

Misperceptions of the Norms for the Frequency of Alcohol and Other Drug Use on College Campuses

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Abstract. Data from surveys of students representing 100 diverse college campuses were used to investigate the difference between the self-reported frequency of a drug's use and students' perceptions of the frequency of use. Students were asked about the frequency of their own use of 11 drugs (alcohol, tobacco, marijuana, cocaine, amphetamines, sedatives, hallucinogens, opiates, inhalants, designer drugs, and steroids) and how often they thought "the average student" on their campus used these drugs. Respondents typically misperceived their peer norms (designated as the median of self-reported use) by substantially overestimating how often the average student used each drug, both in campus samples where abstinence or infrequent use were the median of self-reports and in samples where the median of self-reports revealed more frequent use. To the extent that they may promote or reinforce students' actual use, these misperceptions should be considered in designing college drug prevention programs.

Key Words: alcohol, drugs, norms, perceptions, students, tobacco

Extensive alcohol and other drug use and abuse on college campuses has been documented in much research over the last 2 decades.¹⁻⁴ This relatively high level of use, in part, reflects the predominant population of 18- to 24-year olds, among whom such use is especially prevalent.

The research also reflects the special historical and cultural contexts of college environments, where drinking has long been a major part of social traditions and where tolerance of a variety of lifestyles has contributed to greater experimentation with other drugs than is typical in the larger society. Yet amidst this objective reality of relatively high use levels and considerable abuse on many campuses, one must also consider the perceived reality or, in other words, the cultural patterns that students perceive exist among their peers. It is commonplace in research among college students to note the influence of peers, especially with regard to drug use, but less common to distinguish between what peers actually do and what students perceive to be the peer norm.⁵

Perkins and Berkowitz⁶ pointed out this distinction and demonstrated a significant gap between the actual and perceived norms for alcohol use on an undergraduate college campus. Students in that study tended to perceive much more permissive norms and higher levels of alcohol abuse among their peers than was the case. Similar patterns of misperceptions of drinking norms have been reported more recently in other research conducted at larger public and private universities across the country.⁷⁻⁹

Some theories of the mechanisms that cause and perpetuate these misperceptions have pointed to psychological attribution processes⁵ and "pluralistic ignorance,"⁹ in which the individual tends to perceive the drinking actions of others as more reflective of their dispositions than of any specific context, thus generalizing certain attitudes and behaviors of others as more common than is really the case. Additional social psychological and sociocultural theories explain the gap between reality and perception by pointing to the effects of extravagant events, images, and social conversation frequently associated with drinking in student culture.⁵

The abuse of alcohol in student groups and social settings may be recalled more vividly and quickly than actions surrounding abstinence or moderation, thereby getting a disproportionate amount of attention in peer conversation as well as in mass media news and popular entertainment images. This inordinate public attention and peer talk about the antics of intoxicated peers and campus drinking events may inflate a student's sense of what is normal or typical behavior among peers. Athletes or fraternity and sorority affiliates may have higher levels of alcohol use than the campuswide average at some institutions and, simultaneously, may have greater visibility in the campus culture than most other students, potentially further distorting perceptions of what is characteristic of most students.

These theories suggest that the tendency to perceive an exaggerated peer norm may be pervasive across a wide vari-

ety of college campuses and applicable to both alcohol consumption and other drug use. Indeed, some research has demonstrated the existence of a similar gap between the actual norm and the perceived norm for use of marijuana, hallucinogens, and cocaine.¹⁰ Research findings have also suggested that perceptions of peer norms, regardless of the actual campus norm, may contribute significantly to student alcohol abuse as students act in accordance with what they believe to be the expectations of their peers.

The negative effect of an exaggerated perception of the peer norm is especially detrimental to students who already hold permissive personal attitudes about use. These students are encouraged to act on their own attitudes by this misperception that most of the student body is at least as permissive as they are.^{6,11}

Our purpose in conducting this study was to expand the investigation of actual and perceived alcohol and other drug norms in college, using a nationwide database of collegiate institutions. The analysis of this database provides two important advances in this line of research. First, it permits an assessment of the extent of existing misperceptions about alcohol use at diverse colleges and universities where the institutional norms, based on self-reported use in representative samples, range from abstinence to frequent drinking as most typical. Second, it provides for the assessment of the extent of misperceptions about a wide range of other drugs that may be used by students in various campus environments.

METHOD

The study is a secondary analysis of a nationwide database, the Core Alcohol and Drug Survey, that has been administered frequently on college campuses throughout the United States. The survey was developed by a committee of grantees from the US Department of Education's Drug Prevention Program in Higher Education.

The Core survey was originally designed in 1989 as a two-page, optically scanned self-report questionnaire that anonymously examined the use, scope, and consequences of alcohol and other drugs in the college setting.³ The newer, long form of the Core survey became available in September 1994. This version of the instrument includes two additional pages designed to collect information about campus climate, campus violence, beliefs about the effects of alcohol, participation in campus activities, perceptions of group norms, risks involved in using alcohol and other drugs, and secondhand effects of drinking.

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Each institution that used the survey was required to obtain approval from its committee on human subjects. Students were informed that their participation was entirely voluntary and were told to return the forms anonymously. Thus, respondent consent was implicit in the completion and return of the survey.

After an individual college or university administered the long form of the questionnaire, the survey forms were sent to Southern Illinois University at Carbondale for machine scoring. The raw data were then converted into a report that described the findings in detail for that individual institution. With the permission of each participating institution, the data were entered into a composite national database. Institutions included in the national database had to obtain their samples and conduct their surveys in a random and representative fashion (ie, no biases in their sampling methods and the sample had to be demographically representative of the institution as a whole). This was assessed by means of (a) information submitted by the institution describing its sampling methods, characteristics of the sample and the population from which it was drawn, and (b) a follow-up telephone inquiry by the Core Institute staff to the institution's on-site test administrator. Data from institutions that did not meet the requirements of randomness and representativeness were eliminated from the database.

For this study, we drew information from this Core Institute database, specifically from surveys conducted at institutions of higher education that used the long form between fall 1994 and spring 1996. We selected data only from institutions that obtained a sample size of at least 100 cases. This resulted in a database of 48,168 student surveys from 100 institutions with an average sample size of 482. Fifty schools were public institutions, 47 were private, 80 had 4-year undergraduate programs, and 20 were 2-year schools. Forty of the institutions enrolled fewer than 2,500 students, 39 enrolled 2,500 to 9,999, and 21 enrolled 10,000 or more students. Twenty-eight schools were urban, 27 were suburban, and 45 were in rural settings; the 100 institutions were in 32 states and the District of Columbia (31 in the Northeast, 31 in the North Central States, 21 in the South, and 17 in the West).

Two sets of questions on the Core Survey long form were of particular interest for our research. First, survey respondents were asked to indicate how often within the last year they had personally used each of 11 specific types of drugs (alcohol, tobacco, marijuana, cocaine, amphetamines, sedatives, hallucinogens, opiates, inhalants, designer drugs, and steroids). Common names and varieties of each drug were listed in the survey to clarify each drug type. Nine possible response categories, ranging from *no use at all* to *daily use*, were provided. We subsequently collapsed the responses into five categories for use in this research. The categories included *no use*, *yearly* (once/year or 6 times/year), *monthly* (once/month or twice/month), *weekly* (once/week or 3 times/week), and *daily* (5 times/week or every day).

The second set of questions asked respondents "How often do you think the average student on your campus uses...?" The choices consisted of the same list of 11 drug

types; the same nine responses as were given for the question about frequency of personal use were offered. We subsequently collapsed them into the same five categories for this study.

RESULTS

Assessing Actual Campus Norms

The data for self-reported frequency of substance use were first broken down by school and specific substance. The median of the aggregate of self-reported use from the representative sample of each school was then selected to designate the norm for use of each substance at each school.

We chose the median from among the various statistical measures of central tendency in estimating the typical or "average" frequency of use. The median is generally recommended as the preferred measure of central tendency for use with ordinal data to identify the middle of the distribution. The ordinal response categories for frequency of use could be converted to a ratio or metric measure (albeit a somewhat crude conversion) by replacing each response category with a specific number of days per year, thus allowing the use of the mean as the measure of central tendency. However, the median is still the typically preferred measure of the norm when metric data are highly skewed; it avoids having a relatively few extreme cases at one end of the distribution inordinately raise or lower the overall estimate of what is most common.

The data for self-reported frequency of use of tobacco and all illicit drugs in this study are highly skewed, with a predominance of abstinence or infrequent use and relatively few extreme cases of daily use in the overall database, both in the national total distribution² and in each separate school sample. The data on alcohol use are also typically skewed, sometimes positively and sometimes negatively, in the institutional samples. Thus, we deemed the median category more appropriate than the mean, which made the question of a possible metric conversion moot.

Using the mode, rather than the median, might be more appropriate for identifying the student norm if the data were bimodal in the extremes of high and low use (where the median would identify a "false norm" of moderate use), but the data do not form this pattern in any instance. Rather, for most drugs across the schools sampled, the median and the mode were actually the same. Moreover, using the mode as a measure of the norm would be potentially misleading when responses were reported fairly evenly across several categories, as was sometimes the case for alcohol use. A few more cases in a relatively high or low use category along the distribution could place the mode at widely disparate points in the distribution continuum. Although every measure of central tendency has its limitations, we used the median as the best means for assessing school norms, given the characteristics of these data.

The data in Table 1 report a breakdown of the number of schools in this database by the campus norm (median category) for the frequency of self-reported use of a particular drug. The median of students' self-reported alcohol use varies widely among institutions in this study. Abstinence was the norm at 3 schools (ie, more than 50% of the students reported no use of alcohol). At the other extreme, although daily use of alcohol was not found to be the median at any institution, weekly use was the median category at 29 schools. The remaining institutions revealed yearly or monthly use as the median of self-reports among students on those campuses.

On 80 of the 100 campuses surveyed, the majority of respondents did not use any form of tobacco during the year. At one fifth of the institutions, occasional smoking or other tobacco use was the median category. Regarding marijuana, the majority of students (more than 50%) reported no use on 92 of the 100 campuses. Among those schools where the majority did not use marijuana, the mean abstinence rate was 73.8%. At the 8 institutions where the majority of students in the sample did use marijuana, the median

TABLE 1
Institutions of Higher Education Providing Student Data ($N = 100$), by Campus Norm (Median) for Frequency of Use of Each Drug

Drug	Campus norm				
	No use	Yearly	Monthly	Weekly	Daily
Alcohol	3	13	55	29	—
Tobacco	80	16	4	—	—
Marijuana	92	8	—	—	—
Cocaine	100	—	—	—	—
Amphetamines	100	—	—	—	—
Sedatives	100	—	—	—	—
Hallucinogens	100	—	—	—	—
Opiates	100	—	—	—	—
Inhalants	100	—	—	—	—
Designer drugs	100	—	—	—	—
Steroids	100	—	—	—	—

frequency (the middle of the distribution for personal use) stood at a few times per year.

For each of the 8 other drugs in the survey, abstinence was the median response at every institution; indeed, large majorities consistently reported no use. The mean prevalence rate during the last year for the 100 schools was 3.0% for cocaine use, 6.6% for amphetamines, 2.3% for sedatives, 6.5% for hallucinogens, 0.8% for opiates, 2.7% for inhalants, 2.2% for designer drugs, and 0.7% for steroids. At no school was any of these specific drugs (from cocaine to steroids as listed in Table 1) ever used during the year by more than one quarter of the sample. (The highest preva-

lence rate at any of the 100 schools was 23.8% for use of hallucinogens.)

Perceived Campus Norms

Data in Table 2 show individual students' perceptions of their campus norms for the frequency of a drug's use, compared with the median of self-reported use. The data are specific to each drug type and for each different normative situation. Among respondents from campuses where no alcohol use was reported as the norm (median category of self-reports), only 14.1% accurately perceived the abstainer to be the "average student."

TABLE 2
Percentage of Students With Accurate or Erroneous Perceptions of Their Campus Norm of Drug Use, by Drug Type

Norm (actual use)	Perceived norm					N
	Accurate No use	Inflated				
		Yearly	Monthly	Weekly	Daily	
No use						
Alcohol	14.1	21.0	22.1	36.8	6.0	884
Tobacco	6.6	5.6	9.2	34.0	44.6	36,656
Marijuana	9.8	18.2	28.1	34.8	9.1	42,186
Cocaine	44.8	30.0	15.4	7.9	1.9	43,679
Amphetamines	34.2	26.9	19.5	14.0	5.5	43,666
Sedatives	45.5	28.0	15.9	8.2	2.3	43,408
Hallucinogens	44.1	31.6	15.7	6.8	1.9	43,572
Opiates	57.3	26.3	9.9	4.9	1.6	43,446
Inhalants	54.2	26.8	11.3	5.7	2.0	43,371
Designer drugs	52.5	28.8	11.5	5.4	1.7	43,368
Steroids	46.6	25.3	14.9	9.6	3.6	43,410
Yearly use						
	Accurate Yearly	Deflated No use	Inflated			
			Monthly	Weekly	Daily	
Alcohol	3.9	3.9	12.5	61.5	18.2	4,386
Tobacco	2.6	2.7	5.3	35.4	54.0	6,973
Marijuana	5.3	2.8	20.3	52.0	19.7	2,457
Monthly use						
	Accurate Monthly use	Deflated		Inflated		
		No use	Yearly use	Weekly	Daily	
Alcohol	6.5	1.4	1.1	71.0	20.0	26,288
Tobacco	2.8	2.7	1.8	19.1	73.6	1,165
Weekly use						
	Accurate Weekly	Deflated		Inflated		
		No use	Yearly	Monthly	Daily	
Alcohol	74.8	0.6	0.4	2.5	21.7	14,295

Note. Norm = pattern of use of alcohol and other drugs that exists among students, as shown by the campus-specific median of self-reports; perceived norm = pattern of use that students believe is common on their campus.

The misperception of yearly or monthly drinking as typical was much more common. The misperception of the typical student as drinking every week was most prominent among respondents on campuses where abstinence was really the campus norm.

Tobacco use produced an even greater exaggeration in students' perceptions of their peers' use on campus. At schools where no use of tobacco was the most common behavior among students (a pattern that existed at most schools, as already noted), only 6.6% accurately perceived that the average student did not smoke or use other tobacco products. More than three quarters of the students in these environments where tobacco use was not the norm erroneously believed that the typical student used tobacco weekly, almost half believed that the typical student used tobacco every day.

Although not quite as extreme, students' perceptions of marijuana use revealed skewed misperceptions similar to those for tobacco use (see Table 2). The patterns for perceptions of the campus norm for use of all illicit drugs (other than marijuana) were very similar. As we noted previously, the actual campus norm based on the sample median of self-report categories at every institution was one of no use for all of these illicit drugs. Yet only about one third to a little over one half of all respondents accurately perceived this norm for the various drugs.

Thus, inflated misperceptions of the norm for use of various drugs were commonplace. For example, the majority of respondents erroneously believed that the "average student" used cocaine (recall that the mean percentage of cocaine users on these campuses was 3.0%). Likewise, the majority of students believed that steroid use was the norm among their fellow students, yet no more than 3.4% of students on any campus reported any use of steroids.

These inflated misperceptions of the norm for the use of drugs other than marijuana go well beyond the modestly erroneous belief that occasional use during the year is most typical. Indeed, depending on the particular drug, from 6.5% to 19.5% of our respondents held misperceptions of typical use by the "average student" as occurring at least weekly.

In institutional circumstances in which the median of self-reported use occurred for the category of less than monthly use, very few students (less than 4%) held deflated perceptions (ie, misperceived the norm to be that of no use) for any of the drugs that were typically used yearly in specific student samples. Similarly, very few respondents accurately perceived the norm for a particular drug in these circumstances. More than 90% of the respondents had inflated perceptions of the norm for how often each drug was typically used. Most common was the perception that alcohol and marijuana were used on a weekly basis and that tobacco use was a daily occurrence for the "average student."

At schools where monthly use of alcohol and tobacco was, in actuality, most typical in terms of this frequency's being the median response, inflated misperceptions were again the dominant pattern. Rarely did a respondent hold a

deflated perception of the norm, and more than 90% of the respondents perceived weekly or daily use as most typical for both alcohol and tobacco.

Finally, in considering students in institutions where self-reported weekly use of a drug was the median category (recall that a median of weekly use was found only for alcohol), we still found that the norm was rarely misperceived in a deflated direction (less than 4% of respondents). Although at this level of relatively frequent actual use, a large majority of respondents do accurately perceive the drinking norm, almost one quarter of respondents still hold the inflated perception that the average student drinks almost every day.

COMMENT

The results of our study using information from a nationwide database showed that many college students and, in numerous instances most students, misperceived the norms of their peers by perceiving considerably exaggerated substance use as typical at their school. This finding is especially significant, given the very large number of respondents in the study and the demographically diverse range of campuses represented that consistently revealed this pattern.

This study contributes two new findings to the literature about the pervasiveness of substance use misperceptions concerning peer norms. First, we found grossly exaggerated misperceptions regarding alcohol use across campuses with very different drinking norms, from schools where actual drinking is relatively infrequent to campuses where drinking is relatively frequent. Second, this study explores the phenomenon of misperceptions across a wide variety of other drugs (tobacco, marijuana, cocaine, amphetamines, sedatives, hallucinogens, opiates, inhalants, designer drugs, and steroids). In every instance, the perception of use as the norm was marked when the clear majority did not use the drug. In the cases of tobacco and marijuana use (where a few schools could be identified as having limited use by the majority of students), the perceived norm was still that the typical student was a much more frequent user than the self-reports indicated. Thus, overestimations of use, whatever the drug, were common and underestimations were very rare on every campus surveyed.

One might be somewhat cautious about drawing conclusions too broadly from these data, given that the findings are based on only one question each about personal use and the perceived use of the average student. Even though the survey questions were pretested for respondent interpretation and assessed for item validity and reliability in the construction of the survey,^{2,3} one might speculate about possible survey response error to help account for such a large and persistent gap between the average self-report and the perceived norm. These findings are quite consistent, however, with the results of previous studies using different and diverse attitudinal measures as well as quantity and frequency measures of perceived norms in campus surveys.⁵⁻¹⁰ Thus, the gap is not likely to be simply a prod-

uct of the wording of the particular question in this single-item indicator

It can be argued that at least some of the discrepancy between the actual and perceived norms for the frequency of drug use on a campus might be the result of individuals' underreporting their own drug use rather than inflating their estimates about their peers. This explanation is not likely to account for such a wide gap, however, because these were anonymous survey responses and other research has supported the reasonable reliability of self-report data, especially for anonymous surveys. One must recall that the typical reported prevalence of use of illicit drugs other than marijuana on campuses in this study was well below 10%. For use of one of these drugs to be the actual norm, at least another 40% to 45% of the student body would have had to be using the drug and denying it on these anonymous questionnaires.

It is hard to reconcile the extremely low reported prevalence of drugs like cocaine or steroids with the majority of students' perceptions that use was the norm on their campus as simply being an artifact of massive denial and concealment. Moreover, if the desire to hide one's own use were the operative factor, then only a small gap should be encountered when the drug carries little or no social or legal penalties for admission of personal use. Yet the gap between actual norms based on the aggregate of self-reports, on the one hand, and students' perceived norms of peers, on the other hand, is even more dramatic for tobacco, the legal drug. Likewise, this is the case for alcohol, where legal restrictions are only partial and there is typically very little stigma, if any, regarding personal use of alcohol on most campuses.

Thus, one must return to explanations of this gap as students' myopically constructed impressions of their peers based on limited personal information about each others' habits. Students must rely on impressions of their culture gleaned from behavior that gains the most attention from peers.

The use of various drugs and their behavioral effects can certainly produce actions that gain attention, be it exciting, funny, sad, or frightening. Casual conversation then reinforces and amplifies these observations into solid beliefs about what "everyone" is doing,⁵ all further accentuated by mass media and entertainment images provided for college youths and young adults.

To conclude that the use of alcohol and other drugs in student populations is not a problem, based on the finding that actual use is well below what students believe about their peers, would be a mistake and would miss the prevention potential of these findings. As we have previously noted, the research literature demonstrates that actual use levels and associated problems are still disturbingly high. Alcohol use, in particular, remains an especially pervasive problem on most college campuses, with students' binge drinking levels exceeding those of noncollege young adults.¹² The findings of this study provide an opportunity to convey to students through media campaigns, orientation programs, group workshops, and other techniques the mes-

sage that the norm among their peers is far less oriented to drug use than they believe.

When students more accurately view their peers as less permissive, they become more constrained by this more realistic perception of their peer norm and they are less likely to exhibit problematic use themselves.^{6,8,11} The need now is for (a) research on misperceptions of drug use that expands the variety of measures and contexts of actual and perceived use and (b) development of effective strategies to reduce these misperceptions.

NOTE

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