

THE 1996 HEALTH SERVICES SURVEY:

**SUBSTANCE USE AND ABUSE
AMONG UMASS BOSTON STUDENTS**

A report to the PRIDE Program, UMass Boston Health Services.

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Executive Summary

The 1996 Health Services Survey was designed by students in Methods of Research I, Graduate Program in Applied Sociology. It was mailed to a stratified random sample of UMB undergraduates in 1997 and achieved a 65% response rate.

- The survey identified 27% of respondents as at risk of substance abuse. However, 31% of respondents had engaged in binge drinking (4 or more drinks in a row) at least once in the past 2 weeks.
- A total of 19% had used any illicit drug at least a few times in the past year.
- Rates of substance abuse were somewhat lower at UMassBoston than among nationally selected samples of college students.
- Two-thirds of the respondents reported at least one close family member whose drinking or drug use had ever been of concern to them—one third reported a high level of concern.
- Most students perceived substantial risk of harm due to illicit drug use, but just one quarter thought alcohol use posed a great risk of harm.
- Among students who did not abstain from substance use, most reported using alcohol or drugs for fun. "Taste" was a reason to drink alcohol for two-thirds of users, while it was a factor for one-third of the drug users. Escaping from problems was a reason for about two in five users of both alcohol and drug users.
- Most respondents reported at least one positive experience after using alcohol or other drugs (like feeling more relaxed), while 42% reported at least one negative experience (like nausea or a hangover).
- More than one-third of the respondents (36%) reported that they abstained from both alcohol and drugs. Another 40% said that they abstained from drug use only, while just 3% said they abstained from only alcohol use.
- Reports of alcohol and illicit drug use at UMB had declined by modest amounts since 1989, but there was no change in the prevalence of tobacco use.

- The risk of substance abuse decreased with age, was higher among those who had never married or were separated, and was higher among white students than students of color. Men were more likely to report binge drinking than women and drug use was more common among those with no religious preference.
- Risk of substance abuse was associated with: fewer strategies for dealing with stress; lower levels of self control; and more symptoms of depression.
- Perceived risk of health and other problems to others due to substance use was a very strong negative correlate of risk of substance abuse.
- Over half (57%) of the respondents knew that UMass Boston had policies about alcohol and drug use and had a drug/alcohol prevention program.
- Just over one in five respondents had participated in at least one campus-based prevention activity.
- About half of the respondents were interested in various prevention activities. Fourteen percent said they would like to be actively involved in campus-based prevention efforts.
- The main predictor of interest in prevention activities was level of concern with substance abuse by a family member.

Introduction

Binge drinking, other forms of alcohol abuse, and illicit drug use create numerous problems on college campuses. Deaths from binge drinking are too common and substance abuse is a factor in as many as two-thirds of on-campus sexual assaults (Finn, 1997; National Institute of Alcohol Abuse and Alcoholism, 1995). College presidents now rate alcohol abuse as the number one campus problem (Wechsler, Davenport, Dowdall, Moeykens, & Castillo, 1994) and many schools have been devising new substance abuse prevention policies and programs. However, in spite of increasing recognition of and knowledge about substance abuse problems at colleges as a whole, little attention has been focused on substance abuse at commuter schools.

This report presents findings from a survey about substance use and abuse at the University of Massachusetts Boston, an urban commuter university of 13,000 students. The survey methodology was similar to that used in recent large national studies, so that the survey findings can be compared to those obtained at other schools. The UMass Boston study focused particular attention on student knowledge about and interest in prevention programs and so may help to inform the development of these programs in other schools.

Growing awareness of problems due to substance abuse among college students has stimulated many campus-based prevention

activities and some systematic research. University Health Services at UMass Boston began the PRIDE prevention program in 1989. In that same year, Health Services sponsored the first survey of student substance abuse. The UMass Boston Center for Survey Research mailed surveys to a representative sample of students and prepared a comprehensive report on student substance abuse. Since that first survey, Health Services has used the short form of the Core Institute's Alcohol and Drug Survey to monitor student substance abuse. All students receive this questionnaire each fall in their registration packets and about, typically, about 1000 return it. Data from these annual surveys are analyzed and reported by the Core Institute at Southern Illinois University.

In 1996, Health Services sponsored a second comprehensive survey of student substance abuse in collaboration with the Graduate Program in Applied Sociology. This report presents the 1996 survey results, in order to:

- describe the proportion of students who are at risk of substance abuse at UMass Boston;
- identify risk factors and motivations for substance abuse;
- compare substance abuse at UMass Boston in 1996 with the results of previous surveys and national samples;
- assess experience with and interest in campus-based prevention programs.

The 1996 Health Services Survey

The 1996 Health Services Survey was designed in the Fall, 1996 by students in Professor Russell Schutt's Methods of Research seminar in the Graduate Program in Applied Sociology. Much of the survey was modeled after the CORE survey and the survey designed in 1989 by Tony Roman for the University's Center for Survey Research. Linda Jorgensen, Director of the University's PRIDE Program, helped to shape questionnaire development, and numerous sociology faculty consulted with students on instrumentation.

Questionnaires were mailed to a random sample of UMass Boston undergraduates, stratified by year in school. After followup calls and mailings, 482 students returned their questionnaires, for a response rate of 65% (after excluding students with incorrect addresses). (See the appendix for details.)

Substance abuse was assessed with questions to indicate the quantity and frequency of drinking and the experience of problems due to drinking. One question identified binge drinking as the frequency of drinking four or more drinks in one sitting in the past two weeks. A composite index, risk of substance abuse, identifies students as at risk of substance abuse if they report at least two of the following: drinking four or more drinks in a row at least twice in the past two weeks; using marijuana, cocaine, or other illicit drugs at least a few times in the past

year; or, after using alcohol or other drugs, experiencing a hangover/nausea, missing scheduled activities, engaging in sex that was regretted, regretting having used substances, getting in trouble with officials, or feeling depressed or bad about myself. In addition to questions about substance abuse among students, questionnaire included items on substance abuse involving friends and family, experience with and interest in substance abuse prevention services, and measures of depression, self-control, social support, self-efficacy, physical health. Several questions were also included to measure such social background characteristics as age race, sex, marital and family status, religious affiliation, and employment status. (See the appendix for details.)

There have been two major recent national studies to examine substance use among college students. Wechsler et al. (1994) surveyed 17,096 respondents from 140 colleges in 1993. (Wechsler and associates will soon release findings from a more recent college survey). The Core Institute (Presley et al., 1996) coordinates surveys at more than 77 colleges nationwide, with the dataset obtained from 1991 to 1993 alone including 41,667 student respondents. We use data from these surveys for comparative purposes.

Substance Use and Abuse at UMass Boston

The many indicators of experiences with substance use and abuse in the survey provide a comprehensive picture of the extent of the problem at UMass Boston.

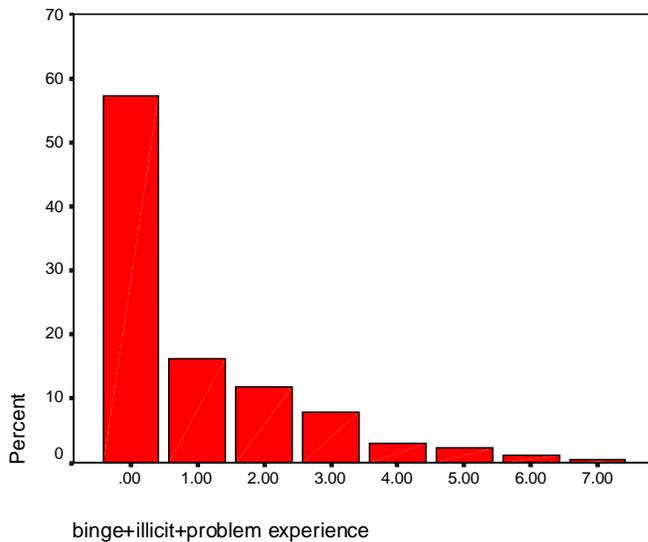
Current Level of Use & Abuse

The composite index identifies 27% of respondents as at risk of substance abuse (an index score of 2 or higher).¹ (exhibit 1) One-quarter reported having smoked or used smokeless tobacco in the past two weeks.

27% of respondents were identified as at risk of substance abuse.

Exhibit 1

Overall Risk of Substance Abuse

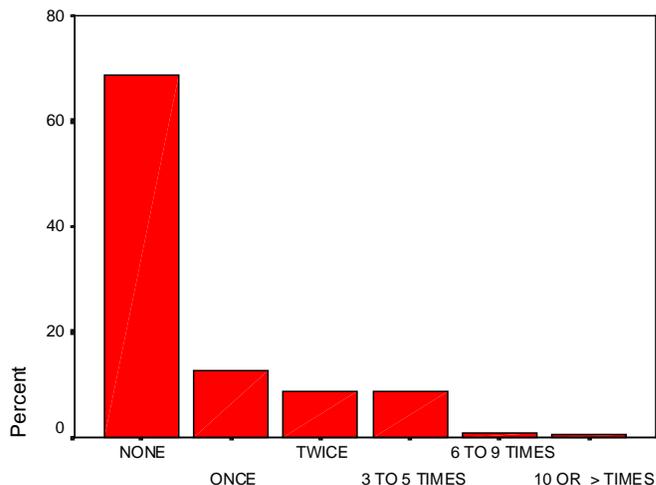


¹ 33% are classified as at risk of substance abuse when cases without valid data on the problem index are excluded (see appendix).

Binge Drinking

Binge drinking was common. About one of every three respondents (31%) had drunk four or more drinks in a row at least once in the past two weeks, while 19% had done so at least twice and 10% at least three times. (exhibit 2) Only 27% of students reported they had never used alcohol. One in every five had used alcohol more than four times a month.

*Exhibit 2
Binge Drinking*



Past two weeks: four or more drinks in a row?

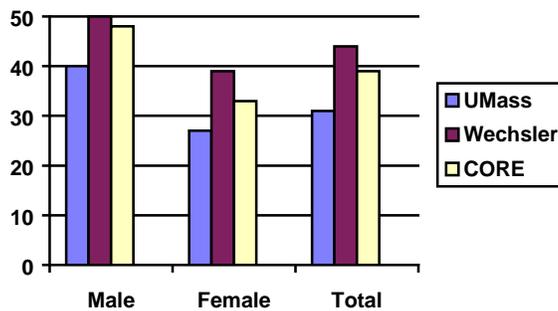
The Wechsler and Core surveys yielded similar estimates of binge drinking (44% and 39%), and both estimates were higher than that obtained at UMass Boston (31%), even though the UMassBoston measure used a somewhat more lenient criterion than that used by Wechsler and the Core Institute (4 drinks in one sitting for both men and women rather than five drinks in one sitting for men and four for women) (exhibit 3). When binge drinking estimates are examined by gender, the comparisons still suggest that binge

Binge drinking is less common at UMassBoston than in national samples of college students.

drinking is less common at UMassBoston than in the national samples of college students. Forty percent of men at UMassBoston were estimated to be binge drinkers, compared to national estimates of 50% by Wechsler and 48% by the Core Institute; 27% of women at UMassBoston were estimated to be binge drinkers, compared to national estimates of 39% by Wechsler and 33% by the Core Institute.

Exhibit 3

Binge Drinking by Gender in Three College Surveys (%)



The rate of abstinence from alcohol use was higher at UMass Boston than in the national student samples. Twenty-seven percent of UMB students said they abstained from alcohol use, compared to 16% in the Wechsler sample and 15% in the CORE sample.

Illicit Drug Use

One-third of students had used marijuana at some time, but just 18% had used marijuana at least a few times in the past year

(exhibit 4). Eight percent reported marijuana use as often as 1-4 times a month in the past year.

Nine percent of respondents reported ever using cocaine and just 4% reported use at least a few times in the past year. Other illicit drug use was also reported by 9% of the respondents, with just 2% reporting use of other illicit drugs as often as a few times in the past year. A total of 19% had used any illicit drug at least a few times in the past year, but just 3% had done so at least once per month.

Exhibit 4

Frequency of Alcohol and Drug Use

	6 Past year self use alcohol	8 Past year self marijuan a use	0 Past year self cocaine/c rack use	2 Past year other illicit substanc es self use
	%	%	%	%
1 never	27.0%	70.8%	91.0%	91.2%
2 not in past year	4.7%	11.6%	5.4%	6.6%
3 a few times in past year	22.6%	9.4%	1.9%	1.3%
4 1-4 times a month	25.7%	3.0%	1.1%	.4%
5 more than 4 times a month	20.0%	5.2%	.6%	.4%

Change over time

There are indications of modest declines in the level of substance use since 1989.

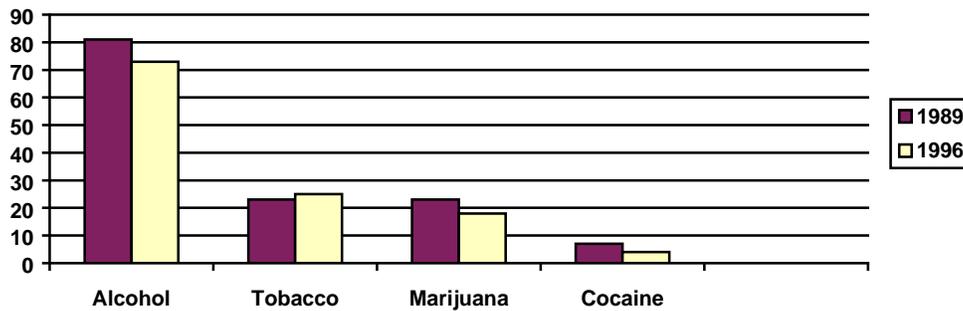
Comparisons with previous surveys of UMassBoston students suggest some modest

changes in the level of substance use since 1989 (exhibit 5). In

the annual UMB CORE surveys, the level of binge drinking estimated each year is about 20%. This is lower by 10% than the 1996 estimate, but it is based on the more stringent criterion of five or more drinks at one sitting in the past two weeks. The percentage of students who report any use of alcohol in the past year is about 10 percentage points lower in the 1996 survey (73%) than in the 1989 CSR survey (81%), (the annual CORE surveys have also yielded estimates of any drinking of about 80%). The rate of tobacco use has been similar in the annual CORE surveys, the 1989 CSR survey, and the 1996 survey--approximately 25 percent.

There are some indications of decline in the level of drug use and in the level of reported problems due to substance abuse from 1989 to 1996. Rates of marijuana and cocaine use had changed by small amounts. Compared to the 1989 CSR survey, marijuana use in the past year was down by 5 percentage points (from 22.8% to 17.6%) and cocaine use had declined by 4 percentage points (from 7.4% to 3.6%). The likelihood of run-ins with police due to substance use changed from 2.2% to 1.4% from 1989 to 1996; the likelihood of missed classes due to substance use was 10.2% in 1996 compared to 14.4% in 1989; engaging in behavior that was later regretted declined from 18.8% to 15.1%; reports of being taken advantage of sexually declined from 8.8% to 6.8%; and reports of being hung over or experiencing nausea declined from 48.9% to 38.9%.

Exhibit 5

Any Use of Substances in 1989 and 1996**Social Background and Substance Abuse**

Students who were white, younger, and never married or separated were more at risk of substance abuse than those who were Asian, African-American, or Hispanic, older, and married or divorced. Almost one-third of white students were classified as at risk of substance abuse, compared to 13-18% of Asian, Black and Hispanic students. Students under the age of 36 were also much more likely to be classified as at risk of substance abuse (about 30%) than were students 36 or older (about 10%). About one-third of students who had never married or who were separated were at risk of substance abuse, compared to about 15% of those who were married or divorced (and none of the 10 students who were widowed). Risk of substance abuse did not vary appreciably with student gender, income, year in school, religion, veteran status, or employment status.

Students who were white, younger, and never married or separated were more at risk of substance abuse than those who were Asian, African-American, or Hispanic, older, and married or divorced.

The patterns of association with substance abuse differed somewhat for

alcohol and other drugs. Men were more likely to report binge drinking at least twice in the past two weeks (25%) than were women (15%), but drug use did not vary by gender. There was no association of binge drinking with family income. However, students whose family incomes were under \$15,000 or above \$60,000 were more likely to report illicit drug use (23-25%) than those whose family incomes were between \$15,000 and \$60,000 (8-16%). Students who reported no religious preference were more likely to report drug use (27%) than students who identified a religious preference (12-19%).

Experiences of family and friends

Respondents reported higher levels of substance use by their closest friends ("the ones you most frequently socialize with") than by themselves (exhibit 6). Only 18% said their closest friends had not used alcohol in the past year and 58% reported their closest friends had used alcohol at least once per month.

Marijuana use was reported among close friends by 44%, with 18% reporting marijuana use by their close friends at least once per month. Use of other illicit drugs was reported as only slightly more prevalent among close friends than among the

respondents themselves. Six percent of close friends had used cocaine at least a few times in the past year and 8% had used some other illicit drugs at least that often.

Exhibit 6

Frequency of Alcohol and Drug Use by Friends

	Past year friends use of alcohol	Past year friends use of marijuana	Past year friends use cocaine/crack	Past year friends use other illicit substances
	%	%	%	%
1 never	18.4%	56.1%	86.7%	84.4%
2 not in past year	2.2%	8.1%	7.0%	7.3%
3 a few times in past year	21.2%	17.9%	3.9%	5.7%
4 1-4 times a month	29.4%	7.9%	1.1%	2.0%
5 more than 4 times a month	28.8%	9.8%	1.3%	.7%
Total	100.0%	100.0%	100.0%	100.0%

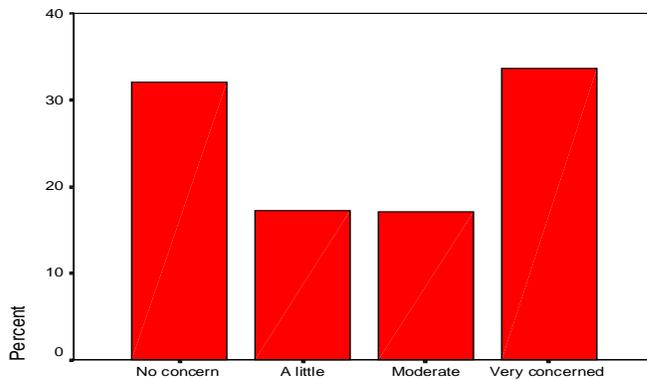
One-third of the respondents reported at least one family member whose substance use they had been very concerned about.

Many students were concerned about drinking or drug use among family members

(exhibit 7). Two-thirds of the respondents had at least one close family member whose drinking or drug use had ever been of concern to them. One-third of the respondents reported at least one family member whose substance use had been a matter of much concern.

Exhibit 7

Maximum Concern with Family Member Substance Use



Maximum Concern with Family Drinking, Drugs

Siblings were the most likely to have been the object of such concern, with 53% having warranted at least a little concern and 32% having been the object of at least moderate concern about drinking or drug use at some time (exhibit 8). Fathers were more likely to have been an object of concern than mothers: 30% of fathers had been the object of at least moderate concern, compared to 22% of mothers.

Exhibit 8

Concern with Substance Use by Specific Family Members

	Concerned mother/st epmother drink/drug use	Concerned father/st pfather drink/drug use	Concerned brother/si ster drink/drug use	Concerned grandpar ent drink/drug use	Concerned for child drink/drug use
	%	%	%	%	%
1 no concern	72.5%	60.1%	47.4%	83.1%	84.1%
2 a little concern	5.7%	10.4%	20.4%	6.0%	2.6%
3 moderate concern	7.1%	11.1%	15.1%	3.9%	2.1%
4 very concerned	14.6%	18.4%	17.2%	7.0%	11.1%

Attitudes Toward Substance Abuse

Students believed the risks of alcohol and marijuana use to be much lower than risks from use of cocaine and other illicit drugs.

About nine in ten students thought that people were at great risk of harming themselves physically and in

other ways if they used cocaine/crack or other illicit drugs (exhibit 9). Students believed the risks of alcohol and marijuana use to be much lower. Just over one quarter of respondents (28%) thought alcohol use posed a great risk of harm, while 38% thought marijuana use posed a great risk. On the other hand, only 3-4% thought that alcohol and marijuana risk posed no risk at all. The average (mean) score on the perceived risk was 3.4 (with 4 indicating great risk).

Exhibit 9

Perceived Risk of Harm from Substance use

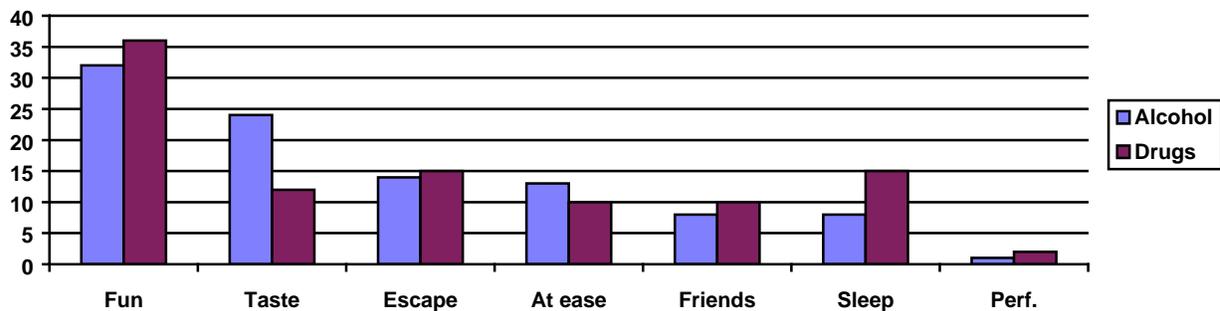
	Perceived others risk from alcohol use	Perceived others risk from marijuana use	Perceived others risk from cocaine/crack use	Perceived others risk from other illicit substances
	%	%	%	%
1 no risk	2.8%	4.3%	1.3%	1.3%
2 slight risk	21.6%	23.2%	1.3%	2.0%
3 moderate risk	47.6%	34.9%	5.9%	8.8%
4 great risk	27.7%	37.5%	91.5%	87.9%
Total	100.0%	100.0%	100.0%	100.0%

Reasons for Substance Use

Those respondents who did not abstain from alcohol use (76 students) reported that they used alcohol for a variety of reasons (exhibit 10). Most who used alcohol (90%) said they did so for fun and two-thirds said they did so because they liked the taste. Just over one-third of the alcohol users mentioned as a reason for their use relieving problems and being more at ease in a group. About one-quarter of respondents reported that they used alcohol because their friends did or to help sleep or calm down. Use of alcohol to enhance performance was rare.

Exhibit 10

Reasons for Alcohol & Drug Use (%)



Drugs were used much less often than alcohol and the reasons given for doing so were somewhat different. Drug users almost universally reported doing so for fun. The next most popular reasons, reported by 80%, were to escape problems, be more at ease and help sleep or calm down. Just under one-third used drugs to be at ease, because their friends did, or because they liked the taste. Few used drugs to enhance performance.

Experiences with Alcohol and Other Drugs

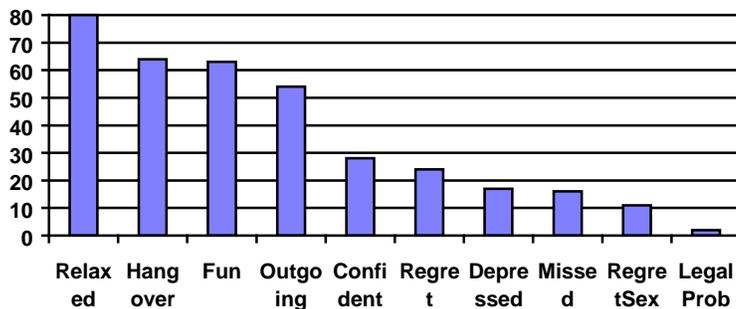
The most common negative experience, reported by almost two-thirds of the users, was a hangover or nausea.

Students reported many negative experiences after using alcohol or

other drugs (exhibit 11). The most common negative experience, reported by almost two-thirds of the users, was a hangover or nausea. Between 10 and 24 percent reported regretting using alcohol or other drugs, feeling depressed or bad about themselves, missing some activity, or engaging in sex that they regretted. Just 2% had had trouble with campus officials.

In spite of these negative experiences, students also identified some positive experiences due to using substances. The most common experience, by 80% of users, was feeling more relaxed. More than half reported having more fun and being more outgoing, although only about one-quarter felt more confident.

*Exhibit 11
Experiences with Alcohol and Other Drugs (%)*



Counting up their separate experiences, 56% of respondents reported at least one positive experience after using alcohol or

other drugs, while 42% reported at least one negative experience (exhibit 12). A total of 39% of respondents reported none of the positive or negative experiences mentioned, 38% had experienced both positive and negative experiences, and 18% had had positive experiences but no negative experiences. Just 5% had had negative but no positive experiences after alcohol or drug use.

Exhibit 12
Experiences with Substances

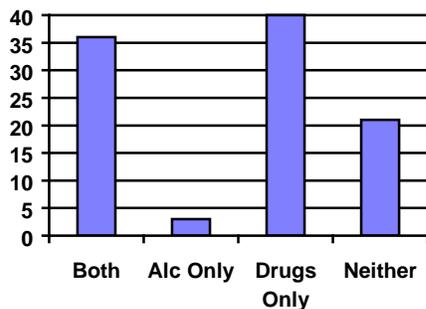
Pos. & Neg. Experiences with Substances

% of Total		POSEXPER		Total
		No	Yes	
NEGEXPER	No	39.3%	18.5%	57.8%
	Yes	4.7%	37.5%	42.2%
Total		44.1%	55.9%	100.0%

Abstaining from Substances

Just over one-third of the respondents said they abstained from alcohol and drugs (exhibit 13). Forty percent said they only abstained from drugs; 3% said they abstained only from alcohol. About one in five said they abstained from neither.

Exhibit 13
Abstaining from Alcohol and/or Drugs (%)



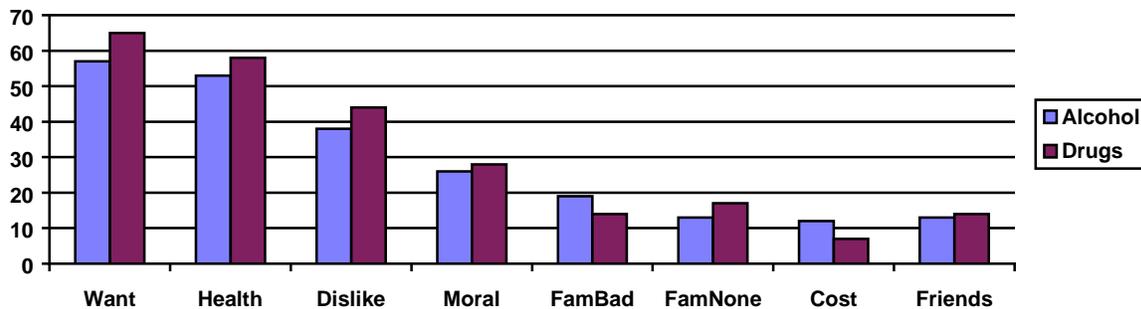
Of those who abstained from either alcohol or drugs, the majority (53%) did so to protect personal health (exhibit 14).

Of those who abstained from either alcohol or drugs, the majority (53%) did so to protect personal health

(exhibit 14). About 38% abstained due to not liking the effects and about 26% cited their religious or moral beliefs. Nineteen percent referred to negative effects they had seen in their families. Financial reasons, friends who don't use, and being in recovery were less common reasons for abstaining from alcohol use.

Exhibit 14

Reasons for Abstaining from Alcohol & Drugs



The distribution of reasons for abstaining from drug use was similar to that for abstaining from alcohol use.

Stress, Feelings, and Substance Abuse

Students who reported fewer strategies for dealing with stress were more at risk of substance abuse. Those with lower levels of self-control also were more at risk of substance abuse. More than one-third (36%) of those with a low level of self-control were classified as at risk of substance abuse, compared to one in five (21%) of those with a high level of self-control.

Depressed feelings also were associated with higher levels of substance abuse. Of those with lower depression index scores, 22% were at risk of substance abuse, compared to 35% of those with a high depression score. Those with higher depression scores were more likely to report binge drinking, by 8 percentage points, and to report illicit drug use, by 7 percentage points, than were those with lower depression scores.

Those who perceived great risk of harm due to substance abuse were less likely to be substance abusers themselves. Over one-third (34%) of those who perceived less than great risk of harm to people from substance use were themselves at risk of substance abuse, while just 13% of those who perceived great risk due to substance use were at risk of substance abuse themselves.

Risk of substance abuse, binge drinking and use of illicit drugs were not associated with perceived social support, feelings about physical health, or belief in being unfairly blamed for things.

Campus Substance Use Policies and Programs

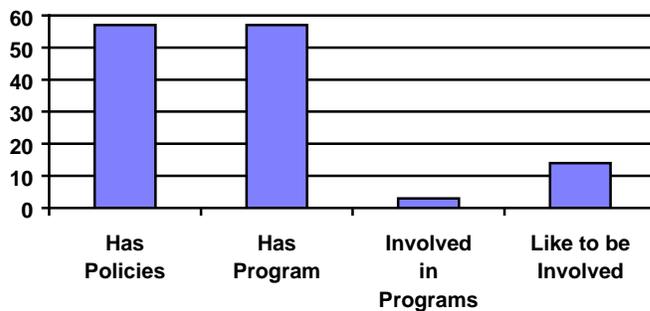
Respondents indicated little involvement in campus prevention activities but much interest in them.

Respondents indicated little involvement in campus prevention activities but much interest in them. Over

half (57%) of the respondents knew that UMass Boston had policies about alcohol and drug use and had a drug/alcohol prevention program (exhibit 15). However, only 3% reported being actively involved in prevention programs on campus.

Exhibit 15

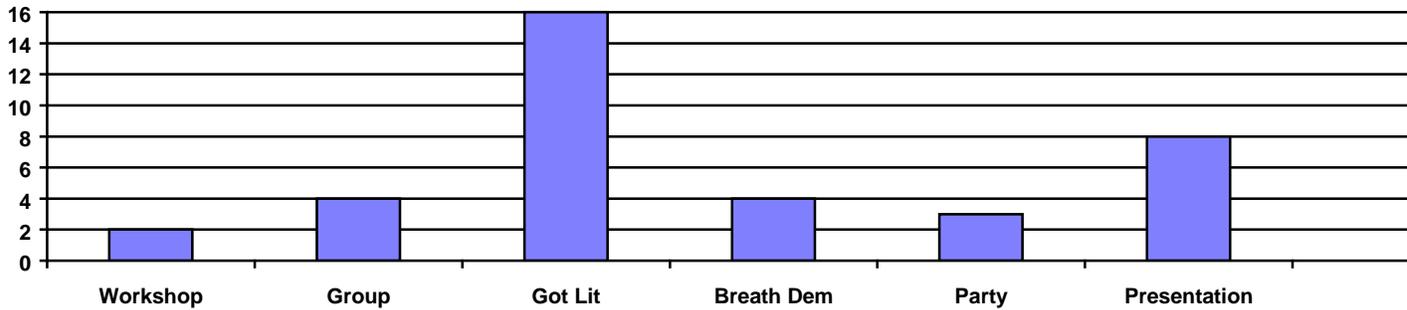
UMB Prevention Activities: Knowledge and Involvement



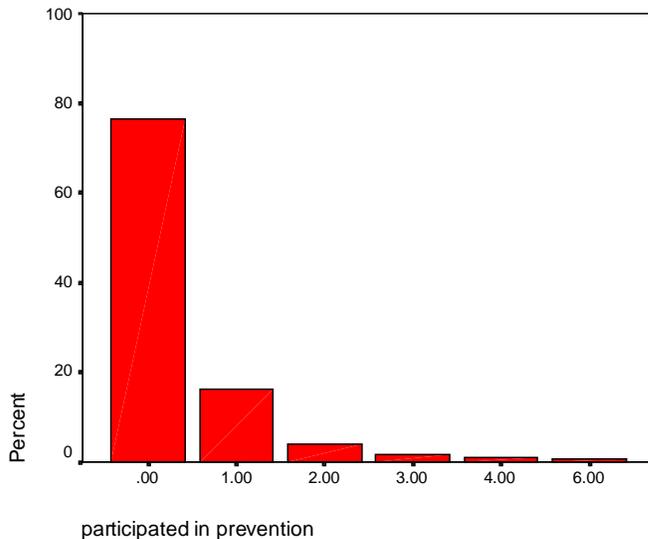
Participation in particular prevention activities varied from 16% who had picked up literature on campus to 8% who had attended a classroom presentation on alcohol and drug issues and between 2-4% who had participated in campus-based support groups, substance abuse workshops, or special prevention events (exhibit 16).

Exhibit 16

Participation in Prevention Activities (%)



In total, just over one in five respondents had participated in at least one prevention activity.

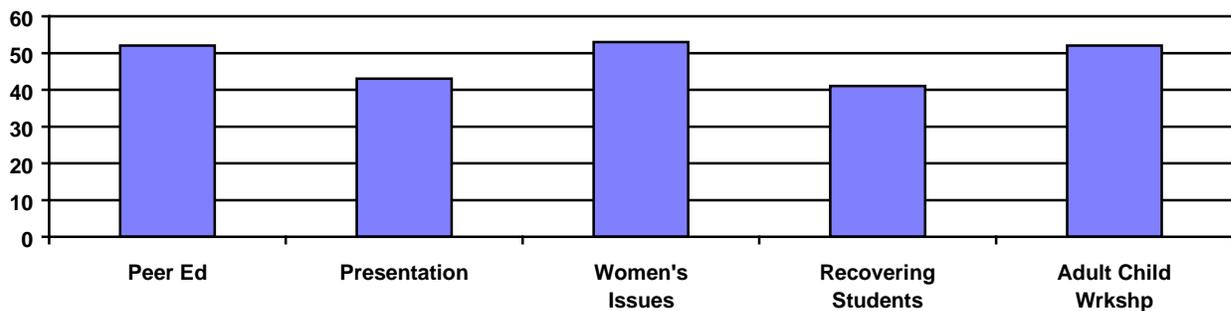


Interest in prevention activities was much higher than past participation. Support for particular campus-based prevention activities varied between 47% and 59% for peer education training, classroom presentations, workshops on women’s substance abuse issues, connecting with other students in recovery, and

workshops about adult children of alcoholics (exhibit 17). Fourteen percent of the respondents said they would like to be actively involved in efforts to prevent drug and alcohol use problems at UMassBoston [exhibit 15].

Exhibit 17

Interest in Prevention Activities (%)



Correlates of Knowledge, Participation, and Interest in Prevention

Knowledge, participation, and interest in campus-based prevention activities varied with concern about substance abuse by a family member, with depressed feelings, with risk of substance abuse, and with ethnicity, marital status, and income. Knowledge of campus substance abuse policies tended to be higher among those who scored higher on the index of depressed feelings and those who had experienced more stress in the past year. Both of these variables also were associated with higher risk of substance abuse, although risk of substance abuse itself was not associated with policy knowledge. In addition, those who were

more concerned with family members' substance abuse were more knowledgeable about campus substance abuse policies.

Respondents who were at risk of substance abuse were more likely than others to have participated in prevention activities (32% to 21%). Participation in prevention activities was not associated with a report of binge drinking, but it was associated with prior use of illegal drugs. Students whose family incomes were under \$15,000 were more likely to have participated in prevention activities than those with higher family incomes (34% compared to 20%). Participation in prevention activities also varied by ethnicity, with Asian students reporting less participation (13%) and Hispanic students reporting more participation (48%) than white or African American students (22%). Participation in prevention activities was also more frequent among those who were separated (33%) or divorced (43%) than among those who had never married (24%) or were currently married (16%). More frequent depressed feelings were also correlated with participation in prevention activities. Participation in prevention activities did not vary with year in school or with other social background indicators.

The main predictor of interest in prevention activities was level of concern with substance abuse by a family member.

The main predictor of interest in prevention activities was level of concern with substance abuse by a family

member. Fifty-six percent of students who were at least moderately concerned with a family member's drinking or drug use were interested in prevention programs, compared to 43% of those who were no more than a little concerned by a family member's substance abuse. Interest in prevention activities was not related to risk of substance abuse, nor to social background, year in school, or employment status. Respondents who were separated had a particularly high level of interest in prevention programs (83%), while those who were married were less interested than others (38%).

Conclusions

The survey findings can inform campus officials about the scope of the substance abuse problem at UMass Boston as well as guide new prevention activities.

Alcohol, tobacco, and marijuana are the most frequently used drugs at UMass Boston. The 1996 Student Health Services Survey indicates that one-third of students binge drink within just a two week interval. About 10% smoke marijuana weekly. One-quarter reported smoking tobacco within the previous two weeks. Reports of other illicit drug use were uncommon. In general, the level of substance abuse seems to be lower at UMass Boston than at most colleges and may have declined somewhat since 1989.

We believe that the lower apparent rate of substance abuse at UMass Boston can be explained by two features of the student

population at this urban commuter campus. The national studies show that binge drinking is associated with younger age and with residence in a fraternity or sorority (Wechsler, 1995a). UMass Boston has an older student population and has no campus residences or fraternity houses.

More than nine in ten students believed that cocaine/crack or other illicit drug use posed physical risks, but fewer than one-third thought alcohol use posed a serious risk of harm. However, there were many negative consequences reported by students who used alcohol and other drugs. Among the students as a whole, forty-one percent reported at least one negative experience due to substance abuse, most often nausea or a hangover. Up to one-quarter of substance users reported such consequences as feeling depressed, missing activities, or engaging in sex that later was regretted. Many substance users also reported such positive consequences as feeling more relaxed.

Levels of participation in campus prevention activities were low, but there was much interest in prevention activities. concern for a substance abusing family member was a very strong predictor of interest in prevention activities.

Recommendations

In this section, we recommend a series of steps to increase awareness about and support for campus-based prevention activities. The recommendations take into account what the

survey reveals both about the extent of the problem and the characteristics of students that are associated with risk of substance abuse and interest in prevention activities.

1. Greater publicity for conferences, campus policies, community meetings. Encourage displays on substance abuse in the library and other prominent locations.
2. Increase efforts to infuse course content with relevant information about substance abuse. This requires developing educational resources that faculty in a range of departments can use to help integrate alcohol and drug topics in their course plans. Encourage faculty involvement on curriculum and other committees that could be used to increase the visibility of alcohol and drug problems as a campus concern.
3. Develop new research to explore the relation between substance abuse and student retention.
4. Send the UMass Boston alcohol and drug policy to all faculty each semester. Suggest it be read in each class. Give all faculty a one-page information sheet about resources for dealing with alcohol and drug problems.
5. Review and refine the campus alcohol and drug policies.
6. Publicize opportunities to participate in the PRIDE presentation, How to Help a Friend With a Drinking Problem. Encourage articles in campus publications.
7. Increase publicity about the connection between substance use and HIV/AIDS and other sexually transmitted diseases. Develop

leadership training programs that increase recognition of the relation between substance abuse and academic and athletic performance.

8. Enforce campus rules and regulations about substance use. When possible and where appropriate, communications from campus officials to students should heighten awareness of the UMass Boston commitment to an alcohol- and drug-free environment.
9. Encourage those students involved in campus alcohol or drug-related problems or crises to connect with the PRIDE program.
10. Take advantage of widespread student interest in prevention by forming a university-wide council to monitor and stimulate interest in prevention activities.
11. Publicize the 1996 Health Services Survey findings.
12. Publicize the Alcohol and Substance Abuse Studies program (ASAS) as a way to learn about substance abuse.
13. Develop and publicize family-oriented programs that help students cope with substance abuse among loved ones.
14. Offer non-alcoholic social opportunities geared to students most at risk of substance abuse: younger, single men.
15. Coordinate mental health counseling with prevention services. Sponsor outreach programs to teach students skills for dealing with stress.

16.Ensure the availability to students of routine screening, evaluation, intervention, and treatment referral opportunities.

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Appendix on Methodology

Sampling

A disproportionate stratified random sample was selected from the student roster by the University Registrar. Strata were defined by year in school, with 217-218 students selected from each of four classes. Several types of students were excluded by this sampling strategy: graduate students, certificate and non-degree or second degree students, and students in the College of Public and Community Service. In the Fall, 1996, there were 6,985 students in the population eligible for sampling. This represented 78% of the entire undergraduate student body of 8,918 and 60% of the entire student body of 11,736.

Questionnaires were first mailed in January 1997 to a total of 875 students. Although questionnaires were anonymous, each survey packet included a pre-addressed response postcard so that students could indicate that they had returned their questionnaire. Three followup mailings were then sent to apparent nonrespondents and reminder phone calls were made in June and July. Ultimately, 123 questionnaires were returned due to a wrong address or were assumed to have been sent to a wrong address when a phone followup identified a wrong telephone number. This leaves a total of 752 students who are presumed to have received a questionnaire at their correct address. Twenty-four students explicitly refused to participate.

Questionnaires were returned by 482 students, representing a response rate of 65% of those with correct addresses (55% of the originally selected sample). This rate of return is close to the maximum usually obtained with mailed questionnaires and followup mailings. It is lower, by 5 percentage points, than that obtained in the 1989 Health Services Survey conducted by the Center for Survey Research and using more concerted telephone followup procedures (CSR obtained a 70% response rate, after discounting invalid addresses and phone numbers and nonstudents in the sample; the response rate for their entire originally selected sample was 62%). (CSR, 1990)

The resulting sample underrepresents underclasspersons by 19 percentage points (see table). This is somewhat less severe than the underrepresentation of underclassmen in the 1989 survey (in which freshmen and sophomores accounted for only 19% of the sample). The 1996 sample contains a percentage of racial and ethnic minorities about comparable to that in the UMB undergraduate population as a whole (30% for the obtained sample; 33% for the population), although with a somewhat higher percentage of Asian-American students (14%) and a somewhat lower percentage of African-American students (8%), relative to the population of undergraduates in the College of Arts and Sciences (respectively, 11% and 14%). The sample has a slightly higher percentage of women (62%) than does the actual undergraduate

student body in CAS (56%).² The median age of 25.0 for the 1996 sample was similar to the median age of 24 for the CAS undergraduate student body as a whole.

Year in School, Sample and Population, 1996

<u>Year</u>	<u>Selected Sample</u>	<u>Obtained Sample</u>	<u>Official Enrollment</u>
Freshman	25%	20%	27%
Sophomore	25	13	25
Junior	25	29	25
Senior	25	32	24
Total 4-year undergrad	100% (875)	98%* (482)	101% (6,985)**

*A total of 9 additional respondents were graduate or special students and another 18 did not indicate their year in school.

**Percents do not add to 100 due to rounding error.

The distribution of cases in the selected sample is similar to that indicated by official enrollment statistics for the entire population of undergraduates, so weighting is used to adjust for the stratified sampling strategy.

Measures

The questionnaire designed for the 1996 Health Services Survey was a 13-page instrument with 39 questions, many having multiple subparts. In addition to questions about substance abuse among students, the questionnaire included items on substance abuse involving friends and family, experience with and interest in substance abuse prevention services, and measures of depression, self-control, social support, self-efficacy, physical

²Official enrollment figures are from the Office of Institutional Research.

health. Several questions were also included to measure such social background characteristics as age race, sex, marital and family status, religious affiliation, and employment status.

Substance abuse was assessed with questions to indicate the quantity and frequency of drinking and the experience of problems due to drinking. One question identified binge drinking in terms of the standard customarily used to identify binge drinking in women:

Consider the past two weeks. How many times have you had four or more drinks in a row? (1 drink = 1 beer bottle, can, 6 oz wine, liquor shot, mixed drink).

Another series of questions asked about frequency of use of both alcohol and drugs:

We are interested in HOW OFTEN you use the substances listed below. Considering the past year, how often have you used the following substances.

Possible responses for alcohol, marijuana/hashish, cocaine/crack and "other illicit drugs" were *never, not in the past year, a few times in the past year, 1-4 times a month, more than 4 times a month.*

Problems due to substance use were identified with yes/no responses to a series of potential problems.

Please fill in the bubbles which best describe the experiences you have had in the past year after using

alcohol or other drugs. If you do not use alcohol or other drugs, skip this question.

I had a hangover or nausea; I missed work, class or other scheduled activity; I engaged in sex that I was later sorry for or embarrassed about; I regretted using alcohol or other drugs; I got into trouble with the police or campus officials; I felt depressed or bad about myself.

Additional experiences included in this list identified reactions that might have been perceived as positive: *having more confidence, feeling more relaxed, being more outgoing, and having more fun.*

Due to a printing error, some questionnaires were mailed without the page that contains the index of problems due to substance use. Questionnaires missing this page were returned from 103 respondents. All analyses involving the problem index are repeated for the entire sample and for only those who received the complete questionnaire. Discrepancies are noted in the text.

A composite index is used in order to provide the most reliable possible indicator of substance abuse. This index and other substance abuse indicators are dichotomized for some analyses to indicate those students who seem to be at risk of substance abuse and those for whom there are no such indications. It is not possible with these questions to measure the level of substance abuse itself.

Risk of substance abuse, the composite index, identifies students as at risk of substance abuse if they report at least two of the following: drinking four or more drinks in a row at least twice in the past two weeks; using marijuana, cocaine, or other illicit drugs at least a few times in the past year; or, after using alcohol or other drugs, experiencing a hangover/nausea, missing scheduled activities, engaging in sex that was regretted, regretting having used substances, getting in trouble with officials, or feeling depressed or bad about myself.

Another index of exposure to problems with substance abuse is provided by degree of concern expressed with drinking or drug use by family members. Scores on this *concern* index are based on the highest level of concern expressed about substance use by any of the following family members: mother/stepmother, father/stepfather, brother/sister, grandparent, child.

Perceived risk of harm to others from substance use is measured with an index that averages ratings of risk due to use of alcohol, marijuana, cocaine, and other illicit drugs. Ratings ranged from "no risk" to "slight risk," "moderate risk," and "great risk." Cronbach's alpha was .64.

Indices to measure knowledge about campus substance abuse policies and programs, participation in prevention activities, and interest in prevention activities are based on counts of the number of affirmative responses given to a series of questions.

Depression is measured with the 11-item Center for Epidemiologic Studies' Depression Index (Radloff, 1977). Cronbach's alpha is .88. Social support is measured with four items selected from the 40-item ISEL (Cohen et al., 1985). Cronbach's alpha is .64. Self-control is measured with five items selected from Grasmick et al.'s (1993) 24-item self-control index. Questions ask whether respondents: act on the spur of the moment without thinking; are more concerned with the short run than with the long run; attach more importance to excitement and adventure than security; are not concerned when things they do upset other people; and take risks "just for the fun of it." Cronbach's alpha is .67. The coping scale is used to identify coping strategies. However, since Cronbach's alpha for the six items in this scale is only .39, the scale is considered unreliable and is not included in the analysis.