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ORIGINAL ARTICLE

Symptoms of depression (not anxiety) mediate the relationship between childhood sexual abuse and compulsive sexual behaviors in men

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Objective: Childhood sexual abuse is associated with compulsive sexual behavior, depression, and anxiety in men. Furthermore, both depression and anxiety have been linked to compulsive sexual behaviors. However, whether anxiety and depression mediate the relationship between childhood sexual abuse and compulsive sexual behaviors has yet to be tested. We investigated whether symptoms of depression and anxiety mediate the relationship between childhood sexual abuse and compulsive sexual behaviors in 222 men seeking treatment for such behaviors.
Methods: Participants completed the Sexual Compulsivity Scale, Childhood Trauma Questionnaire, Beck Depression Inventory, and Beck Anxiety Inventory. A cross-sectional parallel mediation analysis was conducted.
Results: The prevalence of childhood sexual abuse in our sample was 57%. Significant correlations were found between childhood sexual abuse and compulsive sexual behaviors, depression, and anxiety. The results of the mediation analyses suggested that depression (B = 0.07, standard error [SE] = 0.03, 95%CI 0.02 to 0.15), but not anxiety (B = 0.02, SE = 0.02, 95%CI -0.2 to 0.07), mediated the link between childhood sexual abuse and compulsive sexual behaviors. The pattern of our results remained the same when controlling for other types of childhood trauma.
Conclusions: Depression, not anxiety, appears to mediate the relationship between childhood sexual abuse and compulsive sexual behaviors in men. Future research that tests our mediation analyses using a prospective longitudinal study would be highly informative.

Keywords: Childhood sexual abuse; compulsive sexual behavior; anxiety; depression

Introduction

Compulsive sexual behavior was recently classified in the 11th edition of the International Classification of Diseases as an impulse control disorder.[1] As a psychiatric disorder, compulsive sexual behavior is characterized by a persistent inability to control intense and repetitive sexual impulses and urges, which subsequently results in sexual behavior that causes distress and impairment in the individual's life. The pattern of sexual behavior continues despite efforts to control or reduce it and despite any negative consequences. Like other psychiatric disorders, compulsive sexual behavior is highly comorbid with other mental health conditions, particularly depression and anxiety; previous studies suggest that the prevalence of depression and anxiety may be 21-28% and 42-46.5%, respectively, for individuals who experience compulsive sexual behavior.[2,3]

Childhood sexual abuse can be defined as engaging in minor-adult sexual acts with a person who is under the age of 18 or is otherwise developmentally unable to give informed consent.[4] Previous research has suggested that childhood sexual abuse may be a risk factor for compulsive sexual behavior in men.[5,6] For example, Skegg et al.[7] found that nearly one in four men with compulsive sexual behavior concurrently reported having experienced childhood sexual abuse. Furthermore, Vaillancourt-Morel et al.[6] found that men who survived childhood sexual abuse were more likely to engage in compulsive sexual behaviors compared to women who

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survived childhood sexual abuse. Thus, research suggests that there is a significant link between childhood sexual abuse and compulsive sexual behavior in men. As such, obtaining a better understanding of the relationship between childhood sexual abuse and compulsive sexual behavior may be beneficial for providing optimal treatment to men engaging in such behavior.

There are several reasons why childhood sexual abuse may be associated with compulsive sexual behaviors in men. For example, experiencing childhood trauma may interfere with the ability to develop adaptive emotional regulation strategies,[8] which can lead to various psychiatric disorders, including anxiety and depression.[9] Notably, a recent review found that emotion dysregulation may underlie compulsive sexual behaviours.[10] According to the self-medication hypothesis, individuals may be motivated to treat underlying mental illnesses (such as anxiety and depression) that have not been adequately managed, or to alleviate distressing symptoms, by self-medicating with addictive substances.[11] Previous research has also supported the self-medication theory in instances of sexual assault and increased subsequent alcohol consumption (e.g., Klanecky et al.[12]). Furthermore, a recent study found that predictors of using sexual behavior to cope with the COVID-19 pandemic lockdown restrictions included being male, being younger, and experiencing more difficulties with emotional regulation.[13]

Herein, we propose that symptoms of depression and anxiety may aid in understanding the relationship between childhood sexual abuse and compulsive sexual behavior in men. This is because depression and anxiety have been associated with increased severity of compulsive sexual behavior. Brem et al.[14] found a significant positive bivariate correlation between compulsive sexual behavior and depression ($r = 0.31$, $p < 0.01$) as well as between compulsive sexual behavior and anxiety ($r = 0.31$, $p < 0.01$). These significant correlations suggest that increased depression and anxiety symptoms are associated with increased severity of compulsive sexual behavior.

The frequent co-occurrence of depression and anxiety in compulsive sexual behavior may also be due to high rates of childhood sexual abuse among people with compulsive sexual behavior, as childhood sexual abuse is a risk factor in the development of both depression and anxiety.[15,16] Indeed, researchers found that children who experienced sexual abuse were 2.66 times more likely to develop depression and anxiety compared to others who did not experience childhood sexual abuse. Additionally, previous research involving 182 gay and bisexual men with compulsive sexual behavior found that childhood sexual abuse was associated with greater prevalence of depression and anxiety, compared to men who did not report having experienced childhood sexual abuse. Taken together, these findings suggest it is plausible that compulsive sexual behaviors are a maladaptive coping mechanism to manage symptoms of depression and anxiety, which in turn may have resulted from experiences of childhood sexual abuse. Indeed, previous researchers have theorized that the link between childhood sexual abuse and compulsive sexual behaviors is mediated by more proximal mechanisms, such as emotion dysregulation.[10]

Although previous studies have reported strong correlations between childhood sexual abuse and compulsive sexual behavior, whether symptoms of depression and anxiety may partially account for the link between childhood sexual abuse and compulsive sexual behavior in men is still unclear. There is, however, some preliminary evidence that anxiety and depression may partly account for the relationship between childhood sexual abuse and compulsive behaviors in men. In a cross-sectional study (95% male sample) with 65 Jewish Israeli Sexaholics Anonymous members and 47 healthy volunteers, Erfrati & Gola[17] found that internalizing symptoms mediated the associations between early-life trauma and compulsive sexual behaviors. In the present research, we extended the findings of Erfrati & Gola[17] by examining specifically the impact of childhood sexual abuse, internalizing symptoms, and compulsive sexual behavior, in a larger sample recruited among men seeking treatment for compulsive sexual behavior. Based on previous research, we hypothesized that: i) individuals with a history of childhood sexual abuse would report greater symptoms of depression and anxiety; ii) symptoms of depression and anxiety would be associated with greater severity of compulsive sexual behavior; and iii) symptoms of depression and anxiety would mediate the relationship between childhood sexual abuse and compulsive sexual behavior.

Methods

Participants

This cross-sectional study was conducted with men who sought treatment for compulsive sexual behaviors at the Excessive Sex Drive and Prevention of Negative Outcomes Associated with Sexual Behavior outpatient clinic at Hospital das Clínicas, Faculdade de Medicina, Universidade de São Paulo. Eligible participants were men who met diagnostic criteria for excessive sexual drive according to the ICD-10 (F52.7), which was the most current version of the ICD at the time of data collection.[18] Additionally, eligible participants met diagnostic criteria for sex addiction, given the common conceptualization of compulsive sexual behavior as a behavioral addiction. Diagnostic criteria for sex addiction were based upon the recommendations by Goodman,[19] who adapted the substance dependence diagnosis of the DSM-IV-TR for sexual addiction.[20] Finally, participants had to be 18 years of age or older and have satisfactory cognitive ability and sufficient literacy to complete the self-report inventories.

Participants were excluded from the study if they met diagnostic criteria for sexual preference disorder (ICD-10 F65), sexual identity disorder (ICD-10 F64), schizophrenia and other psychotic disorders (ICD-10 F20-F29), current hypomanic or manic episode of mood disorder (ICD-10 F30.0 and F31.1 and F31.2), or other mental disorders due to brain dysfunction, injury, or physical illness (ICD-10 F0.6).[18] After assessment for eligibility criteria, a total of 222 Brazilian men were included in the study.

Procedures

Participants completed a single 2-hour assessment, which consisted of standardized self-report measures, sociodemographic items, and a psychiatric diagnostic evaluation for assessment of the eligibility criteria. Participants completed the measures and psychiatric interview prior to receiving treatment for compulsive sexual behavior.

Measures

Sociodemographics

Sociodemographic information included age, sexual orientation (heterosexual, homosexual, bisexual), race (White, Black, mixed, Asian, other), marital status (married/cohabitating, single, widowed, separated/divorced), educational status (primary, secondary, higher, or graduate/postgraduate), average monthly household income, and employment status (full-time, part-time, student, stay-at-home, unemployed, retired).

Sexual compulsivity

The Sexual Compulsivity Scale (SCS) is a 10-item instrument that assesses tendencies towards sexual preoccupation and hypersexuality.[21] Sample items include My sexual thoughts and behaviors are causing problems in my life and I feel that sexual thoughts and feelings are stronger than I am. Items are scored on a four-point Likert scale, with item responses ranging from 1 (does not apply to me at all) to 4 (applies to me a lot). Possible scores range from 10 to 40, with higher scores indicating a greater severity of sexual compulsivity. The Brazilian version of the SCS has excellent reported internal consistency, with a Cronbach's alpha of 0.95.[22]

Childhood sexual abuse

The Childhood Trauma Questionnaire (CTQ)[23] is a self-report scale that evaluates childhood traumatic experiences. The CTQ is composed of 28 items, which investigate five domains: physical abuse, emotional abuse, sexual abuse, physical neglect, and emotional neglect. Participants report on the frequency of traumatic events that occurred in their childhood using a five-point Likert scale, ranging from 1 (never) to 5 (very often). In the present study, we used the domain of the CTQ that investigates sexual abuse, in which the scores range from 5 to 25. As outlined by Spinhoven et al.,[24] a score $\geqslant$ 6 was used to categorize participants who may have experienced childhood sexual abuse, a score $\geqslant$ 10 indicated emotional neglect, a score $\geqslant$ 9 for emotional abuse, a score $\geqslant$ 6 for physical abuse, and a score $\geqslant$ 8 for physical neglect. The Brazilian version of the CTQ demonstrated satisfactory content validity and has been widely used in Brazil, including with clinical samples.[25]

The Instrument for Characterization of Sexual Experiences Lived in Childhood/Adolescence (ICESVIA)[26] is a 26-item self-report instrument that investigates aspects related to sexual experiences during childhood and adolescence. Childhood sexual abuse was defined as sexual experience prior to the age of 13 with a person who was at least 5 years older at the time of abuse[27,28]; sexual abuse in adolescence was defined as a sexual experience between the ages of 13 and 18 years with a person at least 10 years older.[27,28] The ICESVIA is composed of the following sections: quantitative (e.g., number of episodes), qualitative (e.g., abuse with or without penetration), and experiential (e.g., past and present feelings about the episode). The ICESVIA was used in the present study to provide descriptive results regarding childhood sexual abuse. This instrument was included partway through the study and, as such, data were only available for 73 participants.

Depression

The Beck Depression Inventory (BDI) is a self-report scale, containing 21 items that evaluate the intensity of depressive symptoms as mild, moderate, or severe.[29] The Cronbach's alpha of the Brazilian-validated version is 0.81.[30]

Anxiety

The Beck Anxiety Inventory (BAI)[31] is a 21-item scale that assesses the severity of anxiety symptoms (e.g., fear of losing control, difficulty breathing, fear of the worst happening). Anxiety symptoms are scored from 0 (not at all bothersome) to 3 (bothered me a lot), with higher scores indicating greater severity of anxiety symptoms. The Brazilian version demonstrates a good Cronbach's alpha of 0.76.[32]

Statistical analysis

First, we conducted correlation analyses with the sexual abuse subscale of the CTQ (scores ranging from 5-25), BDI, BAI, and SCS to examine the intercorrelations between our variables of interest. Next, we compared participants who reported experiencing childhood sexual abuse and those who did not regarding demographic characteristics and variables of interest such as BDI, BAI, and SCS. Chi-squares were conducted with our categorical variables, while *t*-tests and Mann-Whitney *U* tests were used for continuous variables with normal and non-normal distributions, respectively. A parallel mediation model was conducted to examine whether symptoms of anxiety and depression mediated the relationship between childhood sexual abuse (0 = no, 1 = yes) and compulsive sexual behaviors (Figure 1). The parallel mediation model was conducted using a macro (model 4)[33] to obtain 95% bias-corrected CIs of the indirect effect using 5,000 bootstrapped samples. The 95%CIs were examined to see whether they did not cross 0 to support our hypothesized mediation model.

Ethics statement

The study was approved by the research ethics committee at Hospital das Clínicas, Faculdade de Medicina, Universidade de São Paulo, and the research ethics

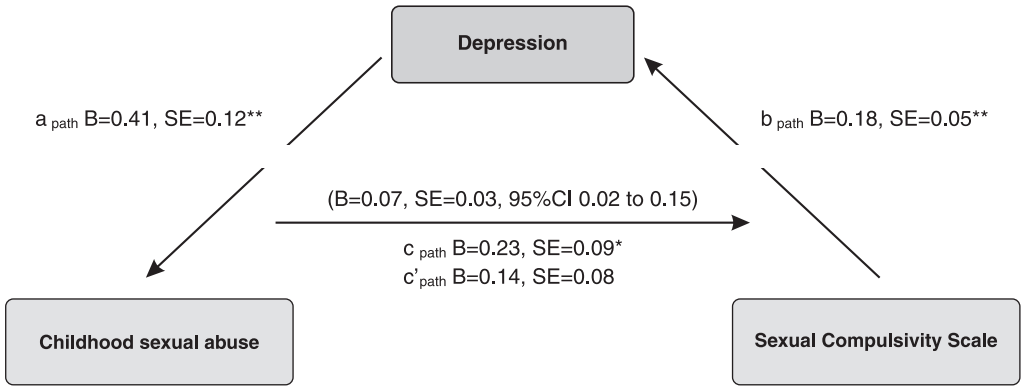

Figure 1 Hypothesized parallel mediation model with childhood sexual abuse as the independent variable, anxiety and depression entered simultaneously (path for depression shown) as a mediator variable, and compulsive sexual behavior (measured by the Sexual Compulsivity Scale) as the dependent variable (n=222). The unstandardized coefficients and standard errors are shown. The model includes symptoms of anxiety. SE = standard error. * $p < 0.05$, ** $p < 0.01$.

board at Toronto Metropolitan University. Participants provided informed consent.

Results

Preliminary results

The mean age of the sample was 37.37 years (SD = 9.55). Regarding ethnicity, 153 participants (68.9%) self-identified as White, 66 (29.7%) as Black or mixed, and three (1.4%) as Asian. Approximately half of participants (n=122, 55%) were heterosexual, 59 (26.6%) were gay, and 41 (18.5%) were bisexual. Regarding relationship status, 101 participants (45.5%) reported being married or cohabitating, 100 (45%) reported being single, and 21 (9.5%) reported being separated. In terms of education, 14 (6.3%) reported having completed primary education, 79 (35.6%) reported having completed high school, 81 (36.5%) reported having completed college or university, and 48 (21.6%) reported having a graduate or postgraduate degree. Most of the sample (n=176, 79.3%) was employed either full-time or part-time, 16 (7.2%) were students, 20 (9%) were unemployed, and 10 (4.5%) were retired. The mean monthly household income of the sample was 5,408.96 Brazilian reais (SD = 5,898.58).

The prevalence of childhood sexual abuse, defined as a score $\geqslant$ 6 on the CTQ, was 57% (95%CI 50 to 64). The mean score on the sexual abuse subscale of the CTQ was 8.63 (SD = 5.01), with scores covering the full range from 5 to 25. Additionally, 125 (57.3%) participants scored over the cutoff for emotional neglect, 128 (58.7%) for emotional abuse, 86 (39.5%) for physical abuse, and 109 (50%) for physical neglect.

Descriptive data on sexual abuse were available for 73 participants who completed the ICESVIA. The mean age at onset of childhood sexual abuse was 8.1 years (SD = 2.7) for participants who reported abuse occurring in childhood (n=42) and 13.7 years (SD = 2.7) for participants who reported abuse occurring in adolescence (n=31). Twenty-one (42.9%) participants suffered childhood sexual abuse from perpetrators identified as male, 17 (34.7%) from female perpetrators, and 11 (22.4%) reported that the childhood sexual abuse was perpetrated by individuals of both genders. Furthermore, 28 (70%) of the participants who reported that the childhood sexual abuse occurred during childhood indicated multiple perpetrators. For those who reported that the sexual abuse occurred during adolescence, 29 (82.9%) participants indicated multiple perpetrators.

The mean score on the SCS was 30.45 (SD = 6.42). Regarding depression, the mean score on the BDI was 16.98 (SD = 9.76), with 107 (48.2%) participants meeting the cutoff for moderate to severe depression. For anxiety, the mean score on the BAI was 13.69 (SD = 10.23), with 79 (35.6%) participants meeting the cutoff for moderate to severe anxiety. As expected, childhood sexual abuse correlated significantly with compulsive sexual behavior ($r[222] = 0.18$, $p = 0.006$, depression, $r[222] = 0.21$, $p = 0.001$, and anxiety, $r[222] = 0.20$, $p = 0.003$) (see Table 1 for the intercorrelations of our variables of interest).

In comparing participants who did and did not report experiencing childhood sexual abuse, we found that those who did report experiencing childhood sexual abuse had significantly greater depression and anxiety scores, as well as significantly lower income. A significant difference was also found between the two groups in terms of education, such that participants who experienced childhood sexual abuse were more likely to report having lower levels of education compared to those who did not report having experienced childhood sexual abuse. No significant group differences were found in terms of age, ethnicity, sexual orientation, relationship status, or employment (Table 2).

Table 1 Intercorrelations between childhood sexual abuse, compulsive sexual behavior, depression, and anxiety

Variable	1	2	3	4
1. Childhood sexual abuse	-	0.18**	0.21**	0.20**
2. Compulsive sexual behavior		-	0.34***	0.26***
3. Depression			-	0.64***
4. Anxiety				-

** $p < 0.01$, *** $p < 0.001$.

Table 2 Frequencies of demographic characteristics, mean depression scores, and mean anxiety scores, stratified by history or no history of childhood sexual abuse

	Childhood sexual abuse (n=127)		No childhood sexual abuse (n=95)			
Variable	M (SD)	Median	M (SD)	Median	Statistic	p-value
Age	37.16 (9.59)	36.00	37.66 (9.52)	37.00	U = 5,842.00	0.687
Income (Brazilian reais)	4,552.68 (3,952.56)	3,000.00	6,553.68 (7,651.48)	5,000.00	U = 4,809.50	**0.010**
SCS	31.43 (6.30)	33.00	29.14 (6.40)	29.00	U = 7,370.50	**0.005**
BDI	18.53 (9.84)	18.00	14.91 (9.29)	14.00	U = 7,338.50	**0.006**
BAI	15.11 (9.86)	13.00	11.79 (9.99)	10.00	U = 7,369.00	**0.005**
	n (%)		n (%)		Statistic	p-value
Ethnicity					χ^2 = 1.07	0.585
White	86 (67.7)		67 (70.5)			
Black or mixed	40 (31.5)		26 (27.4)			
Asian	1 (0.8)		2 (2.1)			
Sexual orientation					χ^2 = 1.76	0.414
Heterosexual	65 (51.2)		57 (60.0)			
Gay	36 (28.3)		23 (24.2)			
Bisexual	26 (20.5)		15 (15.8)			
Relationship status					χ^2 = 0.63	0.729
Married or cohabitating	55 (43.3)		46 (48.4)			
Single	59 (46.5)		41 (43.2)			
Separated	13 (10.2)		8 (8.4)			
Education					χ^2 = 9.92	**0.019**
Primary	11 (8.7)		3 (3.2)			
Secondary	50 (39.4)		29 (30.5)			
Higher	47 (37.0)		34 (35.8)			
Graduate/Postgraduate	19 (15.0)		29 (30.5)			
Employment					χ^2 = 2.94	0.401
Employed full-time or part-time	97 (76.4)		79 (83.2)			
Student	9 (7.1)		7 (7.4)			
Unemployed	13 (10.2)		7 (7.4)			
Retired	8 (6.3)		2 (2.1)			

Data presented as n(%), unless otherwise specified.
Bold type denotes statistical significance.
BAI = Beck Anxiety Inventory; BDI = Beck Depression Inventory; SCS = Sexual Compulsivity Scale.

Parallel mediation analyses

As hypothesized, there was a significant, direct effect of childhood sexual abuse on the severity of compulsive sexual behaviors (B = 0.23, standard error [SE] = 0.09, t = 2.77, p = 0.006, 95%CI 0.07 to 0.40). Similarly, and in line with our hypothesis i), childhood sexual abuse was significantly associated with symptoms of depression (B = 0.41, SE = 0.12, t = 3.23, p = 0.001, 95%CI 0.16 to 0.67) and of anxiety (B = 0.41, SE = 0.13, t = 3.05, p = 0.003, 95%CI 0.14 to 0.66), such that the experience of childhood sexual abuse increased the severity of both depression and anxiety. However, when controlling for childhood sexual abuse, symptoms of depression (B = 0.18, SE = 0.05, t = 3.28, p = 0.001, 95%CI 0.07 to 0.29), but not anxiety (B = 0.04, SE = 0.05, t = 0.75, p = 0.457, 95%CI -0.06 to 0.14), were associated with compulsive sexual behavior. Importantly, there was a significant, indirect effect (i.e., mediation) of depression on the relationship between childhood sexual abuse and compulsive sexual behavior (B = 0.07, SE = 0.03, 95%CI 0.02 to 0.15). On the other hand, anxiety was not a significant mediator in the relationship between childhood sexual abuse and compulsive sexual behavior (B = 0.02, SE = 0.02, 95%CI -0.2 to 0.07) (Figure 1), which was in contrast to our hypothesis iii). When accounting for depression and anxiety, the direct effect of childhood sexual abuse and compulsive sexual behavior was nonsignificant (B = 0.14, SE = 0.08, t = 1.74, p = 0.082, 95%CI -0.02 to 0.31), supporting full mediation.

The pattern of our results remained the same when controlling for scores on the physical abuse, emotional abuse, physical neglect, and emotional neglect subscales of the CTQ with depression (B = 0.06, SE = 0.03, 95%CI 0.003 to 0.13), but not anxiety (B = 0.001, SE = 0.02, 95%CI -0.02 to 0.05), remaining a significant mediator in the relationship between childhood sexual abuse and compulsive sexual behavior.

Supplemental analyses

To examine the specificity of the relationship between childhood sexual abuse, depression, anxiety, and compulsive sexual behaviors, we conducted parallel mediation analyses with the other dimensions of the CTQ

(physical abuse, emotional abuse, physical neglect, and emotional neglect), as well as with CTQ total scores. We controlled for the other types of abuse, including childhood sexual abuse, when examining the dimensions of the CTQ.

Results revealed that depression significantly mediated the association between CTQ total scores and compulsive sexual behavior (B = 0.03, SE = 0.01, 95%CI 0.01 to 0.05). However, anxiety did not mediate this association (95%CI -0.01 to 0.03). While controlling for the other CTQ subscales, depression did not mediate the association between physical abuse and compulsive sexual behavior (95%CI -0.07 to 0.10), emotional abuse and compulsive sexual behavior (95%CI -0.01 to 0.21), emotional neglect and compulsive sexual behavior (95%CI -0.08 to 0.07), or physical neglect and compulsive sexual behavior (95%CI -0.16 to 0.04). Similarly, while controlling for the other CTQ subscales, anxiety did not mediate the association between physical abuse and compulsive sexual behavior (95%CI -0.05 to 0.03), emotional abuse and compulsive sexual behavior (95%CI -0.07 to 0.10), emotional neglect and compulsive sexual behavior (95%CI -0.02 to 0.02), or physical neglect and compulsive sexual behavior (95%CI -0.05 to 0.04).

Discussion

The prevalence of childhood sexual abuse found in our study (57%) is in line with that reported in the literature (ranging from 31 to 78%).[34-36] Although the rate of childhood sexual abuse in persons engaging in compulsive sexual behavior is relatively high, it should be noted that childhood sexual abuse has been associated with many other mental health conditions, such as conversion disorder, borderline personality disorder, and substance use disorder.[37] Furthermore, it is worth noting that a substantial portion of individuals with compulsive sexual behavior will not report having experienced childhood sexual abuse. In addition to compulsive sexual behaviors, childhood sexual abuse was associated with increased symptoms of depression and anxiety, in line with previous findings.[14-16,35]

The results of the parallel mediation analyses both converged with and diverged from our hypotheses. Specifically, the findings indicated that depression, but not anxiety, mediated the relationship between childhood sexual abuse and compulsive sexual behavior in men. A potential explanation for this mediating role of depression relates to cognitive distortions. According to Beck's cognitive model of depression, early childhood adversity may lead to rigid negative views about the self, the world, and the future.[38] According to Beck's theory, self-blame is a primary component of depression, and increases in self-blame may increase severity of depression.[39] The link between self-blame, depression, and compulsive sexual behavior may be relevant in explaining our findings. That said, this explanation is based on our assumptions and would require empirical testing.

Recently, self-blame and compulsive sexual behavior were explored in a study with young Chinese males who sought counseling for compulsive sexual behaviors.[40] Researchers found that "sexual self-blame" and "sexual depression" mediated the relationship between compulsive sexual behavior and cognitive outcomes of sexual behavior (which assesses a person's anticipated negative implications from sexual behavior, such as financial problems or problems with the law). Sexual self-blame refers to the tendency to blame oneself when sexual patterns are negative or unhealthy, whereas sexual depression refers to feelings of sadness when evaluating one's sex life. These negative self-perceptions may explain the role of depression in compulsive sexual behavior. Previous research has demonstrated that boys may be more suspectable to self-blame after sexual abuse due to socialization that they should "be strong enough" to stop the abuse (e.g., Hunter et al.[41]), although more research is needed in this domain. However, given the cross-sectional design of the present study, it is also possible that symptoms of depression may result from the moral evaluation by the individual of his compulsive sexual behavior, as has been noted in recent studies.[42]

In contrast to depression, anxiety did not mediate the relationship between childhood sexual abuse and compulsive sexual behavior in men in our sample. A potential reason for this finding is provided by Bancroft & Vukadinovic,[43] who proposed three mechanisms for the activation of sexual behavior under negative mood states in sexually compulsive individuals. The first relates to the regulatory goal of sexual activity to depressed individuals (e.g., feeling loved or validated); the second is the distraction function of sexual arousal to depressed individuals; and the third is sexual arousal being a route to transfer emotions like anxiety and anger to the sexual behavior.[10,43] In other words, this model suggests that there are more routes for depression to influence sexual behavior than for anxiety to do so, which may account for our findings, given depression and anxiety were entered simultaneously in the model.

The results of this study may have important clinical implications. From a transdiagnostic perspective, childhood sexual abuse can be conceptualized as a distal risk factor in the development of compulsive sexual behavior.[44] That is, it is not possible for treatment providers to "undo" the experience of childhood sexual abuse. On the other hand, symptoms of depression are a more proximal risk factor that may lead to and exacerbate symptoms of compulsive sexual behavior. Furthermore, evidence-based treatments, including cognitive-behavioral therapy (CBT), are effective in targeting depression.[45] CBT may be of particular benefit in targeting cognitive distortions that overlap due to childhood sexual abuse and depression (especially self-blame). In line with the self-medication hypothesis and experiential avoidance, targeting symptoms of depression through adaptative coping strategies may help individuals be less likely to engage in compulsive sexual behavior as a maladaptive coping strategy.

One limitation of the present research is that the sample consisted of men seeking treatment for compulsive sexual behavior. Therefore, our results may not generalize to non-treatment-seeking men who engage in compulsive sexual behavior. However, the study enrolled

men from different ethnicities and sexual orientations, bringing more diversity to the sample. Additionally, the results of our study may not generalize to women with compulsive sexual behavior. Second, retrospective recall of childhood sexual abuse introduces a risk of memory bias. To address this potential limitation, the present research used one of the most well-known and psychometrically sound measures, the CTQ, to assess for childhood sexual abuse. Third, although we tested theoretically plausible mediation models, the cross-sectional mediation model precludes establishing temporal causality. Consequently, future research with prospective longitudinal designs is needed to establish temporal and causal relationships between childhood sexual abuse, depression, and compulsive sexual behaviors. Fourth, we did not use a structured psychiatric interview to diagnose some of the psychiatric disorders which were part of the eligibility criteria. Lastly, we cannot assume that all individuals who experienced childhood sexual abuse would label the sexual encounter(s) "traumatic,"[46] and boys are less likely to have a negative reaction to childhood sexual abuse compared to girls.[47] That said, it is well established that there is a significant link between childhood sexual abuse and depression/anxiety.

In conclusion, the present study furthers our understanding of the link between childhood sexual abuse and compulsive sexual behavior in men. In particular, the results suggest that one potential mechanism by which childhood sexual abuse may lead to compulsive sexual behavior is as a maladaptive coping mechanism to reduce symptoms of depression. Although the present research provides further evidence of the deleterious effects of childhood sexual abuse, the findings also have the potential to enhance treatments for individuals with compulsive sexual behavior and a history of childhood sexual abuse. Specifically, targeting symptoms of depression – a proximal and modifiable risk factor – may have a significant effect on reducing compulsive sexual behavior, which in turn may improve overall treatment outcomes and quality of life among individuals with compulsive sexual behavior who have experienced childhood sexual abuse.

Disclosure

The authors report no conflicts of interest.

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