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ABSTRACT

Under the Drug-Free Schools and Campuses Act, institutions of higher education are required to review the effectiveness of their alcohol and drug prevention programs biannually. This guide offers a method for gathering and interpreting student survey data on alcohol-related problems based on the methodology of the College Alcohol Survey developed by the Harvard University School of Public Health; it can also be used as a complement to the Core Alcohol and Drug Survey developed by the Center for Alcohol and Drug Studies at Southern Illinois University. The guide discusses how to conduct a survey, including obtaining approval from respondees, selecting the study sample, administering the survey, and analyzing and interpreting the data. Cost estimates and alternative methods for administering the survey are also discussed. The guide also introduces a new computer software package, "Looking at Binge Drinking at Four-Year Colleges," which allows administrators to compare their school's binge drinking rate with those reported by schools in a national college alcohol study conducted in 1993. Six appendixes include copies of the two survey instruments, the Faculty and Staff Environmental Alcohol and Drug Survey, and guidelines for developing frequency distributions, central tendencies, and chi-square tests. (MDM)

GUIDE

Preventing Alcohol-Related Problems on Campus

Methods for Assessing Student Use of Alcohol and Other Drugs

The Higher Education Center for Alcohol and Other Drug Prevention
Funded by the U.S. Department of Education

Preventing Alcohol-Related Problems on Campus: Methods for Assessing Student Use of Alcohol and Other Drugs

A Guide for Program Coordinators

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Methods for Assessing Student Use of Alcohol and Other Drugs

Introduction

To develop effective programs and policies that can reduce alcohol-related problems on campus, college administrators need to understand fully the nature and extent of these problems at their school. This understanding can be achieved only if administrators have credible data on patterns of student alcohol consumption and drinking-related risk behavior. The best way to obtain these data is to conduct an annual survey using a random selection of student respondents.

The *Drug-Free Schools and Campuses Act*, codified as Part 86 of EDGAR (34 CFR Part 86), requires that every institution of higher education conduct a review of its alcohol and other drug prevention program every two years to determine its effectiveness. A student survey can be an important component of this biennial review or other evaluations of campus-based prevention programs and policies.

Unfortunately, many administrators are unfamiliar with survey methods and do not have the time or staff to develop a sound data collection plan. As a result, they avoid conducting routine campus surveys or do them without regard to basic survey principles.

In response, this guide offers a straightforward method for gathering and interpreting student survey data on alcohol-related problems. The procedure is based on the methodology used in a national college alcohol study conducted in 1993 by the Harvard School of Public Health, and can be easily adapted for use on all college and university campuses.

The guide will be of particular interest to program directors for alcohol and other drug prevention programs on campus, or to members of a campus-based task force that is charged with assessing the need for new prevention programs and policies. Top university administrators will also find this guide useful for gaining a basic understanding of methodology for on-campus surveys.

The guide also introduces a new computer software package, *Looking at Binge Drinking at Four-Year Colleges*, which was developed by the Higher Education Center for Alcohol and Other Drug Prevention. The rate of binge drinking among students is a crucial index, one often used by researchers to assess how much heavy or problem drinking is occurring on college campuses. With this software, administrators at four-year colleges can compare their school's binge drinking rate with those reported by schools in the 1993 Harvard Survey. The key advantage of using this software is that administrators can see how their school stacks up against colleges with similar features, not just against an overall national average.

The Core Alcohol and Drug Survey

The Fund for the Improvement of Postsecondary Education, U.S. Department of Education (FIPSE), awards grants to institutions of higher education to start or improve alcohol and other drug prevention programs. The Core Alcohol and Drug Survey has been the primary evaluation instrument used by FIPSE grantees to assess alcohol and other drug use on their campuses, which they are required to do as a condition of their funding. *The survey option described in this guide, which focuses on alcohol use only, is meant to complement, not substitute for, the Core Survey.*

The Core Survey's long form includes 39 questions that cover the following content areas:

- personal characteristics of the students, including year in school, age, gender, racial/ethnic background, and marital status;
- employment status and living arrangements (on-campus or off-campus residence);
- academics, including full- or part-time status and self-reported grade average;

- perceptions of campus substance abuse policies and their enforcement;
- frequency of binge drinking, defined for both men and women as five drinks at a sitting;
- use of alcohol, tobacco, and other drugs, including both annual and 30-day prevalence, location of use, and age of first use;
- experiences with the consequences of substance use;
- family history of substance abuse problems;
- desire for an alcohol- and drug-free environment;
- perceptions of how frequently other students on campus use alcohol, tobacco, and other drugs;
- participation in various student activities (e.g., fraternities or sororities, intercollegiate athletics);
- perceived benefits and beliefs about alcohol use (e.g., breaks the ice or enhances social activity);
- perceived risks of substance use, including alcohol consumption;

Drug-Free Schools and Campuses Act

While college administrators have long been concerned about student alcohol and other drug use, the driving force behind recent prevention activity has been the passage of the *Drug-Free Schools and Campuses Act*, codified as Part 86 of EDGAR (34 CFR Part 86). Failure to meet the Part 86 of EDGAR requirements can put a school's federal funding in jeopardy.

Part 86 of EDGAR requires that every institution of higher education enact policies to prevent the unlawful possession, use, or distribution of alcohol and illicit drugs by students and employees. Under the regulations, schools must distribute written information every year that includes:

- a description of the health risks associated with the use of alcohol and illicit drugs;
- a description of any drug or alcohol counseling, treatment, or rehabilitation programs available to students and employees;
- standards of conduct that clearly prohibit the unlawful possession, use, or distribution of alcohol and illicit drugs by students and employees on school property or as part of any school activities;
- a description of the applicable legal sanctions under local, state, or federal law for the unlawful possession, use, or distribution of alcohol and illicit drugs;
- a clear statement that the school will impose disciplinary sanctions on students and employees who violate the standards of conduct; and
- a description of the sanctions, up to and including expulsion, termination of employment, and referral to local law enforcement.

The regulations also require schools to prepare a written review of their programs every two years to 1) determine their effectiveness and implement any needed changes, and 2) ensure that the schools' sanctions are being consistently enforced. The written biennial review must be made available to anyone who asks for a copy.

The assessment method described in this guide can be used as part of an evaluation to determine the effectiveness of a school's prevention program and policies.

- attitudes about drinking to get "drunk";
- ways in which other students' drinking interferes with their life on or around campus;
- experience of harassment, physical violence, and sexual violence as a result of alcohol and other drug use; and
- campus climate around alcohol and other drug use (e.g., centrality of drinking to social life).

A copy of the long form of the Core Alcohol and Drug Survey, which was published in September 1994, can be found in Appendix A.

Contact for Further Information

For additional information about the *Core Alcohol and Drug Survey*, contact:

Dr. Cheryl Presley, Executive Director
Core Institute
Center for Alcohol and Drug Studies
Southern Illinois University
Carbondale, IL 62901
Phone: (618) 453-4364
Fax: (618) 453-4449

There are several reasons why school administrators should consider using the Core Survey.

First, the survey is comprehensive, yet relatively short (approximately 20 minutes) and easy to administer. The Core Institute at Southern Illinois University—Carbondale (SIUC) has prepared a 15-minute videotape to introduce use of the Core instrument and a detailed user's manual. The Institute also offers on-line and telephone support services for administrators at institutions using the survey.

Second, administrators can send completed questionnaires to SIUC for machine scoring and then receive a computerized statistical report of descriptive statistics and cross-tabulations (see the section, Analyzing the Data, below). Administrators can also receive raw data on a computer diskette to conduct further analyses on their own.

Third, some schools have been using a short form of the Core Survey for a number of years. Continuing to use it will allow administrators to examine year-to-year trends in students' alcohol and other drug use, which is especially valuable for assessing the impact of policies and programs.

Fourth, administrators can send their data to SIUC for possible inclusion in a national database. SIUC applies two firm criteria before adding survey results to this database: 1) schools must use a random sampling technique to select respondents, and 2) they must achieve a high response rate in order to guarantee that the data come from a truly representative sample (that is, a sample that is similar to the student body as a whole).

The Core Institute has also developed a new faculty and staff survey that may be of interest to school administrators. A copy of the instrument can be found in Appendix B.

The Harvard Alcohol Survey

Overview

The Harvard Survey differs from the Core Survey in two important respects. First, the Harvard questionnaire focuses almost exclusively on alcohol use, which is by far the most commonly used and misused drug on college campuses. For example, while the Core Survey asks about the consequences of alcohol and other drug use, considered together, the Harvard Survey asks only about the consequences of alcohol use.

The Harvard Survey examines several issues related to alcohol use in depth. Questions about students' recent drinking behavior include the following: 1) number of occasions they had a drink of alcohol, 2) number of drinks they usually had, 3) number of times they drank enough to get drunk, 4) number of drinks they had the last time they attended each of 11 school-related events, 5) use of a fake ID, and 6) driving after drinking and while intoxicated.

Second, the Harvard Survey allows use of a gender-specific definition of binge drinking to reflect gender differences in the effects of alcohol on behavior. Binge drinking can be defined for *men* as drinking *five* or more

drinks in a row in the past two weeks and for *women* as drinking *four* or more drinks in a row. If they prefer, researchers also have the option of applying the standard five-drink criterion to women.

If school administrators are primarily interested in studying the alcohol problem on their campus, they can use the Harvard Survey instrument. If they are interested in studying both alcohol and other drug problems, they can consider using both the Core and Harvard instruments, either in combination or in separate studies.

Contact for Further Information

For additional information about the *Harvard Alcohol Survey* contact:

Dr. Henry Wechsler
Department of Health and Social Behavior
Harvard School of Public Health
677 Huntington Avenue
Boston, MA 02115
Phone: (617) 432-1135
Fax: (617) 432-3755

Survey Questions

A shortened version of the Harvard Survey instrument is presented in Appendix C. The questions fall into six areas of concern, as follows:

- *Student background.* Harvard's national study revealed several factors that predict student binge drinking, including racial/ethnic background, marital status, and fraternity/sorority membership.
- *Perceptions of campus drinking norms.* Previous studies have shown that students generally overestimate the extent of drinking on campus, a misperception that may encourage some students to increase their drinking in order to "fit in."
- *Perceptions of campus policies.* While administrators may have articulated clear policies, students may not be aware of them or see them enforced.
- *Personal alcohol use.* This is the most important set of questions. Three questions about binge drinking allow use of a gender-specific definition of this behavior. Current use is established through a series of questions about behavior during the last 30 days.
- *Access to alcohol.* Students under 21 usually have ready access to alcohol, but schools can work with local retail establishments and take other steps to diminish this problem.
- *Consequences of alcohol consumption.* Students are affected not only by their own drinking but by that of other students, especially binge drinkers.

All of the questions on the Harvard Survey can be easily scored and coded for data analysis. Use of machine-readable answer sheets should be considered.

Conducting A Survey

The remainder of the guide outlines how to implement and analyze a mail survey of student alcohol use. The major steps are: 1) obtaining human subjects approval, 2) selecting the study sample, 3) administering the survey, and 4) analyzing the data. Using this method, school administrators will have a first-rate study—one that uses a random sample of students and achieves a high response rate. Alternative methods for survey administration, during course registration or during classes, are also described.

Obtaining Human Subjects Approval

All research involving human subjects must be reviewed by the school's Institutional Review Board (IRB) to ensure that the necessary steps have been taken to protect subjects from harm and to ensure the confidentiality of their responses. Approval from the IRB is needed for both the survey instrument and the method of administration.

If a school does not have an IRB, one will need to be constituted. To find out what is required, contact the U.S. Department of Health and Human Services, Division of Human Subject Protection, 6100 Executive Boulevard, Suite 3B01, MSC 7507, Rockville, Maryland 20892-7507, (301) 496-7041.

Selecting the Study Sample

In conducting student surveys, many schools choose a convenience sample, polling only those students who can be easily contacted through courses, an on-campus organization, or during registration. This method is described in a later section.

A preferred method is to select a truly random sample. The advantage of using a random-sample survey—namely, that the survey results are known to be representative of the student body as a whole—makes the extra work involved well worth the effort. This section reviews the steps in selecting an appropriate sample.

The first step is to **find a means of identifying *all* potential respondents** (what researchers call the "sampling frame"). In nearly all cases, the school's official enrollment list, which should be available from the college registrar, can serve this purpose.

Having an up-to-date student list with accurate mailing addresses and telephone numbers is essential. In Harvard's national study, about 15 percent of the students that schools had randomly selected for the survey had an incorrect address listing, had withdrawn, or had taken a leave of absence.

The second step is to **pick a random sample of students from the list**. To do this, select a starting point on the enrollment list at random and then select every *X*th student down the list to be in the sample. The size of *X* will depend on the total enrollment and the desired sample size. For example, to draw a sample of 500 students from an enrollment list of 20,000 undergraduates, administrators would pick a student at random from the first 40 names (20,000 divided by 500) and then add every 40th name on the list to the sample. When a school has a computer-based student records system, administrators will be able to use a computer program to generate the random sample.

Determining the Sample Size

How large a random sample should be drawn? There are three deciding factors: 1) the level of precision that school administrators want their survey to have, 2) the degree of confidence they want to have in its results (the estimates), and 3) the size of the school's student body.

To illustrate, imagine that researchers at a school with 10,000 students have conducted a survey of 964 randomly selected students, and that from this survey the researchers estimate that 56 percent of the school's students are binge drinkers.

It is highly unlikely that this estimate is exactly correct. More likely, the true level of binge drinking among *all* 10,000 students is somewhat higher or lower than 56 percent.

How much higher or lower? It turns out that, with a sample size of 964, the researchers can be 95 percent confident that the true level of binge drinking is within three percent of the survey estimate—that is, somewhere between 53 and 59 percent.

This means that there is only a five percent chance that the actual level of binge drinking is either higher or lower than this predicted range—that is, lower than 53 percent or higher than 59 percent. In this scenario, the researchers would say that the *95 percent level of confidence* is plus or minus three percent.

If the researchers at this school had been content for their survey to have a level of precision of five percent, rather than three percent, then they could have gotten by with a sample size of only 370. In this case, the predicted range would have been 51 to 61 percent (i.e., 56 percent, plus or minus five percent).

Return again to the original situation, where the researchers were working with a level of precision of three percent and a range estimate of 53 to 59 percent.

This time, however, imagine that the researchers wanted to be 99 percent confident, rather than 95 percent confident, in this range estimate. This degree of confidence would require a sample size of 1,557 students. In this case, there would be only a one percent chance that the actual level of binge drinking is either higher or lower than the predicted range of 53 to 59 percent.

Table 1 shows the relationship between the level of precision specified for a percentage estimate (e.g., plus or minus 3 percent), the confidence limit (95 percent or 99 percent), the size of the school's student body, and the required sample size for the survey. What is immediately obvious from the table is that as the level of precision moves from seven to three percent, and as the confidence

Table 1. Random Sample Sizes Needed to Achieve Various Degrees of Precision for Percentage Estimates from Student Surveys

Degree of Precision[a]	Size of Student Body	Confidence Limit[b] 95%	99%
3% (d = .03)	500	341	393
	1,000	516	649
	2,000	696[c]	959
	5,000	880	1347
	10,000	964	1557
	20,000	1013	1688
5% (d = .05)	500	217	285
	1,000	278	399
	2,000	322	498
	5,000	357	586
	10,000	370	622
	20,000	377	642
7% (d = .07)	500	141	202
	1,000	164	253
	2,000	179	290
	5,000	189	317
	10,000	192	328
	20,000	194	333

[a] The *degree of precision*, also known as the margin of error, is the amount of tolerated error (e.g., plus or minus 3%) in a percentage estimate from a student survey (e.g., 48% of the students are binge drinkers).

[b] The *confidence limit* is the relative degree of certainty with which a percentage estimate is made (e.g., 95% confidence).

[c] *Example*: For a percentage estimate that is accurate to within plus or minus 3 percent, and to be 95 percent confident in that estimate, a sample size of 696 is required if the total population size is 2,000. In this case, a finding from the student survey might be expressed as follows: "An estimated 48 percent of the students are binge drinkers, with a 95% confidence limit of 45-51 percent."

Note. This table assumes that the percentage estimate from the student survey will be 50%—or, equivalently, that the proportion estimate, **p**, will be 0.50.

In the absence of any information about what the proportion estimate is likely to be, this is the most conservative assumption to make.

If a school has conducted a prior survey, its value for the proportion estimate (**p**) can be used in the formula shown on the following page to calculate what sample size is needed in the next survey.

. . . . continued

Table 1. Random Sample Sizes Needed to Achieve Various Degrees of Precision for Percentage Estimates from Student Surveys (Continued)

This formula can also be used when a school's actual student body size differs significantly from the precise values shown in the table.

$$n = \frac{\frac{t^2pq}{d^2}}{1 + \frac{1}{N}\left(\frac{t^2pq}{d^2} - 1\right)}$$

Where:

- **n** = sample size needed
- **t** = 1.960 for a 95% confidence limit, or 2.576 for a 99% confidence limit
- **p** = the proportion estimate (e.g., .50)
- **q** = 1-p
- **d** = desired degree of precision (e.g., for 3%, d = .03)
- **N** = student body size

limit moves from 95 to 99 percent, the required sample size increases dramatically.

In general, administrators should send surveys to a sample of between 400 and 1,000 students. If the school's budget permits it, a sample of 1,000 is far superior. Even under the severest budget constraints, the sample should not be any smaller than 200.

In drawing the sample, allowance needs to be made for inaccuracies in the college's enrollment list. Taking this into account, a good rule of thumb is to add 15 to 20 percent to the desired sample size. Thus, for example, having drawn a random sample of 1,200 students, administrators would most likely end up with a final useable sample of about 1,000 students.

How large a sample is drawn also depends on the kinds of comparisons that administrators might want to make among subgroups of students. The more complicated the analysis, the larger the sample needs to be.

To illustrate why this is so, imagine that administrators surveyed a sample of 400 students, 50 percent of whom are male. Imagine further that 50 percent of the students, both males and females, are black and that 50 percent are white.

This means that one-fourth of the students are black men, one-fourth are white men, and so forth. The size of each subgroup is only 100 students. This means that percentage estimates for any one of these subgroups would have a level of precision of only about 10 percent. If these four subgroups were subdivided even further—say by fraternity/sorority membership, or by marital status—the level of precision would be even less.

A good rule of thumb is to avoid subdividing the sample into categories beyond the point where the number of students in any one of the resulting subgroups falls below 50. On the other hand, if comparing complexly defined subgroups is an important part of the study, a random sample of more than 1,000 students will be needed to avoid the pitfall of having subgroups that are too small.

Finally, it can be noted that administrators always have the option of giving the survey to all of their students. Whether this is practical depends on the size of the

student body, the budget available for computer data entry, and the school's ability to administer the survey in a cost-effective way. For example, if the college has walk-through course registration, students could be asked to complete a survey as part of that procedure, with due care taken to obtain high response rates while also maintaining the anonymity of students' responses. Administrators at schools with 1,000 or fewer students should look into how they might be able survey all their students.

Administering the Mail Surveys

Even if a random sample of students is selected, the usefulness of the data will be jeopardized if steps are not taken to **guarantee a high response rate**. Failing to obtain data from any student who is part of the random sample makes the data less representative of the entire student body. In general, researchers look to obtain response rates of at least *70 percent*.

Taking steps to **ensure the students' anonymity** (and letting the students know what those steps are) is important, too, because, if students think that their answers can be traced back to them, they will be far less likely to cooperate. There should be no ID number or other identifying information on the questionnaire. Also, the instructions should remind students not to put their name on the questionnaire.

Mailing the survey to students is the easiest method for obtaining a truly random sample. Making sure a mail survey results in a high response rate requires follow-up and some additional costs. The following guidelines are based on the methodology used in Harvard's national mail survey.

First, all materials should be sent by first-class mail, as bulk mail is too slow and unreliable to allow effective follow-up with non-respondents. For a survey based at a single campus, university mail can be used for students who live on campus, while first-class mail should be used to reach students who live off campus.

Second, mailings of the questionnaire should be timed so that they do not coincide with a vacation break or the subsequent two weeks. The reason for this is that the questions on binge drinking ask about the previous two-week period, and the students' drinking behavior during vacation may be different than when school is in session.

Third, a cover letter should describe the purpose of the survey, explain that the student is part of a small group randomly selected to be in the study, and request a prompt response. Each letter should be hand-signed by a top member of the research team.

Fourth, the questionnaire instructions should remind students that their participation is voluntary and that they do not have to answer any question that makes them feel uncomfortable. There is no identification number on the questionnaire.

Fifth, students should receive a stamped, pre-addressed envelope in which to return their completed questionnaire. There should not be any information on the return envelope to identify the student.

Sixth, additional mailings for students who do not respond can include, in sequence, 1) a reminder postcard, 2) a second copy of the questionnaire with a follow-up cover letter, and 3) a final reminder card.

Keeping track of which students get the follow-up mailings should be done in a way that preserves the students' confidentiality. To this end, students can be given a stamped, pre-addressed postcard to mail *separately* when mailing back their questionnaire. Each student should be assigned a unique ID number that appears on the postcard (but *not* on the questionnaire). Then, when a card is returned in the mail, the student's name can be checked off a confidential master list of respondents. This same procedure is recommended by the Core Institute. Based on extensive experience, the Institute estimates that only about 2 percent of students will return the postcard but not the survey.

Using the returned postcards to keep track of which students mail back the surveys will make it possible for researchers to offer incentives for completing the survey. For the Harvard study, 12 cash awards totaling $2,500 were offered: $1,000 to a student whose name was drawn from among those who responded within one week, and one $500 award and ten $100 awards to students drawn from among all those who responded. Smaller cash awards (or even prizes such as tee shirts, store coupons,

and so forth) might work for a survey done on a single campus.

An alternative sequence of mailing and telephone calls suggested by the Core Institute is shown in table 2. The sequence begins with students receiving a "pre-notification" postcard that alerts them to expect the mail survey. This sequence will usually produce a response rate above 70 percent if all non-respondents are contacted within seven to ten days after the initial mailing.

According to the Core Institute, this procedure requires a supervised team of up to ten callers. The best time to call is in the evening from 6 to 11 p.m., except on Fridays and Saturdays, when the dinner hour works best.

Table 3 provides a direct cost budget for a hypothetical mail survey of 1,000 students that uses the Harvard follow-up procedure. *Not* included in this budget are labor costs associated with non-casual personnel (e.g., school administrators, regular staff), routine direct costs (e.g., rent, utilities), or administrative overhead. The actual costs of the survey will depend on local economic conditions, in particular the rates of pay for part-time labor.

This sample budget is only meant to illustrate the cost considerations that school officials should take into account when planning their survey. As noted at the bottom of table 3, the total cost could be reduced substantially by doing any of the following: 1) eliminating part-time labor costs by having faculty or students take on the survey as a research project; 2) reducing the sample size; 3) not sending the questionnaire out a second time; and 4) not awarding cash prizes to students who complete the survey.

Table 2. Alternative Sequence of Mailings and Telephone Calls to Ensure a High Survey Response Rate (Core Survey Method)

Time	Action	Recipients[a]
T (Start)	Mail pre-notification	100% of sample
T + 1 Week	Mail survey with cover letter; stamped, pre-addressed envelope	100% of sample
T + 2 Weeks	Make follow-up telephone call	Non-respondents (est. 70%)
T + 3 Weeks	Make follow-up telephone call	Non-respondents (est. 60%)
T + 4 Weeks	Mail postcard reminder	Non-respondents (est. 50%)
T + 5 Weeks	Make follow-up telephone call	Non-respondents (est. 40%)
T + 6 Weeks	Mail second survey with cover letter; offer to pick up	Non-respondents (est. 30%)

[a] The numbers given in parentheses are estimates of the percentages of students in the sample who would need to be contacted at each stage.

For example, near the end of this sequence, with a to-date response rate of about 70 percent, researchers would need to send the last mailing to only an estimated 30 percent of the sample.

The table suggests that each sequential step will result in a response from an additional 10 percent of the student sample. These numbers are for illustrative purposes only. Actual experience will vary.

Source: Core Institute, Center for Alcohol and Drug Studies, Southern Illinois University—Carbondale.

Table 3. Cost Estimate for a Mail Survey of 1,000 Students (Harvard Survey Method)

Cost Category	Amount
Mail Survey (1,000 students)	
Photocopying/printing	
Survey (6 pages @ $.03)	$180
Cover letter (1 page @ $.03)	$30
Postcards (1/4 page @ $.06)	$15
Mail-out envelopes (@ $.34)	$340
Return envelopes (@ $.34)	$340
Postage	
Mail-out (@ $.75)	$750
Return mail/survey (@ $.52)	$520
Return mail/postcard (@ $.19)	$190
Part-time labor (48 hours @ $10/hour)	$480
Draw student sample	
Create master list	
Create and apply mailing labels	
Mail survey packets	
Monitor survey returns	
Cash awards for survey returns	$1,000
Reminder Postcard (est. 700 students)	
Photocopying/printing (1/4 page @ $.06)	$11
Postage (@ $.19)	$133
Part-time labor (20 hours @ $10/hour)	$200
Create and apply mailing labels	
Mail reminder postcards	
Monitor survey returns	
2nd Mail Survey (est. 500 students)	
Photocopying/printing	
Survey (6 pages @ $.03)	$90
Cover letter (1 page @ $.03)	$15
Postcards (1/4 page @ $.06)	$8
Mail-out envelopes (@ $.34)	$170
Return envelopes (@ $.34)	$170
Postage	
Mail-out (@ $.75)	$375
Return mail/survey (@ $.52)	$260
Return mail/postcard (@ $.19)	$95
Part-time labor (20 hours @ $10/hour)	$200
Create and apply mailing labels	
Mail survey packets	
Monitor survey returns	
2nd Reminder Postcard (est. 300 students)	
Photocopying/printing (1/4 page @ $.06)	$5
Postage (@ $.19)	$57
Part-time labor (20 hours @ $10/hour)	$200
Create and apply mailing labels	
Mail reminder postcards	
Monitor survey returns	
Data Analysis (est. 800 students)	
Part-time labor (65 hours @ $10/hour)	$480
Computer data entry	
Consultant: Data analyst (5 days @ $250/day)	$1,250
Consultant: Writer/editor (5 days @ $150/day)	$750
Total Budget	**$8,314**
Total Budget (Streamlined)[a]	**$1,256**

[a] Total budget with no part-time labor (work done by faculty or students); original sample size of 500; no second questionnaire mailing; and no cash awards for survey returns.

Alternative Methods for Administering the Survey

The survey method just presented, which involves selecting a random sample of students and then sending them a survey by mail, is the best procedure for obtaining findings that are truly representative of the student body as a whole (unless, of course, it is possible to survey the entire student body). Unfortunately, not all schools are in a position to administer their survey in this way.

The most common barrier that schools encounter is the time and money it takes to mail out the survey and then to do the necessary follow-up by mail or telephone to get a high response rate. And it must be emphasized that getting that high response rate is essential to the success of this method. Without it, administering the survey in this way may hold no special advantages over other, more convenient methods. Remember that, without follow-up, a mail survey of a random sample of students will typically have a 30 percent rate of return; as noted, additional work is needed to get the response rate to at least 70 percent.

Two alternative methods are described here: administering the survey during course registration or during classes. Neither of these methods can result in a true random sample being selected, but they can produce response rates of 70 percent or even higher. To make these alternative methods acceptable, steps must be taken to ensure that the student sample is selected in such a way that it is very similar to the student body as a whole. How that can be done is outlined below.

Having said that, it is important to stress that such a sample, even one that can be demonstrated to be very similar to the entire student body on characteristics like gender, race/ethnicity, year in college, and so forth *will not be truly representative of that student body*, for only a random sample can be described that way. These alternative methods may be acceptable in many cases, but they remain second-best options and should be recognized as such.

Administering the Survey During Course Registration. One alternative method for administering the survey is to integrate the data collection process into other campus routines, such as course registration. This will work only if all (or nearly all) students are required to report to a central location during some part of the registration procedure.

Registration officials will need to be contacted in advance to work out arrangements. Ideally, approaching students about participating will be built in as a step in the registration process. Space will be needed for up to ten students at a time to complete the survey in relative privacy. Staff provided by the survey team should be available to distribute and collect the survey forms and to answer questions.

To make sure that students know that the information they provide will be kept anonymous and confidential, they should receive a memorandum that explains the purpose of the survey and how the completed questionnaires will be collected and stored. Each student should be provided with an unmarked envelope in which to put their completed survey.

With a small enough student body, it might be possible to have every student complete the survey. Schools with larger enrollments will need to select every *X*th student in line. For example, with a student enrollment of 20,000, every 25th student could be approached to generate a sample size of 800 students.

Selecting every *X*th student could result in a random sample, if all students were required to come to a central location to register, and if the selection procedure were followed perfectly. That is unlikely to happen, however. If the research staff is able to cover registration only during certain time periods, or if a heavy flow of students makes it physically impossible to ensure that every *X*th one is selected, a non-random sample will result.

Participation should not be required. Even so, high rates of participation can be built by making an effective personal appeal, giving a careful explanation of the procedures, and providing extra incentives, such as snacks or eligibility for prize drawings.

Administering the Survey During Classes. A second alternative method for administering the survey is to distribute it during classes. This method is inexpensive. The only significant costs are for the test administrators, who might instead be recruited as volunteers. This method is also quick. Surveys can usually be administered within a week.

Again, selecting a convenience sample of this sort is *not* recommended as a first choice, because as usually practiced, it does not result in a sample that is truly representative of the student body as a whole. Even so, administering the survey during classes may be the only method that schools without adequate resources to conduct a mail survey will be able to use.

It should be noted that there are conditions under which this procedure can generate a true random sample. First, there must be a class (or a type of class) that each and every

student is required to take at the same time, such as freshman English or physical education. Second, each section of the class must have approximately the same number of students. In administering the survey, the researchers would draw a *random sample of class sections* and then ask every student in those sections to complete the instrument. By this method, each student would have an equal probability of being selected into the sample, which is key to specifying a random sample.[1]

At most schools, however, these conditions cannot be met, and a true random sample of students cannot be drawn using this procedure. At best, even if the researchers take great care, the sample will be only an *approximation* of a random sample. Does this matter? Absolutely. The problem is that selecting a non-random sample of students can lead to inaccurate results.

This lesson was learned the hard way by pollsters who conducted a telephone survey to predict the outcome of the 1936 presidential election. Their prediction: Alf Landon would defeat incumbent president Franklin D. Roosevelt by a comfortable margin. In retrospect, the reason for this erroneous prediction seems obvious. At that time, only relatively well-to-do voters had telephones, and this non-random sample of voters tended to favor the Republican candidate, Landon.

The same type of inaccuracy can creep in if classes are selected by convenience rather than at random. If only English or Mathematics classes were chosen, the source of the expected bias would be obvious. If only small classes were chosen, there would be a different type of bias. The point is that, no matter how the classes are chosen, if they are chosen non-randomly, some kind of bias can be expected.

The amount of bias can be controlled somewhat. By selecting the right classes, researchers can draw a student sample that matches the total student body in several important respects (e.g., gender, age, race/ethnicity, year in college). Doing this is a major advantage. Even then, however, researchers must accept the fact that this student sample would *not* be truly representative of the student body as a whole. This is not said to discourage schools from doing a survey, but to remind them of the real limitations presented by this survey method.

Unfortunately, not every school will have the technical capability to identify a set of classes that will result in a good sample. The school's computer records must include key demographic information about its students, and there must be accurate, up-to-date records of which classes each student is taking. Moreover, all of this information must be stored in a database that can be easily manipulated to identify the best of classes to select. The Core Institute can be contacted for additional advice on this method of sample selection.

There is also the difficulty of getting faculty to grant permission for the survey to be conducted in their classes. Some instructors will be reluctant to make time for this activity, even if the project is formally endorsed by top school administrators and their department chairs. Thus, even with carefully selected classes, there is no guarantee that researchers will have access to all of them, which would further jeopardize the representativeness of the student sample.

With classroom administration, the survey should be conducted at the beginning of the class period to make sure there is enough time. As with other administration procedures, due care must be taken to ensure that students' responses remain anonymous and confidential. The Core Institute urges that the following precautions be taken:

- Do not have the class instructors conduct the survey.
- Collect the completed questionnaires in a single box or envelope.
- Remind students that their responses are anonymous and that their participation is voluntary.
- Ensure that students who have completed the survey in another class do not take it a second time.
- Do not walk around the classroom as the surveys are being completed.
- Urge students to protect one another's privacy.

Analyzing the Data

Most administrators will need to do only two types of data analysis to get a good picture of student drinking at their school: *descriptive statistics* and *tests of association.* Both of these are introduced below. Sample calculations are displayed in appendices.

Administrators who would like to do more sophisticated data analyses will need to consult with on-campus statisticians. Assistance is also available through the Higher Education Center for Alcohol and Other Drug Prevention.

Descriptive statistics are used to summarize the students' survey responses. Such statistics are used to answer questions such as the following:

1) What percentage of students at the college can be classified as binge drinkers?

2) On average, what did students at the college estimate the percentage of their peers who binge drink to be?

A sample analysis that answers question #1 appears in Appendix D, *Frequency Distribution.* A sample analysis that answers question #2 appears in Appendix E, *Central Tendency.*

Tests of association such as the χ^2 (chi-square) test are used to assess the existence of a relationship between two variables. For example, administrators might want to know whether there is a significant relationship between how many drinks students usually consume when they drink and the amount they drank the last time they rode with a designated driver.

Tests of association can also be used to examine whether two or more groups have truly different frequency distributions for some measurement. For example, school administrators might hypothesize that a greater number of fraternity members are frequent binge drinkers compared to non-members. A sample analysis that looks at this question appears in Appendix F, *Chi-Square Test.*

Interpreting the Results

Binge drinking rates among college students vary greatly across U.S. colleges. In Harvard's recent study of 140 four-year colleges, the percentage of students who binge drink ranged from one percent at the school with the lowest incidence to 70 percent at the school with the highest.

One reason for this wide variation is that the student bodies at these colleges are different, and certain types of students are more likely to be binge drinkers than others. For example, the Harvard study showed that white students were nearly 2.4 times more likely to be binge drinkers than were nonwhite students. Thus, all other things being equal, schools with a higher percentage of white students would be expected to have a greater number of binge drinkers.

The implication is clear: **An individual college should not compare its binge drinking rates to overall national averages without taking into account the nature of the school and its student body.**

To help administrators at four-year colleges develop a clearer picture of how their school compares to others across the country, the Higher Education Center for Alcohol and Other Drug Prevention has developed *Looking at Binge Drinking at Four-Year Colleges (LBD),* a software package designed for use on IBM-compatible personal computers.

LBD can be used to predict what a particular school's binge drinking rate might be given the nature of the school and its student body. The rate of binge drinking is a crucial index, one customarily used by researchers to assess how much heavy or problem drinking is occurring on campus.

Using data from the Harvard survey, several school and student body characteristics were identified (e.g., urban/suburban versus small town/rural setting, percentage of students who have never married) that can be used to predict the level of binge drinking at four-year colleges.

The software asks for information about these school characteristics (see Table 4), applies that information to a statistical model, and then gives a prediction of what the school's binge drinking rate might be. This prediction can then be compared to the actual rate of binge drinking found in the school's student survey.

The *LBD* estimate is just that—an estimate. It is very unlikely that the estimated binge drinking rate is exactly the same as the true rate. For that reason, *LBD* also generates a *range estimate* within which the true binge drinking rate would be expected to fall. *LBD* bases the range estimate on what statisticians call a "95% confidence interval." The width of the range estimate will vary, depending on a school's particular characteristics.

Consider this example for the fictitious Langenbahn College. Based on information about Langenbahn and its

Table 4. Data Needed to Use *Looking at Binge Drinking at Four-Year Colleges* (Computer Software for Binge-Drinking Analysis)

School Data

Public (v. private)

Women's college (v. others)

Historically black college (v. others)

Commuter school (v. others)[a]

Urban/suburban location (v. small town/rural)

Size of undergraduate enrollment

Competitiveness of admissions[b]

On-campus fraternities/sororities (v. none)

Student Data[c]

Age: 17-23 years

Gender: Male

Marital status: Single (never married)

Residence: Coed dorm or fraternity/sorority house

Employment: Work for pay

[a] Commuter schools are those at which 90 percent or more of the students commute to the campus.

[b] This score is derived from ratings found in *Barron's Profiles of American Colleges* (Hauppauge, New York: Barron's Educational Series, Inc., 1992), as follows: least competitive (original rating = 1 or 2); moderately competitive (original rating = 3 or 4); very competitive (original rating = 5-8).

[c] The percentage of students falling into each listed category is needed.

students, *Looking at Binge Drinking* predicts that 52 percent of the students are binge drinkers, with a 95 percent confidence limit of plus or minus eight percent. (Figure 1 displays how the software program explains this prediction.)

By this estimate, there is 95 percent probability that the true binge drinking rate at Langenbahn falls between 44 and 60 percent. This means there is also a five percent probability that the true binge drinking rate falls outside this predicted range (i.e., is either less than 44 percent or greater than 60 percent).

Now suppose that officials at Langenbahn College select a random sample of students for a survey, and suppose that it shows a measured binge drinking rate of 61 percent. Based on data from the Harvard survey, and based on Langenbahn's particular characteristics, *LBD* told school officials to expect a binge drinking rate of 52 percent. The measured rate is much higher. Indeed, it falls outside the predicted range of 44 to 60 percent. Should Langenbahn officials be worried?

There are two possibilities to consider. The first is that Langenbahn's true binge drinking rate is higher than the national standard, as expressed through the *LBD* prediction. In this case, there could something going on at Langenbahn that puts its binge drinking rate at a higher level than would be expected. What that "something" might be would be impossible to know without further study.

The second possibility is that the measured binge rate is this extreme because of chance. Even if the true binge drinking rate at Langenbahn were 52 percent, the value predicted by *LBD*, it would still be possible by chance alone for school officials to draw a random sample of students who drink a lot of alcohol and thus report out a binge drinking rate greater than 60 percent. In this example, with a 95 percent confidence limit of plus or minus eight percent, the probability of drawing a student sample that produces a measured rate greater than 60 percent, by chance alone, is 2.5 percent (one half of five percent).

If a different random sample of students were drawn, they might report a far lower binge drinking rate. Most likely, this rate would be closer to the true value of 52 percent. But there is even a chance it could go below 44 percent, the lower end of the predicted range. The probability of finding a measured rate of 44 percent or less, by chance alone, is also 2.5 percent.

Unfortunately, it is impossible to determine which of these two possible explanations is correct. Maybe the true

Figure 1. Sample Output from *Looking at Binge Drinking at Four-Year Colleges* (Computer Software for Binge-Drinking Analysis)

Langenbahn College Binge Drinking Report

(A Product of the Higher Education Center for Alcohol and Other Drug Prevention)

Binge Drinking; A Definition:

Binge drinking is defined for men as drinking five or more drinks in a row in the last two weeks.

For women binge drinking is defined as drinking four or more drinks in a row in the last two weeks.

Your School's Profile:

- Private institution
- Non-commuter school
- Not historically black
- 1,000 to 5,000 students
- Very competitive
- Rural or small town
- Fraternities/sororities on campus
- 85% 17-23 yrs old
- 55% are male
- 90% are single (never married)
- 80% live in coed or greek housing
- 60% are working for pay

Our Estimate of Binge Drinking at Your School:

Based on your school profile, we estimate that 52% of your students can be classified as binge drinkers.

It is highly unlikely that this estimate is exactly correct. However, we can say with 95% confidence that between 44% and 60% of your students can be classified as binge drinkers.

This means that there is a 5% chance that the actual level of binge drinking among your students is either higher or lower than this predicted range.

binge drinking rate at Langenbahn is 52 percent, and the reported rate of 61 percent is due to chance. Alternatively, maybe the true binge drinking rate at Langenbahn really is higher than 52 percent, and the *LBD* prediction is an underestimate.

How should this uncertainty be handled? This is why the 95 percent confidence interval reported by *LBD* is important. If a school's measured binge drinking rate falls within the 95 percent confidence interval that defines the range estimate, it can be said that the measured rate conforms to the national standard built into *LBD*. If the measured rate falls outside the range estimate, it can be said that the measured rate does not conform to the national standard. In the latter case, school officials must accept a five percent (or one in 20) chance that this is wrong and that the *true* binge drinking rate conforms to the national standard.

Conclusion

Ideally, college administrators will commit themselves to a long-term program of research so that they can monitor changes in student alcohol use and other campus conditions. This is essential for assessing the impact of a school's prevention programs and policies. The student survey method outlined in this guide should be a key component of that research effort.

This guide has argued that the best survey method involves selecting a random sample of students and then

sending them a survey by mail, with a strong follow-up effort made to generate a response rate of 70 percent or more. Due to limited resources, not all schools are in a position to administer their survey in this way, and they must consider second-best alternative methods, such as administering surveys to classes.

Given the need for reliable and accurate information, and given the clear superiority of studying a true random sample of students, school officials should consider increasing their research budget to make it possible to use the preferred survey method. The relatively modest resources that are needed are not excessive, especially considering the improved quality of information that would result. Ultimately, good decision-making must rest on a foundation of accurate information.

Note

1. It should be noted that the statistical method for calculating "confidence intervals" is different for this type of sample compared to a simple random draw of students. Consult a statistician for additional information.

Appendix A
Core Alcohol and Drug Survey (Long Form)
Southern Illinois University at Carbondale

Form 194

Core Alcohol and Drug Survey

Long Form

FIPSE Core Analysis Grantee Group

Please use a number 2 Pencil.

Core Institute
Student Health Programs
Southern Illinois University
Carbondale, IL 62901

For additional use:

A 0 1 2 3 4 5 6 7 8 9
B 0 1 2 3 4 5 6 7 8 9
C 0 1 2 3 4 5 6 7 8 9
D 0 1 2 3 4 5 6 7 8 9
E 0 1 2 3 4 5 6 7 8 9

1. Classification:
- Freshman ○
- Sophomore ○
- Junior ○
- Senior ○
- Grad/professional ○
- Not seeking a degree ○
- Other ○

2. Age: [ ][ ]
0 0 | 1 1 | 2 2 | 3 3 | 4 4 | 5 5 | 6 6 | 7 7 | 8 8 | 9 9

3. Ethnic origin:
- American Indian/ Alaskan Native ○
- Hispanic ○
- Asian/Pacific Islander ○
- White (non-Hispanic) ○
- Black (non-Hispanic) ○
- Other ○

4. Marital status:
- Single ○
- Married ○
- Separated ○
- Divorced ○
- Widowed ○

5. Gender:
- Male ○
- Female ○

6. Is your current residence as a student:
- On-campus ○
- Off-campus ○

7. Are you working?
- Yes, full-time ○
- Yes, part-time ○
- No ○

8. Living arrangements:

A. Where: *(mark best answer)*
- House/apartment/etc. ○
- Residence hall ○
- Approved housing ○
- Fraternity or sorority ○
- Other ○

B. With whom: *(mark all that apply)*
- With roommate(s) ○
- Alone ○
- With parent(s) ○
- With spouse ○
- With children ○
- Other ○

9. Approximate cumulative grade point average: *(choose one)*

A+	A	A−	B+	B	B−	C+	C	C−	D+	D	D−	F
○	○	○	○	○	○	○	○	○	○	○	○	○

10. Some students have indicated that alcohol or drug use at parties they attend in and around campus reduces their enjoyment, often leads to negative situations, and therefore, they would rather not have alcohol and drugs available and used. Other students have indicated that alcohol and drug use at parties increases their enjoyment, often leads to positive situations, and therefore, they would rather have alcohol and drugs available and used. Which of these is closest to your own view?

	Have available	Not have available
With regard to drugs?	○	○
With regard to alcohol?	○	○

11. Student status:
- Full-time (12+ credits) ○
- Part-time (1–11 credits) ○

12. Campus situation on alcohol and drugs:

	yes	no	don't know
a. Does your campus have alcohol and drug policies?	○	○	○
b. If so, are they enforced?	○	○	○
c. Does your campus have a drug and alcohol prevention program?	○	○	○
d. Do you believe your campus is concerned about the prevention of drug and alcohol use?	○	○	○
e. Are you actively involved in efforts to prevent drug and alcohol use problems on your campus?	○	○	

13. Place of permanent residence:
- In-state ○
- USA, but out of state ○
- Country other than USA ○

14. Think back over the last two weeks. How many times have you had five or more drinks* at a sitting?
- None ○
- Once ○
- Twice ○
- 3 to 5 times ○
- 6 to 9 times ○
- 10 or more times ○

*A drink is a bottle of beer, a glass of wine, a wine cooler, a shot glass of liquor, or a mixed drink.

15. Average # of drinks* you consume a week: [ ][ ]

(If less than 10, code answers as 00, 01, 02, etc.)

0 0 | 1 1 | 2 2 | 3 3 | 4 4 | 5 5 | 6 6 | 7 7 | 8 8 | 9 9

16. At what age did you first use... *(mark one for each line)*

	Did not use	Under 10	10–11	12–13	14–15	16–17	18–20	21–25	26+
a. Tobacco (smoke, chew, snuff)	○	○	○	○	○	○	○	○	○
b. Alcohol (beer, wine, liquor)*	○	○	○	○	○	○	○	○	○
c. Marijuana (pot, hash, hash oil)	○	○	○	○	○	○	○	○	○
d. Cocaine (crack, rock, freebase)	○	○	○	○	○	○	○	○	○
e. Amphetamines (diet pills, speed)	○	○	○	○	○	○	○	○	○
f. Sedatives (downers, ludes)	○	○	○	○	○	○	○	○	○
g. Hallucinogens (LSD, PCP)	○	○	○	○	○	○	○	○	○
h. Opiates (heroin, smack, horse)	○	○	○	○	○	○	○	○	○
i. Inhalants (glue, solvents, gas)	○	○	○	○	○	○	○	○	○
j. Designer drugs (ecstasy, MDMA)	○	○	○	○	○	○	○	○	○
k. Steroids	○	○	○	○	○	○	○	○	○
l. Other illegal drugs	○	○	○	○	○	○	○	○	○

*Other than a few sips

17. Within the last year about how often have you used... *(mark one for each line)*

	Did not use	Once/year	6 times/year	Once/month	Twice/month	Once/week	3 times/week	5 times/week	Every day
a. Tobacco (smoke, chew, snuff)	○	○	○	○	○	○	○	○	○
b. Alcohol (beer, wine, liquor)	○	○	○	○	○	○	○	○	○
c. Marijuana (pot, hash, hash oil)	○	○	○	○	○	○	○	○	○
d. Cocaine (crack, rock, freebase)	○	○	○	○	○	○	○	○	○
e. Amphetamines (diet pills, speed)	○	○	○	○	○	○	○	○	○
f. Sedatives (downers, ludes)	○	○	○	○	○	○	○	○	○
g. Hallucinogens (LSD, PCP)	○	○	○	○	○	○	○	○	○
h. Opiates (heroin, smack, horse)	○	○	○	○	○	○	○	○	○
i. Inhalants (glue, solvents, gas)	○	○	○	○	○	○	○	○	○
j. Designer drugs (ecstasy, MDMA)	○	○	○	○	○	○	○	○	○
k. Steroids	○	○	○	○	○	○	○	○	○
l. Other illegal drugs	○	○	○	○	○	○	○	○	○

18. During the past 30 days on how many days did you have: *(mark one for each line)*

	0 days	1–2 days	3–5 days	6–9 days	10–19 days	20–29 days	All 30 days
a. Tobacco (smoke, chew, snuff)	○	○	○	○	○	○	○
b. Alcohol (beer, wine, liquor)	○	○	○	○	○	○	○
c. Marijuana (pot, hash, hash oil)	○	○	○	○	○	○	○
d. Cocaine (crack, rock, freebase)	○	○	○	○	○	○	○
e. Amphetamines (diet pills, speed)	○	○	○	○	○	○	○
f. Sedatives (downers, ludes)	○	○	○	○	○	○	○
g. Hallucinogens (LSD, PCP)	○	○	○	○	○	○	○
h. Opiates (heroin, smack, horse)	○	○	○	○	○	○	○
i. Inhalants (glue, solvents, gas)	○	○	○	○	○	○	○
j. Designer drugs (ecstasy, MDMA)	○	○	○	○	○	○	○
k. Steroids	○	○	○	○	○	○	○
l. Other illegal drugs	○	○	○	○	○	○	○

19. How often do you think the average student on your campus uses... *(mark one for each line)*

	Never	Once/year	6 times/year	Once/month	Twice/month	Once/week	3 times/week	5 times/week	Every day
a. Tobacco (smoke, chew, snuff)	○	○	○	○	○	○	○	○	○
b. Alcohol (beer, wine, liquor)	○	○	○	○	○	○	○	○	○
c. Marijuana (pot, hash, hash oil)	○	○	○	○	○	○	○	○	○
d. Cocaine (crack, rock, freebase)	○	○	○	○	○	○	○	○	○
e. Amphetamines (diet pills, speed)	○	○	○	○	○	○	○	○	○
f. Sedatives (downers, ludes)	○	○	○	○	○	○	○	○	○
g. Hallucinogens (LSD, PCP)	○	○	○	○	○	○	○	○	○
h. Opiates (heroin, smack, horse)	○	○	○	○	○	○	○	○	○
i. Inhalants (glue, solvents, gas)	○	○	○	○	○	○	○	○	○
j. Designer drugs (ecstasy, MDMA)	○	○	○	○	○	○	○	○	○
k. Steroids	○	○	○	○	○	○	○	○	○
l. Other illegal drugs	○	○	○	○	○	○	○	○	○

20. Where have you used... *(mark all that apply)*

	Never used	On campus events	Residence hall	Frat/sorority	Bar/restaurant	Where you live	In a car	Private parties	Other
a. Tobacco (smoke, chew, snuff)	○	○	○	○	○	○	○	○	○
b. Alcohol (beer, wine, liquor)	○	○	○	○	○	○	○	○	○
c. Marijuana (pot, hash, hash oil)	○	○	○	○	○	○	○	○	○
d. Cocaine (crack, rock, freebase)	○	○	○	○	○	○	○	○	○
e. Amphetamines (diet pills, speed)	○	○	○	○	○	○	○	○	○
f. Sedatives (downers, ludes)	○	○	○	○	○	○	○	○	○
g. Hallucinogens (LSD, PCP)	○	○	○	○	○	○	○	○	○
h. Opiates (heroin, smack, horse)	○	○	○	○	○	○	○	○	○
i. Inhalants (glue, solvents, gas)	○	○	○	○	○	○	○	○	○
j. Designer drugs (ecstasy, MDMA)	○	○	○	○	○	○	○	○	○
k. Steroids	○	○	○	○	○	○	○	○	○
l. Other illegal drugs	○	○	○	○	○	○	○	○	○

21. Please indicate how often you have experienced the following due to your drinking or drug use during the last year... *(mark one for each line)*

	Never	Once	Twice	3–5 times	6–9 times	10 or more times
a. Had a hangover	○	○	○	○	○	○
b. Performed poorly on a test or important project	○	○	○	○	○	○
c. Been in trouble with police, residence hall, or other college authorities	○	○	○	○	○	○
d. Damaged property, pulled fire alarm, etc.	○	○	○	○	○	○
e. Got into an argument or fight	○	○	○	○	○	○
f. Got nauseated or vomited	○	○	○	○	○	○
g. Driven a car while under the influence	○	○	○	○	○	○
h. Missed a class	○	○	○	○	○	○
i. Been criticized by someone I know	○	○	○	○	○	○
j. Thought I might have a drinking or other drug problem	○	○	○	○	○	○
k. Had a memory loss	○	○	○	○	○	○
l. Done something I later regretted	○	○	○	○	○	○
m. Been arrested for DWI/DUI	○	○	○	○	○	○
n. Have been taken advantage of sexually	○	○	○	○	○	○
o. Have taken advantage of another sexually	○	○	○	○	○	○
p. Tried unsuccessfully to stop using	○	○	○	○	○	○
q. Seriously thought about suicide	○	○	○	○	○	○
r. Seriously tried to commit suicide	○	○	○	○	○	○
s. Been hurt or injured	○	○	○	○	○	○

22. Have any of your family had alcohol or other drug problems: *(mark all that apply)*

- ○ Mother
- ○ Father
- ○ Stepmother
- ○ Stepfather
- ○ Brothers/sisters
- ○ Mother's parents
- ○ Father's parents
- ○ Aunts/uncles
- ○ Spouse
- ○ Children
- ○ None

23. If you volunteer any of your time on or off campus to help others, please indicate the approximate number of hours per month and principal activity:

- ○ Don't volunteer, or less than 1 hour
- ○ 1–4 hours
- ○ 5–9 hours
- ○ 10–15 hours
- ○ 16 or more hours

Principal volunteer activity is: _____

24. Within the last year to what extent have you participated in any of the following activities? *(mark one for each line)*

	Not involved	Attended	Active involvement, non-leader	Leadership position
a. Intercollegiate athletics	○	n/a	○	○
b. Intramural or club sports	○	n/a	○	○
c. Social fraternities or sororities	○	○	○	○
d. Religious and interfaith groups	○	○	○	○
e. International and language groups	○	○	○	○
f. Minority and ethnic organizations	○	○	○	○
g. Political and social action groups	○	○	○	○
h. Music and other performing arts groups	○	○	○	○
i. Student newspaper, radio, TV, magazine, etc.	○	○	○	○

25. In the first column, indicate whether any of the following have happened to you within the last year while you were in and around campus. If you answered yes to any of these items, indicate in the second column if you had consumed alcohol or other drugs shortly before these incidents.

	Happened to you			Consumed alcohol or drugs	
	yes	no		yes	no
a. Ethnic or racial harassment	○	○		○	○
b. Threats of physical violence	○	○	→	○	○
c. Actual physical violence	○	○		○	○
d. Theft involving force or threat of force	○	○	If yes	○	○
e. Forced sexual touching or fondling	○	○	→	○	○
f. Unwanted sexual intercourse	○	○		○	○

26. How do you think your close friends feel (or would feel) about you... *(mark one for each line)*

	Don't disapprove	Disapprove	Strongly disapprove
a. Trying marijuana once or twice	○	○	○
b. Smoking marijuana occasionally	○	○	○
c. Smoking marijuana regularly	○	○	○
d. Trying cocaine once or twice	○	○	○
e. Taking cocaine regularly	○	○	○
f. Trying LSD once or twice	○	○	○
g. Taking LSD regularly	○	○	○
h. Trying amphetamines once or twice	○	○	○
i. Taking amphetamines regularly	○	○	○
j. Taking one or two drinks of an alcoholic beverage (beer, wine, liquor) nearly every day	○	○	○
k. Taking four or five drinks nearly every day	○	○	○
l. Having five or more drinks in one sitting	○	○	○
m. Taking steroids for body building or improved athletic performance	○	○	○

27. Do you believe that alcohol has the following effects? *(mark one for each line)*

	yes	no
a. Breaks the ice	○	○
b. Enhances social activity	○	○
c. Makes it easier to deal with stress	○	○
d. Facilitates a connection with peers	○	○
e. Gives people something to talk about	○	○
f. Facilitates male bonding	○	○
g. Facilitates female bonding	○	○
h. Allows people to have more fun	○	○
i. Gives people something to do	○	○
j. Makes food taste better	○	○
k. Makes women sexier	○	○
l. Makes men sexier	○	○
m. Makes me sexier	○	○
n. Facilitates sexual opportunities	○	○

28. On this campus, drinking is a central part in the social life of the following groups: *(mark one for each line)*

	yes	no
a. Male students	○	○
b. Female students	○	○
c. Faculty/staff	○	○
d. Alumni	○	○
e. Athletes	○	○
f. Fraternities	○	○
g. Sororities	○	○

29. Campus environment: *(mark one for each line)*

	yes	no
a. Does the social atmosphere on this campus promote alcohol use?	○	○
b. Does the social atmosphere promote other drug use?	○	○
c. Do you feel safe on this campus?	○	○

30. Compared to other campuses with which you are familiar, this campus' use of alcohol is... *(mark one)*

- Greater than other campuses ○
- Less than other campuses ○
- About the same as other campuses ○

31. Housing preferences: *(mark one for each line)*

	yes	no
a. If you live in university housing, do you live in a designated alcohol-free/ drug-free residence hall?	○	○
b. **If no,** would you like to live in such a residence hall unit if it were available?	○	○

32. To what extant do students on this campus care about problems associated with... *(mark one for each line)*

	Not at all	Slightly	Somewhat	Very much
a. Alcohol and other drug use	○	○	○	○
b. Campus vandalism	○	○	○	○
c. Sexual assault	○	○	○	○
d. Assaults that are non-sexual	○	○	○	○
e. Harassment because of gender	○	○	○	○
f. Harassment because of sexual orientation	○	○	○	○
g. Harassment because of race or ethnicity	○	○	○	○
h. Harassment because of religion	○	○	○	○

33. To what extant has your alcohol use changed within the last 12 months?

- Increased ○
- About the same ○
- Decreased ○
- I have not used alcohol ○

34. To what extent has your illegal drug use changed within the last 12 months?

- Increased ○
- About the same ○
- Decreased ○
- I have not used drugs ○

35. How much do you think people risk harming themselves (physically or in other ways) if they... *(mark one for each line)*

	No risk	Slight risk	Moderate risk	Great risk	Can't say
a. Try marijuana once or twice	○	○	○	○	○
b. Smoke marijuana occasionally	○	○	○	○	○
c. Smoke marijuana regularly	○	○	○	○	○
d. Try cocaine once or twice	○	○	○	○	○
e. Take cocaine regularly	○	○	○	○	○
f. Try LSD once or twice	○	○	○	○	○
g. Take LSD regularly	○	○	○	○	○
h. Try amphetamines once or twice	○	○	○	○	○
i. Take amphetamines regularly	○	○	○	○	○
j. Take one or two drinks of an alcoholic beverage (beer, wine, liquor) nearly every day	○	○	○	○	○
k. Take four or five drinks nearly every day	○	○	○	○	○
l. Have five or more drinks in one sitting	○	○	○	○	○
m. Take steroids for body building or improved athletic performance	○	○	○	○	○
n. Consume alcohol prior to being sexually active	○	○	○	○	○
o. Regularly engage in unprotected sexual activity with a single partner	○	○	○	○	○
p. Regularly engage in unprotected sexual activity with multiple partners	○	○	○	○	○

36. Mark one answer for each line:

	yes	no
a. Did you have sexual intercourse within the last year?	○	○
If yes, answer b and c below. ↙		
b. Did you drink alcohol the last time you had sexual intercourse?	○	○
c. Did you use other drugs the last time you had sexual intercourse?	○	○

37. During the past 30 days, to what extent have you engaged in any of the following behaviors? *(mark one for each line)*

	Zero times	One time	Two times	3–5 times	6–9 times	10 or more times
a. Refused an offer of alcohol or other drugs	○	○	○	○	○	○
b. Bragged about your alcohol or other drug use	○	○	○	○	○	○
c. Heard someone else brag about his/her alcohol or other drug use	○	○	○	○	○	○
d. Carried a weapon such as a gun, knife, etc. (do not count hunting situations or weapons used as part of your job)	○	○	○	○	○	○
e. Experienced peer pressure to drink or use drugs	○	○	○	○	○	○
f. Held a drink to have people stop bothering you about why you weren't drinking	○	○	○	○	○	○
g. Thought a sexual partner was not attractive because he/she was drunk	○	○	○	○	○	○
h. Told a sexual partner that he/she was not attractive because he/she was drunk	○	○	○	○	○	○

38. To what extent do you agree with the following statements? *(mark one for each line)*

	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Don't know
a. I feel valued as a person on this campus	○	○	○	○	○	○
b. I feel that faculty and staff care about me as a student	○	○	○	○	○	
c. I have a responsibility to contribute to the well-being of other students	○	○	○	○	○	
d. My campus encourages me to help others in need	○	○	○	○	○	
e. I abide by the university policy and regulations that concern alcohol and other drug use	○	○	○	○	○	

39. In which of the following ways does other students' drinking interfere with your life on or around campus? *(mark one for each line)*

	yes	no
a. Interrupts your studying	○	○
b. Makes you feel unsafe	○	○
c. Messes up your physical living space (cleanliness, neatness, organization, etc.)	○	○
d. Adversely affects your involvement on an athletic team or in other organized groups	○	○
e. Prevents you from enjoying events (concerts, sports, social activities, etc.)	○	○
f. Interferes in other way(s)	○	○
g. Doesn't interfere with my life	○	○

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Appendix B
Faculty and Staff Environmental Alcohol and Other Drug Survey
Southern Illinois University at Carbondale

Faculty and Staff Environmental Alcohol and Other Drug Survey

Developed by the CORE Institute for SIUC Alcohol and Drug Prevention Program

Please fill in the appropriate answer (Please use a no. 2 pencil)

Please answer the following questions marking Yes, No, or Don't Know.

	Yes	No	Don't Know
1. Does this university have a policy concerning alcohol and other drugs?	○	○	○
2. Have you ever seen/read a copy of this policy?	○	○	○
3. Do the policies pertain to faculty and staff?	○	○	○
4. Does the policy specifically address faculty/staff responsibility at events where students are present and alcohol is served?	○	○	○
5. Do you know where to find a copy of the alcohol and other drug policy?	○	○	○
6. Does this university have an alcohol or other drug prevention program for students?	○	○	○
7. Does this university have an alcohol or other drug prevention program for staff?	○	○	○
8. Do you believe this university is concerned about the prevention of alcohol and other drug abuse?	○	○	○
9. Are you actively involved in efforts to prevent alcohol and other drug use problems on this campus?	○	○	○
10. Does this university provide accurate and current information to students concerning the effects and health risks associated with the use and abuse of alcohol and other drugs?	○	○	○

	Yes	No
11. Was alcohol and other drug abuse information provided at any faculty/staff orientation that you attended?	○	○
12. Have you ever attended any alcohol and other drug abuse program on this campus?	○	○
13. Have you ever provided information concerning alcohol and other drugs to students (i.e., class, advisement, etc.)?	○	○
14. Are training programs provided so that staff and faculty can identify students or colleagues who have problems with alcohol and other drugs?	○	○
15. If you had a student or a colleague with alcohol or other drug problems, would you know how to refer him/her for help?	○	○

	Yes	No	Don't Know
16. Are alcohol and other drug policies consistently enforced on this university campus?	○	○	○
17. Are appropriate disciplinary actions taken when alcohol and other drug policies have been violated by students?	○	○	○

	Yes	No
18. Are appropriate disciplinary actions taken when alcohol and other drug policies have been violated by faculty/staff?	○	○
19. Does this university assess awareness, attitudes, and behaviors regarding alcohol and other drugs on campus?	○	○
20. Have you ever personally answered a survey regarding alcohol and other drugs on this university campus?	○	○
21. Does this university assess the campus environment as an underlying cause of alcohol and other drug abuse?	○	○
22. Do you think institutions of higher education should be involved in alcohol and other drug prevention efforts?	○	○
23. Do you think that alcohol and other drug use negatively affects the overall quality of student life?	○	○
24. Do you believe student academic performance is affected by alcohol and other drug use?	○	○
25. Have you personally been aware of a student(s) whose academic performance has been affected by alcohol and other drug use?	○	○
26. Do you wish to be involved in alcohol and other drug prevention efforts at this university?	○	○

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Please answer questions 27 through 33 by marking Yes or No.

		Yes	No
27.	Would you attend a workshop dealing with alcohol and other drug prevention/education efforts?	○	○
28.	Do you consider the current alcohol and other drug use on this campus to be a problem?	○	○
29.	Do you consider the current alcohol and other drug use on this campus to be more of a problem than that experienced by other campuses?	○	○
30.	Do you think the current alcohol and other drug use on this campus is a concern for educators?	○	○
31.	Do you know how to identify the signs of problematic alcohol and other drug use?	○	○
32.	Do you feel that more information regarding the identification of problematic alcohol and other drug use among students would be helpful to you?	○	○
33.	If you knew how to refer students to appropriate services for suspected alcohol and other drug problems, would you refer them to such services?	○	○

34. Which of the statements below best represents (1) the attitude you have regarding alcohol use, and (2) the most common attitude of the campus in general regarding alcohol use.

a. Drinking is never a good thing to do.
b. Drinking is okay, but a person should never get drunk.
c. An occasional "drunk" is okay as long as it doesn't interfere with academics or other responsibilities.
d. An occasional "drunk" is okay even if it does interfere with academics or other responsibilities.
e. A frequent "drunk" is okay if that is what the individual wants to do.

1. Your own attitude	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
2. Campus in general	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ

35. Which of the statements below best represents (1) the attitude you have regarding illicit (non-prescription) drug use, and (2) the most common attitude of the campus in general regarding illicit (non-prescription) drug use.

a. Using drugs is never a good thing to do.
b. Using drugs is okay, but a person should never get wasted.
c. An occasional "drug high" is okay as long as it doesn't interfere with academics or other responsibilities.
d. An occasional "drug high" is okay even if it does interfere with academics or other responsibilities.
e. A frequent "drug high" is okay if that is what the individual wants to do.

1. Your own attitude	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ
2. Campus in general	Ⓐ	Ⓑ	Ⓒ	Ⓓ	Ⓔ

Personal data

1. Highest education level

- PhD ○
- Masters ○
- Bachelors ○
- High school dip. or GED ○
- Less than high school diploma or GED ○

2. Gender

- Male ○
- Female ○

3. Age

0	0
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9

Supervisory role? ○ YES ○ NO

Employee status

- Faculty ○
- Admin./professional ○
- Civil service ○
- Teaching assistant ○
- Other ○

Marital status

- Single ○
- Married ○
- Separated ○
- Divorced ○
- Widowed ○

Ethnic origin Black (non-hispanic) ○ Hispanic ○ White (non-hispanic) ○ Asian/Pacific Islander ○ American Indian/Alaskan Native ○ Other ○

THANK YOU

Appendix C
College Alcohol Survey (Short Form)
Harvard School of Public Health

Your answers are anonymous. Do not write your name on the questionnaire.

Your participation is voluntary. You do not need to answer any question that makes you feel uncomfortable.

Thank you for your help. We do hope you will take part and let your views be represented.

Indicate your answers by filling in the circles.

A. Student Background

A1. How old are you?

O 15	O 21
O 16	O 22
O 17	O 23
O 18	O 24
O 19	O 25
O 20	O 26 or older

A2. Are you male or female?

O male O female

A3. What is your current year in school?

O freshman (1st year)
O sophomore (2nd year)
O junior (3rd year)
O senior (4th year)
O 5th year or beyond

A4. Where do you currently live?

O single sex residence hall or dormitory
O co-ed residence hall or dormitory
O fraternity or sorority
O other university housing
O co-op or university affiliated group house
O off-campus house or apartment

A5. With whom do you currently live? (*Check all that apply.*)

- O alone
- O roommate(s) or housemate(s)
- O spouse
- O parent(s) or other relative(s)
- O significant other
- O children

A6. Are you a member of a fraternity or sorority?

O yes O no

A7. How important is it for you to participate in the following activities at college?

a. *athletics*

O very important O somewhat important
O important O not at all important

b. *arts*

O very important O somewhat important
O important O not at all important

c. *academic work*

O very important O somewhat important
O important O not at all important

d. *drinking*

O very important O somewhat important
O important O not at all important

e. *religion*

O very important O somewhat important
O important O not at all important

f. *fraternity or sorority life*

O very important O somewhat important
O important O not at all important

g. *political activism*

O very important O somewhat important
O important O not at all important

h. *parties*

O very important O somewhat important
O important O not at all important

i. *community service*

O very important
O important
O somewhat important
O not at all important

A8. Which of the following best describes your grade point average so far this year?

O A
O A-
O B+
O B
O B-
O C+
O C
O C-
O D
O no grade or don't know

A9. What is your current marital status?

O never married
O married
O divorced
O separated
O widowed

A10. Are you of Spanish or Hispanic origin?

O yes
O no

A11. Which of these racial or ethnic groups describes you best?

O white
O black/African American
O Asian/Pacific Islander
O Native American Indian/Native Alaskan
O Other: _____

B. Perceptions of the Campus Drinking Norms

B1. Based on what you have heard or experienced, to what extent is each of the following a problem for students at your school?

a. *physical assaults*

O not a problem
O a minor problem
O a moderate problem
O a major problem

b. *drug abuse*

O not a problem
O a minor problem
O a moderate problem
O a major problem

c. *racial tension or conflict*

O not a problem
O a minor problem
O a moderate problem
O a major problem

d. *suicide*

O not a problem
O a minor problem
O a moderate problem
O a major problem

e. *sexual assault or date rape*

O not a problem
O a minor problem
O a moderate problem
O a major problem

f. *heavy alcohol use*

O not a problem
O a minor problem
O a moderate problem
O a major problem

B2. Based on what you have heard or experienced, approximately what proportion of the following do you think *drink alcohol* at least once a month at this school?

a. *all students*

O 0%
O 1-9%
O 10-19%
O 20-29%
O 30-39%
O 40-49%
O 50-59%
O 60-69%
O 70-79%
O 80-89%
O 90-100%

b. *your friends*

O 0%
O 1-9%
O 10-19%
O 20-29%
O 30-39%
O 40-49%
O 50-59%
O 60-69%
O 70-79%
O 80-89%
O 90-100%

B3. Based on what you have heard or experienced, approximately what proportion of the following do you think are *heavy or problem drinkers* at this school?

a. *all students*

O 0%
O 1-9%
O 10-19%
O 20-29%
O 30-39%
O 40-49%
O 50-59%
O 60-69%
O 70-79%
O 80-89%
O 90-100%

b. *your friends*

O 0%	O 50-59%
O 1-9%	O 60-69%
O 10-19%	O 70-79%
O 20-29%	O 80-89%
O 30-39%	O 90-100%
O 40-49%	

C. Perceptions of Campus Policies

C1. Do the following statements describe what your school does about student drinking?

a. *discourages or tries to prevent all student drinking*

O yes O no O don't know

b. *tolerates drinking but tries to keep students from becoming drunk and disorderly*

O yes O no O don't know

c. *encourages responsible drinking*

O yes O no O don't know

d. *does little to discourage alcohol use or abuse*

O yes O no O don't know

C2. Does your school prohibit *all* alcohol use on campus by students, staff, and faculty?

O yes O no O don't know

C3. Since *the beginning of the school year*, how frequently has each of the following happened to you?

a. *I was stopped or searched for alcohol when **entering** a dorm or residence*

O not at all O once O twice or more

b. *I was stopped or searched for alcohol **in** the dorm or residence common areas*

O not at all O once O twice or more

c. *My own room was searched for alcohol*

O not at all O once O twice or more

d. *I was "carded" or asked for my ID at a campus event*

O not at all O once O twice or more

e. *I was part of a group that was drinking and we were asked to be quieter or less disruptive*

O not at all O once O twice or more

f. *I was at a campus party that was "shut down" because of alcohol*

O not at all O once O twice or more

C4. Since *the beginning of the school year*, has your school taken any of the following actions as a *consequence of your drinking*?

a. *I received a warning*

O don't drink/not applicable
O not at all
O once
O twice or more

b. *I was fined*

O don't drink/not applicable
O not at all
O once
O twice or more

c. *I was required to attend an alcohol education program*

O don't drink/not applicable
O not at all
O once
O twice or more

d. *I had to perform community service*

O don't drink/not applicable
O not at all
O once
O twice or more

e. *I was referred to an alcohol treatment program*

O don't drink/not applicable
O not at all
O once
O twice or more

f. *I received other disciplinary action*

O don't drink/not applicable
O not at all
O once
O twice or more

D. Personal Alcohol Use

D1. Think back over the *last two weeks*. How many times have you had five or more drinks in a row?

O none
O once
O twice
O 3 to 5 times
O 6 to 9 times
O 10 or more times

D2. During the *last two weeks*, how many times have you had four drinks in a row (but no more than that)?

O none
O once
O twice
O 3 to 5 times
O 6 to 9 times
O 10 or more times

D3. When did you last have a drink (that is more than just a few sips)? (Exclude use in religious ceremonies)

O I have never had a drink [*skip to section E*]
O not in the past year [*skip to section E*]
O more than 30 days ago, but less than a year ago [*skip to section E*]
O more than a week ago, but less than 30 days ago
O within the last week

D4. On how many occasions have you had a drink of alcohol in the *past 30 days*?

O 1-2 occasions
O 3-5 occasions
O 6-9 occasions
O 10-19 occasions
O 20-39 occasions
O 40 or more occasions

D5. In the *past 30 days* on those occasions when you drank alcohol, how many drinks did you *usually* have?

O 1 drink
O 2 drinks
O 3 drinks
O 4 drinks
O 5 drinks
O 6 drinks
O 7 drinks
O 8 drinks
O 9 or more drinks

D6. In the *past 30 days*, how often did you drink enough to get drunk? (By drunk we mean unsteady, dizzy or sick to your stomach.)

O 1-2 occasions
O 3-5 occasions
O 6-9 occasions
O 10-19 occasions
O 20-39 occasions
O 40 or more occasions

D7. In the *past 30 days*, how many drinks did you have the *last* time you attended any of the following events?

a. *Gathering of faculty with students*

O didn't attend/not applicable
O no drinks
O 1-2 drinks
O 3-4 drinks
O 5 or more drinks

b. *Student gathering in dorm room*

O didn't attend/not applicable
O no drinks
O 1-2 drinks
O 3-4 drinks
O 5 or more drinks

c. *Dormitory social event or party*

- O didn't attend/not applicable
- O no drinks
- O 1-2 drinks
- O 3-4 drinks
- O 5 or more drinks

d. *Fraternity or sorority event or party*

- O didn't attend/not applicable
- O no drinks
- O 1-2 drinks
- O 3-4 drinks
- O 5 or more drinks

e. *On-campus dance or concert*

- O didn't attend/not applicable
- O no drinks
- O 1-2 drinks
- O 3-4 drinks
- O 5 or more drinks

f. *Keg party on campus*

- O didn't attend/not applicable
- O no drinks
- O 1-2 drinks
- O 3-4 drinks
- O 5 or more drinks

g. *Intercollegiate sport event*

- O didn't attend/not applicable
- O no drinks
- O 1-2 drinks
- O 3-4 drinks
- O 5 or more drinks

h. *On-campus pub*

- O didn't attend/not applicable
- O no drinks
- O 1-2 drinks
- O 3-4 drinks
- O 5 or more drinks

i. *Party at off-campus housing*

O didn't attend/not applicable
O no drinks
O 1-2 drinks
O 3-4 drinks
O 5 or more drinks

j. *Party or event at another campus*

O didn't attend/not applicable
O no drinks
O 1-2 drinks
O 3-4 drinks
O 5 or more drinks

k. *Off-campus bar or club*

O didn't attend/not applicable
O no drinks
O 1-2 drinks
O 3-4 drinks
O 5 or more drinks

E. Access to Alcohol

E1. In *the past 30 days*, have you obtained alcohol in any of the following ways?

a. *Got it from someone who was under 21*

O yes O no

b. *Used my own fake ID*

O yes O no

c. *Got it from someone 21 or older*

O yes O no

d. *Bought it myself without being carded*

O yes O no

e. *Got it from home (parents, relatives)*

O yes O no

E2. Are there places at or near your school where you or your friends usually can get alcohol without showing an ID?

a. *At a local off-campus bar or club*

O yes O no O don't know

b. *At the on-campus pub*

O yes O no O don't know

c. *At a local liquor or grocery store*

O yes O no O don't know

F. Consequences of Alcohol Consumption

F1. Since the *beginning of the school year*, how often has your drinking caused you to ...

a. *have a hangover*

O not at all O once O twice or more

b. *miss a class*

O not at all O once O twice or more

c. *get behind in school work*

O not at all O once O twice or more

d. *do something you later regretted*

O not at all O once O twice or more

e. *forget where you were or what you did*

O not at all O once O twice or more

f. *argue with friends*

O not at all O once O twice or more

g. *engage in unplanned sexual activity*

O not at all O once O twice or more

h. *not use protection when you had sex*

O not at all O once O twice or more

i. *damage property*

O not at all O once O twice or more

j. *get into trouble with the campus or local police*

O not at all O once O twice or more

k. *get hurt or injured*

O not at all O once O twice or more

l. *require medical treatment for an alcohol overdose*

O not at all O once O twice or more

F2. Since the *beginning of the school year*, how often have you experienced any of the following *because of other students' drinking*?

a. *Been insulted or humiliated*

O not at all O once O twice or more

b. *Had a serious argument or quarrel*

O not at all O once O twice or more

c. *Been pushed, hit or assaulted*

O not at all O once O twice or more

d. *Had your property damaged*

O not at all O once O twice or more

e. *Had to "babysit" or take care of another student who drank to much*

O not at all O once O twice or more

f. *Had your studying or sleep interrupted*

O not at all O once O twice or more

g. *Experienced an unwanted sexual advance*

O not at all O once O twice or more

h. *Been a victim of sexual assault or "date rape"*

O not at all O once O twice or more

F3. *Since starting college*, have you received counseling or treatment for an alcohol related problem?

O no
O yes, on campus
O yes, off campus
O yes, both on and off campus

F4. In the *past 30 days*, how many times did you ...

a. *drive after drinking alcohol*

O not at all O once O twice or more

b. *drive after having 5 or more drinks*

O not at all O once O twice or more

c. *ride with a driver who was high or drunk*

O not at all O once O twice or more

Appendix D
Frequency Distribution

Question: What percentage of students at the college can be classified as binge drinkers?

Two items from the Harvard Survey are needed to answer this question:

- Think back over the *last two weeks*. How many times have you had five or more drinks in a row?
- During the *last two weeks*, how many times have you had four drinks in a row (but no more than that)?

The response alternatives for both questions are "none," "once," "twice," "3 to 5 times," "6 to 9 times," and "10 or more times."

Binge drinking can be defined for *men* as drinking *five* or more drinks in a row in the past two weeks, and for *women* as drinking *four* or more drinks in a row.

Following the analysis used for Harvard's national study, students who drink can be classified as follows:

- *Non-binge drinkers*. These students consumed alcohol during the past year but did not binge drink (response alternative: "none").
- *Infrequent binge drinkers*. These students have binged once or twice during the last two weeks (response alternatives: "once" or "twice").
- *Frequent binge drinkers*. These students have binged three or more times during the last two weeks (response alternatives: "3 to 5 times," "6 to 9 times," or "10 or more times").

Counting how many students fall into each category produces a statistic known as the *frequency*. The percentage of students in each category can also be calculated.

These results can be summarized in a *frequency table*. As shown below, a frequency table simply itemizes the number of students in each category. It is also helpful for the table to show the total number of students and percentages.

Frequency Table: Classification of Student Drinkers[a]

Classification[b]	Frequency	Percent	Valid Percent	Cumulative Percent
Non-binge drinker	152	50.7	55.9	55.9
Infrequent binge drinker	68	22.7	25.0	80.9
Frequent binge drinker	52	17.3	19.1	100.0
Missing	28	9.3	—	
Total	**300**	**100.0**	**100.0**	

[a] *Drinkers* are defined as students who reported consuming any alcohol during the past year.

[b] *Non-binge drinkers* consumed alcohol during the past year but did not binge drink. *Infrequent binge drinkers* binged once or twice during the last two weeks. *Frequent binge drinkers* binged three or more times during the last two weeks.

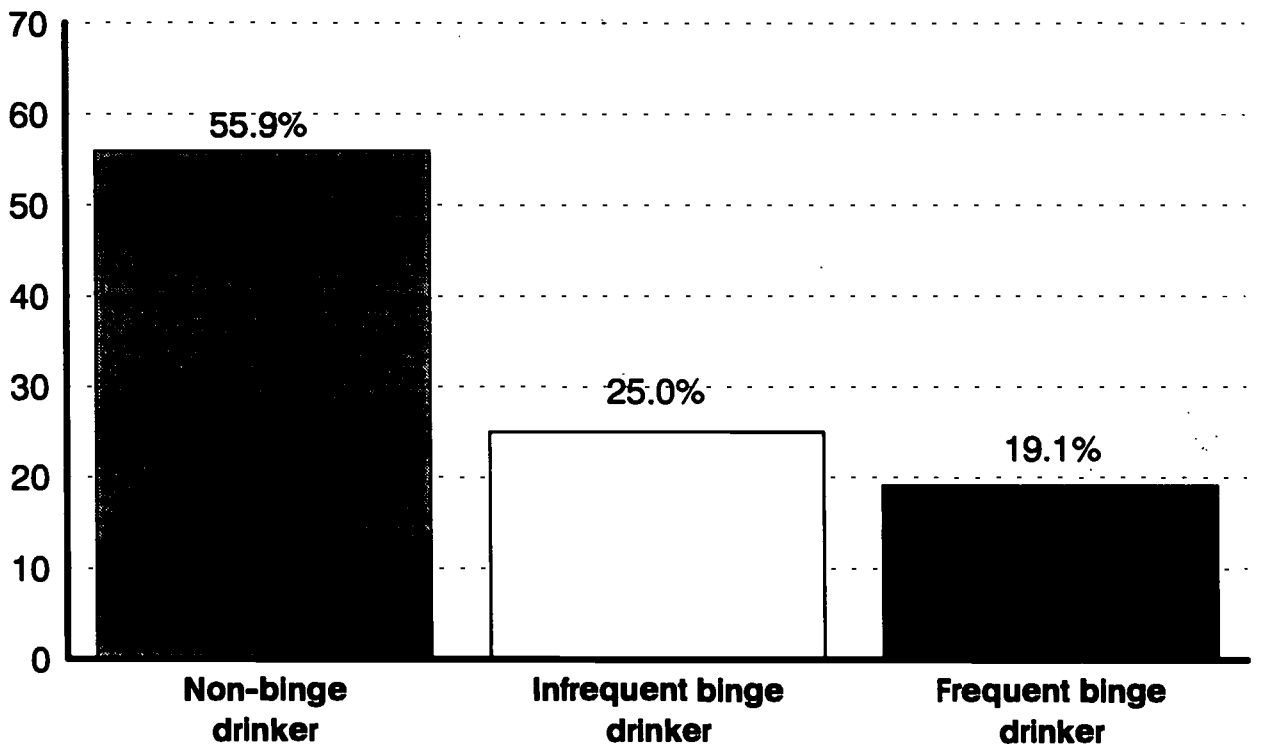
There are other ways to display frequency data. The figure below is a *bar graph* that displays the data from the frequency table. A good bar graph has the following features:

1. Both the categories and frequency levels are clearly labeled.
2. The length of a bar indicates the total frequency for that particular category.
3. The corresponding percentage of students is given at the top of the bar.
4. All of the bars are the same width.
5. Adjacent bars are separated by a space.

These same data can also be displayed in a *pie diagram.* With this display, a circle is divided into several pie-shaped wedges, each representing a particular category or score.

The portion of the circle given to a particular category matches the percentage of students that fall within it. In the pie diagram shown below, for example, 25 percent of the students are classified as infrequent binge drinkers.

Classification of Student Drinkers

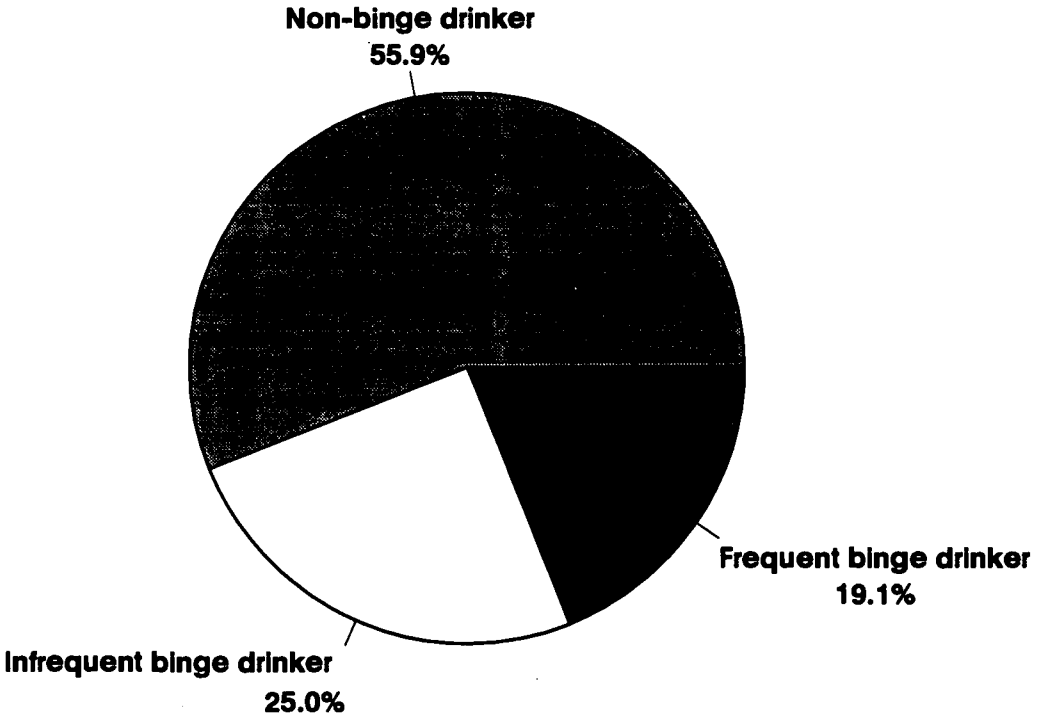


Note: missing cases = 28

Drinkers are defined as students who reported consuming any alcohol during the past year. *Non-binge drinkers* consumed alcohol during the past year but did not binge drink. *Infrequent binge drinkers* binged once or twice during the last two weeks. *Frequent binge drinkers* binged three or more times during the last two weeks.

Since a circle has 360 degrees, the pie-shaped wedge for this category has a central angle of 90 degrees, or 25 percent of the total angle of the circle.

Classification of Student Drinkers



Note: missing cases = 28

Drinkers are defined as students who reported consuming any alcohol during the past year. *Non-binge drinkers* consumed alcohol during the past year but did not binge drink. *Infrequent binge drinkers* binged once or twice during the last two weeks. *Frequent binge drinkers* binged three or more times during the last two weeks.

Appendix E
Central Tendency

Question: On average, what did students at the college estimate the percentage of their peers who drink to be?

A question from the Harvard Survey asks students to indicate approximately what proportion of students at their school they think binge drink alcohol at least once a month. There are 11 response options, ranging from "0%" to "90-100%."

Following the analysis used for Harvard's national study, these response options can be assigned values of 0 to 10, as shown below for a hypothetical data set.

Sample Data Distribution

Response Option	Score	Number of Students	Cumulative Number of Students
0%	0	13	13
1-9%	1	23	36
10-19%	2	22	58
20-29%	3	33	91
30-39%	4	49	140
40-49%	5	60	200
50-59%	6	69	269
60-69%	7	52	321
70-79%	8	40	361
80-89%	9	22	383
90-100%	10	17	400
Total		**400**	

A useful way to summarize a data set is to report the average or typical measurement, what statisticians call the data set's *central tendency*. There are three measures of central tendency: mode, median, and mean.

The *mode* is the score that occurs most frequently. For the hypothetical data set shown above the mode is a score of 6. Note that a data set can have more than one mode if the maximum frequency is shared by two or more scores.

The *median* is the score that separates the upper half of the scores from the lower half. That is, 50 percent of the scores are larger than the median, and 50 percent are smaller. For the data set shown above the median is 5.5.

The *mean* is what most people think of as the "average." To calculate the mean, add up all the scores and divide that sum by the total number of scores.

This calculation can be summarized by the following formula:

$$M = \frac{\sum x}{n}$$

In this formula, **x** stands for each individual score, and the symbol Σ (sigma) means "sum all." The **n** represents the total number of scores, and **M** stands for the mean. For the data set shown above the mean is 5.3. The calculation is shown below.

$$M = \frac{\sum x}{n}$$

$$M = \frac{2128}{400} = 5.3$$

Appendix F
Chi-Square Test

Question: Are a greater number of fraternity members frequent binge drinkers compared to non-members?

To execute the chi-square (χ^2) test, each student must be cross-classified across the two variables in question. A count can then be made of the number of students who fall in the various subgroups this creates.

Administrators might find, for example, that 200 fraternity members and 50 non-members were frequent binge drinkers, that 130 members and 120 non-members were infrequent binge drinkers, and that 110 members and 140 non-members were non-binge drinkers.

This frequency information can be arranged in what is called a *contingency table*, as shown below.

Sample Contingency Table

Student Drinking Status by Fraternity Membership

	Fraternity Membership		
Drinking Status	**Yes**	**No**	**Total**
Non-Binge Drinker	110	140	250
Infrequent Binge Drinker	130	120	250
Frequent Binge Drinker	200	50	250
Total	**440**	**310**	**750**

The next step is to compare these frequencies with the hypothetical totals that would be expected if there were no difference between the fraternity members and non-members. There is a formula for calculating each of these "expected" frequencies.

Once the expected frequencies are known, the χ^2 statistic can be calculated to assess the relative size of the difference between the expected and actual values. (Consult a statistics textbook for the appropriate formula.)

A large χ^2 would indicate that the members and non-members are quite different from one another. A value close to zero would indicate that the two groups are nearly identical.

For the contingency table above, χ^2 value of 73.7 was calculated. Is that large enough to conclude that there are real differences between fraternity members and non-members?

Think of it this way: If there were no real difference in frequent binge drinking between fraternity members and non-members, what would be the probability of getting a χ^2 value this large just by chance? (It is possible that, in general, fraternity members are *not* more likely to be frequent binge drinkers compared to non-members, but that the survey happened by chance to draw a sample of students for whom this was true.)

To answer this question requires looking at a *table of critical values* for the χ^2 statistic. This table states how likely it is that certain values of χ^2 will be obtained by chance alone. A partial table of critical values for χ^2 appears below.

To use the table, a researcher needs to know the appropriate *degrees of freedom (df)* and the *level of significance*. The number of degrees of freedom depends on the number of rows and columns in the contingency table. The sample calculation shown above is for a χ^2 test with two degrees of freedom.

Critical Values of the χ^2 Distribution

	Level of Significance				
df	.10	.05	.025	.01	.005
1	2.71	3.84	5.02	6.63	7.88
2	4.61	5.99	7.38	9.21	10.60
3	6.25	7.81	9.35	11.34	12.84

Very often, researchers will set the level of significance at a probability level of .05. This means that, if the probability of obtaining a calculated χ^2 value by chance is less than five percent (usually expressed as "$\mathbf{p} < .05$"), then the researchers will declare that the difference found between groups in the survey probably applies to the entire student body—that is, that the difference is "statistically significant." By setting the level of significance at .05, the researchers are in effect deciding that they will tolerate a five percent chance of being wrong in that declaration.

With two degrees of freedom and a .05 level of significance, the critical χ^2 value is 5.99. This means that any χ^2 value above 5.99, as in 5.99 would be considered statistically significant, whereas a value at or below 5.99 would not. Thus, a χ^2 value of 73.7 is statistically significant at $\mathbf{p} < .05$. In fact, according to the table of critical values, a χ^2 of 73.7 would also be statistically significant at $\mathbf{p} < .005$.

Publications available from . . .

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- Setting and Improving Policies for Reducing Alcohol and Other Drug Problems on Campus: A Guide for Administrators *(114 pp.)*
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The Center offers an integrated array of services to help people at colleges and universities adopt effective AOD prevention strategies:

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