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Verbal Sexual Coercion Experiences, Sexual Risk, and Substance Use in Women

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Abstract

Research has linked sexual assault, substance use, and sexually transmitted infection (STI) risk in women. Sexual assault by means of verbal sexual coercion (VSC) is more common than sexual assault by means of physical tactics, but VSC is rarely assessed independently. In addition, past work has established global connections among substance use, sexual assault history, and STI risk; however, assessing substance use during sexual behavior is less common. This study examined the relations among VSC, STI risk behavior, and substance use and attitudes. We hypothesized that women with larger numbers of VSC experiences would report more frequent sexual risk behaviors and substance use and attitudes. Participants with larger numbers of VSC experiences reported larger numbers of anal sex partners, more frequent penile–vaginal sex and sexual activity after substance use, and stronger sex-related alcohol expectancies. These findings suggest that VSC is associated with higher levels of STI risk in women.

Keywords

alcohol; marijuana; sex-related alcohol expectancies; sexual assault

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Sexual assault is defined as nonconsensual sexual experiences ranging from unwanted sexual contact to physically forced penetration. Verbal sexual coercion (VSC), a form of sexual assault, is psychological pressure to have coerced sex. Young women are at high risk for sexually transmitted infections (STIs) including human papillomavirus, Chlamydia, gonorrhea (Centers for Disease Control and Prevention [CDC], 2008), and HIV/AIDS (CDC, 2007). One factor consistently related to heterosexual STI risk behavior (e.g., condom nonuse and unprotected anal sex) is exposure to sexual assault. However, compared to other forms of sexual assault, very little is known about VSC and its association with other risk behaviors. This study is a preliminary examination of these associations, and focuses on women's STI risk behaviors and substance use following VSC in adulthood.

VERBAL SEXUAL COERCION

VSC is defined as psychological pressure that leads to coerced sex and includes tactics such as overwhelming arguments, continual pressure for sex, or threats to end the relationship (Katz, Moore, & Tkachuk, 2007; Messman-Moore, Coates, Gaffey, & Johnson, 2008; Testa & Dermen, 1999). VSC prevalence rates in women are consistently higher than other forms of sexual assault. Using the Sexual Experiences Survey (SES; Koss & Oros, 1985), Humphrey and White (2000) found that approximately 11% of college women experienced VSC in each of the four years of college, whereas 3% to 6% of the sample experienced rape in each year. In an eight-month period, Messman-Moore et al. (2008) also used the SES and found that 12% of women reported a VSC experience, whereas 9.5% reported a rape experience. Zweig, Barber, and Eccles (1997) examined a sample of 872 women (approximately 50% in college) and found that 13% reported a rape, whereas 22% reported a VSC experience. These studies suggest that VSC occurs more frequently than rape. In addition, sexual assault history prevalence rates are often calculated based on the “most severe” assault. As a result, these findings might underrepresent true VSC rates.

VERBAL SEXUAL COERCION, SEXUAL RISK BEHAVIOR, ALCOHOL USE, AND MARIJUANA USE

Current evidence, which appears to be limited to a handful of studies, indicates that women with a VSC history report higher rates of sexual risk behaviors compared to those without such history (Benson, Gohm, & Gross, 2007; Messman-Moore et al., 2008; Testa & Dermen, 1999). Specifically, women with a history of VSC report higher rates of casual sexual activity (Testa & Dermen, 1999) and larger numbers of sexual partners (Benson et al., 2007; Messman-Moore et al., 2008) compared to women with no VSC history. These findings are consistent with research based on sexual assault using physical tactics, which also indicates that women exposed to sexual assault involving physical tactics report greater sexual risk behaviors in comparison to women without a history of sexual assault (Deliramich & Gray, 2008; Koenig, Doll, O'Leary, & Pequegnat, 2004; Smith, Davis, & Fricker-Elhai, 2004).

The association between substance use and sexual assault (irrespective of tactic) is well-established (for a review, see Testa & Livingston, 2009). However, only one study has examined the relation between VSC and global alcohol and marijuana use (Messman-Moore

et al., 2008). This prospective study revealed that women's alcohol consumption, measured by assessing both frequency and quantity, was not a risk factor for experiencing VSC; however, marijuana use was. This study established a global link between marijuana use and VSC exposure, but did not assess situational associations between alcohol and marijuana use and VSC. As a result, it remains unclear whether the substance use occurred during events that involved sexual behavior. It is important to assess substance use at a situational level (Cooper, 2002), because women with a history of sexual assault appear more likely to drink as a coping strategy than women with no sexual assault history (Grayson & Nolen-Hoeksema, 2005). Women with a VSC history might similarly consume substances prior to sexual activity to cope with distress relating to prior assault. Acute intoxication could impair women's risk perception, which might place them at risk for additional assaults (Davis, Stoner, Norris, George, & Masters, 2009; Gidycz, McNamara, & Edwards, 2006; Testa, Livingston, & Collins, 2000). Thus, a situational examination of substance use during sexual experiences could enhance understanding of the relation between sexual assault and substance use by contextualizing global findings.

Because it has become well established that alcohol expectancies play an important role in the relationship between drinking and many aspects of sexuality—consensual and nonconsensual (e.g., see review George & Stoner, 2000)—it is important that they be considered. Sex-related alcohol expectancies, or ways in which people expect alcohol to influence their sexual thoughts, social perceptions, and behavior, are associated with VSC. Sex-related alcohol expectancies include sexual enhancement, sex risk, and sexual disinhibition (Dermen & Cooper, 1994). Possessing strong sexual enhancement expectancies suggests that an individual believes that sexual activity will be improved with alcohol consumption, whereas strong sex risk expectancies suggest that the individual associates riskier sexual behaviors (e.g., casual sex and condom non-use) with alcohol consumption; and strong sexual disinhibition expectancies suggest that an individual associates alcohol with diminished sexual inhibition.

Testa and Dermen (1999) found stronger sex-related alcohol expectancies were reported by women who had a VSC history relative to women who had experienced rape or had no history of sexual assault. They concluded that strong alcohol expectancies might indicate an external locus of control in sexual situations such that women might attribute their behavior in alcohol-involved situations to the effects of the alcohol rather than to themselves. This interpretation is more consistent with the deviance disavowal explanation (e.g., George & Norris, 1991) of how expectancies affect postdrinking sexual behavior than with the self-fulfilling explanation (e.g., George, Stoner, Norris, Lopez, & Lehman, 2000). In either case, the findings underscored the importance of alcohol expectancies in investigating sexual coercion.

Sex-related alcohol expectancies have also been found to be related to sexual risk behavior. Dermen, Cooper, and Agocha (1998) found that sex-related alcohol expectancies moderated the effect of alcohol on sexual risk behavior in adolescents such that alcohol use was associated with greater sexual risk behavior among those with stronger sex-related alcohol expectancies. Because women with a VSC history might have stronger sex-related alcohol expectancies than their counterparts without a VSC history (Testa & Dermen, 1999), they

might be more likely to engage in sexual risk behavior when drinking than women without a VSC history. These stronger alcohol expectancies combined with having more sexual partners (Benson et al., 2007; Messman-Moore et al., 2008), more casual sex (Testa & Dermen, 1999), and increased substance use (Messman-Moore et al., 2008) indicate that an investigation into the sexual risk behavior and substance use of women with a VSC history is warranted. However, to our knowledge there have been no investigations of alcohol expectancies in tandem with sexual risk behavior in women with a history of VSC.

Little research has focused on the associations among VSC, alcohol use, marijuana use, and sexual risk behavior. Research examining women's behavior following sexual assault by means of physical tactics has found a relationship among sexual assault history, substance use, and sexual risk behavior. However, no studies to date have examined VSC history, substance use, and sexual risk behavior combined. To strengthen STI risk reduction programs, it is important to delineate a comprehensive understanding of the linkages among sexual assault history, substance use, and sexual risk behavior that includes VSC and not solely sexual assault by means of physical tactics. Although VSC might seem intuitively less severe than physically coerced sex, data are needed to determine what, if any, sequelae could occur following verbally coerced assault. Such investigations can help guide the extent to which VSC should be emphasized in sexual assault prevention programs. Similarly, VSC might be an indicator of increased risk of subsequent sexual assault, substance use problems, and STI in women. If this is the case, women with a history of VSC should be targeted for risk reduction programs. Finally, situation-specific assessments of substance use during sexual experiences are needed to contextualize if general substance use or substance use during sexual behavior are related to a VSC history. If so, interventions could be improved by addressing mechanisms such as decision-making and risk perception in the context of acute intoxication.

THIS STUDY

Studies have yet to examine both global and situational sexual risk behaviors based on VSC history. Given the limited amount of research on the topic, a more comprehensive examination of VSC, sexual risk behaviors, alcohol use, and marijuana use is warranted. This study examined the relations among VSC, sexual risk behavior, sex-related alcohol expectancies, and alcohol and marijuana use based on number of VSC experiences. Participants were women with no history of adult (other than VSC) or child sexual assault. Global sexual risk behaviors examined in this study include lifetime penile–vaginal and anal sex partners, condom use in the past year, sex-related alcohol expectancies, alcohol use, and marijuana use. Situational sexual risk behaviors examined in this study included alcohol use before sexual activity, marijuana use before sexual activity, and combined alcohol and marijuana use before sexual activity.

We hypothesized that women with larger numbers of VSC experiences would report more global sexual risk behaviors including a higher number of (1) penile–vaginal and (2) anal sexual partners (Benson et al., 2007; Messman-Moore et al., 2008), (3) more frequent sex without a condom, (4) stronger alcohol expectancies (Testa & Dermen, 1999), as well as more global (5) alcohol and (6) marijuana use (Messman-Moore et al., 2008). We also

hypothesized that women with more VSC experiences would report more situational sexual risk behaviors including (7) more alcohol use before sexual activity, (8) more marijuana use before sexual activity, and (9) more combined alcohol and marijuana use before sexual activity.

METHOD

Participants

Participants ($n = 141$) were part of a larger study to evaluate the influence of alcohol intoxication and sexual arousal on risky sexual decision making and were recruited through flyers, newspaper advertisements, and letters for a study investigating “social drinking and decision making.” Participants underwent a phone screening for eligibility and were informed that procedures included viewing sexually explicit films and genital measures of sexual arousal. To participate in the larger experiment, participants needed to be single, interested in sex with men, have engaged in heavy episodic drinking in the past month (five or more drinks in one episode), consume an average of between five and 40 drinks per week, and have no medical contraindication to alcohol consumption.

All procedures were approved by the University of Washington's Human Subjects Division. Participants were paid \$15 per hour. Ages ranged from 21 to 35 years ($M = 24.25$, $SD = 3.64$) and the majority were not students (52.60%). Most of the sample identified as White (73.41%), with the rest identifying as Asian American or Pacific Islander (7.90%), Black or African American (5.00%), multiracial (9.40%), or other (4.29%). Only women who denied child sexual abuse or adult sexual assault history perpetrated by a tactic other than VSC were included in this study based on questions adapted from Finkelhor's (1979) interview and the SES (Koss & Oros, 1982).

Measures

VSC groups—VSC was assessed with a modified version of the SES with a single question: “Since the age of 15, how many times have you been coerced to have sexual intercourse, even though you indicated you did not want to, by having a person overwhelm you with arguments about sex or continual pressure for sex?” Response options ranged from *never* to *five or more times*. Women were grouped into one of four groups based on the number of VSC experiences they reported: 0 (no VSC history; $n = 96$), 1 (only one experience of VSC; $n = 16$), 2 (two to four experiences of VSC; $n = 18$), or 3 (five or more experiences of VSC; $n = 11$).

Number of sexual partners—Participants were asked to report number of lifetime penile–vaginal and anal sex partners via two questions created by the research team.

Condom use—Participants were asked how often they had sex without a condom in the past 12 months. Response options ranged from 0 (*never*) to 6 (*all of the time*).

Sex-related alcohol expectancies—Sex-related alcohol expectancies, including sexual enhancement, sex risk, and disinhibition, were assessed using 6-point Likert scales ranging from 1 (*strongly disagree*) to 6 (*strongly agree*; Dermen & Cooper, 1994). This 13-item

questionnaire has been found to be valid and reliable (Dermen & Cooper, 1994). A total sex-related alcohol expectancies scale score was created by averaging the 13 items and was internally consistent in our sample ($\alpha = .91$).

Global alcohol and marijuana use—The average number of drinks consumed per week was calculated using the Drinking Calendar (Collins, Parks, & Marlatt, 1985). Participants listed the number of drinks consumed on each day in a typical week during the past month and indicated the amount of alcohol consumed on the occasion when the participant drank the most in the past month. Marijuana use was measured with a yes–no question asking if the participant had used marijuana in the past year.

Situational alcohol use: Alcohol and marijuana use prior to sex—Three questions assessed frequency of substance use prior to sexual activity in the past 12 months ranging from 0 (*never*) to 6 (*all of the time*). Questions included alcohol use only, marijuana use only, and combined alcohol and marijuana use prior to sexual activity.

Procedure

Participants completed background questionnaires on a computer in a private room. Afterward, they completed procedures relating to the larger study, the data and procedures of which are reported elsewhere (e.g., Schacht et al., 2010).

RESULTS

For descriptive statistics, see Table 1. Separate linear regression for continuous variables and chi-square tests for categorical variables were used to examine each hypothesis, with a single predictor variable (number of VSC events) and single dependent variable in each analysis.

To assess if VSC experiences predict sexual risk behavior (Hypotheses 1–3), we conducted three regressions. Hypothesis 1, which was that women with higher numbers of VSC experiences would report higher numbers of penile–vaginal sex partners, was supported. Women with more VSC experiences reported more lifetime penile–vaginal sex partners, $F(1, 136) = 9.94, p < .01, \beta = .26$. Hypothesis 2, which was that women with higher numbers of VSC experiences would report higher numbers of anal sex partners, was also supported, $F(1, 138) = 13.67, p < .01, \beta = .30$. Hypothesis 3, which was that women with more VSC experiences would report more sex without a condom, was not supported, $F(1, 138) = .06, p = .80, \beta = -.02$, suggesting that sex without a condom does not differ based on VSC history. Overall, the findings suggest that differences based on VSC history in sexual risk behavior are in number of sexual partners and not condom use.

To assess if VSC experiences predict alcohol and marijuana use and related sexual behavior including sex-related alcohol expectancies (Hypothesis 4), global use (Hypotheses 5 and 6), and use before sex (Hypotheses 7, 8, and 9), we conducted separate regressions and chi-square analyses. Hypothesis 4, which was that women with more VSC experiences would report higher endorsement of sex-related alcohol expectancies, was supported, $F(1, 139) = 7.35, p < .01, \beta = .22$. This finding suggests that more VSC experiences are related to

stronger sex-related alcohol expectancies. Hypothesis 5, which was that women with more VSC experiences would report more global alcohol use, was not supported. There were no differences found based on VSC experiences and average number of drinks consumed per week in the past 30 days, $F(1, 139) = .03, p = .86, \beta = .02$. Participants drank an average of 10.77 drinks per week ($SD = 7.28$).

Similarly, Hypothesis 6, which was that women with more VSC experiences would report more global marijuana use, was not supported. A chi-square analysis revealed no differences based on VSC experiences and the majority of women (91.30%) reported using marijuana in the past year. Combined, results from Hypotheses 5 and 6 suggest that global alcohol and marijuana use does not differ based on VSC experiences. However, there were differences based on VSC experiences when examining alcohol and marijuana use before sexual activity.

Hypothesis 7, which was that women with more VSC experiences would report more alcohol use before sexual activity, was not supported, $F(1, 138)$

$= .37, p = .54, \beta = .05$. Hypothesis 8, which was that women with more VSC experiences would report more marijuana use before sexual activity, was supported, $F(1, 137) = 4.56, p = .04, \beta = .18$. Hypothesis 9, which was that women with more VSC experiences would report more combined alcohol and marijuana use before sexual activity, was supported, $F(1, 137) = 5.93, p = .02, \beta = .20$. In sum, more VSC experiences were associated with stronger sex-related alcohol expectancies, more marijuana use before sexual activity, and more combined alcohol and marijuana use before sexual activity. However, no differences were found based on VSC experiences for global alcohol and marijuana use or alcohol use before sexual activity.

DISCUSSION

The hypothesis that women with more VSC experiences would report riskier sexual behaviors was largely supported, in that women with more VSC experiences reported larger numbers of lifetime penile–vaginal (Hypothesis 1) and anal sex partners (Hypothesis 2), and stronger sex-related alcohol expectancies (Hypothesis 4). In addition, women with more VSC experiences reported more frequent marijuana use before sex (Hypothesis 8) and more frequent combined alcohol and marijuana use before sex (Hypothesis 9). These findings suggest that women's history of VSC is related to subsequent STI risk behavior and substance use in both global and situational analyses.

The findings that larger numbers of VSC events are associated with higher numbers of lifetime vaginal and anal sexual partners are consistent with past research (Benson et al., 2007; Messman-Moore et al., 2008), and suggest that women with a history of VSC are at higher risk of contracting STIs than women with no VSC history. Results from this research extend previous knowledge by adding a contextual examination of substance use during sexual behaviors, such that women with more VSC experiences reported more frequent sexual activity after marijuana use (Hypothesis 8) and after combined alcohol and marijuana use (Hypothesis 9). Marijuana use is related to sexual risk behaviors (Brodbeck, Matter, &

Moggi, 2006; Wingood & DiClemente, 1998; Yan, Chiu, Stoesen, & Wang, 2007), as is alcohol use (Cooper, 2002; George & Stoner, 2000; Kaly, Heesacker, & Frost, 2002; Leigh, 1999). Studies have yet to examine how combined alcohol and marijuana use affects sexual risk. It is possible that alcohol and marijuana potentiate each other, such that the combination exponentially increases both STI and sexual risk, perhaps through impaired cognitive function and capacity for risk perception. However, we only assessed for sexual behavior and did not assess if event-level STI risk or sexual assault risk increased when individuals used substances during sexual behavior. Future work should assess this possibility.

The findings reported here cannot speak to why women with a history of VSC reported higher concomitant marijuana use and sexual activity. Thus, future research should evaluate women's motives and expectancies (Hendershot, Magnan, & Bryan, 2010) for using marijuana prior to sexual activity to evaluate possible differences based on VSC history. Women with larger numbers of VSC experiences reported stronger sex-related alcohol expectancies, which is also consistent with past research (Hypothesis 4; Testa & Dermen, 1999). Alcohol expectancy theory posits that individuals are more likely to behave in a manner consistent with their view of how alcohol affects them (MacAndrew & Edgerton, 1969). Therefore, if an individual has stronger sexual risk alcohol expectancies, he or she might engage in riskier sexual behavior while intoxicated than when sober.

In contrast to findings consistent with situation-specific differences in women's sexual behavior and substance use (i.e., marijuana use and combined alcohol and marijuana use before sex), we found no global differences in alcohol (Hypothesis 5) and marijuana use (Hypothesis 6), nor did we find differences in frequency of alcohol use (without marijuana) before sex (Hypothesis 7). Although the preponderance of published studies suggests global links between alcohol consumption and sexual assault exposure (for a review, see Testa & Livingston, 2009), this study's pattern of findings is consistent with a smaller body of research indicating that VSC risk might not vary based on global alcohol use patterns (Messman-Moore et al., 2008). It is possible that alcohol use only relates to VSC exposure in certain situations; for example, when combined with marijuana use before sex, as found in this study. However, it is also possible that these null findings were artifacts of sampling bias in this study. To be eligible for the study, participants had to report heavy episodic drinking in the past 30 days. As a result, the sample as a whole might have routinely consumed alcohol in sexual situations, thereby obscuring differences based on VSC history. Future research should include women with a broader range of drinking habits to more fully assess the possibility that VSC history might be associated with alcohol use in sexual situations.

Our hypothesis that more VSC experiences would be related to more sex without a condom in the past year (Hypothesis 3) was not supported. It is possible that this is because this was a global measure of sexual risk behaviors rather than examining event-level condom use. Further research should explore event-level condom use (Brown & Vanable, 2007; Cooper, 2002; Scott-Sheldon, Carey, & Carey, 2010) to gain a better understanding of the relationship between condom use and VSC history. For example, it might be possible that

condom use with a new partner or condom use in specific situations like alcohol-involved sex could differ based on VSC history.

Limitations and Future Research

These results should be interpreted cautiously due to the issue of directionality. Longitudinal research is needed to determine if VSC precedes sexual risk behavior or vice versa. It is also possible that other variables influence the relationship between VSC and sexual risk behavior. For example, it is possible that individuals with lower self-esteem, less effective sexual communication, and lower sexual assertiveness are more likely to both experience VSC and to engage in sexual risk behavior because of partner insistence. Partner differences were not evaluated in this study; thus, it remains unclear whether women with a VSC history might have partners who are more likely to pressure women to not use a condom during sex in comparison to partners of women without a VSC history. Partner variables such as VSC in committed versus noncommitted relationships would be important to examine in future research given that this could be an important difference and could lead to different outcomes.

Also, it is possible that the women in our sample were coerced into having unprotected sex given that coercion for unprotected sex also occurs (Davis, 2010; Davis, Schraufnagel, Norris, & George, 2008). Future research should examine the relationship between VSC and coercion into unprotected sex, as it could be possible that an underlying mechanism links the two situations such that women who are vulnerable to VSC and coercion into unprotected sex might both have less sexual assertiveness than those who are not vulnerable. These situational aspects of condom use might not be accurately captured by a global measure and should be assessed in future research.

VSC was measured with a single item that did not address all possible VSC experiences, thus we might not have captured every form of VSC. A measure including more items would allow for a more nuanced examination of VSC. Given that the purpose of this study was to examine the relations between VSC history and risky sexual behaviors, we did not compare women with a VSC history to those with a sexual assault history perpetrated by another tactic. Thus, it is unknown whether risk correlates for women with a VSC history differ from those of women with a more severe sexual assault history. Future research should explore this possibility. Like VSC, marijuana use was assessed using a single dichotomous item. Future research should examine marijuana use more thoroughly and include measures of frequency and quantity of use.

A noteworthy sampling limitation is that volunteers for research involving genital measures of sexual responding tend to be more sexually liberal than nonvolunteers (e.g., Morokoff, 1986; Wolchik, Spencer, & Lisi, 1983). Also, we sampled social drinking, single, mostly White women. Therefore, our results might not generalize to all women. However, given the association between alcohol consumption and sexual risk behaviors (see George & Stoner, 2000), the women sampled here come from a high-risk group based on their drinking habits and might not be representative of other populations. Future research should explore the VSC experiences of a diverse group of women including problem drinkers, nondrinkers, women with different sexual assault histories, and women from different ethnicities.

Conclusion and Implications

These findings add to the limited research involving women who experience VSC and indicate that these women differ significantly from women with no assault history on indexes of sexual risk behavior. Further, these results suggest that women with more VSC experiences could be at higher risk of STIs. These findings identified sexual risk behaviors and substance use associated with VSC as found in previous research on other forms of sexual assault. Thus, although VSC might appear intuitively to be a relatively mild form of sexual assault, this research is part of an emerging body of work suggesting that VSC is significant for those who experience it and, as such, VSC bears further evaluation. It is important to further explore the relationship among VSC history and sexual risk behaviors, as it could be that STI prevention programs could target particular sexual risk behaviors in conjunction with a history of VSC.

This study is preliminary, but it suggests many different areas that could have an impact on STI risk prevention programs in the future. It might be less effective to target sexual risk behaviors without addressing VSC history given the relationship between the two, particularly if both phenomena are driven by similar underlying processes. For example, if sexual assertiveness plays a role in both sexual risk and VSC experiences, it might be possible to target that underlying mechanism to target both. However, there are no current underlying mechanisms known that impact both sexual risk and VSC aside from substance use. Therefore, future research should explore potential mechanisms that might contribute to both.

In addition, situational substance use differences should be taken into consideration for STI prevention programs. Marijuana and alcohol use prior to sexual activity might impair a woman's cognitive ability to practice safe sex and should be addressed in prevention programs as a means of decreasing sexual risk behavior, especially for women with a VSC history because greater VSC experiences are related to more use prior to sexual activity. Thus, STI prevention programs might want to also target marijuana and alcohol use prior to sexual activity or teach women ways to use more protective behavioral strategies regarding alcohol and marijuana use to decrease their likelihood of risk.

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TABLE 1

Means and Standard Deviations by Verbal Sexual Coercion (VSC) Events (Dichotomized)

Variable	No. of VSC events							
	None		1		2-4		5+	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Lifetime penile-vaginal sex partners ^a	9.10	10.68	9.50	9.11	12.88	9.07	31.36	57.34
Lifetime anal sex partners ^a	.66	1.17	.50	.89	1.28	.96	2.27	2.76
Overall sex without a condom	3.33	2.81	3.31	2.89	3.17	2.31	3.18	1.83
Sex-related alcohol expectancies ^a	2.94	1.02	3.34	1.29	3.21	1.13	3.85	.88
Sex after alcohol use	2.56	1.56	3.13	1.67	2.39	1.61	3.00	1.00
Sex after marijuana use ^a	.77	1.17	1.81	1.83	1.11	1.37	1.45	1.64
Sex after alcohol and marijuana use ^a	.54	.89	1.38	1.36	.61	.92	1.36	1.21

Note. Analyses were conducted on VSC as a continuous count variable.

^aIndicates significant differences in regression analyses presented in the text.