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In-The-Moment Dissociation, Emotional Numbing, and Sexual Risk: The Influence of Sexual Trauma History, Trauma Symptoms, and Alcohol Intoxication

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Abstract

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Objective—Prior research on the effects of sexual trauma has examined dissociation but not emotional numbing during sex and has relied exclusively on retrospective surveys. The present experiment examined associations among distal factors of childhood sexual abuse (CSA), adolescent/adult sexual assault (ASA), and trauma symptoms and the proximal factor of acute alcohol intoxication on in-the-moment dissociation, emotional numbing, and sexual risk intentions.

Method—Young adult female drinkers ($N = 436$) at elevated sexual risk were randomized to receive alcohol (target peak breath alcohol concentration = .10%) or no alcohol. They then read an eroticized sexual scenario and reported on their dissociation and emotional numbing experiences, unprotected sex refusal self-efficacy, and unprotected sex intentions.

Results—Path analysis revealed that CSA was indirectly associated with increased unprotected sex intentions through increased ASA severity, increased trauma-related symptoms, increased emotional numbing, and decreased unprotected sex refusal self-efficacy. Further, alcohol intoxication was indirectly associated with increased unprotected sex intentions through increased emotional numbing and decreased unprotected sex refusal self-efficacy.

Conclusions—Emotional numbing, but not dissociation, was associated with unprotected sex intentions and may be one potential target for interventions aimed at reducing HIV/STI-related risk among women with a history of sexual trauma.

Keywords

Dissociation; Emotional Numbing; Alcohol Intoxication; Sexual Assault; HIV/STI Risk; Childhood Sexual Abuse

Women with childhood sexual abuse (CSA) and adolescent/adult sexual assault (ASA) have high rates of sexual risk behavior, particularly unprotected sex, thereby increasing their risk for sexually transmitted infections (STIs; Davis, Combs-Lane, & Jackson, 2002; Molitor, Ruiz, Klausner, & McFarland, 2000; Senn, Carey, & Venable, 2008). One potential explanation for this association is that women with CSA or ASA histories may experience increased dissociation (alteration in awareness of the present or disconnection from self or environment) or emotional numbing (feeling of being cut off from or unable to experience emotions) (American Psychiatric Association [APA], 2000), in response to sexual situations. Alcohol intoxication may exacerbate this process by increasing dissociation or emotional numbing (Klanecky, Harrington, & McChargue, 2008; Klanecky, McChargue, & Bruggeman, 2012). To date, research on experiences of dissociation and emotional numbing during sexual situations has relied on retrospective reporting and therefore cannot speak to how these processes unfold in the moment (Bird, Seehuus, Clifton, & Rellini, 2013; Hansen, Brown, Tsatkin, Zelgowski, & Nightingale, 2012; Sutherland, Fantasia, & Adkison, 2014). The current research addressed this knowledge gap by examining associations among sexual trauma histories, posttraumatic stress symptoms, dissociation and emotional numbing, alcohol intoxication, and sexual risk intentions during the presentation of an eroticized sexual scenario.

Sexual Trauma History, PTSD Symptoms, and Sexual Risk Taking

CSA and ASA are significant public health issues. General population estimates suggest that between 13% and 45% of women will experience some form of sexual assault during their lifetime (Basile, Chen, Black, & Saltzman, 2007; Black et al., 2011; Polusny & Follette, 1995). Experiences of abuse in childhood place women at substantially higher risk of sexual assault in adulthood (Desai, Arias, Thompson, & Basile, 2002; Messman-Moore & Long, 2003), and both CSA and ASA can lead to posttraumatic stress disorder (PTSD; Briere & Elliott, 2003; Collin-Vézina & Hébert, 2005; Elliott, Mok, & Briere (2004). PTSD represents a failure to naturally recover following exposure to a trauma and is associated with high levels of distress related to the trauma (APA, 2000). Additionally, exposure to chronic or repeated traumatic events may be associated with a more complex symptom presentation, referred to as complex PTSD (Herman, 1992), which includes emotion regulation difficulties and dissociative symptoms (Cloitre et al., 2009).

Although many studies have found a direct link between CSA and ASA histories and sexual risk taking (Davis et al., 2002; Molitor et al., 2000; Senn et al., 2008), few have examined processes to explain this association. One possible explanation is that women with CSA or ASA histories experience increased distress during sexual encounters, heightened among women with elevated PTSD symptoms. In response to distress associated with trauma memories, women may experience dissociation (feeling disconnected from one's self or surroundings) or emotional numbing (feeling cut off from or unable to experience emotions), which are both psychological processes that can protect individuals from overwhelming or distressing experiences (Cardeña, 1994; Foa, Riggs, & Gershuny, 1995). Although both dissociation and emotional numbing involve some sort of disengagement, they are distinct psychological processes that have been independently associated with PTSD outcomes following an assault (Feeny, Zoellner, Fitzgibbons, & Foa, 2000). These experiences of either dissociation or emotional numbing may diminish a woman's ability to assert her desire to use a condom because she is not completely engaged in the current sexual encounter, resulting in an increased likelihood of sexual risk taking. It is not known, however, whether feeling disconnected from one's body and surroundings (i.e., dissociation) or feeling disconnected from one's emotions (i.e., emotional numbing) would be uniquely associated with sexual risk taking.

Although no one study has provided a test of this pathway from CSA and ASA histories to sexual risk taking, several studies have examined aspects of the proposed associations. CSA history was associated with increased dissociation using retrospective reports of experiences during sex (Hansen et al., 2012), and dissociation has been theorized to be a mediating factor between sexual trauma and sexual risk behavior (Malow, Dévieux, & Lucenko, 2006; Zurbriggen & Freyd, 2004). Although emotional numbing in general has been linked to poor sexual functioning (Nunnink, Goldwaser, Afari, Nievergelt, & Baker, 2010), little is known about the impact of sexual trauma history on emotional numbing during sexual situations. Women with a history of CSA do report more negative affect in relation to sexual situations (Meston, Rellini, & Heiman, 2006; Rellini & Meston, 2007) compared to women without a history of CSA. Additionally, women with a CSA history reported less sexual assertiveness about birth control or refusal of unwanted sex and less self-efficacy regarding HIV

prevention than women without a CSA history (Johnsen & Harlow, 1996). A history of ASA was negatively associated with sexual assertiveness, which in turn was associated with a decreased intention to insist on condom use and increased the likelihood of having unprotected sex (Stoner et al., 2008). It is not known, however, how sexual trauma histories affect in-the-moment experiences of dissociation and emotional numbing and relate to a woman's self-efficacy to refuse unprotected sex and subsequent intentions to engage in unprotected sex.

Alcohol Intoxication and Sexual Behavior

Alcohol intoxication may be an especially important factor in the sexual risk taking of women with CSA and ASA histories. Indeed, women with sexual trauma histories consume alcohol prior to having sex more often than women without a history of sexual trauma (Howard & Wang, 2005; Senn et al., 2008). This is concerning given that alcohol intoxication indirectly predicted decreased assertiveness in condom use requests (Purdie et al., 2011), suggesting that alcohol intoxication is likely to influence unprotected sex refusal self-efficacy. Alcohol intoxication directly and indirectly increases sexual risk taking through its impact on in-the-moment sexual decision making and sexual-emotional responding (e.g., George et al., 2009, 2014; Purdie et al., 2011; Rehm, Shield, Joharchi, & Shuper, 2012).

To the extent that women with sexual trauma histories experience distress and negative affect related to having sex, they may be motivated to consume alcohol prior to having sex to reduce distress (Grayson & Nolen-Hoeksema, 2005; Miranda, Meyerson, Long, Marx, & Simpson, 2002; Ullman, Filipas, Townsend, & Starzynski, 2005). Although alcohol may be thought to reduce distress in the short-term, it may actually increase dissociation and emotional numbing, thereby increasing the likelihood of sexual risk taking. Indeed, alcohol is thought to provide an internal state resembling dissociation, and problematic drinking was associated with increased dissociation among women with sexual trauma histories (Klanecky et al., 2008; Klanecky et al., 2012). Understanding the impact of acute alcohol intoxication on in-the-moment experiences such as dissociation and emotional numbing during a sexual scenario may help elucidate links between alcohol and sexual risk taking for women with sexual trauma histories.

Present Study

The scant research on women's experiences of dissociation during sex has largely relied on survey methods to examine how sexual trauma relates to subsequent experiences of dissociation (Bird et al., 2013; Hansen et al., 2012; Sutherland et al., 2014). Respondents are often asked to report on their dissociative experiences during their most recent sexual encounter, which could vary significantly in how recently it occurred and may be prone to recall errors and self-report bias. Methods to investigate in-the-moment sexual processes and sexual risk intentions in the laboratory have garnered strong empirical support (Rehm et al., 2012) and offer an opportunity to examine the impact of distal (e.g., sexual trauma history) and proximal (e.g., alcohol intoxication) predictors of dissociation and emotional numbing in the moment.

The present study investigated associations among CSA and ASA histories, trauma-related symptoms, in-the-moment dissociation and emotional numbing, unprotected sex refusal self-efficacy, and HIV/STI risk-related intentions using an alcohol administration protocol and hypothetical sexual scenario paradigm. We focused on a sample of women at elevated sexual risk to examine factors that might help us understand their sexual risk taking to improve prevention and intervention efforts. In addition to the direct associations of both CSA and ASA on unprotected sex intentions, the present study tested potential explanatory pathways (depicted in Figure 1a) with the hypotheses that: (H1) a greater history of CSA will be associated with increased ASA, and greater CSA and ASA will be directly associated with increased trauma-related symptoms; (H2) greater CSA and ASA will be associated with greater in-the-moment dissociation and emotional numbing indirectly through trauma-related symptoms; (H3) dissociation and emotional numbing will be associated with decreased unprotected sex refusal self-efficacy; (H4) greater unprotected sex refusal self-efficacy will be associated with decreased unprotected sex intentions; and (H5) alcohol intoxication will be associated with greater in-the-moment dissociation and emotional numbing as well as reduced unprotected sex refusal self-efficacy and increased unprotected sex intentions.

Method

Participants

In order for our sexual scenario to be relevant for our sample, we recruited 21–30 year old women who had consensual sexual intercourse with a man at least once in the past year without a condom. Additional HIV/STI risk-related eligibility criteria required at least one of the following: (a) new sex partner in the past year; (b) two or more sex partners in the past year; (c) having had an STI; or (d) risky sex partner in the past year (e.g., one who had a concurrent sexual relationship or an STI and/or HIV). Consistent with guidelines for the ethical administration of alcohol (NIAAA, 2005), participants were required to have had at least one episode of heavy drinking (4 or more drinks within two hours) within the past year and to have consumed a minimum of 16 drinks during the past month such that their typical alcohol consumption was commensurate with the amount consumed in the lab. Exclusion criteria were medical conditions or prescription medication use that contraindicated alcohol consumption or a history of problem drinking (e.g., seeking help or being hospitalized for drinking; items based on the Brief Michigan Alcohol Screening Test [Pokorny, Miller, & Kaplan, 1972]) or negative reactions to alcohol (e.g., fainting or having a seizure after drinking).

Our sample included 436 women with an average age of 24.8 years ($SD = 2.6$). The majority self-identified as White (72.5%), 5.8% as Black, 6.0% as Asian/Pacific Islander, 0.9% as Native American, and 14.8% as Multiracial or other ethnicity. Twenty nine (6.7%) women identified as Hispanic or Latina. Current full- or part-time employment was reported by 58.6%, 81.3% had at least some college education, and 34.4% were full- or part-time students. Seventy-four percent reported a yearly income of \$40,999 or below. Additionally, women consumed an average of 14.0 drinks per week ($SD = 8.0$), and 70.4% reported engaging in heavy episodic drinking (i.e., consuming 4 or more drinks within a 2 hour

period) at least once a month in the past year. Participants reported an average of 14.8 ($SD=11.5$) lifetime vaginal sex partners, and 59.6% did not use a condom the last time they had sexual intercourse.

Procedures

All procedures were approved by the university's Institutional Review Board. Participants were recruited via online and print advertisements from an urban community in the Pacific Northwest to participate in a research study on male-female social interactions. Interested women were screened over the telephone for inclusion and exclusion criteria. Eligible participants were scheduled for a laboratory session and instructed to refrain from consuming food within four hours and using over-the-counter medication or recreational drugs within 24 hours prior to their scheduled appointment.

When participants arrived at the laboratory, a trained female experimenter verified their age and that their breath alcohol concentration (BrAC) was 0.00% using a handheld breathalyzer (Alco-Sensor IV, Intoximeters, Inc.). Participants were weighed to calculate alcohol dose and took a urine test to ensure they were not pregnant. Participants completed background questionnaires on a computer in a private room including demographics, a history of CSA and ASA, and current trauma-related symptoms. Next, women were randomly assigned to either a control (no alcohol) or alcohol (target peak BrAC = .10%) condition. Block randomization assigned participants to experimental conditions according to their self-reported victimization history (none, CSA only, ASA only, both CSA and ASA) to ensure an equal distribution of sexual trauma history across conditions.

Alcohol participants received beverages consisting of cranberry juice and 190-proof grain alcohol in a 5 to 1 ratio, dosed at 1.0 ml per kg of body weight. Control participants were told that they were not going to consume alcohol (i.e., this was a pure control and not a placebo condition) and drank the same quantity of juice as they would have received in the alcohol condition. Beverages were divided into three equal portions and consumed over a period of four minutes each for a total of 12 minutes. Breathalyzer tests were administered approximately every four minutes until a criterion BrAC of .07% was reached to ensure that participants would be on the ascending limb of the blood alcohol curve during presentation of the sexual scenario. Each control participant was yoked to an alcohol participant so that they provided the same number of breath samples over the same number of minutes before beginning the experimental scenario (Giancola & Zeichner, 1997; Schacht, Stoner, George, & Norris, 2010). After reaching the criterion BrAC (alcohol participants) or completing the yoked number of breathalyzers (controls), participants were left alone to read the sexual scenario.

The sexual scenario was developed using data from focus groups on young women's sexual relationship experiences, as well as the research team's previous work, and was pilot tested to ensure realism. Study participants rated the scenario as very realistic ($M=5.8$, $SD=1.4$; 1 = *not at all realistic* to 7 = *extremely realistic*). For participants in the alcohol condition, the protagonist drank alcohol, whereas for those in the control condition, she drank soft drinks. The male character was portrayed as drinking moderately in all conditions. Additionally, participants were randomly assigned to receive a scenario that either depicted a

‘high relationship potential’ or ‘low relationship potential’ description. This manipulation did not have any main or interactive effects on the main outcome variables and is therefore not described here. Additional information regarding the sexual scenario is presented elsewhere (see George et al., 2014). The scenario established that the protagonist was very attracted to the male character, Michael, that they had previously had sex with a condom, and she was taking birth control pills to minimize concerns related to pregnancy. After the protagonist and Michael went to dinner, they went back to Michael’s place where they began kissing. Their sexual activity became progressively more heated until both characters were undressed and approaching intercourse. Michael indicated that he would get a condom, but was unable to find one. Descriptions and dialogue were eroticized to increase sexual arousal. At the conclusion of the scenario, Michael said, “I really want to make love to you, but I’ll do whatever you want. Do we have to stop now?”

At the end of the scenario, Participants completed measures on a computer of dissociation and emotional numbing, unprotected sex refusal self-efficacy, and unprotected sex likelihood. Alcohol participants then completed a detoxification period until their BrACs were below .03% (NIAAA, 2005). All participants were debriefed and paid \$15/hour for their participation.

Measures

Childhood sexual abuse (CSA)—Hulme’s (2007) Childhood Sexual Abuse questionnaire assesses whether or not each of ten sexual contact acts occurred before the age of 14 ranging from fondling to penetration. CSA was defined as sexual contact occurring prior to age 14 that involved a person 3 or more years older, or when involving a person of same age or only 1 or 2 years older, the participant reported (1) coercion, threats, or force; (2) being upset at the time; (3) having been molested or sexually abused as a child; and (4) vaginal or anal penetration at an age prior to that identified by the participant as her age of first consensual sexual intercourse (George et al., 2014). Following the scoring recommendations for this measure (Hulme, 2007), we calculated an index representing the number of the possible 10 sexual contact acts participants experienced by summing the positive responses, which resulted in a range of 0–10.

Adolescent and adult sexual assault victimization (ASA)—The revised Sexual Experiences Survey (Koss et al., 2007) was administered to assess nonconsensual sexual experiences since age 14 to the present. Types of unwanted sexual behavior assessed included sexual contact (e.g., fondling) and attempted or completed oral, vaginal, or anal penetration. Perpetrator tactics included verbal coercion, intoxication, and force. Participants indicated the number of times each sexual act occurred by each tactic used on 3-point response scales (0 = *never*; 3 = *3 or more times*). ASA severity was calculated by multiplying a severity rank that represented a cross between the tactic and outcome (0 = *no ASA*, 1 = *sexual contact by verbal coercion*, 2 = *sexual contact by intoxication*, 3 = *sexual contact by force*, 4 = *attempted or completed rape by verbal coercion*, 5 = *attempted or completed rape by intoxication*, 6 = *attempted or completed rape by physical force*) by the frequency with which each combination occurred (Davis et al., 2014), resulting in a possible range of 0–63.

Trauma symptoms—The Trauma Symptom Inventory (TSI; Briere, 1995; Briere, Elliott, Harris, & Cotman, 1995) assessed both acute and chronic trauma-related symptoms, including symptoms of PTSD. We administered three subscales: Intrusive Experiences (8 items; e.g., “sudden disturbing memories when you were not expecting them”), Defensive Avoidance (8 items; e.g., “pushing painful memories out of your mind”), and Tension Reduction Behavior (8 items; e.g., “starting arguments or picking fights to get your anger out”). Participants indicated how often they experienced each symptom in the last six months on 3-point scales (1 = *never* to 3 = *often*). Subscales had good reliability; Cronbach’s alphas were .88, .86, and .75, respectively. Items were summed to form a composite of trauma-related symptoms (possible range 24–72).

Dissociation and emotional numbing—Dissociation during the sexual scenario was assessed with three items from the Acute Dissociation Inventory (Leonard, Telch, & Harrington, 1999). After the sexual scenario, participants were asked to think about the time “since you began reading the story” and indicate on 7-point scales (1 = *not at all*; 7 = *extremely*) how disconnected they felt from their body, how unreal things around them seemed, and how much they “spaced out.” Items were averaged and had adequate reliability (Cronbach’s alpha = .78).

Participants were also asked about emotional numbness during the story with the Emotional Constriction subscale of the Multiscale Dissociation Inventory (Briere, 2002; Briere, Weathers, & Runtz, 2005). Participants responded to 5 items (e.g., “feeling frozen inside, without feelings”), using 7-point scales (1 = *not at all*; 7 = *extremely*). Items were averaged and had excellent internal reliability (Cronbach’s alpha = .90).

Sexual risk—Unprotected sex refusal self-efficacy was assessed with three items derived from the Sexual Assertiveness Scale (Morokoff et al., 1997). Using 7-point scales (1 = *not at all*; 7 = *extremely*), participants indicated how confident they were that they could refuse unprotected sex, insist on using a condom, and say no to sex without a condom. These items were averaged and had excellent internal reliability (Cronbach’s alpha = .90).

Unprotected sex intentions were assessed with three items taken from previous studies assessing in-the-moment sexual risk taking (George et al., 2009; Norris et al., 2009; Stoner, George, Peters, & Norris, 2007). Participants indicated how likely (1 = *not at all* to 7 = *extremely*) they would be to “rub your clitoris against Michael’s penis?” “have vaginal sex without a condom?” and “let Michael put his penis inside of your vagina but only if he pulls out before ejaculating?” Responses were averaged and had good reliability (Cronbach’s alpha = .89).

Data Analytic Strategy

To examine our hypothesized model (Figure 1a), we conducted a path analysis using Mplus version 7 software (Muthén & Muthén, 1998–2012), using maximum likelihood estimation. All variables represent measured variables, and all possible indirect pathways were examined from CSA to unprotected sex likelihood and from alcohol to unprotected sex likelihood. We obtained bias-corrected bootstrap confidence intervals for the indirect effects using 1,000 bootstrap draws. Because previous research conducted on dissociation during

sexual situations has typically considered a direct association between CSA and dissociation and not examined the potential for intervening mental health symptomatology, we tested an alternate model that added direct paths from both CSA and ASA to dissociation and emotional numbing to our hypothesized model. The difference in overall model fit between this alternate model and the hypothesized model was examined using a chi-square difference test (Kline, 2011).

Results

Rates of CSA and ASA were high with 141 (32.3%) reporting a history of CSA, 48.2% with penetration. Of these 141 women who reported a history of CSA, 119 (84.4%) also experienced some form of ASA. Overall, 351 women (80.5%) reported a history of ASA. The majority of these women (92.6%) reported that their most severe assault experience involved attempted or completed rape (12.0% by verbal coercion, 51.1% by intoxication, and 36.9% by force). Means, standard deviations, and bivariate correlations are presented in Table 1. All correlations were in the expected direction. Mean differences between alcohol and no alcohol conditions were examined for all main study variables. Only experiences of dissociation and emotional numbing were higher in the alcohol compared to no alcohol condition (p 's < .001).

The hypothesized model (Figure 1a) represented an overall good fit for the data, χ^2 ($df=12$) = 7.27, $p = .84$; comparative fit index (CFI) = 1.00; Tucker-Lewis fit index (TLI) = 1.02; root mean square error of approximation (RMSEA) = .00 (90% confidence interval [CI]: .00, .03); standardized root mean squared residual (SRMR) = .02, and accounted for 52% of the variance in unprotected sex intentions. The unstandardized coefficients for the significant paths are presented in Figure 1b. Greater CSA was significantly directly associated with increased unprotected sex intentions; however, ASA was not. In addition, there were significant intermediary paths including that greater CSA was positively associated with ASA severity, and as hypothesized, greater CSA and ASA were positively associated with trauma-related symptoms (H1). Trauma-related symptoms were positively associated with in-the-moment dissociation and emotional numbing experiences (H2). However, only emotional numbing, not dissociation, was negatively associated with unprotected sex refusal self-efficacy (H3), which was negatively associated with unprotected sex intentions (H4). Alcohol condition was positively associated with in-the-moment dissociation and emotional numbing, but it did not directly predict unprotected sex refusal self-efficacy or unprotected sex intentions as expected (H5).

Next, indirect effects were examined for paths from CSA to unprotected sex intentions and from alcohol condition to unprotected sex intentions (Table 2). Two indirect paths emerged between CSA and unprotected sex intentions. In one, greater CSA was indirectly associated with unprotected sex intentions through trauma-related symptoms, emotional numbing, and unprotected sex refusal self-efficacy; in the other, the indirect effect also included ASA (H2). For this latter effect, greater CSA was positively associated with ASA severity. More severe ASA was significantly associated with increased trauma-related symptoms which were associated with increased experiences of emotional numbing. Emotional numbing was associated with reduced unprotected sex refusal self-efficacy, which was associated with

increased unprotected sex intentions. Further, alcohol was indirectly associated with unprotected sex intentions through emotional numbing and unprotected sex refusal self-efficacy. Women in the alcohol condition experienced greater emotional numbing responses to the sexual scenario, which were associated with decreased unprotected sex refusal self-efficacy and increased unprotected sex intentions.

Finally, an alternative model was examined that included direct paths from CSA and ASA to dissociation and emotional numbing which was a good fit for the data, $\chi^2 (df = 8) = 6.71, p = .57$; CFI = 1.00; TLI = 1.01; RMSEA = .00 (90% CI: .00, .05); SRMR = .02. However, when compared to the final model, the chi-square difference test was not significant, $\chi^2 (df = 4) = 0.56, p = .97$, suggesting that the addition of the direct paths from CSA and ASA to dissociation and emotional numbing did not improve the overall model fit. Further, none of these additional paths were significant (all p 's > .54), indicating that the effects of CSA and ASA on dissociation and emotional numbing during a sexual scenario are influenced by symptoms of trauma.

Discussion

The present investigation examined relationships among distal factors of CSA, ASA, and trauma-related symptoms on in-the-moment experiences of dissociation and emotional numbing during a sexual scenario and their subsequent association with unprotected sex refusal self-efficacy and unprotected sex intentions. Further, the proximal influence of alcohol intoxication on dissociation and emotional numbing and their subsequent association with sexual risk was examined. Although the link between a history of sexual trauma and increased unprotected sex intentions has been demonstrated, our results suggest that one explanatory pathway for this association involves increased trauma-related symptoms (H1), heightened experiences of emotional numbing during a sexual situation (H2), and decreased unprotected sex refusal self-efficacy (H3). Women with sexual trauma histories and elevated trauma symptoms may experience heightened distress in response to sexual situations, perhaps because these situations contain trauma cues, which increase their experience of emotional numbing. Greater emotional numbing was associated with increased unprotected sex intentions through decreased self-efficacy to refuse unprotected sex (H4). Additionally, previous research has only examined the direct association between CSA history and retrospective reports of dissociation during sex; however, our findings suggest that women who report greater trauma-related symptoms report more dissociation and emotional numbing during a sexual situation. Our findings provide more information about who is most at risk for these experiences during sex.

Although distinct psychological experiences, both dissociation and emotional numbing can protect individuals from overwhelming emotions and distress associated with trauma-related cues or triggers. Dissociation and emotional numbing may reduce distress in the short-term but potentially increase risk if experienced during sexual situations (Cardeña, 1994). In the present study, emotional numbing – but not dissociation – was associated with decreased self-efficacy to refuse unprotected sex, which was associated with increased HIV/STI-related risk intentions. It may be that feeling emotionally disconnected during sexual situations, as opposed to feeling disconnected from one's body or surroundings, is

associated with women's decreased likelihood to believe in or enact their ability to refuse unprotected sex which could subsequently increase their risk of having unprotected sex. Previous research suggests that emotional numbing may occur after effortful emotion regulation strategies have failed (Foa, Riggs, & Gershuny, 1995), suggesting that emotional numbing may be associated with a deficit or depletion in one's emotion regulation abilities. This emotion regulation deficit or depletion may therefore impact one's self-efficacy to refuse unprotected sex and thereby increase sexual risk. Because we allowed dissociation and emotional numbing to covary in our model, it is possible that partialing out the shared variance between them may have made it difficult to detect significant effects of dissociation. However, dissociation was correlated with unprotected sex refusal self-efficacy at the bivariate level and may still play a role in women's sexual functioning and responding in sexual situations, especially when examined independent of emotional numbing.

Alcohol intoxication was indirectly associated with intentions to engage in unprotected sex through increased experiences of emotional numbing and decreased unprotected sex refusal self-efficacy (H5). These results suggest that in-the-moment factors such as alcohol intoxication and emotional numbing may affect self-efficacy regarding condom use, which was associated with increased HIV/STI-related risk intentions. This is especially concerning given that some women are motivated to consume alcohol in order to cope with distress associated with sex, often referred to as self-medication (Khantzian, 1997). Both CSA and ASA histories have been associated with increased drinking and specifically a pattern of drinking to cope with distress (Grayson & Nolen-Hoeksema, 2005; Miranda et al., 2002; Ullman et al., 2005). Additionally, women with histories of sexual trauma consume alcohol prior to having sex more often than those without a history of sexual trauma (Howard & Wang, 2005; Senn et al., 2008). Importantly, even though alcohol intoxication provides a chemical dissociation that mirrors internal psychological dissociative processes (Klanecky et al., 2008; Klanecky et al., 2012), intoxication did not exclusively predict dissociation suggesting that this dissociative experience was not simply a result of alcohol intoxication.

Research Implications

To date, few studies have examined the impact of sexual trauma on dissociation during sexual situations and none to our knowledge have examined emotional numbing during sexual situations. Our results suggest that more in-the-moment research is needed to understand the process by which emotional numbing may be associated with increased unprotected sex intentions. This should include an examination of whether in-the-moment emotional numbing was in direct response to distress or negative affect experienced during the sexual situation for women with sexual trauma histories. Although dissociation was not significantly associated with unprotected sex refusal self-efficacy and unprotected sex intentions in the present study, future research should continue to examine the implications of both dissociation and emotional numbing during sexual situations. Additionally, future research should examine how different assault experiences (e.g., attempted or completed rape by intoxication versus physical force) or elapsed time since the most recent assault are associated with in-the-moment dissociation and emotional numbing and intentions to engage in unprotected sex.

Clinical Implications

The present study suggests several implications for interventions. First, although our sample was not recruited for a history of sexual trauma, 86% reported some history of CSA or ASA ranging from unwanted sexual contact to rape. This is consistent with other samples of young adult women who are social drinkers with elevated sexual risk (e.g., Bryan et al., 2015; Parkhill, Norris, & Davis, 2014) and suggests that clinicians working with women who present with concerns regarding alcohol or sexual risk taking should also be thoroughly assessed for a history of sexual trauma. Further, efforts to reduce sexual risk taking among women with a history of CSA or ASA may benefit from assessing emotional numbing responses during sexual situations and discussing how these experiences might contribute to sexual risk taking. Cognitive behavioral interventions that include techniques such as exposure or cognitive restructuring specifically targeting avoidance of trauma-related cues and emotions have a strong evidence base in the treatment of PTSD and related symptoms (Foa, Hembree, & Rothbaum, 2007; Powers, Halpern, Ferenschak, Gilihan, & Foa, 2010; Resick, Nishith, Weaver, Astin, & Feuer, 2002; Resick & Schnicke, 1993) and may be particularly helpful with coping in sexual situations. Additionally, mindfulness based interventions have been found to significantly decrease personal distress associated with sex among women with a history of CSA (Brotto, Seal, & Rellini, 2012). Results suggest that these interventions may also benefit from including techniques to reduce emotional numbing responses during sexual situations.

Limitations

There are several limitations of the present research. Given our inclusion/exclusion criteria, results cannot be generalized to all women who experienced CSA or ASA, those who either abstain from alcohol or are problem drinkers, or those who do not exhibit sexual risk indices. Further, because ours was not a random sample, it is not known whether study findings would generalize to all women meeting inclusion criteria. There were also limitations to our experimental procedures and the use of the hypothetical sexual scenario in that they cannot completely capture all elements of real world sexual situations and thus may not reflect all factors relevant to dissociation or emotional numbing and sexual decision making processes. Second, dissociation and emotional numbing were only assessed at one time point (i.e., at the end of the sexual scenario). Therefore, these responses may be subject to recall bias. However, it is important to note that the presentation of the sexual scenario and dependent variables only took an average of 28 minutes, and this close to real time assessment represents a significant improvement over survey studies. Moreover, there are methodological challenges to asking participants to reflect on dissociation or numbing without those experiences being impacted by the assessment. Also, because we did not have a baseline assessment of dissociation and emotional numbing, we were not able to examine changes in these constructs and cannot conclude that these experiences were in direct response to the sexual scenario. However, participants were asked to indicate their experiences of dissociation and emotional numbing since they began reading the story in an attempt to elicit only their experiences to the sexual scenario.

It is also important to note that we did not administer all of the TSI subscales and that the TSI assesses trauma-related symptoms but is not diagnostic of PTSD. Also, we did not

assess whether trauma symptoms were directly linked to reports of CSA or ASA, so it is possible that symptoms could have developed as a result of a traumatic experience not assessed in this study. Finally, we did not include a placebo condition in which participants are led to believe they have consumed alcohol when they have not because of challenges associated with successfully implementing placebos at high alcohol doses (i.e., .10%; Martin & Sayette, 1993). As a result, we cannot disentangle the expectancy versus pharmacologic effects of alcohol.

Conclusions

A notable strength of the present study was the examination of in-the-moment experiences of dissociation and emotional numbing during the presentation of a sexual scenario. A more extensive CSA history was directly associated with unprotected sex intentions and indirectly increased intentions through ASA, trauma symptoms, and emotional numbing. Further, emotional numbing – but not dissociation – was associated with reductions in unprotected sex refusal self-efficacy, which was associated with increased unprotected sex intentions. Alcohol intoxication was only indirectly associated with unprotected sex intentions through increased emotional numbing and decreased unprotected sex refusal self-efficacy. These results have important implications for interventions aimed at reducing sexual risk among women with sexual trauma histories and implicate emotional numbing as a potential intervention target.

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References

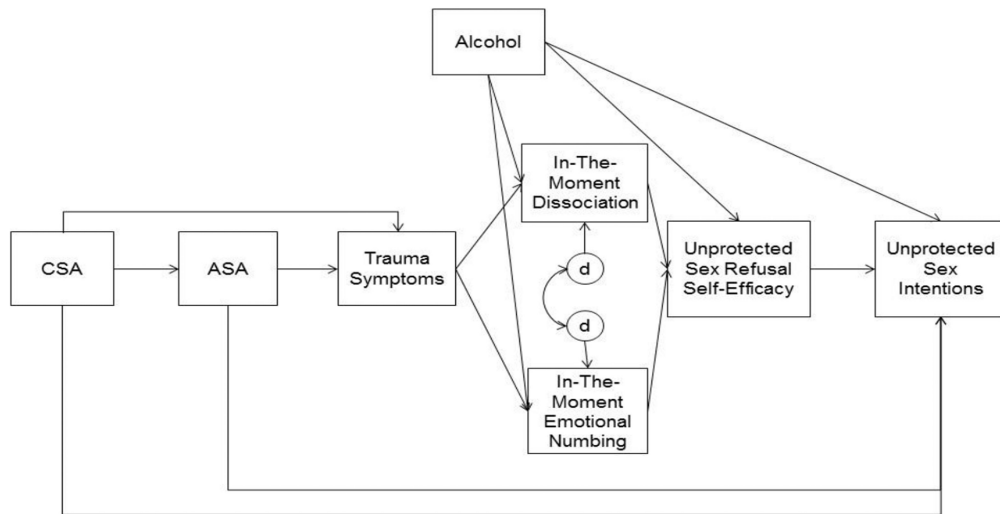
- American Psychiatric Association. Diagnostic and statistical manual of mental disorders: DSM-IV-TR. American Psychiatric Association; 2000.
- Basile KC, Chen J, Black MC, Saltzman LE. Prevalence and characteristics of sexual violence victimization among U.S. adults, 2001–2003. *Violence and Victims*. 2007; 22:437–448. [PubMed: 17691551]
- Bird, ER., Seehuus, M., Clifton, J., Rellini, AH. *Archives of Sexual Behavior*. Advance online publication; 2013 Dec 3. Dissociation during sex and sexual arousal in women with and without a history of childhood sexual abuse.
- Black, MC., Basile, KC., Breiding, MJ., Smith, SG., Walters, ML., Merrick, MT., ...Stevens, MR. The National Intimate Partner and Sexual Violence Survey (NISVS): 2010 summary report. Atlanta, GA: National Center for Injury Prevention and Control, Centers for Disease Control and Prevention; 2011. Retrieved from http://www.cdc.gov/violenceprevention/pdf/nisvs_report2010-a.pdf
- Briere, J. *Trauma Symptom Inventory professional manual*. Odessa, FL: Psychological Assessment Resources; 1995.
- Briere, J. *Multiscale Dissociation Inventory (MDI)*. Odessa, FL: Psychological Assessment Resources; 2002.
- Briere J, Elliott DM. Prevalence and psychological sequelae of self-reported childhood physical and sexual abuse in a general population sample of men and women. *Child Abuse & Neglect*. 2003; 27:1205–1222. [PubMed: 14602100]

- Briere J, Elliott DM, Harris K, Cotman A. Trauma Symptom Inventory: Psychometrics and association with childhood and adult victimization in clinical samples. *Journal of Interpersonal Violence*. 1995; 10:387–401.
- Briere J, Weathers FW, Runtz M. Is dissociation a multidimensional construct? Data from the Multiscale Dissociation Inventory. *Journal of Traumatic Stress*. 2005; 18:221–231. [PubMed: 16281216]
- Brotto LA, Seal BN, Rellini A. Pilot study of a brief cognitive behavior versus mindfulness-based intervention for women with sexual distress and a history of childhood sexual abuse. *Journal of Sex & Marital Therapy*. 2012; 38:1–27. [PubMed: 22268979]
- Bryan, AEB., Norris, J., Kuniyuki, AA., Abdallah, DA., Stappenbeck, CA., Morrison, DM., Danube, CL. Psychology of Violence. Advance online publication: 2015 Jun 8. Longitudinal change in women's sexual victimization experiences as a function of alcohol consumption and sexual victimization history: A latent transition analysis. <http://dx.doi.org/10.1037/a0039411>
- Cardeña, E. The domain of dissociation. In: Lynn, SJ., Rhue, JW., editors. *Dissociation: Clinical and Theoretical Perspectives*. New York: Guilford Press; 1994. p. 15-31.
- Cloitre M, Stolbach BC, Herman JL, van der Kolk B, Pynoos R, Wang J, Petkova E. A developmental approach to complex PTSD: Childhood and adult cumulative trauma as predictors of symptom complexity. *Journal of Traumatic Stress*. 2009; 22:399–408. [PubMed: 19795402]
- Collin-Vézina D, Hébert M. Comparing dissociation and PTSD in sexually abused school-aged girls. *The Journal of Nervous and Mental Disease*. 2005; 193:47–52. [PubMed: 15674134]
- Davis JL, Combs-Lane AM, Jackson TL. Risky behaviors associated with interpersonal victimization: Comparisons based on type, number, and characteristics of assault incidents. *Journal of Interpersonal Violence*. 2002; 17:611–629.
- Davis KC, Gilmore AK, Stappenbeck CA, Balsan MJ, George WH, Norris J. How to score the sexual experiences survey: A comparison of nine methods. *Psychology of Violence*. 2014; 4:445–461. [PubMed: 25512879]
- Desai S, Arias I, Thompson MP, Basile KC. Childhood victimization and subsequent adult revictimization assessed in a nationally representative sample of women and men. *Violence and Victims*. 2002; 17:639–653. [PubMed: 12680680]
- Elliott DM, Mok DS, Briere J. Adult sexual assault: prevalence, symptomatology, and sex differences in the general population. *Journal of Traumatic Stress*. 2004; 17:203–211. [PubMed: 15253092]
- Feeny NC, Zoellner LA, Fitzgibbons LA, Foa EB. Exploring the roles of emotional numbing, depression, and dissociation in PTSD. *Journal of Traumatic Stress*. 2000; 13:489–498. [PubMed: 10948488]
- Foa, E., Hembree, E., Rothbaum, BO. *Prolonged exposure therapy for PTSD: Emotional processing of traumatic experiences therapist guide*. New York: Oxford University Press; 2007.
- Foa EB, Riggs D, Gershuny B. Arousal, numbing, and intrusion: Symptom structure of PTSD following assault. *American Journal of Psychiatry*. 1995; 152:116–120. [PubMed: 7802101]
- George WH, Davis KC, Masters NT, Jacques-Tiura AJ, Heiman JR, Norris J, Andrasik MP. Sexual victimization, alcohol intoxication, sexual-emotional responding, and sexual risk in heavy episodic drinking women. *Archives of Sexual Behavior*. 2014; 43:645–658. [PubMed: 23857517]
- George WH, Davis KC, Norris J, Heiman JR, Stoner SA, Schacht RL, Kajumulo KF. Indirect effects of acute alcohol intoxication on sexual risk-taking: The roles of subjective and physiological sexual arousal. *Archives of Sexual Behavior*. 2009; 38:498–513. [PubMed: 18431618]
- Giancola PR, Zeichner A. The biphasic effects of alcohol on human physical aggression. *Journal of Abnormal Psychology*. 1997; 106:598–607. [PubMed: 9358690]
- Grayson CE, Nolen-Hoeksema S. Motives to drink as mediators between childhood sexual assault and alcohol problems in adult women. *Journal of Traumatic Stress*. 2005; 18:137–145. [PubMed: 16281206]
- Hansen NB, Brown LJ, Tsatkin E, Zeligowski B, Nightingale V. Dissociative experiences during sexual behavior among a sample of adults living with HIV infection and a history of childhood sexual abuse. *Journal of Trauma and Dissociation*. 2012; 13:345–360. [PubMed: 22545567]
- Herman JL. Complex PTSD: A syndrome in survivors of prolonged and repeated trauma. *Journal of Traumatic Stress*. 1992; 5:377–391.

- Howard DE, Wang MQ. Psychosocial correlates of U.S. adolescents who report a history of forced sexual intercourse. *Journal of Adolescent Health*. 2005; 36:372–379. [PubMed: 15837340]
- Hulme PA. Psychometric evaluation and comparison of three retrospective, multi-item measures of childhood sexual abuse. *Child Abuse & Neglect*. 2007; 31:853–869. [PubMed: 17825410]
- Johnsen LW, Harlow LL. Childhood sexual abuse linked with adult substance use, victimization, and AIDS-risk. *AIDS Education and Prevention*. 1996; 8:44–57. [PubMed: 8703640]
- Khantzian EJ. The self-medication hypothesis of substance use disorders: A reconsideration and recent applications. *Harvard Review of Psychiatry*. 1997; 4:231–244. [PubMed: 9385000]
- Klanecky AK, Harrington J, McChargue DE. Child sexual abuse, dissociation, and alcohol: Implications of chemical dissociation via blackouts among college women. *The American Journal of Drug and Alcohol Abuse*. 2008; 34:277–284. [PubMed: 18428070]
- Klanecky AK, McChargue DE, Bruggeman L. Desire to dissociate: Implications for problematic drinking in college students with childhood or adolescent sexual abuse exposure. *The American Journal on Addictions*. 2012; 21:250–256. [PubMed: 22494227]
- Kline, RB. *Principles and practice of structural equation modeling*. 3rd ed.. New York, NY: Guilford; 2011.
- Koss MP, Abbey A, Campbell R, Cook S, Norris J, Testa M, ...White J. Revising the SES: A collaborative process to improve assessment of sexual aggression and victimization. *Psychology of Women Quarterly*. 2007; 31:357–370.
- Leonard KN, Telch MJ, Harrington PJ. Dissociation in the laboratory: A comparison of strategies. *Behaviour Research and Therapy*. 1999; 37:49–61. [PubMed: 9922557]
- Malow R, Dévieux J, Lucenko BA. History of childhood sexual abuse as a risk factor for HIV risk behavior. *Journal of Trauma Practice*. 2006; 5(3):13–32.
- Martin CS, Sayette MA. Experimental design in alcohol administration research: Limitations and Alternatives in the manipulation of dosage-set. *Journal of Studies on Alcohol*. 1993; 54:750–761. [PubMed: 8271813]
- Messman-Moore TL, Long PJ. The role of childhood sexual abuse sequelae in the sexual revictimization of women: An empirical review and theoretical reformulation. *Clinical Psychology Review*. 2003; 23:537–571. [PubMed: 12788109]
- Meston CM, Rellini AH, Heiman JR. Women's history of sexual abuse, their sexuality, and sexual self-schemas. *Journal of Consulting and Clinical Psychology*. 2006; 74:229–236. [PubMed: 16649867]
- Miranda R, Meyerson LA, Long PJ, Marx BP, Simpson SM. Sexual assault and alcohol use: Exploring the self-medication hypothesis. *Violence and Victims*. 2002; 17:205–217. [PubMed: 12033555]
- Molitor F, Ruiz JD, Klausner JD, McFarland W. History of forced sex in association with drug use and sexual HIV risk behavior, infection with STDs, and diagnostic medical care: Results from the Young Women Survey. *Journal of Interpersonal Violence*. 2000; 15:262–278.
- Morokoff PJ, Quina K, Harlow LL, Whitmire L, Grimley DM, Gibson PR, Burkholder GJ. Sexual assertiveness scale (SAS) for women: Development and validation. *Journal of Personality and Social Psychology*. 1997; 73:790–804. [PubMed: 9325594]
- Muthén, LK., Muthén, BO. *Mplus User's Guide*. Seventh Edition.. Los Angeles, CA: Muthén & Muthén; 1998-2012.
- National Institute on Alcohol Abuse and Alcoholism. Recommended council guidelines on ethyl alcohol administration in human experimentation. Rockville, MD: Department of Health and Human Services; 2005. Retrieved from <http://www.niaaa.nih.gov/research/guidelines-and-resources/administering-alcohol-human-studies>
- Norris J, Stoner SA, Hessler DM, Zawacki TM, George WH, Morrison DM, Davis KC. Cognitive mediation of alcohol's effects on women's in-the-moment sexual decision making. *Health Psychology*. 2009; 28:20–28. [PubMed: 19210014]
- Nunnink SE, Goldwasser G, Afari N, Nievergelt CM, Baker DG. The role of emotional numbing in sexual functioning among veterans of the Iraq and Afghanistan wars. *Military Medicine*. 2010; 175:424–428.
- Parkhill MR, Norris J, Davis KC. The role of alcohol use during sexual situations in the relationship between sexual revictimization and women's intentions to engage in unprotected sex. *Violence and Victims*. 2014; 29:492–505. [PubMed: 25069152]

- Purdie M, Norris J, Davis KC, Zawacki T, Morrison DM, George WH, Kiekel PA. The effects of acute alcohol intoxication, partner risk level, and general intention to have unprotected sex on women's sexual decision making with a new partner. *Experimental and Clinical Psychopharmacology*. 2011; 19:378–388. [PubMed: 21859223]
- Pokorny AD, Miller BA, Kaplan HB. The Brief MAST: A shortened version of the Michigan Alcoholism Screening Test. *The American Journal of Psychiatry*. 1972; 129:342–345. [PubMed: 5053717]
- Polusny MA, Follette VM. Long-term correlates of child sexual abuse: Theory and review of the empirical literature. *Applied and Preventive Psychology*. 1995; 4(3):143–166.
- Powers MG, Halpern JM, Ferenschak MP, Gillihan SJ, Foa EB. A meta-analytic review of prolonged exposure for posttraumatic stress disorder. *Clinical Psychology Review*. 2010; 30:635–641. [PubMed: 20546985]
- Rehm J, Shield KD, Joharchi N, Shuper PA. Alcohol consumption and the intention to engage in unprotected sex: Systematic review and meta-analysis of experimental studies. *Addiction*. 2012; 107:51–59. [PubMed: 22151318]
- Rellini AH, Meston CM. Sexual desire and linguistic analysis: A comparison of sexually-abused and non-abused women. *Archives of Sexual Behavior*. 2007; 36:67–77. [PubMed: 17136590]
- Resick PA, Nishith P, Weaver TL, Astin MC, Feuer CA. A comparison of cognitive processing therapy with prolonged exposure and a waiting condition for the treatment of chronic posttraumatic stress disorder in female rape victims. *Journal of Consulting and Clinical Psychology*. 2002; 70:867–879. [PubMed: 12182270]
- Resick, PA., Schnicke, MK. *Cognitive Processing Therapy for Rape Victims: A Treatment Manual*. Newbury Park, California: Sage Publications; 1993.
- Schacht RL, Stoner SA, George WH, Norris J. Idiographically-determined versus standard absorption periods in alcohol administration studies. *Alcoholism: Clinical and Experimental Research*. 2010; 34:925–927.
- Senn TE, Carey MP, Vanable PA. Childhood and adolescent sexual abuse and subsequent sexual risk behavior: Evidence from controlled studies, methodological critique, and suggestions for research. *Clinical Psychology Review*. 2008; 28:711–735. [PubMed: 18045760]
- Stoner SA, George WH, Peters LM, Norris J. Liquid courage: Alcohol fosters risky sexual decision-making in individuals with sexual fears. *AIDS and Behavior*. 2007; 11:227–237. [PubMed: 16802196]
- Stoner SA, Norris J, George WH, Morrison DM, Zawacki T, Davis KC, Hessler DM. Women's condom use assertiveness and sexual risk-taking: Effects of alcohol intoxication and adult victimization. *Addictive Behaviors*. 2008; 33:1167–1176. [PubMed: 18556139]
- Sutherland MA, Fantasia HC, Adkison L. Sexual health and dissociative experiences among abused women. *Issues in Mental Health Nursing*. 2014; 35:41–49. [PubMed: 24350750]
- Ullman SE, Filipas HH, Townsend SM, Starzynski LL. Trauma exposure, posttraumatic stress disorder and problem drinking in sexual assault survivors. *Journal of Studies on Alcohol*. 2005; 66:610–619. [PubMed: 16331846]
- Zurbriggen, EL., Freyd, JJ. The link between child sexual abuse and risky sexual behaviour: The role of dissociative tendencies, information-processing effects, and consensual sex decision mechanisms. In: Koenig, LJ, Doll, LS, O'Leary, A., Pequenat, W., editors. *From child sexual abuse to adult sexual risk: Trauma, revictimization, and intervention*. Washington, D.C: American Psychological Association; 2004. p. 135-158.

(a) Hypothesized model



(b) Final model

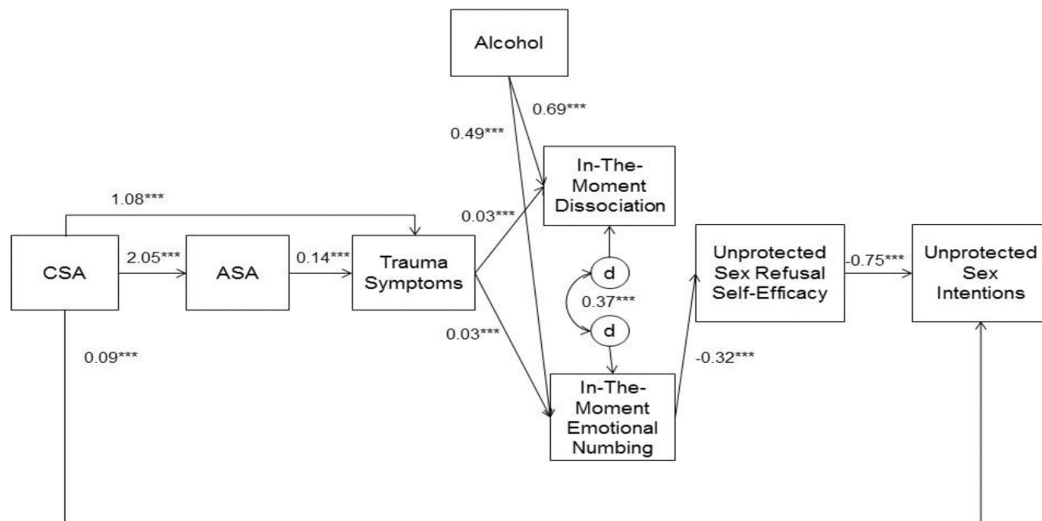


Figure 1. The hypothesized model (a) and final model (b) depicting the unstandardized path coefficients for only the significant paths. d = disturbance.

Table 1

Bivariate Correlations among Study Variables (N = 436)

Variable	M(SD)	1.	2.	3.	4.	5.	6.	7.	8.
1. CSA	1.0(1.8)	--							
2. ASA	18.7(17.0)	.22***	--						
3. Trauma symptoms	39.4(9.2)	.27***	.30***	--					
4. Alcohol condition	0.5(0.5)	-.01	-.00	.04	--				
5. In-the-moment dissociation	2.0(1.2)	.07	.08	.23***	.30***	--			
6. In-the-moment emotional numbing	1.7(1.1)	.07	.11*	.28***	.23***	.41***	--		
7. Unprotected sex refusal self-efficacy	4.9(1.8)	.03	-.07	-.09	-.09	-.15**	-.23***	--	
8. Unprotected sex intentions	4.2(2.0)	.06	.08	.06	.04	.06	.12*	-.69***	--

Note. CSA = childhood sexual abuse; ASA = adolescent/adult sexual assault. Alcohol condition was coded as 0 = *no alcohol* and 1 = *alcohol*.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 2

Indirect Effects From CSA and Alcohol to Unprotected Sex Intentions

Indirect Paths	Unstandardized Estimate	95% C.I.
CSA to Unprotected Sex Intentions (Total Indirect)	.016	-.003, .034
Via trauma symptoms to dissociation to unprotected sex refusal self-efficacy	.002	-.002, .006
Via trauma symptoms to emotional numbing to unprotected sex refusal self-efficacy	.009*	.001, .016
Via ASA to trauma symptoms to dissociation to unprotected sex refusal self-efficacy	.001	-.001, .002
Via ASA to trauma symptoms to emotional numbing to unprotected sex refusal self-efficacy	.002*	.000, .004
Alcohol to Unprotected Sex Intentions (Total Indirect)	.230	-.020, .480
Via unprotected sex refusal self-efficacy	.067	-.200, .335
Via dissociation to unprotected sex refusal self-efficacy	.044	-.046, .135
Via emotional numbing to unprotected sex refusal self- efficacy	.118**	.035, .189

Note. C.I. = confidence interval; CSA = childhood sexual abuse; ASA = adolescent/adult sexual assault.

* $p < .05$.

** $p < .01$.