then utilized as the outcome variable, a method known as Max Difference.

Continuous Subjective Sexual Arousal (SSA)

Continuous SSA was measured using the Arousometer, a computer optical mouse (Intellimouse by Microsoft®) mounted on a wooden track divided into ten intervals, from 1 to 10. Participants were instructed that 1 corresponds to "not sexually aroused" and 2–10 reflects increasingly higher levels of feeling sexually aroused. Slight resistance provided by the Arousometer allowed participants to monitor the level of arousal they indicated without having to focus their attention away from the television screen. Units of movement from 1 to 10 in the Arousometer were recoded in a scale ranging from 0 to 100.

Videos

The neutral and erotic video sequence was 15 min long with the word RELAX appearing on the screen for 1 min, followed by 4 min of neutral video (a travel video), and 10 min of an erotic video. The erotic video was selected from a library of videos produced and directed by women because past studies indicated that these videos are more successful at producing both physiological and subjective sexual responses in women (Laan, Everaerd, Van Bellen, & Hanewalk, 1994). The videos selected have previously shown to increase sexual arousal in women with and without a history of sexual abuse (Rellini & Meston, 2006).

Procedure

Advertisements were posted throughout the community to recruit sexually active individuals with a variety of CSA severity and with no history of CSA. After a phone screening to determine eligibility, each participant was individually invited to the laboratory where she was administered informed consent documents and was explained in detail the procedures and devices used during the study. The participant was then instructed on how to insert the vaginal photoplethysmograph and was left in a private room to view the neutral and erotic video sequence. While viewing the video sequence, the participant was asked to indicate her subjective level of sexual arousal using the Arousometer. Following the videos, the participant was administered the questionnaires. The last task was a clinical interview completed to assess history of sexual abuse. The entire study took approximately 1.5 h. Upon completion of the study, participants were compensated $50 and debriefed.

Analytical Plan

Three ANCOVAs were computed to measure between-group differences for Pursuing and Distancing when controlling for age (covariate). The FSFI Desire, Arousal, and Orgasm subscales (dependent variables) were regressed on mean centered CTQ-SA, Pursuing, and Distancing (Step 1) and the interaction effects CTQ-SA × Pursuing and CTQ-SA × Distancing (Step 2). Since age was significantly different for the CSA and the NSA groups, the analyses were computed with and without age as a control variable in Step 1. Given that the results were the same independently from the presence of age in the model, results are presented only for the models without age. An analysis of β coefficients provided information on the unique contribution of each variable to the model. Significant ΔFs for Step 2 were interpreted as an indication of significant additive effects of the interaction variables. Significant interactions were followed by an analysis of simple slopes computed using 1 SD above and below the mean for the moderators.

Results

ANCOVA analyses showed no significant difference in Pursuing or Distancing between women in the NSA and CSA groups (Table 3). Similarly, there were no significant differences on any domain of the FSFI between the NSA and CSA groups. As expected, the two groups differed in CTQ-SA. All

Table 3 Mean comparisons on the outcome variables between CSA and NSA

Group	NSA *M* (SD)	CSA *M* (SD)	*F*
FSFI			
Desire	4.6 (0.9)	4.2 (1.2)	1.1
Arousal	5.0 (1.0)	4.5 (1.0)	2.7
Lubrication	5.5 (0.8)	5.0 (0.9)	4.0
Orgasm	4.8 (1.1)	4.5 (1.2)	<1
Satisfaction	4.4 (1.6)	4.0 (1.4)	1.3
Pain	5.6 (0.9)	5.2 (1.1)	2.5
Pursuing	28.3 (5.6)	26.8 (6.0)	2.0
Distancing	15.5 (4.6)	16.9 (6.1)	2.4
VPA	2.4 (2.0)	1.7 (2.0)	2.0
SSA	72.0 (27.8)	80.5 (27.3)	<1
CTQ-SA	35.9 (7.7)	66.7 (22.5)	32.6*

CSA Childhood Sexual Abuse, *CTQ-SA* Childhood Trauma Questionnaire-Sexual Abuse, *NSA* no history of sexual abuse, *FSFI* Female Sexual Function Index, *SSA* subjective sexual arousal, *VPA* vaginal pulse amplitude

* $p < .01$

variables showed no significant deviation from the normal distribution.

A two-step linear regression of FSFI-Desire (sexual desire functioning) showed that the main and interaction effects for CTQ-SA, Pursuing, and Distancing were not significant (Table 4).

FSFI-Arousal was significantly predicted by Step 1 (CTQ-SA, Pursuing, and Distancing), $F(3, 52) = 9.40$, $R^2 = .35$, $p < .05$ (Table 5). An analysis of the beta coefficients in Step 1 showed that both CTQ-SA, $\beta = -.27$, $p < .05$, and Pursuing, $\beta = .48$, $p < .01$, provided a unique and independent contribution to FSFI-Arousal, with greater CSA severity predicting lower FSFI-Arousal and greater Pursuing predicting higher FSFI-Arousal. The second step of the model showed a trend towards a significant additive explanation of FSFI-Arousal, $\Delta F(2, 50) = 2.95$, $p = .06$. An analysis of the β coefficient showed a significant interaction effect for CTQ-SA × Pursuing, $\beta = -.39, p < .05$. An analysis of simple slopes (Fig. 1, top panel) showed that greater Pursuing was significantly associated with greater FSFI-Arousal but only for women with mild levels of CTQ-SA. The relationship between Pursuing and FSFI-Arousal appeared to lose significance as the CTQ-SA became more severe.

The two-step model where FSFI-Orgasm was regressed on CTQ-SA, Pursuing, and Distancing (Step 1) showed a trend-like effect, $F(3, 50) = 2.58$, $p = .06$ (Table 5). Step 2 (CTQ-SA × Pursuing and CTQ-SA × Distancing) added a unique and significant contribution to the model, $\Delta F(2, 50) = 3.54$, $\Delta R^2 = .11$, $p < .05$. An analysis of the β coefficients in Step 2 showed that CTQ-SA × Distancing was the only variable able to uniquely explain the variance in FSFI-Orgasm, $\beta = -.45$, *s-r*[1] $= -.30$, $p < .05$. An analysis of simple slopes (Fig. 1, bottom panel) showed that for the women with higher CTQ-SA severity, greater Distancing was significantly associated with lower orgasmic functioning.

Two-step regressions to assess variance in SSA and VPA were not significant (Table 4), indicating that Pursuing, Distancing, and severity of CTQ-SA were not significant predictors of sexual responses as measured in the laboratory (Table 4).

Discussion

The aim of this study was to examine whether severity of CSA would interact with the tendency to avoid or approach interpersonal connectedness, and if this interaction would contribute to greater risk of sexual dysfunction. Our hypotheses were partially supported as we found an interaction between tendency to approach and avoid and CSA severity as they related to sexual arousal and orgasm functioning, respectively. However, we did not find evidence that avoidance tendencies were overall more prominent in people with more severe CSA histories.

The significant interaction between CSA severity and avoidance indicated that the greater the severity of sexual abuse, the stronger the negative relationship between avoidance and orgasm function. This finding suggests that individuals who experienced more severe forms of sexual abuse were at risk for decreased orgasm function if they also had a greater tendency to engage in avoidant behaviors. The less severe the history of sexual abuse and the less avoidance predicted orgasm functioning. This is in line with our hypothesis that avoidant behavior would negatively affect orgasm functioning for individuals who had sexually abusive experiences but not for other women. This interpretation is in agreement with previous findings showing that avoidance coping strategies (Merrill et al., 2003) and experiential avoidance (Leonard et al., 2008) predicted higher levels of sexual concerns in CSA survivors. It is plausible that avoiding experiences leads to avoidance of potentially corrective sexual experiences, which, for the women with more severe forms of CSA, would mean the maintenance and reinforcement of memories of negative sexual experiences. It is noteworthy that avoidance of corrective sexual experiences can occur not only through abstinence from sexual activities, but can also happen through the use of distraction, dissociation and the use of substances, such as alcohol, to alter awareness during sexual activities. Therefore, although women with more severe CSA histories on average have more lifetime partners than other women, the high frequency of their sexual

[1] *s-r* is the abbreviation for semi-partial coefficient, a measure of the unique effect of the predictor on the outcome variable.

Table 4 Predictors of sexual desire, physiological sexual arousal, and subjective sexual arousal

Outcome variable	FSFI-Desire			VPA			SSA		
	ΔR^2	β	*s-r*	ΔR^2	β	*s-r*	ΔR^2	β	*s-r*
Step 1	.12			.03			<.01		
CTQ-SA		−.23	−.23		−.05	−.05		.03	.03
Pursuing		.23	.16		−.09	−.06		−.01	−.01
Distancing		.02	.01		−.21	−.15		.05	.03
Step 2	.06			.01			.03		
CTQ-SA		−.25	−.25		−.05	−.05		.02	.02
Pursuing		.17	.12		−.10	−.07		−.03	−.02
Distancing		−.02	−.01		−.21	−.15		.05	.03
CTQ-SA × Pursuing		−.37	−.24		−.05	−.03		−.22	−.15
CTQ-SA × Distancing		−.24	−.16		−.14	−.09		−.28	−.19

None of the coefficients reached the significant level at $p < .05$

s-r semi-partial correlations, a measure of effect size; *CTQ-SA* Childhood Trauma Questionnaire-Sexual Abuse; *FSFI-Desire* Desire factor from the Female Sexual Function Index; *SSA* subjective sexual arousal; *VPA* vaginal pulse amplitude

Table 5 Predictors of sexual arousal and orgasm

Outcome variable	FSFI-Arousal			FSFI-Orgasm		
	ΔR^2	β	*s-r*	ΔR^2	β	*s-r*
Step 1	.35***			.13†		
CTQ-SA		−.27*	−.27		−.17	−.17
Pursuing		.49**	.35		.23	.17
Distancing		−.01	−.01		−.09	−.06
Step 2	.07†			.11*		
CTQ-SA		−.29*	−.28		−.16	−.15
Pursuing		.43**	.30		.20	.14
Distancing		−.04	−.03		−.07	−.05
CTQ-SA × Pursuing		−.39*	−.26		−.20	−.13
CTQ-SA × Distancing		−.28	−.19		−.45*	−.30

s-r semi-partial correlations, *CTQ-SA* Childhood Trauma Questionnaire-Sexual Abuse, *FSFI-Arousal* Arousal factor from the Female Sexual Function Index, *FSFI-Orgasm* Orgasm factor from the Female Sexual Function Index

* $p < .05$, ** $p < .01$, *** $p < .001$, † $p < .06$

activities can coexist with a tendency to avoid interpersonal connectedness and the use of avoidance behaviors.

Only a prospective study may be able to explain the direction of the relationship between avoidance behavior and orgasm functioning; however, it may be useful to take into consideration that previous studies on avoidance and anxiety showed that avoidance is a precipitating and maintaining factor in many anxiety disorders (Behar, Dobrow DiMarco, Hekler, Mohlman, & Staples, 2009). If this were an accurate depiction of the relationship between avoidance and orgasm functioning, then we would expect orgasm functioning to improve with more corrective experiences and to fail to improve through the avoidance of

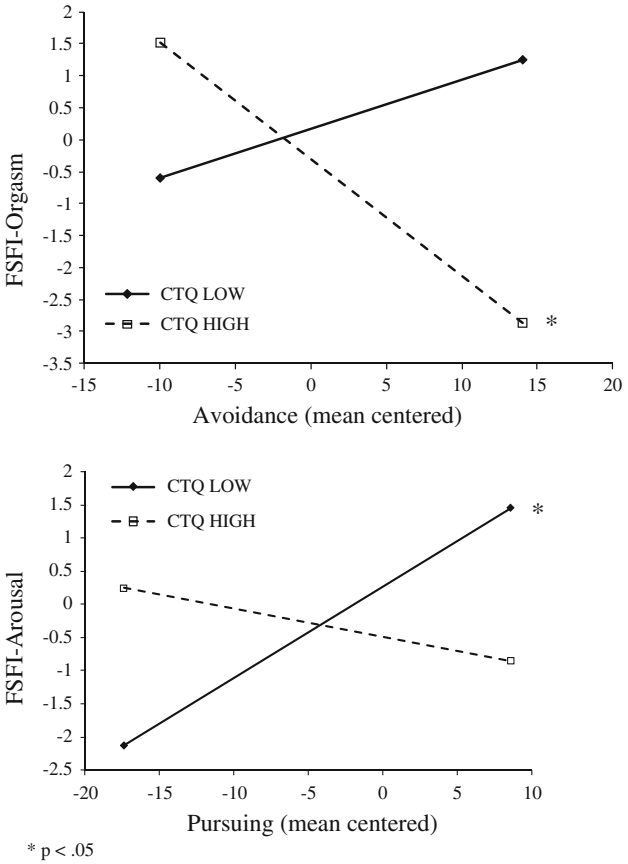

Fig. 1 Visual representation of simple slopes for severity of childhood trauma (CTQ) moderating the relationship between Pursuing and orgasm functioning (FSFI-Orgasm) in the *top panel*, and Avoidance and arousal functioning (FSFI-Arousal), in the *bottom panel*. CTQ low and CTQ high correspond to 1 *SD* below and above the mean, respectively. Independent variables were centered. * Slope is statistically significant, $p < .05$

corrective experiences. This may be feasible given that orgasm dysfunction is commonly treated with directed masturbation (Meston, Hull, Levin, & Sipski, 2004), a technique that relies on giving women the opportunity to practice how to stimulate themselves to orgasm.

Inconsistent with our hypothesis, there were no significant differences in avoidance or approaching tendencies based on CSA severity. Considering the general nature of the scale, it is possible that, although individuals with a more severe history of CSA were more prone to avoid trauma-related experiences, their general tendency to avoid or approach interpersonal connectedness was not different. Indeed, Batten et al. (2001) utilized measures of experiential avoidance and avoidant coping in relation to the trauma and found that women with a history of CSA demonstrated higher scores on Generalized Experiential Avoidance and Specific Avoidance Responses than women without a history of CSA. Future studies that test the relationship between avoidance of general experiences and avoidance of trauma-related events may be able to better explain this discrepancy in results. It is also possible that by excluding women who were not sexually active, we eliminated opportunities to detect one of the types of avoidance (abstinence) and this may have created a bias in our sample. However, it is also worth noting that we would not be able to accurately assess sexual arousal, lubrication, and orgasm in women who abstain from sexual activities with a partner.

Interestingly, results from the current study provide evidence for a trend towards a positive relationship between approaching tendencies and greater sexual arousal function, but only for individuals with no or mild sexual abuse severity. One plausible explanation is that sexual arousal has lost its association with positive rewards (i.e., is no longer pleasant) for women with more severe forms of CSA, and therefore even those who tend to pursue pleasant experiences are not likely to pursue sexual arousal and therefore are not likely to report greater ability and pleasure derived from their sexual arousal.

Relevant to sexual arousal results, avoidance and approaching tendencies were not related to sexual arousal responses measured in the laboratory. It is possible that the lack of a significant finding may be due to contextual differences in the sexual arousal of women tested in the laboratory versus sexual arousal with a partner. For women with more severe CSA, it may be the presence of a partner's body or the sound of his or her voice that triggers memories of the trauma and this may affect sexual responses. Watching an erotic video may feel relatively safe and essentially different from the early trauma and women may not experience sexual difficulties as they would experience in the bedroom. Moreover, the Pursuing and Distancing Scale is mostly focused on assessing avoidance and pursuing in interpersonal connection, a construct that is not present during exposure to a sexual video.

The lack of a significant relationship between approaching or avoiding and desire raises an interesting question. Theoretically, it would be expected that desire would be directly related to approaching. After all, desire can be conceptualized as an interest in pursuing sex. Therefore, individuals more likely to pursue experiences would be expected to have greater sexual desire, and those individuals who avoid would be expected to desire sexual activity less. One plausible explanation for the lack of significance in the model testing desire could be that the desire subscale of the FSFI is not an adequate measure of desire for our purpose. Specifically, the FSFI only asks two questions about frequency and intensity of desire in the previous 4 weeks. Levine (2003) suggests that there are three forces that interact to generate sexual desire: drive (the biological component), motivation (the psychological component), and wish (the cultural component). While frequency and intensity of desire provide a crude assessment of these three components, they do not consider that the psychological component is influenced by interpersonal states and personal mental states, such as tendency to approach or avoid experiences. It may be that a more detailed measurement of desire that distinguishes among drive, motivation, and wish may be better suited to assess differences in approaching and avoiding styles and CSA severity. For example, it is possible that individuals with a more severe history of CSA who score low on the pursuing scale may score high on the wish facet of desire, because although they may wish to engage in sex they do not pursue sexual activities as a result of currently held values and rules about sexual expression that were previously formed, but this would not be detected by a more crude measurement of overall frequency and intensity of desire.

While the present study found support for an interaction between sexual abuse and avoidance on orgasm function, it is important to consider significant stressors other than sexual trauma that may play a role in sexual function in adulthood. Previous studies on post traumatic stress disorder (PTSD) indicate that women with sexual *and* nonsexual traumas are at risk for developing sexual dysfunction (Letourneau, Resnick, Kilpatrick, Saunders, & Best, 1996; Schnurr et al., 2009). For instance, it may be that any significant life stressor or trauma could lead to the development of sexual problems, not only sexual abuse.

It is worth noting that while the present study investigated the relationship between approaching/avoiding, CSA severity, and sexual dysfunction, research indicates that CSA is often predictive of hypersexuality or high-risk sexual behavior (for a review, see Loeb et al., 2002). High-risk sexual behaviors include behaviors that may result in negative sexual outcomes, such as unwanted pregnancy, HIV, and other sexually transmitted infections. Batten et al. (2001) found a significant interaction between extent of CSA history, level of Generalized Experiential Avoidance, and High-Risk Sexual Behavior (operationally defined as behaviors related to HIV risk). While their measure of avoidance focused on experiential avoidance in relation to the trauma, it is plausible that general avoidance tendencies could result in high-risk sexual behavior as well, particularly for CSA survivors. Avoiding interpersonal connections in general could put individuals with a history of CSA at higher risk for more

promiscuous sex and more frequent causal sex, two sexually-relevant variables associated with greater risk for HIV, sexually transmitted infections, unwanted pregnancies and sexual abuse. In the future, it would be interesting and clinically relevant to investigate the relationship between Pursuing and Distancing and high risk sexual behavior.

In summary, data from the present study suggest a moderation effect of CSA severity; in those individuals with more severe forms of CSA, but not those with mild or no CSA, the tendency to avoid becomes manifest in terms of orgasm dysfunction. Furthermore, pursuing had a positive effect on arousal function but only in those individuals with more mild or no CSA. These findings add to the limited literature on explanations for why sexual dysfunction is reported in some CSA individuals and not others. The results have clinical implications suggesting that therapeutic interventions for sexual difficulties could be improved by targeting the tendency to avoid experiences and specifically avoiding interpersonal connections.

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