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# Cumulative Adverse Childhood Experiences and Sexual Satisfaction in Sex Therapy Patients: What Role for Symptom Complexity?

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## ABSTRACT

**Introduction:** Patients consulting for sexual difficulties frequently present additional personal or relational disorders and symptoms. This is especially the case when they have experienced cumulative adverse childhood experiences (CACEs), which are associated with symptom complexity. CACEs refer to the extent to which an individual has experienced an accumulation of different types of adverse childhood experiences including sexual, physical, and psychological abuse; neglect; exposure to inter-parental violence; and bullying. However, past studies have not examined how symptom complexity might relate to CACEs and sexual satisfaction and even less so in samples of adults consulting for sex therapy.

**Aim:** To document the presence of CACEs in a sample of individuals consulting for sexual difficulties and its potential association with sexual satisfaction through the development of symptom complexity operationalized through well-established clinically significant indicators of individual and relationship distress.

**Methods:** Men and women (n = 307) aged 18 years and older consulting for sexual difficulties completed a set of questionnaires during their initial assessment.

**Main Outcome Measures:** (i) Global Measure of Sexual Satisfaction Scale, (ii) Dyadic Adjustment Scale—4, (iii) Experiences in Close Relationships—12, (iv) Beck Depression Inventory—13, (v) Trauma Symptom Inventory—2, and (vi) Psychiatric Symptom Inventory—14.

**Results:** Results showed that 58.1% of women and 51.9% of men reported at least four forms of childhood adversity. The average number of CACEs was 4.10 (SD = 2.23) in women and 3.71 (SD = 2.08) in men. Structural equation modeling showed that CACEs contribute directly and indirectly to sexual satisfaction in adults consulting for sex therapy through clinically significant individual and relational symptom complexities.

**Conclusion:** The findings underscore the relevance of addressing clinically significant psychological and relational symptoms that can stem from CACEs when treating sexual difficulties in adults seeking sex therapy.
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**Key Words:** Symptom Complexity; Mental Health; Relatedness; Sexual Satisfaction; Adverse Childhood Experiences

## INTRODUCTION

Psychosexual and relational risk factors of low sexual satisfaction are increasingly well delineated and encompass a wide array of individual and relational dynamics.[1] For example, anxious and depressive moods operate in conjunction with various features of relationship distress (eg, affective communication, anxious and avoidant attachment) to predict sexual well-being or satisfaction.[2] Sex and relationship duration generally moderate these associations, underlying the need to include these variables in integrative models.[3—5] Recent reviews and empirical studies have suggested that models aiming to better understand sexual satisfaction need to consider early developmental adversities that can shape sexual knowledge, attitudes, and behaviors.[6—8] Specifically, adverse childhood life experiences (ACEs) have been shown to contribute, throughout the life course, to sexual anxieties, avoidance or compulsion, and ultimately to decreased sexual satisfaction.[6,8—10] There is an increasingly large body of literature

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on the association of child sexual abuse[11] and other forms of ACEs, namely child physical abuse and neglect,[8,12–15] with sexual functioning, yet the link with sexual satisfaction per se is less studied. Moreover, recent studies have indicated that multiple co-occurring forms of child adversity better predict overall physical and mental health problems[16] and trauma-related symptoms.[17] In fact, the trauma-focused empirical literature increasingly indicates that cumulative ACEs (CACEs) are more likely to lead to negative outcomes than exposure to a single type of ACE independently of its severity.[17–19] These results suggest that the association between ACEs and adult negative outcomes follow a dose-response model in which exposure to more adversities predicts poorer functioning.[20] In one of the few studies examining the link between CACEs and sexual satisfaction, in adults from the community, Bigras et al[6] observed a stable effect of CACEs on decreased sexual satisfaction, even when removing the specific effects of child sexual abuse. CACEs can decrease sexual satisfaction because childhood adversity often occurs at the hand of significant attachment figures, in situations where intense negative feelings such as fears, perceived betrayal, abandonment, and loss[21,22] are experienced, are carried throughout life, and potentially are triggered or re-evoked in sexual relationships, thus affecting sexual satisfaction.[23] Although current evidence-based sex therapy manuals include general recommendations for sexually traumatized individuals,[11] the prevalence of various forms of child maltreatment and the correlates of those adverse experiences in patients consulting in sex therapy clinics remain largely unknown.[24,25]

If fact, the available literature suggests high rates of child sexual abuse in sex therapy patients (more than three times higher than those reported in the general population[24]), but other types of ACE remain less well documented. Clinical case studies have suggested that when CACEs issues and related symptoms are not successfully addressed during treatment, dropout rates can increase[26] and therapy effectiveness decreases.[27] These findings emphasize the need to concentrate research efforts on the effects of CACEs on sexual outcomes in clinical samples of sex therapy patients.

Although there is an extensive body of research examining specific forms of childhood adversity separately, they tend to co-occur.[28] This co-occurrence of childhood adversity has generated great interest in the scientific literature from which has emerged a wide array of closely related concepts, including the notion of CACEs that refers to the number of different types of adversity experienced by the same person.[6,29–31] Although past studies have shown that the accumulation of multiple forms of child maltreatment is associated with individual (eg, dissociation, depression, anxiety) and relational (eg, attachment insecurities) difficulties[32,33] that can jeopardize sexual satisfaction, the clinical significance of these negative effects has been questioned.[34] The notion of symptom complexity refers to "the number of different symptom clusters simultaneously reported in the clinical range by each participant"[19] [p. 224]. Symptom complexity has been discussed in reference to complex trauma[35] and disorders of extreme stress not otherwise specified.[36,37] The construct reflects the clinical and empirical observations that, as the number of different types of ACEs experienced by individuals increases, clinical symptoms of psychosocial distress will not only increase in a statistically significant way but also reach normative thresholds separating dysfunctional from normal populations. In consequence, the clinical burden associated with these severe co-occurring symptoms of attachment insecurity, couple distress, depression, and dissociation will meaningfully disrupt adult functioning.[28] This hypothesis was tested in a series of studies showing a linear association between the number of ACEs experienced before 18 years of age and individual symptom complexity.[28,30,38–40]

The mechanisms of these CACE effects on sexual satisfaction are unknown. However, previous ACEs could produce symptoms that accumulate over the long haul. When these symptoms become persistent, they eventually lead to lower sexual satisfaction. The self-trauma model[41] theoretically supports this assumption suggesting that CACEs might lead to cumulated symptoms in different domains, including psychological suffering, overwhelming low regulation capacities, and relational difficulties, which decrease survivors' satisfaction and adaptation in adulthood. Therefore, the present study posits that the construct of symptom complexity offers a comprehensive understanding of the relation between CACEs and the wide range of symptoms presented by adult survivors consulting for sex therapy. Thus, we examined whether CACEs would lead to an accumulation of relational and psychological symptoms and in turn be associated with lower sexual satisfaction in sex therapy patients.

Whether these findings about trauma-based symptom complexity can be extended to sexual difficulties observed in clinical settings remain to be determined. In addition, because adult sexuality is rooted in individual and relational dynamics,[1,42] conceptualizations of symptom complexity should more clearly reflect these intrapersonal and interpersonal dimensions as distinct domains of symptom complexity.

Although there is evidence associating CACEs with clinically significant symptom clusters at the individual level (ie, a combination of anxiety, depression, dissociation, and other personal symptoms in the clinical range),[39,43] it is unknown whether relational symptom complexity is related to sexual satisfaction. However, comorbidity is the norm rather than the exception in patients consulting sexual health clinics.[44] Thus, in theory, because of the complex interplay between mental and sexual health,[45] symptom complexity should predict sexual satisfaction.

Relational symptom complexity can be defined as the extent to which an individual endorses, at clinical levels, different types of relatedness impairments. To our knowledge, there are no studies on relational symptom complexity in association with CACEs and sexual satisfaction. However, there is evidence that CACEs are associated with attachment insecurity, dysfunctional intimate

relationships, and negative sexual outcomes.[6,33,46,47] Thus, the hypothesis that CACEs predict clinically significant relational difficulties, which in turn can affect sexual satisfaction, is plausible and needs to be tested. Although the evidence base is small, symptom complexity at the individual and relational levels could explain decreased levels of sexual satisfaction in adults consulting for sex and relational difficulties. Examining the specific role of CACEs and trauma-related complex symptoms in relation to sexual satisfaction in a clinical sample is of great relevance for clinicians and research scholars because it could highlight prospective intervention targets and clarify the often overlooked association between psychological symptoms and sexual functioning,[48] especially in trauma survivors.

## AIMS

In light of these considerations, the main purposes of this study were to (i) establish the prevalence of CACEs and low sexual satisfaction in sex therapy patients and, using carefully validated norms for dysfunctional populations, to determine whether these individuals present meaningfully high rates of depression, dissociation, and psychological distress (ie, individual symptom complexity) and clinically significant couple distress and attachment insecurities (ie, relational symptom complexity) and (ii) examine the validity of an integrative model in which CACEs are associated with sexual satisfaction through clinically significant symptoms of individual and relational symptom complexities measured as the accumulation of symptoms of clinical interest in each domain. We hypothesized that CACEs would heighten individual and relational symptom complexities, which in turn would contribute to lower levels of sexual satisfaction. This investigation will help specify whether the association between CACEs and sexual satisfaction is explained solely by individual symptom complexity, mainly by relational symptom complexity, or by the two types of symptom complexity when examined simultaneously.

## METHODS

### Participants

Participants were 307 adult patients (55.4% women; n = 170) consulting master-level interns in clinical sexology for sexual difficulties, recruited in different professional settings from a large metropolitan area, reflecting the wide array of sex-related services offered to the population. The mean age of patients was 38.04 years (SD = 12.88, range = 18−77). Most (40.8%) had attained a college-level education, 25.8% had completed undergraduate studies, and 13.1% had completed graduate studies. Concerning annual income, 40.3% reported less than CAN$20,000, 30.7% reported CAN$20,000 to CAN$40,000 and 29% reported an income above CAN$40,000. Most patients were from Canada (89.8%), with French as their primary language (85.5%), and considered themselves as heterosexual (84.2%). Regarding relational status, 15.4% were involved in a dating relationship, 31.1% were cohabiting, 15.7% were married, and 37.7% were single. Participants in a relationship were involved with their partner for an average of 8.58 years (SD = 8.89). Patient diagnoses, based on the *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition, Text Revision* criteria, included low sexual desire disorder (60%), erectile dysfunction (11%), female orgasmic disorder (11%), sexual pain disorders (9.5%), premature ejaculation (5%), male orgasmic disorders (5%), and sexual aversion or female arousal disorder (1.2%).

### Procedure

Participants were recruited through trainees in clinical sexology at the University of Quebec in Montreal who informed patients about the present study during the first meeting. They were informed that the project aimed to examine the functioning of individuals consulting for sexual difficulties. Interested participants completed the consent form and then were invited to complete self-report questionnaires alone, without consulting their partner, if they had one. Confidentiality was protected by the attribution of a numerical code for each participant. This research was approved by the institutional review board of the University of Quebec in Montreal.

## MAIN OUTCOME MEASURES

### Cumulative Adverse Childhood Experiences

CACEs were assessed using 17 items derived from various measurements of childhood maltreatment[6,33,49−51] to capture eight typical acts of omission and commission before 18 years of age: childhood sexual, physical, and psychological abuse; psychological neglect and physical neglect; exposure to physical and psychological inter-parental violence; and peer bullying (see Table 1 for items). In Canada and other countries, the threshold of adulthood, or the age of majority, is at least 18 years old and individuals younger than 18 years are considered minors or children, so, as in past studies,[20,52,53] we measured ACEs occurring before 18 years of age. For this study, items assessing physical and psychological abuse and neglect were derived from existing measurements[49,54−56] and previously validated in French.[54,57] Childhood sexual abuse was measured by one item assessing whether the individual had ever experienced unwanted sexual contact or sexual contact with an adult, someone in authority, or someone 5 years older before 18 years of age, followed by questions on type of perpetrated acts (eg, touching, penetration) and relationship with the abuser. For the other forms of child adversity, patients were asked to specify how many times each listed event had happened in a typical year before 18 years of age on a seven-point Likert scale ranging from 0 (never) to 6 (almost every day). Each form of adversity was coded as not experienced (0) or experienced (1) and summed to produce a total CACE score ranging from 0 to 8, with higher scores indicating greater exposure to multiple forms of adversity. The use of a composite CACE variable is common and recommended in the trauma-focused empiric literature.[6,30,58,59] This observed variable represents a composite variable of cumulative risk[60] that is

**Table 1.** Items used to assess cumulative adverse childhood experiences

| |
|---|
| Child sexual abuse |
| 1. Have you ever experienced unwanted sexual contact in childhood or adolescence OR have you ever experienced sexual contact during childhood or adolescence with an adult, someone in authority, or someone who was 5 y older than you? |
| Before 18 y of age, how many times have the following items occurred? Base your answers on a typical year. Answer by referring to your biological parents or other adults who represented your maternal and paternal figures. My parent has (or parents have): |
| Childhood physical abuse |
| 2. Slapped me in the face |
| 3. Burned me with boiling water, cigarettes, or other things |
| 4. Hit me, kicked, or punched me |
| 5. Hit me with an object (belt, bat, etc) |
| 6. Pushed or shoved me |
| Childhood psychological abuse |
| 7. Humiliated me, put me down, or ridiculed me |
| 8. Made me feel like I was not important |
| 9. Said I was worthless or said hurtful things |
| Childhood psychological neglect |
| 10. Ignored me, wasn't there when I needed them, or seemed not to like me |
| 11. Struggled to understand me and my needs |
| 12. Ignored my demands for attention or did not take to me |
| Childhood physical neglect |
| 13. Didn't give me food, regular baths, clean clothes, or medical attention when I needed it |
| 14. Shut me in a room for an extended period |
| Psychological inter-parental violence |
| 15. Told nonsense, screamed at each other, or put each other down |
| Physical inter-parental violence |
| 16. Shoved each other, hit with hands, foot, or other objects; fought or threw objects at each other |
| Bullying |
| 17. I have been intimidated or harassed by one or more young people (bullying) |

statistically sensitive even with small samples,[58] making no assumptions about the relative strengths of multiple risk factors, and avoiding measurement error associated with the analysis of highly correlated variables. The 17 items showed good internal consistency ($\alpha = 0.90$).

## Sexual Satisfaction

A French version of the Global Measure of Sexual Satisfaction (GMSEX) was used to assess sexual satisfaction, defined as "the individual's subjective evaluation of the positive and negative aspects of one's sexual relationships, and his/her subsequent affective response to this evaluation"[61] [p. 124]. Participants rated their sexual relationships on five seven-point bipolar scales: good-bad, pleasant-unpleasant, positive-negative, satisfying-unsatisfying, and valuable-worthless. Scores varied from 5 to 35, with higher scores indicating greater sexual satisfaction. The GMSEX internal consistency reported by the investigators in their validation samples was good (0.90, 0.96) and similar to the Cronbach $\alpha$ value in the present study ($\alpha = 0.91$).

## Individual Symptom Complexity

Scores of dissociation, depression, and psychological distress were coded 0 when below the clinical cutoff and 1 when above the clinical cutoff based on the norms of each measurement. Total scores of individual symptom complexity ranged from 0 (no scale reached clinical significance) to 3 (all scales reached clinical significance).

### Dissociation

A French version of the 10-item dissociation scale of the Trauma Symptom Inventory—2[62] was used to assess dissociation symptoms. Items were translated into French by members of the research team. This scale assesses whether patients experienced dissociative experiences (eg, "feeling like in a dream") in the past 6 months on a Likert scale ranging from 0 (never) to 3 (often), with a total score ranging from 0 to 30. T-scores above 65 reflect clinically significant dissociation levels. Cronbach $\alpha$ for the standardization sample was good ($\alpha = 0.86$)[62] and so was the internal consistency in the present study ($\alpha = 0.83$).

### Depression

The 13-item validated French version of the Beck Depression Inventory,[63–65] ranging from 0 to 39, was used to assess depressive symptoms. Patients had to report on how they had been feeling in the past week on a Likert-type scale. An example of an item is "I do not feel sad" (0), "I feel sad" (1), "I am sad all the time and I can't snap out of it" (2), and "I am so sad or unhappy that I can't stand it" (3). Participants whose total scores were higher than 16 were considered severely depressed. Internal consistency was good in the validation study ($\alpha = 0.90$) and in the present sample ($\alpha = 0.91$).

### Psychological Distress

Psychological distress was measured with the validated French version of the Psychiatric Symptom Inventory—14,[66,67] including depression, anxiety, aggressiveness, and cognitive problems. Total scores range from 0 to 42, with higher scores reflecting a higher level of psychological distress. A score higher than 30 indicates the presence of significant psychological distress. Internal consistency was high in the validation study of the French version (0.89)[68] and in the present sample ($\alpha = 0.91$).

## Relational Symptom Complexity

Measurements of couple satisfaction, attachment-related anxiety, and avoidance were coded 0 when below the clinical cutoff and 1 when above the clinical cutoff based on the norms for each

measurement. Total scores of relational symptom complexity ranged from 0 (no scale reached clinical significance) to 3 (all scales reached clinical significance).

### Couple Satisfaction

The four-item Dyadic Adjustment Scale (DAS-4)[69] was used to assess the level of relationship satisfaction. The DAS-4 is a standardized, abbreviated version of the 32-item DAS ($\alpha = 0.96$) translated into French by Baillargeon et al[70] ($\alpha = 0.91$). Global couple adjustment scores on the DAS-4 range from 0 to 21. Based on the original clinical cutoff, scores below 13 indicate clinically significant couple distress.[69] The four items showed good internal consistency ($\alpha = 0.75$). Only participants who were involved in a relationship completed this questionnaire.

### Adult Attachment

The French version of the short form of the Experience in Close Relationships Scale (ECR-12)[71] was used to measure attachment-related anxiety and avoidance on a seven-point scale ranging from 1 (disagree strongly) to 7 (agree strongly), for a maximum score of 42, based on general experiences in intimate relationships. Mean scores were computed and based on established cutoffs.[72] Participants who endorsed levels of attachment anxiety with a mean score higher than 3.5 were considered anxiously attached, and those who endorsed levels of attachment avoidance with a mean score lower than 2.5 were considered avoidant. Based on the validation study,[71] the ECR-12 proved a reliable measurement in four samples (ie, French-speaking couples, English-speaking couples, individuals in same-sex relationships, and couples seeking therapy), with Cronbach $\alpha$ values ranging from 0.78 to 0.87 for the attachment anxiety scale and from 0.74 to 0.83 for the avoidance scale. Cronbach $\alpha$ values in the present sample also were good ($\alpha = 0.88$ and 0.84, respectively).

## Data Analytic Strategy

Data screening for normality showed that the study variables were normally distributed and the Mahalanobis distance showed no multivariate outliers.[73] Then, descriptive analyses on the prevalence of CACEs and the rates of clinical increases of individual and relational symptoms were performed. Bivariate analyses were conducted to examine the associations between study variables. The measurement model of the latent variable of sexual satisfaction and the hypothesized model were tested using structural equation modeling in Mplus.[74] This program accounts for missing data using the full information maximum likelihood estimation method.[74] For the main analyses, which included the DAS-4[69] as an indicator of relational symptom complexity, only patients who were involved in a couple relationship when the study was conducted were included in the path analyses because single patients did not have couple distress scores (n = 190 men and women). Based on Byrne's[75] recommendations for structural equation modeling using cross-sectional data, the order of variables should be theoretically grounded and based on their temporal sequence (in this case, CACEs would have been experienced before the development of current symptom complexity and current sexual satisfaction). This analytic strategy has often been adopted in the literature and proved effective in understanding the effects of CACEs.[6,38,54]

For adequacy of model fit, a non-statistically significant $\chi^2$ value, a comparative fit index (CFI) value of at least 0.90,[76] and a root mean square error of approximation (RMSEA) value below 0.06[77] are considered indicators of good fit.[78] The ratio of $\chi^2$ to degrees of freedom ($\chi^2$/df) also was computed,[79] with values below 5 indicating satisfactory fit, although a more conservative cutoff value of 3 is ideal.[80] To test mediational hypotheses, indirect effects were examined using Mplus model indirect[74] and 95% bootstrap CIs.[81] This bias-corrected method is based on a distribution for the product of coefficients and generates standardized confidence limits for the value of the indirect effect coefficients. Because some studies have reported that sex and length of the relationship can affect sexual satisfaction,[3,4,82] participants' sex and length of the relationship were added as control variables in the final model. The examination of fit indices indicates whether the hypothesized model holds when controlling for sex and length of the relationship.

# RESULTS

## Sample Characteristics

As presented in Table 2, prevalence rates of CACEs in the present sample were high, with 58.1% of women and 51.9% of men reporting at least four forms of interpersonal trauma. The average number of types of ACE reported by participants was 4.10 (SD = 2.23) in women and 3.71 (SD = 2.08) in men, without a significant sex difference ($t_{296} = 1.54$; $P = .12$). Men and women also reported similar levels of sexual satisfaction, with men reporting an average score of 21.27 and women reporting a slightly lower score of 20.76 ($t_{263} = -0.55$; $P = .58$).

## Prevalence of Individual and Relational Symptom Complexities

When individual symptom complexity was examined, the results showed that 23.2% of patients were above the clinical threshold for dissociation, 46.8% were above the clinical threshold for depression, and 51% were above the clinical threshold for psychological distress. The overall mean score for individual symptom complexity was 1.19 (SD = 1.07). For relational symptom complexity, most patients reported clinically significant attachment insecurities (attachment-related anxiety = 71.0%; attachment-related avoidance = 65.6%) and 40.7% reported couple distress. The overall mean score for relational symptom complexity was 1.63 (SD = 0.92). Correlations between variables are presented in Table 3.

## Measurement Model

Fit indices showed that the five indicators of sexual satisfaction provided a satisfactory fit ($\chi^2_4 = 7.31$; $P = .12$; $\chi^2$/df = 1.83;

**Table 2.** Prevalence rates of cumulative ACEs and means and SDs for symptom complexity levels and sexual satisfaction based on number of ACEs experienced

| | | Individual symptom complexity | | Relational symptom complexity | | Sexual satisfaction | |
|---|---|---|---|---|---|---|---|
| ACEs, n | Total sample, % (n) | Mean | SD | Mean | SD | Mean | SD |
| 0 | 5.7 (17) | 0.65 | 0.86 | 1.20 | 1.01 | 27.23 | 5.18 |
| 1 | 9.7 (29) | 0.62 | 0.94 | 1.46 | 0.96 | 20.50 | 6.07 |
| 2 | 14.4 (43) | 1.07 | 1.20 | 1.36 | 0.96 | 22.74 | 7.00 |
| 3 | 14.8 (44) | 1.23 | 0.99 | 1.80 | 0.85 | 21.56 | 7.96 |
| 4 | 12.4 (37) | 1.32 | 1.13 | 1.69 | 0.95 | 17.85 | 9.07 |
| 5 | 13.8 (41) | 1.54 | 0.98 | 1.64 | 0.90 | 20.25 | 6.22 |
| 6 | 15.4 (46) | 1.04 | 1.01 | 1.56 | 0.81 | 20.38 | 7.36 |
| 7 | 11.1 (33) | 1.67 | 1.02 | 2.00 | 0.79 | 20.93 | 7.81 |
| 8 | 2.7 (8) | 1.50 | 1.07 | 2.25 | 0.46 | 20.00 | 6.72 |

ACEs = adverse childhood experiences.

CFI = 0.99; RMSEA = 0.07; 90% CI = 0.00−0.15), with coefficients for each of the five indicators ranging from 0.71 to 0.91 ($P < .001$ for all comparisons).

## Integrative Model

Results showed a significant path between CACEs and sexual satisfaction ($\beta = -0.16$; $P = .04$), explaining 3% of the variance in sexual satisfaction. Individual and relational symptom complexities were added as mediators of the relation between CACEs and sexual satisfaction (Figure 1). The direct link between CACEs and sexual satisfaction became non-significant ($\beta = -0.07$; $P = .34$) and thus was removed from the final model for parsimony. The mediational model was a good representation of the data ($\chi^2_{18} = 34.85$; $P = .01$; $\chi^2/df = 1.94$; CFI = 0.97; RMSEA = 0.07; 90% CI = 0.03−0.11). The covariance between individual and relational symptom complexities was significant ($\beta = 0.32$; $P = .000$). The integrative model explained 13% of the variance in sexual satisfaction.

Examination of indirect effects showed that the effects of individual symptom complexity ($\beta = -0.05$; 95% CI = −0.12 to −0.01) and relational symptom complexity ($\beta = -0.03$; 95% CI = −0.09 to −0.001) were significant and mediated the association between CACEs and sexual satisfaction. The ratio of the total effect of CACEs on sexual satisfaction through individual symptom complexity was 0.63 while it was 0.37 for relational symptom complexity.

## Controlling for Sex and Length of Relationship

An additional structural equation model was conducted to verify whether our mediational model held when controlling for relationship length and sex. Adding length of relationship and sex to the mediational model resulted in a significant negative association between relationship length and sexual satisfaction ($\beta = -0.34$; $P = .000$) and a positive significant association between sex and sexual satisfaction ($\beta = 0.14$; $P = .05$) suggesting that men report slightly higher sexual satisfaction. Adding those variables did not change the significance and strength of the associations between the variables of the mediation model. This model also showed good fit ($\chi^2_{30} = 50.44$; $P = .01$; $\chi^2/df = 1.68$; CFI = 0.97; RMSEA = 0.06; 90% CI = 0.03−0.09), explaining 25% of the variance in sexual satisfaction. This additional analysis confirmed that the mediational model held independently of relationship duration and sex.

**Table 3.** Correlations among CACEs, ISC, RSC, and sexual satisfaction

| Variables | Mean | SD | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. CACEs | 3.93 | 2.17 | — | | | | | | | | | |
| 2. ISC | 1.19 | 1.07 | 0.22‡ | — | | | | | | | | |
| 3. RSC | 1.63 | 0.92 | 0.19‡ | 0.30‡ | — | | | | | | | |
| 4. Sexual satisfaction | 20.97 | 7.49 | −0.13* | −0.29‡ | −0.20‡ | — | | | | | | |
| 5. Sex is good | 3.77 | 1.78 | −0.11 | −0.24‡ | −0.10 | 0.88‡ | — | | | | | |
| 6. Sex is pleasant | 4.42 | 1.60 | −0.11 | −0.24‡ | −0.19‡ | 0.91‡ | 0.75‡ | — | | | | |
| 7. Sex is positive | 4.18 | 1.68 | −0.16† | −0.27‡ | −0.19‡ | 0.88‡ | 0.72‡ | 0.79‡ | — | | | |
| 8. Sex is satisfying | 3.60 | 1.84 | −0.07 | −0.20‡ | −0.10 | 0.85‡ | 0.75‡ | 0.73‡ | 0.67‡ | — | | |
| 9. Sex is valuable | 4.96 | 1.90 | −0.14* | −0.30‡ | −0.28‡ | 0.77‡ | 0.54‡ | 0.65‡ | 0.61‡ | 0.48‡ | — | |
| 10. Length of relationship | 8.58 | 8.89 | 0.05 | −0.00 | 0.09 | −0.28‡ | −0.28‡ | −0.24† | −0.18* | −0.31‡ | −0.29‡ | — |

CACEs = cumulative adverse childhood experiences; ISC = individual symptom complexity; RSC = relational symptom complexity.
*$P \leq .05$; †$P \leq .01$; ‡$P \leq .001$.

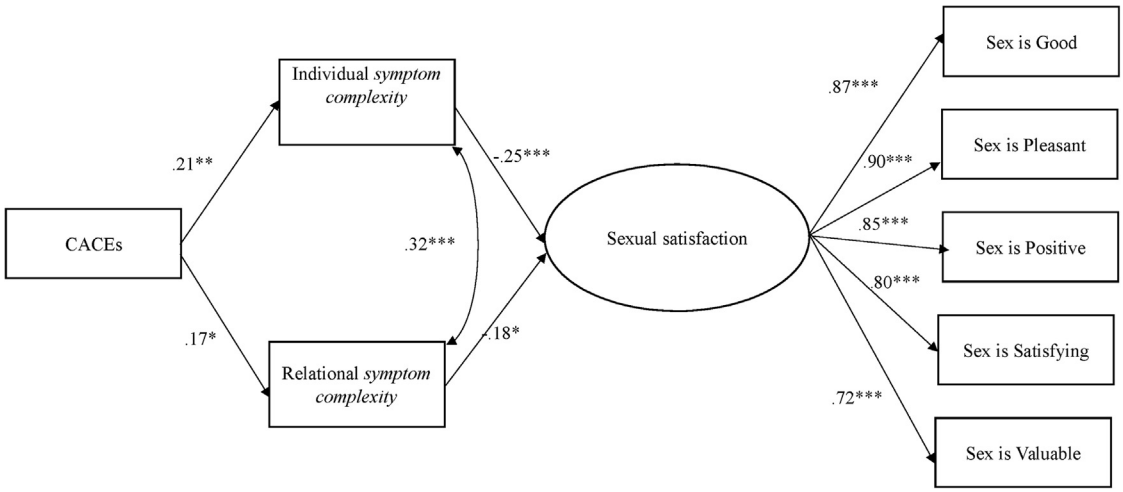


**Figure 1.** Structural equation modeling for CACEs, symptom complexity, and sexual satisfaction. Individual symptom complexity includes endorsement of dissociation, depression, and psychological distress scales based on clinical scores, and relational symptom complexity includes endorsement of attachment avoidance, attachment anxiety, and marital distress based on clinical cutoffs. *$P \leq .05$; **$P \leq .01$; ***$P \leq .001$. CACEs = cumulative adverse childhood experiences.

## DISCUSSION

As expected, our primary results largely support the contention that, in sex therapy patients, the prevalence of CACEs and of adult symptom complexity or complex trauma is high. In fact, observed rates of CACEs proved to be much higher, sometimes twice as high, than those observed in studies of community samples.[6,17,83] Most women and men reported having experienced four forms of childhood adversity including sexual, physical, and psychological abuse or neglect. Although, traditionally, studies of developmental barriers to adult sexual health have focused mainly on child sexual abuse, the present findings show that the list of early determinants of sexual satisfaction in sex therapy patients needs to be expanded to include other co-occurring forms of ACEs. The generalization of this conclusion to a larger number of sex treatment clinics should be rigorously determined. Nonetheless, this finding is important and suggests that, in individuals consulting for sexual difficulties, presenting problems could be embedded in a complex life course history that is too often discarded to focus narrowly on contemporary predictors of current sexual problems and dysfunctions.

The present investigation is one of a small but growing number of studies showing not only that CACEs are associated with lower sexual satisfaction in adulthood[6,8,15,84] but also, and this is a new finding, that symptom complexity is a plausible mechanism potentially explaining why CACE survivors report their current sexual activities as less pleasant, satisfying, or valuable. These results support a model in which, in the long run, poorly resolved CACEs can be accompanied by clinically significant symptoms of individual and relational disorders that will increase the risk to experience low sexual satisfaction. A few recent studies conducted in community samples[6,84] have shown that multiple forms of ACE are associated with an increased risk of lower levels of adult sexual satisfaction, decreased romantic relationship quality, or affect dysregulation. However, this is the first study examining the contribution of clinically significant indicators of cumulative individual or relational distress operationalized through robust markers of attachment, couple, depressive, psychological, and dissociative distress. The present findings parallel those of Hodges et al[30] and Briere et al[39] confirming that symptom complexity provides a valid perspective on complex trauma and that this perspective can help deepen our understanding of multifaceted sexual health issues.

Our effort to construct separate (ie, individual and relational) dimensions of symptom complexity proved fruitful. Although the two variables were associated with CACEs and sexual satisfaction, their role appeared to be distinct and complementary. Individual symptom complexity, representing the co-occurrence of clinically increased depression, psychological distress, and dissociation, was found to mediate the association between CACEs and sexual satisfaction. This also was the case for relational symptom complexity, which showed significant independent mediational associations with CACEs and low sexual satisfaction. When controlling for symptom complexity, the direct effect between CACEs and sexual satisfaction became non-significant. These results suggest that the individual and relational domains need to be assessed separately because each represents distinct pathways associated with CACEs and sexual satisfaction. No sex differences were observed in the pattern of associations among CACEs, symptom complexity, and sexual satisfaction. Likewise, women and men's exposure to CACEs did not differ and the model held regardless of the length of the relationship, in accord with previous results.[3,4] Those results also follow the lines of the self-trauma model,[41] which postulates that CACEs interrupt the child's normal development by interfering with the acquisition of optimal affective and relational skills that in turn are associated with several psychosocial difficulties that include less satisfaction with one's own sexuality.

### Limitations and Future Studies

This study has inherent limitations. The cross-sectional design does not allow causal inferences. Although our model was based on theoretical grounds and temporal sequence, causal effects between relational and psychological symptoms and sexual satisfaction could be bidirectional and only multi-wave longitudinal studies could help disentangle the direction of causality among these variables. In addition, self-report questionnaires are subject to biases in participants' recall. Our decision to define CACEs using inclusive criteria might have weakened the effects we observed. Although a recent study highlighted that the effect of CACEs on sexual satisfaction held using different operationalization of CACEs,[6] further studies are needed to find the best way to operationalize the notion of CACEs. The magnitude of the association between CACEs and sexual satisfaction is significant but small. This small effect is typical of the range of effects observed in population samples when studying the retrospective or prospective association of ACEs and, for example, poor relationship quality by midlife.[20] This mediation model should be replicated with broader clinical samples, including the two partners of the dyad, to fully understand the dynamic interplay of the determinants of sexual satisfaction in individuals and couples[42] consulting for sex therapy. Although this study included multiple facets of symptom complexity, other important variables should be examined in further studies (eg, affect dysregulation; mindfulness; personality disorders; other forms of psychological disturbance, such as mood, anxiety, or trauma-related disorders; or parental or social support). Despite these limitations, this study contributes to the limited body of research on trauma and sexuality in clinical samples by bridging the two fields.[85]

## CONCLUSION

Because sexuality is a major component of stable, healthy, and satisfying couple relationships, and because decreased sexual satisfaction is often a reason for seeking couple or individual sex therapy,[86] it is important to investigate the factors that can inflect sexual satisfaction trajectories. Sexual satisfaction is influenced by a plethora of interacting individual and relational factors,[2] and bearing in mind the relevance of psychological factors in the explanation of sexual satisfaction of CACE survivors can certainly help professionals select well-tailored therapeutic interventions that meet their clients' needs. In fact, considering that poor mental and sexual health are neglected yet important comorbidities,[48] mental and sexual health professionals should build collaborative partnerships to ensure full sexual health assessments, advice, treatment, and referral that are appropriate for clients.[48,87]

This study will contribute to raising the awareness of professionals working with patients seeking help for sexual problems to carefully investigate individual and relational distress as key potential predictors of poor sexual satisfaction. By being more informed on the complex ramifications after CACEs, health professionals might be more capable of unraveling the multiple predictors of sexual satisfaction. The proposed mediational model, including a portrait of trauma-related symptom complexity through individual and relational distress, also emphasizes the heterogeneity of symptoms in the aftermath of childhood adversity, suggesting that a one-size-fits-all approach to sexual difficulty treatment, especially in CACE survivors, might not be optimal.[88] In contrast, therapeutic interventions aiming to increase sexual satisfaction would benefit from being informed by the trauma and holistic to effectively target its etiologic, aggravating, and maintenance factors.[85]

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