

Adolescent health brief

The co-occurrence of substance use and high-risk behaviors

Arielle Baskin-Sommers^a and Ira Sommers, D.S.W.^{b,*}

^a*Brown University, Providence, Rhode Island*

^b*California State University-Los Angeles, Los Angeles, California*

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Abstract

Study findings suggest that alcohol and methamphetamine use heighten the risk for violence, multiple sexual partners, and unprotected sexual intercourse. Although the odds of engaging in risky behaviors increased dramatically with alcohol and methamphetamine use, the majority of subjects did not become involved in high risk behaviors even though they used alcohol and illicit drugs. © 2006 Society for Adolescent Medicine. All rights reserved.

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Substance use; High-risk behaviors; Alcohol; Methamphetamine; Intimate partner violence; Condom use

Late adolescence and young adulthood has often been characterized as a time of increased experimentation and exploration with a range of risky behaviors, including substance use. In turn, substance use has been implicated in increasing the likelihood for participation in risky behaviors. Substance use among adolescents and young adults has been shown to co-occur with a range of other risky behaviors including drinking and driving, sexual activity, violence, and suicide [1–8].

Research on substance use and risky behaviors, however, suffer from important methodological limitations. Many studies relied primarily on correlational data. Furthermore, measures of substance use and risk behaviors often were dichotomous and did not assess frequency of engagement. Finally, most studies focused solely on alcohol use and have not included illicit drugs.

The current study extends previous research by examining the co-occurrence of alcohol, marijuana, methamphetamine, and hallucinogen use with eight high-risk behaviors (carrying weapons, assault, partner violence, self-harm, multiple sexual partners, condom use, use of seatbelts, and speeding) in a sample of college students.

Methods

The sample

Recruitment methods

A total of 243 students from three universities in Los Angeles were surveyed. Recruitment flyers were posted at each university and described the research as a study on young adult health behaviors. The flyers included a telephone number to call about the study. Individuals aged 18–24 years were eligible to participate in the study. Potential research subjects were screened by the research staff, the study was explained in detail, and arrangements were made for administering the questionnaire. The questionnaires were completed in a private university office and were anonymous.

Subjects

The mean age of the participants was 21.41 years. Fifty-one percent were female. Slightly more than half (52.7%) identified themselves as Hispanic; the others were Caucasian (26.7%), African American (12.3%), and Asian (8.2%).

Measures

Demographics. (1) *Sex* is a dichotomy of male and female. (2) *Age* is coded as a continuous variable. (3) *Race* includes Caucasian, African American, Latino, and Asian.

*Address correspondence to: Dr. Ira Sommers, California State University, School of Criminal Justice & Criminalistics, 5151 State University Drive, Los Angeles, CA 90032.

E-mail address: isommer@calstatela.edu

Health risk behaviors

Substance use. Each respondent was asked if they ever used (i.e., yes/no) four specific substances (alcohol, marijuana, hallucinogens, and methamphetamine) during the previous six months. For each substance used, the study participants reported the frequency of use. Frequency of use was coded on a four-point scale (1 = < 6 times, 2 = 6–12 times, 3 = 13–18, to 4 = 18+).

Criminal violence. Respondents reported the frequency (continuous variable) of carrying a weapon (gun and/or knife), fighting with a stranger, and intimate partner violence during the previous six months.

Sexual risk-taking. Study participants reported the number of times that they had sexual intercourse without a condom outside of a long-term monogamous (i.e., a minimum of 12 months) relationship and the number of sexual partners they had during the prior six months.

Self-harm. Study members were asked if they had attempted to harm themselves (i.e., yes/no) during the prior six months.

Driving risks. Study participants reported the number of times they drove without a seatbelt, drove at least 10 miles over the speed limit, and drove while intoxicated in the prior six months.

Co-occurrence of substance use and risk behaviors. To ensure that substance use and risky behaviors occurred together, participants were asked to report on the use of specific substances while engaging in high risk behaviors. For each time the participants' engaged in a risky behavior,

Table 1
Number and percentage of participants reporting involvement in high-risk behaviors during the past six months (N = 243)

	n	%	Mean frequency ^a
Substance use			
Alcohol	205	84.3	3.42
Marijuana	70	28.8	2.10
Methamphetamine	31	12.8	2.96
Hallucinogens	19	7.8	1.05
Violence			
Carrying gun	11	4.5	1.27
Carrying knife	28	11.5	2.21
Assault	42	17.3	1.24
Partner violence	32	13.2	2.91
Self-harm	9	3.7	1.00
Sexual risk-taking			
Sexual intercourse	194	79.8	30.18
Multiple partners	140	72.2	2.45
Did not use condom	68	28.0	37.03
Driving risk behaviors			
No seatbelt	108	44.4	3.10
Speeding	206	84.8	20.00
DUI	46	18.9	1.94

^a Substance use mean frequencies are measured on a four-point scale. All other mean frequencies are measured as continuous variables.

Table 2
Co-occurrence of substance use with high-risk behaviors during the past six months

	Alcohol		Meth		Marijuana	
	n	%	n	%	n	%
Violence						
Carrying gun (n = 14)	2	14.3	1	7.1	1	7.1
Carrying knife (n = 62)	10	16.1	6	9.7	1	1.6
Assault (n = 52)	15	28.8*	4	6.5	2	3.8
Partner violence (n = 93)	35	37.6*	22	23.7*	4	4.4
Self-harm (n = 9)	2	22.2	2	22.2	0	0
Sexual risk-taking						
Multiple partners (n = 293)	123	41.6**	42	14.2*	11	3.7
No condom use (n = 2518)	745	29.6*	493	19.6**	73	2.9
Driving risk behaviors						
Drove without seatbelt (n = 335)	17	5.1	23	6.9	12	3.6
Drove at least 10 miles over						
Speed limit (n = 4120)	191	4.6	140	3.3	78	1.9
DUI (n = 89)	48	53.9	24	27.0	17	19.1

* $p < .01$; ** $p = .000$.

they were asked to specify if they used alcohol, marijuana, hallucinogens, and/or methamphetamine before and/or during involvement in the respective behavior.

Results

Respondents reported that they engaged in a wide range of high risk activities (Table 1). Of the 243 people in the sample, 25% had committed at least one violent act. Among those respondents who had sexual intercourse during the past six months (79.8%), 121 (62.4%) reported that they had multiple sexual partners during this time period and 35.1% (n = 68) indicated that they did not use condoms at least once during past six months.

Data reported in Table 2 highlight the co-occurrence of substance use with high-risk behaviors. Correlational analyses indicate that alcohol ($r = .21$) and methamphetamine ($r = .30$) use were related significantly to not using a condom. Similarly, alcohol ($r = .38$) and methamphetamine ($r = .28$) use were associated significantly with partner violence. Only alcohol ($r = .41$) use, however, co-occurred significantly with assault.

Logistic regression analyses (not shown) were conducted to determine which variables best predicted selected high-risk behaviors (coded yes or no). The results indicate a strong relationship between the co-occurrence of substance use and condom use, even when controlling for demographic, substance use frequency, and risk-taking (an additive scale comprised of driving without a seatbelt, speeding, carrying a gun, and carrying a knife). The odds of not using a condom were 7.214 for alcohol and 15.920 for methamphetamine. The odds of committing assault while using alcohol were 14.26 even when controlling for the other factors. The odds of

engaging in partner violence while using methamphetamine and alcohol were 14.368 and 6.552, respectively.

Discussion

Study findings suggest that alcohol and methamphetamine use heighten the risk for violence, multiple sexual partners, and unprotected sexual intercourse. These findings are consistent with previous research [6,9,10]. A possible explanation of these results is that alcohol and methamphetamine use may have had a disorganizing effect on the participants' cognitive functions. It is important to note that, although the odds of engaging in risky behaviors increased dramatically with alcohol and methamphetamine use, the majority of subjects did not become involved in high-risk behaviors even though they had used alcohol and illicit drugs. The complexity of the interaction of substance use and personality suggests the need for longitudinal research that can trace their mutual development and interaction across time. In addition, a larger and more representative sample of college and nonstudent subjects would enhance the generalizability of the findings.

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