



Published in final edited form as:

J Clin Child Adolesc Psychol. 2011 January ; 40(1): 136–143. doi:10.1080/15374416.2011.533411.

Interpersonal Victimization, Posttraumatic Stress Disorder, and Change in Adolescent Substance Use Prevalence over a Ten-Year Period

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Abstract

Epidemiological studies have identified recent declines in specific types of adolescent substance use. The current study examined whether these declines varied among youth with and without a history of interpersonal victimization or Posttraumatic Stress Disorder (PTSD). Data for this study come from two distinct samples of youth (aged 12 to 17 years) participating in the 1995 National Survey of Adolescents (NSA; $N = 3,906$) and the 2005 National Survey of Adolescents-Replication (NSA-R; $N = 3,423$). Results revealed significant declines in adolescents' use of cigarettes and alcohol between 1995 and 2005; use of marijuana and hard drugs remained stable. Importantly, declines in non-experimental cigarette use were significantly greater among youth without versus with a history of victimization and declines in alcohol use were significantly greater among youth without versus with a history of PTSD.

Adolescent substance use is a major public health problem in the U.S. that results in significant negative outcomes and long-term costs for individuals, families, and society (Biglan, Brennan, Foster, & Holder, 2004). Fortunately, epidemiological studies identified declines in adolescents' self-reported use of specific substances (i.e., cigarettes, alcohol, and marijuana) beginning in the mid-1990s (Johnston, O'Malley, Bachman, & Schulenberg, 2007; Substance Abuse and Mental Health Services Administration [SAMHSA], 2007). The two largest epidemiological studies of this kind are: (1) the Monitoring the Future national survey (MTF; Johnston et al., 2007), which asks representative samples of middle and high school students annually about their use of alcohol, cigarettes, and illicit drugs, and (2) the National Survey on Drug Use and Health (NSDUH; SAMHSA, 2007), which uses home-based interviews to collect annual data on substance use from adolescents in a representative sample of U.S. households.

The MTF study identified increases in the use of all substance types among high school students in the early 1990s. However, between 1997 and 2006, there were significant declines in adolescents' use of cigarettes, alcohol, and marijuana, whereas use of other drugs (i.e., cocaine, heroin, and hallucinogens) remained relatively stable (Johnston et al., 2007). Prevalence estimates from the NSDUH are largely lower than MTF estimates (Sloboda,

2002). Nevertheless, the NSDUH has also shown declines in adolescents' use of cigarettes, alcohol, and marijuana over time (SAMSHA, 2007).

Although findings from the MTF and NSDUH studies provide evidence for declines in use of cigarettes, alcohol, and marijuana among adolescents, less is known about potential variability in these declines among higher versus lower risk groups. Two groups at high risk for substance use are youth with a history of interpersonal victimization and youth with a history of Posttraumatic Stress Disorder (PTSD) (Blumenthal et al., 2008). Interpersonal victimization (defined here as exposure to physical or sexual assault) and symptoms of PTSD have been consistently associated with elevated rates of substance use in community samples of adolescents (Fergusson, Boden, & Horwood, 2008; Giaconia et al., 2000). Further, among youth seeking substance use treatment, those with victimization histories and those with PTSD tend to present with more severe problems, including earlier initiation of substance use, more frequent use, and symptoms of tolerance and withdrawal (Grella & Joshi, 2003; Hamburger, Leeb, & Swahn, 2008). In light of evidence for reduced substance use in large population-based samples of adolescents in the U.S., the overriding purpose of the current study was to examine whether those reductions might vary among youth with and without a history of interpersonal victimization or PTSD.

Data for the current study come from two distinct samples of youth who participated in the 1995 National Survey of Adolescents (NSA) and the 2005 National Survey of Adolescents-Replication (NSA-R). These studies were designed as nationwide standardized telephone interviews of households with adolescents (aged 12–17 years), including an oversample of urban households. The purpose of the surveys was to gather prevalence data on substance use, specific emotional and behavioral problems, and exposure to interpersonal violence among adolescents. Another goal of the NSA-R was to facilitate comparisons that identify potential population changes over a ten-year period.

We hypothesized that adolescent substance use would show declines from 1995 to 2005, replicating findings from the MTF and NSDUH studies. Although we also hypothesized that victimization history and symptoms of PTSD would be significant correlates of substance use in the 1995 and 2005 samples, no specific predictions were made regarding the potential impact of victimization or PTSD on change in substance use prevalence across the two survey years.

Method

Participants

The NSA included 3,906 youth and the NSA-R included 3,423 youth who completed the structured interviews. Analyses indicated that the two samples did not differ significantly with regard to age, gender, or racial composition (all p 's > .05). Therefore, demographic characteristics are presented here for the combined NSA and NSA-R samples. The mean age of participants in the two surveys was 14.5 years ($SD = 1.7$) and approximately 50% were male. The ethnic and racial breakdown of participants in the combined samples was 72% White, Non-Hispanic; 14% African American, non-Hispanic; 3% Native American, non-Hispanic; 2% Asian American, non-Hispanic; and 9% Hispanic. The NSA and NSA-R samples were weighted to maximize representativeness to the U.S. adolescent populations in each survey year (Kilpatrick et al., 2000). Because adolescents were over-sampled in urban areas, a weight was created to restore the urban cases back to their true proportion of the urban/suburban/rural variable, based on 1995 and 2005 U.S. Census estimates.

Procedure

The methodological procedures used in the NSA and NSA-R have been reported in detail elsewhere (Kilpatrick et al., 2000; Wolitzky-Taylor et al., 2010). Briefly, sample selection and computer-assisted structured interviewing for the two surveys were conducted by Schulman, Ronca, and Bucuvalas, Inc. (SRBI), a survey research firm. A multistage, stratified, area probability, random digit dial six-stage procedure was used to generate the initial probability samples. Once it was determined that a household had at least one youth in the targeted age range, screening and introductory interviews were conducted with a caregiver to establish rapport. If multiple adolescents resided in the home, one was randomly selected for the interview. Verbal consent was obtained from a caregiver or legal guardian before interviewing the adolescent; all youth participants gave verbal assent. Institutional Review Board approval was obtained prior to data collection.

Measures

Identical questions were used in the NSA and NSA-R to assess different types of adolescent substance use (i.e., cigarette, alcohol, illicit drug use) and to assess for histories of interpersonal victimization and PTSD. All questions had a yes/no response format.

Cigarette Use—Lifetime cigarette use was assessed with a single question: “Have you ever tried cigarette smoking, even one or two puffs?” Non-experimental cigarette use was determined with a follow-up question that assessed whether the adolescents had ever, during their lifetime, smoked at least one cigarette every day for a 30-day period.

Alcohol Use—Lifetime alcohol use was measured with a single question: “Have you ever, even once, had a full drink of beer, wine, liquor, or any other alcoholic beverage?”

Illicit Drug Use—To determine lifetime use of illicit drugs, adolescents were asked six questions that assessed whether they had ever ingested (1) marijuana; (2) cocaine; (3) angel dust or PCP; (4) heroin or methadone; (5) lysergic acid diethylamine (LSD) or other hallucinogens (i.e., peyote or psilocybin); or (6) inhalants (i.e., glue nitrous oxide, amyl nitrate, paint, or gasoline). Non-experimental drug use was assessed by asking whether the respondent had ever used any of these substances on four or more occasions.

Interpersonal Victimization—Adolescents were asked to indicate whether they had ever experienced different types of physical or sexual assault. Five physical assault items assessed whether the adolescent had ever been (1) attacked with a gun or knife; (2) threatened with a gun or knife, although the weapon was not actually used; (3) attacked without a weapon, but with perceived intent to kill or seriously injure; (4) beaten with something like a stick or club resulting in serious injury; or (5) beaten with fists resulting in serious injury. Five sexual assault items asked about forced (1) vaginal or anal penetration by a penis; (2) vaginal or anal penetration by an object or finger; (3) oral-genital contact; (4) touching of the respondents’ breasts or genitalia; and (5) respondent’s touching of another person’s genitalia. For the current study, participants were coded as having experienced interpersonal victimization if they responded affirmatively to any one of the physical or sexual assault items.

Posttraumatic Stress Disorder—Lifetime PTSD diagnosis was assessed using the National Women’s Study PTSD module (Kilpatrick, Resnick, Saunders, & Best, 1989), a structured interview that assesses each of the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition (DSM-IV; American Psychiatric Association, 1994) symptom criteria for PTSD. None of the PTSD module items is anchored to a specific traumatic event. Therefore, symptoms can relate to a broad range of trauma types (e.g., assault, accident,

natural disaster). Research on this measure with adults has provided support for concurrent validity and several forms of reliability (Kilpatrick et al., 1989). In the current adolescent sample, internal consistency of the items was good (Cronbach's Alpha = .77).

Data Analysis

Cases were coded for survey year. The substance use variables were dichotomized to reflect the presence versus absence of lifetime and non-experimental cigarette use, lifetime alcohol use, lifetime and non-experimental marijuana use, and lifetime and non-experimental hard drug use (i.e., all illicit drugs excluding marijuana). The interpersonal victimization and PTSD variables were also dichotomized to reflect the presence or absence of a history of interpersonal victimization and lifetime PTSD diagnosis.

Data were analyzed using multivariate logistic regression. Two separate logistic regression models were constructed for each of the substance use outcome variables. In the first model (Model 1), survey year, victimization status, and year \times victimization status variables were entered as predictors of each outcome. In the second model (Model 2), survey year, PTSD status, and year \times PTSD status variables were entered as predictors of each outcome. The interaction terms in these two models provide a direct test of differential change in substance use prevalence between 1995 and 2005 among youth with and without a history of interpersonal victimization or PTSD. Analyses were conducted using SUDAAN. To control the Type I error rate, an alpha level of .01 was chosen a priori.

Results

Prevalence Estimates

In the combined NSA and NSA-R samples, 22% of adolescents reported experiencing interpersonal victimization during their lifetime (14% reported physical assault only, 5% sexual assault only, and 3% both physical and sexual assault). In addition, 8% met lifetime DSM-IV diagnostic criteria for PTSD. The prevalence rates for each substance use outcome are presented by survey year and victimization status in Table 1 and by survey year and PTSD status in Table 2.

Primary Analyses

Findings from the logistic regression analyses are presented in Table 3. Results revealed significant associations between survey year and lifetime cigarette use, non-experimental cigarette use, and lifetime alcohol use, indicating a lower likelihood of use of these substances in 2005 relative to 1995. Survey year was not significantly associated with lifetime or non-experimental marijuana use or with lifetime or non-experimental hard drug use, indicating that rates of use of these substances did not differ between 1995 and 2005.

Results also revealed significant associations between victimization status and all substance use outcomes, except non-experimental cigarette use, and significant associations between PTSD status and all substance use outcomes, except lifetime alcohol use. These findings reflect a generally higher likelihood of self-reported substance use among youth with versus without a history of victimization and among youth with versus without a history of PTSD.

Results revealed a significant year \times victimization interaction in predicting non-experimental cigarette use, reflecting differential change in this substance use outcome among youth with and without a history of victimization. The prevalence estimates in Table 1 indicate that, for non-victimized youth, there was a 58% reduction in non-experimental cigarette use from 1995 to 2005. However, for victimized youth, there was only a 29% reduction in non-experimental cigarette use across this ten-year period.

Results also revealed a significant year \times PTSD interaction in predicting lifetime alcohol use, reflecting differential change in this outcome among youth with and without a history of PTSD. The data in Table 2 indicate that for youth without a history of PTSD, there was a 46% reduction in alcohol use from 1995 to 2005, whereas for youth with a history of PTSD, self-reported alcohol use decreased by only 17%.

Follow-Up Analyses

Follow-up analyses examined whether the differential change in non-experimental cigarette use among victimized and non-victimized youth impacted the relationship between these variables in each survey year. Separate logistic regression models were constructed using the 1995 and 2005 samples, with victimization status entered as the predictor and non-experimental cigarette use entered as the outcome. The odds ratios generated by these models were compared using confidence interval analysis to examine the relative strength of the relationship between the variables in 1995 and 2005. Differences in odds ratios are significant at $p < .01$ if their 95% confidence intervals do not overlap (Cumming & Finch, 2005). Results revealed a significant relationship between interpersonal victimization and non-experimental cigarette use in 1995 (OR = 3.20, CI_{OR} = 2.64 – 3.89, $p < .001$) and 2005 (OR = 5.38, CI_{OR} = 4.11 – 7.04, $p < .001$). However, the odds of non-experimental cigarette use among victimized relative to non-victimized youth were significantly higher in 2005 compared to 1995, as evidenced by non-overlapping confidence intervals for the odds ratios.

A similar approach was used to examine whether differential change in alcohol use among youth with and without a history of PTSD impacted the relationship between these variables in each survey year. Results revealed a significant relationship between PTSD status and alcohol use in 1995 (OR = 2.12, CI_{OR} = 1.65 – 2.71, $p < .001$) and 2005 (OR = 3.79, CI_{OR} = 2.91 – 4.95, $p < .001$). Confidence interval analysis indicated that the odds of alcohol use among youth with relative to without a history of PTSD were significantly higher in 2005 compared to 1995.

Discussion

This study examined associations between victimization history, PTSD, and substance use in nationally representative samples of adolescents interviewed in 1995 and 2005. With a few exceptions, results are consistent with other epidemiological studies showing declines in adolescents' use of specific substances since the mid-1990s (Johnston et al., 2007; SAMHSA, 2007). For example, findings from the logistic regression models revealed significant declines in adolescents' use of cigarettes and alcohol between 1995 and 2005; however, use of marijuana and hard drugs remained stable.

Findings also revealed significant relations between histories of victimization and PTSD and most types of substance use, replicating past studies in this domain (e.g., Fergusson et al., 2008; Giaconia et al., 2000). Of note, significant associations between victimization, PTSD, and substance use have been reported previously for the NSA sample (Kilpatrick et al., 2000). The current study extends this previous work by examining these relations in the larger, combined samples of youth participating in both the NSA and NSA-R.

The primary question of interest in the current study was whether change in substance use varied as a function of interpersonal victimization or PTSD. The logistic regression models indicated that there was a significantly greater decline in non-experimental cigarette use from 1995 to 2005 among youth without versus with a history of victimization. As a result of the differential decline, the odds of non-experimental cigarette use among victimized youth relative to non-victimized youth increased significantly across the two survey years. In 1995, the odds of non-experimental cigarette use among victims were 3.20 times the odds

for non-victims. However, in 2005, the odds of non-experimental cigarette use among victims were 5.38 times the odds for non-victims. There was also a significantly greater decline in alcohol use from 1995 to 2005 among youth without versus with a history of PTSD. As a consequence of the differential decline, the odds of alcohol use among youth with relative to without a history of PTSD significantly increased across the two time points. In 1995, the odds of alcohol use among youth with a history of PTSD were 2.12 times the odds for youth without a history of PTSD. However, in 2005, the odds of alcohol use among youth with a history of PTSD were 3.79 times the odds for youth without a history of PTSD.

It is important to acknowledge that cigarette and alcohol use during adolescence may be developmentally normative (Shedler & Block, 1990). However, there is evidence that cigarette and alcohol use may lead to experimentation with illicit drugs (Ellickson, Tucker, & Klein, 2003; Torabi, Bailey, & Majd-Jabbari, 1993). Further, early alcohol use has been linked to academic difficulties during adolescence as well as risk for employment problems and risky alcohol-related behaviors (e.g., drunk driving) in adulthood (Ellickson et al., 2003; Hingson, Heeren, Zakocs, Winter, & Wechsler, 2003). Thus, cigarette and alcohol use during adolescence may lead to future substance use problems and related negative sequelae.

Of note, although this study identified significant declines in cigarette and alcohol use between 1995 and 2005, use of marijuana and hard drugs remained stable. Reasons for this differential change are unclear. The little change in marijuana and hard drug use may be a function of the relatively low base rates of use of these particular substances in the current sample. Another possible explanation might be differences in the effectiveness of prevention efforts during this period. For example, there have been numerous efforts to curtail cigarette sales to minors (Centers for Disease Control and Prevention, 2000; Cummings et al., 1998) as well as federal initiatives to curb underage drinking (e.g., Barry et al., 2004). Although several anti-drug ad campaigns and school-based drug prevention programs were recently initiated (National Institute on Drug Abuse, 2003, 2006), it is possible that adolescents' access to marijuana and hard drugs is more difficult to control compared to legal substances (e.g., alcohol, cigarettes) that are subjected to heavy fines for sales to underage buyers. Another possibility is that adolescents who use marijuana and hard drugs might differ from those using alcohol and cigarettes in ways that undermine the effect of prevention programs (e.g., lower socioeconomic status, exposure to greater environmental stress, higher rates of comorbid emotional or behavioral problems).

Limitations

The results of this study should be viewed in the context of several limitations. The study is limited by the use of single self-report items to assess the presence versus absence of different types of substance use. However, research indicates that single self-report items correlate significantly with more sophisticated measures of substance use, such as urine drug screens (Lennox, Dennis, Ives, & White, 2006). Further, although comprehensive assessment approaches, such as time-line follow-back and ecological momentary assessment, tend to produce more valid information than single self-report items on specific details of substance use (e.g., days of use), aggregate estimates from the three methods representing "any use" correlate well and similarly discriminate users from nonusers (Shiffman, 2009). Further, the telephone survey methodology used in the NSA and NSA-R limited the interviewer's control over the respondent's environment. Although steps were taken to ensure adolescents were in a situation where they could respond to questions openly, some participants may not have been able to answer freely. In addition, telephone survey methodology excludes youth who reside in households without a telephone or who are homeless. Fortunately, epidemiological data indicate youth reporting periods of homelessness represent less than 8% of the U.S. population (Ringwalt, Greene, Robertson,

& McPheeters, 1998), and, in 2005, only 7.3% of U.S. households inhabited by children did not have a landline telephone (Blumberg & Luke, 2007).

Implications for Research, Policy, and Practice

Overall, the findings highlight declines in adolescents' self-reported use of cigarettes and alcohol over the past several years. However, non-experimental cigarette use decreased less among youth with versus without a history of victimization and alcohol use decreased less among youth with versus without a history of PTSD. Further, significant relations were observed between histories of victimization and PTSD and most types of substance use. In general, these results speak to the importance of regular substance abuse screening among adolescents exposed to trauma. Several brief psychometrically sound instruments for assessing adolescent substance use are available for use in the public domain, including the CAGE Questionnaire (Mayfield, McLead, & Hall, 1974) and the CRAFFT screener (Knight, Sherritt, Shrier, Harris, & Chang, 2002). When adolescents present with both PTSD and substance use, interventions that address substance use should be used in combination with evidence-based cognitive behavioral interventions for trauma symptoms (see Danielson et al., 2006). Even when substance use is not present, alcohol, drug, and tobacco prevention work seems indicated with adolescents who have been victimized or who have PTSD, as this group is at known risk for initiation of substance use.

Acknowledgments

This research was supported by Grant 93-IJ-CX-0023 from the U.S. Department of Justice, Office of Justice Programs, National Institute of Justice and by Grant 1R01HD046830-01 from the National Institute of Child Health and Human Development (PI: Kilpatrick). Preparation of this manuscript was supported by K23-DA018686 from the National Institute on Drug Abuse (PI: Danielson). Views in this article do not necessarily represent those of the agencies supporting this research.

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Table 1

Lifetime Prevalence of Substance Use by Victimization Status in the NSA and NSA-R

	NSA (1995) ^a Lifetime Victimization				NSA-R (2005) ^b Lifetime Victimization			
	Yes		No		Yes		No	
	%	95% CI	%	95% CI	%	95% CI	%	95% CI
Cigarette Use	65.9	[62.8, 69.1]	36.3	[34.5, 37.9]	50.1	[46.5, 53.8]	19.2	[17.7, 20.6]
Non-experimental Cigarette Use	24.9	[22.0, 27.8]	9.2	[8.1, 10.2]	17.7	[14.4, 19.9]	3.9	[3.2, 4.6]
Alcohol Use	72.9	[69.9, 75.9]	50.4	[48.7, 52.2]	54.5	[50.9, 58.2]	25.7	[24.1, 27.3]
Marijuana Use	32.3	[29.2, 35.5]	10.5	[9.4, 11.6]	32.4	[29.0, 35.8]	10.8	[9.6, 11.9]
Non-experimental Marijuana Use	22.7	[19.9, 25.5]	6.1	[5.2, 6.9]	23.1	[20.0, 26.1]	6.1	[5.2, 6.9]
Hard Drug Use ^c	23.1	[20.3, 25.9]	5.5	[4.7, 6.3]	21.1	[18.2, 24.1]	5.3	[4.4, 6.1]
Non-experimental Hard Drug Use ^c	11.2	[9.1, 13.3]	2.1	[1.5, 2.6]	10.7	[8.5, 12.9]	1.8	[1.3, 2.3]

Note. NSA = National Survey of Adolescents; NSA-R = National Survey of Adolescents-Replication; CI = confidence interval

^a N = 3,906.

^b N = 3,423.

^c Variable represents use of any of the following drugs: cocaine, heroin or methadone, LSD or other hallucinogens (i.e., peyote or psilocybin), or inhalants (i.e., glue nitrous oxide, amyl nitrate, paint, or gasoline).

Table 2

Lifetime Prevalence of Substance Use by PTSD Status in the NSA and NSA-R

	NSA (1995) ^a Lifetime PTSD			NSA-R (2005) ^b Lifetime PTSD		
	Yes %	95% CI	No %	Yes %	95% CI	No %
Cigarette Use	65.6	[60.4, 70.8]	40.8	53.6	[47.4, 59.8]	23.1
Non-experimental Cigarette Use	29.7	[24.7, 34.7]	11.1	19.4	[14.5, 24.4]	5.5
Alcohol Use	72.5	[67.6, 77.3]	53.9	59.9	[53.8, 66.0]	29.1
Marijuana Use	35.3	[30.1, 40.5]	13.6	34.1	[28.2, 40.0]	13.6
Non-experimental Marijuana Use	25.7	[20.9, 30.5]	8.4	24.6	[19.3, 29.9]	8.3
Hard Drug Use ^c	27.9	[22.9, 32.8]	7.8	29.4	[23.7, 35.0]	6.8
Non-experimental Hard Drug Use ^c	17.7	[13.5, 21.8]	2.9	14.7	[10.3, 19.1]	2.7

Note. PTSD = Posttraumatic Stress Disorder; NSA = National Survey of Adolescents; NSA-R = National Survey of Adolescents-Replication; CI = confidence interval

^a N = 3,906.

^b N = 3,423.

^c Variable represents use of any of the following drugs: cocaine, heroin or methadone, LSD or other hallucinogens (i.e., peyote or psilocybin), or inhalants (i.e., glue nitrous oxide, amyl nitrate, paint, or gasoline).

Table 3

Multivariate Logistic Regression Models Examining Associations between Survey Year (1995 v. 2005), Lifetime Victimization Status, and Lifetime PTSD Status Predictor Variables and Lifetime Substance Use Outcomes

	<i>B</i>	<i>SE</i>	<i>W</i>	<i>OR</i>	<i>CI (95%)</i>
<i>Cigarette Use</i>					
<i>Model 1</i>					
Year	-1.15	0.18	41.31***	0.32	[0.22, 0.45]
Victimization status	0.97	0.21	20.36***	2.63	[1.73, 4.01]
Year × Victimization status	0.25	0.114	3.32	1.28	[0.98, 1.67]
<i>Model 2</i>					
Year	-1.12	0.23	24.53***	0.33	[0.21, 0.51]
PTSD status	0.82	0.32	6.61**	2.28	[1.22, 4.26]
Year × PTSD status	0.27	0.20	1.79	1.31	[0.88, 1.94]
<i>Non-experimental Cigarette Use</i>					
<i>Model 1</i>					
Year	-1.45	0.29	25.65***	0.23	[0.13, 0.41]
Victimization status	0.65	0.27	5.56	1.91	[1.11, 3.26]
Year × Victimization status	0.52	0.19	7.65***	1.68	[1.16, 2.42]
<i>Model 2</i>					
Year	-0.96	0.29	10.29***	0.38	[0.21, 0.69]
PTSD status	1.00	0.36	7.83***	2.72	[1.35, 5.49]
Year × PTSD status	0.19	0.24	0.64	1.21	[0.76, 1.95]
<i>Alcohol Use</i>					
<i>Model 1</i>					
Year	-1.33	0.17	57.51***	0.26	[0.19, 0.37]
Victimization status	0.72	0.22	10.59**	2.07	[1.34, 3.21]
Year × Victimization status	0.28	0.14	4.18	1.33	[1.01, 1.74]
<i>Model 2</i>					
Year	-1.61	0.23	47.93***	0.20	[0.13, 0.32]

	<i>B</i>	<i>SE</i>	<i>W</i>	<i>OR</i>	<i>CI (95%)</i>
<i>Marijuana Use</i>					
<i>Model 1</i>					
PTSD status	0.17	0.34	0.25	1.18	[0.61, 2.29]
Year × PTSD status	0.58	0.21	7.71**	1.79	[1.18, 2.70]
<i>Model 2</i>					
Year	0.02	0.22	0.00	1.02	[0.66, 1.56]
Victimization status	1.36	0.24	32.61***	3.89	[2.43, 6.19]
Year × Victimization status	0.03	0.15	0.03	1.03	[0.76, 1.38]
<i>Non-experimental Marijuana Use</i>					
<i>Model 1</i>					
Year	-0.04	0.27	0.02	0.96	[0.56, 1.62]
Victimization status	1.46	0.28	27.55***	4.32	[2.50, 7.46]
Year × Victimization status	0.07	0.18	0.15	1.07	[0.76, 1.51]
<i>Model 2</i>					
Year	0.02	0.29	0.01	1.02	[0.58, 1.79]
PTSD status	1.26	0.37	11.91***	3.53	[1.72, 7.22]
Year × PTSD status	-0.00	0.23	0.00	0.99	[0.63, 1.58]
<i>Hard Drug Use^d</i>					
<i>Model 1</i>					
Year	-0.10	0.29	0.13	0.90	[0.51, 1.58]
Victimization status	1.65	0.29	32.39***	5.20	[2.95, 9.18]
Year × Victimization status	-0.00	0.19	0.00	0.99	[0.69, 1.43]
<i>Model 2</i>					
Year	-0.47	0.29	2.58	0.63	[0.35, 1.11]
PTSD status	1.24	0.36	11.53***	3.45	[1.69, 7.04]

	B	SE	W	OR	CI (95%)
Year × PTSD status	0.27	0.23	1.36	1.31	[0.83, 2.07]
<i>Non-experimental Hard Drug Use^d</i>					
<i>Model 1</i>					
Year	-0.69	0.44	2.39	0.50	[0.21, 1.20]
Victimization status	1.27	0.42	9.14**	3.56	[1.56, 8.12]
Year × Victimization status	0.38	0.27	1.99	1.46	[0.86, 2.48]
<i>Model 2</i>					
Year	-0.26	0.41	0.43	0.77	[0.35, 1.69]
PTSD status	1.73	0.46	13.99***	5.64	[2.28, 13.96]
Year × PTSD status	0.10	0.29	0.11	1.11	[0.62, 1.99]

Note. N = 7,329; W = Wald statistic; OR = odds ratio; CI = confidence interval; PTSD = Posttraumatic Stress Disorder.

^dVariable represents use of any of the following drugs: cocaine, heroin or methadone, LSD or other hallucinogens (i.e., peyote or psilocybin), or inhalants (i.e., glue nitrous oxide, amyl nitrate, paint, or gasoline).

** p < .01.

*** p < .001.