

## Mediators of Sexual Revictimization Risk in Adult Sexual Assault Victims

Sarah E. Ullman & Amanda L. Vasquez

To cite this article: Sarah E. Ullman & Amanda L. Vasquez (2015) Mediators of Sexual Revictimization Risk in Adult Sexual Assault Victims, Journal of Child Sexual Abuse, 24:3, 300-314, DOI: [10.1080/10538712.2015.1006748](https://doi.org/10.1080/10538712.2015.1006748)

To link to this article: <http://dx.doi.org/10.1080/10538712.2015.1006748>



Published online: 05 May 2015.



Submit your article to this journal [↗](#)



Article views: 92



View related articles [↗](#)



View Crossmark data [↗](#)

## **PREVALENCE AND REVICTIMIZATION RESEARCH FOR VICTIMS OF CHILD SEXUAL ABUSE**

### **Mediators of Sexual Revictimization Risk in Adult Sexual Assault Victims**

SARAH E. ULLMAN and AMANDA L. VASQUEZ

*University of Illinois at Chicago, Chicago, Illinois, USA*

*This study examined sexual risk behaviors and sexual refusal assertiveness in relationship to child sexual abuse, emotion dysregulation, and adult sexual revictimization. Path analyses of 1,094 survivors who had sex in the past year were done to examine sexual risk behavior and sexual refusal assertiveness mediational pathways by which child sexual abuse severity and emotion dysregulation may affect revictimization over one year in adult female sexual assault survivors. Exchanging sex for money and sexual refusal assertiveness were significantly associated with emotion dysregulation, whereas exchanging sex for money, and not sexual refusal assertiveness, was only significantly related to child sexual abuse severity. Both exchanging sex for money and sex refusal assertiveness mediated the relationship between emotion dysregulation and adult sexual revictimization. Exchanging sex for money mediated the child sexual abuse severity-revictimization relationship. These findings demonstrate the importance of considering both risky and protective sexual behaviors in research and prevention programming that address sexual revictimization in women.*

**KEYWORDS** *child abuse, revictimization, assault, risky behavior*

---

Received 4 April 2014; revised 29 September 2014; accepted 30 September 2014.

Address correspondence to Sarah E. Ullman, Department of Criminology, Law, & Justice, University of Illinois at Chicago, 1007 West Harrison Street, Chicago, IL 60607-7140. E-mail: [seullman@uic.edu](mailto:seullman@uic.edu)

Child sexual abuse (CSA) is related to higher risk of sexual assault revictimization in women (Messman-Moore & Long, 2003). CSA victims are about twice as likely as nonvictims to experience sexual assault in adolescence or adulthood (e.g., Messman-Moore & Long, 2003). Studies also show that CSA victims engage in greater sexual risk behaviors, including having a greater number of sexual partners, less frequent condom use, drinking/drug use prior to sex, and exchanging sex for money (Senn, Carey, & Vanable, 2008), all of which may explain increased risk of revictimization (Messman-Moore, Walsh, & DiLillo, 2010). Furthermore, recent evidence suggests that more severe child sexual abuse is linked with riskier adult sexual behavior (Senn, Carey, Vanable, Coury-Doniger, & Urban, 2007). Most research has focused on understanding the child sexual abuse to adult sexual assault link. However, we know little about pathways for revictimization risk in adult sexual assault survivors, even though repeated victimization is common (Daigle, Fisher, & Cullen, 2008; Walsh et al., 2012).

Two recent studies found that 30% of adolescent/adult sexual assault victims experienced a new completed rape over a follow-up period (Littleton, Axsom, & Grills-Taquechel, 2009; Messman-Moore, Brown, & Koelsch, 2005). This finding suggests that studies are needed to identify mediators of the association of CSA to adult sexual revictimization within adult sexual assault victims. Research also suggests at least some adult sexual assault victims have increased use of risky sexual behaviors after being assaulted. Campbell, Sefl, and Ahrens (2004) found that some women reported significant increases from pre- to postrape in their frequency of sexual activity, number of sexual partners, infrequency of condom use, and frequency of using alcohol and/or drugs during sex. In an eight-month prospective study of college women, Messman-Moore, Coates, Gaffey, & Johnson (2008) found that greater dysfunctional sexual behavior and alcohol use increased risk for rape but not sexual coercion in college women. Finally, Johnson and Johnson (2013) found a positive relationship between sexual trauma severity and risky sexual behavior in a cross-sectional study of college women and that the relationship was mediated by problematic substance use.

Emotion dysregulation may also play a critical role in understanding sexual revictimization (Messman-Moore et al., 2010). It is possible that CSA survivors who experience greater emotion dysregulation are more vulnerable to being revictimized, as lack of ability to cope with and/or respond to one's emotions may impede self-protective behaviors including sexual assertiveness (Zerubavel & Messman-Moore, 2013). CSA is related to immobility or passivity (Gidycz, Van Wynsberghe, & Edwards, 2008; Stoner et al., 2007) and lack of assertiveness (Gidycz et al., 2008; Norris, Nurius, & Dimeff, 1996) during later adult assault.

Sexual refusal assertiveness is women's assertiveness in refusing sexual activity in relationship situations and has been found to be protective against revictimization. Specifically, sexual refusal assertiveness was related to less

revictimization in a longitudinal community study of women (Livingston, Testa, & VanZile-Tamsen, 2007) and a longitudinal study of college women (Greene & Navarro, 1998). Still, we have yet to examine whether, within samples of adult sexual assault victims, refusal assertiveness is protective against future revictimization. Furthermore, few multiwave studies of both sexual risk behaviors and protective factors like sexual refusal assertiveness have been done in community samples of female victims, as most focus on college women.

## CURRENT STUDY HYPOTHESES

This study extends research on sex-related mediator variables—revictimization risk to an understudied, high-risk, community-residing sample of female sexual assault victims. As in samples of women in general, we expect adult sexual assault victims with a history of CSA who engage in sexual risk behaviors to be more likely to be revictimized in adulthood. We also explored whether sexual risk behaviors mediated effects of emotion dysregulation on revictimization in that victims having more problems regulating their emotional states, might be more susceptible to using sex to cope/medicate emotions, which may increase their risk of being revictimized (Orcutt, Cooper, & Garcia, 2005). Furthermore, sexual refusal assertiveness will mediate the CSA–revictimization link, such that less refusal assertiveness among those with CSA will relate to greater revictimization risk. Sexual refusal assertiveness will still be linked to lower risk of further sexual revictimization.

## METHOD

### Sample

Participants were women recruited from the community in the Chicagoland area. Women who participated met three criteria: had an unwanted sexual experience at age 14 or older, were at least 18 years old, and had told at least one person about the experience. Of the women mailed surveys, 85% returned them ( $N = 1,863$ ). Their survey data represented the first wave of a three-wave longitudinal study of survivors' experiences in recovering from sexual assault. In this study, 1,094 women who had sex in past year were included in analyses. Women were an average of 35 years old and ranged in age from 18–75 at the time of the survey. Most participants were either Black (45.1%) or White (34.8%), with the rest being mixed/other races. A small percentage of women (14.4%) were of Hispanic ethnicity. More than one-third of women were married or cohabiting (37.0%), and 52.3% had children. Just fewer than one-third (31.1%) had graduated from college or had a higher level of education, and 45.0% were currently employed.

## Procedure

Women were recruited for participation in the study via weekly newspaper advertisements, through online venues, and by posting fliers in various locales, including college campuses and service agencies. Recruitment lasted for approximately one year. Women called the research office and were screened for the three criteria. Women were then mailed a survey, informed consent sheet, list of community resources, and a postage paid return envelope. Women were paid \$25 for their participation. All study procedures were approved by the University Institutional Review Board.

## Measures

### DEMOGRAPHICS

Demographic information obtained included age, race, highest level of education, and marital status. Age was reported in years at the time of the survey. Participants were asked to identify their race as White, Black, Hispanic, Asian/Pacific Islander, American Indian/Alaskan Native, or Other. Education was assessed using four ordinal categories ranging from less than 12th grade to college graduate or beyond. Participants indicated their marital status as single, married, divorced/separated, widowed, or cohabiting.

### SEXUAL ASSAULT

Sexual victimization in childhood before 14 was assessed at wave 1 using Koss, Gidycz, and Wisniewski's (1987) Sexual Experiences Survey (SES), a valid and reliable measure of sexual assault, which was modified and used successfully by Testa, VanZile-Tamsen, Livingston, and Koss (2004) with a community sample of women. CSA (prior to age 14) was also assessed using Testa and colleagues' (2004) modified version of the SES. The age 14 criteria is part of the SES measure and was the legal age of consent when and where it was developed, including Testa and colleagues' (2004) revised version used in this study (see also Koss et al., 1987). The severity of male-perpetrated CSA was coded as a 5-level ordinal variable from no victimization through completed rape prior to age 14 ( $M = 1.89$ ,  $SD = 1.72$ ,  $\alpha = .89$ ).

Sexual assault victimization in adulthood (at age 14 or older) was assessed at wave 1 with the same SES-R measure questions used to measure CSA. Sexual assault revictimization was measured at wave 2. Using the SES-R we asked women to report on new experiences of victimization since the wave 1 survey. As with CSA severity, sexual assault revictimization was coded as a 5-level ordinal variable from no victimization through completed rape from SES questions ( $M = 1.18$ ;  $SD = 1.60$ ). Two-fifths of women (40%) reported being revictimized at wave 2.

Testa's modified version assesses various forms of sexual assault, including unwanted sexual contact (e.g., "Have you ever been fondled, kissed, or touched sexually when you didn't want to because you were overwhelmed by a man's continual arguments and pressure?"), verbally coerced intercourse (e.g., "Have you given in to sexual intercourse when you didn't want to because you were overwhelmed by a man's continual arguments and pressure?"), attempted rape (e.g., "Have you had a man attempt to insert his penis [but intercourse did not occur] when you didn't want to by threatening or using some degree of force [twisting your arm, holding you down, etc.?]"), and rape resulting from force (e.g., "Have you had sexual intercourse when you didn't want to because a man threatened or used some degree of physical force [twisting your arm, holding you down, etc.] to make you?") or incapacitation (e.g., from alcohol or drugs; "Have you been in a situation in which you were incapacitated due to alcohol or drugs [that is, passed out or unaware of what was happening] and were not able to prevent unwanted sexual intercourse from taking place?"). Women answered 11 no/yes questions to indicate whether they experienced each SES item since age 14. Testa and colleagues (2004) reported the 11-item SES measure had adequate reliability ( $\alpha = .73$ ); similar reliability was found in this sample ( $\alpha = .78$ ).

#### EMOTION DYSREGULATION

Emotion regulation difficulties were assessed with a modified 6-item version of the Difficulties in Emotion Regulation Scale (DERS, Gratz & Roemer, 2004) from Messman-Moore (personal communication, May 2010). Using a 5-point scale, ranging from 0 (*almost never*) to 4 (*almost always*), participants rated how often they had felt as described by each item in the past 12 months in relation to their most serious adult sexual assault. Scale items assessed emotional clarity, awareness of emotions, nonacceptance of emotions, ability to engage in goal-directed behavior despite negative emotions, ability to refrain from impulsive behavior when experiencing negative emotions, and flexible use of emotion regulation strategies. Higher scores indicated greater emotion dysregulation. The DERS has high internal consistency, good test-retest reliability, and adequate construct and predictive validity (Gratz & Roemer, 2004). Construct validity is supported by findings that DERS scores are positively associated with experiential avoidance and negatively correlated with emotional expressivity (Gratz & Roemer, 2004). The DERS had acceptable reliability in our study ( $\alpha = .75$ ;  $M = 2.78$ ,  $SD = .94$ ).

#### SEXUAL RISK BEHAVIORS

Five sexual risk behaviors in the past year were assessed with questions drawn from Campbell and colleagues (2004) regarding frequency of sexual activity, number of sex partners, frequency of condom use, frequency of

using alcohol and/or drugs during sex, and frequency of exchanging sex for money. These questions were asked toward the end of the mail survey and before demographic questions and were prefaced by the following instructions: "The next questions focus on your sexual health. Although they are very personal questions, they will help us understand the impact unwanted sexual experiences have on women's sexual health, which is important for women's general well-being. Please answer these questions about your sexual health *in the past 12 months*." First women were asked if they were sexually active in the past year, and if yes they answered questions about how many sex partners they had (1, 2, 3, 4, 5+), how often they had sex in the past year (1 = *less than once a month* to 5 = *every day*), how often they used condoms during intercourse (1 = *never* to 5 = *every time*), and how often they used alcohol and/or drugs during sexual activity (1 = *never* to 5 = *every time*). Participants were asked the following question about exchanging sex for money also adapted from Campbell and colleagues' (2004) study of sexual assault victims: "The last question about your sexual health is very sensitive—it's about exchanging sex for money. How often did you exchange sex for money?" The variable was ordinal and ranged from 0 = *never* to 4 = *every time in the past year*.

#### SEXUAL REFUSAL ASSERTIVENESS

Sexual refusal assertiveness was assessed with a 6-item subscale of the Sexual Assertiveness Scale (SAS; Morokoff et al., 1997), which measures the degree of refusal assertiveness to various sexual behaviors by a sexual partner. Responses ranged from strongly disagree to strongly agree on 5-point scale regarding degree to which you refuse or acquiesce/agree to sexual behaviors when a partner wants or pressures you for them. This subscale has items such as "I refuse to have sex if I don't want to, even if my partner insists," which women rated on a Likert scale of 1 (*strongly disagree*) to 5 (*strongly agree*) with higher scores indicating more assertiveness. The measure was reliable in this sample:  $\alpha = .80$ ,  $M = 3.33$ ,  $SD = 0.96$ .

#### SAMPLE DESCRIPTIVES

Highest severity of child sexual abuse, as assessed with Testa and colleagues' 2004 SES-R measure, showed the following frequencies: none (30.4%), unwanted sexual contact (17.0%), sexual coercion (4.4%), attempted rape (7.7%), and completed rape (30.23%). Highest severity of adult sexual assault revictimization over one year, as assessed with Testa and colleagues' 2004 SES-R measure, showed the following frequencies: no *new* adult sexual assault (60.0%), unwanted sexual contact (4.2%), sexual coercion (13.3%), attempted rape (3.3%), and completed rape (19.2%). Frequencies of women's responses regarding the five sexual risk behaviors in the past year were as

follows. In terms of frequency of sex, 19.4% reported sex less than once a month, 31.4% 1–3 times per month, and 47.2% once a week or more in the past year. Women reported number of sex partners in the past year as: one (45.8%), two (15.3%), or three or more (36.9%). Frequency of condom use during sex was reported as never (34.2%), half the time or less than half the time (25.3%), most or every time (36.0%). Frequency of alcohol or drug use during sex was reported as never (39.7%), half the time or less than half the time (42.4%), or most or every time (15.8%). Frequency of exchanging sex for money was reported as never (79.3%), half the time or less (13.7%), most or every time (5.1%).

### Analysis strategy

Bivariate correlations were run for all major study variables (see Table 1).

The strong association between exchanging sex for money and CSA severity and revictimization suggested that a mediational relationship might exist. Other sexual risk behaviors were unrelated to CSA severity, but two sexual risk behaviors were related to revictimization (alcohol/drugs use during sex and number of sex partners). Given this pattern of correlations, mediation could only be tested for exchanging sex for money, the only sexual risk behavior related to both the independent variable of CSA severity and the dependent variable of revictimization. Emotion dysregulation was related to greater CSA, more sexual partners, more alcohol/drug use during sex, more exchanging sex for money, less sexual refusal assertiveness, and greater revictimization. Therefore, three parallel path models were run in MPlus, using 5,000 bootstrapped samples. Each model included sexual refusal assertiveness and one of the three significant sexual risk behaviors as mediators of both the CSA–revictimization relationship and the emotion dysregulation–revictimization relationship.

**TABLE 1** Bivariate Correlations

Variable	1	2	3	4	5	6	7	8	9
1. CSA	—								
2. Emotion dysregulation	.24**	—							
3. Revictimization	.21**	.23**	—						
4. Sexual assertiveness	-.09**	-.22**	-.23**	—					
5. Sexual activity	-.01	.03	.01	-.03	—				
6. Drugs/alcohol	.05	.10**	.07*	-.13**	-.01	—			
7. Condom use	-.04	-.02	.04	.13**	-.07*	.09**	—		
8. Number of partners	.03	.10**	.10**	-.11**	.08**	.20**	.23**	—	
9. Exchange sex	.27**	.15**	.21**	-.15**	.02	.28**	.12**	.23**	—

Note. CSA = child sexual abuse.

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

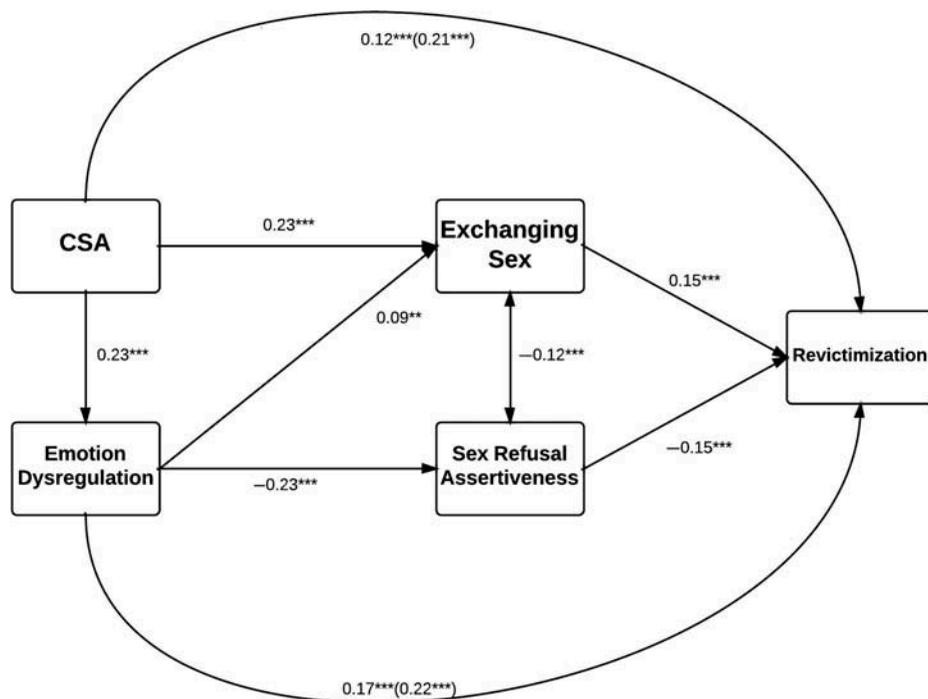
We also tested moderated mediation in which a CSA emotion regulation interaction term was added to the model in which exchanging sex for money was tested as a mediator. We only tested the interaction in this model because exchanging sex for money was the only sex risk behavior variable to be significantly related to both CSA severity and emotion dysregulation. There was no interaction between CSA and emotion dysregulation for either mediator (exchanging sex for money or sex refusal assertiveness). Therefore, the significant pathways that end up being modeled are both CSA and emotion dysregulation as independent variables. Two sex risk behaviors (number of sex partners and alcohol/drugs) significantly related to revictimization, but showing no mediational effects between CSA and revictimization or emotion dysregulation and revictimization, were added as controls. However, these control variables were removed due to nonsignificance, as was the nonsignificant path from CSA and sex refusal assertiveness in the final model presented here.

## RESULTS

Bivariate correlation coefficients indicate that exchanging sex for money was the only sexual risk behavior variable significantly related to both CSA and revictimization (see Table 1). Three sexual risk behaviors (number of sex partners, alcohol/drugs, and exchanging sex for money) were positively associated with emotion dysregulation and revictimization. In addition, sexual refusal assertiveness was negatively related to CSA, emotion dysregulation, and revictimization.

A path analysis found several significant direct and mediational effects among CSA, emotion dysregulation, exchanging sex for money, sexual refusal assertiveness, and revictimization. (See Figure 1 for path coefficients and Table 2 for indirect effects.)

The model fit was excellent ( $RMSEA = .013$ ,  $CFI = .99$ ,  $SRMR = .008$ ) and chi-square test nonsignificant,  $X^2(1, N = 986) = 1.17$ ,  $p = .28$ . The effect size was medium ( $R^2 = .14$ ). Both exchanging sex for money and sex refusal assertiveness partially mediated the emotion dysregulation–revictimization relationship. Emotion dysregulation was related to greater frequency of exchanging sex for money but to less sexual refusal assertiveness, and exchanging sex for money predicted greater risk of revictimization, whereas sexual refusal assertiveness was protective against revictimization. Emotion dysregulation was directly related to greater risk of revictimization. Furthermore, exchanging sex for money partially mediated the relationship of CSA to revictimization. As with emotion dysregulation, CSA was related to greater frequency of exchanging sex for money, and exchanging sex for money predicted greater risk of revictimization. CSA was also directly related to greater risk of revictimization.



**FIGURE 1** Exchanging sex for money and sex refusal assertiveness as mediators of CSA and revictimization and CSA. \*\* $p < .01$ . \*\*\* $p < .001$ .

**TABLE 2** Indirect Effects for Mediated Regression of Child Sexual Abuse and Emotion Dysregulation on Revictimization

Predictors	Sex refusal		Exchanging sex		Emotion dysregulation	
	Indirect effect	95% CI	Indirect effect	95% CI	Indirect effect	95% CI
CSA	—	—	0.04	(0.016–0.054)	0.04	(0.021–0.055)
ED	0.04	(0.019–0.052)	0.01	(0.002–0.024)	—	—
CSA → ED	0.01	(0.004–0.012)	0.01	(0.001–0.006)	—	—

Note. CSA = child sexual abuse; ED = emotion dysregulation.

## DISCUSSION

This two-wave study of a large sample of community-residing adult sexual assault victims was the first, to our knowledge, to evaluate whether sexual risk behaviors and sexual refusal assertiveness were related to CSA severity, emotional dysregulation, and sexual revictimization and how they might mediate the CSA severity–revictimization relationship and/or the emotional dysregulation–revictimization relationship. Our first hypothesis that

CSA would be related to greater engagement in sexual risk behaviors was only partially supported, as it was only related to greater frequency of exchanging sex for money. Contrary to some previous research, CSA severity was not related to most sexual risk behaviors (number of sex partners, frequency of sex, frequency of condom use, use of alcohol/drugs during sex). However, number of sex partners and drug/alcohol use during sexual activity were positively related to revictimization. This is not surprising and may simply be due to the fact that unlike past studies, our sample comprised women who had already had an adult sexual assault at the start of the study, so their risk level was likely higher from the start, and the sample was more homogeneous than past studies of women in general (Livingston et al., 1997; Messman-Moore et al., 2010).

Our second hypothesis was supported in that sexual refusal assertiveness was related to lower risk of revictimization, consistent with past research (Livingston et al., 2007). Sexual refusal assertiveness did not mediate the CSA–revictimization association (unlike Livingston et al., 2007) but did mediate the emotion dysregulation–revictimization relationship, which appears to be due to the stronger association of emotion dysregulation with sexual refusal assertiveness (as the model run without emotion dysregulation did show significant mediation for sexual refusal of the CSA–revictimization association). In our examination of sexual risk behaviors we found that exchanging sex for money mediated both the CSA severity–revictimization and emotion dysregulation–revictimization relationships, such that both greater CSA severity and emotion dysregulation were related to increased frequency of exchanging sex for money and that this sexual risk behavior was then a risk factor for revictimization. This is an important new finding that suggests that in adult sexual assault victims exchanging sex for money may be a critical behavioral risk mediator affected by both CSA and emotion dysregulation, which increases risk of revictimization. Further research is needed in community samples, as this behavior may be a proxy for women living in riskier large metropolitan area communities wherein they are affected by greater levels of poverty and violence.

These findings offer support for sexual risk behaviors as links between CSA severity and revictimization, especially for exchanging sex for money. Increased sexual refusal assertiveness did not reduce the association of CSA–revictimization over a year, perhaps because emotion dysregulation played a stronger role in this model. CSA was related to greater frequency of exchanging sex for money but not to less refusal assertiveness in the model. Emotion dysregulation mediated the association between exchanging sex and revictimization, a new finding that has not been previously reported in this population, suggesting that perhaps victims having more problems regulating emotions are less able to refuse sexual activity and thus more vulnerable to being revictimized.

This study had certain limitations. The study had a one-year follow-up but was not prospective in that all women were selected for having had adult

sexual assault experiences. Poor memory recall may have biased responses as women were asked to recall behaviors they had engaged in over the past year, so some women may have had difficulty answering all questions accurately. In addition, the women surveyed were not representative of the population from which they were drawn. The racial/ethnic identification of women in the study was not representative of the demographics in the Chicagoland area, nor is this study representative of all sexual assault survivors. Only women who had disclosed their assault to at least one person were allowed to participate. Furthermore, use of the SES to measure child sexual abuse may not have captured the full range of abuse experiences. Last, women were asked if they had exchanged sex only for money. Thus, the study failed to consider women who may have exchanged sex for other items of value, such as drugs, food, housing, etc. Given the nonrepresentativeness of this sample, future studies are needed to replicate these findings in victims from representative samples.

Research should be conducted that draws on the findings from this study. Researchers should expand the prostitution measure to include engagement in sex for anything of value, given the significance of this sexual risk behavior in mediating the effect of CSA on revictimization. This measure should ask women if they exchanged sex for anything of value at any point in their lives, not just in the past year, because the survey inquires about unwanted sexual experiences, both child and adult, at any point in a woman's life. Using a more targeted recruitment strategy, such as snowball sampling, may enable researchers to reach a more diverse group of women engaged in prostitution. Chen, Li, Shen, Zhou, and Tang (2013) recently found an association between alcohol use and sexual risk among female sex workers, suggesting that other behaviors should be explored that may help to explain their increased risk for revictimization, beyond just engaging in sex work itself. Further research is needed to understand this unique subgroup's higher risk of sexual revictimization.

Our findings suggest that while sexual risk behaviors are prevalent in adult sexual assault victims from the community, only the more extreme higher risk sexual behavior of exchanging sex for money increases CSA victims' risk of being reassaulted over a one year period. This is one of the first two-wave studies of community residing adult sexual assault victims to test whether such behaviors explain revictimization risk over time. Contextual factors, such as risky environments in which women who exchange sex for money live, may explain this finding. On a positive note, sexual refusal assertiveness is protective against sexual revictimization with a sex partner, which suggests that interventions need to focus on helping women by increasing their ability to resist risky sexual behaviors in their relationships. This conclusion echoes Senn and Carey's (2010) call for sexual risk reduction interventions, as they found that in a sample of women attending a sexually transmitted disease clinic (another high-risk sample), only CSA, not other

forms of childhood maltreatment, was related to adult sexual risk behaviors including unwanted sexual experiences.

Emotion regulation skills are another point of intervention that may need to be improved, particularly in women with CSA histories (Messman-Moore et al., 2010). Such skills appear to lead to reduced sexual refusal assertiveness and increased risk of risky sexual behaviors, both of which relate to revictimization. Given that better skills are associated with more refusal assertiveness, improving emotion dysregulation in CSA survivors may help them also improve their self-protective abilities, which many studies show relate to revictimization risk over time (Livingston et al., 2007).

Future research is needed to further examine sexual mediators of revictimization over longer time periods, and we are currently collecting a third wave of data. Other factors that may affect the links of sexual mediators to revictimization should be incorporated. Contextual and relationship factors that may help to explain these associations need to be explored so that interventions can be developed to reduce revictimization. Specifically, high risk environments with greater poverty and violence overall may give rise to higher risk of interpersonal and family violence that account for some of the risk of revictimization in certain subpopulations of women. Thus, models testing mediators of revictimization should take contextual factors into account, as explanatory factors and points of intervention may differ for women in different socioenvironmental contexts. Relationship factors are likely to affect the associations studied here also, as risk of revictimization via sexual mediators may depend on women's relationships to the perpetrator and/or whether they are in a violent relationship.

In addition, other forms of assertiveness need study, as at least one investigation found that college women with more sexual partners in the context of both low sexual refusal assertiveness and low relational assertiveness were associated with an increased risk of sexual assault (Walker, Messman-Moore, & Ward, 2011). Finally, future studies should examine revictimization for force or threatened rapes versus incapacitated rapes to see if these mediators work differently for these two types of rape. Given that many women experience sexual assault, interventions are needed to reduce risk factors and facilitate protective factors in order to reduce women's risk of being reassaulted.

#### ACKNOWLEDGMENTS

We thank collaborators on this study: Mark Relyea, Liana Peter-Hagene, Rannveig Sigurvinsdottir, Cynthia Najdowski, Meghna Bhat, Saloni Shah, Susan Zimmerman, Rene Bayley, Farnaz Mohammad-Ali, Gabriela Lopez, Brittany Tolar, Shana Dubinsky, Diana Acosta, Hira Rehman, Nava Lalehzari, Joanie Noble, Edith Zarco, Sabina Skupien, and Justyna Ciechonska. An

earlier version of this article was presented at the 2013 International Society for Traumatic Stress Studies, Philadelphia, Pennsylvania.

## FUNDING

This research was funded by a grant (R01 17429) from the National Institute on Alcohol Abuse and Alcoholism to Sarah E. Ullman.

## REFERENCES

- Campbell R., Sefl, T., & Ahrens, C. (2004.) The impact of rape on women's sexual health risk behaviors. *Health Psychology, 23*, 67–74.
- Chen, Y., Li, X., Shen, Z., Zhou, Y., & Tang, Z. (2013). Alcohol and sexual risk: An event level analysis in commercial sex setting. *Addictive Behaviors, 38*, 2888–2892.
- Daigle, L. E., Fisher, B. S., & Cullen, F. T. (2008). The violent and sexual victimization of college women: Is repeat victimization a problem? *Journal of Interpersonal Violence, 23*, 1296–1313.
- Gidycz, C. A., Van Wynsberghe, A., & Edwards, K. M. (2008). Prediction of women's utilization of resistance strategies in a sexual assault situation: A prospective study. *Journal of Interpersonal Violence, 23*, 571–588.
- Gratz, K. L., & Roemer, L. (2004). Multidimensional assessment of emotion regulation and dysregulation: Development, factor structure, and initial validation of the difficulties in Emotion Regulation Scale. *Journal of Psychopathology and Behavioral Assessment, 26*, 41–54.
- Greene, D. M., & Navarro, R. L. (1998). Situation-specific assertiveness in the epidemiology of sexual victimization among university women: A prospective path analysis. *Psychology of Women Quarterly, 22*, 589–604.
- Johnson, N. L., & Johnson, D. M. (2013). Factors influencing relationships between sexual trauma and risky sexual behavior in college students. *Journal of Interpersonal Violence, 28*, 2315–2331.
- Koss, M. P., Gidycz, C. A., & Wisniewski, N. (1987). The scope of rape: Incidence and prevalence of sexual aggression and victimization among a national sample of students in higher education. *Journal of Consulting and Clinical Psychology, 55*, 162–170.
- Littleton, H. L., Axsom, D., & Grills-Tauchel, A. (2009). Sexual assault victims' acknowledgment status and re-victimization risk. *Psychology of Women Quarterly, 33*, 34–42.
- Livingston, J. A., Testa, M., & VanZile-Tamsen, C. (2007). The reciprocal relationship between sexual victimization and sexual assertiveness. *Violence Against Women, 13*, 1–16.
- Messman-Moore, T. L., Brown, A. L. & Koelsch, L. E., (2005). Posttraumatic symptoms and self-dysfunction as consequences and predictors of sexual revictimization. *Journal of Traumatic Stress, 18*, 253–261.

- Messman-Moore, T. L., Coates, A. A., Gaffey, K. J., & Johnson, C. F. (2008). Sexuality, substance use and susceptibility to victimization: Risk for rape and sexual coercion in a prospective study of college women. *Journal of Interpersonal Violence, 23*, 1730–1746.
- Messman-Moore, T. L., & Long, P. J. (2003). The role of childhood sexual abuse sequelae in sexual revictimization: An empirical review and theoretical reformulation. *Clinical Psychology Review, 23*(4), 537–571.
- Messman-Moore, T., Walsh, K., DiLillo, D. (2010). Emotion dysregulation and risky sexual behavior in revictimization. *Child Abuse and Neglect, 34*, 967–976.
- Morokoff, P. J., Quina, K., Harlow, L. L., Whitmire, L., Grimley, D. M., Gibson, P. R., & Burkholder, G. J. (1997). Sexual Assertiveness Scale (SAS) for women: Development and validation. *Journal of Personality and Social Psychology, 73*, 790–804.
- Norris, J., Nurius, P. S., & Dimeff, L. A. (1996). Through her eyes: Factors affecting women's perception of and resistance to acquaintance sexual aggression threat. *Psychology of Women Quarterly, 20*, 123–145.
- Orcutt, H., Cooper, L., & Garcia, M. (2005). Use of sexual intercourse to reduce negative affect as a prospective mediator of sexual revictimization. *Journal of Traumatic Stress, 18*, 729–739.
- Senn, T., & Carey, M. (2010). Child maltreatment and women's adult sexual risk behavior: Child sexual abuse as a unique risk factor. *Child Maltreatment, 15*, 324–335.
- Senn, T., Carey, M., & Vanable, P. (2008). Childhood and adolescent sexual abuse and subsequent sexual risk behavior: Evidence from controlled studies, methodological critique, and suggestions for research. *Clinical Psychology Review, 28*, 711–735.
- Senn, T. E., Carey, M. P., Vanable, P. A., Coury-Doniger, P., & Urban, M. A. (2007). Characteristics of sexual abuse in childhood and adolescence influence sexual risk behavior in adulthood. *Archives of Sexual Behavior, 36*, 637–645.
- Stoner, S. A., Norris, J., George, W. H., Davis, K. C., Masters, N. T., & Hessler, D. M. (2007). Effects of alcohol intoxications and victimization history on women's sexual assault resistance intentions: The role of secondary cognitive appraisals. *Psychology of Women Quarterly, 31*, 344–356.
- Testa, M., VanZile-Tamsen, C., Livingston, J. A., & Koss, M. P. (2004). Assessing women's experiences of sexual aggression using the Sexual Experiences Survey: Evidence for validity and implications for research. *Psychology of Women Quarterly, 28*, 256–265.
- Walker, E., Messman-Moore, T., & Ward, R. (2011). Number of sexual partners and sexual assertiveness predict sexual victimization: Do more partners equal more risk? *Violence and Victims, 26*, 774–787.
- Walsh, K., Danielson, C. K., McCauley, J., Saunders, B. E., Kilpatrick, D. G., & Resnick, H. S. (2012). National prevalence of PTSD among sexually revictimized adolescent, college, and adult women. *Archives of General Psychiatry, 69*, 939–942.
- Zerubavel, N., & Messman-Moore, T. L. (2013). Sexual victimization, fear of sexual powerlessness, and cognitive emotion dysregulation as barriers to sexual assertiveness in college women. *Violence Against Women, 19*, 1518–1537.

## AUTHOR NOTES

Sarah E. Ullman, PhD, is a professor of criminology, law, and justice and director of the Office of Social Science Research at the University of Illinois at Chicago. She received a PhD in social/developmental psychology from Brandeis University and completed postdoctoral training in health psychology at University of California, Los Angeles. Her research interests concern the impact of sexual assault and traumatic life events on women's health and substance abuse outcomes; social, cognitive, and behavioral factors associated with recovery from trauma; and situational and behavioral correlates of rape avoidance.

Amanda L. Vasquez, is a doctoral student in criminology, law, and justice at the University of Illinois at Chicago. Her research interests concern sexual victimization, risk factors for revictimization, and prostitution among women as well as the mental health and substance abuse consequences of these experiences.