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Sexual violence and HIV risk behaviors among a nationally representative sample of heterosexual American women: The importance of sexual coercion

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Abstract

Objectives—Recent evidence suggests that it is important to consider behavioral-specific sexual violence measures in assessing women's risk behaviors. This study investigated associations of history and types of sexual coercion on HIV risk behaviors in a nationally representative sample of heterosexually active American women.

Methods—Analyses were based on 5,857 women aged 18–44 participating in the 2002 National Survey of Family Growth. Types of lifetime sexual coercion included: victim given alcohol or drugs, verbally pressured, threatened with physical injury, and physically injured. Associations with HIV risk behaviors were assessed using logistic regression.

Results—Of 5,857 heterosexually active women, 16.4% reported multiple sex partners and 15.3% reported substance abuse. A coerced first sexual intercourse experience and coerced sex after sexual debut were independently associated with multiple sex partners and substance abuse; the highest risk was observed for women reporting a coerced first sexual intercourse experience. Among types of sexual coercion, alcohol or drug use at coerced sex was independently associated with multiple sex partners and substance abuse.

Conclusions—Our findings suggest that public health strategies are needed to address the violent components of heterosexual relationships. Future research should utilize longitudinal and qualitative research to characterize the relationship between continuums of sexual coercion and HIV risk.

Keywords

HIV risk behaviors; sexual violence; sexual coercion; intimate partner violence; United States; women

INTRODUCTION

More than 25 years into the AIDS epidemic, HIV infection remains a significant public health problem in the lives of women in the United States. In 2006, women accounted for 27% of

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new HIV diagnoses, and high-risk heterosexual contact was the source for 80% of these infections.¹ Minority women are disproportionately affected by HIV infection. In 2006, the HIV diagnosis rate for African American women (56.2 per 100,000) and Hispanic women (15.1 per 100,000) far exceeded that for white women (2.9 per 100,000).² Within the past decade, sexual violence has been implicated as an important risk factor for HIV infection in women.^{3,4} Understanding how the dynamics of sexual violence affects HIV risk is imperative in order to develop comprehensive intervention and prevention efforts to combat the epidemic.

Sexual violence, including a forced first sexual intercourse, has been consistently shown to be associated with a number of HIV risk behaviors, including sex with multiple partners, inconsistent condom use, higher rates of sexually transmitted diseases, unprotected anal sex, and substance abuse.^{5–14} However, due to the wide range of experiences often grouped under the category of ‘sexual violence’ in HIV research, we cannot determine whether HIV risk behaviors are different for women based on the how they were coerced into sex (e.g., through the use of verbal coercion, threats without injury, physical force, and/or use of alcohol or drugs). Researchers have proposed that it is important to consider behavioral-specific types of sexual violence on a continuum of severity in reporting prevalence estimates and potential associations.^{15–21} Prevalence of various types of sexual violence or coercion has been documented in different populations.^{15,16,18,22–24} In one of the few national stratified random samples of college women (n=4,446), 7.7% experienced sexual contact involving physical force or threats of physical force, and 11.0% experienced unwanted sex without force.²⁴ Basile et al.¹⁶ employed a continuum of sexual coercion that included having unwanted sex after begging and pleading, because of perceived duty, after a romantic situation, or after the use of physical force. Among 602 adult women reporting coerced sex by an intimate partner, variations in lifetime prevalence estimates were observed that ranged from 12% for women who had unwanted sex following verbal threats to 38% for women who thought it was their duty to have sex. Of note, 17% of women reported unwanted sex after the use of physical force.¹⁶

The proposed mechanisms linking sexual violence to the engagement of HIV risk behaviors include heightened sexual behavior, easy arousal, and/or psychopathology (e.g. depression, posttraumatic stress disorder, and low self-esteem) leading to the inability to negotiate safe sexual behaviors.^{3,4,25} In addition, women who experience sexual coercion are more likely to abuse alcohol and/or drugs as a coping mechanism.^{6,26} Previous research has identified higher depression scores, lower self-esteem, and lower self-assertiveness among women experiencing verbally coerced sex compared to those experiencing physically forced sex.^{26–28} These findings coupled with the mediating effects of psychopathology in the pathway between sexual violence and HIV risk behaviors make it plausible that women who experience less severe forms of sexual coercion (verbal coercion and threats without injury) may have increased rates of psychopathology resulting in increased risk of HIV risk behaviors compared to those who experience more severe forms of sexual coercion (physically forced sex).

Despite the significance of the intersecting epidemics of sexual violence and HIV as public health problems, knowledge of this association has largely been limited to convenience samples, and has used variable definitions of sexual violence. This has hindered the ability to fully characterize this association and generalize findings to the U.S. population. This study examines history and types of sexual coercion in a nationally representative sample of heterosexually active women aged 18–44. The objectives were to: (1) examine the association between history of sexual coercion and HIV risk behaviors, and (2) assess the strength of associations between types of sexual coercion and HIV risk behaviors among a subsample of women reporting sexual coercion.

METHODS

Study Population

The study population was drawn from the 2002 National Survey of Family Growth (NSFG). The NSFG is conducted by the National Center for Health Statistics (NCHS) of the Centers for Disease Control and Prevention to investigate topics related to childbearing and reproductive health for U.S. women (and for the first time in 2002, U.S. men). Details of the 2002 NSFG have been published elsewhere.²⁹ Briefly, the 2002 NSFG includes a nationally representative sample of civilian, non-institutionalized women (n=7,643) and men (n=4,928) aged 15–44 years. Hispanics, non-Hispanic blacks, and teens were selected with higher probability than other individuals to produce more reliable statistics for these groups.

Data were collected through household interviews between March 2002 and March 2003 with an overall response rate of 80% for women. Interviews were conducted in person using computer-assisted personal interviewing. However, to collect sensitive information on respondents' substance use, HIV/STD risk behaviors, and unwanted sexual experiences, audio computer-assisted self-interviewing was used. Participants who completed the interview received \$40 for their participation.

The study population for this study was restricted to women aged 18 years and older at the time of interview who reported a male sex partner in the past year. Women under 18 years of age were excluded because they were not asked questions about their history of sexual coercion. Of 7,643 women interviewed in 2002, 674 (8.8%) were under 18 years of age. Of 6,969 women aged 18 years and older, 6,389 (91.7%) reported ever having vaginal sex with a male, of whom 480 (7.5%) did not report a male sex partner in the past year. Information regarding sexual coercion and HIV risk behavior measures was missing from 52 women who were excluded from the analysis. In total, 5,857 (76.6% overall) women met the inclusion criteria and form the study population for this analysis. This secondary data analysis was considered exempt from review by the Johns Hopkins University Institutional Review Board.

Measures

The outcome measures were three HIV risk behaviors: (1) multiple sex partners, (2) no condom use at last vaginal sex and (3) substance abuse. Multiple sex partners was defined as two or more male sex partners in the past year. No condom use at last vaginal sex was assessed by reporting whether or not a condom was used at last vaginal intercourse. Substance abuse was defined as use of crack, cocaine, non-prescription injection drugs, or five or more alcoholic drinks within a couple of hours (binge drinking)³⁰ at least once a month, all in the past year. A summary dichotomous variable for substance abuse was derived by combining dichotomized responses to the drug use and binge drinking questions.

The exposure of interest was sexual violence characteristics. Sexual violence variables included history of sexual coercion, and types of sexual coercion. History of sexual coercion was determined by a series of questions. Participants were first asked to assess the degree to which the first vaginal intercourse was wanted using the following categories: wanted, unwanted, or mixed feelings. Participants were then asked, "Would you say that the first vaginal intercourse was voluntary or not voluntary, that is, did you choose to have sex of your own free will or not?" Participants who reported their first vaginal intercourse as not voluntary, unwanted, or with mixed feelings were asked additional questions on the behavioral-specific nature of the experience; those who reported being threatened with injury, physically injured, physically held down, or given alcohol or drugs at the time of their first vaginal intercourse were classified as having a coerced first sexual intercourse experience. To assess subsequent coerced sexual intercourse experiences, participants with a history of a coerced first sexual

intercourse were asked, “Besides the time you already reported, have you ever been forced by a male to have vaginal intercourse against your will?” Since only 287 (5.0%) participants reported both a coerced first sexual intercourse and subsequent experience, these women were grouped with those having only a coerced first sexual intercourse experience. Participants who reported a first sexual intercourse that was voluntary were asked, “Have you ever been forced by a male to have vaginal intercourse against your will?” Participants who reported a first sexual intercourse that was voluntary and a subsequent experience that was forced were classified as experiencing a coerced sexual intercourse experience after sexual debut. Types of sexual coercion consisted of the following dichotomous groups: (1) verbally pressured, without threats of harm; (2) threatened with physical injury; (3) physically injured or held down; and (4) given alcohol or drugs, all assessed during a woman’s lifetime. These groups were not mutually exclusive. Further, there was no information on the frequency of experiencing each type of coercion.

Potential confounders included in the analysis were demographic and first sexual relationship variables. Demographic variables examined were age, race/ethnicity, education, poverty level, health insurance, marital status, and number of children under age 18 living in the household. The first vaginal intercourse variables included age at first vaginal sex, age difference of first partner, and type of relationship with partner. Type of relationship with partner was categorized into two groups: committed (“married to him,” “engaged to him,” “living together in a sexual relationship, but not engaged,” or “going with him or going steady”) and less committed (“going out with him once in a while,” “just friends,” “had just met him,” or “something else”).

Statistical Analysis

Weighted percents and Rao-Scott’s chi-square test were used to describe the relationships among the demographic, first vaginal intercourse, sexual violence variables, and HIV risk behavior outcomes. A series of logistic regression analyses were conducted for the following dependent variables: (1) multiple sex partners in the past year, (2) no condom use at last sex and (3) substance abuse in the past year. Factors considered statistically significant at a p-value of 0.05 or lower in bivariate analyses or were theoretically relevant were included in the final multivariate regression models. For each dependent variable, two sets of multivariate regressions were performed to determine the independent effects of history of sexual coercion among the entire study sample and types of sexual coercion among women reporting sexual coercion. Estimates of odds ratios (OR) and 95% confidence intervals (CI) were obtained using sampling weights provided by NCHS. Weighted estimates are generalizable to the U.S. population of women 18–44 years old. All statistical analyses were performed using SAS 9.1.³¹

RESULTS

Characteristics of Participants

The majority of women were non-Hispanic white (67.4%) and equal proportions were non-Hispanic black and Hispanic. Over three-fourths were at least 25 years of age. Approximately 90% of women had at least a high school diploma or GED but 44.4% were in the 300 percent or greater poverty level. Even so, only 15.5% of women were medically uninsured. Nearly two-thirds (63.3%) had at least one child under age 18 in the household and 67.9% were married or living with a male partner. Most women had their first vaginal intercourse before age 20 (81.7%) with 26.9% of women experiencing this before age 16; however, most of the relationships were committed (78.8%). One-quarter (25.5%) of women had a partner who was the same age or younger or one to two years older (37.5%) while 17.9% had a partner that was at least five years older.

Approximately one in four women reported a lifetime coerced sex experience, of whom 12.5% experienced a coerced first sexual intercourse. Among 1,408 women reporting sexual coercion, 34.6% were 15 years old or younger at the time of their first coerced sex. The largest proportion of this group of women reported being physically injured or held down (67.2%). The next largest group of women reported being pressured with words but without threats of harm (57.2%). Two-fifths (41.0%) of women were threatened with injury at the time of their coerced sex experience. Approximately 30% of women were given alcohol or drugs.

Prevalence of individual HIV risk behaviors varied in the study population. Sixteen percent of women had multiple sex partners in the past year and 15.3% engaged in substance abuse (Table 1). Women with multiple sex partners were more likely to be aged 18–24, non-Hispanic black, low poverty level, young age at first sex, have a less committed first partner, and an older first partner. Women who reported substance abuse were more likely to be aged 18–24, young age at first sex, and have a less committed first partner but were less likely to have a college degree. Because almost 70% of the sample was married or cohabitating and having a main partner has been shown in the literature to be associated with decreased condom use,³² only women who reported more than one male sex partner in the past year (n=1,085) were included in the analysis for no condom use at last vaginal sex. Among 1,085 women with more than one male sex partner in the past year, 69.0% reported no condom use at last vaginal sex. These women less likely to be aged 18–24 and non-Hispanic black, but more likely to be married.

History of Sexual Coercion and HIV Risk Behaviors

Women with history of a coerced first sexual intercourse were 2.2, 1.4, and 2.1 times more likely to have multiple sex partners, unprotected vaginal sex, and engage in substance abuse, respectively compared to women without a history of sexual coercion (Table 2). Those with a history of sexual coercion after sexual debut were 1.9, 1.6 and 1.6 times more likely to have multiple sex partners, unprotected vaginal sex, and abuse substances, respectively. After adjusting for demographic and first sexual relationship characteristics, history of sexual coercion was significantly associated with multiple sex partners and substance abuse. Women who experienced a coerced first sexual intercourse had a 1.9-fold increase in having multiple sex partners compared to women without a history of sexual coercion; those who reported sexual coercion after sexual debut had a 1.7-fold increase in risk. In addition, women who reported a coerced first sexual intercourse had a 1.6-fold increase in engaging in substance abuse compared to women without a history of sexual coercion; those who experienced sexual coercion after sexual debut had a 1.5-fold increase in the risk of engaging in substance abuse. History of sexual coercion was not associated with unprotected vaginal sex.

Type of Sexual Coercion and HIV Risk Behaviors

Women who were threatened with injury at coerced sex were more likely to have unprotected vaginal sex compared to their counterparts (Table 3). Women who were given alcohol or drugs at coerced sex were more likely to have multiple sex partners and engage in substance abuse. No associations with HIV risk behaviors were found for women who were pressured with words but without threats or physically injured. After adjusting for demographic and first vaginal sex characteristics, only being given alcohol or drugs at coerced sex was significantly associated with at least one HIV risk behavior. Women who were given alcohol or drugs at coerced sex were almost two times more likely to report multiple sex partners and substance abuse compared to those not given alcohol or drugs.

DISCUSSION

We observed a positive relationship between history of sexual coercion and all of the measured HIV risk behaviors. In bivariate and multivariate analyses, women reporting a coerced first

sexual intercourse experienced the highest risk for having multiple sex partners and engaging in substance abuse, followed by women reporting a coerced sex after sexual debut. For unprotected vaginal sex, similar increased risks were observed for each category of sexual coercion history. However, in multivariate analyses, significance was not observed for any category of sexual coercion history. These findings are consistent with previous research addressing the importance of coerced first sexual intercourse and lifetime coerced sex on adverse health effects, including the engagement of high-risk behaviors.^{33–35} Additionally, this demonstrates the association between a history of sexual coercion and HIV risk behaviors in a nationally representative sample of heterosexually active reproductive-aged women, which adds to existing research that has been limited to convenience samples.⁵

Among the subsample of women reporting sexual coercion, only being given alcohol or drugs at coerced sex was independently and significantly associated with multiple sex partners and substance abuse. These women may feel more victimized than others because of lack of control due to intoxication. Attempts to regain a sense of control may be achieved by engaging in risk behaviors such as having sex with multiple partners and exchanging sex for money or drugs. Future substance abuse is also likely because it serves as a coping mechanism.^{6,36} Women who are given substances at coerced sex may have a different risk profile than their counterparts. Certainly, further research is needed to incorporate the entire context of alcohol- or drug-induced coerced sex events such as the location, type of sex partner, and partner's use of substances at the time of the incident.^{37,38}

Being threatened with injury at coerced sex was only significantly associated with unprotected vaginal sex in bivariate analyses, but not in multivariate analyses. This is consistent with previous research that found verbally coerced women more likely to have reduced self-esteem,^{28,27} reduced self-assertiveness,²⁷ and higher rates of depression²⁸ compared to women physically forced into sex, often linked to a lack of condom negotiation skills. Lack of significance in the multivariate analysis may be related to a mediated relationship with these kinds of psychosocial variables not measured and/or a reduction in sample size and consequent statistical power to detect significant differences after subsetting to women at risk for this outcome.

The large nationally representative sample of heterosexually active women aged 18–44 and detailed assessment of history and type of sexual coercion are strengths of the current study. In particular, the data allowed for the assessment of non-consensual first intercourse on HIV risk behaviors, which has been shown to influence subsequent sexual decision making and risk behaviors. However, the study is not without limitations. Although the response rate was high, there still may be unmeasured bias present from women who refused to participate. Further, women who were not sexually active and excluded from the analyses differed from those reporting sexual activity. However, the prevalence of women reporting treatment for STDs in the past year in the 2002 NSFG was 3.5% - higher than both the National Health Interview Survey (2.7%), which asked about treatment in the previous 5 years³⁹ and the 2002 U.S. national estimate of women treated for chlamydia (445.0 per 100,000) and gonorrhea (122.5 per 100,000).⁴⁰ This indicates that this study population effectively captures the potential risk for acquiring HIV infection given the STD prevalence.

Although HIV risk behavior outcomes were assessed in the previous year or at last event, the cross-sectional design limited the ability to establish relative temporality of continuums of sexual coercion and women's HIV risk behaviors. The data relied on self-reports from interviews, and it is likely that history of sexual coercion and participation in risk behaviors were underreported; however, since audio computer-assisted self-interviewing techniques were employed to collect this information, it is likely that underreporting was reduced. In addition, there was no information on HIV status so multiple sex partners, substance abuse,

and unprotected vaginal sex were chosen as proxies for HIV risk. Although the proxy, multiple sex partners, is one element of the risk and does not take into account the timing and overlapping nature of sexual partnerships, the literature on women with a history of sexual violence indicates that the risk of HIV is highly associated with heterosexual sex through multiple relationships. Similarly, the proxies, substance abuse and unprotected vaginal sex are consistent with those used in the literature addressing the intersecting epidemics of sexual violence and HIV/AIDS.^{6,7,10,25} It is important to note however, that different patterns of relationships between drug use and sexual coercion and alcohol abuse and sexual coercion have been documented. Also, the available measures of sexual coercion were not comprehensive. These questions were limited to women aged 18 years and older so we do not know if similar associations exist for females aged 15–17, also targeted and oversampled in the 2002 NSFG. For each type of sexual coercion, there was no information on when the incident occurred, if it occurred multiple times, and for those experiencing more than one type of coerced sex experience, whether the same male partner perpetrated each act. In particular, assessment of women given alcohol or drugs at the time of sexual coercion was limited because of the inability to determine if these women were forced by their partner to use substances or willingly accepted the offer to use substances. Since types of sexual coercion were not mutually exclusive events, it was difficult to determine their isolated effects on HIV risk behaviors. The NSFG did not allow for assessment of physical intimate partner violence, which has been shown to co-occur with sexual intimate partner violence for some women. The interacting effects of these two forms of violence, taking into account types of sexual coercion, may result in differential risks for engaging in HIV risk behaviors. Despite these shortcomings, the 2002 NSFG provided valuable information on the dynamics of sexual coercion and its association with women's HIV risk behaviors in the United States.

Further research is needed to replicate and expand upon these findings. The context of the partner relationship to sexual violence should be explored. For instance, it is possible that some abusive male partners may use less severe tactics to coerce women into forced sex at the beginning of a relationship but may transition to progressively more severe tactics over time. These cumulative effects of sexual violence may result in different HIV risk profiles for women at different stages of a relationship. Future research should also use behavioral-specific sexual violence measures to examine associations between forced anal sex and HIV risk behaviors. Longitudinal, theory-driven research with the incorporation of depression and post-traumatic stress disorder as potential mediators in the pathway of continuums of sexual coercion and HIV risk should be examined with mediation analyses. Finally, while recognizing the utility of prior qualitative research addressing continuums of sexual violence,^{15,21} additional qualitative and mixed methods approaches are imperative to advance understanding of these intersecting epidemics.

Although preliminary in nature, these findings have important implications for interventions targeted towards reducing the risk of HIV infection among women. As public health practitioners work to develop interventions designed to simultaneously reduce HIV and partner violence and attendant substance abuse, continuums of sexual coercion should be addressed. HIV prevention for women coerced into sex by their partners may require different strategies based on the history, especially a coerced first intercourse experience, and type of sexual coercion experienced. Future research may assist clinicians and practitioners in how they address sexual violence, especially with the recognition of less severe forms of sexual violence contributing to the engagement of HIV risk behaviors, as well as potential intervention opportunities at multiple points if mental health outcomes are identified as mediators in the relationship. A more discriminating understanding of the nature of sexual violence as it relates to HIV will assist in development of structural level changes to enforce condom use by male perpetrators, empowering women to improve their self-esteem and self-assertiveness and encourage the use of female-controlled prevention methods such as vaginal microbicides.

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Table 1

Number and Proportion of Heterosexually Active U.S. Women Aged 18–44 Years Reporting HIV Risk Behaviors by Demographic and First Sexual Relationship Characteristics, NSFG, 2002

Demographic Characteristics	Women's HIV Risk Behavior					
	Multiple sex partners in past yr. (n=5,857) N (Weighted %)		Unprotected vaginal sex (n=1,085) N (Weighted %)		Substance abuse in past yr. [‡] (n=5,857) N (Weighted %)	
	Yes	No	Yes	No	Yes	No
Age (yrs)						
18–24	456 (43.9)	1,024 (18.6)	238 (38.8)	218 (52.6)	385 (42.1)	1,095 (19.2)
25–34	379 (31.4)	1,942 (37.7)	249 (33.9)	130 (27.2)	311 (32.9)	2,010 (37.4)
35–44	250 (24.6)	1,806 (43.7)	165 (27.2)	85 (20.2)	224 (24.9)	1,832 (43.4)
Race/ethnicity						
Non-Hispanic white	539 (61.6)	2,697 (68.6)	355 (65.7)	184 (54.6)	269 (73.4)	2,667 (66.4)
Non-Hispanic black	306 (21.3)	844 (12.0)	150 (17.8)	156 (27.2)	147 (10.1)	1,003 (14.2)
Hispanic	189 (12.7)	1,019 (14.5)	117 (11.9)	72 (14.1)	162 (11.4)	1,046 (14.7)
Non-Hispanic other	51 (4.5)	212 (4.9)	30 (4.7)	21 (4.1)	42 (5.2)	221 (4.8)
Education						
No H.S. diploma/GED	199 (17.4)	671 (11.9)	119 (16.2)	80 (19.6)	162 (15.4)	708 (12.4)
H.S. diploma/GED	362 (31.5)	1,467 (30.9)	212 (31.7)	150 (31.1)	306 (32.8)	1,523 (30.7)
Some college	300 (29.2)	1,046 (22.1)	184 (30.5)	116 (27.1)	272 (30.1)	1,074 (22.0)
Bachelor's degree +	224 (21.8)	1,588 (35.1)	137 (21.6)	87 (22.1)	180 (21.7)	1,632 (34.9)
Poverty level (percent below)						
≤ 149	431 (39.0)	1,356 (25.1)	267 (39.1)	164 (38.9)	302 (29.0)	1,485 (27.0)
150–299	279 (23.6)	1,374 (29.1)	152 (21.1)	127 (27.9)	264 (28.1)	1,389 (28.2)
≥ 300	375 (37.3)	2,042 (45.8)	233 (39.8)	142 (33.1)	354 (42.9)	2,063 (44.7)
Marital status						
Never married	601 (53.4)	973 (16.3)	298 (43.6)	303 (70.0)	419 (44.2)	1,155 (18.5)
Married or cohabitating	236 (23.9)	3,373 (76.5)	189 (30.2)	47 (13.1)	366 (41.8)	3,243 (72.6)
Wid/div/sep	248 (22.7)	426 (7.1)	165 (26.2)	83 (16.8)	135 (14.0)	539 (8.9)
Number of children <18 yrs in Household						

Women's HIV Risk Behavior						
	Multiple sex partners in past yr. [‡] (n=5,857) N (Weighted %)		Unprotected vaginal sex (n=1,085) N (Weighted %)		Substance abuse in past yr. [‡] (n=5,857) N (Weighted %)	
	Yes	No	Yes	No	Yes	No
First Vaginal Intercourse Characteristics						
Age at first vaginal sex (yrs)						
≤ 15	569 (55.4)	1,668 (33.1)	325 (52.5)	244 (60.4)	523 (58.5)	1,714 (32.8)
16–19	226 (19.5)	1,178 (24.4)	137 (20.5)	89 (17.6)	163 (16.4)	1,241 (24.9)
≥ 20	167 (15.3)	1,196 (26.0)	109 (17.0)	58 (12.5)	142 (16.9)	1,221 (25.6)
≥ 3	123 (9.8)	730 (16.5)	81 (9.9)	42 (9.5)	92 (1.3)	761 (16.7)
Relationship with partner						
Committed	744 (69.9)	3,807 (80.5)	433 (67.6)	311 (73.8)	641 (71.4)	3,910 (80.1)
Less committed	335 (30.1)	941 (19.5)	215 (32.4)	120 (26.2)	272 (28.6)	1,004 (19.9)
Age difference of partner						
Same age or younger	220 (19.9)	1,210 (26.5)	122 (18.5)	98 (22.2)	195 (21.2)	1,235 (26.2)
1–2 years older	379 (37.8)	1,640 (37.4)	220 (38.1)	159 (37.4)	329 (38.9)	1,690 (37.2)
3–4 years older	236 (22.3)	860 (18.5)	151 (23.3)	85 (20.7)	187 (21.1)	909 (18.8)
5+ years older	215 (20.0)	923 (17.5)	133 (20.2)	82 (19.7)	178 (18.7)	960 (17.8)

Wid/div/sep. Widowed, divorced or separated.

[‡] Substance abuse is defined as five or more alcoholic drinks in a few hours at least once a month or the use of crack, cocaine or non-prescription injection drugs in the past year.

Associations Between History of Sexual Coercion and Women’s HIV Risk Behaviors Among Heterosexually Active U.S. Women Aged 18–44 Years, NSFG, 2002

Table 2

Women’s HIV Risk Behavior						
Multiple sex partners in past yr. (n=5,857)			Unprotected vaginal sex (n=1,085)		Substance abuse in past yr. [‡] (n=5,857)	
Unadjusted OR (95% CI)	Adjusted* OR (95% CI)		Unadjusted OR (95% CI)	Adjusted* OR (95% CI)	Unadjusted OR (95% CI)	Adjusted* OR (95% CI)
History of sexual coercion						
None	1.0	1.0	1.0	1.0	1.0	1.0
At first sex	2.23 (1.73–2.89)	1.96 (1.43–2.68)	1.44 (1.02–2.03)	0.92 (0.61–1.39)	1.44 (1.02–2.03)	1.64 (1.23–2.19)
After sexual debut	1.96 (1.59–2.43)	1.76 (1.33–2.32)	1.58 (1.08–2.30)	1.34 (0.91–2.00)	1.58 (1.24–2.00)	1.51 (1.15–1.98)

Note. CI, confidence interval.

[‡] Substance abuse is defined as five or more alcoholic drinks in a few hours at least once a month or the use of crack, cocaine or non-prescription injection drugs in the past year.

* Adjusted for age, race/ethnicity, marital status, number of children <18 yrs in household, age at first vaginal sex, relationship with first sexual partner, and age difference of first sexual partner.

Table 3

Associations Between Types of Sexual Coercion and Women's HIV Risk Behaviors Among Heterosexually Active U.S. Women Aged 18–44 Years, NSFG, 2002

Women's HIV Risk Behavior						
Multiple sex partners in past yr. (n=5,857)			Unprotected vaginal sex n=1,085		Substance abuse in past yr. [‡] (n=5,857)	
	Unadjusted OR (95% CI)	Adjusted* OR (95% CI)	Unadjusted OR (95% CI)	Adjusted* OR (95% CI)	Unadjusted OR (95% CI)	Adjusted* OR (95% CI)
Type of sexual coercion						
Pressured with words						
No	1.0	1.0	1.0	1.0	1.0	1.0
Yes	1.19 (0.90–1.57)	1.34 (0.90–2.00)	1.04 (0.65–1.64)	1.23 (0.69–2.21)	1.10 (0.78–1.55)	0.96 (0.62–1.47)
Threatened with injury						
No	1.0	1.0	1.0	1.0	1.0	1.0
Yes	1.15 (0.88–1.49)	1.48 (0.93–2.38)	1.66 (1.05–2.62)	1.22 (0.66–2.25)	0.87 (0.62–1.21)	0.77 (0.47–1.25)
Physically injured						
No	1.0	1.0	1.0	1.0	1.0	1.0
Yes	0.98 (0.72–1.33)	1.09 (0.65–1.83)	1.24 (0.79–1.94)	0.94 (0.57–1.56)	1.23 (0.85–1.78)	1.51 (0.97–2.37)
Given alcohol or drugs						
No	1.0	1.0	1.0	1.0	1.0	1.0
Yes	1.49 (1.09–2.03)	1.47 (1.01–2.13)	0.73 (0.48–1.13)	0.73 (0.41–1.30)	1.94 (1.35–2.78)	1.64 (1.10–2.42)

Note. CI, confidence interval.

[‡] Substance abuse is defined as five or more alcoholic drinks in a few hours at least once a month or the use of crack, cocaine or non-prescription injection drugs in the past year.

* Adjusted for age, race/ethnicity, marital status, number of children <18 yrs in household, age at first vaginal sex, relationship with first sexual partner, and age difference of first sexual partner.