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Childhood Trauma and Current Psychological Functioning in Adults with Social Anxiety Disorder

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Abstract

Etiological models of social anxiety disorder (SAD) suggest that early childhood trauma contributes to the development of this disorder. However, surprisingly little is known about the link between different forms of childhood trauma and adult clinical symptoms in SAD. This study (1) compared levels of childhood trauma in adults with generalized SAD versus healthy controls (HCs), and (2) examined the relationship between specific types of childhood trauma and adult clinical symptoms in SAD. Participants were 102 individuals with generalized SAD and 30 HCs who completed measures of childhood trauma, social anxiety, trait anxiety, depression, and self-esteem. Compared to HCs, individuals with SAD reported greater childhood emotional abuse and emotional neglect. Within the SAD group, childhood emotional abuse and neglect, but not sexual abuse, physical abuse, or physical neglect, were associated with the severity of social anxiety, trait anxiety, depression, and self-esteem.

Keywords

social anxiety disorder; social phobia; anxiety; trauma; abuse; neglect

1. Introduction

Social anxiety disorder (SAD) is a common (12.1% lifetime prevalence) (Kessler et al., 2005) and often debilitating disorder (Lochner et al., 2003; Schneier et al., 1994) that is characterized by persistent fear of social or performance situations in which an individual is at risk for embarrassment, humiliation, or possible scrutiny by unfamiliar persons (American Psychiatric Association, 2000). SAD affects more than 15 million American adults during any 12-month period (Kessler, Chiu, Demler, Merikangas, & Walters, 2005).

These statistics are particularly compelling in light of evidence suggesting that SAD is associated with significant distress and functional impairment in both work and social domains (Lochner et al., 2003; Rapee, 1995; Schneier et al., 1994; Sherbourne et al., 2010). SAD may be a risk factor for other clinical disorders with which it commonly co-occurs,

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including major depression, substance abuse, and other anxiety disorders (Chou, 2009; Lampe, Slade, Issakidis, & Andrews, 2003; Matza, Revicki, Davidson, & Stewart, 2003; Ohayon & Schatzberg, 2010; Randall, Thomas, & Thevos, 2001). In addition, the number of feared social situations reported by individuals with SAD is associated with comorbid major depression, other anxiety disorders, and suicidal ideation (Gabalawy, Cox, Clara, & Mackenzie, 2010).

Contemporary models of SAD suggest that the development of SAD is a result of a biological vulnerability coupled with negative social learning experiences (Clark & Wells, 1995; Heimberg, Brozovich, & Rapee, 2010; Rapee & Heimberg, 1997). Findings from family studies demonstrate a strong association between social anxiety in parent and offspring (Bögels, Oosten, Muris, & Smulders, 2001; Lieb et al., 2000), and temperament studies suggest a link between inhibited temperament in childhood and the development of social anxiety in adolescence (Biederman et al., 2001; Schwartz, Snidman, & Kagan, 1999). The impact of social learning experiences has been suggested as a key environmental factor contributing to the development of the disorder (Rapee & Heimberg, 1997) and has received substantial empirical attention. Prospective studies have found that parental overprotection, rejection, and lack of warmth are associated with offspring SAD (Knappe, Beesdo, Fehm, Hofler, et al., 2009; Knappe, Beesdo, Fehm, Lieb, & Wittchen, 2009; Lieb et al., 2000).

One specific social learning factor that has garnered recent attention is childhood trauma. Although extant data indicate that childhood trauma experiences may contribute to the development of SAD (Bruch & Heimberg, 1994; Arrindell, Emmelkamp, Monsma, & Brillman, 1983; Arrindell et al., 1989), how childhood trauma impacts adult clinical functioning in SAD remains unknown. The purpose of the current study was to address this gap by comparing histories of childhood trauma between individuals with SAD and non-clinical controls and examining associations between specific types of childhood trauma and adult clinical symptoms in SAD.

1.1. The Role of Early Childhood Trauma in the Development of SAD

Studies investigating childhood trauma in SAD suggest that parental emotional abuse towards the child (e.g., swearing, insulting, denigrating, and non-physical aggressing) and emotional neglect (e.g., emotional deprivation or the absence of feeling special, loved, or being part of a nurturing environment) may be important factors in the development of SAD. For example, in a non-clinical sample, compared to women with low levels of social anxiety, women high in social anxiety reported significantly more paternal rejection, paternal and maternal neglect, and paternal authority-discipline (Klonsky, Dutton, & Liebel, 1990). In another study, Lieb and colleagues (2000) found that parental rejection was associated with social anxiety in a community sample of adolescents.

Studies of adults with SAD also indicate that these individuals report childhood experiences associated with emotional abuse and/or neglect. Individuals with SAD are more likely than controls to perceive their parents as having used shame as a form of discipline (Bruch & Heimberg, 1994). Two separate studies (Arrindell, et al., 1983; Arrindell et al., 1989) found that, compared to non-anxious healthy controls, patients with SAD characterized their parents as rejecting and lacking in emotional warmth, although these findings should be interpreted with caution because of small sample sizes. Simon and colleagues (2009) recently reported that 56% of individuals with SAD endorsed a history of childhood emotional abuse, and 39% of individuals with SAD endorsed a history of childhood emotional neglect. However, this study did not include a healthy control group, so it remains unclear whether these rates differ from those in non-clinical samples.

In addition to emotional abuse and neglect, studies have investigated both (a) rates of SAD in adults with a history of childhood sexual abuse and (b) rates of childhood sexual abuse in adults with SAD. Using the former method, Pribor and Dinwiddie (1992) reported higher rates of SAD in adults with a history of sexual abuse than an age- and race-matched control group (SAD: 46.2% vs. Healthy Controls: 2.8%). Employing the latter method, adults with SAD endorsed higher rates of childhood sexual abuse (SAD: 10.0% vs. Healthy Controls: 5.0%) (Bandelow et al., 2004). However, when familial anxiety was controlled, childhood sexual abuse only predicted a diagnosis of SAD at a trend level. These findings suggest that childhood sexual abuse may not play a unique role in the development of SAD.

1.2. The Psychological Correlates of Early Childhood Trauma

Given that individuals with SAD appear to differ from healthy controls in their exposure to early childhood trauma, one important question is whether these early adverse experiences are correlated with one or more aspects of negative psychological functioning in SAD. In non-clinical samples, studies demonstrate associations between a history of childhood trauma and a number of negative adult experiences including elevated levels of depression, anxiety, substance use, suicidal behaviors, and emotional-behavioral problems (Briere & Elliott, 1994; Briere & Runtz, 1988; Silverman, Reinherz, & Giaconia, 1996).

More recent studies have evaluated whether distinct forms of childhood trauma are related to specific psychological problems in adulthood. In a sample of young women, physical abuse was related to heightened aggression towards others and sexual abuse was related to maladaptive sexual behavior (e.g., getting into trouble because of sexual behavior, controlling others through the use of sex) (Briere & Runtz, 1990). By contrast, emotional abuse was related to low self-esteem. In a separate study, women who reported a history of emotional neglect reported greater problems in multiple domains (adult attachment styles, anxiety, depression, somatization, paranoia) than those reporting a history of physical abuse (Gauthier, Stollak, Messe, & Aronoff, 1996). Briere and Runtz (1998) found that maternal physical abuse was associated with interpersonal sensitivity and dissociation, whereas paternal emotional abuse was associated with anxiety, depression, interpersonal sensitivity, and dissociation. Gibb and colleagues found that childhood emotional abuse was more strongly related to diagnoses of depression or social anxiety disorder than either physical or sexual abuse (e.g., Gibb, Chelminski, & Zimmerman, 2007).

Despite mounting evidence for the associations between different forms of abuse and various adverse adult clinical symptoms, very few studies have extended this line of inquiry to SAD. Simon and colleagues (2009) recently examined the relationship between various types of childhood trauma and the severity of social anxiety, global severity of symptoms, disability, resilience, and quality of life in a sample of adults with SAD. A history of childhood emotional abuse or neglect was associated with greater severity of SAD and global symptoms; emotional neglect was also associated with lesser resilience. Childhood sexual abuse was associated with greater disability, whereas childhood physical abuse and neglect were not associated with any of these psychological outcomes.

These findings indicate some specificity in the relationship between childhood trauma subtypes and general functional impairment in SAD. However, whether subtypes of childhood trauma might be differentially associated with specific clinical symptoms that have been implicated in the non-clinical literature (e.g., depression, anxiety, self-esteem) remains unknown. Given the evidence that SAD individuals with a history of childhood trauma have poorer treatment outcomes (Alden, Taylor, Lapos, & Mellings, 2006), such knowledge would be useful in developing treatment interventions for this group who does not maximally benefit from current treatments.

1.3. The Present Study

The present study was designed to address two goals. The first goal was to compare differences in the frequency (how often an event occurred) and rates (what percent of the time an event occurred) of different forms of childhood trauma (sexual abuse, physical abuse, physical neglect, emotional abuse, and emotional neglect) in a large sample of individuals with generalized SAD versus a comparison group of healthy control participants (HCs). This addresses limitations in the current literature which include small clinical samples (Arrindell, et al. 1983; 1989) and the lack of an HC group (Simon et al., 2009). The second goal was to build upon recent findings linking subtypes of childhood trauma and functional impairment in individuals with SAD (Simon et al., 2009) by examining associations between different forms of childhood trauma and specific adult clinical symptoms (anxiety, depression, and self-esteem) in SAD.

We hypothesized that, compared to HCs, individuals with SAD would have greater frequency and rates of childhood emotional abuse, emotional neglect, sexual abuse, physical abuse, and physical neglect. In line with previous findings (Simon et al., 2009), we expected that a greater frequency of childhood emotional abuse and neglect in the SAD sample would be associated with greater severity of current social anxiety. Drawing upon findings in non-clinical samples, we also predicted that greater frequency of childhood emotional abuse and neglect, but not sexual abuse, physical abuse, or physical neglect would be associated with greater anxiety, depression, and lower self-esteem within the SAD group.

2. Methods

2.1. Participants

Participants were part of two larger brain imaging studies evaluating the mechanisms underlying cognitive behavioral and mindfulness-based treatments for SAD. Participants included 102 (53 females) individuals who met DSM-IV-TR (American Psychiatric Association, 2000) criteria for a primary diagnosis of generalized SAD and 30 healthy controls (15 females) with no lifetime history of any DSM-IV psychiatric disorders that are assessed as part of the Anxiety Disorders Interview Schedule for DSM-IV, Lifetime version (ADIS-IV-L; DiNardo, Brown, & Barlow, 1994). Because they were originally selected to participate in the brain imaging study, potential participants were excluded based on the criteria for that study: current use of any psychotropic medication or any history of neurological or cardiovascular disorders. SAD individuals were also excluded if they met criteria for any current DSM-IV Axis I psychiatric disorder assessed by the ADIS-IV-L other than generalized anxiety disorder ($n = 24$, 23.5%), agoraphobia ($n = 1$, 1.0%), or specific phobia ($n = 10$, 9.8%). All participants provided informed consent in accordance with Stanford University's Human Subjects Committee guidelines.

2.2. Measures

Eligible participants were administered the short form of the Childhood Trauma Questionnaire (CTQ-SF; Bernstein et al., 2003), a 28-item questionnaire (25 clinical items and three validity items) which assesses five specific forms of childhood trauma: sexual abuse (e.g., "Someone tried to touch me in a sexual way, or tried to make me touch them"), physical abuse (e.g., "I was punished with a belt, a board, a cord, or some other hard object), physical neglect (e.g., "I had to wear dirty clothes"), emotional abuse (e.g., "People in my family called me things like 'stupid', 'lazy', or 'ugly'"), and emotional neglect ("I felt loved"- reverse coded). Respondents are asked to choose responses on a 5-point Likert-type scale that ranges from *never true* to *very often true*. The subscales of the CTQ have moderate to high internal consistency (alphas = .61-.92) in a community sample (Bernstein, et al., 2003). In the current sample, the CTQ had moderate to high internal consistency

(alpha = .49 for HC, alpha = .86 for SAD), as did the subscales (alpha = .27-.90 for HC, alpha = .43-.92 for SAD).

Participants also completed questionnaires assessing clinical symptoms in several domains. Severity of social anxiety was measured using the Social Interaction Anxiety Scale (SIAS; Mattick & Clarke, 1998), a 20-item self-report measure assessing anxiety related to social interactions in dyads and groups. The SIAS has demonstrated high levels of internal consistency (alphas = .88-.90 for undergraduate and community samples, alpha = .93 for SAD individuals) and test-retest reliability ($r = .91$ for undergraduate sample, $r = .92$ for SAD individuals) (Carter & Wu, 2010; Mattick & Clarke, 1998). Anxiety was measured using the Trait portion of the State-Trait Anxiety Inventory (STAI-T; Spielberger, Gorsuch, & Lushene, 1970), a well-established measure of trait anxiety with high test-retest reliability (ranging from $r = .73$ - $.86$) (Spielberger et al., 1970). Internal consistency for the STAI-T in this sample was high (alpha = .81 in HC, alpha = .93 in SAD). Depressive symptoms were measured using the Beck Depression Inventory-II (BDI-II; Beck, Steer, & Brown, 1996), a 21-item self-report measure of depressive symptoms measured during the past week. The BDI has good internal consistency (alpha = .90 in a college sample; Storch, Roberti, & Roth, 2004); alpha = .89 in a sample of individuals with SAD; Coles, Gibb, & Heimberg, 2001) and concurrent validity ($r = .69$ with the State-Anxiety Inventory depression factor), and good test-retest reliability (ICC = .91) in a sample of individuals with SAD (Coles et al., 2001). Self-esteem was measured using the Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1989), a 10-item self-report measure assessing beliefs and attitudes regarding general self-worth. The RSES has been shown to have satisfactory convergent validity ($r_s = .56$ -.83) and good test-retest reliability ($r = .85$; Silbert & Tippett, 1965). Internal consistency in this sample was high (alpha = .81 in HC, alpha = .89 in SAD).

2.3. Procedures

As part of the larger treatment trials, participants were recruited through web-based community listings and referrals from local mental health clinics. Following a telephone screening to determine initial eligibility, potential participants were administered the ADIS-IV-L to determine diagnostic status. Participants filled out the assessment measures (see 2.2) as part of a five-hour baseline clinical battery.

2.4. Data Analysis

Examination of assumptions of multivariate analysis of variance indicated violations of homogeneity and normality for total CTQ scores as well as CTQ trauma subtype (sexual abuse, physical abuse, physical neglect, emotional abuse, emotional neglect) scores. Therefore, a non-parametric Mann-Whitney test was used to examine between-group differences in the endorsed frequency of total childhood trauma and each trauma subtype. To examine between-group differences in the rates of childhood trauma, we applied previously validated cutoffs for each CTQ subscale to determine the presence of each type of childhood trauma (Walker et al., 1999): sexual abuse ≥ 8 , physical abuse ≥ 8 , physical neglect ≥ 8 , emotional abuse ≥ 10 , emotional neglect ≥ 15 . The Mann-Whitney test was then used to examine between-group differences in the rates of childhood trauma and each trauma subtype.

To examine relations between the frequency of each childhood trauma subtype and current clinical symptoms (social anxiety, trait anxiety, depression, and self-esteem) within the SAD group, Spearman's rho was used. Given previous reports of significant associations between childhood emotional neglect and depression (e.g., Gibb et al., 2007), we also examined the associations between childhood emotional abuse and neglect with social anxiety, trait anxiety, and self-esteem while controlling for current levels of depression using partial

correlations. Bonferroni adjustments were not employed as the purpose of these analyses was not to examine the universal null hypothesis (Perneger, 1998).

3. Results

3.1. Preliminary Analyses

Preliminary analyses were conducted to assess (1) whether there were demographic differences between SAD and HC groups, (2) the associations among childhood trauma variables, (3) the associations among demographic variables and childhood trauma variables, (4) the associations among clinical symptom variables, and (5) between-group differences in the clinical symptom variables.

3.1.1. Demographic variables—There was no significant between-group difference in age (SAD: $M = 33.47$, $SD = 8.59$, HC: $M = 32.60$, $SD = 9.00$, $t(130) = 0.48$, $p = .63$) or in number of years of education (SAD: $M = 16.69$, $SD = 2.22$, HC: $M = 17.48$, $SD = 2.03$, $t(122) = 1.72$, $p = .09$), although education data were missing for eight participants (7 SAD, 1 HC). Gender did not differ significantly across the groups, $\chi^2(1, N = 132) = 0.04$, $p = .85$.

3.1.2. Relationships among types of childhood trauma—See Table 1. Within the SAD group, all five childhood trauma subscales (sexual abuse, physical abuse, physical neglect, emotional abuse, and emotional neglect) were significantly positively associated with each other, with the exception of the correlations between sexual abuse and either emotional abuse or neglect. Only emotional abuse and emotional neglect were significantly positively associated in the HC group.

3.1.3. Relations among demographic variables and types of childhood trauma—Age was significantly positively associated with childhood sexual abuse in the HC group and was significantly positively associated with childhood emotional abuse and emotional neglect in the SAD group (see Table 1). Mann-Whitney tests indicated that males had greater histories of childhood physical abuse than females in the SAD group only ($U = 913.00$, $p < .01$). All other comparisons were non-significant (SAD: sexual abuse, $U = 1237.50$, $p = .59$; physical neglect, $U = 1153.50$, $p = .90$; emotional abuse, $U = 1158.50$, $p = .35$; emotional neglect, $U = 1090.00$, $p = .56$; HC: sexual abuse, $U = 105.50$, $p = .78$; physical abuse, $U = 106.00$, $p = .81$; physical neglect, $U = 92.50$, $p = .51$; emotional abuse, $U = 96.50$, $p = .51$; emotional neglect, $U = 92.50$, $p = .41$).

3.1.4. Relations among clinical variables—See Table 2. Associations between clinical variables (social anxiety, trait anxiety, depression, and self-esteem) were moderate for both groups.

3.1.5. Differences in social anxiety, trait anxiety, depression, and self-esteem between patients with SAD and HCs—Independent-sample t -tests demonstrated significant between-group differences in social anxiety, trait anxiety, depression, and self-esteem (see Table 3).

3.2. Differences in Childhood Trauma between Patients with SAD and HCs

Mann-Whitney tests demonstrated that, compared to HCs, individuals with SAD reported greater frequency of emotional abuse ($U = 816.00$, $p < .001$), emotional neglect ($U = 708.00$, $p < .001$), and total childhood trauma ($U = 835.00$, $p < .001$) (see Figure 1). There was a trend toward greater childhood sexual abuse in the SAD group ($U = 1289.00$, $p = .07$). There were no significant between-group differences in childhood physical abuse ($U = 1276.00$, $p = .14$) or neglect ($U = 1258.50$, $p = .25$).

See Table 4 for rates of each trauma subtype for both groups. Consistent with the above analyses examining differences in endorsed per-person frequencies of childhood trauma, Mann-Whitney tests demonstrated that, compared with HCs, individuals with SAD had greater rates of childhood emotional abuse ($U = 954.00, p < .001$) and childhood emotional neglect ($U = 1077.00, p < .01$). There were no significant between-group differences in rates of childhood sexual abuse ($U = 1362.00, p = .14$), childhood physical abuse ($U = 1320.00, p = .14$), or childhood physical neglect ($U = 1446.00, p < .32$).

3.3. Relationships Between Types of Childhood Trauma and Adult Clinical Symptoms in SAD

As shown in Table 5, within the SAD sample, child emotional abuse and neglect were positively correlated with current social anxiety and trait anxiety, and negatively correlated with self-esteem. Childhood emotional neglect was also significantly positively correlated with depression. Childhood sexual abuse, physical abuse, and physical neglect were not correlated with any of these variables. Because of significant associations between age and childhood emotional abuse/neglect found in our preliminary analyses, we examined whether these significant relations remained when controlling for age. Results did not change (emotional abuse-social anxiety, $r = .26, p < .05$, emotional abuse-trait anxiety, $r = .28, p < .01$, emotional abuse-self-esteem, $r = -.35, p < .001$, emotional neglect-social anxiety, $r = .25, p < .05$, emotional neglect-trait anxiety, $r = .40, p < .001$, emotional neglect-depression, $r = .31, p < .01$, emotional neglect-self-esteem, $r = -.44, p < .001$). We further evaluated whether the observed pattern of results might be an artifact of depressive affect by conducting partial correlations between childhood abuse and neglect with social anxiety, trait anxiety, and self-esteem, controlling for levels of depression. Results did not change (emotional abuse-social anxiety, $r = .23, p < .05$, emotional abuse-trait anxiety, $r = .24, p < .05$, emotional abuse-self-esteem, $r = -.31, p < .01$, emotional neglect-trait anxiety, $r = .28, p < .01$, emotional neglect-self-esteem, $r = -.35, p < .01$), with the exception of the relation between childhood emotional neglect and social anxiety, which was no longer significant ($r = .19, p > .10$).

4. Discussion

Findings from this study indicate that, compared to HCs, individuals with SAD report more frequent childhood trauma, specifically, emotional abuse and emotional neglect. Furthermore, childhood emotional abuse and neglect were associated with current social anxiety, trait anxiety, depression (neglect only), and self-esteem in individuals with SAD.

4.1. Differences in Childhood Trauma Between SAD and HC

The finding that adults with SAD endorsed histories of more frequent childhood emotional abuse and neglect is consistent with prior reports of greater rejection, lesser emotional warmth, and increased use of shame among parents of adults with SAD (Arrindell et al., 1983; Arrindell et al., 1989; Bruch & Heimberg, 1994). In contrast to previous reports (Bandelow, et al., 2004), we did not observe higher frequency or rates of sexual abuse (although there was a trend towards differences in frequency) in adults with SAD.

One reason for this discrepancy may be differences in the study samples. We examined adults with generalized SAD. Bandelow and colleagues (2004) did not specify whether their participants met criteria for generalized SAD or non-generalized SAD. Differences in SAD subtypes could potentially account for these conflicting findings. Additionally, the current study excluded participants on medications or who met criteria for a variety of comorbid diagnoses whereas previous studies did not. It is possible that SAD participants in our study were higher functioning (as might be indicated by the education levels reported) than those

who participated in prior studies. Further, one notable finding was that all but one (98%) of the HCs in the current study met threshold for physical neglect. This is substantially higher than recently reported rate of 59% by the U.S. Department of Health and Human Services Administration on Children (2009). It is possible, therefore, that our null findings related to sexual and physical abuse are accounted for by a higher functioning SAD and lower functioning HC sample (however, it should be noted that individuals with SAD in our study have very high rates of physical neglect as well; see below).

Another difference is in assessment methods. We used the CTQ, whereas Bandelow et al. (2004) used semi-structured interviews. The two assessment modalities may influence what types of childhood trauma are reported by patients with SAD. Roy and Perry (2004) reviewed several childhood trauma interview-based and self-report instruments and noted that many of the interviews assess responses to specific childhood trauma “vignettes” which the interviewer subsequently codes as having occurred or not occurred. In contrast, such specificity is less likely captured in self-report instruments which tend to rely on more global questions. It is not clear whether patients with SAD will reveal more adverse childhood information in a self-report versus an interview format.

It is also important to note that the rates of childhood trauma among individuals with SAD in the current study are similar to those reported by Simon et al. (2009), with the exception of physical neglect, for which our rates were substantially higher (91% versus 35%). This is a surprising finding, particularly given the selective screening criteria used in this study which likely recruited for a higher-functioning clinical group. However, taken in conjunction with the elevated rates of physical neglect also found in the HC group, these findings may reflect regional differences in childhood abuse across the U.S.

4.2. Childhood Trauma and Current Adult Psychological Functioning in SAD

Childhood emotional abuse and neglect were significantly associated with social anxiety, trait anxiety, depression (neglect only), and self-esteem. There were no significant associations between childhood sexual abuse, physical abuse, or physical neglect with these clinical symptoms among individuals with SAD. These findings replicate Simon and colleagues' (2009) reports that childhood emotional abuse and neglect are associated with severity of social anxiety among adults with SAD. They also extend prior studies as we found these two trauma types were also related to other adult clinical dysfunctions, specifically higher trait anxiety, greater depression, and lower self-esteem.

These results are generally congruent with what has been reported in the non-clinical literature, that childhood emotional abuse and neglect are associated with internally-focused symptoms, whereas childhood sexual and physical abuse are associated with externally-focused symptoms (Briere & Runtz, 1988, 1990). Although there is an emerging literature identifying a novelty-seeking, behaviorally disinhibited subtype of SAD (Kashdan & Hofmann, 2008; Kashdan, McKnight, Richey, & Hofmann, 2009), whether childhood sexual and physical abuse are associated with more externally destructive behaviors in SAD is a question that warrants empirical examination.

It bears emphasizing that childhood emotional abuse and emotional neglect were highly correlated in this sample, as has been reported elsewhere (Bernstein et al., 2003). This calls into question the differentiation of these two constructs and necessarily limits finer delineation of the differential associations between these two trauma subtypes and adult clinical symptoms. Rather, a more appropriate interpretation is that a history of emotional trauma is associated with negative adult clinical symptoms among individuals with SAD, whereas this relationship does not appear to exist with sexual or physical trauma.

4.3. Limitations and Future Directions

This was a cross-sectional study, and causal inferences cannot be made. Future studies employing a longitudinal prospective design will be needed to determine whether childhood emotional abuse and neglect are causal factors in the subsequent development of SAD and other psychological outcomes. The current research relied on retrospective self-report, which is limited by social desirability effects and recall bias and which may constrain the validity of the findings. Indeed, incorporating other methods of assessment, such as structured interviewing of the participants, as well as their childhood caregivers, would be highly desirable.

The current study used the CTQ to assess childhood trauma and, therefore, was not designed to explore differential relations between paternal versus maternal abuse and adult clinical symptoms. Given that previous studies have shown differences in outcomes of paternal versus maternal abuse (Briere & Runtz, 1988), future studies should examine how the perpetrating parent's gender may moderate clinical and functional outcomes in SAD.

Given the evidence linking childhood trauma to various forms of psychopathology such as depression, substance abuse, and PTSD (Gibb et al., 2007; Burnette, Ilgen, Frayne, Lucas, Mayo, & Weitlauf, 2008; Bremner, Southwick, Johnson, Yehuda, & Charney, 1993), it is also unclear whether the results from this study are specific to SAD. Although we were able to somewhat address this issue by controlling for depression in our main analyses, future studies should further delineate the specificity of the relation between different forms of childhood trauma and SAD.

Future studies examining potential patient moderators such as comorbidity, subtypes of SAD, and other individual differences (i.e., coping skills, personality) are also necessary, as this approach might help clarify for whom childhood trauma will negatively impact adult psychological functioning. Studies identifying psychological mechanisms that may mediate the relationship between childhood emotional abuse/neglect and adult psychological functioning could provide greater understanding of the crucial pathways that explain this relationship.

Research Highlights

- Individuals with social anxiety disorder (SAD) have greater levels of childhood emotional abuse and childhood emotional neglect than healthy controls (HC). There are no between-group differences in levels of childhood sexual abuse, physical abuse, or physical neglect.
- Within individuals with SAD, childhood emotional abuse and neglect are associated with adult social anxiety severity, general anxiety, depression (neglect only) and self-esteem.
- Within individuals with SAD, childhood sexual abuse, physical abuse, and physical neglect are not associated with adult social anxiety severity, general anxiety, depression, and self-esteem.

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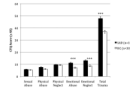


Figure 1. Differences in the endorsed frequencies of childhood trauma among individuals with Social Anxiety Disorder (SAD) and Healthy Controls (HC). Error bars represent the standard error of measurement. *** $p < .001$.

Table 1

Correlations Among Age, Gender, and Childhood Trauma Questionnaire Subscales in Individuals with Social Anxiety Disorder ($n = 102$) (Below Diagonal) and Healthy Controls ($n = 30$) (Above Diagonal)

	Age	Sexual Abuse	Physical Abuse	Physical Neglect	Emotional Abuse	Emotional Neglect
Age	--	.42*	.19	.08	.18	.23
Sexual Abuse	.19	--	.13	.03	.13	-.09
Physical Abuse	.13	.32**	--	-.12	.29	-.09
Physical Neglect	.05	.33***	.26**	--	.18	.11
Emotional Abuse	.26**	.17	.43***	.32**	--	.56**
Emotional Neglect	.35***	.15	.42**	.21*	.77**	--

Note. Correlations represent Spearman's rho

 $p < .001$

**
 $p < .01$

*
 $p < .05$.

Table 2

Correlations Among Clinical Symptom Variables in Individuals with Social Anxiety Disorder ($n = 102$) (Below Diagonal) and Healthy Controls ($n = 30$) (Above Diagonal)

	Social Anxiety	Trait Anxiety	Depression	Self-esteem
Social Anxiety	--	.41*	.03	-.24
Trait Anxiety	.38**	--	.43*	-.46*
Depression	.25*	.58*	--	-.12
Self-esteem	-.40**	-.64**	-.48**	--

Note. Correlations represent Spearman's rho

**
 $p < .01$

*
 $p < .05$.

Table 3

Differences in Clinical Symptom Variables Between Individuals with Social Anxiety Disorder ($n = 102$) and Healthy Controls ($n = 30$)

	SAD		HC	
	M (SD)		M (SD)	t (df)
Social Anxiety	53.18 (9.95)	11.37 (7.79)	21.28 (126)	***
Trait Anxiety	54.26 (9.57)	28.13 (4.89)	19.85 (126)	***
Depression	11.91 (9.18)	2.11 (3.34)	8.74 (124)	***
Self-esteem	25.51 (5.29)	35.44 (3.25)	12.00 (120)	***

*** *Note.* $p < .001$.

Table 4

Rates of Each Childhood Trauma Subtype in Individuals with Social Anxiety Disorder ($n = 102$) and Healthy Controls ($n = 30$)

	SAD		HC	
	n	%	n	%
Sexual Abuse	18	17.6	2	6.7
Physical Abuse	31	30.4	5	16.7
Physical Neglect	93	91.2	29	98.7
Emotional Abuse	52	51.0	4	13.3
Emotional Neglect	37	36.3	2	6.7

Table 5

Correlations Between Childhood Trauma Questionnaire Subscales and Clinical Symptoms in Individuals with Social Anxiety Disorder ($n = 102$)

	Social Anxiety	Trait Anxiety	Depression	Self-esteem
Sexual Abuse	.10	.10	.07	-.06
Physical Abuse	.12	.15	.11	-.13
Physical Neglect	.07	.04	.13	-.06
Emotional Abuse	.26*	.30**	.18	-.35***
Emotional Neglect	.25*	.40***	.31**	-.44***

*** Note. $p < .001$

** $p < .01$

* $p < .05$.