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Sexual Assault Disclosure and Sexual Functioning: The Role of Trauma Symptomatology

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Abstract

Introduction.—Previous research has demonstrated that a history of adult sexual assault (ASA) is associated with negative outcomes, including trauma symptomatology and fear of sexual intimacy. Disclosing sexual assault may be protective against such negative outcomes.

Aim.—This study examined the indirect effect of trauma symptomatology on the association between disclosing ASA and current sexual functioning.

Methods.—Participants included 652 women 21 to 30 years old with a history of ASA recruited from the community. Participants completed self-report measures on a computer.

Main Outcome Measures.—Separate models were performed, with sexual functioning divided into sexual desire, orgasm, and pain during sex.

Results.—ASA disclosure was indirectly associated with sexual orgasm and pain during sex by trauma symptomatology. However, there was no indirect effect of trauma symptomatology on the relationship between ASA disclosure and sexual desire.

Conclusion.—Disclosing experiences of ASA may serve a protective function by lessening trauma symptomatology, thereby mitigating impacts on aspects of sexual functioning, such as orgasm and pain.

Keywords

Sexual Assault; Sexual Assault Disclosure; Sexual Functioning; Trauma; Women

Introduction

Adult sexual assault (ASA) – any unwanted or nonconsensual sexual experience occurring after 14 years of age - is a significant public health issue, with numerous studies suggesting between 13% and 45% of women will experience ASA during their lifetime [1-4]. Research has consistently shown an association between ASA and subsequent sexual difficulties [5,6].

At least 65% of women disclose their sexual assault experiences to friends, family, or health care providers [7] and it remains unclear whether disclosure is associated with positive or negative health outcomes. There has been sparse research on whether disclosure of sexual assault is associated with sexual functioning. Furthermore, evidence has indicated that post-traumatic stress disorder (PTSD) symptoms, according to *Diagnostic and Statistical Manual of Mental Disorders* criteria, are negatively related to sexual functioning [8]. To our knowledge no study has investigated the intersection of ASA disclosure, trauma symptomatology, and sexual functioning. In this study, we investigated associations between ASA disclosure and sexual functioning among women with a history of ASA, including indirect associations via trauma symptomatology.

Research indicates that women with a history of ASA are more likely than women without ASA to experience sexual arousal and desire problems, anorgasmia, and pain during sex [9,10]. Becker et al. [10] found that 59% of the ASA survivors in their sample reported having at least one sexual problem, compared to only 17.2% of the non-assaulted women. Furthermore, sexual difficulties after ASA are enduring. In a prospective study of ASA survivors who were women, 61% experienced some disruption of sexual functioning immediately after the assault, and up to 20% reported having sexual problems at a 1 year follow-up [11]. Another longitudinal study with ASA survivors interviewed 4 to 6 years after the assault found that most women reported that their sexual functioning took years to return to normal or that they still had not recovered sexually [12].

Relationship between Sexual Assault, PTSD, and Sexual Functioning

Empirical evidence has supported an association between ASA and PTSD symptoms [3,13-15]. In a nationally representative sample, ASA was associated with all 10 subscales of the Trauma Symptom Inventory [3], including anxious arousal, intrusive experiences, dissociation, and impaired self-reference, despite an average of 14 years having passed since the assault. Another study found that some women with an ASA history continued to experience posttraumatic symptoms up to 3 years following the assault [16], suggesting that the potential negative effects of trauma symptoms are long lasting for some individuals.

Research also has supported a negative association between trauma symptoms and sexual functioning. Sexual problems (operationalized as experiencing at least one of the following six sexual problems in their lifetime for at least 2 weeks: lack of interest in sex, fear of sex, inability to become sexually excited or aroused, inability to stay sexually excited or aroused, not able to have an orgasm, and painful vaginal intercourse) were more likely to be reported among ASA survivors who had PTSD symptoms and non-sexual trauma survivors who had PTSD symptoms than individuals without PTSD symptoms [8]. As many as 40% of ASA survivors who reported experiencing at least one of six sexual problems had also experienced posttraumatic symptomatology compared with fewer than 10% reporting no sexual problems. Furthermore, 40% of survivors who reported a sexual problem had experienced ASA compared with 15% who reported no sexual problems. Moreover, PTSD was found to contribute significantly to sexual problems after accounting for criminal victimization, completed rape, physical injury during the crime, and depression, suggesting that PTSD symptoms could play a key role in the development of sexual problems in women

with a history of ASA [8]. In a study with women veterans and active duty personnel (93% of whom had experienced sexual trauma), recovering from a previous PTSD diagnosis after treatment was associated with improved sexual outcomes [17]. However, we do not know why some women with a history of ASA develop trauma symptoms and sexual disturbances and others do not.

Sexual Assault Disclosure

Disclosure is an important factor in the aftermath of sexual assault. Disclosure refers to the act of telling and/or discussing an experience of sexual assault with someone, regardless of whether it was officially reported [18]. Disclosure can involve reporting to formal sources (e.g. police, campus services) and informal sources (e.g. friends, family) [19]. Rates of disclosure following ASA vary greatly with as many as 66 to 92% of ASA survivors telling at least one person about their assault [20]. In general, approximately 15% of survivors disclose their assault to formal sources, such as health service providers, and approximately 65% of survivors disclose to informal sources, such as friends or family members [7].

Anti-assault movements have historically emphasized the importance of disclosure of sexual assault [21]; however, investigations of the consequences of disclosure have yielded conflicting findings. Negative reactions to an ASA disclosure, such as victim blaming, focusing on one's own feelings rather than the victim's, and forcing the victim to go to the police, are consistently associated with negative outcomes, including increased PTSD symptoms [22]. Interestingly, positive social reactions to sexual assault disclosure has been weakly but positively associated with more severe PTSD symptoms—operationalized as a summed score of *Diagnostic and Statistical Manual of Mental Disorders, Fourth Edition* PTSD criteria including re-experiencing, numbing/avoidance, and arousal symptoms; however, this may occur because survivors with severe symptoms may seek help more often than survivors with few or no symptoms [23]. However, previous research has found positive reactions to disclosure were related to higher perceived control over recovery, which was protective against PTSD symptoms [24], and emotionally supporting reactions were associated with increased efforts to seek support [25]. Disclosure also was found to be unrelated to short-term psychological adjustment, unless the disclosure was met with a negative reaction, in which case there was an association with poor adjustment [18]. In addition, other research has found no differences in depression and PTSD diagnoses for women who have disclosed vs those who have not, prompting the investigators to speculate that ASA-related trauma occurs irrespective of disclosure [26]. The large proportion of women who report ASA to an informal source points to disclosure as potentially important in post-assault functioning; however, the association between sexual assault disclosure and sexual functioning—a possible outcome of ASA—has not been investigated.

The research cited above consistently indicates an association between ASA and problems with sexual functioning. Although disclosure is an important focus of research, the bulk of research has focused on responses to the disclosure, with less research examining whether disclosure in itself per se plays a pivotal role in post-ASA functioning. There also is limited research on the role of disclosure in the association between ASA and sexual functioning. The purpose of this study was to investigate how disclosing ASA is related to sexual

functioning. Taken together, previous research has suggested that trauma symptoms may serve as a potential pathway from disclosure of ASA to subsequent sexual outcomes [8, 23]. Therefore, we specifically investigated the indirect association between ASA disclosure and sexual functioning using trauma symptomatology.

Methods

Participants

Participants were women 21 and 30 years old ($N = 652$) recruited from an urban community. Participants' average age was 24.78 years ($SD = 2.66$). The sample was 69.9% Caucasian ($N = 456$), 6.9% African American ($N = 45$), 14.3% multiracial ($N = 93$), 4.9% Asian American ($N = 32$), .6% Hawaiian or Pacific Islander ($N = 4$), and 1.4% "other" ($N = 9$). Seven participants had missing racial identification data. A range of income was observed; most (64.6%) earned less than \$40,000 per year, whereas 13.2% earned more than \$61,000 per year. Thirty-seven percent of participants identified as full- or part-time students.

Participants were recruited from an urban community using online (e.g., Craigslist) and print advertisements soliciting single women without drinking problems to participate in a research study on social interactions between men and women. Women in relationship were permitted to participate provided that those relationships had begun in the past six months and were defined as non-exclusive, whereas, women in long-standing monogamous relationships were excluded. Notably, women were not recruited on the basis of ASA history. Because this study was part of a larger project investigating alcohol and sexual risk-taking using a sexually explicit story involving a male partner, to be eligible participants must have reported consuming at least 5 drinks per week on average and one heavy episodic drinking episode (at least four drinks on one occasion) in the past 6 months, having had consensual, penetrative intercourse with a man at least once in the past year, and being at risk for sexually transmitted infections (had unprotected sex at least once in the last year and had one HIV/STI risk factor [e.g., having sex with a new partner in the past year]; 27). To comply with NIAAA guidelines [28] participants were excluded if they indicated problem drinking according to the Brief Michigan Alcoholism Screening Test (BMAST) [29], were taking medications, or had a health condition contraindicating alcohol consumption.

Measures

Adult sexual assault (ASA).—ASA status was assessed using the Sexual Experiences Survey by Koss and colleagues [30], which assesses unwanted and nonconsensual sexual experiences since 14 years of age, not including sexual acts occurring before 14 years. Acts include sexual contact and oral, anal, and vaginal penetration or attempted penetration. The survey also asked about frequency of acts and about sexual assault tactics (i.e., verbal coercion, intoxication, and force). Of the sample recruited, 75.57% indicated having at least one sexual assault experience since 14 years of age involving sexual contact and were included in the study.

ASA severity was calculated using the 63-point ASA scoring protocol for the Sexual Experiences Survey by Davis and colleagues [31], which incorporates sexual assault

outcome, tactic, and frequency into one continuous ASA severity variable. ASA severity was calculated by multiplying a severity rank that represented a cross between the tactic and outcome (1 = sexual contact by verbal coercion; 2 = sexual contact by incapacitation; 3 = sexual contact by force; 4 = attempted or completed rape by verbal coercion; 5 = attempted or completed rape by incapacitation; 6 = attempted or completed rape by force) by the frequency (0 = never to 3 = three or more times) and summing the total number of experiences to yield a total score. The average score for women with an ASA history was 23.77 (SD = 15.98, range 1-63). Forty-one percent of participants ($N = 268$) indicated that force was used during their ASA experience. Seventy-eight percent of participants ($N = 505$) with an ASA experience indicated that a completed rape occurred.

Sexual assault disclosure.—Disclosure of ASA was measured with a single, dichotomous item that read, “Have you told anyone about this event”? Most women with an ASA history in our sample (83.3%) had disclosed their ASA to someone, more than 99% reported that at least one person believed them. In addition, on a scale of 1-7, with 1 being “not at all helpful” to 7 being “extremely helpful” the average score of how helpful it was to tell was a 4.49.

Trauma symptoms.—Trauma symptoms were measured with the Trauma Symptom Index [32], which asked about trauma symptoms in the last 6 months. We calculated a mean score on five subscales of the Trauma Symptom Index: intrusive experiences, defensive avoidance, dissociation, impaired self-reference, and tension reduction behavior. The scale ranged from 1-3, with 1 being “never” and 3 being “often”. We excluded all items that pertained to sexual behavior in order to avoid confounding our outcome variables.

Sexual functioning.—We used a modified version of the Brief Index of Sexual Functioning [33]. Three sexual function outcome variables were examined: sexual desire, orgasm, and sexual pain during intercourse over the past four weeks. Sexual desire was an average score of five items: three items assessed the frequency of sexual desire over the last 4 weeks for specific sexual acts (receiving oral sex, performing oral sex, and vaginal sex; 0 = not at all to 6 = more than once a day), one item assessed frequency of sexual interest over the past four weeks (0 = never to almost never to 4 = almost always to always), and one item assessed the level of sexual desire (1 = very low to none at all to 5 = very high). Pain during sex was measured through a single-item in which participants indicated “How often [they] experienced discomfort or pain during penetration?” (1 = almost never to never to 5 = almost always or always). Orgasm was measured through three items assessing the frequency of reaching orgasm (1 = almost never or never to almost always or always), difficulty reaching orgasm (1 = extreme difficult or impossible to 5 = no difficult), and satisfaction with orgasm (1 = very dissatisfied to 5 = very satisfied).

Procedure

Participants were invited to the laboratory, where an experimenter obtained informed consent and then left the participant to complete online measures in a private room on a computer. All experimenters in the study were women. Thirty-one measures were administered, including demographics (e.g., race/ethnicity, Sexual Experiences Survey, and

the measurements listed earlier), that took approximately 1 hour to complete. After study completion, participants were debriefed, paid, and released. Participants received \$15 per hour for their participation. For further procedural information, please see George et al. [34].

Results

Sample and Bivariate Analysis

Bivariate correlations, means, and standard deviations for all study variables are presented in Table 1. ASA severity was significantly and positively associated with ASA disclosure, trauma symptoms, and pain during sex. ASA disclosure was significantly negatively associated with trauma symptoms and positively associated with orgasm functioning. Trauma symptoms were significantly and positively associated with both sexual desire and pain during sex. Orgasm functioning was significantly and positively associated with sexual desire and pain during sex.

Indirect Associations

This study investigated the associations among ASA disclosure, trauma symptomatology, and sexual functioning during the past month. Indirect associations were examined according to the bootstrapping procedure developed by Preacher and Hayes [35] and estimated CIs using 5,000 bootstrap re-samples. Evidence of an indirect association would be established if the 95% CI constructed for the hypothesized indirect associations did not include zero [34]. Three separate analyses were conducted with sexual functioning divided into sexual desire, orgasm, and pain during sex. ASA severity was included as a covariate.

As shown in Table 2 and Figure 1a, ASA disclosure indirectly influenced pain during sex through trauma symptoms. Disclosing ASA was associated with lower trauma symptomatology ($a = -.116, p = .002$), which was associated with lower pain during sex ($b = .239, p = .031$). A bootstrap CI for the indirect effect ($ab = -.028$) based on 5,000 bootstrap samples was entirely below zero ($-.0690$ to $-.0047$). There was no evidence that ASA disclosure was associated with pain during sex independent of its effect on trauma symptoms ($c' = .057, p = .494$). As presented in Table 2 and Figure 1b, ASA disclosure indirectly influenced orgasm through trauma symptoms. Disclosing ASA was associated with lower trauma symptomatology ($a = -.117, p = .002$), which was associated with higher orgasm functioning ($b = -.316, p = .078$). A bootstrap CI for the indirect effect ($ab = -.037$) based on 5,000 bootstrap samples was entirely above zero ($.0009$ to $.1008$). There was evidence of a direct effect of ASA disclosure on orgasm functioning ($c' = .319, p = .048$). An indirect association of trauma symptomatology was not found between disclosing ASA and sexual desire (Table 2, Figure 1c).

Discussion

The purpose of this study was to investigate the intersection of disclosure of ASA, trauma symptomatology, and sexual functioning. Disclosing ASA was negatively associated with trauma symptomatology in all three models. In addition to these direct associations, ASA had indirect associations – through trauma symptoms – with pain during sex and orgasm functioning, but not sexual desire. These results build upon prior research on the role of

disclosure; the constraints of the methodology prevent identification of a specific mechanism. Within this sample, disclosure might serve as a correlate for the mechanism, such as self-blame, social support, or treatment-seeking behavior [15]. Indeed, ongoing research indicates that the interpersonal and mental health outcomes of disclosure vary by social reaction and social support provided by the recipient of disclosure [23,36]. Although the specific mechanism cannot be articulated, we have outlined a framework in which our results fit with recommendations for future research.

Although we cannot determine causality due to the cross-sectional nature of our study, disclosing ASA experiences could serve a protective function by lessening trauma symptomatology, thereby mitigating effects on aspects of sexual functioning (e.g., pain and orgasm). The learning model suggests that women who experience a sexual assault are conditioned to respond with negative feelings (e.g., fear) to assault-related stimuli, including sexual stimuli [10,37]. Posttraumatic stress symptoms, which involve difficulties recovering following exposure to a trauma and are associated with high levels of distress related to the trauma [38], maintain and generalize these negative feelings. Individuals with PTSD and/or posttraumatic stress symptoms may avoid cues associated with sexual assault and may not experience positive feelings around sex. One hypothesized mechanism of sexual dysfunction after ASA is that women who avoid sexual cues might be less likely to engage in corrective sexual activities, that is, positive sexual experiences that do not trigger reminders of the trauma [8], which maintains difficulties in sexual functioning. For example, a woman who engages in consensual sexual activity after her assault might experience high levels of distress related to her ASA history that make her less able to attend to the pleasurable sensations associated with the sexual experience, which may impede her ability to experience orgasm and decrease the likelihood that she will seek out sexual activities in the future.

Consistent with this learning model [10,37], disclosing experiences of ASA may function as an initial re-exposure, such that the individual is being exposed to, rather than avoiding, sexual cues associated with the assault. Being exposed to these sexual cues might begin to create a corrective learning experience, such that the individual learns that these cues are not dangerous and facilitates further re-exposure activating an extinction mechanism. Furthermore, individuals who do not avoid sexual cues would be more likely to engage in corrective sexual activities that allow the individual to learn new, positive associations with sexual activity and could prevent disturbances in sexual functioning. Interestingly, results did not support our hypothesis that ASA disclosure would be indirectly related to sexual desire functioning through trauma symptomatology. One possible explanation is the sample consisted of women who had at least one sexual partner in the past year, thus may not have included women with very low levels of desire who avoid sex after a sexual assault [39]. ASA disclosure appears to be an important area for future research that seeks to identify protective factors for trauma symptoms, pain during sex and problems with orgasm functioning, especially in a sample of women who are at risk for sexually transmitted infections and heavy episodic drinking. We cannot ascertain any causal relationships, given the cross-sectional nature of the data. Further research is needed to empirically test the learning model and investigate the mechanism driving these relationships.

Because these data were collected at the same time point, we cannot infer causal relationships among variables. There is a need for longitudinal research that can assess, for example, whether disclosing an experience of ASA causes a decrease in trauma symptoms. In addition, although the short period of evaluation of sexual functioning (one month) allows us to examine current sexual functioning in a non-clinical sample, it does not permit us to assess clinical levels of sexual dysfunction, which require a six-month minimum duration, which require a 6-month minimum duration [38]. Future longitudinal research should assess the impact of ASA disclosure and trauma symptoms on sexual functioning in a clinical sample using *Diagnostic and Statistical Manual, Fifth Edition* criteria. Furthermore, we did not assess sexual arousal in the present study. Sexual arousal is a key component of sexual functioning and experiences, and future work should investigate the relationships between ASA disclosure, trauma, and sexual arousal to identify treatment targets. Future research should also consider sexual problems more broadly, including sexual behaviors that do not include penetration (e.g., discomfort receiving oral sex).

The present study did not assess time from ASA and disclosure, which may play a role in the development of subsequent trauma symptoms and sexual problems [23]. For example, women who disclose directly following their assault might receive the support and resources they need to prevent trauma symptoms from arising. Future research should investigate time since disclosure as a moderator in the relations among disclosure, trauma symptoms and sexual functioning. Furthermore, it is unclear whether participants' trauma symptomatology was related to their ASA exclusively. Trauma symptomatology could be related to a non-sexual trauma that we did not inquire about. The findings from this study are limited women who were moderate to heavy alcohol users and at risk for sexually transmitted infections; thus the findings cannot be generalized to women who consistently use condoms or participants recruited from sexually transmitted infection clinics. However research has indicated that a substantial percentage of women report being at risk for sexually transmitted infections and heavy episodic drinking [40,41]. Furthermore, both alcohol and sexual risk-taking have been shown to be risk factors for ASA victimization and revictimization, making this an important population to target [42]. Future research may investigate the role that alcohol and risky sexual decision making plays in these relations.

Future research should also investigate how characteristics of the disclosure influence outcomes, for example, whether a woman discloses to family and/or friends rather than to formal supports (e.g., a mental health provider). Broman-Fulks et al [43] found that disclosure of sexual assault to a mother specifically was associated with lower risk of PTSD. Disclosing a sexual assault to a current sexual partner may play a particularly critical role in one's sexual functioning. If one discloses to and receives a negative response from a sexual partner, then how might that response impact trauma symptoms and sexual functioning with both that particular partner as well as future sexual partners? In our sample, nearly all participants indicated that they were believed by at least one person to whom they disclosed their ASA. Outcomes might be different in a sample of ASA survivors who were not believed when disclosing their assault. Prior research has urged exploration into an interaction of type of social reaction and who provides it [36]. Furthermore, women who disclose to multiple recipients are more likely to receive positive and negative social reactions [44]. Future research should explore the number of disclosures and type of social

reaction. In addition, qualitative research may be especially useful in elucidating the reasons for choosing (or not) to disclose ASA and how characteristics of sexual assault disclosure affect trauma symptoms and sexual functioning.

Conclusions

This study was the first to examine relationships among ASA disclosure, trauma symptomatology and sexual functioning. Results suggest that disclosing experiences of ASA may be an important area for future work that investigates protective factors for trauma symptomatology and problems with sexual functioning. However, future work should expand upon our results to understand how characteristics of the disclosure (e.g., who they disclosed to) moderate relations among ASA disclosure, trauma symptomatology and sexual functioning. These results could have important implications for interventions aimed at encouraging disclosure of ASA experiences and implicate trauma symptomatology as one potential intervention target for women with a history of ASA who report problems with sexual functioning.

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Figure 1.

Panels A to C show mediational models with unstandardized coefficients. * $P < 0.05$. ASA = adult sexual assault.

Table 1

Bivariate correlations of study variables

Variable	1	2	3	4	5	6	Mean(SD)	Range
1. ASA Severity	—	.11**	.33**	.02	-.04	.072*	18.12(17.21)	0-63
2. ASA Disclosure		—	-.09**	.09**	.03	.02	N.A. (Y/N)	(Y/N)
3. Trauma Symptoms			—	-.05	.10**	.10**	1.65(.36)	1-3
4. Orgasm				—	.31**	.22**	3.10(1.59)	0-5
5. Desire					—	.07*	3.16(1.07)	0-5
6. Pain						—	3.52(1.99)	0-5

Note.

*
 $p < .05$ **
 $p < .01$

Table 2

Report indirect and direct effects from mediation analysis

	Path	Coefficient	95% CI	SE
<i>Model 1a (Y = Pain During Sex)</i>				
Antecedent:	Consequent: M			
X(ASA Disclosure)	a	-.116 [*]	-.1886 to -.0441	.037
Control(ASA Severity)		.008 [*]	.0058 to .0092	.001
Antecedent:	Consequent: Y			
X(ASA Disclosure)	c'	.057	-.1067 to .2207	.083
M(Trauma Symptoms)	b	.239 [*]	.0309 to .0220	.110
Control(ASA Severity)		.002	-.0026 to .0061	.002
XM (Indirect effect of X)	ab	-.028 [*]	-.0690 to -.0047	.016
<i>Model 1b (Y = Orgasm)</i>				
Antecedent:	Consequent: M			
X(ASA Disclosure)	a	-.117 [*]	-.1899 to -.0446	.038
Control(ASA Severity)		.007 [*]	.0056 to .0091	.001
Antecedent:	Consequent: Y			
X(ASA Disclosure)	c'	.319 [*]	.0036 to .6348	.083
M(Trauma Symptoms)	b	-.316	-.6667 to -.0356	.179
Control(ASA Severity)		.004	-.0043 to .0130	.004
XM (Indirect effect of X)	ab	-.037 [*]	.0009 to .1008	.024
<i>Model 1c (Y = Desire)</i>				
Antecedent:	Consequent: M			
X(ASA Disclosure)	a	-.115 [*]	.0018 to -.1876	.037
Control(ASA Severity)		.007 [*]	.0056 to .0090	.001
Antecedent:	Consequent: Y			
X(ASA Disclosure)	c'	.086	-.1296 to .3007	.110
M(Trauma Symptoms)	b	.218	-.0279 to .4633	.125
Control(ASA Severity)		.004	-.0043 to .0130	.004

Note.

^{*} $p < .05$ Coefficients are unstandardized. The c' path denotes the direct effect of X on Y. The ab path denotes the indirect effect of X on Y.