Published in final edited form as:

Addict Behav. 2014 March ; 39(3): 684–689. doi:10.1016/j.addbeh.2013.12.006.

Patterns of Drug and Alcohol Use Associated with Lifetime Sexual Revictimization and Current Posttraumatic Stress Disorder Among Three National Samples of Adolescent, College, and Household-Residing Women

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Abstract

Sexual revictimization (experiencing 2 or more rapes) is prevalent and associated with increased risk for posttraumatic stress disorder (PTSD) and substance use. However, no national epidemiologic studies have established the prevalence or relative odds of a range of types of substance use as a function of sexual victimization history and PTSD status. Using three national female samples, the current study examined associations between sexual revictimization, PTSD, and past-year substance use. Participants were 1763 adolescent girls, 2000 college women, and 3001 household-residing women. Rape history, PTSD, and use of alcohol, marijuana, other illicit drugs, and non-medical prescription drugs were assessed via structured telephone interviews of U.S. households and colleges in 2005–2006. Chi-square and logistic regression were used to estimate the prevalence and odds of past-year substance use. Relative to single and non-victims: Revictimized adolescents and household-residing women reported more other illicit and non-

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Declarations of Interest:

This study was supported by grants from the National Institute of Child Health and Human Development (5R01HD046830; PI: Kilpatrick) and the National Institute of Justice (2005-WG-BX-0006; PI: Kilpatrick). Manuscript preparation was partially supported by two T-32 institutional training fellowships (MH018869; PI: Kilpatrick; DA031099; PI: Hasin), as well as R01DA023099 (PI: Resnick), and K23018686 (PI: Danielson), R01DA031285 (PI: Danielson), K12DA031794 (PI: Brady), and P50 AA010761 (PI: Becker). Views expressed herein are those of the authors and do not necessarily reflect those of NICHD, NIJ, NIMH, NIDA, NIAAA or other institutions.

The authors do not have any commercial or financial conflicts of interest to report. The first and second author had full access to the data and all authors take individual and collective responsibility for the manuscript.

Disclosures

Authors Resnick, Saunders, and Kilpatrick designed the study protocols and obtained funding. Authors Walsh and Resnick undertook statistical analyses. Author Walsh wrote the first draft of the manuscript and authors Resnick, Danielson, and McCauley contributed to manuscript conceptualization as well as reviewing and editing the manuscript. All authors contributed to and have approved the final manuscript.

All authors declare no conflicts of interest.

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medical prescription drug use; revictimized college women reported more other illicit drug use. Past 6-month PTSD was associated with increased odds of drug use for adolescents, non-medical prescription drug use for college women, and all substance use for household-residing women. Revictimization and PTSD were associated with more deviant substance use patterns across samples, which may reflect self-medication with substances. Findings also could be a function of high-risk environment or common underlying mechanisms. Screening and early intervention in pediatric, primary care, and college clinics may prevent subsequent rape, PTSD, and more severe substance use.

Keywords

rape; substance use; PTSD

1. INTRODUCTION

Rape is a significant societal problem. Data from the World Health Organization indicate that sexual intimate partner violence is reported by 6.2–58.6% of women age 15–49 worldwide (Garcia-Moreno, Guedes, & Knerr, 2010). Centers for Disease Control (CDC) data suggest that 18.3% of U.S. adult women report attempted or completed rape, including drug or alcohol facilitated/incapacitated rape, during their lifetimes (Black et al., 2011). Rape victims report higher prevalence of public health problems including drug and alcohol use, abuse, and dependence compared to non-victims (Burnam et al., 1988; Kilpatrick et al., 2000; 2003; 2007). For example, in a national household sample of women, incapacitated rape (i.e., unable to consent/resist due to voluntary substance use) has been identified as a correlate of victims' past year binge drinking, marijuana, and illicit drug use while forcible and drug facilitated rape (i.e., perpetrator administered substances to impair victim's ability to consent/resist) have been identified as correlates of victims' past year marijuana and illicit drug use (McCauley, Ruggiero, Resnick, & Kilpatrick, 2010). Thus, different rape tactics (e.g., force, incapacitation) are associated with different substance use correlates.

Exposure to multiple rapes, often termed sexual revictimization, is one factor associated with different functioning patterns that has been understudied in the epidemiologic literature (e.g., Arata, 1999). CDC data indicate that 35.2% of women who reported a rape before the age of 18 also experienced revictimization as an adult (Black et al., 2011). In a previous study examining posttraumatic stress disorder (PTSD), more than 50% of adolescent, college, and household-residing female victims reported sexual revictimization (Walsh et al., 2012); however, that study did not examine substance use patterns of revictimized women. National studies that have examined broader forms of victimization (e.g., neglect, physical abuse, partner violence) suggest that adults who have experienced two or more forms of victimization report higher prevalence of substance use disorders (Hughes, McCabe, Wiltsnak, West, Boyd, 2010). However, there is a dearth of epidemiologic information regarding whether sexual revictimization is associated with heightened substance use or different substance use patterns among girls and women at various ages and across different contexts (e.g., college versus household-residing). Given that risk for substance use initiation and sexual assault are both highest during adolescence and early adulthood (e.g.,

Humphrey & White, 2000; Johnston, O'Malley, Bachman, Schulenberg, 2011), and substance use can be both a risk factor for and an outcome of sexual assault (Testa & Livingston, 2000), it is important to understand whether associations between sexual assault and types of substance use are circumscribed to a particular age range or context or whether these associations change systematically across developmental periods. Better understanding the progression of the substance use-sexual assault association across different age ranges may improve treatment and risk reduction programming.

If sexually revictimized women are more likely to report heightened substance use relative to single and non-victims, a logical next question concerns why these associations exist. The self-medication hypothesis suggests that trauma victims are more likely to engage in substance use to cope with distress (Khantzian, 1997). Several empirical studies have identified substance use as a coping motive for distress, particularly PTSD symptoms, associated with rape (Miranda, Meyerson, Long, Marx, & Simpson, 2002; Ullman, Filipas, Townsend, Starsynski, 2005). Further, data from convenience samples indicate that sexual revictimization is associated with greater use of drugs and alcohol to cope with distress, including PTSD (Filipas & Ullman, 2006; White & Widom, 2008). However, associations between sexual revictimization and substance use have been largely unexplored in epidemiologic samples. Furthermore, although coping with increased distress associated with experiencing multiple rapes is one potential explanation for elevated substance use among revictimized women, and revictimized women report more distress such as PTSD relative to single and non-victims (Walsh et al., 2012), it also is possible that heightened use among revictimized women reflects use prior to the most recent rape. Therefore, the current study will test whether distress in the form of PTSD fully accounts for the association between rape exposure and substance use or whether revictimization continues to have an association with substance use even after accounting for PTSD. Using three national female samples (adolescent girls, college women, and household-residing women), aims for the present study were to:

1. Test the hypothesis that sexually revictimized respondents will report using different types of substances (i.e., alcohol, marijuana, other illicit drugs, and prescription drugs) relative to single victims and non-victims.
2. Examine the relative odds of past-year substance use by lifetime rape (single versus revictimization) and past 6-month PTSD.

2. METHOD

2.1 Participants and Procedures

Data were drawn from two national surveys encompassing three separate sampling frames: adolescent participants from the National Survey of Adolescents-Replication (NSA-R), and college and household-residing participants from the National Women's Study-Replication (NWS-R). All procedures were approved by the Institutional Review Board.

2.1.1 Adolescent Participants—The NSA-R is a longitudinal, nationally representative study of adolescents aged 12–17 years ($N=3,614$ at wave 1) designed to assess risk factors and mental health consequences of traumatic event exposure. This Random Digit Dial

(RDD) telephone survey of households with children between the ages of 12 and 17 included an oversample of urban households. After obtaining parent informed consent and adolescent assent, trained interviewers administered a 43 minute survey; adolescents received \$10. Of the 6,694 parents interviewed, 5,426 (81.1%) gave permission for adolescent contact, and 3,921 (72.3%) of these adolescents were located during the field period; 188 refused to participate, 119 did not finish the interview, and 3,614 (92.2%) completed the interview. Only the 1,763 NSA-R female participants at wave 1 (collected in 2005) were included here. To correct for oversampling, data were weighted for urbanicity as well as age and gender using the 2005 U.S. adolescent population. Mean age of participants at wave 1 was 14.5 years ($SD = 1.71$). Regarding race/ethnicity, 68.3% ($n = 1205$) were White, 13.5% ($n = 237$) Black, 10.5% ($n = 185$) Hispanic, 2.7% ($n = 47$) Native American, and 2% ($n = 36$) Asian. Demographic characteristics of the female-only sample did not differ significantly from the full sample.

2.1.2 College Participants—The National Women's Study-Replication (NWS-R), conducted in 2006 is a telephone survey of rape prevalence and characteristics (Kilpatrick et al., 2007). Following informed consent, trained female interviewers administered a 20-minute structured phone survey. Participants were 2,000 college women from the American Student List (ASL), which included 6 million students attending 1,000 U.S. colleges and universities. The purchased sample contained 17,000 women from 253 colleges and 47 different states. Of the numbers contacted ($n = 3,805$), 28.8% ($n = 1,094$) were ineligible due to not having an English-speaking woman age 18 or older who was enrolled at least half-time as an undergraduate student when the survey was conducted. Among eligible households ($n = 2,711$), the completion rate was 73.8%; 8.9% ($n = 240$) refused to participate and 17.7% ($n = 480$) did not complete the interview. Mean age was 20.1 ($SD = 1.7$) with a range from 18–67. Approximately 75% ($n = 1,500$) of the sample reported their race as White, 11.1% ($n = 221$) Black, 6% ($n = 120$) Hispanic, 1.1% ($n = 22$) Native American, 6% ($n = 120$) Asian, and 0.4% ($n = 8$) did not report race.

2.1.3 Adult Household-Residing Participants—A household probability sample of 3,001 adult women also participated in the NWS-R phone survey. Whereas college NWS-R participants were selected using the ASL, household-residing NWS-R participants were sampled via RDD methods. Of numbers contacted ($n = 15,982$), 76.2% ($n = 12,182$) were ineligible because they were not connected to a household (e.g., an office building) or did not contain an English-speaking woman age 18 to 54. Among eligible women ($n = 3817$), 12.9% ($n = 492$) refused to participate and 8.5% ($n = 324$) did not complete the interview. The cooperation rate among eligible participants was 78.6%. Because most women in the general population sample were age 18–34 (younger women were oversampled to assist comparisons to college women), weights were created using 2005 US Census estimates. Weighted mean age was 46.6 ($SD = 17.87$). Approximately 78.2% ($n = 2348$) of the sample reported their race as White, 11.1% ($n = 334$) Black, 5.3% ($n = 158$) Hispanic, 1.9% ($n = 57$) Native American, 1.7% ($n = 50$) Asian, and 1.7% ($n = 54$) did not report race.

2.2 Measures

2.2.1 Rape history—Behaviorally specific, dichotomous questions included: 1) anyone ever used force or threat of force to make you have vaginal, anal, or oral sex (adolescent version: put his private sexual part inside your private sexual part, your rear end, or your mouth) when you didn't want to; 2) anyone ever made you have vaginal, anal, or oral sex when you didn't want to after you had taken or been given so much alcohol or drugs that you were very high, drunk, or passed out; 3) anyone ever inserted fingers or objects into your vagina or rectum when you didn't want them to by using force or threatening to hurt you or someone close to you? NSA-R participants were also asked about 1) digital or object penetration or 2) unwanted touching of the respondent's sexual parts after they had taken or been given so much alcohol or drugs that they were very high, drunk, or passed out. Due to NSA-R respondents' ages, non-penetrative sexual contact that was unwanted or perpetrated by a family member was considered abusive. For each screening event endorsed, participants noted whether events occurred once, twice, or three plus times. Revictimization was defined as experiencing two or more separate incidents.

2.2.2 Non-experimental alcohol and drug use—Participants were asked whether they had engaged in binge drinking on a monthly basis (i.e., 5 or more drinks in a single sitting at least 12 times during the previous year). Consistent with studies assessing non-experimental drug use (Kilpatrick et al., 2000; McCauley, Ruggiero, Resnick, Conoscenti, Kilpatrick, 2009), they were asked whether they had used each of the following at least four times within the past year: marijuana, other illicit drugs (cocaine, PCP, heroin, inhalants, MDMA, GHB, Ketamine, Methamphetamine, Rohypnol, hallucinogens), or non-medical use of prescription drugs (NMUPD).

2.2.3 PTSD—Current PTSD symptoms and associated functional impairment were assessed with a structured diagnostic interview that required yes/no responses indicating the presence or absence of Diagnostic and Statistical Manual-4th Edition (DSM-IV) symptoms during the previous 6 months. This measure was validated against the Structured Clinical Interview for the *DSM* (SCID) PTSD module administered by mental health professionals (Kilpatrick et al., 1998) and has concurrent validity, temporal stability, internal consistency, and diagnostic reliability (Kilpatrick et al., 2000; 2003).

2.3 Analytic Strategy

To examine differences in the prevalence and types of past-year substance use for girls and women with various victimization histories, chi square analyses were used. To examine multivariate associations between victimization history, PTSD, and substance use, logistic regressions controlling for age were used to generate odds ratios for substance use types by victimization history and past 6-month PTSD. Given the large number of comparisons, Bonferroni corrections were applied.

3. RESULTS

3.1 Assault and Revictimization

Experience of any rape was reported by 11.6% ($n = 205$) of adolescents, 12.5% ($n = 250$) of college women, and 20.0% ($n = 600$) of household-residing women. Reported elsewhere (Walsh et al., 2012), 52.7% of adolescent victims, 50.0% of college victims, and 58.8% of household-residing victims reported sexual revictimization.

3.2 Prevalence of Past-Year Substance Use by Victimization History

3.2.1 Adolescents—Compared with non-victims, re-victims, $\chi^2(1, n=1121) = 30.8, p < .001$, and single victims, $\chi^2(1, n=1095) = 9.0, p < .05$, were more likely to report monthly binge drinking. Compared with non-victims, re-victims, $\chi^2(1, n=1129) = 52.3, p < .001$, and single victims, $\chi^2(1, n=1102) = 11.8, p < .001$, were more likely to report marijuana use. Re-victims were more likely to report other illicit drug use compared to single victims, $\chi^2(1, n=135) = 4.3, p < .05$, and non-victims, $\chi^2(1, n=1128) = 82.3, p < .001$, and single victims were more likely to report other illicit drug use compared to non-victims, $\chi^2(1, n=1101) = 4.8, p < .05$. Re-victims also were more likely to report NMUPD compared to non-victims, $\chi^2(1, n=1086) = 75.5, p < .001$, and single victims were more likely to report NMUPD compared to non-victims, $\chi^2(1, n=1059) = 12.2, p < .001$ (Table 1).

3.2.2 College—Re-victims, $\chi^2(1, n=1831) = 19.2, p < .001$, and single victims, $\chi^2(1, n=1833) = 32.6, p < .001$, were more likely to report monthly binge drinking compared with non-victims. Re-victims, $\chi^2(1, n=1872) = 46.3, p < .001$, and single victims, $\chi^2(1, n=1872) = 39.2, p < .001$, were more likely to report marijuana use compared to non-victims. Re-victims were more likely to report other illicit drug use when compared to single victims, $\chi^2(1, n=250) = 3.8, p = .05$, and non-victims, $\chi^2(1, n=1872) = 29.5, p < .001$. Finally, single victims, $\chi^2(1, n=1792) = 4.7, p < .05$, and re-victims, $\chi^2(1, n=1789) = 32.6, p < .001$, were more likely to report NMUPD compared to non-victims.

3.2.3 Household-Residing—Re-victims were more likely to report monthly binge drinking compared to non-victims, $\chi^2(1, n=2705) = 14.9, p < .001$. Re-victims, $\chi^2(1, n=2751) = 53.1, p < .001$, and single victims, $\chi^2(1, n=2645) = 13.4, p < .001$, were more likely to report marijuana use compared to non-victims. Re-victims were more likely to report other illicit drug use compared to single victims, $\chi^2(1, n=600) = 4.0, p < .05$, and non-victims, $\chi^2(1, n=2566) = 47.9, p < .001$. Re-victims were more likely to report NMUPD compared to single victims, $\chi^2(1, n=565) = 5.7, p < .05$, and non-victims, $\chi^2(1, n=2669) = 38.6, p < .001$.

3.3 Odds of Past-Year Substance Use as a Function of Victimization and PTSD

3.3.1 Adolescents—Table 2 presents the odds ratios for each type of substance use by victimization status (Model 1) and past 6-month PTSD controlling for victimization status (Model 2). In Model 1, re-victims had greater odds of marijuana, other illicit drug, and NMUPD relative to single victims. In Model 2, past 6-month PTSD was also associated with increased odds of marijuana, other illicit drug, and NMUPD relative to those without PTSD.

3.3.2 College—In Model 1, single victimization was associated with increased odds of binge drinking and marijuana use; however, revictimization was associated with at least twice the odds of all forms of substance use relative to no victimization. In Model 2, past 6-month PTSD was associated with greater odds of NMUPD only.

3.3.3 Household-residing—In Model 1, revictimized women had increased odds of all forms of substance use. In Model 2, past 6-month PTSD was associated with increased odds of all substance use.

4. DISCUSSION

The present study examined substance use patterns associated with sexual revictimization among three national female samples assessed at various points in the lifecourse. Four important findings emerged: 1) Revictimized adolescent and adult household-residing women were more likely to report other illicit drug use and NMUPD relative to single and non-victims; 2) Singly victimized college women were more likely to report binge drinking and marijuana use relative to non-victims whereas revictimized college women were more likely to report illicit and NMUPD relative to single and non-victims; 3) Past 6-month PTSD was associated with increased odds of all types of drug use among adolescents, NMUPD among college women, and all types of substance use among household-residing women.

All forms of drug use were elevated among revictimized adolescent girls relative to single and non-victims. Notably, one in five revictimized adolescents reported NMUPD. Although a common drug of abuse for adolescents, this prevalence is twice as high as the prevalence in the general population (Johnston et al., 2011) and suggests that intervening with revictimized adolescents may be critical to preventing more severe dependence or overdose. Associations between revictimization and substance use in the adolescent sample might relate to the shorter potential timeframe between the most recent rape and past-year substance use, given that adolescents are younger. These associations also may relate to the high-risk context in which substance use and rape typically occur and the greater deviance of substance use, including illegal use of alcohol, among adolescents relative to adults. Adolescents who reported revictimization and elevated substance use may also engage in other risky behaviors (e.g., risky sex, delinquency) that increase exposure to dangerous situations and potential perpetrators. Associations between sexual revictimization and any substance use suggest that revictimized adolescents may be at critical risk for substance use initiation and potentially substance use disorders.

Past 6-month PTSD was associated with NMUPD in all three samples, and results suggest a novel link between sexual revictimization and NMUPD. NMUPD has made major headlines as a growing national epidemic associated with increases in emergency room visits, overdoses, and deaths since 2006 (Prevention, 2013). A recent review highlights the pervasiveness of dependence following pain management with opioid analgesics, which is one among many NMUPDs that may pose risk (Minozzi, Amato, & Davoli, 2013). Women reporting rape and revictimization may have greater exposure to prescription drugs due to increased pain-related physical health problems that may lead to more frequent physician and emergency room visits (Campbell, Greeson, Bybee, Raja, 2008; Ciccone, Elliott,

Chandler, Nayak, Raphael, 2005; Leserman, Drossman, Li, Toomey, Nachman, Glogau, 1996; Sadler, Booth, Nielson, Doebbeling, 2000). However, among household-residing rape victims, PTSD and depression have been shown to predict prescription drug use even after controlling for physical health complaints (Sturza et al. 2005). General practitioners should assess sexual revictimization and address potential risks associated with NMUPD. Further studies on rape, revictimization, and NMUPD are necessary to advance research on this topic.

Although single victims in the college and household-residing samples were more likely to report all types of substance use relative to non-victims, revictimized college and household-residing women were both more likely to report other illicit drug use. Findings support previous linkages between drug use and rape risk (Kilpatrick et al., 1997; Resnick et al., 2013); we cannot rule out the possibility that substance use may have contributed to rape by cognitively or physically impairing victims. Additionally, perpetrators may perceive that women using illegal drugs will be less likely to report assault due to fear of repercussions for their drug use or concerns that their reports will not be believed. Illicit drug use also may take place in more isolated locations where others are unlikely to inhibit or interrupt an assault.

PTSD and revictimization were consistently positively associated with all types of past year substance use among household-residing women, which may relate to a wider range of functioning, chronicity, and/or greater opportunities for revictimization, PTSD, and some types of illicit drug use to occur across the lifespan. However, PTSD was also predictive of each type of *drug* use within the adolescent sample, which may reflect more deviant use patterns given that drug use is both illegal and tends to peak later in life (i.e., between ages 18–20; SAMHSA, 2011). Some substance use may be more normative among college women, possibly reflecting greater heterogeneity in motivations and contexts for substance use in that sample. Findings among the adolescent, college, and household-residing samples indicate that revictimization and PTSD are associated with past-year NMUPD when examined simultaneously. This report is limited, however, in that current PTSD and substance and lifetime victimization were measured. Thus, observed patterns may reflect differences in maintenance or persistence of PTSD as opposed to the development of PTSD and substance use problems as a function of victimization.

4.1 Limitations

Findings should be considered within the context of limitations. Although large national samples were used, the cell sizes for some outcomes, particularly illicit drug use, are somewhat small and difficult to interpret. Findings may reflect a true low base-rate of past year drug use as adolescent estimates are comparable to data from Monitoring the Future (Johnston et al., 2011), or they may reflect a reluctance to report illicit behaviors. To enhance reporting, computer-based assessment methods may be useful (Parks, Pardi, & Bradizza, 2006). Future research also should collect more detailed information regarding motivations for substance use (e.g., cope with rape-related PTSD). Although cross-sectional findings preclude temporal analyses, results are consistent with longitudinal research with adolescent girls (Walsh et al., 2012b), college women (Kaysen, Neighbors, Martell, Fossos,

& Larimer, 2006; Messman-Moore, Ward, & Brown, 2009), and household-residing women (Testa, Hoffman, & Livingston, 2010) suggesting complex relations between substance use and sexual victimization may vary by respondents' age. Finally, true dose-response relationships between rape and substance use were not examined as questions did not distinguish between three or more rapes.

4.2 Implications

Despite limitations, findings have important public health implications for early intervention and prevention of rape and substance use problems among girls and women. Results are consistent with international studies documenting a high prevalence of sexual violence (Jewkes et al., 2013) and strong associations between violence against women and substance use disorders (Rees et al., 2011) and add to a growing literature documenting heightened risk for negative sequelae associated with sexual revictimization (Walsh et al., 2012a). Consistent with screening, brief intervention, and referral to treatment (SBIRT; Madras et al., 2009) recommendations from studies documenting high prevalence of drug and alcohol use among women seeking a rape-related medical exam (Resnick et al., 2012), practitioners in pediatric, college, and community-based clinics could screen patients for rape, revictimization, PTSD, and substance use, provide brief risk reduction interventions targeting PTSD and substance use, and make treatment referrals as necessary. Findings emphasize a need to develop and deliver integrated treatment designed to concomitantly reduce rape, PTSD, and substance use (Danielson et al., 2012; Mills et al., 2012).

Acknowledgments

This study was supported by grants from the National Institute of Child Health and Human Development (5R01HD046830; PI: Kilpatrick) and the National Institute of Justice (2005-WG-BX-0006; PI: Kilpatrick). Manuscript preparation was partially supported by a T-32 institutional training fellowship (MH018869; PI: Kilpatrick), as well as R01DA023099 (PI: Resnick), and K23018686 (PI: Danielson), R01DA031285 (PI: Danielson), and P50 AA010761 (PI: Becker).

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Highlights

- We used three national female samples to measure rape, PTSD, and substance use
- We documented heightened substance use among revictimized respondents
- Patterns of substance use varied by respondent age
- Current PTSD contributed to heightened risk for substance use

Table 1

Proportion of Adolescent, College, and Household-Residing Women Reporting Past Year Non-Experimental Alcohol and Drug Use

	Monthly Binge Drinking	Marijuana Use	Illicit Drug Use	Prescription Drug Use
Adolescents				
Non-victims (n = 1525)	1.8% (n = 28) ^b	6.5% (n = 99) ^b	1.0% (n = 15) ^c	2.2% (n = 32) ^c
Single victims (n = 97)	5.3% (n = 5) ^a	18.6% (n = 18) ^a	4.1% (n = 4) ^b	8.0% (n = 7) ^b
Revictimized (n = 108)	11.3% (n = 12) ^a	31.5% (n = 34) ^a	12.0% (n = 13) ^a	21.6% (n = 21) ^a
College Women				
Non-victims (n = 1748)	13.6% (n = 232) ^b	8.9% (n = 156) ^b	0.9% (n = 15) ^b	2.6% (n = 43) ^b
Single victims (n = 125)	32.5% (n = 40) ^a	26.4% (n = 33) ^a	1.6% (n = 2) ^b	6.0% (n = 7) ^a
Revictimized (n = 125)	28.1% (n = 34) ^a	28.0% (n = 35) ^a	6.4% (n = 8) ^a	12.3% (n = 14) ^a
Household-residing				
Non-victims (n = 2398)	3.6% (n = 85) ^b	2.7% (n = 64) ^b	0.4% (n = 9) ^b	1.7% (n = 39) ^b
Single victims (n = 247)	5.7% (n = 14) ^{a,b}	6.9% (n = 17) ^a	1.2% (n = 3) ^b	2.6% (n = 6) ^b
Revictimized (n = 353)	8.0% (n = 28) ^a	10.5% (n = 37) ^a	4.0% (n = 14) ^a	7.2% (n = 24) ^a

Note: Identical superscripts within sample and within column denote non-significant differences; different superscripts denote significant differences.

Table 2

Odds Ratios for Substance Use by Victimization History and Past 6-Month PTSD

	Monthly Binge Drinking	Marijuana Use	Other Illicit Drug Use	Prescription Drug Misuse
Adolescent				
Model 1: Single Victim	0.89 (0.43,1.81)	1.19 (0.82,1.73)	1.36 (0.62,2.99)	1.09 (0.63,1.88)
Model 1: Re-victim	1.10 (0.67,1.78)	2.81 (2.18,3.63)	3.89 (2.16,7.02)	3.66 (2.50,5.35)
Model 2: Single Victim	1.07 (0.46,2.49)	1.06 (0.65,1.73)	1.30 (0.45,3.72)	1.16 (0.58,2.34)
Model 2: Re-victim	1.39 (0.76,2.55)	2.53 (1.82,3.53)	3.47 (1.56, 7.74)	3.62 (2.19, 5.97)
Model 2: PTSD	0.69 (0.17,2.88)	2.50 (1.20,4.80)	6.67 (1.91,23.33)	2.87 (1.07,7.66)
College Women				
Model 1: Single Victim	1.56 (1.17, 2.08)	1.50 (1.11,2.03)	0.76 (0.29,2.03)	1.03 (0.60,1.79)
Model 1: Re-victim	1.97 (1.61,2.42)	2.44 (1.97,3.03)	2.46 (1.32,4.58)	2.27 (1.57, 3.31)
Model 2: Single Victim	1.57 (1.18,2.09)	1.51 (1.12,2.04)	0.76 (0.29,2.03)	1.04 (0.60,1.82)
Model 2: Re-victim	1.88 (1.52,2.32)	2.33 (1.86,2.92)	2.45 (1.29,4.66)	1.92 (1.29,2.84)
Model 2: PTSD	1.36 (0.95,1.96)	1.36 (0.92,2.02)	1.01 (0.35,2.96)	2.67 (1.48, 4.81)
Household-residing				
Model 1: Single Victim	1.05 (0.72,1.55)	1.18 (0.82,1.69)	0.93 (0.40,2.15)	0.85 (0.50,1.47)
Model 1: Re-victim	1.56 (1.2,2.03)	2.24 (1.73,2.91)	3.24 (1.75,6.01)	1.91 (1.33,2.75)
Model 2: Single Victim	1.07 (0.72,1.57)	1.20 (0.83,1.72)	0.94 (0.40,2.19)	0.86 (0.49,1.49)
Model 2: Re-victim	1.46 (1.11,1.91)	1.90 (1.45,2.49)	2.49 (1.31,4.74)	1.51 (1.03,2.21)
Model 2: PTSD	1.82 (1.10,3.02)	3.50 (2.24,5.45)	5.44 (2.33,12.67)	4.92 (2.86,8.49)

Note: Model 1 includes the main effect of victimization controlling for age while model 2 includes the main effect of victimization and past 6-month PTSD controlling for age