

CORRELATES OF ECSTASY USE AMONG STUDENTS SURVEYED THROUGH THE 1997 COLLEGE ALCOHOL STUDY*

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ABSTRACT

Anecdotal reports have suggested that the use of 3,4-methylenedioxymethamphetamine (MDMA or “ecstasy”) is a growing problem across the United States, primarily among college students and rave attendees. To assess this contention, the drug-using behaviors of 14,520 college students were examined with data collected through the 1997 College Alcohol Study (CAS). Prevalence estimates of ecstasy use were generated and associations between ecstasy use, demographic characteristics, and alcohol and other drug (AOD) use were explored. Six percent of the sample reported lifetime ecstasy use, 3 percent reported use within the past 12 months, and 1 percent reported use within the past 30 days. Compared to non-users, 12-month ecstasy users were significantly more likely to be white, to be a member of a fraternity/sorority, and to have used *all* other drugs of abuse during the past 12 months. Implications for these findings are discussed.

INTRODUCTION

Recent findings within both the psychological and pharmacological literature suggest that MDMA ingestion is harmful to the body. While initial effects include feelings of peacefulness, acceptance, and empathy, ecstasy users can encounter problems similar to those experienced by amphetamine and cocaine users [1]. Psychological effects, which can linger for weeks after ingestion, include anxiety, depression, insomnia, memory loss, and paranoia [2, 3]. Physical effects include

*The data for this study were obtained via the Web site of the Inter-University Consortium for Political and Social Research (ICPSR) at the University of Michigan (www.icpsr.umich.edu).

blurred vision, involuntary teeth clenching, muscle tension, nausea, and sweating [1, 4]. While the long-term neurotoxic effects of ecstasy use are just now being investigated, initial evidence suggests that permanent serotonin depletion can result from MDMA ingestion [5, 6].

College Student Ecstasy Use

Anecdotal reports have suggested that the use of ecstasy is a growing problem across the United States [7, 8], primarily among college students and rave attendees. Empirical support for these contentions, however, is lacking in scholarly social science literature. As shown in Table 1, only four ecstasy-related studies have been conducted with college student populations [9-12]. Peroutka estimated the prevalence of recreational ecstasy use by surveying a random sample of undergraduate students at Stanford University [9]. Of the 369 students interviewed, 39 percent reported using ecstasy at least once [9]. Meilman et al. surveyed a random sample of undergraduate students at a rural New England University in 1987 [10]. Only 6 percent of the students reported ecstasy use during the 12 months preceding the interview, and none of the students used it more frequently than once a month [10]. Cuomo and Dymnt conducted a study of drug use among undergraduate students at Tulane University in 1990 and compared the results to data collected in 1986 [11]. The lifetime use of ecstasy increased from 16 percent in 1986 to 24 percent in 1990 [11]. Webb et al. explored alcohol and other drug (AOD) use among a sample of 3,075 college students from 10 universities in England [12]. While 20 percent of the students reported using marijuana at least once a week, only 3 percent of the sample used ecstasy at least once a week [12].

While these studies offer preliminary insight into the prevalence of ecstasy use among college students, none have attempted to identify correlates of ecstasy

Table 1. Summary of Ecstasy-Related Studies with College Student Populations

Author(s)/ year of publication	Country	Findings
Peroutka (1987)	United States	39% reported lifetime MDMA use
Meilman et al. (1990)	United States	6% reported 12-month MDMA use
Cuomo and Dymnt (1994)	United States	Lifetime MDMA use increased from 16% in 1986 to 24% in 1994
Webb et al. (1996)	England	3% used MDMA at least once a week

use among members of this population. Such research is warranted given the anecdotal evidence suggesting that college students may be at high risk for ecstasy ingestion. To address this limitation, the drug-using behaviors of 14,520 college students are examined with data collected through the 1997 College Alcohol Study (CAS). With this preliminary framework, project methods are described below.

METHODS

The CAS focused on AOD use and associated problems among undergraduate students in the United States. All full-time undergraduate students at four-year colleges or universities in the United States were eligible for inclusion. Using probability sampling proportionate to the size of the institution, colleges were selected from the American Council on Education's list of accredited universities. In 1993, the CAS was administered to a random sample of 17,592 students at 140 institutions [13]. In 1997, 130 of the original 140 colleges were resurveyed. A total of 14,520 students participated in this second round of collection [13].¹

Respondents were asked if they had *ever* used any of the following drugs: alcohol, amphetamines, barbiturates, cigarettes, crack and powder cocaine, ecstasy (MDMA), heroin, lysergic acid diethylamide (LSD), marijuana, phen-cyclidine (PCP), tobacco, and tranquilizers. For those drugs respondents reported having ever used, they were asked to indicate age of first use and whether they had used the drug within the past 12 months and the past 30 days [13]. Students were also asked about social activities, sexual behaviors, drunk driving, and their school's alcohol policies and programs. Finally, demographic data, including gender, race, age, marital status, religion, class rank, living arrangements, and fraternity/sorority affiliation, were collected.

RESULTS

Data analysis was accomplished in three phases. First, descriptive statistics were generated. Second, estimates of lifetime, 12-month, and 30-day ecstasy use were calculated. Third, the sample was divided into ecstasy users and non-users based on self-reported use of the drug within the past 12 months. Chi-square statistics were used to detect significant associations between ecstasy use, demographic characteristics, and AOD use.

Demographic Characteristics

As shown in Table 2, a majority of the students were female (60 percent), white (78 percent), and had never been married (89 percent). The sample was evenly distributed by class rank. Fourteen percent of the sample reported being a member of a fraternity or sorority.

¹ The 1997 data are the most recent College Alcohol Study data publicly available.

Table 2. Demographic Characteristics
(*N* = 14,520)

Variable	Frequency
Sex	
Female	60%
Race	
White	78%
Hispanic	8%
Asian/Pacific	8%
Black	5%
Other	1%
Class rank	
Freshman	23%
Sophomore	21%
Junior	23%
Senior	22%
Fifth-year undergraduate	11%
Mean age (in years)	21.0
Greek affiliation	
Fraternity/sorority member	14%
Marital status	
Never been married	89%
Married	9%
Divorced, separated, widowed	2%

Self-Reported Ecstasy Use

Figure 1 displays self-reported lifetime, 12-month, and 30-day use of ecstasy. As shown, 6 percent of the sample reported using ecstasy at least once during their lifetime. Three percent reported using ecstasy within the past 12 months, while only 1 percent reported use within the 30 days preceding the interview.

Correlates of Ecstasy Use

Table 3 presents a comparison between self-reported 12-month ecstasy users (*n* = 389) and those students who reported no 12-month ecstasy use (*n* = 14,131). Compared to non-users, past-year ecstasy users were significantly more likely to be white (85 percent v. 77 percent, $p < 0.001$), to be a member of a

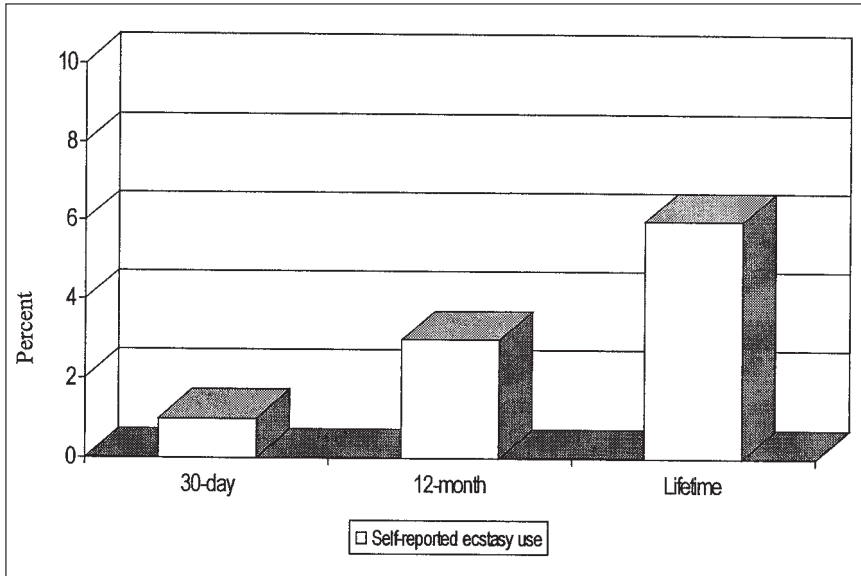


Figure 1. Ecstasy use among students surveyed through the College Alcohol Study ($N = 14,520$)

fraternity/sorority (18 percent v. 14 percent, $p < 0.05$), and to have used *all* other drugs of abuse during the past 12 months, including alcohol (99 percent v. 79 percent, $p < 0.001$), marijuana (92 percent v. 26 percent, $p < 0.001$), LSD (46 percent v. 3 percent, $p < 0.001$), PCP (60 percent v. 5 percent, $p < 0.001$), and powder cocaine (43 percent v. 2 percent, $p < 0.001$).

COMMENTS

Data for the current analysis were collected in 1997 from a sample of 14,520 college students surveyed through the College Alcohol Study. Six percent of the sample reported lifetime ecstasy use, 3 percent reported use within the past 12 months, while only 1 percent reported use within the past 30 days. These prevalence estimates are considerably lower than those found among juvenile offenders [14] and rave attendees [15], but comparable to those found in non-delinquent youthful populations [16-18].

Compared to non-users, past-year ecstasy users were significantly more likely to be white, to be a member of a fraternity/sorority, and to have used *all* other drugs during the past 12 months, including marijuana, LSD, PCP, and powder cocaine. The relationship between ecstasy use and the use of alcohol and other drugs

Table 3. Comparisons of 12-Month Ecstasy Users to Non-Users
(*N* = 14,520)

	12-month users (%) (<i>n</i> = 389)	Non-users (%) (<i>n</i> = 14,131)
Sex		
Female	60	58
Race		
White	85*	77*
Greek affiliation		
Fraternity/sorority member	18**	14**
Alcohol and other drug use		
12-month alcohol use	99*	79*
12-month cigarette	78*	38*
12-month marijuana use	92*	26*
12-month LSD use	46*	3*
12-month PCP use	60*	5*
12-month powder cocaine use	43*	2*
12-month crack cocaine use	8*	<1*
12-month heroin use	8*	<1*
12-month amphetamine use	40*	3*
12-month barbiturate use	26*	2*
12-month tranquilizer use	32*	2*

*Chi-square significant at the $p < 0.001$ level.**Chi-square significant at the $p < 0.05$ level.

mirrors results from other studies of youthful respondents [14-18], and suggests that ecstasy-using college students are significantly more likely to use other drugs than their non-ecstasy-using counterparts. There appears to be, therefore, a link between ecstasy ingestion and the use of other licit and illicit drugs.

Rational drug prevention programs should identify target populations and attempt to address issues within them. The race findings in the current study are consistent with previous works that have identified the use of ecstasy as primarily a white phenomenon [14-21]. Given these findings, ecstasy education and prevention programs might benefit from greater sensitivity to racial differences, perhaps extending to different interventions for different ethnic groups. Schools comprised primarily of white students, for example, would likely benefit from ecstasy education programs considerably more than schools whose racial composition is mixed or predominantly non-white. Moreover, the association

between ecstasy use and Greek affiliation poses an interesting dilemma for university administrators. Compared to non-users, past-year ecstasy users were significantly more likely to be a member of a fraternity or a sorority. Prevention specialists on college campuses should consider focusing their efforts on Greek organizations. Such interventions might involve, for example, ecstasy-specific education classes for all Greek members. Such classes could take place prior to initiation and continue throughout the student's tenure in the fraternity or sorority.

There are two major areas for future research. The extent to which the college students in the current study are polydrug users is difficult to know. Future research should consider inquiring about patterns of ecstasy ingestion. Questions could be posed about the extent to which users typically use ecstasy with alcohol or other drugs and the extent to which users seek out ecstasy cut with other drugs. Moreover, no research has explored ecstasy's place in the drug-using pathway [22, 23]. Such an analysis, however, can only be undertaken with younger respondents. Because ecstasy's availability has increased only recently, older respondents may not have had the drug as an option when they first experimented with alcohol and tobacco. Analyzing ecstasy's place in the drug-using pathway theory can only take place with respondents who are young enough to have recently begun their experimentation with alcohol or other drugs.

It is important to note that media accounts of an ecstasy "epidemic" are premature. Findings generated from several populations suggest that the prevalence of recent ecstasy use is low relative to other drugs of abuse [24]. Nevertheless, the *stability* of ecstasy's prevalence is a matter for future scientific research. It is therefore important for national drug surveillance systems, like the Arrestee Drug Abuse Monitoring (ADAM) Program, Drug Abuse Warning Network (DAWN), Monitoring the Future (MTF), and the National Household Survey on Drug Abuse (NHSDA), to continue to track ecstasy's prevalence. These systems provide the foundation for drug use monitoring in the United States and are as important for drugs with high prevalence levels as they are for drugs whose popularity is low.

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