

Methodology Report for the 2017 Texas Survey of Substance Use Among College Students

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1 Introduction

College age students are a particularly important demographic when it comes to understanding substance use and abuse statewide. College attendees live in an environment where many substances are easily available and where some substances are ubiquitous components of the social environment. Moreover, this population is often living away from home for the first time, putting them beyond the reach of their parents during an important developmental phase.

The Public Policy Research Institute (PPRI), acting at the behest of the Health and Human Services Commission (HHSC), conducted this survey in 2017 to assess the state of drug and alcohol use amongst college age students in Texas. Similar surveys had previously been conducted in 2015, 2013, 2005 and 1997. Like those surveys, the study population has been limited to undergraduate students between the ages of 18 and 26 who are enrolled in more than 4 hours of classes.

Surveying college students presents several unique problems. Traditional random-digit dialing telephone methods may not be successful, since many students are exclusive cell phone users. Students who do have land lines may frequently change phone numbers as they move between dorms, or from on-campus housing to off-campus housing. Even if these problems could be overcome, students have unusual schedules, in that they may have classes or study commitments throughout the day, making it difficult to reach them at a specified time.

For all these reasons, this survey embraces online administration. In late 2016, we sampled 65 universities and community college districts in the state and requested emails from each of them. A total of 52 colleges provided addresses. Just over 694,000 invitations to participate in the survey were sent out over the course of about 2 months and received 31,492 responses. After removing incomplete surveys and those who did not meet the study criteria (too young, too old, graduate student, and/or <5 hours of courses) 18,393

Table 1: Demographics of the sample, with raw n and weighted percentage.

Gender	n	Weighted	Parent's Income	n	Weighted
Male	6,258	43.92%	<20k	2,062	14.21%
Female	11,937	55.59%	20k-60k	3,876	27.05%
Not Listed	112	0.50%	60k-100k	3,011	19.99%
			>100k	3,179	19.53%
			Don't know	2,727	19.21%
Ethnicity			Class Standing		
Hispanic/Latino	7,275	39.62%	Freshman	5,033	29.35%
Not Hispanic/Latino	10,825	60.38%	Sophomore	4,521	26.50%
Race			Junior	4,442	22.61%
White	13,382	72.75%	Senior	4,196	20.75%
African Am./Black	1,164	7.57%	Other	129	0.79%
American Indian	316	1.88%	Grade Point Average		
Asian	1,340	9.60%	A	6,549	45.07%
Pacific Islander	66	0.39%	B	6,141	40.34%
Other	1,291	7.81%	C	1,490	9.07%
Age			D or F	113	0.73%
18-20	10,255	54.55%	Don't know	679	4.80%
21-23	6,257	33.55%			
24-26	1,815	11.92%			

usable responses were present. The survey included a fictitious drug, somatajim. Students who reported using this drug were also excluded, leaving a final total of 18,327 responses used in the final analyses. Table 1 provides descriptive statistics of the final survey sample.

The rest of this report details preparation and administration of the survey. The next section discusses development of the survey instrument and the changes that were made between 2015 and 2017. The third section details the sampling procedure used and discusses delivery of the survey and the response we received. Finally, the weighting scheme is discussed.

2 Survey Instrument

The survey instrument was closely modeled after the 2015 survey instrument, which was in turn based on surveys conducted in 1997 and 2005 by the Texas Commission on Alcohol and Drug Abuse and in 2013 and 2015 by the

Department of Health and Human Services. The instrument has undergone changes with each iteration, but in contrast to the 1997 and 2005 surveys, which are substantially different from one another, the 2005, 2013, 2015, and 2017 surveys are fairly similar, with only minor modifications.

First, respondents answer a number of screening questions. To be eligible, a student had to be college-aged, which we defined as between the ages of 18 and 26. Each student also had to be an undergraduate registered in more than 4 hours of classes. Respondents who did not meet these eligibility requirements did not take the remainder of the survey and were instead directed to a page explaining the eligibility requirements and thanked them for their participation.

The remainder of the survey is divided into 9 sections dealing with various thematic areas related to the target population. These sections are: ethnicity/demographics; student life (living situation, major, etc.); alcohol use; use of drugs other than alcohol; prescription drug use; other personal behaviors (drunk driving and sexual behaviors); mental health; campus policies; and background info, which covers the respondent's marital status, religion, and details about the respondent's parents.

Although there were about 200 questions on the survey, no single respondent answered all these questions because some questions would be skipped depending on previous answers. Respondents who did not report drinking, for example, were not asked about their drinking habits. This approach represented a significant improvement over the 2013 survey, which had 306 questions and therefore took longer for respondents to complete.

Most of the changes made between 2015 and 2017 were minor. A detailed list of differences between the 2015 instrument and the 2017 instrument, with specific wording changes noted, is provided in Appendix A. These changes were made based on research of similar instruments in the nation and based on consultations with HHSC research and evaluation staff members.

3 Survey Development and Administration

Prior to administering the survey, it was tested extensively by PPRI employees and survey lab members. Depending on a respondent's questions, certain parts of the survey could be skipped. For example, respondents who did not report ever having sex were not asked if they used protection the last time they had intercourse. Rigorous pre-testing ensured that this survey logic was functioning correctly. Pre-testing was also necessary to ensure appropriate question wording. Collectively, PPRI research staff members have several decades of experience writing and administering surveys. Over the course of pre-testing by these employees, question wordings were subtly tweaked to adhere to good survey practice.

Additionally, the survey was tested for length. An online survey that takes half-an-hour or more to complete could suffer from very poor response rates and unreliable answers. Although the time necessary to complete the survey will vary considerably from respondent to respondent, PPRI staff consider the final survey instrument to be of an appropriate length.

The survey sample consists of 4 strata: small 4-year colleges, large 4-year colleges, small 2-year colleges and large 2-year colleges in Texas. Large 4-year and 2-year colleges in the sample are those with more than 10,000 students enrolled. Where applicable, community college districts were sampled rather than individual campuses. Schools that did not include emails as "directory information" under the Family Educational Rights and Privacy Act of 1974 (FERPA) were excluded from the sample due to their inability to provide the research team with emails. Large universities and community college districts were sampled with a probability of 1 (18 and 6 respectively). We sampled 20 small universities and 21 small 2-year colleges/districts. Sampled schools were contacted and asked to provide student emails. The final sample (those participating) consists of 52 schools/districts: 16 large 4-year universities, 9 small 4-year universities, 6 large 2-year colleges/districts and 21 small 2-year colleges/districts. All students from directory listings pro-

vided by each school were sampled to receive invitations to the survey. We are unable to ascertain the number of emails that were caught by institutions' filters or went to accounts that students rarely use; however, we did exclude students from 6 campuses that had extremely low response rates—indicating they most likely were flagged as spam. The research team did, though, work with Microsoft (a major third party e-mail vendor) to ensure that our e-mails were formatted in a manner that would minimize the likelihood of triggering a spam flag.

Students were emailed in groups over the course of about 3 weeks. Students also periodically received emails reminding them about the survey. Each student received up to 5 reminders if they had not opted out or completed the survey. The reminder emails were sent in 4 to 6 day intervals in order to ensure that students did not always get reminders on the same day of the week. After accounting for bad email addresses, bounced emails and the 6 campuses that were dropped due to unrealistically low response rates, about 649,000 invitations were sent out. 31,492 individuals provided information, for a response rate of about 4.9%. After removing ineligible responses, 18,393 of these were available for analysis, representing about 2.8% of all survey invitations sent out. In addition, 66 individuals who reported the use of the fictitious drug, somatajim, were eliminated as exaggerators. Determining an actual response rate is impractical because we do not know how many emails were flagged as spam or went to addresses the student rarely checks. Examining differences in rates of completion by school suggests that some spam filters are more robust than others.

The survey team did implement a field experiment to determine the effects of incentives. The sample was randomly divided into 3 groups: 1 received no incentive; 1 group had a chance at a \$25 Amazon gift card; and 1 group had a chance at a \$100 Amazon gift card. Within the gift card groups, the phrase “1 of 100 gift cards” was randomly added to half of the subjects. The results of this experiment were positive, showing that incentives work and

that letting them know that there were many cards for which they qualified was also beneficial.

4 Weighting

The weights for the sample are composed of 2 components: a weight based on the sampling design and sizes of the strata population, strata sample sizes, and the gender-specific population of the sampled campus.

The sample design involved sampling schools from within each stratum and then sampling students from each of the sampled schools. The design weight is shown below.

$$Weight_{ijs} = (NSchool_i/nSchool_i)(NEnroll_{ijs}/nSample_{ijs})$$

Where:

- i =strata
- j =school
- $NSchool_i$ =Number of schools in the i^{th} strata
- $nSchool_i$ =Number of schools participating from the i^{th} strata
- $NEnroll_{ijs}$ =Total number of students of the s^{th} gender enrolled in the j^{th} school
- $nSample_{ijs}$ =Number of students of the s^{th} gender participating from the j^{th} school

When calculating the number of students at a campus, we utilized figures provided by the Texas Higher Education Coordinating Board (THECB), or for private schools, the institution itself. The data provided by THECB are provided in categories, for instance, number of students of age 25-29 or credit hours of 6-8. Unfortunately, these categories do not perfectly match our needs. In order to estimate the number of students eligible, the research team calculated the percentage of students who took 6 or more hours and those between the ages of 18-24. We then applied the product of these values to the total number of students from

each gender from each campus. The variable “weight” is the final weight as calculated by the statistical software package Stata. It incorporates all of the above elements. In addition, extreme outliers are trimmed by truncated weights to the 95th percentile within each strata.

The 2017 study’s weight is very similar to the weight used in 2015. However, the 2015 study did not delete schools with low response rates. In order to utilize “fair” comparisons, the 2015 survey was reweighed to match the weighting protocol used in this survey. For this reason, estimates for 2015 reported in this survey may differ slightly from the 2015 report.

5 Conclusion

The 2017 survey continues to improve upon the design of the previous college drug and alcohol surveys administered by PPRI. The online survey administration made it possible to survey a high number of respondents while also keeping the cost per respondent reasonably low. This method of survey administration is uniquely suited to the college-age student population, because many of these students cannot be contacted via the traditional phone methods.

It is somewhat unfortunate that each iteration of the survey has resulted in changes to the survey instrument, the method of survey administration, and the weighting scheme used. These changes limit the analytical ability to make comparisons between the current survey and previous surveys. The changes from 2005, 2013, 2015, to 2017 however, were considerably more modest than those made from 1997 to 2005. Now that administration of the survey by telephone has been eliminated and the school sampling procedure has been rigorously tested, we believe that the future surveys can be conducted in a way that is largely identical to the 2017 methodology. These methodological developments will make comparisons between the years simpler and provide policy-makers with better and more reliable data. The survey instrument has also matured, and should require minimal adjustment in any future iterations of the survey.

The survey process has not been without challenges. Gathering student emails from sampled schools is a time consuming, rigorous, and complicated process which

requires high levels of staff time and effort. It has been especially difficult to convince private schools to participate. Although this version of the survey was considerably shorter than the 2013 version, we continue to believe that participation in the survey and reliability of answers would be significantly improved with a shorter survey. Refining the survey instrument and paring away unnecessary questions needs to be a priority for future surveys.

Appendix-Changes to Survey Instrument

While the 2017 survey was largely the same as the 2015 survey, there were some changes. The following represent each of the changes made

Alcohol Section

AL16

2017

“Have you ever:... Felt you should cut down on your drinking”—Part of a question matrix. Also AL17d

2015

“Have you ever decided to reduce the amount you drink or stop drinking all together even for a short period of time?”

AL16sub

2017

“Here is a list of potential reasons why people might feel they should limit or stop drinking. To what extent did the following factor into your decision?”

2015

“Here is a list of potential reasons why people might limit or stop drinking. To what extent did the following factor into your decision?”

2017

“Felt bad or guilty about your drinking.”

2015

“Felt guilty about your drinking.”

AL17c.

2017

“Had a drink first thing in the morning to steady your nerves or get rid of a hangover.”

2015

“Needed a drink first thing in the morning to get going.”

AL17d.

2017

“Felt you should cut down on your drinking.”

2015

“Thought you had a drinking problem.”

AL16sub.

2017

“Here is a list of potential reasons why people might feel they should limit or stop drinking. To what extent did the following factor into your decision?”

2015

“Here is a list of potential reasons why people might limit or stop drinking. To what extent did the following factor into your decision?”

Tobacco Section

T4.

2017

“When was the last time, if ever, you used vaporizer or e-cigarettes for nicotine?”

2015

“When was the last time, if ever, you used vaporizer or e-cigarettes?”

Personal Behaviors Section

PB1g.

2017

“Call a taxi service, campus transportation, or a ride sharing service (Uber, Lyft, etc.) for a ride after drinking.”

2015

“Call a taxi service or campus transportation for a ride after drinking.”

PB4.

2017

“Have you had sexual intercourse, including oral, vaginal, or anal sex?”

2015

“Have you had sexual intercourse?”

Background Information Section

BI11a

2017

Removed

2015

“Where do you primarily connect to the Internet?”

- 1. At home**
- 2. At work**
- 3. At school**
- 4. At a friend’s house**
- 5. At a public place (e.g., a café, library, etc.)**
- 6. Roaming with a portable device (e.g. laptop computer, cell phone, etc.)”**

BI12.

2017

“How often do you use social media, such as Facebook, Twitter, Instagram, Reddit, Pinterest or others?”

2015

“How often do you use social media, such as Facebook, Twitter, or others?”