Methodology Report for the 1996 Texas School Survey of Substance Use

For the Texas Commission on Alcohol and Drug Abuse

Prepared by
James A. Dyer, Ph.D.
and
Ramdas Menon, Ph.D.

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Public Policy Research Institute
Texas A&M University
College Station, Texas 77843-4476

TABLE OF CONTENTS

Introduction

In the Spring of 1996, the Public Research Institute (PPRI), in conjunction with the Texas Commission on Alcohol and Drug Abuse (TCADA), conducted the fifth statewide survey of drug and alcohol use among Texas elementary and secondary students. Originally implemented in 1988 as a component of a larger survey assessing substance use among the state's general population, the school survey has since become an ongoing, independent project. District surveys are offered every year with a statewide survey conducted every two years. The 1996 effort provides follow-up data reflecting changes over the past eight years in grades four through twelve.

The *Texas School Survey* project has two primary objectives. First, it serves to inform state and local policy-makers about the extent and nature of the substance use problem in Texas schools. Second, the statewide survey provides a standard of comparison for districts conducting local assessments of drug and alcohol use. The findings of the 1996 statewide survey are available in a report published by TCADA.[1]

The purpose of this document is to describe the methodology used to administer the 1996 *Texas School Survey of Substance Use*. Following a brief introduction to the survey instrument itself, attention is then focused on sample selection and survey administration procedures. Next, methods for data processing and quality control are described and the report concludes with a review of standard error estimates.

Survey Instrument

Two versions of the 1996 *Texas School Survey of Substance Use* were developed. The first was a six-page questionnaire designed for students in grades seven through twelve. The second was a simplified three-page instrument created for students in grades four through six. The elementary survey differs from the secondary survey in that it has simplified language and some complex questions were omitted. Elementary students were asked about only four types of substances including tobacco (cigarettes, snuff, and chewing tobacco), alcohol (beer, wine, wine coolers, and liquor), inhalants, and marijuana. Secondary students were asked about the same substances, as well as a broader range of illicit drugs including powdered cocaine, crack, hallucinogens, uppers, downers, steroids, and ecstasy. Other sets of questions on both the elementary and secondary instruments were designed to assess behavioral correlates of substance use and students' perceptions of support available to help them cope with substance-related problems.

While the 1996 *Texas School Survey of Substance Use* questionnaire content remained essentially the same as that used in previous surveys, one modification and one addition to the survey instrument were made. The modification was to the indicator of socioeconomic status, which was changed from the type of home respondents live in to whether they qualify for a free school lunch. The addition, of "roach" (a street name for Rohypnol), was to the list of illicit substances secondary students were asked about. After careful analysis of the data generated by this latter addition, however, it was determined that the term "roach" may have been too ambiguous to accurately reflect the use and perceptions of, and the attitudes toward, Rohypnol.

The questionnaire was in a format that could be scanned optically, similar to that used for standardized testing. It was designed for confidential self-administration by students with the aid of a staff member to pass out the survey, read a common set of instructions, monitor the class

[1] Texas Commission on Alcohol and Drug Abuse (1996). 1996 Texas School Survey of Substance Abuse, Austin, Texas.

during survey administration, and collect the instruments after they are completed. The survey instruments are included in Appendix A.

Sample

The sample of students for the 1996 Texas School Survey of Drug and Alcohol Use was designed to be a random sample of all public school students between the fourth and twelfth grades in the state. In order to make administration practical, students were selected using a multi-stage cluster sampling procedure. This involved sampling districts, schools within districts, and classrooms within districts. All students in a sampled classroom were asked to participate in the survey.

Selection of Districts. The primary analytic cluster was the school district since the approval needed to administer the survey had to be obtained at that level. Districts are sampled with the probability of selection proportionate to size. Districts were stratified according to how urban the counties were in which they were located. The most urban strata involved counties with metropolitan populations of 1,000,000 or more, the next strata with those between 250,000 and 1,000,000, and the third strata with those metropolitan areas with less than 250,000. The remainder of the state constituted the final major strata. Due to their large size relative to other districts, a total of nine districts were sampled with a probability of one. This means that these districts are always selected as part of the sample.

The strata were further subdivided by relative size of the districts, so that each strata has a strata of large and small districts and two of the strata also have substrata of probability one districts. The strata are listed in Table 1.

TABLE 1. Distribution of Selected Districts by Urban Class Size

Stratum	Group
1-A	Large Urban Counties-larger districts
1-B	Large Urban Counties-smaller districts
1-P1	Large Urban Counties-probability one districts
2-A	Medium Urban Counties-larger districts
2-B	Medium Urban Counties-smaller districts
2-P1	Medium Urban Counties-probability one districts
3-A	Small Urban Counties-larger districts
3-B	Small Urban Counties-smaller districts
4-A	Non-Urban Counties-larger districts
4-B	Non-Urban Counties-smaller districts

Districts were selected for the state sample in the following manner:

1. The selected districts were listed separately for each of the four urbanization classes (1, 2, 3, and 4).
2. Within each urbanization class, districts were subdivided in probability one districts (P1), other large districts (A), and small districts (B). Ignoring the districts in P1, the large and small district division is determined by ranking the districts in order of their total

enrollment. The list is divided so that half the total enrollment in the strata is in the districts above the dividing point and half below it.

3. Within each stratum, except the probability one strata, the districts are reordered based on a random number weighted by the size of the district. As many districts as were required were taken from the top of the list in each strata. The number of districts sampled from each strata is listed in Table 2.
4. If a district refused to participate in the survey, and all conversion strategies failed, it was replaced with the next available district in that list of urban class and size stratum.

Obtaining cooperation from those districts that were randomly selected for the state sample when the selected district did not plan to do a local survey was sometimes a problem. Yet, it was critical to get data from as many of the originally selected districts as possible. Some state sample districts that were initially hesitant were persuaded to cooperate by the use of incentives. The various incentives used included waiving participation and sampling fees, offering to discount the fees for participating the following year, paying all shipping costs, and discounting campus level analyses fees.

Thirty-seven of the original eighty-four districts participated in the study. Thirty-three districts were replaced because they were unwilling to participate. The most cited reason districts gave for this unwillingness to participate was the time and resources required to prepare students for TAAS testing, as well as the TAAS testing itself. Two strata ended up with one more school than originally sampled as a replacement had been recruited for a district that ended up participating.

A total of seventy-two secondary and seventy elementary districts comprised the state sample (See Table 2). While a cooperation rate of 45 percent was lower than desirable, the cooperation rate among larger districts was better than for smaller districts. Thus, the percentage of the student population among those districts unwilling to participate was smaller than the percentage of unwilling districts overall. A total of 49 percent of the students in the original sample were in the final sampling frame.

TABLE 2. State Sample By Strata

Original State Sample		**Actual State Sample**
Strata 1 A N=10		**Strata 1 A N=6**
Arlington		Arlington
Aldine	(replaced with)	Mesquite
Cypress Fairbanks	(no replacement)	
Garland		Garland
Pasadena	(replaced with)	Irving
Alief	(no replacement)	
North East	(no replacement)	
Klein	(no replacement)	
Plano		Plano
Lewisville	(replaced with)	Spring Branch

Strata 1 B N=10		Strata 1 B N=11
Edgewood	(replaced with)	Allen
Harlandale		Harlandale
Goose Creek	(replaced with)	Rockwall
Grapevine-Colleyville		Grapevine-Colleyville
Keller	(replaced with)	Mansfield
Lamar Consolidated	(replaced with)	Alvarado, Weatherford*[2]
Hurst-Euless-Bedford	(replaced with)	Carrollton-Farmers Branch
Grand Prairie		Grand Prairie
Deer Park	(replaced with)	Dayton*
Denton	(replaced with)	Azle

Strata 1P1 N=5	Strata 1P1 N=5
Dallas	Dallas
Houston	Houston
Fort Worth	Fort Worth
San Antonio	San Antonio
Northside	Northside

Strata 2A N=5	Strata 2A N=6
Pharr-San Juan-Alamo	Beaumont, Pharr-San Juan-Alamo*
Round Rock	Round Rock
McAllen	McAllen
Port Arthur	Port Arthur
Socorro	Socorro

Strata 2B N=5		Strata 2B N=5
Pflugerville		Pflugerville*
Eanes	(replaced with)	Georgetown
Leander	(replaced with)	Mercedes
Port Neches	(replaced with)	Silsbee
Nederland	(replaced with)	Del Valle

Strata 2P1 N=4		Strata 2P1 N=1
Austin		Austin
El Paso	(no replacement)	
Ysleta	(no replacement)	
Corpus Christi	(no replacement)	

[2] An asterisk indicates that the district completed surveys for the state sample only, while all other districts sampled more than the minimum required.

Strata 3A	**N=6**		**Strata 3A**	**N=5**
Amarillo			Amarillo	
Tyler		(no replacement)		
Abilene			Abilene	
Laredo			Laredo	
Lubbock			Lubbock	
Brownsville		(replaced with)	Ector County	

Strata 3B	**N=10**		**Strata 3B**	**N=8**
Wichita Falls			Wichita Falls*	
Bryan		(no replacement)		
Harlingen			Harlingen	
Pearland		(replaced with)	Canyon	
Alvin		(replaced with)	Dickinson*	
Los Fresnos			Los Fresnos	
Texarkana		(replaced with)	Marshall	
Belton		(replaced with)	Sweeny	
Copperas Cove		(no replacement)		
College Station			College Station*	

Strata 4A	**N=15**		**Strata 4A**	**N=12**
Eagle Pass		(replaced with)	Stephenville	
San Angelo		(replaced with)	Nacogdoches	
Waco		(replaced with)	Palestine	
Victoria		(replaced with)	Dumas	
Lufkin			Lufkin	
Plainview			Plainview	
Granbury				
Mount Pleasant			Mount Pleasant	
Big Spring		(replaced with)	Fredericksburg	
Jacksonville			Jacksonville	
Greenville		(replaced with)	Boerne	
Bay City		(no replacement)		
Levelland		(no replacement)		
Sherman			Sherman*	
Midway		(replaced with)	Corsicana	

Strata 4B N=15		Strata 4B N=12
Daingerfield	(replaced with)	Floydada
Caldwell	(replaced with)	Decatur
Denver City	(no replacement)	
Rockdale		Rockdale*
Giddings	(replaced with)	Buna
LaGrange		LaGrange*
Cuero	(replaced with)	McGregor
Perryton		Perryton
Lyford	(no replacement)	
Columbus		Columbus
Palacios	(replaced with)	Rains
Robinson		Robinson
Bridgeport	(replaced with)	LaVernia
Kermit		Kermit*
Breckenridge	(replaced with)	Sanford

Allocation of Surveys among Urban Classes. The state survey sample was designed to collect data from a minimum sample of about 5,555 students per grade. The minimum for each strata and district was approximate proportion to the total number of students in each.[3] In order to obtain district level reports, many districts chose to survey more than the minimum number of students specified in the state sampling plan. All respondents from the district were included in the sample. Thus, although we had estimated that the state sample would include approximately 50,000 students, it actually included 68,241 elementary students and 106,924 secondary students (See Table 3). This significantly improves the accuracy of estimates.

TABLE 3. Number of Surveys Included in State Sample

	Total Scanned	Number of Useable	Number Rejected*	Percent Rejected
Secondary	118,606	106,924	11,682	9.85%
Elementary	71,257	68,241	3,016	4.23%
Total	189,863	175,165	14,698	7.74%

*Surveys were rejected because the responses indicated exaggeration or the survey could not be matched to a sampled school and grade.

[3] Some extremely small districts received somewhat more than a strict proportional allocation because, while the data was technically only needed from one or two students per grade, the survey was administered to the entire classroom units. Similarly, in a few extremely large districts, fewer students were need for accuracy than would result from a true proportional allocation. The weighting of the data adjust for all of these design considerations.

Allocation of Surveys among Classrooms and Campuses. Once the number of surveys to be administered in each district was established, the next step was to determine the number of classrooms to be surveyed per grade. This was achieved by dividing the number of questionnaires per grade (ascertained for each district using proportional population calculations) by the average number of students per class---20 for grades four through six, 22 for grades seven through twelve. The result of this computation indicated the total number of classes to be surveyed. These classes were selected so that as many different campuses as possible were in the final sample. Ideally, the classrooms surveyed were evenly distributed across all campuses in the district. If there were more campuses containing a given grade than classrooms needed, then a simple random selection procedure was used to determine which campuses would be sampled. In general, once a campus was selected, all relevant grades at that campus were surveyed. Therefore, campus selection was not independent between grades.

Selection of Classrooms within Campuses. After the total number of classrooms to be surveyed in each grade at each campus was determined, it was necessary to identify specific classrooms. This selection procedure was performed by campus personnel based on a set of guidelines provided by PPRI (illustrated in Appendix C). Campus staff were asked to make a list by grade (according to teacher's last name or some other convenient method) of all classes held during a selected class period. They were then instructed to use a random number table to select the exact classes to survey in each grade.

Other Sampling Considerations. Some school districts sampled all students in all or some of the grades. In these districts, the methodology outlined above did not apply to the grades sampled at 100 percent. In Houston, the district used a list of all students from which to conduct a random sample of the students. Therefore, there are no campuses and classrooms sampled.

Survey Administration Procedure

Districts selected for inclusion in the state sample were notified about the project via letter and were sent a descriptive brochure, illustrated in Appendix B. State sample districts that planned to administer a local drug and alcohol survey had virtually no procedural changes resulting from their involvement in the statewide project. In those districts that surveyed grades four through twelve, sufficient data was collected from all relevant campuses to meet the data collection needs of the statewide survey. These districts benefited from their inclusion in the state survey project because they were not charged for the surveys that became part of the state database. The larger number of surveys from these districts were weighted down so that their contribution to the final sample was in correct proportion.

In those instances where state sample districts were collecting local data for an incomplete combination of grades, or where they were not conducting local surveys at all, the campus and classroom selection procedures described above were applied. Arrangements for giving the survey were established on an individual basis with these districts. Since those not doing local surveys did not stand to gain directly from having the survey administered in their district, an effort was made to be as accommodating as possible. PPRI was able to arrange survey administration in the selected schools and classes by school personnel.

In Houston, the district uses the computer to draw a random sample of all students. On each campus where the students are located, the students are requested to go to a specified room where the survey is conducted. Once in the room, the survey is conducted as it would be in a classroom in the other districts.

Relevant personnel in the selected districts and campuses were provided with complete instructions and materials necessary to administer the survey (see Appendix D). Classrooms were selected randomly by PPRI based on information from a computer printout from the district or Campus Information Form. Teachers in selected classrooms were given a script to read so that all students would receive a standardized set of instructions. Teachers were also asked to complete a Classroom Identification Form that provided data on the number of students that should have taken the survey but were absent, and the number that were present but failed to complete the survey. This information was useful for computing error estimates. After the surveys were administered in each classroom, they were sealed in an envelope along with the Classroom Identification Form. The envelopes from all participating classrooms were collected and returned to PPRI.

Data Entry and Analyses

As noted earlier, the format of the survey instruments enabled them to be scanned optically. Upon receipt at PPRI, the instruments were logged in, coded, and scanned by staff or trained personnel.

Handling of Exaggerators. Because the *Texas School Survey* data is based entirely upon respondents' description of their own behavior, it is inevitable that some students will under- or over-report their use of drugs or alcohol, and to the extent possible PPRI attempted to identify and eliminate data from those respondents. Two checks were incorporated into the data analysis program to identify exaggerators. First, students were asked about their use of a false drug call "chromies." Data for students claiming to have used this substance were considered suspect and dropped from the analyses.

Second, checks were run to identify any students claiming impossibly high levels of drug and alcohol use. Unbelievable high substance use for secondary students was defined based on the following criteria: (1) students reported that they had five or more drinks of two or more beverages every day; (2) students reported that they had consumed three or more alcoholic beverages every day; or (3) students reported that they used four or more drugs (other than cigarettes, alcohol, or steroids) eleven or more times in the past month. Like those cases where students reported using "chromies," these cases were also dropped from the analyses.

Surveys In Which No Grade Level Was Reported. When students failed to report their grade level, it was impossible to determine unequivocally in which grade these students' data should be analyzed. Where grade level was missing, an estimate of the grade was made based on the students' age and the data were retained. Students that were of an age considered standard for beginning a particular grade were included with that grade. If both grade and age were missing, however, the data were dropped from the analyses.

Grade assignments were made as follows:

Age	Grade Level	Age	Grade Level
9	4th Grade	12	7th Grade
10	5th Grade	13	8th Grade
11	6th Grade	14	9th Grade
		15	10th Grade
		16	11th Grade
		17+	12th Grade

Quality Control Measures

To ensure the quality of the statewide survey data, a number of internal checks were put into place to guide survey processing. First, a quality control analyst oversaw the implementation of all pre- and post-analysis quality control procedures. As the following paragraphs describe, many aspects of PPRI's plan for quality control were embedded in automated procedures. However, there is no replacement for human oversight. The quality control analyst monitored and tracked the processing of each district's surveys from the initial mailing through the production of the final state report. Responsibilities included ensuring that surveys were properly coded and scanned and checking for anomalies in the final table of results.

In addition to the safeguards resulting from careful project oversight, there were also a number of procedural checks against error. For example, there was a possibility, however remote, that after the bindings of a set of survey instruments were cut, the instruments could be dropped or otherwise placed out of order. If this occurred, it is conceivable that some pages of data could have been read into the incorrect computer record. To resolve this problem, each instrument used in the 1996 survey was printed with a five-digit "litho-code" number. With this coding process, every page of a given instrument is printed with the same scannable number, but a unique number is assigned to every instrument. By using the litho-code, when each page of an instrument is scanned it will automatically be read into the correct computer record. In this way, even if the pages from different instruments were shuffled together and read randomly, all data derived from the same instrument would automatically be read to the same data record.

Litho-coding also enabled PPRI to confirm that data from every survey instrument read was associated with the correct district. Survey instruments were mailed to participating districts in consecutive order. By recording the beginning and ending instrument numbers going to each district, PPRI was able to check the litho-codes scanned for a given district. In this way, any stacks of data that could potentially have been inadvertently mislabeled could be easily identified.

Programming checks were also incorporated into the data analysis program by cross-analysis. That is, the same data was run in several different ways using existing programs, and program outputs were then compared for consistency. Confidence is high that these quality control features will ensure valid and reliable survey findings.

Weights and Standard Errors

Weights were applied to each case based on the strata (i.e., Urban Class I though IV), district, and campus. The weights were applied so that the aggregation of students in each campus, district, and strata reflected their proportions in the actual district, campus, and strata populations. The formulae use to determine these weights are presented in Appendix E.

Standard errors were estimated for each grade and the aggregation. The formulae used are presented in Appendix F. The table of standard errors for use of substances by grades are presented in Appendix G.

Conclusion

The *Texas School Survey* has become a valuable policy tool for both state and local educators and policy-makers. The survey, performed every two years, provides timely and relevant information about current drug and alcohol use patterns among young people enrolled in the Texas' public schools. Furthermore, longitudinal analysis can provide insight into changes in drug and alcohol prevalence over time. As was noted in the introduction, every state survey culminates in a TCADA publication providing an overview of findings to date. Data is also available for independent analysis by policy-makers and academicians.

APPENDIX F

STANDARD ERROR FORMULA

Variance Estimation

A. We have ten strata:

Stratum	Group
1-A (1)	Large Urban Counties-larger districts
1-B (2)	Large Urban Counties-smaller districts
1-P1 (3)	Large Urban Counties-probability one districts
2-A (4)	Medium Urban Counties-larger districts
2-B (5)	Medium Urban Counties-smaller districts
2-P1 (6)	Medium Urban Counties-probability one districts
3-A (7)	Small Urban Counties-larger districts
3-B (8)	Small Urban Counties-smaller districts
4-A (9)	Non-Urban Counties-larger districts
4-B (10)	Non-Urban Counties-smaller districts

B. Point Estimates:

1) For the i^{th} observed district in stratum h, let:

y_{hi} = # of "Yes"es in a given group (e.g., estimated total # of ninth graders in Houston who have used alcohol in the past 30 days).
Note: This is the estimated total weighted # of "Yes."

x_{hi} = Estimated # of relevant students in district i (e.g., estimated total # of Houston ninth graders).

2) For probability one strata (large districts, e.g., Dallas):

a) $Var\left(\hat{Y}_{h,p1}\right) = \sum_{i=1}^{N_{hl}} \left(\hat{y}_{hi}\right)$.

b) Within a given district (and a given grade level) selection of campuses was made by Simple Random Selection (SRS), so compute:

$$\hat{Var}\left(\hat{Y}_{hi}\right) = \left(N_{hi} - n_{hi}\right) N_{hi} \left(\frac{1}{n_{hi}}\right)\left(\frac{1}{N_{hi}-1}\right)\sum_{j=1}^{n_{hi}} \left(y_{hij} - \bar{y}_{hi}\right)^2$$

where: y_{hij} = Total observed in campus ***j***, district (***h***, ***i***);

$\bar{y}_{hi}$ = Mean total;

N_{hi} = Total # of relevant campuses in strata ***h***, district ***i***.

Then,

$$\hat{R} = \frac{\sum_{h=1}^{10} \hat{y}_h}{\sum_{h=1}^{10} \hat{X}_h} = \text{Estimated proportion of "Yes"es in the relevant grade for the question.}$$

C. Variance estimates for each grade:

1) For all strata, except probability 1, define:

$$\hat{V}\left(\hat{Y}_h\right) = \frac{1}{n_h\left(n_h - 1\right)} \sum_{i=1}^{n_h} \left(\frac{y_{hi}}{p_{hi}} - \hat{Y}_h \right)^2$$

$$\hat{V}\left(\hat{X}_h\right) = \frac{1}{n_h\left(n_h - 1\right)} \sum_{i=1}^{n_h} \left(\frac{x_{hi}}{phi_{hi}} - \hat{X}_h \right)^2$$

$$\hat{Cov}\left(\hat{Y}_h, \hat{X}_h\right) = \frac{1}{n_h\left(n_h - 1\right)} \sum_{i=1}^{n_h} \left(\frac{y_{hi}}{phi_{hi}} - \hat{Y}_h \right)\left(\frac{x_{hi}}{phi_{hi}} - \hat{X}_h \right)$$

where $phi_{hi} = \frac{M_{hi} N_h}{M_h}$.

2) For Houston, which selects a simple random sample of $\boldsymbol{m_{3i}}$ out of $\boldsymbol{M_{3i}}$ relevant students:

$$y_{3,\,Hou} = \left(\frac{M_{3i}}{m_{3i}} \right) \sum_{j=1}^{m_{hi}} y_{3ij}$$

$$x_{3,Hou} = M_{3i}$$

$$\hat{V}\left(x_{3,Hou}\right) = 0 \qquad \hat{Cov}\left(y_{3,Hou}, x_{3,Hou}\right) = 0$$

$$\hat{V}(y_{3,Hou}) = \left(M_{3i} - m_{3i}\right) M_{3i} \left(\frac{p_{Hou} q_{Hou}}{m3i - 1}\right)$$

3) Estimate the total variance for each grade:

$$\hat{V}\left(\hat{R}\right) = \left(\frac{1}{\hat{X}}\right)^2 \sum_{h=1}^{10} \left[\hat{V}\left(\hat{Y}_h\right) + \hat{R}^2 \hat{V}\left(\hat{X}_h\right) - 2\hat{R}\,\hat{Cov}\left(\hat{Y}_h, \hat{X}_h\right)\right]$$

D. To combine the variance estimates for each grade into a variance estimate for the combined grades:

$$\hat{V}(\hat{R}) = \sum_{G=7}^{12} w_G^2 \, \hat{V}_G(\hat{R}_G)$$

where:

$$w_G = \frac{N_G}{\sum_{G=7}^{12} N_G}$$

G is grade (7-12) or (4-6).

Calculation for Asymetrical Confidence Intervals

Where,

p = the estimated proportion;
Var(p) = the variance of p, calculated from a complex survey design;
q = 1-p;

L = the log odds of : $p = \log\left(\frac{p}{q}\right)$.

Then the variance of L is $Var(L) = \frac{Var(p)}{(pq)^2}$, approximated via a Taylor series expansion.

An approximate 95% confidence interval (C.I.) for L is as follows:

$$_{.95}\text{C.I.} = L \pm 1.96\left(\frac{\sqrt{Var(p)}}{pq}\right) = (\text{A}, \text{B})$$

Applying the inverse logistic transformation to A and B yields a 95% C.I. for P as follows:

$$_{.95}\text{C.I.} = \frac{1}{1+\exp(-A)}, \frac{1}{1+\exp(-B)} = (\text{P}_{\text{lower}}, \text{P}_{\text{upper}})$$

which expands as follows:

$$_{.95}\text{C.I.} = \left[\frac{1}{1+\exp\left(-\left(\log\left(\frac{p}{q}\right)-1.96\frac{\sqrt{Var(p)}}{pq}\right)\right)} \quad , \frac{1}{1+\exp\left(-\left(\log\left(\frac{p}{q}\right)+1.96\frac{\sqrt{Var(p)}}{pq}\right)\right)}\right]$$

APPENDIX G

STANDARD ERROR TABLES

CONFIDENCE INTERVALS

OVERALL				
CATEGORY	Prevalence	Boundaries		Variance of Proportion
		Lower	Upper	
COMBINED TOBACCO	17.5%	15.6%	19.6%	0.0001085985
CIGARETTES	15.7%	14.0%	17.6%	0.0000866920
SMOKELESS TOBACCO	4.2%	3.3%	5.4%	0.0000297970
ALCOHOL	30.6%	28.2%	33.2%	0.0001624936
BEER	19.9%	18.0%	21.9%	0.0000962470
LIQUOR	7.7%	6.5%	9.1%	0.0000423524
WINE	19.2%	17.2%	21.4%	0.0001119044
WINE COOLERS	13.4%	12.1%	14.9%	0.0000511374
INHALANTS	9.9%	8.8%	11.2%	0.0000377988
MARIJUANA	4.1%	3.3%	5.1%	0.0000212546

CONFIDENCE INTERVALS

FOURTH GRADE				
CATEGORY	Prevalence	Boundaries		Variance of Proportion
		Lower	Upper	
COMBINED TOBACCO	9.3%	6.7%	12.7%	0.0002324567
CIGARETTES	8.1%	5.9%	11.1%	0.0001760944
SMOKELESS TOBACCO	2.8%	1.7%	4.5%	0.0000486702
ALCOHOL	21.7%	18.0%	25.9%	0.0004043930
BEER	14.0%	11.3%	17.2%	0.0002224024
LIQUOR	3.0%	1.8%	5.0%	0.0000620816
WINE	10.9%	8.4%	14.0%	0.0001957663
WINE COOLERS	7.9%	6.0%	10.3%	0.0001210717
INHALANTS	8.7%	6.8%	11.0%	0.0001128801
MARIJUANA	1.7%	0.9%	3.1%	0.0000289782

FIFTH GRADE				
CATEGORY	Prevalence	Boundaries		Variance of Proportion
		Lower	Upper	
COMBINED TOBACCO	16.3%	12.6%	20.8%	0.0004286275
CIGARETTES	14.2%	10.9%	18.2%	0.0003434043
SMOKELESS TOBACCO	3.8%	2.3%	6.2%	0.0000904483
ALCOHOL	28.6%	24.1%	33.5%	0.0005788841
BEER	18.1%	14.8%	21.9%	0.0003210841
LIQUOR	6.3%	4.6%	8.5%	0.0000966292
WINE	17.5%	14.2%	21.4%	0.0003380402
WINE COOLERS	11.9%	9.6%	14.6%	0.0001640109
INHALANTS	8.3%	6.6%	10.4%	0.0000931434
MARIJUANA	2.9%	1.6%	5.1%	0.0000729596

SIXTH GRADE				
CATEGORY	Prevalence	Boundaries		Variance of Proportion
		Lower	Upper	
COMBINED TOBACCO	25.8%	22.5%	29.4%	0.0003147118
CIGARETTES	24.1%	21.1%	27.4%	0.0002597133
SMOKELESS TOBACCO	5.7%	3.8%	8.4%	0.0001303102
ALCOHOL	40.3%	36.1%	44.6%	0.0004777045
BEER	26.6%	23.2%	30.3%	0.0003233919
LIQUOR	12.7%	10.0%	15.9%	0.0002258879
WINE	27.8%	23.7%	32.3%	0.0004776995
WINE COOLERS	19.6%	17.1%	22.3%	0.0001756993
INHALANTS	12.4%	10.3%	14.9%	0.0001350488
MARIJUANA	7.3%	5.6%	9.4%	0.0000900630

CONFIDENCE INTERVALS

OVERALL				
CATEGORY	Prevalence	Boundaries		Variance of Proportion
		Lower	Upper	
TOBACCO	55.3%	53.8%	56.7%	0.0000549447
ALCOHOL	73.5%	72.3%	74.7%	0.0000380025
INHALANTS	19.8%	18.9%	20.8%	0.0000239652
ANY ILLICIT DRUG	33.9%	32.5%	35.3%	0.0000532374
MARIJUANA	31.3%	29.9%	32.8%	0.0000540467
MARIJUANA ONLY	14.4%	13.7%	15.2%	0.0000146128
COCAINE OR CRACK	7.2%	6.6%	7.9%	0.0000114186
COCAINE	6.7%	6.1%	7.4%	0.0000112593
CRACK	2.5%	2.2%	2.9%	0.0000034295
HALLUCINOGENS	7.5%	6.9%	8.2%	0.0000108205
UPPERS	8.0%	7.4%	8.7%	0.0000115184
DOWNERS	5.7%	5.2%	6.2%	0.0000062629
STEROIDS	2.1%	1.8%	2.5%	0.0000029167
ECSTASY	5.4%	4.9%	5.9%	0.0000069656
ROACH	9.3%	8.5%	10.1%	0.0000162231

CONFIDENCE INTERVALS

SEVENTH GRADE				
CATEGORY	Prevalence	Boundaries		Variance of Proportion
		Lower	Upper	
TOBACCO	41.3%	38.0%	44.7%	0.0002933737
ALCOHOL	56.4%	52.8%	59.9%	0.0003258019
INHALANTS	22.1%	19.4%	25.0%	0.0002070814
ANY ILLICIT DRUG	19.0%	16.3%	22.0%	0.0002079412
MARIJUANA	16.6%	14.0%	19.5%	0.0001978136
MARIJUANA ONLY	8.0%	6.2%	10.2%	0.0001007297
COCAINE OR CRACK	3.6%	2.7%	4.9%	0.0000311661
COCAINE	3.0%	2.2%	4.1%	0.0000245904
CRACK	1.9%	1.2%	2.9%	0.0000183456
HALLUCINOGENS	2.4%	1.6%	3.6%	0.0000237837
UPPERS	2.8%	1.9%	4.0%	0.0000255613
DOWNERS	2.1%	1.3%	3.3%	0.0000231616
STEROIDS	2.0%	1.4%	2.8%	0.0000119785
ECSTASY	1.7%	1.0%	2.9%	0.0000213329
ROACH	6.8%	5.4%	8.5%	0.0000608953

EIGHTH GRADE				
CATEGORY	Prevalence	Boundaries		Variance of Proportion
		Lower	Upper	
TOBACCO	51.9%	48.0%	55.8%	0.0004015688
ALCOHOL	68.0%	63.6%	72.1%	0.0004641135
INHALANTS	23.9%	21.5%	26.4%	0.0001575589
ANY ILLICIT DRUG	28.4%	24.0%	33.2%	0.0005460743
MARIJUANA	25.5%	21.1%	30.5%	0.0005856187
MARIJUANA ONLY	11.5%	9.3%	14.1%	0.0001460753
COCAINE OR CRACK	5.6%	4.2%	7.4%	0.0000673083
COCAINE	5.1%	3.8%	6.9%	0.0000627855
CRACK	2.5%	1.7%	3.6%	0.0000212330
HALLUCINOGENS	4.7%	3.6%	6.2%	0.0000440995
UPPERS	5.4%	4.2%	6.9%	0.0000449362
DOWNERS	3.9%	2.9%	5.2%	0.0000329447
STEROIDS	2.1%	1.6%	2.7%	0.0000083705
ECSTASY	3.4%	2.6%	4.5%	0.0000228755
ROACH	10.2%	7.8%	13.2%	0.0001860212

NINTH GRADE				
CATEGORY	Prevalence	Boundaries		Variance of Proportion
		Lower	Upper	
TOBACCO	57.7%	54.2%	61.1%	0.0003124123
ALCOHOL	76.1%	74.2%	77.9%	0.0000866311
INHALANTS	21.3%	19.3%	23.4%	0.0001119961
ANY ILLICIT DRUG	37.3%	34.6%	40.1%	0.0002032074
MARIJUANA	34.9%	32.2%	37.7%	0.0002019741
MARIJUANA ONLY	16.0%	14.7%	17.3%	0.0000437306
COCAINE OR CRACK	8.0%	6.4%	9.9%	0.0000789755
COCAINE	7.5%	5.9%	9.5%	0.0000870715
CRACK	3.0%	2.0%	4.4%	0.0000352650
HALLUCINOGENS	8.0%	6.3%	10.1%	0.0000945448
UPPERS	8.3%	6.7%	10.2%	0.0000767442
DOWNERS	6.3%	5.2%	7.6%	0.0000371887
STEROIDS	2.0%	1.1%	3.7%	0.0000382934
ECSTASY	5.7%	4.5%	7.2%	0.0000482037
ROACH	11.2%	9.6%	13.1%	0.0000808188

CONFIDENCE INTERVALS

TENTH GRADE				
CATEGORY	Prevalence	Boundaries		Variance of Proportion
		Lower	Upper	
TOBACCO	60.1%	56.9%	63.2%	0.0002531684
ALCOHOL	79.0%	77.0%	80.8%	0.0000940756
INHALANTS	18.2%	16.4%	20.2%	0.0000937920
ANY ILLICIT DRUG	39.0%	35.8%	42.3%	0.0002739011
MARIJUANA	36.1%	32.9%	39.4%	0.0002706421
MARIJUANA ONLY	16.6%	15.5%	17.8%	0.0000361379
COCAINE OR CRACK	8.1%	6.7%	9.7%	0.0000578867
COCAINE	7.7%	6.4%	9.3%	0.0000555885
CRACK	2.4%	1.9%	3.0%	0.0000070501
HALLUCINOGENS	9.5%	8.4%	10.8%	0.0000380365
UPPERS	10.7%	9.2%	12.4%	0.0000664598
DOWNERS	7.3%	6.4%	8.3%	0.0000241451
STEROIDS	2.0%	1.5%	2.7%	0.0000099765
ECSTASY	6.7%	5.7%	7.8%	0.0000272051
ROACH	9.9%	8.4%	11.7%	0.0000696148

ELEVENTH GRADE				
CATEGORY	Prevalence	Boundaries		Variance of Proportion
		Lower	Upper	
TOBACCO	61.4%	58.8%	64.0%	0.0001764755
ALCOHOL	82.2%	80.5%	83.8%	0.0000690012
INHALANTS	15.5%	13.2%	18.1%	0.0001535431
ANY ILLICIT DRUG	41.5%	38.5%	44.6%	0.0002401854
MARIJUANA	39.1%	36.1%	42.2%	0.0002386079
MARIJUANA ONLY	18.9%	17.2%	20.7%	0.0000784291
COCAINE OR CRACK	8.5%	6.7%	10.8%	0.0001108816
COCAINE	8.1%	6.3%	10.4%	0.0001123038
CRACK	2.3%	1.7%	3.1%	0.0000126970
HALLUCINOGENS	10.3%	8.4%	12.6%	0.0001106166
UPPERS	10.7%	8.7%	13.0%	0.0001185484
DOWNERS	7.2%	5.7%	9.0%	0.0000710452
STEROIDS	2.3%	1.8%	3.0%	0.0000095401
ECSTASY	7.5%	6.0%	9.3%	0.0000711197
ROACH	8.6%	7.1%	10.4%	0.0000713380

TWELFTH GRADE				
CATEGORY	Prevalence	Boundaries		Variance of Proportion
		Lower	Upper	
TOBACCO	63.3%	58.7%	67.7%	0.0005291396
ALCOHOL	84.6%	81.6%	87.2%	0.0002045656
INHALANTS	14.4%	12.8%	16.2%	0.0000746013
ANY ILLICIT DRUG	42.5%	38.3%	46.8%	0.0004635114
MARIJUANA	40.5%	36.4%	44.8%	0.0004624923
MARIJUANA ONLY	18.0%	16.0%	20.2%	0.0001188626
COCAINE OR CRACK	10.6%	9.0%	12.4%	0.0000751392
COCAINE	10.2%	8.7%	12.0%	0.0000709720
CRACK	2.5%	1.9%	3.3%	0.0000121777
HALLUCINOGENS	12.5%	10.7%	14.6%	0.0001013783
UPPERS	12.1%	10.0%	14.5%	0.0001289340
DOWNERS	8.5%	7.2%	10.0%	0.0000536071
STEROIDS	2.3%	1.7%	3.2%	0.0000132119
ECSTASY	9.4%	7.7%	11.5%	0.0000938127
ROACH	8.5%	6.9%	10.4%	0.0000765633

Texas School Survey of Drug and Alcohol Use 1996 Validity Analyses

A Supplement to the 1996 Methodology Report

August 1997

1996 Validity Analyses

In the wake of the 1996 Texas School Survey of Drug and Alcohol use conducted by the Public Policy Research Institute (PPRI) in conjunction with the Texas Commission on Alcohol and Drug Abuse (TCADA), the statewide data set was analyzed for threats to its validity. Those threats analyzed were (1) inconsistencies in responding; (2) presumable lying, as indicated by such answers as "have never heard of" cigarettes/beer/wine/liquor and general inconsistencies in using these responses; (3) missing data; (4) exaggerators; and (5) random response error (i.e., patterns of responses that indicate a respondent used a certain strategy of answering questions regardless of what questions were actually asked). The results of these analyses are found below.

Inconsistencies in Responding. Response consistency for the questionnaire was tested by comparing the lifetime use of each substance with a) the past month use, b) use during the school year, c) age of first use, d) frequency of use, and e) when a person normally uses a drug. Inconsistency is indicated by discrepant reports on the lifetime use of a substance and the use of the substance for each of the mentioned categories.

Table 1 shows the percentage of inconsistent responses for each of the comparisons. It shows that the median percentage of inconsistent responses to questions about the lifetime use and the past month use of substances was .20%. The median percentage of inconsistent responses for lifetime use and school year use was .25%. The median percentage of inconsistent responses with regard to the lifetime use and the age when substances were first used was .55%, discrepancies between answers about the lifetime use of substances and the frequency of use was .45%, and the comparison of the lifetime use and when one normally uses the substances resulted in the median of .55% of inconsistent responses.[1] The table shows a notable distinction in the consistency of responses between the use of illicit drugs and social drugs (cigarettes, smokeless tobacco,

[1] Because distributions of inconsistency results are positively skewed, the median was computed as measure of central tendency.

beer, wine, wine coolers, and liquor), with considerably more consistency in those responses to the questions about illicit drugs.

Tables 2 and 3 show the response consistency among Whites, Blacks, and Hispanics for each of the comparisons made in Table 1. Table 2 is for those in the 7th grade, and Table 3 is for those in the 12th grade. These tables suggest a tendency for students in lower grades to be less consistent in answering questions than students in higher grades. There were also differences among races. Whites were more consistent in their replies than were minorities, with the ratio between the percentage of inconsistent responses for whites and the percentage for minorities being 1:1.62. Yet Tables 2 and 3 indicate that these racial differences may be the result of differences in grade level. Whites in the 7th grade were more consistent in their answers than Blacks, and Blacks were more consistent than Hispanics. However, among 12th graders the differences among the races were negligible.

"Never Heard Of" Responses. "Never heard of" responses were also considered as a possible threat to validity. It is assumed that respondents who answered that they had never heard of cigarettes, beer, wine, wine coolers, or liquor either misunderstood the question or intentionally distorted their answers. A high percentage of respondents in this category would lead one to question the design of the instrument and/or the respondents' sincerity in answering the questionnaire. Consequently, those who responded that they had never heard of these substances were examined and it was found that there is a tendency to interchange "never heard of" and "never use" in answering the questions. No serious indication of deliberate distortion was found, however.

Table 4 shows the percentage of students who, in answering different questions, responded that they had never heard of cigarettes, beer, wine, wine coolers, or liquor. The number of respondents who said they had never heard of these substances in the question measuring lifetime prevalence varied from 1.0% (beer) to 1.5% (liquor and cigarettes), with the median equal to 1.4%. These results were similar to the ones obtained from questions asking people about their use of substances during the school

year and their close friends' use of the substances. The median percentages for these two questions were 1.7% and 1.3%, respectively. On the other hand, the percentage of students who chose the "never heard of" category was considerably higher for the questions asking about the respondents' use of the substances in the last month, the availability of the substances, and when they normally use the substances. More specifically, the median percentage of the "never heard of" category for substance use during the past month was 5.7%, while it was 5.0% for the availability of substances, and for the time when one normally uses the substances 3.8%. In all cases, younger students used the "never heard of" category more often than did the older students. On average, 7th graders were 2.66 times more likely to use this response than were 12th graders. There was also a distinction among races, with minority students being 3.30 times as likely as Whites to say they had never heard of a substance.

Just how consistently the respondents used the "never heard of" answers were checked by comparing answers to the questions about lifetime use, past month use, and school year use for all of the substances. As Table 5 indicates, there were few "true inconsistencies," that is, cases where a respondent used the "never heard of" category in answering one question but indicated that she/he used a substance a number of times in response to another question. The median percentage of inconsistencies between answers to the lifetime use and school year use of substances was 0.1%. A comparison between lifetime use and past month use yielded a median of inconsistent answers of 0.3%. Thus, the percentage of respondents who were truly inconsistent in using the "never heard of" category is negligible.

The majority of the inconsistencies were caused by students who responded that during their lifetime they had never used a substance but who, in response to the questions about the past month use and school year use, chose the "never heard of" option. These findings suggest that inconsistencies in using the "never heard of" response category are more likely to be a result of misunderstanding rather than intentional distortion, and that the

majority of seemingly inconsistent respondents interpreted the "never heard of" response the same way as the "never use a substance" category.

Missing Data. There was an average of 9.3% missing data (i.e., respondents who failed to give any answer) spread across all the questions in the survey. The standard deviation was 4.92. The range of missing data varied from .25% with regard to the question about a respondent's gender to 20.82% with regard to the question about the quantity of wine usually consumed at one time.

There are several possible reasons to explain why respondents did not answer all of the questions. One possibility is that the respondents became tired and/or bored because of the length of the questionnaire and the repeated series of questions about a number of different drugs. If this is the case, then the position of a question within the questionnaire should be associated with the percentage of missing data on the question. Rank order correlation between the position of a question in the instrument and the percentage of missing data was .66, indicating an association between the two variables.

It was also noticed that for each of the three questions in the survey that asked about the frequency of drug use within different periods of time (i.e., lifetime use, school year use, and past-month use), the percentage of missing data increased for the drugs that occurred late in the list (see Table 6). Thus, the ratio between the percentage of missing data from the first question about the lifetime use of cigarettes (1.27%) and the last question about the lifetime use of roach (3.35%) was 1:2.64; the ratio between missing data to the question about the use of cigarettes during the past month (4.60%) and the use of roach during the past month (7.74%) was 1:1.68; and the ratio between the percentage of missing data to the question about the use of cigarettes during the school year (2.83%) and the use of roach during the school year (9.05%) was 1:3.20.

One might argue that the increase in missing data for the questions occurring later in the series is a result of evaluation apprehension because these questions refer to the use of illicit drugs. In support of the hypothesis that evaluation apprehension might cause

respondents to not answer a question, there is a difference in missing data for questions about the use of the same drug but at different periods of time. Indeed, the percentage of missing data is greater for more recent periods, which suggests that respondents may have suffered greater evaluation apprehension with regard to those questions that were asking about more recent drug use. For example, the ratio between the percentage of missing data for the question about the lifetime use of cigarettes and the past month use of cigarettes is 1:3.62. Therefore, the observed increase in the percentage of missing data for questions occurring later in the sequence is probably a combined effect of evaluation apprehension and order effect.

The missing data in relation to the respondents' grade and racial/ethnic origin was also analyzed. Tables 7 and 8 compare the number of missing responses among Whites, Blacks, and Hispanics in the 7th and 12th grades for the three questions contained in Table 6. The tables show that 7th graders were more likely than 12th graders to not answer the questions. This is consistent with findings reached when other questions are included. With regard to all questions, the percentage of missing data for 7th graders was 1.57 times higher than the corresponding percentage for 12th graders, indicating that the tendency to avoid answering a question was stronger among students in lower grades than among those in higher grades. This suggests that younger students can become more saturated and/or bored with the questionnaire and/or take the task less seriously in comparison to older students.

Tables 7 and 8 also display differences among races, with Blacks being much more likely to not answer the questions than Whites and Hispanics. Taking into account all the questions in the survey, students from minority groups were 1.54 times more likely to avoid answering questions than White students. Because minority students are more visible and therefore easier to identify, the higher percentages of missing data among minority groups might indicate that they were more concerned than Whites about being identified and evaluated. However, there are alternative explanations, such as differences in understanding questions and social norms, that might explain these differences.

Exaggerators. Two criteria were used to classify respondents as exaggerators. The first of these, for elementary and secondary students alike, was the reported use of the nonexistent drug CHROMIES. The second criterion for elementary school students was whether they said they used five drugs 11 or more times. The second criterion for secondary school students was determined by the amount of alcohol and drugs they claimed to have used. Thus, secondary students were classified as exaggerators if they said they had five or more drinks of two or more beverages every day, reported consuming three or more alcoholic beverages every day, or said they used four or more drugs (other than cigarettes, alcohol, or steroids) eleven or more times in the past month.

Based on these two criteria, it is clear the secondary school students were much more likely to exaggerate. Few elementary school students reported using CHROMIES (1.6%) and only .33% reported using five drugs 11 or more times. In contrast, 5.66% of secondary school students reported using CHROMIES and 2.48% exaggerated their drug and alcohol use.

Tables

Table 1. Proportion of Respondents Whose Reported Lifetime Use of Substances was Inconsistent with What They Answered for Other Questions

Substances	Lifetime Use vs. Use in Past Month	Lifetime Use vs. Use During School Year	Lifetime Use vs. Age of First Use	Lifetime Use vs. Frequency of Use	Lifetime Use vs. When Normally Used
Cigarettes	0.2%	0.3%	1.4%	0.7%	0.6%
Smokeless Tobacco	0.4	0.7	2.9	1.2	1.5
Beer	0.4	0.7	2.4	1.4	1.4
Wine Coolers	0.3	0.6	1.8	1.2	1.2
Wine	0.4	0.8	2.7	2.2	2.0
Liquor	0.8	1.3	2.4	2.1	2.0
Inhalants	0.3	0.4	1.3	0.8	1.0
Marijuana	0.3	0.4	0.7	0.6	0.7
Cocaine	0.1	0.2	0.4	0.3	0.5
Crack	0.1	0.1	0.3	0.3	0.5
Hallucinogens	0.1	0.1	0.4	0.3	0.5
Uppers	0.1	0.1	0.3	0.2	0.5
Downers	0.1	0.1	0.3	0.3	0.5
Steroids	0.2	0.1	0.3	0.2	0.4
Ecstasy	0.1	0.1	0.3	0.3	0.4
Roach	0.2	0.2	0.4	0.3	0.4
Median:	0.2%	.25%	.55%	.45%	.55%

Table 2. Proportion of 7th Grade Whites, Blacks, and Hispanics Whose Reported Lifetime Use of Substances was Inconsistent with What They Answered for Other Questions

	Lifetime Use vs. Use in Past Month			Lifetime Use vs. Use During School Year			Lifetime Use vs. Age of First Use			Lifetime Use vs. Frequency of Use			Lifetime Use vs. When Normally Used		
Substances	W	B	H	W	B	H	W	B	H	W	B	H	W	B	H
Cigarettes	.13%	.29%	.37%	.24%	.65%	.53%	1.13%	2.15%	1.99%	.53%	.88%	1.1%	.65%	.86%	1.08%
Smokeless Tobacco	.25	.57	.60	.35	.68	.72	1.90	2.92	3.05	1.0	1.55	1.26	1.18	1.43	2.20
Beer	.24	.50	.54	.52	1.0	.97	1.97	3.64	3.25	1.38	1.52	1.92	1.34	1.71	1.66
Wine Coolers	.14	.48	.67	.59	.74	.93	1.48	2.32	2.43	1.05	1.29	1.45	1.27	1.14	1.41
Wine	.32	.60	.62	.72	1.27	1.12	1.95	3.53	2.95	1.69	2.36	2.14	1.49	2.17	2.01
Liquor	.49	.63	.74	.84	1.1	1.1	1.92	2.75	2.66	1.71	2.23	2.08	1.70	1.96	1.71
Inhalants	.19	.34	.50	.35	.60	.71	.93	1.45	1.60	.63	.74	1.09	.89	.90	1.67
Marijuana	.19	.24	.34	.34	.58	.60	.54	1.05	1.12	.44	.83	.93	.57	.91	1.06
Cocaine	.11	.09	.12	.14	.14	.24	.32	.31	.55	.31	.39	.34	.48	.33	.72
Crack	.02	.06	.15	.13	.11	.17	.23	.24	.52	.22	.32	.46	.53	.24	.69
Hallucinogens	.10	.03	.18	.08	.12	.22	.32	.21	.36	.26	.20	.20	.48	.21	.43
Uppers	.13	.15	.23	.03	.23	.15	.26	.25	.26	.19	.12	.24	.41	.41	.54
Downers	.16	.12	.17	.07	.20	.06	.27	.25	.26	.20	.17	.30	.43	.27	.56
Steroids	.33	.17	.27	.16	.14	.20	.34	.40	.42	.29	.28	.36	.52	.34	.52
Ecstasy	.16	.08	.12	.07	.05	.13	.23	.14	.33	.16	.19	.28	.47	.31	.54
Roach	.24	.23	.22	.10	.20	.31	.33	.34	.73	.24	.34	.68	.41	.39	.69
Median:	.18	.24	.31	.20	.41	.42	.44	.77	.93	.38	.57	.81	.55	.64	.89

W = Whites, B = Blacks, H = Hispanics

Table 3. Proportion of 12th Grade Whites, Blacks, and Hispanics Whose Reported Lifetime Use of Substances was Inconsistent with What They Answered for Other Questions

	Lifetime Use vs. Use in Past Month			Lifetime Use vs. Use During School Year			Lifetime Use vs. Age of First Use			Lifetime Use vs. Frequency of Use			Lifetime Use vs. When Normally Used		
Substances	W	B	H	W	B	H	W	B	H	W	B	H	W	B	H
Cigarettes	.04%	.05%	.06%	.08%	.10%	.00%	1.13%	2.15%	1.99%	.28%	.59%	.47%	.19%	.13%	.16%
Smokeless Tobacco	.28	.10	.29	.38	.36	.65	1.90	2.92	3.05	1.03	4.17	1.75	.77	1.01	1.94
Beer	.22	.43	.20	.29	.67	.41	1.97	3.64	3.25	.71	1.67	1.01	.70	1.24	.98
Wine Coolers	.15	.57	.29	.28	.81	.68	1.48	2.32	2.43	.93	1.08	1.17	.81	1.03	1.26
Wine	.22	.52	.51	.63	1.46	.72	1.95	3.53	2.95	2.07	2.29	2.23	1.86	1.79	2.09
Liquor	.69	.71	.73	1.03	1.43	1.44	1.92	2.75	2.66	1.76	2.37	2.32	1.66	3.13	2.16
Inhalants	.10	.09	.08	.14	.86	.16	.93	1.45	1.60	.49	.34	1.64	.67	.44	.86
Marijuana	.14	.08	.20	.23	.14	.31	.54	1.05	1.12	.30	.47	.35	.38	.32	.44
Cocaine	.11	.00	.03	.16	.00	.16	.32	.31	.55	.18	.15	.23	.39	.14	.34
Crack	.06	.00	.03	.11	.05	.26	.23	.24	.52	.11	.15	.26	.31	.05	.52
Hallucinogens	.06	.09	.09	.10	.20	.05	.32	.21	.36	.13	.26	.17	.30	.25	.28
Uppers	.17	.00	.05	.07	.09	.13	.26	.25	.26	.25	.15	.12	.38	.16	.21
Downers	.15	.05	.08	.13	.09	.09	.27	.25	.26	.27	.21	.24	.34	.14	.39
Steroids	.14	.00	.21	.03	.05	.11	.34	.40	.42	.29	.15	.14	.34	.19	.39
Ecstasy	.12	.00	.17	.06	.05	.08	.23	.14	.33	.32	.09	.20	.37	.19	.35
Roach	.10	.09	.13	.04	.14	.12	.33	.34	.73	.18	.10	.26	.32	.35	.39
Median:	.14	.09	.15	.14	.14	.16	.38	.41	.43	.30	.30	.31	.38	.29	.42

W = Whites, B = Blacks, H = Hispanics

Table 4. Proportion of Respondents Who Said They Had Never Heard of the Substances Mentioned in the Following Questions

Substances	Lifetime Use	Use in Past Month	Use During School Year	Close Friends' Use	Availability of Substances	When Substances Normally Used
Cigarettes	1.5%	5.8%	1.8%	1.3%	5.0%	3.8%
Beer	1.0	5.2	1.4	1.1	4.4	3.1
Wine Coolers	1.4	5.4	1.7	1.4	4.7	3.4
Wine	1.3	5.7	1.6	1.3	5.5	4.0
Liquor	1.5	5.8	1.8	1.4	5.6	4.1
Median:	1.4%	5.7%	1.7%	1.3%	5.0%	3.8%

Table 5. Proportion of Respondents Who for One Question Answered They Had Never Heard of a Substance but for Another Question Answered They Had Used the Substance

Substances	Inconsistencies Between Answers to Lifetime Use of a Substance and Use in the Past Month	Inconsistencies Between Answers to Lifetime Use of a Substance and Use During the School Year
Cigarettes	0.7%	0.3%
Smokeless Tobacco	0.3	0.2
Beer	0.9	0.3
Wine Coolers	1.0	0.3
Wine	0.8	0.2
Liquor	0.6	0.2
Inhalants	0.3	0.1
Marijuana	0.4	0.1
Cocaine	0.1	0.0
Crack	0.0	0.0
Hallucinogens	0.1	0.0
Uppers	0.1	0.0
Downers	0.1	0.0
Steroids	0.0	0.0
Ecstasy	0.1	0.0
Roach	0.3	0.1
Median:	0.3%	0.1%

Table 6. Proportion of Respondents Who Did Not Answer Questions about the Use of a Substance in Their Lifetime, in the Past Month, and During the School Year

Substances	Use in Lifetime	Use in Past Month	Use During School Year
Cigarettes	1.27%	4.60%	2.83%
Smokeless Tobacco	2.20	6.13	4.85
Beer	2.13	6.18	4.93
Wine Coolers	2.40	6.64	5.46
Wine	2.90	7.14	5.84
Liquor	3.88	7.53	6.29
Inhalants	2.44	6.89	4.80
Marijuana	3.27	7.85	6.91
Cocaine	3.42	8.22	6.90
Crack	4.28	8.79	7.45
Hallucinogens	2.93	7.66	5.93
Uppers	4.50	8.62	9.78
Downers	4.83	9.09	10.38
Steroids	4.42	8.46	9.17
Ecstasy	4.26	8.23	9.05
Roach	3.35	7.74	7.97
Median:	3.31	7.80	6.60

Table 7. Proportion of 7th Grade Whites, Blacks, and Hispanics Who Did Not Answer Questions about the Use of a Substance in Their Lifetime, in the Past Month, and During the School Year

	Use in Lifetime			Use in Past Month			Use During School Year		
Substances	White	Black	Hispanic	White	Black	Hispanic	White	Black	Hispanic
Cigarettes	1.01%	3.21%	1.64%	4.13%	9.24%	4.96%	2.62%	5.64%	3.12%
Smokeless Tobacco	2.06	5.10	2.51	5.85	11.81	6.73	4.81	9.21	5.74
Beer	2.12	4.92	2.79	6.08	11.31	6.61	5.48	9.10	5.82
Wine Coolers	2.42	4.97	3.07	6.89	11.64	7.34	5.61	9.53	6.39
Wine	2.76	5.94	3.65	7.39	12.29	8.52	6.32	10.21	6.83
Liquor	3.96	7.29	4.45	8.12	12.79	8.86	6.40	11.06	7.58
Inhalants	2.16	5.00	3.22	6.86	12.11	7.91	4.51	8.69	5.99
Marijuana	3.48	6.44	3.98	8.51	13.31	8.60	7.65	12.0	7.62
Cocaine	3.59	6.74	3.88	8.82	13.66	9.04	7.88	11.61	8.01
Crack	4.45	7.59	5.14	9.20	15.15	9.80	8.41	12.45	8.27
Hallucinogens	2.67	5.87	3.74	7.28	12.57	8.99	5.99	9.90	6.50
Uppers	4.10	7.94	5.42	9.14	14.25	9.93	10.26	14.87	10.94
Downers	4.72	8.74	5.82	9.39	14.80	10.23	11.04	16.10	11.36
Steroids	4.60	7.76	5.57	8.83	13.91	9.91	9.62	13.91	10.23
Ecstasy	4.28	7.87	5.63	8.73	13.05	9.86	9.30	14.05	10.13
Roach	3.50	6.75	4.59	7.79	13.09	8.97	9.02	13.33	9.06
Median:	3.49	6.59	3.93	7.96	12.92	9.92	7.03	11.34	7.60

Table 8. Proportion of 12th Grade Whites, Blacks, and Hispanics Who Did Not Answer Questions about the Use of a Substance in Their Lifetime, in the Past Month, and During the School Year

	Use in Lifetime			Use in Past Month			Use During School Year		
Substances	White	Black	Hispanic	White	Black	Hispanic	White	Black	Hispanic
Cigarettes	.59%	1.94%	.76%	2.71%	6.31%	2.76%	1.56%	3.94%	1.71%
Smokeless Tobacco	1.09	3.15	1.32	3.61	7.50	4.12	2.65	6.15	3.47
Beer	.85	2.85	1.10	3.48	7.45	3.73	2.42	6.05	2.94
Wine Coolers	1.01	2.98	1.58	3.96	7.53	4.42	2.94	5.95	3.58
Wine	1.48	3.49	1.89	4.31	9.47	4.37	3.02	5.90	3.88
Liquor	2.07	4.25	2.78	4.55	8.82	5.03	3.33	6.87	3.68
Inhalants	1.04	3.16	1.34	4.27	7.81	4.75	2.95	5.35	3.21
Marijuana	1.81	4.37	2.28	5.28	9.04	5.22	4.14	8.62	4.89
Cocaine	1.69	4.15	2.40	4.74	9.11	6.07	4.17	7.27	5.02
Crack	2.55	5.03	2.87	5.31	10.31	6.35	4.88	8.40	5.20
Hallucinogens	1.62	4.08	1.59	4.71	8.94	5.67	3.84	6.97	3.81
Uppers	2.26	5.70	3.23	5.55	10.45	6.71	6.58	11.07	6.97
Downers	2.57	6.32	3.61	5.67	10.18	6.81	7.15	11.14	7.52
Steroids	2.41	5.52	3.07	5.13	9.62	6.04	6.08	10.22	6.42
Ecstasy	2.26	5.05	2.91	5.41	9.27	5.62	6.19	10.52	6.90
Roach	1.74	3.90	1.94	4.72	9.23	4.75	4.78	9.44	5.41
Median:	1.72	4.12	2.11	4.72	9.08	5.13	3.99	7.12	4.39