

Underage Alcohol Use: Findings from the 2002-2006 National Surveys on Drug Use and Health

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DEPARTMENT OF HEALTH AND HUMAN SERVICES
Substance Abuse and Mental Health Services Administration
Office of Applied Studies

Acknowledgments

This report was prepared by the Division of Population Surveys, Office of Applied Studies, Substance Abuse and Mental Health Services Administration (SAMHSA), and by RTI International, a trade name of Research Triangle Institute, Research Triangle Park, North Carolina. Work by RTI was performed under Contract No. 283-2004-00022. At RTI, the report was authored by Michael R. Pemberton, and all statistical analyses were conducted by Tania M. Robbins. Other contributors and reviewers at RTI listed alphabetically include Jeremy Aldworth, Justine Allpress, Teresa R. Davis, David C. Heller, Larry A. Kroutil, Mary Ellen Marsden, Lisa Packer, and Kathryn Spagnola. At SAMHSA, the report was coauthored by James D. Colliver, conceptualized by Joseph C. Gfroerer, and reviewed by Joel Kennet. Also at RTI, report and web production staff listed alphabetically include Teresa G. Bass, Wendy Broome, Cassandra M. Carter, Joyce Clay-Brooks, Diane G. Eckard, Shari B. Lambert, Danny Occoquan, Brenda K. Porter, Pamela Couch Prevatt, and Richard S. Straw. Final report production was provided by Beatrice Rouse, Coleen Sanderson, and Jane Feldmann at SAMHSA.

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Pemberton, M. R., Colliver, J. D., Robbins, T. M., & Gfroerer, J. C. (2008). *Underage alcohol use: Findings from the 2002-2006 National Surveys on Drug Use and Health* (DHHS Publication No. SMA 08-4333, Analytic Series A-30). Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

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June 2008

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Highlights

Alcohol is the drug of choice among young people in the United States, and alcohol use constitutes one of the principal public health issues for this population. Approximately 5,000 persons under 21 years of age lose their lives each year as a result of underage drinking, and early initiation of alcohol use is associated with increased risk of subsequent alcohol use disorders and increased risk of involvement in violent behaviors, suicide attempts, and a variety of other problematic activities. In response to this issue, this study presents findings from the 2002 to 2006 National Surveys on Drug Use and Health (NSDUHs) on the use of alcohol by persons aged 12 to 20.

NSDUH is an annual survey of the civilian, noninstitutionalized population of the United States aged 12 or older. The survey is sponsored by the Substance Abuse and Mental Health Services Administration (SAMHSA) of the U.S. Department of Health and Human Services and is planned and managed by SAMHSA's Office of Applied Studies (OAS). Data collection is conducted under contract with RTI International, Research Triangle Park, North Carolina.¹ Selected key findings from this study are described below.

Prevalence of Underage Drinking Behaviors in 2006

- In 2006, more than half (53.9 percent) of persons aged 12 to 20 (20.6 million persons) had used alcohol in their lifetime, almost half (46.1 percent, 17.6 million) had used it in the past year, and more than a quarter (28.3 percent, 10.8 million) had used it in the past month (current use). One in five persons in this age group (19.0 percent, 7.2 million) engaged in binge alcohol use, meaning they had consumed five or more drinks of alcohol on at least one occasion in the past month. This includes 2.4 million (6.2 percent of persons aged 12 to 20) who drank heavily, defined as 5 or more days of binge alcohol use in the past month.

Trends in Underage Current and Binge Drinking

- Between 2002 and 2006, rates of current and binge drinking among those aged 12 to 20 remained stable. Current use among underage persons was 28.8 percent in 2002 and 28.3 percent in 2006, while binge use was 19.3 percent in 2002 and 19.0 percent in 2006.
- There were varying trends by age. Among youths aged 12 to 14, there was no change in current or binge alcohol use between 2002 and 2006, but past year use declined from 17.6 to 16.2 percent. Among 15 to 17 year olds, the rates declined from 2002 to 2006 for past year use (from 52.3 to 48.7 percent) and current use (from 28.3 to 26.1 percent), but binge use remained stable. There were no changes for 18 to 20 year olds in any of these alcohol use measures from 2002 to 2006.

¹ RTI International is a trade name of Research Triangle Institute.

Sociodemographic and Geographic Differences in Underage Drinking

- Combined data from 2002 to 2006 indicated that rates of current (past month) alcohol use were 7.0 percent for youths aged 12 to 14, 27.5 percent for youths aged 15 to 17, and 51.3 percent for 18 to 20 year olds. Binge alcohol use rates for these age groups were 3.3, 17.8, and 36.3 percent, respectively.
- Underage males were more likely than underage females to be current alcohol users (29.4 percent for males, 27.8 percent for females) and binge drinkers (21.6 percent for males, 16.5 percent for females). Among youths aged 12 to 14, the rate of current drinking was higher for females (7.7 percent) than males (6.3 percent), but there was no gender difference in the rate of binge drinking. For those aged 15 to 17, males and females did not differ in the rate of current alcohol use, but binge drinking was higher for males than females (19.0 vs. 16.5 percent). Among those aged 18 to 20, males had higher rates of current and binge drinking than females.
- Past month underage alcohol use was higher among non-Hispanic whites (32.6 percent) than Hispanics (25.7 percent), who in turn had a higher rate than blacks (18.8 percent). Underage current drinking rates were 27.2 percent among American Indians or Alaska Natives and 17.1 percent among Asians.
- One third (33.9 percent) of persons aged 12 to 20 whose family income was less than \$20,000 consumed alcohol in the past month, higher than the rate among those with a family income in any category over \$20,000. The rate of current alcohol use among underage persons in the highest income category (\$75,000 or more) was 28.6 percent, higher than the rate for those with a family income of \$20,000 to \$49,999 (26.0 percent) and \$50,000 to \$74,999 (26.4 percent). A similar pattern was found for binge drinking.
- Underage persons who lived in nonmetropolitan areas were more likely than those who lived in metropolitan areas to engage in binge drinking (20.8 percent in nonmetropolitan areas, 18.8 percent in metropolitan areas). The rate of current drinking among underage persons was 29.4 percent among those who lived in nonmetropolitan areas and 28.5 percent among those who lived in metropolitan areas, though this difference was not statistically significant.
- Among underage persons who lived in metropolitan areas, the prevalence of current drinking was higher for non-Hispanic whites (33.2 percent) than for Hispanics (25.3 percent). Among those who lived in rural areas, however, Hispanics had a higher prevalence of current drinking (32.4 percent) than whites (28.9 percent).
- Rates of current and binge alcohol use among 12 to 20 year olds were higher in the Northeast and Midwest than in the South or West. For example, 21.4 percent of those in the Northeast and 21.8 percent of those in the Midwest engaged in binge drinking compared with 17.3 percent of those in the South and 17.8 percent of those in the West. Among the 10 States with the highest rates of binge drinking, 4 were in the Midwest (Iowa, North Dakota, South Dakota, and Wisconsin), and 4 were in the Northeast (Massachusetts, New Hampshire, Rhode Island, and Vermont).

Alcohol Use Disorders among Persons Aged 12 to 20

- Combined data from 2002 to 2006 indicated that an annual average of 9.4 percent of persons aged 12 to 20 (3.5 million persons in that age range) met the diagnostic criteria for an alcohol use disorder (dependence or abuse) in the past year.
- Among all persons aged 12 to 20, a higher percentage of males (10.3 percent) than females (8.5 percent) had an alcohol use disorder, though this pattern varied by age group. Among youths aged 12 to 14, a higher percentage of females (2.2 percent) than males (1.6 percent) were classified with an alcohol use disorder. In contrast, among 18 to 20 year olds, a higher percentage of males (19.6 percent) than females (13.4 percent) were classified with an alcohol use disorder.
- The rate of past year alcohol use disorder among persons aged 12 to 20 was higher for American Indians or Alaska Natives (14.9 percent) than for whites (10.9 percent), blacks (4.6 percent), Hispanics (8.7 percent), and Asians (4.9 percent). One in eight Native Hawaiians or Other Pacific Islanders (12.7 percent) met the criteria for an alcohol use disorder.

Association of Underage Drinking with Parental Alcohol Use

- Rates of current and binge alcohol use among underage persons were higher among persons aged 12 to 20 who lived with a mother or father who had consumed alcohol in the past year compared with those who lived with a mother or father who had not consumed alcohol in the past year. For example, rates of binge drinking among underage persons were 17.6 percent for those whose mother was a past year drinker versus 9.3 percent for those whose mother was not a past year drinker, and 16.5 percent for those whose father was a past year drinker versus 10.2 percent for those whose father was not a past year drinker. Rates of underage binge drinking were also higher among those aged 12 to 20 who lived with a mother (21.3 percent) or father (19.5 percent) who was a binge drinker than among those whose mother (17.5 percent) or father (15.4 percent) was a current drinker but not a binge drinker.

Social Context of Last Alcohol Use

- In 2006, 80.9 percent of persons aged 12 to 20 who had consumed alcohol in the past month were with two or more people the last time they drank alcohol, 14.3 percent were with one other person the last time they drank, and 4.9 percent were alone. Underage persons who drank with two or more other people on the last occasion in the past month had more drinks on the last occasion on average (4.9 drinks) than those who drank with one other person (3.1 drinks) or those who drank alone (2.9 drinks).
- Among current drinkers, youths aged 12 to 14 were more likely to have been alone (9.0 percent) or with one other person (21.9 percent) the last time they drank compared with youths aged 15 to 17 (5.2 percent alone and 14.6 percent with one other person) or 18 to 20 year olds (4.2 percent alone and 13.2 percent with one other person).

Location of Last Alcohol Use

- A majority of underage current drinkers in 2006 reported that when they last used alcohol they were either in someone else's home (53.4 percent) or their own home (30.3 percent).
- Drinkers aged 12 to 14 were more likely to have been in their own home the last time they drank (38.8 percent) and less likely to have been in someone else's home (45.0 percent) compared with underage drinkers in older age groups (26.0 and 60.9 percent, respectively, for those aged 15 to 17, and 31.4 and 50.7 percent, respectively, for those aged 18 to 20). Drinkers aged 18 to 20 were more likely than those in younger age groups to have been in a restaurant, bar, or club on their last drinking occasion (12.9 percent for those aged 18 to 20 vs. 4.6 percent for those aged 12 to 14 and 3.7 percent for those aged 15 to 17).

Sources of Alcohol

- Among all underage current drinkers, 31.0 percent paid for the alcohol the last time they drank, including 9.3 percent who purchased the alcohol themselves and 21.6 percent who gave money to someone else to purchase it. Underage persons who paid for alcohol themselves consumed more drinks on their last drinking occasion (average of 5.9 drinks) than did those who did not pay for the alcohol themselves (average of 3.9 drinks).
- More than one in four underage drinkers (25.8 percent) indicated that on their last drinking occasion they were given alcohol for free by an unrelated person aged 21 or older. One in sixteen (6.4 percent) got the alcohol from a parent or guardian, 8.3 percent got it from another family member aged 21 or older, and 3.9 percent took it from their own home.
- Underage persons in older age groups were more likely to have paid for alcohol themselves on their last drinking occasion, with 37.6 percent of 18 to 20 year olds paying for it themselves compared with 23.5 percent of 15 to 17 year olds and 6.6 percent of 12 to 14 year olds. Among underage drinkers, males were more likely to have paid for alcohol themselves on their last drinking occasion (36.7 percent) than were females (24.5 percent).

Underage Drinking and Illicit Drug Use

- In 2006, more than one third (35.8 percent) of persons aged 12 to 20 who used alcohol in the past month also had used an illicit drug in the past month, and 16.0 percent of underage drinkers used an illicit drug within 2 hours of using alcohol on their last occasion of alcohol use.
- Marijuana was the illicit drug most used by underage drinkers, with nearly one third (30.0 percent) having used marijuana in the past month, and 15.0 percent having used marijuana within 2 hours of their last alcohol use.

1. Introduction

This report presents findings from the 2002 to 2006 National Surveys on Drug Use and Health (NSDUHs) on the use of alcohol by persons aged 12 to 20, that is, those who are under the minimum legal age for alcohol use. NSDUH is an annual survey of the civilian, noninstitutionalized population of the United States aged 12 or older and is conducted by the Substance Abuse and Mental Health Services Administration (SAMHSA). This report examines trends in alcohol use from 2002 to 2006 among underage persons and variations in underage drinking and alcohol use disorders across demographic groups and geographic areas. The discussion is based on measures of alcohol use in the past month, past year, and lifetime included in NSDUH, as well as questions that allow for the classification of past year dependence on or abuse of alcohol. Findings also are presented from items added to the 2006 NSDUH regarding the social context and location of underage drinking, the sources for alcohol among underage drinkers, and the co-occurrence of underage alcohol use and illicit drug use.

1.1. Background

Alcohol is the drug of choice among young people in the United States, and alcohol use constitutes one of the principal public health issues for this population (National Institute on Alcohol Abuse and Alcoholism [NIAAA], 2006). Each year, approximately 5,000 young people under the age of 21 die as a result of underage drinking, including about 1,900 deaths from motor vehicle crashes (Hingson & Kenkel, 2004). Drinking drivers under age 21 are involved in fatal crashes at twice the rate of adult drivers (National Highway Traffic Safety Administration [NHTSA], 2002). Early initiation of alcohol use is associated with higher likelihood of involvement in violent behaviors, suicide attempts, unprotected sexual intercourse, and multiple sex partners (Stueve & O'Donnell, 2005; Swahn, Bossarte, & Sullivent, 2008).

In addition, early initiation of alcohol use has been linked to higher rates of alcohol dependence or abuse in later life (Grant & Dawson, 1997). In the 2006 NSDUH, for example, the rate of alcohol abuse or dependence among adults aged 21 or older was 2.4 percent for those who first used alcohol at age 21 or older compared with 9.6 percent among those who initiated alcohol use prior to age 21 and 16.3 percent among those who first used alcohol before age 15 (Office of Applied Studies [OAS], 2007a). An estimated 38.7 percent of adults age 21 or older with past year alcohol dependence or abuse initiated alcohol use before age 15 (OAS, 2007b).

Information from several national sources indicates that underage alcohol use is widespread. According to the 2006 NSDUH, about 10.8 million persons aged 12 to 20 (28.3 percent of this age group) reported drinking in the past month (OAS, 2007a). Approximately 7.2 million (19.0 percent) were binge drinkers (consumed five or more drinks at the same time or within a couple of hours of each other on at least 1 day in the past 30 days), and 2.4 million (6.2 percent) were heavy drinkers (five or more drinks on the same occasion on each of 5 or more days in the past 30 days). The percentage of underage persons reporting past month alcohol use was similar from 2002 to 2006, according to the 2006 NSDUH. The 2006 Monitoring the Future (MTF), a survey of 8th, 10th, and 12th graders that also includes a follow-up of persons who had participated in the survey as high school seniors, indicated that 17.2 percent of 8th graders, 33.8 percent of 10th graders, 45.3 percent of 12th graders, and 57.6 percent of those aged 19 or 20 had

consumed alcohol in the past month (Johnston, O'Malley, Bachman, & Schulenberg, 2007a, 2007b). Furthermore, 6.2 percent of 8th graders indicated that they had been drunk in the past month, as did 18.8 percent of 10th graders, 30.0 percent of 12 graders, and 42.5 percent of those aged 19 or 20. Data from the Treatment Episode Data Set (TEDS) indicate that in 2006 there were over 61,000 admissions to substance abuse treatment among persons aged 12 to 20 in which alcohol was the primary substance of abuse, a number that represented 24.1 percent of all substance abuse treatment admissions for this age group (Substance Abuse and Mental Health Data Archive [SAMHDA], 2008).

Reduction of underage alcohol use has been highlighted as a top health priority of the Federal Government. In 2007, the Surgeon General issued a *Call to Action to Prevent and Reduce Underage Drinking* to highlight the nature and extent of underage drinking and to focus the attention of the public on this enduring problem (U.S. Department of Health and Human Services [DHHS], 2007). As part of SAMHSA's leadership role to coordinate the Federal effort to address this problem, the agency has issued *A Comprehensive Plan for Preventing and Reducing Underage Drinking* that outlines a detailed, goal-driven plan to reduce underage drinking (DHHS, 2006). Currently, SAMHSA sponsors two workgroups that address the underage drinking problem, one internal to SAMHSA and the other involving other agencies. SAMHSA's internal workgroup coordinates the agency's activities with regard to the prevention and treatment of alcohol-related problems and addresses such topics as the prevention of underage drinking, adolescent treatment, the prevention of excessive drinking by those of legal age, and alcohol treatment in general. The Interagency Coordinating Committee on the Prevention of Underage Drinking, which includes members from NIAAA, NHTSA, and other agencies in addition to SAMHSA, was responsible for developing SAMHSA's *Report to Congress on the Prevention and Reduction of Underage Drinking*.

This analytic series report, the first full-length NSDUH report to focus solely on underage drinking, complements these recent and ongoing efforts. NSDUH's large sample of the population aged 12 to 20 (more than 158,000 respondents in this age range from 2002 to 2006 combined), its inclusion of items to measure alcohol use and alcohol use disorders, and the added items on the context, location, and co-occurrence of alcohol use and illicit drug use make the survey a unique source of data to address the issue of underage alcohol use. NSDUH provides estimates that are representative at both the national level and within each State. It has sufficient sample size to examine the prevalence of rare drug use patterns, to study trends from 2002 to 2006, and to investigate differences in prevalence and other indicators across demographic groups, socioeconomic circumstances, and geographic areas.

1.2. General Information about NSDUH

NSDUH is the primary source of statistical information on the use of alcohol and illicit drug use by the U.S. civilian, noninstitutionalized population aged 12 or older. Conducted by the Federal Government since 1971, the survey collects data by administering questionnaires to a representative sample of the population through face-to-face interviews at their places of residence. The survey, which has been repeated annually since 1990, is sponsored by SAMHSA, an operating division of the DHHS, and is planned and managed by OAS within SAMHSA. Data collection is conducted under contract with RTI International, Research Triangle Park, North

Carolina.¹ This section briefly describes the survey methodology; a more complete description is provided in Appendices A and B.

Prior to 2002, the survey was called the National Household Survey on Drug Abuse (NHSDA). Because of improvements to the survey in 2002, the 2002 data constitute a new baseline for tracking trends in substance use and other measures. Estimates from 2002 to 2006 included in this report should not be compared with estimates from the 2001 or earlier versions of the survey to examine changes in underage alcohol use over time.

Particular strengths of the NSDUH data for reporting on underage alcohol use in the United States include, but are not limited to, the probability sampling design and large sample sizes (see below). Data are weighted to allow inferences to be made for the civilian, noninstitutionalized population aged 12 or older in the United States and for specific demographic subgroups (such as those aged 12 to 20) and geographic subgroups within the United States. Large sample sizes and probability sampling yielding representative estimates in each of the 50 States and the District of Columbia ensure coverage of even relatively rare behaviors and provide a high level of precision in the national estimates, particularly when survey data are pooled across multiple years.

NSDUH collects information from residents of households, noninstitutional group quarters (e.g., shelters, rooming houses, dormitories), and civilians living on military bases. The survey does not include homeless persons who do not use shelters, military personnel on active duty, and residents of institutional group quarters, such as jails and hospitals.

Since 1999, the NSDUH interview has been carried out using computer-assisted interviewing (CAI). Most of the questions are administered with audio computer-assisted self-interviewing (ACASI). ACASI is designed to provide the respondent with a highly private and confidential means of responding to questions to increase the level of honest reporting of illicit drug use and other sensitive behaviors. Less sensitive items are administered by interviewers using computer-assisted personal interviewing (CAPI).

The 2002 to 2006 NSDUHs employed a State-based design with an independent, multistage area probability sample within each State and the District of Columbia. The eight States with the largest population (California, Florida, Illinois, Michigan, New York, Ohio, Pennsylvania, and Texas), which together account for 48 percent of the total U.S. population aged 12 or older) were designated as large sample States. For the remaining 42 States and the District of Columbia, smaller, but adequate, samples were selected. In this report, State variations are studied using direct, weighted, and design-based estimates from the sample. For these estimates, 5 years of data (2002 to 2006) were combined to obtain sample sizes sufficient to produce State estimates and estimates for small demographic groups that met the precision criteria for publication (see Appendix A). The NSDUH design also oversampled persons aged 12 to 17 and those aged 18 to 25, so that each State's sample was approximately equally distributed among three major age groups: 12 to 17 years, 18 to 25 years, and 26 years or older.

¹ RTI International is a trade name of Research Triangle Institute.

Each year's survey was conducted from January through December of that calendar year (e.g., January through December 2006 for the 2006 NSDUH). Sampled dwelling units were screened to identify eligible residents aged 12 or older. Up to two persons per dwelling unit were selected to be interviewed. In each year, respondents were given an incentive payment of \$30 for completing the interview.

Weighted response rates for household screening ranged from 90.6 to 91.3 percent for these 5 survey years. Weighted response rates for interviewing ranged from 74.2 to 78.9 percent. Sample sizes were 68,126 in 2002, 67,784 in 2003, 67,760 in 2004, 68,308 in 2005, and 67,802 in 2006, for a total of 339,780 completed interviews for all those aged 12 or older across the 5 years. Sample sizes just for those aged 12 to 20 were 32,787 in 2002, 31,475 in 2003, 31,235 in 2004, 31,282 in 2005, and 31,320 in 2006, for a total of 158,099 completed interviews for those aged 12 to 20 across the 5 years. The weighted response rates for interviewing among those aged 12 to 20 were 89.2 percent in 2002, 88.5 percent in 2003, 88.0 percent in 2004, 86.8 percent in 2005, and 84.9 percent in 2006.

1.3. Measures of Alcohol Use and Disorders

NSDUH includes questions about the recency and frequency of consumption of alcoholic beverages, such as beer, wine, whiskey, brandy, and mixed drinks. An extensive list of examples of the kinds of beverages covered is given to respondents prior to the question administration. A "drink" is defined as a can or bottle of beer, a glass of wine or a wine cooler, a shot of liquor, or a mixed drink with liquor in it. Times when the respondent only had a sip or two from a drink are not considered to be consumption.

For this report, estimates for the prevalence of alcohol use are reported primarily at five levels defined for both males and females and for all ages as follows:

- *Lifetime use* – Use of alcohol at least once in the respondent's lifetime. This measure includes respondents who also reported last using alcohol in the past 30 days or past 12 months.
- *Past year use* – Use of alcohol in the 12 months prior to the interview. This definition includes those respondents who last used alcohol in the 30 days prior to the interview. Respondents who indicated past year use of alcohol also were classified as lifetime users.
- *Current (past month) use* – At least one drink in the past 30 days (includes binge and heavy use).
- *Binge use* – Five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days (includes heavy use).
- *Heavy use* – Five or more drinks on the same occasion on each of 5 or more days in the past 30 days.

NSDUH includes questions designed to measure dependence on and abuse of alcohol based on the criteria in the *Diagnostic and Statistical Manual of Mental Disorders*, 4th edition

(DSM-IV) (American Psychiatric Association [APA], 1994). A respondent was defined as having dependence on alcohol if he or she met three or more of the following seven dependence criteria:

1. Spent a great deal of time over a period of a month getting, using, or getting over the effects of alcohol.
2. Used alcohol more often than intended or was unable to keep set limits on the alcohol use.
3. Needed to use alcohol more than before to get desired effects or noticed that the same amount of alcohol had less effect than before.
4. Inability to cut down or stop using alcohol every time tried or wanted to.
5. Continued to use alcohol even though it was causing problems with emotions, nerves, mental health, or physical problems.
6. Alcohol use reduced or eliminated involvement or participation in important activities.
7. Experienced withdrawal symptoms (e.g., having trouble sleeping, cramps, hands tremble).

A respondent was defined as having abused alcohol if he or she met one or more of the following four abuse criteria and was determined not to be dependent on alcohol in the past year:

1. Serious problems at home, work, or school caused by alcohol, such as neglecting your children, missing work or school, doing a poor job at work or school, or losing a job or dropping out of school.
2. Used alcohol regularly and then did something that might have put you in physical danger.
3. Use of alcohol caused you to do things that repeatedly got you in trouble with the law.
4. Had problems with family or friends that were probably caused by using alcohol and continued to use alcohol even though you thought alcohol use caused these problems.

Criteria used to determine whether a respondent was asked the dependence and abuse questions included responses from the core alcohol use questions and the frequency of alcohol use questions, as well as the noncore alcohol use questions. Missing or incomplete responses in the core alcohol use and frequency of use questions were imputed. However, the imputation process did not take into account reported data in the noncore questions, including those on dependence and abuse. Respondents with missing information on dependence or abuse (3.5 percent of past year users aged 12 to 20) were included in the analyses, but they were not counted as having dependence or abuse.

1.4. New Alcohol Use Items in the 2006 NSDUH

The 2006 NSDUH included a new module on consumption of alcohol that asked for additional information about respondents' last use of alcohol for those who indicated that they had consumed alcohol at least once in the past month. In this module, past month drinkers were asked to think about the last time they used alcohol and then were asked to provide the following information about their last drinking occasion:

- the number of drinks they had when they last drank;
- their use of illicit drugs while using alcohol or within 2 hours of using alcohol the last time they drank;
- for those aged 12 to 20, the social context of their last drinking occasion (i.e., whether they were alone, with one other person, or with two or more other people when they last drank);
- for those aged 12 to 20, the location of their last drinking occasion (in a car or other vehicle; at home; at someone else's home; at a park, on a beach, or in a parking lot; at a restaurant, bar, or club; at a concert or sports game; at school; or at some other place); and
- for those aged 12 to 20, their source for obtaining the alcohol the last time they drank (e.g., whether or not they paid for the alcohol; if they paid for it, whether they purchased it themselves or gave money to somebody else to purchase the alcohol for them; and if they did not pay for it, who it was who gave them the alcohol).

In addition, respondents of all ages who indicated that they had binged on alcohol at least once in their life also were asked about their age when they first binged on alcohol. Respondents who indicated an age of first binge episode that was the same as their current age or 1 year younger than their current age were then asked to give the month and year when they first binged, which enabled a measure of initiation of binge alcohol use in the year prior to the survey.

Moreover, females who were lifetime drinkers were asked whether they had ever had four or more drinks on the same occasion, as well as their age when they first had four or more drinks on the same occasion. These two questions enable a comparison of binge drinking rates based on the definition used previously by NSDUH, which was five or more drinks on the same occasion for both males and females, and an alternative definition used by the NIAAA (2004), which is five or more drinks on the same occasion for males and four or more drinks on the same occasion for females.

Findings based on most of the items in the new consumption of alcohol module are presented in Chapter 4 and the tables in Appendix C. Section B.4 of Appendix B presents additional technical information and findings from items in this module.

1.5. Measures of Demographic and Geographic Characteristics

Data are presented for racial/ethnic groups in several categorizations, based on current standards for collecting and reporting race and ethnicity data (Office of Management and Budget [OMB], 1997) and on the level of detail permitted by the sample. Because respondents were allowed to choose more than one racial group, a "two or more races" category is presented that includes persons who reported more than one category among the seven basic groups listed in the survey question (white, black or African American, American Indian or Alaska Native, Native Hawaiian, Other Pacific Islander, Asian, Other). It should be noted that, except for the "Hispanic or Latino" group, the racial/ethnic groups discussed in this report include only non-Hispanics. The category "Hispanic or Latino" includes Hispanics of any race. Also, more detailed categories describing specific subgroups were obtained from survey respondents if they reported either Asian race or Hispanic ethnicity. Data on Native Hawaiians and Other Pacific Islanders are combined in this report.

Data also are presented for four U.S. geographic regions in this report. These regions and the nine geographic divisions within those regions, as defined by the U.S. Census Bureau, consist of the following groups of States:

Northeast Region - *New England Division*: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, Vermont; *Middle Atlantic Division*: New Jersey, New York, Pennsylvania.

Midwest Region - *East North Central Division*: Illinois, Indiana, Michigan, Ohio, Wisconsin; *West North Central Division*: Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, South Dakota.

South Region - *South Atlantic Division*: Delaware, District of Columbia, Florida, Georgia, Maryland, North Carolina, South Carolina, Virginia, West Virginia; *East South Central Division*: Alabama, Kentucky, Mississippi, Tennessee; *West South Central Division*: Arkansas, Louisiana, Oklahoma, Texas.

West Region - *Mountain Division*: Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, Wyoming; *Pacific Division*: Alaska, California, Hawaii, Oregon, Washington.

Geographic comparisons also are made based on county type, which reflects different levels of urbanicity and metropolitan area inclusion of counties, based on metropolitan area definitions issued by the OMB in June 2003 (OMB, 2003). For this purpose, counties are grouped based on the 2003 rural-urban continuum codes. These codes were originally developed by the U.S. Department of Agriculture (Butler & Beale, 1994). Each county is either inside or outside a metropolitan statistical area (MSA), as defined by the OMB.

Large metropolitan areas have a population of 1 million or more. Small metropolitan areas have a population of fewer than 1 million. Small metropolitan areas are further classified based on whether they have a population of 250,000 or more. Nonmetropolitan areas are areas outside MSAs. Counties in nonmetropolitan areas are further classified based on the number of people in the county who live in an urbanized area, as defined by the U.S. Census Bureau at the subcounty level. "Urbanized" counties have 20,000 or more population in urbanized areas, "less

urbanized" counties have at least 2,500 but fewer than 20,000 population in urbanized areas, and "completely rural" counties have fewer than 2,500 population in urbanized areas.

1.6. Organization of This Report

This report contains separate chapters that discuss the following topics related to the use of alcohol by persons aged 12 to 20: trends in underage alcohol use and disorders from 2002 to 2006 (Chapter 2); patterns of underage alcohol use and alcohol use disorders by demographic and geographic groups (Chapter 3); and the social context and location of underage drinking, the sources of alcohol for underage drinkers, and the co-occurrence of underage drinking and illicit drug use (Chapter 4). Most analyses are presented for all underage persons aged 12 to 20 and by gender and age group (12 to 14, 15 to 17, 18 to 20). Technical appendices describe NSDUH (Appendix A) and its statistical methods and measurement (Appendix B). Appendix C contains the tables of estimates referenced in Chapters 2 through 4. Tables showing standard errors for the estimated numbers and percentages in the tables in Appendix C are available on the SAMHSA/OAS website at <http://oas.samhsa.gov/WebOnly.htm>.

Tables, text, and figures present prevalence measures for the population in terms of both the number of alcohol users and the rate of alcohol use for those aged 12 to 20. The tables and figures for Chapter 2 include trend data that are based on comparisons of single-year estimates between 2002 to 2006. In these tables and figures showing trend data, significant differences between estimates from 2006 and previous years of the survey are indicated. The tables and figures for Chapter 3 are based on averages for 2002 to 2006; combining data from these 5 survey years increases the sample sizes to support detailed estimates. The tables and figures for Chapter 4 are based on new items added to NSDUH in 2006.

Statistical tests have been conducted for all statements appearing in the text of the report that compare estimates between years or subgroups of the population. Unless explicitly stated that a difference is not statistically significant, all statements that describe differences are significant at the .05 level. Statistically significant differences are described using terms such as "higher," "lower," "increased," and "decreased." Statements that use terms such as "similar," "no difference," "same," or "remained steady" to describe the relationship between estimates denote that a difference is not statistically significant. In addition, a set of estimates for survey years or population subgroups may be presented without a statement of comparison, in which case a statistically significant difference between these estimates is not implied and testing was not conducted.

All estimates presented in the report have met the criteria for statistical reliability (see Appendix B). Estimates that do not meet these criteria are suppressed and do not appear in tables, figures, or text. Also, subgroups with suppressed estimates are not included in statistical tests of comparisons. For example, a statement that "whites had the highest prevalence" means that the rate among whites was higher than the rate among all nonsuppressed racial/ethnic subgroups, but not necessarily higher than the rate among a subgroup for which the estimate was suppressed.

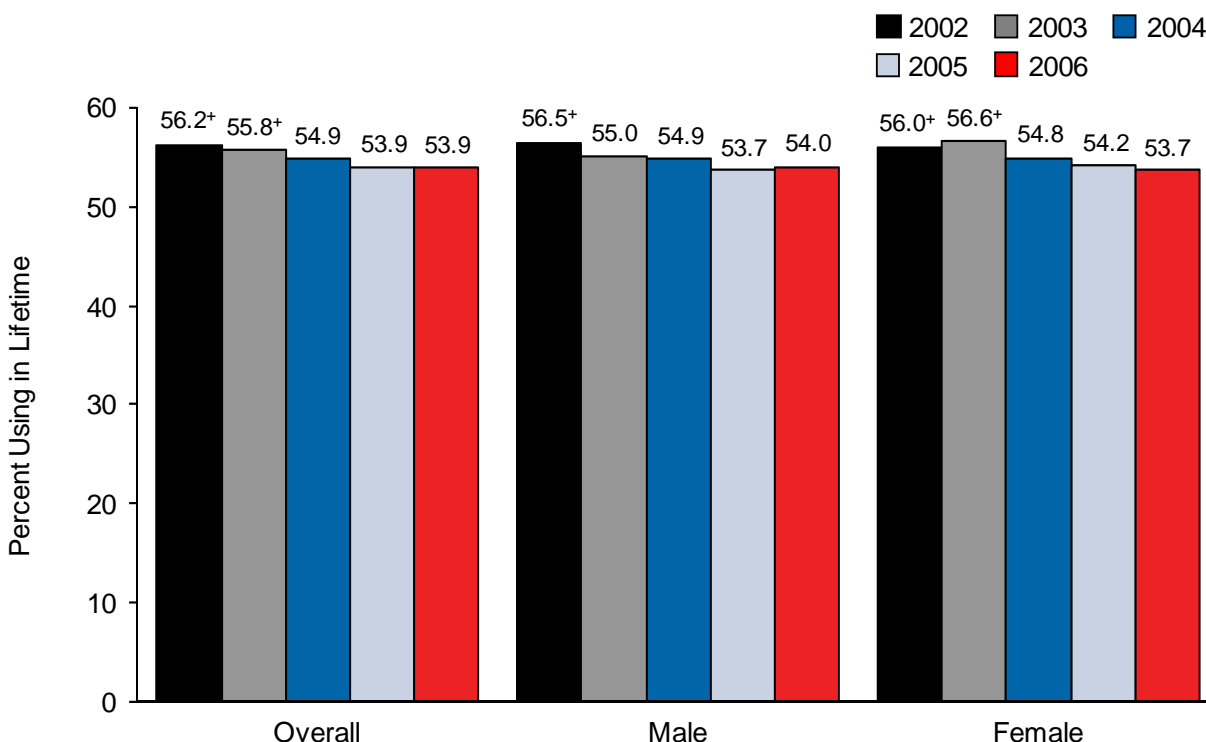
2. Trends in Underage Drinking: 2002-2006

This chapter presents 2002 to 2006 data on the prevalence of alcohol use and alcohol dependence and abuse among persons aged 12 to 20. Findings are presented overall and by age group and gender. The trends are based on single years of data from the 2002 to 2006 National Surveys on Drug Use and Health (NSDUHs). This chapter includes estimates of lifetime, past year, and current (past month) alcohol use, binge alcohol use, heavy alcohol use, and alcohol dependence or abuse in the past year.

2.1. Overall Trends

In each year from 2002 to 2006, more than half of all persons aged 12 to 20 had consumed at least one drink of alcohol in their lifetime. In 2006, an estimated 53.9 percent of underage persons (20.6 million persons) had used alcohol in their lifetime, which was lower than the percentage in 2003 (55.8 percent) or 2002 (56.2 percent) (Figure 2.1; also see Table 2.1 in Appendix C). Lifetime alcohol use among underage persons was stable from 2004 to 2006.

Figure 2.1 Lifetime Alcohol Use among Persons Aged 12 to 20, by Gender: 2002-2006



⁺Difference between estimate and 2006 estimate is statistically significant at the 0.05 level.

In 2006, about 17.6 million (46.1 percent) underage persons used alcohol in the past year, 10.8 million (28.3 percent) used in the past month, 7.2 million (19.0 percent) engaged in binge alcohol use, and 2.4 million (6.2 percent) engaged in heavy alcohol use. Also in 2006, about 3.5 million (9.1 percent) underage persons were classified with alcohol dependence or abuse in the past year. In this overall age group, rates of past year use, current use, binge use, heavy use, or past year dependence or abuse remained stable from 2002 to 2006. For example, current use among underage persons was 28.8 percent in 2002 and 28.3 percent in 2006, while binge use was 19.3 percent in 2002 and 19.0 percent in 2006.

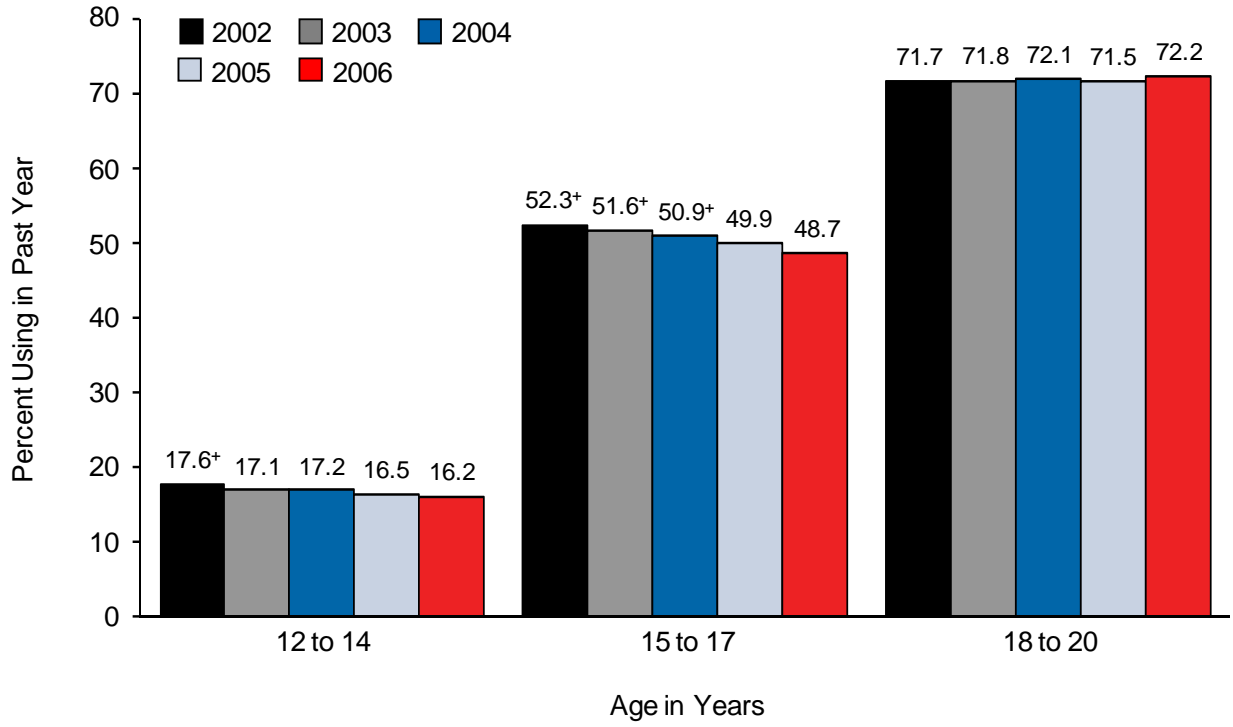
2.2. Trends, by Age

Among youths aged 12 to 14 and youths aged 15 to 17, the prevalence of lifetime alcohol use was lower in 2006 compared with 2002, 2003, or 2004 (Table 2.2). For example, the rate of lifetime alcohol use for 12 to 14 year olds declined from 24.9 percent in 2002 to 22.1 percent in 2006, and the rate of lifetime use for 15 to 17 year olds declined from 62.7 percent in 2002 to 57.7 percent in 2006. The prevalence of past year drinking was lower in 2006 (16.2 percent) than in 2002 (17.6 percent) for youths aged 12 to 14, and it was lower in 2006 (48.7 percent) compared with 2002 (52.3 percent), 2003 (51.6 percent), or 2004 (50.9 percent) for youths aged 15 to 17 (Figure 2.2). Among 15 to 17 year olds, the prevalence of past month alcohol use was lower in 2006 (26.1 percent) compared with 2002 (28.3 percent), 2003 (28.2 percent), or 2004 (28.3 percent). Among 15 to 17 year olds, the rates of binge drinking and alcohol use disorders in 2006 were not different from the rates in 2002. However, the rate of binge drinking among 15 to 17 year olds was lower in 2006 (17.1 percent) than in 2004 (19.1 percent), and past year dependence or abuse also decreased from 10.1 percent in 2004 to 8.8 percent in 2006. There were no changes in any measures of alcohol use from 2002 to 2006 for 18 to 20 year olds.

2.3. Trends, by Gender

Among both males and females aged 12 to 20, rates of lifetime alcohol use decreased between 2002 and 2006 (Figure 2.1 and Table 2.1). Rates of lifetime alcohol use decreased from 56.5 percent in 2002 to 54.0 percent in 2006 for underage males and from 56.0 to 53.7 percent for underage females. Among underage males, the prevalence of past year dependence or abuse was lower in 2006 (9.6 percent) than in 2004 (10.8 percent) or 2002 (10.9 percent). Among underage females, the prevalence of past year alcohol use was lower in 2006 (46.2 percent) than in 2003 (48.0 percent). There were no differences between 2006 and the previous 4 years of the survey for either males or females on past month alcohol use, binge use, or heavy use.

Figure 2.2 Past Year Alcohol Use among Persons Aged 12 to 20, by Age: 2002-2006



⁺Difference between estimate and 2006 estimate is statistically significant at the 0.05 level.

3. Patterns of Underage Alcohol Use and Disorders: 2002-2006

This chapter presents estimates of alcohol use and alcohol dependence or abuse among persons aged 12 to 20 based on annual averages for the combined 2002 to 2006 National Surveys on Drug Use and Health (NSDUHs). Combining data from these 5 survey years increases the sample size to support detailed estimates and is particularly useful for examining demographic and geographic correlates of alcohol use and alcohol use disorders.

The first section in this chapter presents estimates of alcohol use by demographic group, including age group, gender, race/ethnicity, income level, county type, and geographic area. Variations by State also are presented. The alcohol use measures include current (i.e., past month) use, binge use, and heavy use. The second section presents estimates of alcohol use disorders, defined as alcohol dependence or abuse in the past year, by demographic group and geographic area. The third section presents associations between underage drinking and parent alcohol use using data from households in which both a person aged 12 to 20 and his or her mother or father was interviewed.

3.1. Alcohol Use

In 2002 to 2006, more than one in four persons aged 12 to 20 (28.6 percent) had consumed alcohol in the past month, corresponding to an estimated 10.8 million underage current alcohol users (see Table 3.1 in Appendix C). Within this age group, 7.2 million (19.2 percent) engaged in binge alcohol use, and 2.3 million (6.2 percent) were heavy drinkers.

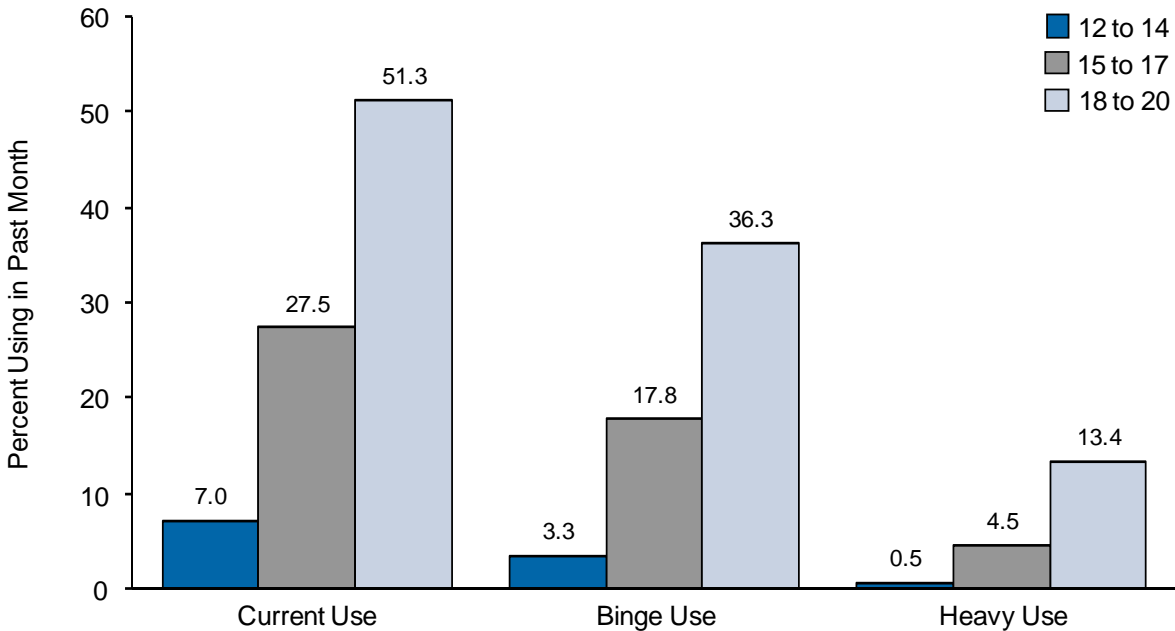
3.1.1. Age

The prevalence of current, binge, and heavy alcohol use among persons aged 12 to 20 was higher for older age groups than for younger age groups (Figure 3.1). For example, current drinking was reported by 7.0 percent of youths aged 12 to 14 (Table 3.3), 27.5 percent of youths aged 15 to 17 (Table 3.4), and 51.3 percent of 18 to 20 year olds (Table 3.5). In addition, 3.3 percent of persons aged 12 to 14, 17.8 percent of persons aged 15 to 17, and 36.3 percent of persons aged 18 to 20 were binge alcohol users. The prevalence of heavy drinking was 0.5 percent for 12 to 14 year olds, 4.5 percent for 15 to 17 year olds, and 13.4 percent for 18 to 20 year olds. Thus, more than one in three persons aged 18 to 20 was a binge drinker, and more than one in eight was a heavy drinker.

3.1.2. Gender

Among all underage persons, males were more likely than females to be current alcohol users (29.4 percent for males, 27.8 percent for females), binge drinkers, (21.6 percent for males, 16.5 percent for females), and heavy drinkers (7.9 percent for males, 4.3 percent for females) (Table 3.1).

Figure 3.1 Current, Binge, and Heavy Alcohol Use among Persons Aged 12 to 20, by Age: Annual Averages, 2002-2006



3.1.3. Race/Ethnicity

Among persons aged 12 to 20, non-Hispanic whites had higher rates of current and heavy alcohol use than any other racial/ethnic group, and they had a higher rate of binge use than non-Hispanic blacks, Asians, or Hispanics (Table 3.2). For example, approximately one third (32.6 percent) of whites were current users compared with 27.2 percent of American Indians or Alaska Natives, 25.7 percent of Hispanics, 24.3 percent of Native Hawaiians or Other Pacific Islanders, 18.8 percent of blacks, and 17.1 percent of Asians (Figure 3.2). Blacks had lower rates of current, binge, and heavy drinking compared with whites or Hispanics.

Among underage Hispanics, Cubans had a higher rate of current alcohol use (32.0 percent) than Central or South Americans (26.0 percent), Puerto Ricans (25.0 percent), or Mexicans (24.9 percent) (Table 3.2). There were no differences between Hispanic groups for binge or heavy alcohol use. Among underage Asians, rates of binge alcohol use were higher among Japanese (12.9 percent), Koreans (12.9 percent), and Filipinos (12.0 percent) than among Chinese (7.2 percent) or Vietnamese (5.2 percent). Koreans and Filipinos also had higher rates of binge alcohol use than Asian Indians (7.1 percent).

3.1.4. Gender, by Age Group

The pattern of differences between males and females in the prevalence of current drinking differed by age group. Among youths aged 12 to 14, the rate of current drinking was higher for females (7.7 percent) than for males (6.3 percent) (Table 3.3 and Figure 3.3). For those aged 18 to 20, however, the rate of current drinking was higher for males (54.4 percent) than for females (47.9 percent) (Table 3.5). There was no difference in the rate of current drinking for males and females among persons aged 15 to 17 (Table 3.4). For binge and

Figure 3.2 Current Alcohol Use among Persons Aged 12 to 20, by Race/Ethnicity: Annual Averages, 2002-2006

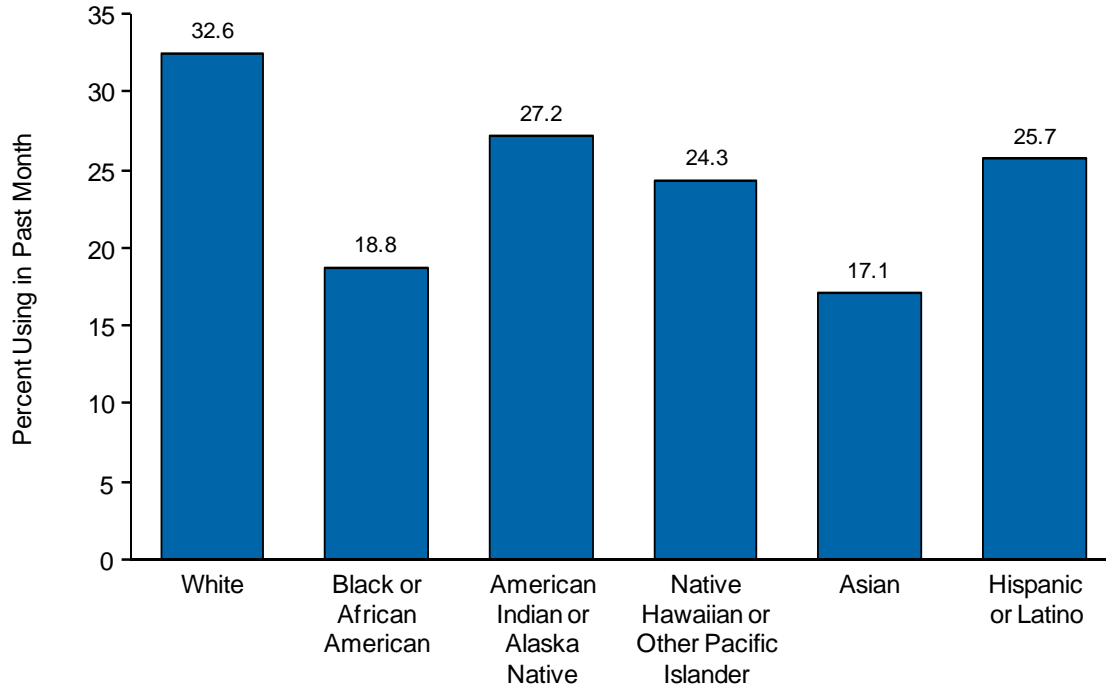
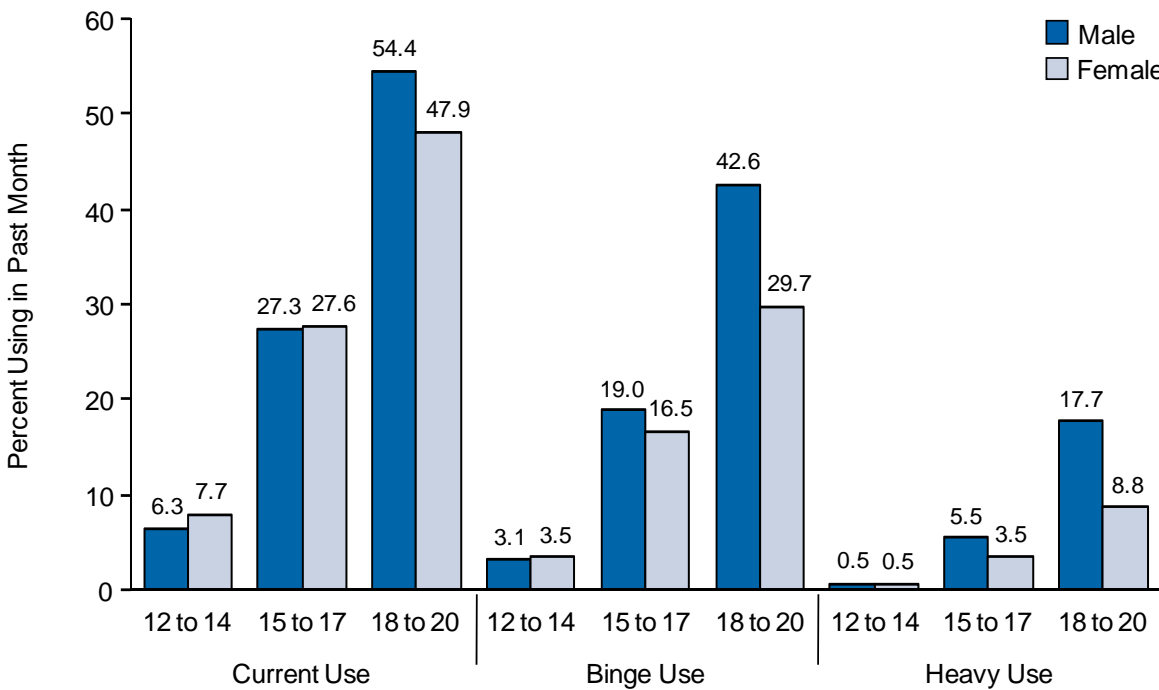


Figure 3.3 Current, Binge, and Heavy Alcohol Use among Persons Aged 12 to 20, by Age Group and Gender: Annual Averages, 2002-2006



heavy drinking, there were no gender differences for those aged 12 to 14, whereas for those aged 15 to 17 or 18 to 20, males had higher rates than females. For example, the rates of binge drinking were higher for males than for females for those aged 15 to 17 (19.0 percent for males, 16.5 percent for females) and those aged 18 to 20 (42.6 percent for males, 29.7 percent for females).

3.1.5. Race/Ethnicity, by Age Group

Among youths aged 12 to 14, non-Hispanic whites had a higher prevalence of current, binge, and heavy alcohol use compared with blacks or Asians (Table 3.3). For example, 7.5 percent of whites in this age group had consumed alcohol in the past month compared with 4.7 percent of blacks and 3.2 percent of Asians. However, rates of binge drinking for those aged 12 to 14 were lower for whites (3.4 percent) than for American Indians or Alaska Natives (8.1 percent) or for Hispanics (4.3 percent).

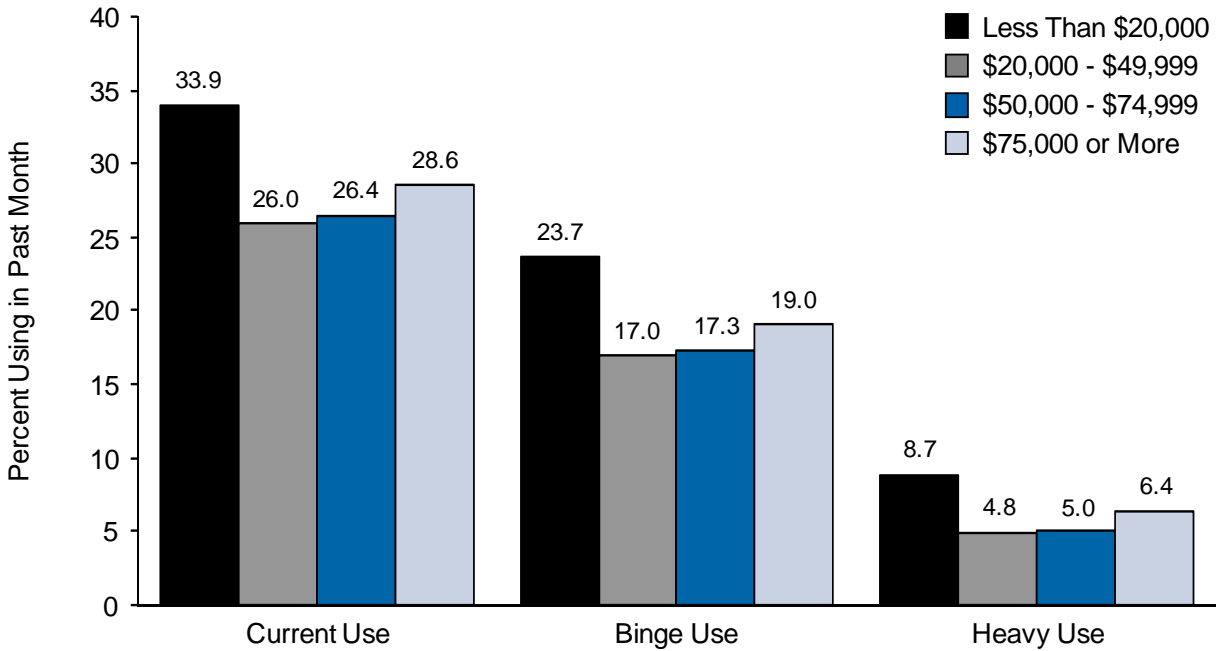
The pattern of racial/ethnic differences for those aged 15 to 17 was similar to that for those aged 12 to 14, with a higher percentage of non-Hispanic whites engaging in current, binge, and heavy alcohol use than blacks or Asians (Table 3.4). In contrast to the findings for those 12 to 14, a higher percentage of whites than Hispanics aged 15 to 17 engaged in current alcohol use (31.4 percent for whites, 26.0 percent for Hispanics), binge alcohol use (21.0 percent for whites, 17.1 percent for Hispanics), and heavy alcohol use (5.8 percent for whites, 3.7 percent for Hispanics). Within this age group, rates of current and binge alcohol use were also higher among whites (31.4 percent current users, 21.0 percent binge users) compared with Native Hawaiians or Other Pacific Islanders (17.4 percent current users, 9.1 percent binge users).

There were also differences between non-Hispanic whites and other racial/ethnic groups in alcohol consumption among persons aged 18 to 20. A higher percentage of whites in this age group were current or heavy drinkers compared with those in any other racial/ethnic group, though this difference was not statistically significant for those who reported being two or more races (Table 3.5). For example, 17.4 percent of whites in this age group were heavy drinkers compared with 8.8 percent of Hispanics, 7.9 percent of American Indians or Alaska Natives, 7.4 percent of Native Hawaiians or Other Pacific Islanders, 4.3 percent of Asians, and 4.1 percent of blacks. A similar pattern was found for binge drinking, which was more prevalent among whites (42.9 percent) than among American Indians or Alaska Natives (35.4 percent), Hispanics (31.3 percent), blacks (18.6 percent), or Asians (18.4 percent).

3.1.6. Income Level

As shown in Table 3.6 and Figure 3.4, persons aged 12 to 20 whose family income was less than \$20,000 had higher rates of current (33.9 percent), binge (23.7 percent), and heavy drinking (8.7 percent) compared with those whose family income was \$20,000 or higher. In addition, persons in this age group whose family income was \$75,000 or higher were more likely to have engaged in current, binge, and heavy alcohol use than those whose family income was \$20,000 to \$49,000 or those whose family income was \$50,000 to \$74,999. For example, 28.6 percent of persons aged 12 to 20 whose family income was \$75,000 or higher were current drinkers compared with 26.0 percent for those with a family income of \$20,000 to \$49,999 and 26.4 percent for those with a family income of \$50,000 to \$74,999.

Figure 3.4 Current, Binge, and Heavy Alcohol Use among Persons Aged 12 to 20, by Family Income: Annual Averages, 2002-2006



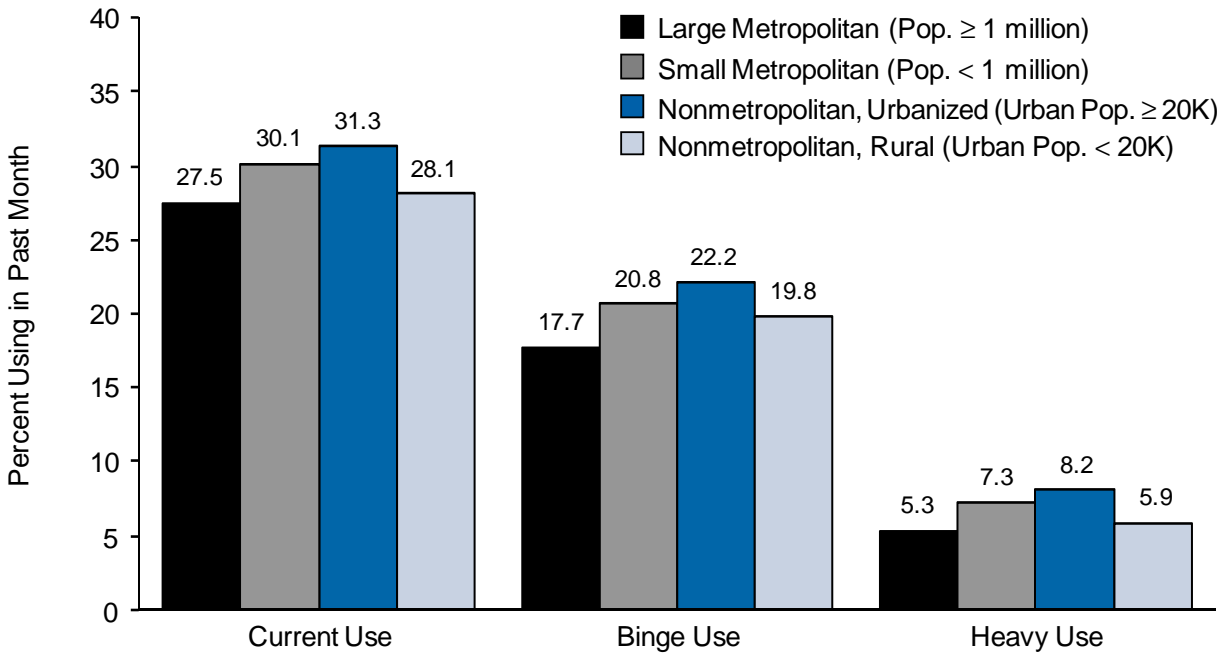
3.1.7. County Type

There was considerable variation in the rates of alcohol use among persons aged 12 to 20 by county type. Underage persons who lived in counties in nonmetropolitan areas were more likely than those who lived in counties in metropolitan areas to engage in binge drinking (20.8 percent in nonmetropolitan areas, 18.8 percent in metropolitan areas) and heavy drinking (6.9 percent in nonmetropolitan areas, 6.0 percent in metropolitan areas) (Table 3.6 and Figure 3.5). The rate of current drinking among underage persons was 29.4 percent among those who lived in nonmetropolitan areas and 28.5 percent among those who lived in metropolitan areas, though this difference was not statistically significant. Underage persons who lived in counties in small metropolitan areas (population less than 1 million) had higher rates of current, binge, and heavy drinking than those who lived in counties in large metropolitan areas (population of 1 million or more). Furthermore, persons aged 12 to 20 who lived in urbanized nonmetropolitan counties had higher rates of current, binge, and heavy drinking than those who lived in counties in large metropolitan areas, counties in small metropolitan areas, or rural counties. For example, 22.2 percent of underage persons who lived in urbanized nonmetropolitan counties were binge drinkers compared with 17.7 percent of those who lived in counties in large metropolitan areas, 20.8 percent in small metropolitan areas, and 19.8 percent in rural counties.

3.1.8. Demographic Differences within County Type

Across county types, underage persons in younger age groups had lower rates of current, binge, and heavy alcohol use compared with older age groups. For example, the prevalence of

Figure 3.5 Current, Binge, and Heavy Alcohol Use among Persons Aged 12 to 20, by County Type: Annual Averages, 2002-2006

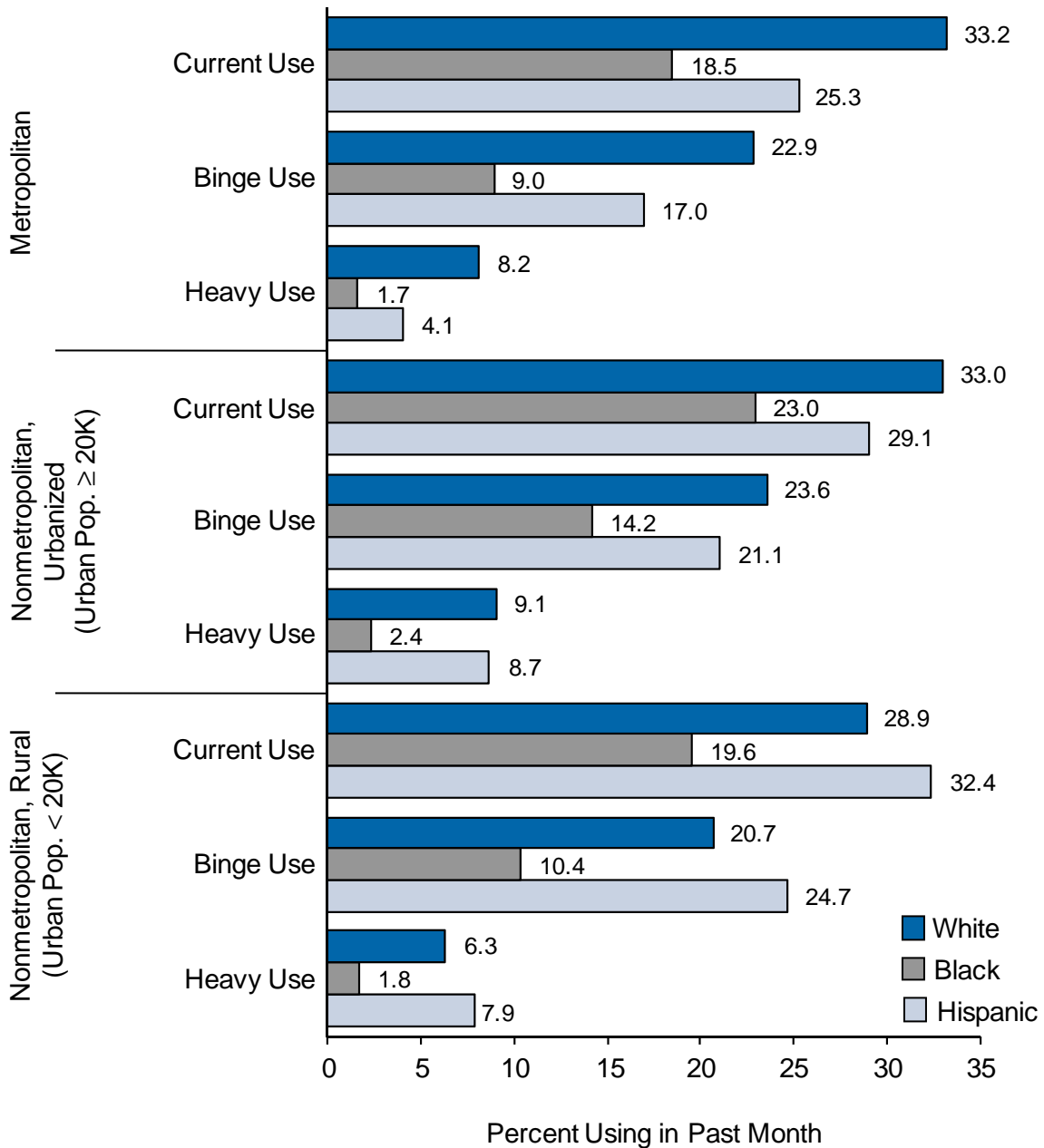


current drinking in counties in metropolitan areas was 6.7 percent for 12 to 14 year olds, 27.1 percent for 15 to 17 year olds, and 51.5 percent for 18 to 20 year olds (Table 3.7). Within rural counties, the prevalence of current drinking was 8.7 percent for 12 to 14 year olds, 30.0 percent for 15 to 17 year olds, and 46.1 percent for 18 to 20 year olds (Table 3.9).

There was little variation in the pattern of alcohol use among males and females by county type. For example, the rate of current alcohol use among those who lived in counties in metropolitan areas was higher for males (29.1 percent) than females (27.8 percent), and current drinking was also more prevalent among males in rural counties (30.0 percent) than among females (26.0 percent).

There was considerable variation in the pattern of alcohol use by race/ethnicity between counties in metropolitan areas and rural counties. For example, among persons aged 12 to 20 who lived in counties in metropolitan areas, the prevalence of current drinking was higher for non-Hispanic whites (33.2 percent in metropolitan areas) than for Hispanics (25.3 percent) (Table 3.7 and Figure 3.6). In rural counties, however, underage Hispanics had a higher prevalence of current drinking (32.4 percent) than underage whites (28.9 percent) (Table 3.9). This pattern was similar for binge drinking, with a higher percentage of whites (22.9 percent) than Hispanics (17.0 percent) who lived in metropolitan areas reporting binge drinking, and a higher percentage of Hispanics (24.7 percent) than whites (20.7 percent) in rural counties reporting binge drinking. Whites aged 12 to 20 who lived in counties in metropolitan areas also were more likely to drink heavily (8.2 percent) than were Hispanics (4.1 percent), though there was no difference in the prevalence of heavy drinking between whites and Hispanics in rural

Figure 3.6 Current, Binge, and Heavy Alcohol Use among Persons Aged 12 to 20, by Race/Ethnicity and County Type: Annual Averages, 2002-2006

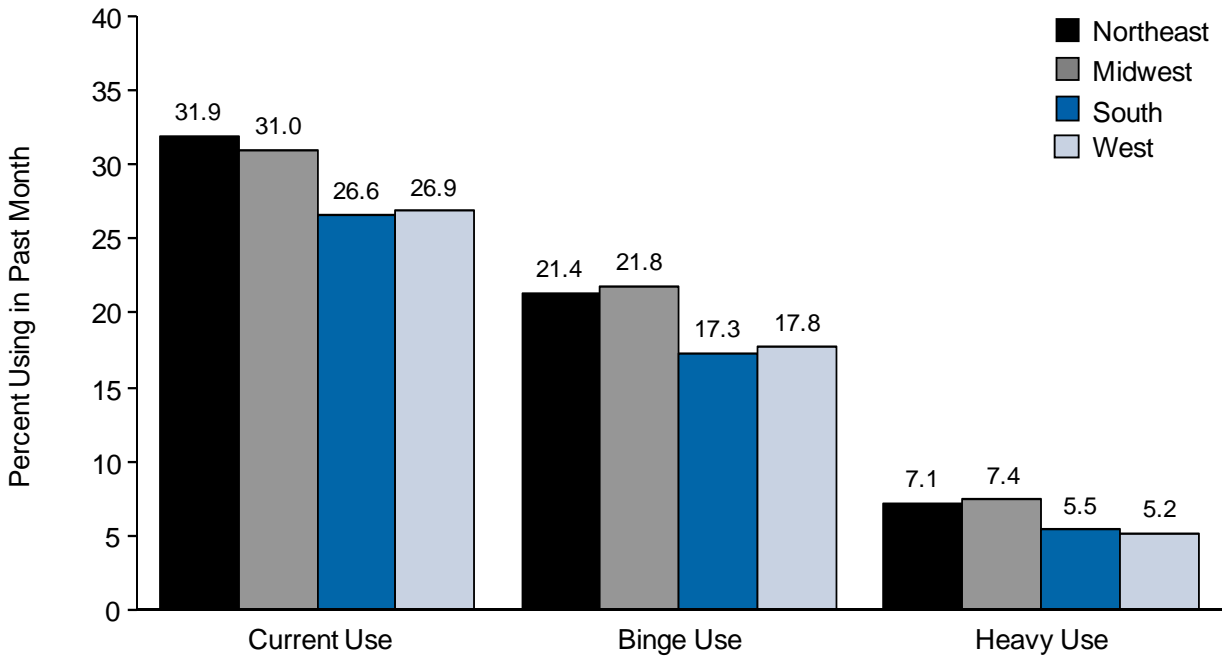


counties. Within each county type, blacks were less likely to be current, binge, or heavy drinkers than either whites or Hispanics.

3.1.9. Geographic Regions

For each of the three measures of past month alcohol use, rates among 12 to 20 year olds were higher in the Northeast and Midwest than in the South or West (Table 3.6 and Figure 3.7). For example, 21.4 percent of those in the Northeast and 21.8 percent of those in the Midwest

Figure 3.7 Current, Binge, and Heavy Alcohol Use among Persons Aged 12 to 20, by Geographic Region: Annual Averages, 2002-2006



engaged in binge drinking compared with 17.3 percent of those in the South and 17.8 percent of those in the West.

3.1.10. States

There was substantial variation among States in the prevalence of underage alcohol consumption. In 2002 to 2006, the rate of current alcohol use among those aged 12 to 20 ranged from a high of 41.2 percent in North Dakota to a low of 19.3 percent in Utah (Table 3.10 and Figure 3.8). Among the States in the highest fifth for current drinking, four were in the Midwest (Nebraska, North Dakota, South Dakota, and Wisconsin), four were in the Northeast (Massachusetts, New Hampshire, Rhode Island, and Vermont), and two were in the West (Montana and Wyoming). Among the States in the lowest fifth for current drinking, six were in the South (Alabama, Georgia, Mississippi, North Carolina, South Carolina, and Tennessee), three were in the West (California, Idaho, and Utah), and one was in the Midwest (Indiana).

The distribution of underage binge drinking by State was similar to the pattern of current use, ranging from a high of 31.7 percent in North Dakota to a low of 14.1 percent in Utah (Table 3.10 and Figure 3.9). Among the States in the highest fifth for binge drinking, four were in the Midwest (Iowa, North Dakota, South Dakota, and Wisconsin), four were in the Northeast (Massachusetts, New Hampshire, Rhode Island, and Vermont), and two were in the West (Montana and Wyoming). Among the States in the lowest fifth for binge drinking, eight were in the South (Alabama, Georgia, Maryland, Mississippi, North Carolina, South Carolina, Tennessee, and Texas), and two were in the West (California and Utah).

Figure 3.8 Current Alcohol Use among Persons Aged 12 to 20, by State: Annual Averages, 2002-2006

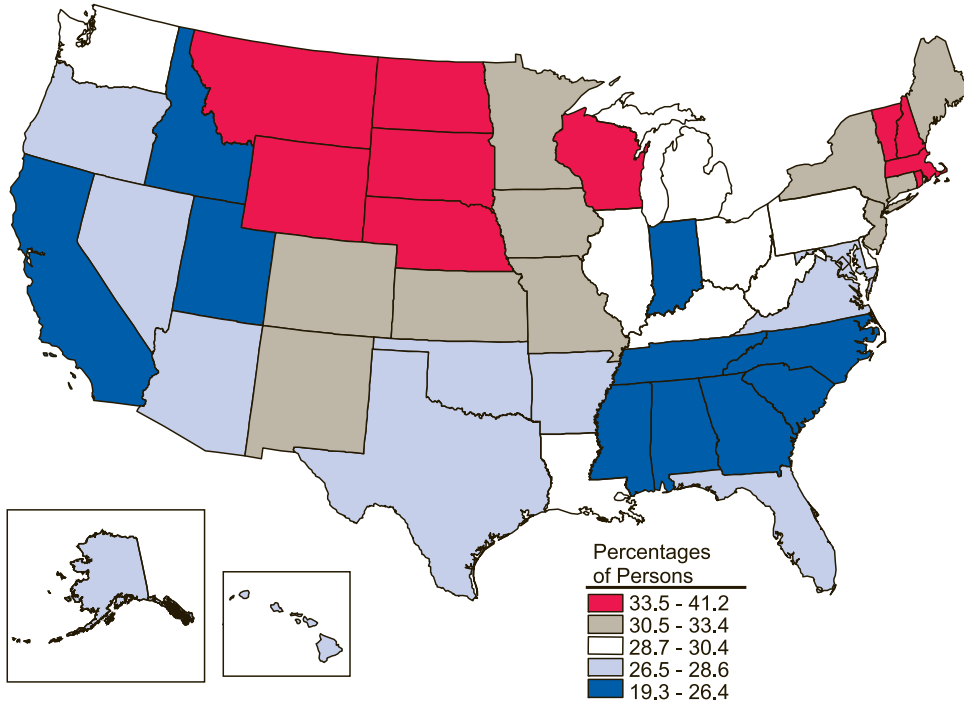
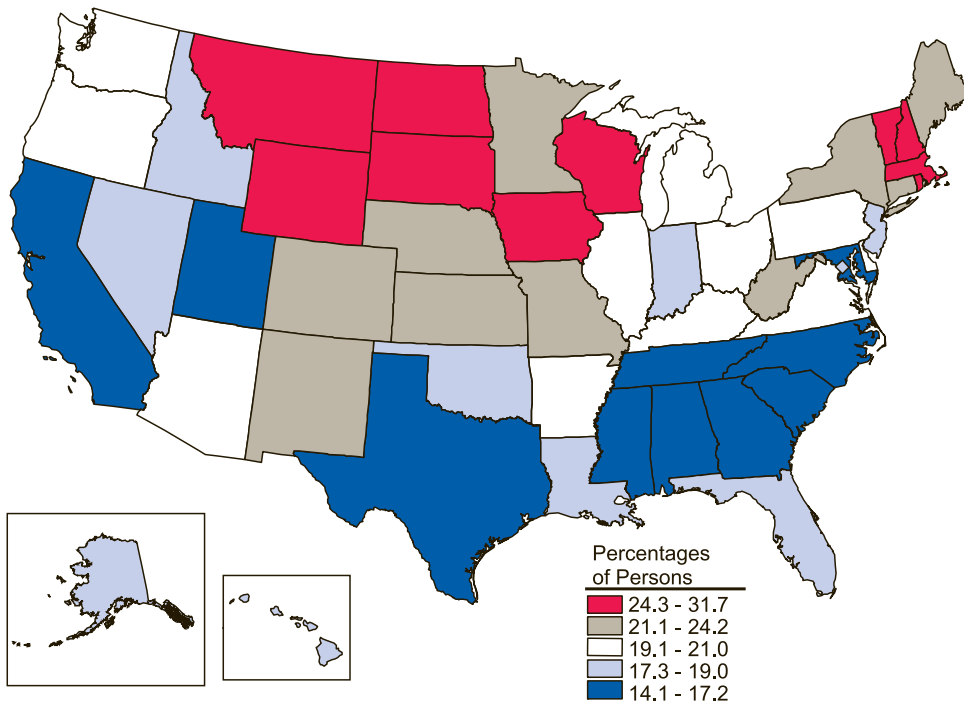


Figure 3.9 Binge Alcohol Use among Persons Aged 12 to 20, by State: Annual Averages, 2002-2006



3.2. Alcohol Dependence or Abuse

This section presents differences by demographic group and geographic area in the prevalence of underage persons who met the criteria for alcohol use disorders, defined as alcohol dependence or abuse in the past year. The prevalence rates cited are averages based on combined data from the 2002 to 2006 NSDUHs. In 2002 to 2006, an annual average of 3.5 million persons aged 12 to 20 met the criteria for alcohol dependence or abuse in the past year (9.4 percent of all persons in this age range) (Table 3.1).

3.2.1. Age

As was the case with the prevalence of alcohol use, the prevalence of past year alcohol dependence or abuse among persons aged 12 to 20 was higher for older persons than for younger persons. Only 0.5 percent of 12 year olds were classified with alcohol use disorders compared with 10.0 percent of those aged 16 and 17.7 percent of those aged 19 or 20 (Table 3.1).

3.2.2. Gender

Among all 12 to 20 year olds, a higher percentage of males (10.3 percent) than females (8.5 percent) met the criteria for past year alcohol dependence or abuse (Table 3.1).

3.2.3. Race/Ethnicity

Dependence or abuse among underage persons varied considerably by race/ethnicity. Among underage persons, more than one in seven American Indians or Alaska Natives (14.9 percent) and one in eight Native Hawaiians or other Pacific Islanders (12.7 percent) met the criteria for an alcohol use disorder (Table 3.2 and Figure 3.10). This rate of alcohol use disorders for underage American Indians or Alaska Natives was higher than the rate for whites (10.9 percent), blacks (4.6 percent), Hispanics (8.7 percent), or Asians (4.9 percent). Furthermore, Native Hawaiians or Other Pacific Islanders had a higher prevalence of alcohol use disorders than non-Hispanic blacks or Asians, and whites had a higher prevalence of alcohol use disorders than non-Hispanic blacks, Hispanics, or Asians.

Among Hispanics, the rate of alcohol use disorders among 12 to 20 year olds was lower among Puerto Ricans (6.8 percent) than among Mexicans (8.9 percent) (Table 3.2). Among Asians, the rate of alcohol use disorders was higher among Koreans (9.3 percent) than among any other Asian subgroup except for Filipinos.

3.2.4. Gender, by Age Group

Differences between males and females in the percentage of underage persons who met the criteria for alcohol use disorders in the past year varied considerably by age group. Among youths aged 12 to 14, a higher percentage of females (2.2 percent) than males (1.6 percent) were classified with an alcohol use disorder (Table 3.3 and Figure 3.11). In contrast, among those aged 18 to 20, a higher percentage of males (19.6 percent) than females (13.4 percent) was classified with an alcohol use disorder (Table 3.5). For youths aged 15 to 17, there was no difference between males and females in alcohol dependence or abuse.

Figure 3.10 Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Race/Ethnicity: Annual Averages, 2002-2006

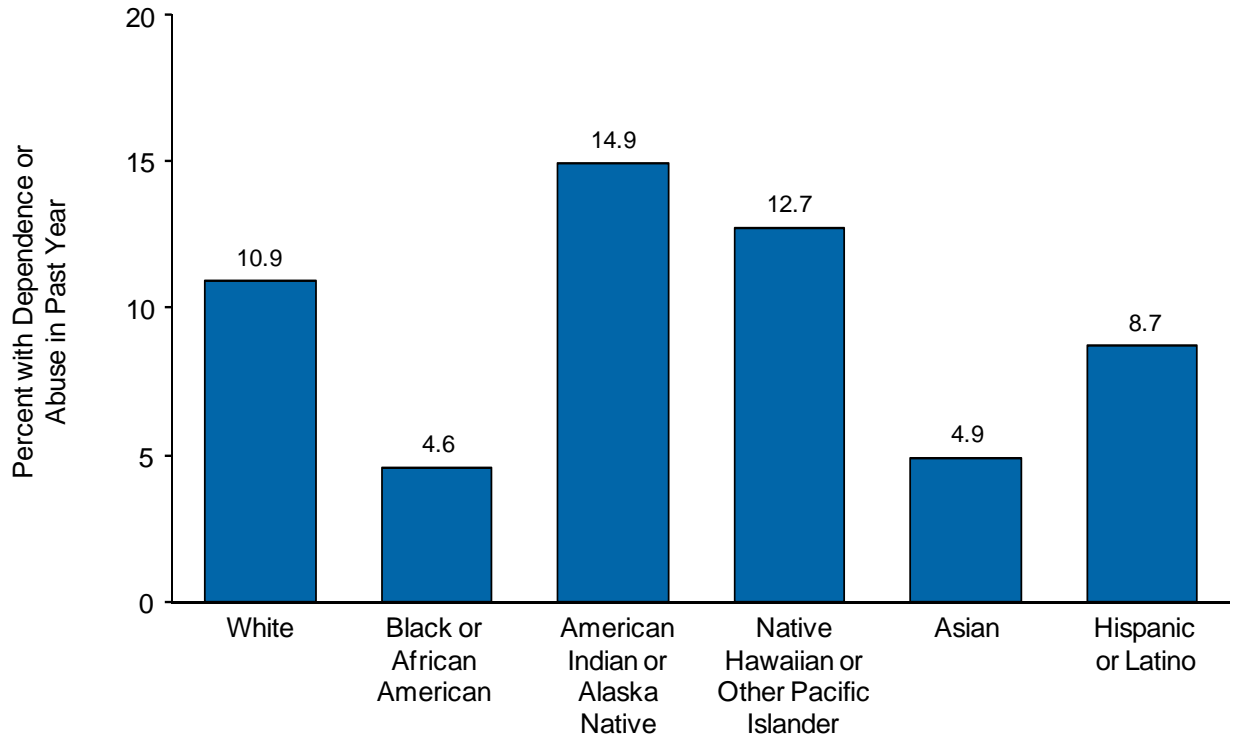
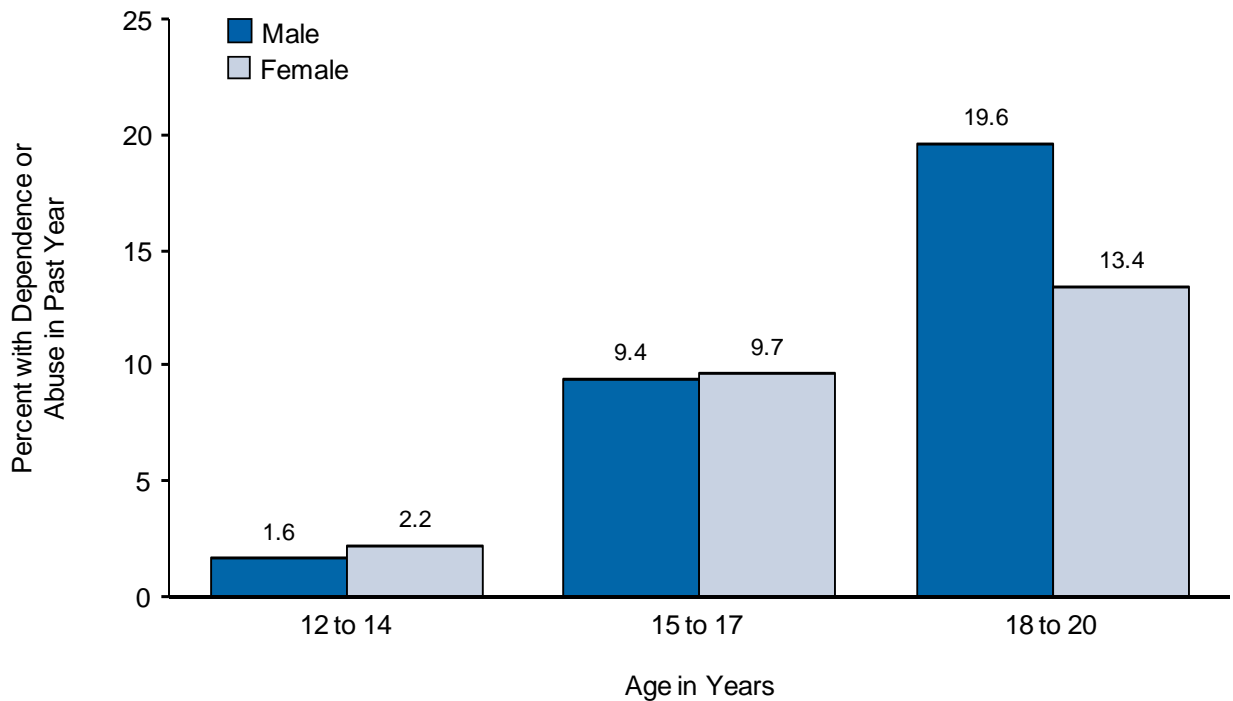


Figure 3.11 Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Gender and Age: Annual Averages, 2002-2006



3.2.5. Race/Ethnicity, by Age Group

The pattern of alcohol dependence or abuse in the past year among racial/ethnic groups was similar for those aged 12 to 14 or aged 15 to 17. Among youths aged 12 to 14, the percentage of American Indians or Alaska Natives classified with alcohol dependence or abuse (4.2 percent) was higher than among non-Hispanic whites, blacks, or Asians (Table 3.3). Among youths aged 15 to 17, the percentage of American Indians or Alaska Natives classified with alcohol dependence or abuse (19.0 percent) was higher than among whites, blacks, Native Hawaiians or Other Pacific Islanders, Asians, or Hispanics (Table 3.4). Blacks and Asians aged 12 to 14 or 15 to 17 had a similar prevalence of alcohol use disorders as Native Hawaiians or Other Pacific Islanders, but they had a lower prevalence than any other racial/ethnic group. Similarly, for persons aged 18 to 20, the prevalence of alcohol use disorders was lower among blacks (9.2 percent) and Asians (9.6 percent) than among whites (19.2 percent), American Indians or Alaska Natives (22.1 percent), Native Hawaiians or Other Pacific Islanders (24.5 percent), persons reporting two or more races (22.4 percent), or Hispanics (14.5 percent) (Table 3.5). These data indicate that nearly one out of four American Indians or Alaska Natives, Native Hawaiians or Other Pacific Islanders, or persons aged 18 to 20 reporting two or more races met the criteria for an alcohol use disorder.

3.2.6. Income Level

As shown in Table 3.6, persons aged 12 to 20 whose family income was less than \$20,000 had higher rates of past year alcohol dependence or abuse (11.6 percent) compared with those whose family income was \$20,000 to \$49,999 (8.4 percent), \$50,000 to \$74,999 (8.5 percent), or \$75,000 or higher (9.2 percent).

3.2.7. County Type

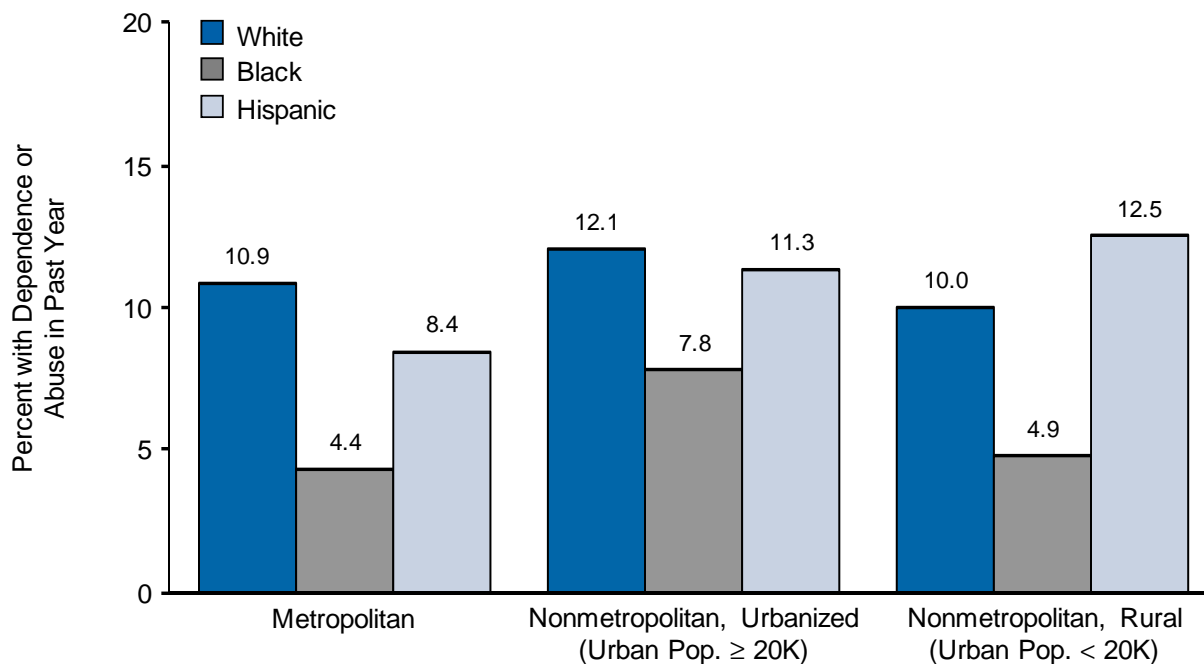
Among underage persons, those who lived in counties in nonmetropolitan areas were more likely than those who lived in counties in metropolitan areas to meet the criteria for alcohol dependence or abuse in the past year (10.6 percent in nonmetropolitan areas, 9.1 percent in metropolitan areas) (Table 3.6). Underage persons who lived in small metropolitan areas had higher rates of alcohol use disorder (10.3 percent) than those who lived in large metropolitan areas (8.5 percent). Furthermore, persons aged 12 to 20 who lived in urbanized nonmetropolitan counties had higher rates of alcohol use disorders (11.7 percent) than those who lived in counties in large metropolitan areas (8.5 percent), small metropolitan areas (10.3 percent), or rural counties (9.8 percent).

3.2.8. Demographic Differences within County Type

As was the case with the prevalence of alcohol use, the pattern of alcohol use disorder by age group and gender was similar across county types. In each county type, those in older age groups were more likely to be classified with alcohol dependence or abuse than younger age groups, and males were more likely to be classified with alcohol dependence or abuse than females (Tables 3.7 to 3.9). However, there was considerable variation in the pattern of alcohol use disorders by race/ethnicity between counties in metropolitan areas and rural counties. Among persons aged 12 to 20 who lived in counties in metropolitan areas, the prevalence of alcohol

dependence or abuse in the past year was higher for non-Hispanic whites (10.9 percent in metropolitan areas) than for Hispanics (8.4 percent) (Table 3.7 and Figure 3.12). In contrast, there were no statistically significant differences in the prevalence of alcohol use disorders among underage whites and Hispanics who lived in either urbanized nonmetropolitan counties or in rural counties. Within each county type, blacks were less likely to be classified with alcohol dependence or abuse in the past year than either whites or Hispanics, though this difference did not reach statistical significance for those who lived in urbanized nonmetropolitan counties.

Figure 3.12 Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Race/Ethnicity and County Type: Annual Averages, 2002-2006



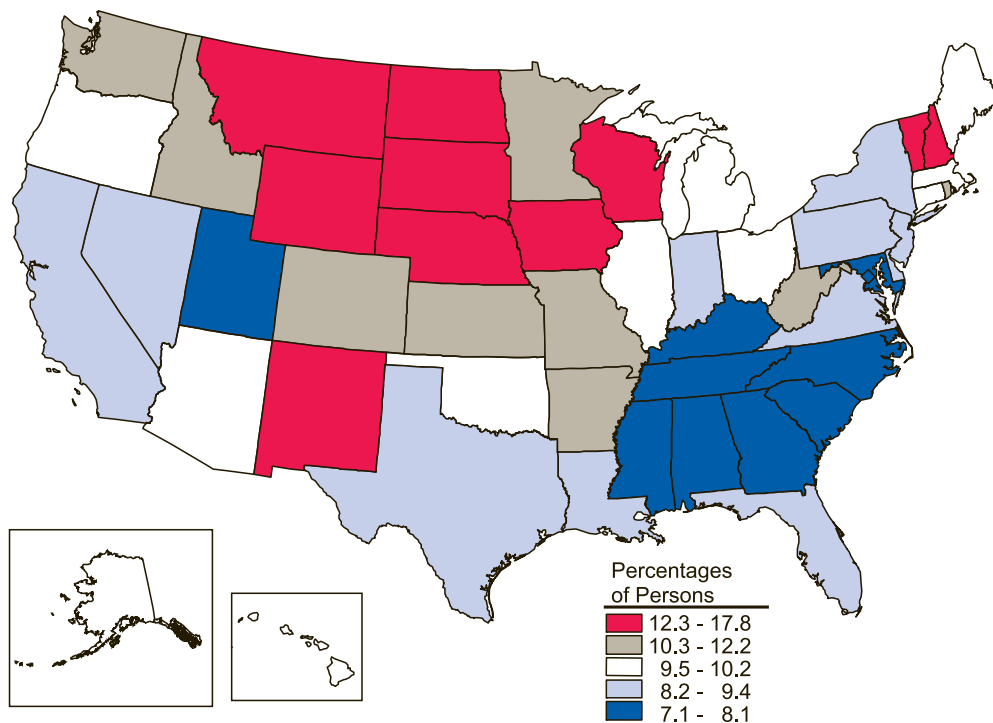
3.2.9. Geographic Regions

Persons aged 12 to 20 who lived in the Midwest had higher rates of alcohol dependence or abuse (10.7 percent) than those who lived in the Northeast (9.5 percent), West (9.5 percent), or South (8.4 percent) (Table 3.6). The prevalence of alcohol use disorders among underage persons in the South was lower than for any other region.

3.2.10. States

In 2002 to 2006, the rates of alcohol dependence or abuse in the past year among those aged 12 to 20 ranged from a high of 17.8 percent in Montana to a low of 7.1 percent in Mississippi (Table 3.10 and Figure 3.13). Of the States in the top fifth in the prevalence of alcohol use disorders, five were in the Midwest (Iowa, Nebraska, North Dakota, South Dakota, and Wisconsin), three were in the West (Montana, New Mexico, and Wyoming), and two were in the Northeast (New Hampshire and Vermont). Of the States in the bottom fifth, nine were in

Figure 3.13 Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by State: Annual Averages, 2002-2006



the South (Alabama, District of Columbia, Georgia, Kentucky, Maryland, Mississippi, North Carolina, South Carolina, and Tennessee), and one was in the West (Utah).

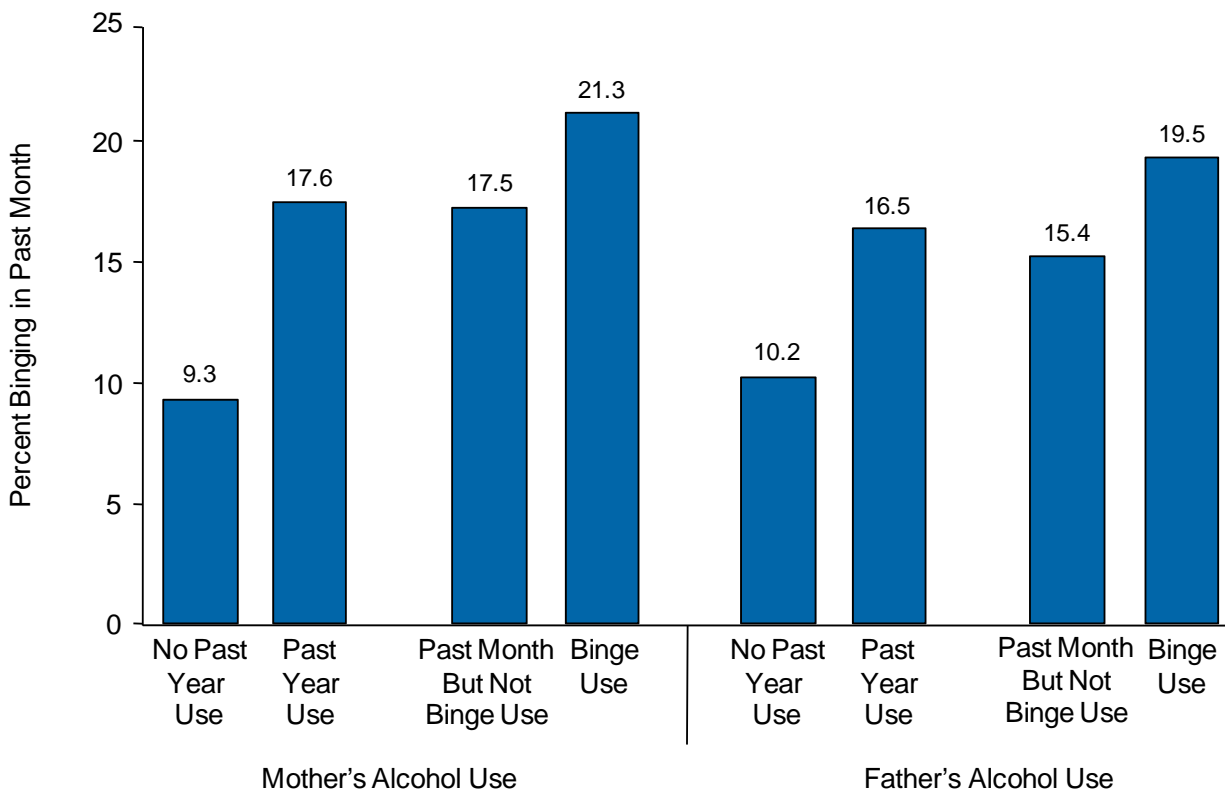
3.3. Association of Underage Drinking and Parental Alcohol Use

This section presents information on the association between drinking by persons aged 12 to 20 and drinking by their parents. The prevalence rates cited are averages from the 2002 to 2006 NSDUHs, utilizing data from households in which both a person aged 12 to 20 and his or her mother or father was interviewed.

3.3.1. Alcohol Use

In 2002 to 2006, there was a clear association between current drinking by persons aged 12 to 20 and past year drinking by their parents. Rates of current alcohol use, binge use, and heavy use among underage persons were considerably higher among persons aged 12 to 20 who lived with a parent who had consumed alcohol in the past year compared with those who lived with a parent who had not consumed alcohol in the past year (Table 3.11). For example, rates of binge drinking among underage persons were higher for those who lived with a parent who had consumed alcohol in the past year, whether that parent was a mother (17.6 percent for those whose mother was a past year drinker vs. 9.3 percent for those whose mother was not a past year drinker) or a father (16.5 percent for those whose father was a past year drinker vs. 10.2 percent for those whose father was not a past year drinker) (Figure 3.14). Furthermore, rates of underage binge drinking were higher among those who lived with a mother who was a binge drinker (21.3

Figure 3.14 Binge Alcohol Use among Persons Aged 12 to 20, by Parental Alcohol Use: Annual Averages, 2002-2006



percent) than among those whose mother had used alcohol in the past month but had not binged (17.5 percent). Similarly, 19.5 percent of underage persons whose father had binged in the past month were binge drinkers compared with 15.4 percent among those whose fathers had used alcohol in the past month but had not binged.

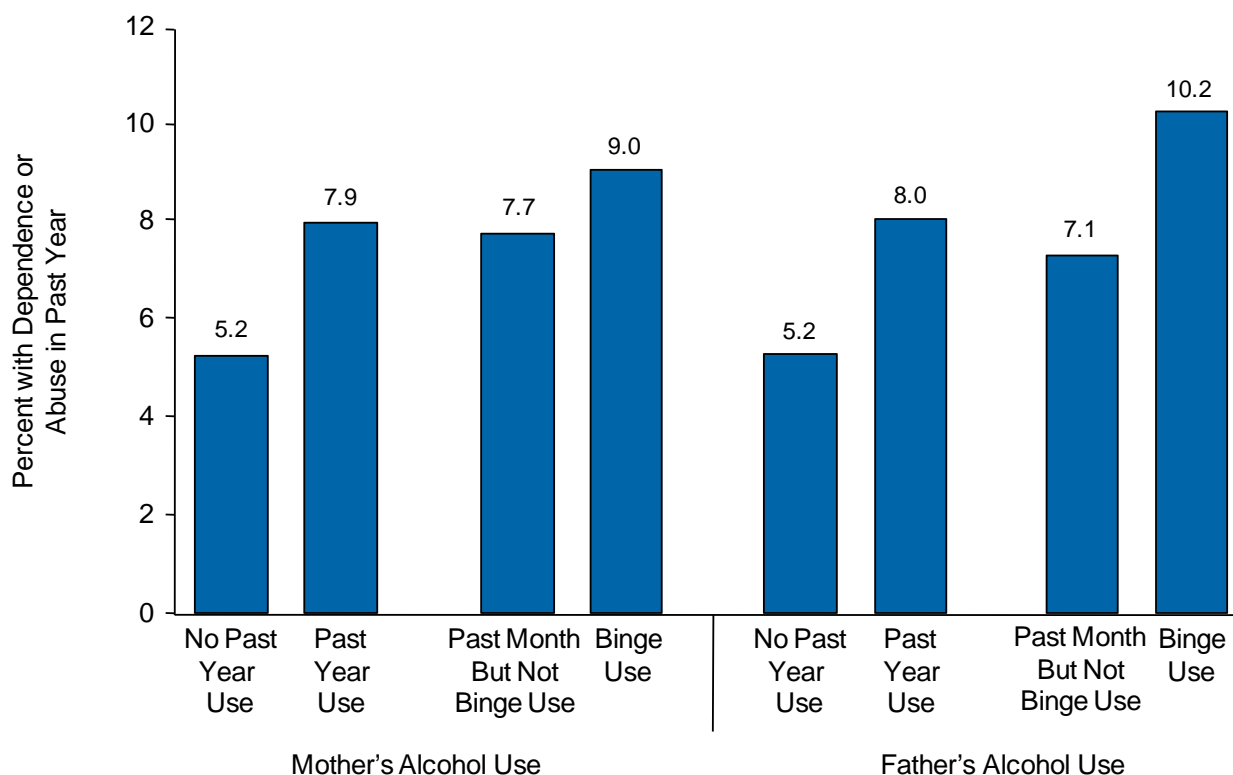
Household Structure. The comparisons of drinking patterns of underage persons and their parents can be further examined by the number of parents living in the household. Mother-child pairs are more likely than father-child pairs to come from single-parent households (22.3 vs. 5.3 percent). For both one-parent and two-parent households, rates of binge and heavy alcohol use were higher among underage persons who lived with a mother or father who had consumed alcohol in the past year compared with those who lived with a mother or father who did not drink in the past year (Table 3.12). In addition, for underage persons who lived in two-parent households, rates of binge drinking were higher among those who lived with a mother who had binged on alcohol in the past month compared with those who lived with a mother who had consumed alcohol in the past month but had not binged. Rates of heavy drinking were higher among those who lived with a father who had binged on alcohol in the past month compared with those who lived with a father who was a current drinker but was not a binge drinker.

3.3.2. Dependence or Abuse in the Past Year

As was the case for alcohol use, there was a clear association between the prevalence of alcohol use disorders among 12 to 20 year olds and drinking by their parents. Underage persons

whose parents had consumed alcohol in the past year had a higher prevalence of alcohol use disorders in the past year whether that parent was a mother (7.9 percent for those whose mother was a past year drinker vs. 5.2 percent for those whose mother was not a past year drinker) or a father (8.0 percent for those whose father was a past year drinker vs. 5.2 percent for those whose father was not a past year drinker) (Table 3.11 and Figure 3.15). A similar pattern was found for fathers who binged on alcohol during the past month, with higher rates of alcohol use disorders among underage persons whose fathers were binge drinkers versus those whose fathers were past month users but were not binge drinkers (10.2 and 7.1 percent, respectively). There was no significant difference in alcohol use disorders between underage persons whose mothers were binge drinkers and those whose mothers were past month drinkers but were not binge drinkers.

Figure 3.15 Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Parental Alcohol Use: Annual Averages, 2002-2006



Household Structure. Analyses of the link between alcohol use disorders among underage persons and alcohol use by their parents for one-parent and two-parent households are limited by small sample sizes, especially for fathers in one-parent households. Looking just at two-parent households, underage persons whose mothers had consumed alcohol in the past year were more likely to meet the criteria for alcohol dependence or abuse (7.6 percent) than those whose mothers did not drink in the past year (4.8 percent) (Table 3.12). This pattern held for fathers as well, with 7.9 percent of underage persons whose fathers had drunk alcohol in the past year meeting the criteria for an alcohol use disorder compared with 5.4 percent of those whose fathers did not drink in the past year. In addition, 12 to 20 year olds in two-parent households had a higher rate of past year alcohol use disorder if their father was a binge drinker (9.9 percent) than if their father was a past month drinker but was not a binge drinker (6.9 percent). There was

no significant difference in alcohol use disorders between underage persons in two-parent households whose mothers were binge drinkers and those whose mothers were past month drinkers but were not binge drinkers.

3.4. Summary

Combined data from 2002 to 2006 indicated that among persons aged 12 to 20, rates of current (past month), binge, and heavy alcohol use were higher for those who were older than for those who were younger and for males than for females. Among all persons aged 12 to 20, non-Hispanic whites had higher rates of current and heavy alcohol use than any other racial/ethnic group. Whites aged 12 to 14 had a lower rate of binge drinking than Hispanics and American Indians or Alaska Natives, but among those aged 15 to 17 or those aged 18 to 20, whites had higher rates of current, binge, and heavy drinking compared with Hispanics. Underage persons whose family income was less than \$20,000 or \$75,000 or higher had higher rates of current, binge, and heavy drinking compared with those whose family income was \$20,000 to \$74,999. Underage persons who lived in urbanized nonmetropolitan counties had higher rates of current, binge, and heavy drinking than those who lived in counties in large metropolitan areas, counties in small metropolitan areas, or rural areas. The pattern of underage alcohol use by racial/ethnic group differed between county types, with a higher rate for current drinking among non-Hispanic whites (33.2 percent) than among Hispanics (25.3 percent) in metropolitan areas. In rural areas, however, the rate for current drinking was higher among Hispanics (32.4 percent) than among whites (28.9 percent).

Among youths aged 12 to 14, a higher percentage of females (2.2 percent) than males (1.6 percent) were classified with an alcohol use disorder. This pattern was reversed for those aged 18 to 20, with a higher percentage of males (19.6 percent) than females (13.4 percent) who were classified with an alcohol use disorder. Among all persons aged 12 to 20, more than one in seven American Indians or Alaska Natives (14.9 percent) and one in eight Native Hawaiians or Other Pacific Islanders (12.7 percent) met the criteria for an alcohol use disorder. As was the case with alcohol use, persons aged 12 to 20 who lived in urbanized nonmetropolitan counties had higher rates of alcohol use disorders than those who lived in counties in large metropolitan areas, small metropolitan areas, or rural areas. Also, the prevalence of alcohol dependence or abuse in the past year among those who lived in counties in metropolitan areas was higher for non-Hispanic whites (10.9 percent) than for Hispanics (8.4 percent). However, there were no statistically significant differences in the prevalence of alcohol use disorders between underage whites and Hispanics who lived in urbanized metropolitan counties or rural counties. Within counties in metropolitan or rural areas, blacks were less likely to be classified with alcohol dependence or abuse in the past year than either whites or Hispanics.

Among underage persons, rates of current alcohol use, binge use, and heavy use, as well as rates of alcohol use disorders, were higher among persons who lived with a parent who had consumed alcohol in the past year compared with those who lived with a parent who had not consumed alcohol in the past year. Furthermore, rates of underage binge drinking were higher among those who lived with a mother or father who was a binge drinker than among those whose mother or father had used alcohol in the past month but had not binged. Underage persons who lived with a father who was a binge drinker also had higher rates of alcohol use disorders in the past year compared with those whose father was a current drinker but was not a binge drinker,

whereas there was no difference in alcohol use disorders between those whose mothers were binge drinkers and those whose mothers were current drinkers but were not binge drinkers.

4. Characteristics of Recent Drinking Episodes

This chapter presents information on the social context and location of underage drinking, the sources of alcohol for underage drinkers, and the co-occurrence of underage drinking and illicit drug use. These estimates are based on new items from the 2006 National Survey on Drug Use and Health (NSDUH) and include only data from current (past month) drinkers aged 12 to 20. Findings are presented by age group and gender.

4.1. Social Context of Alcohol Use

Among persons aged 12 to 20 who had used alcohol in the past month, most (80.9 percent) were with two or more people the last time they drank alcohol, 14.3 percent were with one other person the last time they drank, and 4.9 percent were alone (see Table 4.1 in Appendix C). Underage persons who drank with two or more other people on the last occasion in the past month had more drinks on the last occasion on average (4.9 drinks) than those who drank with one other person (3.1 drinks) or those who drank alone (2.9 drinks) (Table 4.2).

4.1.1. Age

In 2006, the majority of underage current drinkers in each age group (i.e., those aged 12 to 14, 15 to 17, and 18 to 20) consumed alcohol with two or more other people the last time they drank (Table 4.1 and Figure 4.1). Among current drinkers, youths aged 12 to 14 were more likely to have been alone (9.0 percent) or with one other person (21.9 percent) the last time they drank compared with youths aged 15 to 17 (5.2 percent alone and 14.6 percent with one other person) or 18 to 20 year olds (4.2 percent alone and 13.2 percent with one other person).

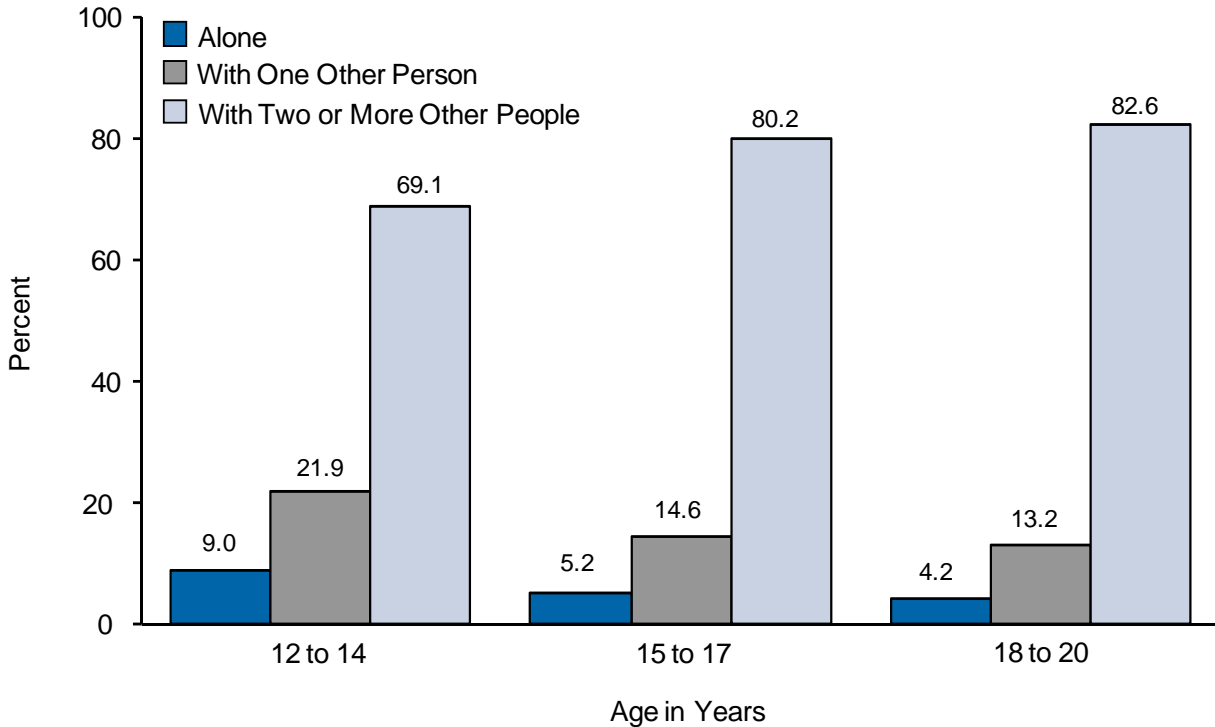
Current drinkers aged 12 to 14 who drank with two or more other people the last time they drank averaged more drinks on the last occasion (3.1 drinks) than those who drank with one other person (2.0 drinks) (Table 4.2 and Figure 4.2). Among current drinkers aged either 15 to 17 or 18 to 20, those who drank with two or more people on the last occasion consumed more drinks on average than those who drank either with one other person or by themselves.

4.1.2. Gender

Among underage drinkers, the majority of both males and females were with two or more other people on their last drinking occasion (Table 4.1). However, female drinkers were more likely to have been with two or people the last time they drank (83.6 percent) than were male drinkers (78.4 percent). Conversely, male drinkers were more likely to have been alone the last time they drank (6.3 percent) than were female drinkers (3.3 percent).

For both males and females, underage persons who drank with two or more other people on the last occasion consumed more drinks on average than those who drank alone or with one other person (Table 4.2 and Figure 4.3). Males and females who drank alone on the last occasion reported a similar number of drinks on their last drinking occasion (3.1 drinks for males, 2.6

Figure 4.1 Social Context of Last Alcohol Use in the Past Month among Current Drinkers Aged 12 to 20, by Age: 2006



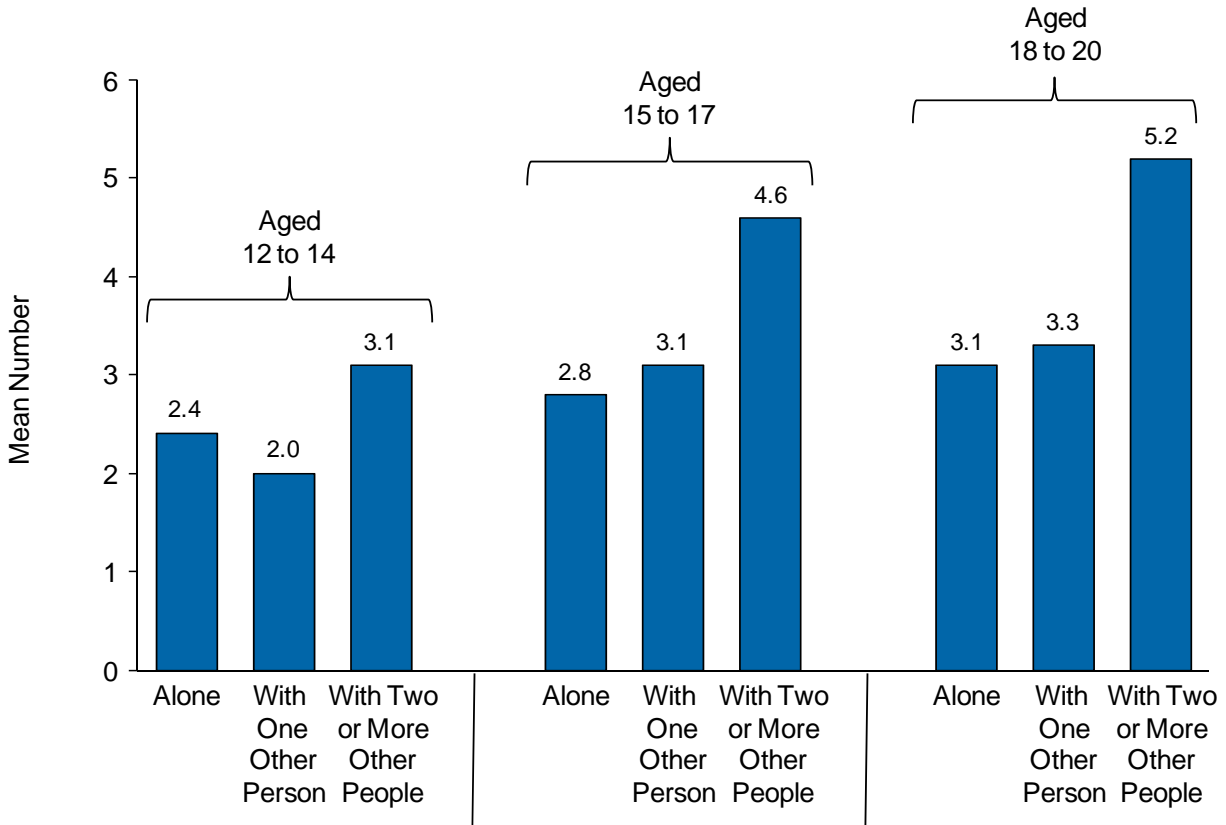
drinks for females), but males consumed more drinks than females when the last occasion was with one other person (3.5 drinks for males, 2.5 drinks for females) or with two or more people (5.8 drinks for males, 3.9 drinks for females).

4.2. Location of Alcohol Use

Overall, a majority of underage drinkers in 2006 reported that when they last used alcohol they were either in someone else's home (53.4 percent) or their own home (30.3 percent) (Table 4.1 and Figure 4.4). The next most popular drinking locations for this age group were at a restaurant, bar, or club (9.4 percent); in a car or vehicle (5.5 percent); or at a park, on a beach, or in a parking lot (4.8 percent).

Underage drinkers whose last drinking occasion was at someone else's home consumed an average of 4.9 drinks, while those whose last drinking occasion was at their own home consumed an average of 4.0 drinks (Table 4.2 and Figure 4.5). Among the next most popular drinking locations, underage current drinkers whose last alcohol use was at a restaurant or bar averaged 4.6 drinks, and those whose last alcohol use was at school, in a car or vehicle, or at a park, on a beach, or in a parking lot averaged 5.1 drinks. Current drinkers aged 12 to 20 who last drank at a concert or sports game (1.6 percent of all underage drinkers) consumed an average of 6.0 drinks on their last drinking occasion.

Figure 4.2 Drinks Consumed on Last Occasion of Alcohol Use in the Past Month among Current Drinkers Aged 12 to 20, by Social Context and Age: 2006

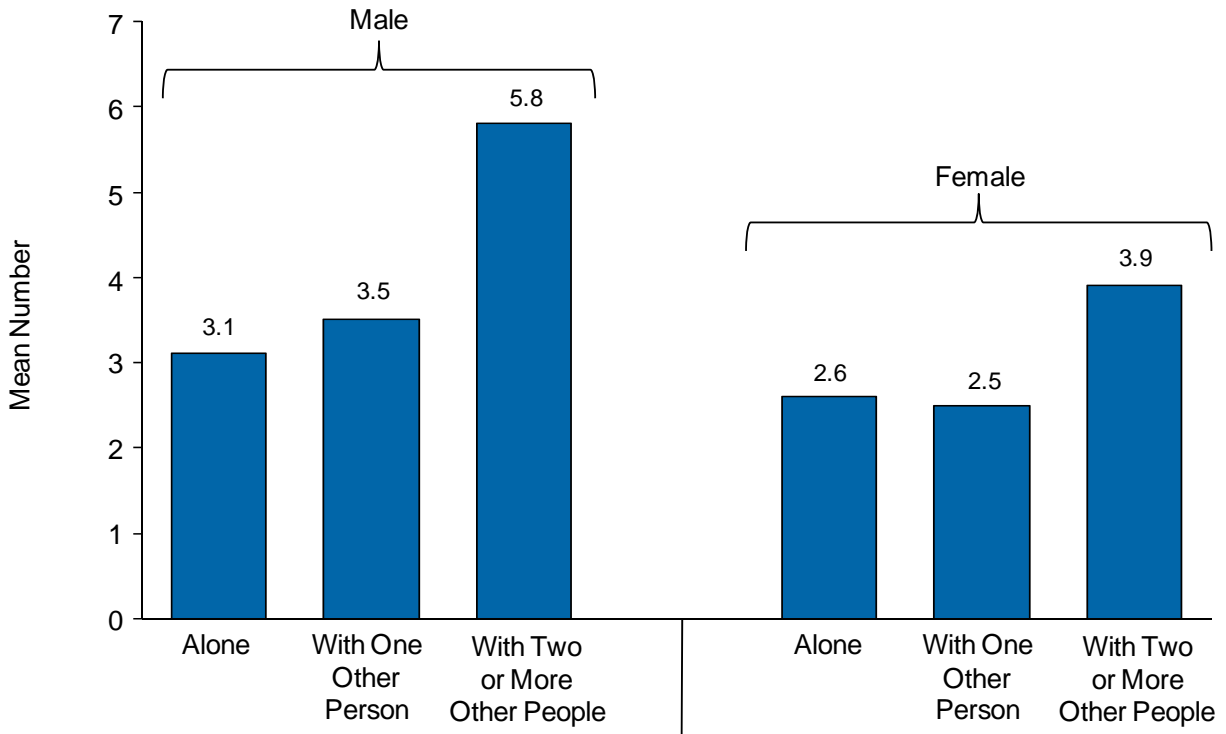


4.2.1. Age

More than 80 percent of underage drinkers in each age group (i.e., those aged 12 to 14, 15 to 17, or 18 to 20) drank at their own or someone else's home when they last used alcohol. However, there were differences in drinking locations between these age groups. Current drinkers aged 12 to 14 were more likely to have been at their own home the last time they drank (38.8 percent) and less likely to have been at someone else's home (45.0 percent) compared with those aged 15 to 17 (26.0 and 60.9 percent, respectively) or those aged 18 to 20 (31.4 and 50.7 percent, respectively) (Table 4.1 and Figure 4.6). In addition, drinkers aged 18 to 20 were more likely than younger age groups to have been in a restaurant, bar, or club on their last drinking occasion (12.9 percent for those aged 18 to 20 vs. 4.6 percent for those aged 12 to 14 and 3.7 percent for those aged 15 to 17), and they were less likely than younger age groups to have been at a park, on the beach, or in a parking lot on their last drinking occasion (2.9 percent for those aged 18 to 20 vs. 8.3 percent for those aged 12 to 14 and 7.7 percent for those aged 15 to 17).

Current drinkers aged 12 to 14 who last drank at home consumed an average of 2.2 drinks on their last drinking occasion, whereas those who last drank at someone else's home consumed an average of 3.4 drinks on their last occasion (Table 4.2). This pattern was similar for youths aged 15 to 17 (average of 3.6 drinks if they last drank in their own home, 4.7 drinks if they last drank in someone else's home) and 18 to 20 year olds (average of 4.4 drinks if they last drank in their own home, 5.2 drinks if they last drank in someone else's home).

Figure 4.3 Drinks Consumed on Last Occasion of Alcohol Use in the Past Month among Current Drinkers Aged 12 to 20, by Social Context and Gender: 2006



4.2.2. Gender

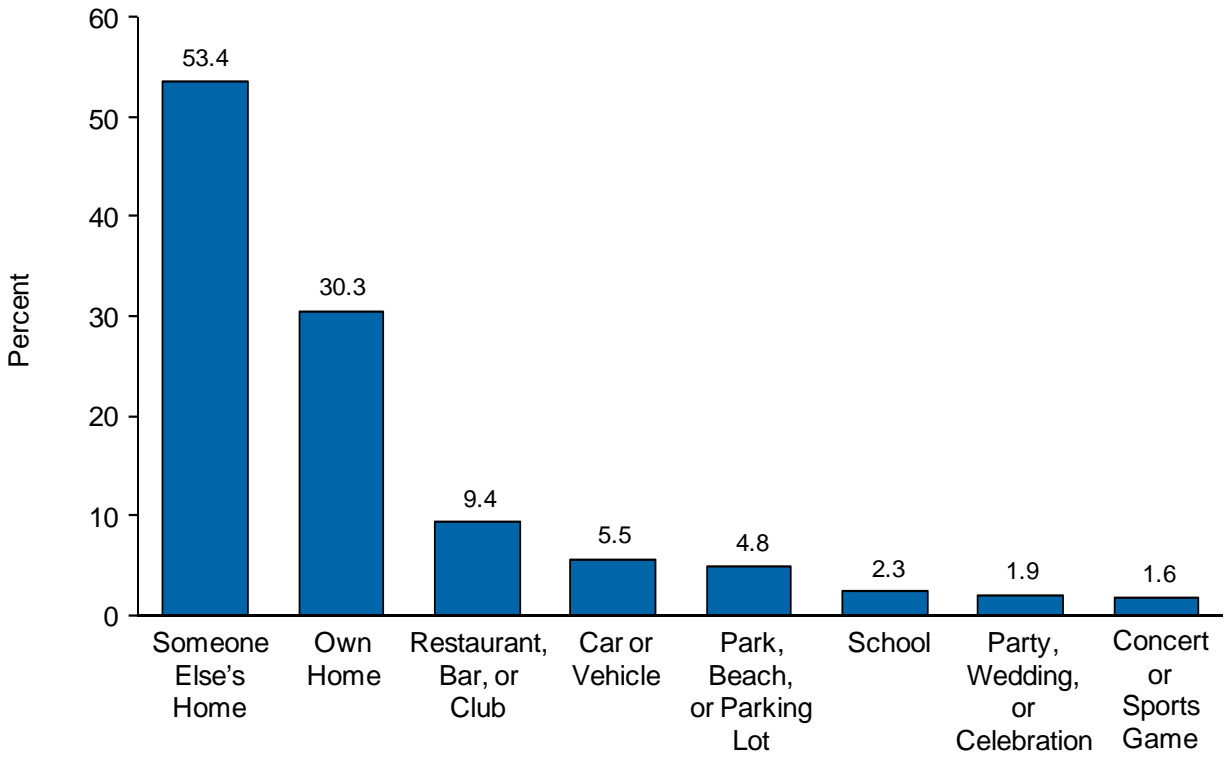
Among underage current drinkers, males were more likely than females to have been in their own home on their last drinking occasion (32.2 percent for males, 28.1 for females), whereas females were more likely than males to have been in a restaurant, bar, or club on their last drinking occasion (12.0 percent for females, 7.2 percent for males) (Table 4.1).

Underage male drinkers who last drank alcohol at their own home consumed more drinks on average on their last drinking occasion (4.6 drinks) than underage female drinkers who last drank at their own home (3.3 drinks) (Table 4.2). The pattern was similar for underage drinkers who last drank at someone else's home, with males averaging 5.8 drinks on this last drinking occasion and females averaging 4.0 drinks.

4.3. Sources of Alcohol among Underage Drinkers

This section provides information on the source of last alcohol use in the past month among current drinkers aged 12 to 20 in 2006. The sources of last alcohol use are divided into two categories: (a) underage drinker paid (he or she purchased it or gave someone else money to purchase it) and (b) underage drinker did not pay (he or she received it for free from someone or took it from his or her own or someone else's home).

Figure 4.4 Location of Last Alcohol Use in the Past Month among Current Drinkers Aged 12 to 20: 2006



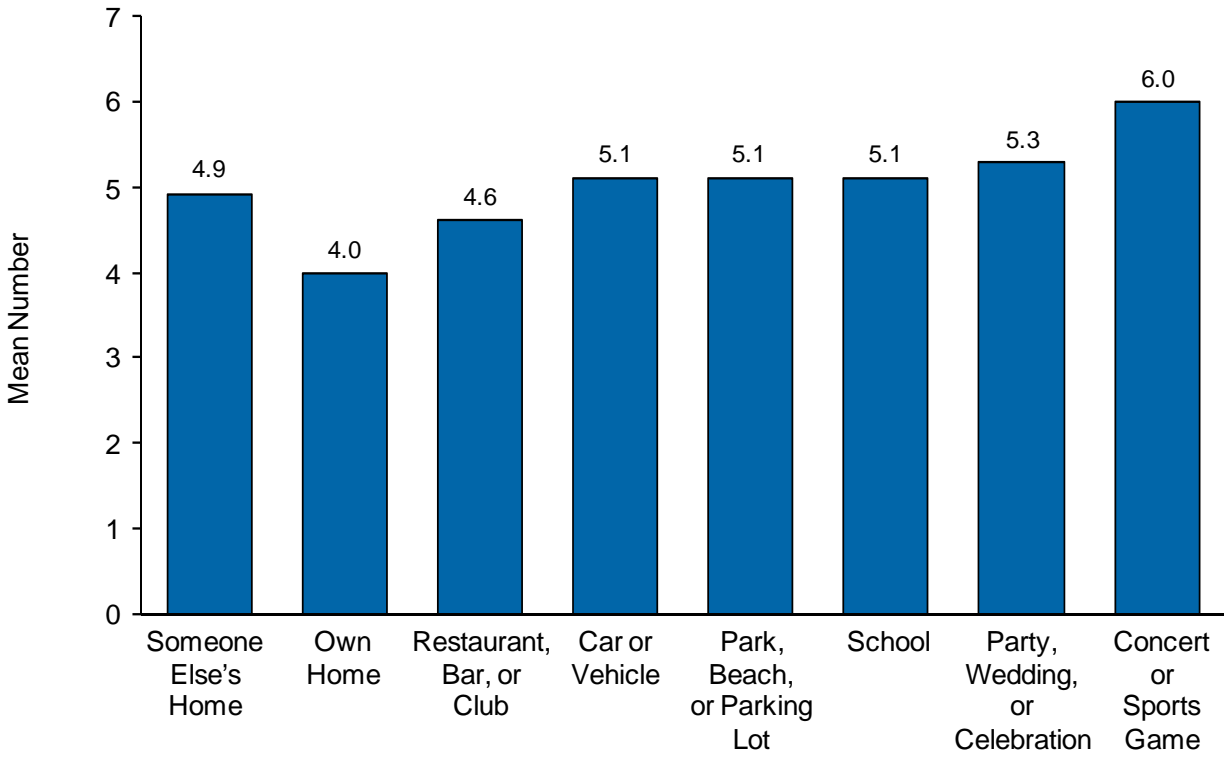
Among all underage current drinkers, 31.0 percent paid for the alcohol the last time they drank, including 9.3 percent who purchased the alcohol themselves and 21.6 percent who gave money to someone else to purchase it (Table 4.3). The remaining 69.0 percent of underage drinkers did not pay for the alcohol on their last drinking occasion. More than one in four underage drinkers (25.8 percent) indicated that on their last drinking occasion they were given alcohol for free by an unrelated person aged 21 or older. Nearly one in five underage drinkers were given alcohol for free by a member of their family or took the alcohol from their own home on their last drinking occasion, including 6.4 percent who were given alcohol by their parent or guardian, 8.3 percent who were given alcohol by another family member aged 21 or older, and 3.9 percent who took it from their own home.

Persons aged 12 to 20 who paid for alcohol themselves consumed more drinks on their last drinking occasion (5.9 drinks) than did those who did not pay for the alcohol themselves (3.9 drinks) (Table 4.4).

4.3.1. Age

The most common sources of alcohol among underage current drinkers varied substantially by age group. For youths aged 12 to 14, the most common sources were receiving it for free from someone under the age of 21 (17.5 percent), receiving it from a parent or guardian (17.1 percent), or taking it from their own home (15.0 percent) (Table 4.3 and Figure 4.7). For youths aged 15 to 17, the most common sources were receiving it for free from an unrelated

Figure 4.5 Drinks Consumed on Last Alcohol Use in the Past Month among Current Drinkers Aged 12 to 20, by Location of Last Alcohol Use: 2006



person aged 21 or older (20.1 percent), receiving it from someone under the age of 21 (19.9 percent), and giving somebody else money to purchase the alcohol (17.9 percent). For persons aged 18 to 20, the majority of current drinkers either received alcohol for free from an unrelated person aged 21 or older (30.0 percent) or gave somebody else money to purchase the alcohol (25.3 percent).

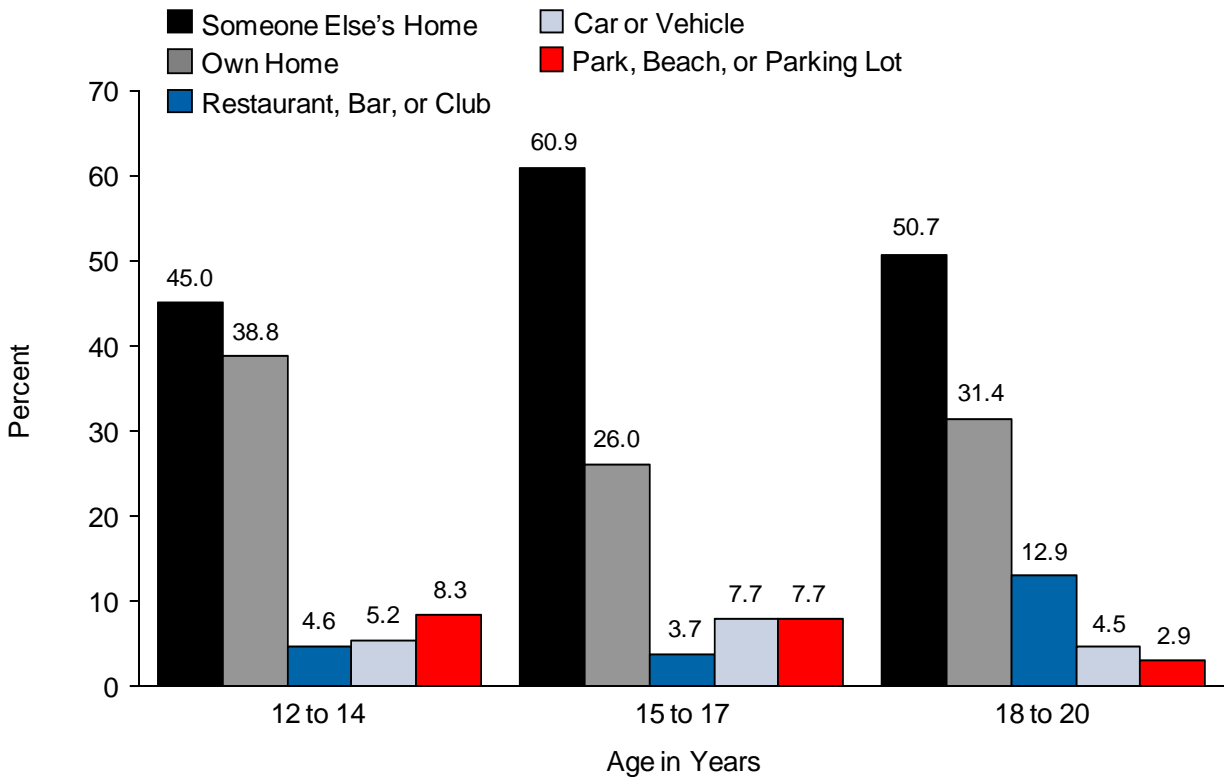
Those in older age groups were more likely to have paid for alcohol themselves on their last drinking occasion, with 37.6 percent of 18 to 20 year olds paying for it themselves compared with 23.5 percent of 15 to 17 year olds and 6.6 percent of 12 to 14 year olds.

Within each of these age groups, persons who paid for alcohol themselves on the last occasion had more drinks on average than those who did not pay for alcohol themselves (Table 4.4 and Figure 4.8). For example, youths aged 12 to 14 had 4.8 drinks when they paid for their own drinks, but they had 2.7 drinks when they did not pay for them.

4.3.2. Gender

Among underage current drinkers, males were more likely to have paid for alcohol themselves on their last drinking occasion (36.7 percent) than were females (24.5 percent) (Table 4.3). That is, female drinkers aged 12 to 20 were more likely to have others give them alcohol for free than were male drinkers in this age group. Among underage drinkers, similar percentages of females and males reported getting alcohol from their parent or guardian, another family member

Figure 4.6 Location of Last Alcohol Use in the Past Month among Current Drinkers Aged 12 to 20, by Age: 2006



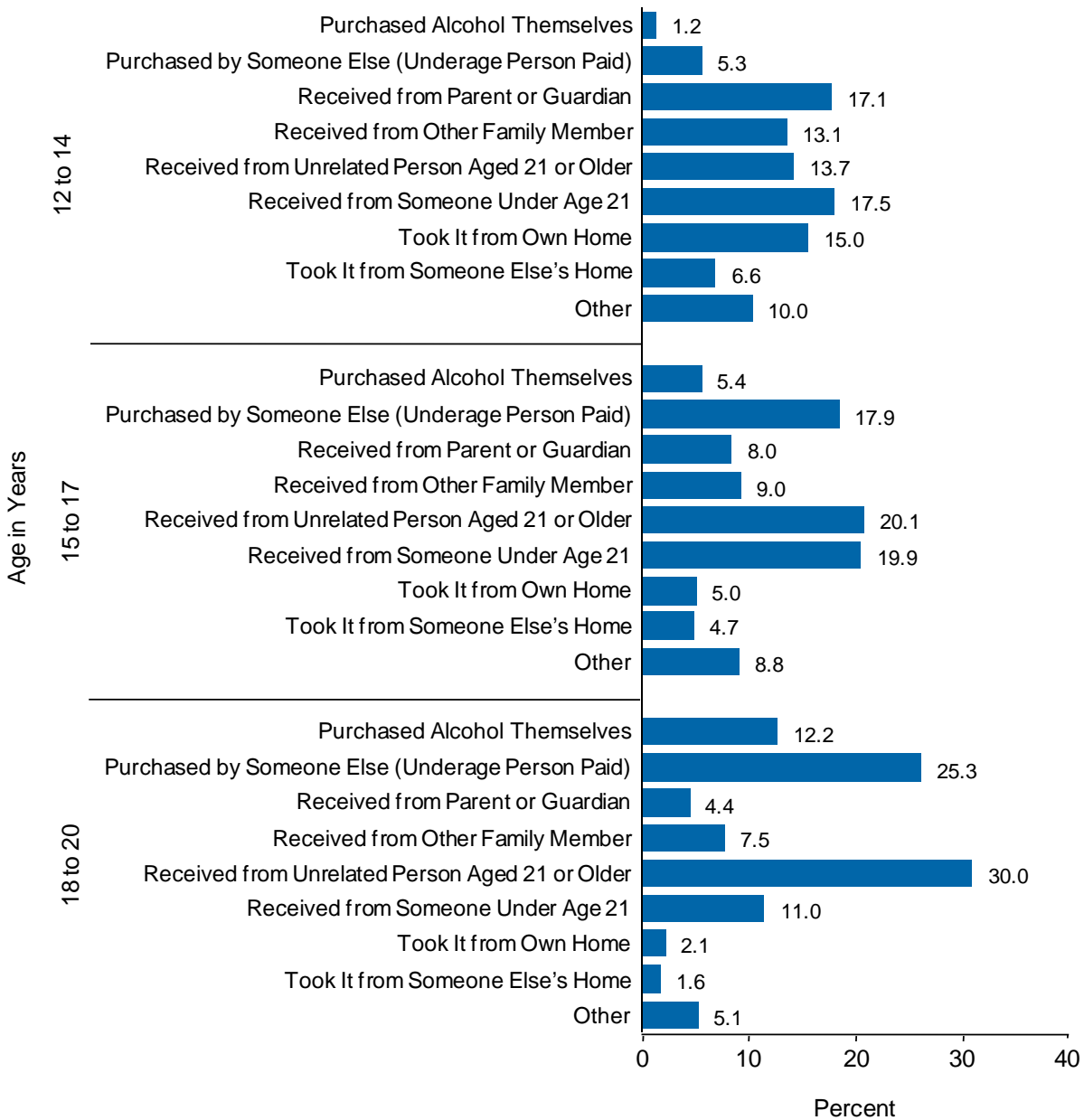
aged 21 or older, or from their own home. However, underage females were more likely than underage males to have received alcohol without paying from someone not related aged 21 or older (29.8 percent for females, 22.2 percent for males) or from someone under the age of 21 (16.0 percent for females, 12.5 percent for males).

Among both underage males and females, persons who paid for alcohol themselves on the last occasion had more drinks on average (6.8 drinks for males, 4.5 drinks for females) than those who did not pay for alcohol themselves (4.4 drinks for males, 3.4 drinks for females) (Table 4.4).

4.4. Use of Illicit Drugs with Alcohol

In 2006, more than one third (35.8 percent) of persons aged 12 to 20 who used alcohol in the past month also had used an illicit drug in the past month (Table 4.5). Among underage drinkers, marijuana was the drug most often used in the past month (30.0 percent), followed by pain relievers (8.8 percent). Furthermore, 16.0 percent of underage drinkers had used an illicit drug within 2 hours of using alcohol on their last occasion of alcohol use in the past month (Table 4.5). The drug most often used within 2 hours of their last alcohol use in the past month was marijuana (15.0 percent), followed by pain relievers (1.2 percent).

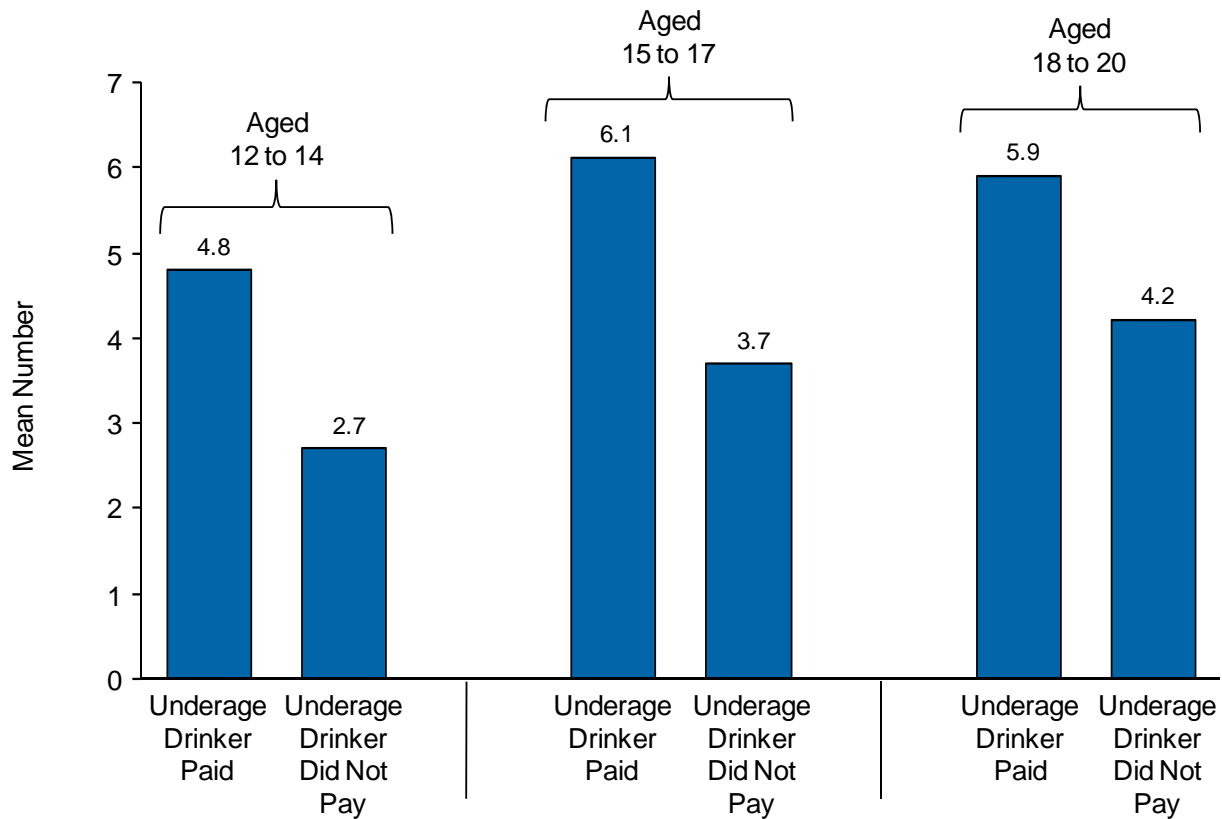
Figure 4.7 Source of Alcohol Used in the Past Month among Current Drinkers Aged 12 to 20, by Age: 2006



4.4.1. Age

Approximately one in four youths aged 12 to 14 who had used alcohol in the past month had also used an illicit drug in the past month (25.2 percent), as had more than one in three current drinkers aged 15 to 17 (37.0 percent) and those aged 18 to 20 (36.4 percent) (Table 4.5). Current drinkers aged 12 to 14 were less likely to have used marijuana in the past month (15.5 percent) compared with those aged 15 to 17 (31.0 percent) or those aged 18 to 20 (31.2 percent);

Figure 4.8 Drinks Consumed on Last Occasion of Alcohol Use in the Past Month among Current Drinkers Aged 12 to 20, by Source of Last Alcohol Used and Age: 2006



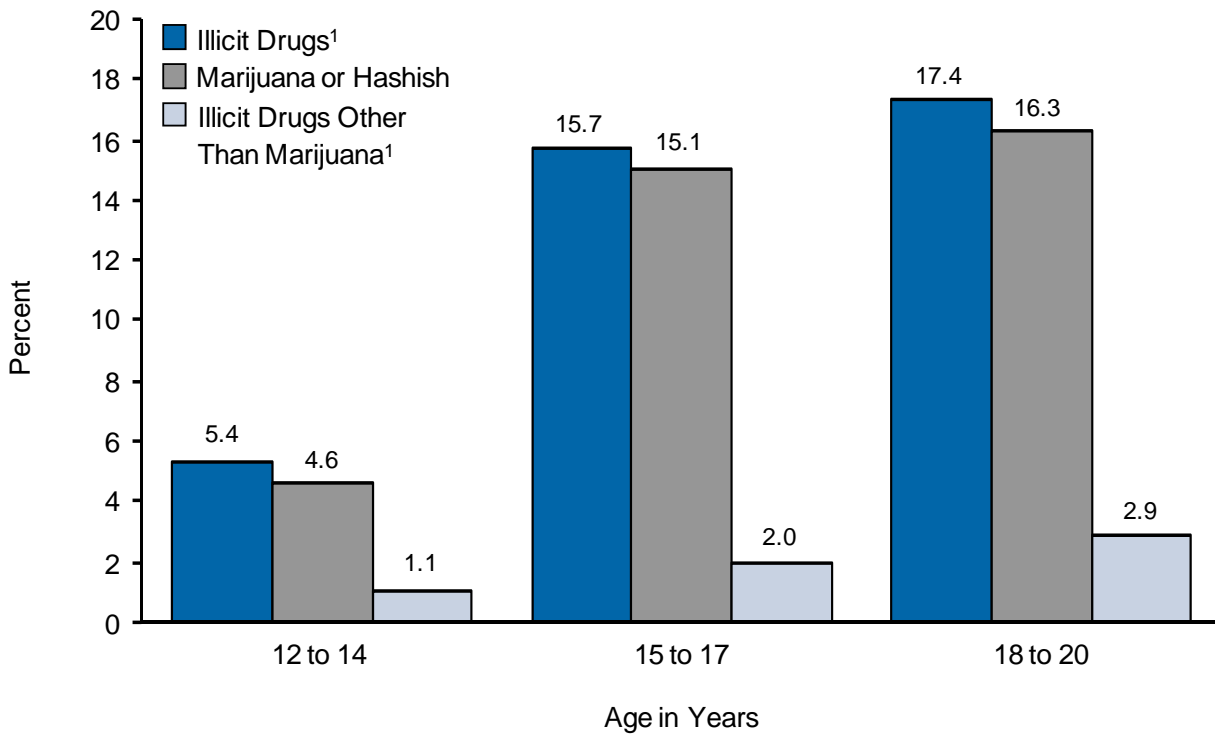
however, 12- to 14-year-old drinkers used illicit drugs other than marijuana at a similar rate (15.2 percent) as those aged 15 to 17 (15.3 percent).

Among current drinkers, 5.4 percent of 12 to 14 year olds had used an illicit drug within 2 hours of alcohol use on their last drinking occasion, as did 15.7 percent of 15 to 17 year olds and 17.4 percent of 18 to 20 year olds (Table 4.5 and Figure 4.9). For all three age groups, marijuana was used more often with alcohol than any other illicit drug. Drinkers aged 12 to 14 were less likely to have used illicit drugs other than marijuana within 2 hours of their last alcohol use (1.1 percent) than those aged 18 to 20 (2.9 percent).

4.4.2. Gender

Among underage drinkers, males were more likely than females to have used an illicit drug in the past month (37.3 percent for males, 34.0 percent for females) or to have used an illicit drug within 2 hours of their last alcohol use in the past month (18.3 percent for males, 13.4 percent for females) (Table 4.5). Among underage drinkers, males were more likely than females to have used marijuana within 2 hours of their last alcohol use in the past month (17.2 percent for males, 12.6 percent for females), but males and females had similar rates of use of illicit drugs other than marijuana within 2 hours of drinking in the past month.

Figure 4.9 Illicit Drug Use within 2 Hours of Alcohol Use in the Past Month among Current Drinkers Aged 12 to 20, by Age: 2006



¹ Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. These summary estimates do not include data from the methamphetamine use items added in 2005 and 2006.

4.5. Summary

In 2006, most (80.9 percent) of the persons aged 12 to 20 who had consumed alcohol in the past month were with two or more people the last time they drank alcohol, 14.3 percent were with one other person the last time they drank, and 4.9 percent were alone. Among underage drinkers, females were more likely to have been with two or people the last time they drank (83.6 percent) than were males (78.4 percent), whereas males were more likely to have been alone the last time they drank (6.3 percent) than were females (3.3 percent). Males and females who drank alone on the last occasion reported a similar number of drinks on their last drinking occasion (3.1 drinks for males, 2.6 drinks for females), but males consumed more drinks than females did when their last drinking occasion was with one other person (3.5 drinks for males, 2.5 drinks for females) or with two or more people (5.8 drinks for males, 3.9 drinks for females). A majority of underage drinkers reported that when they last used alcohol they were either in someone else's home (53.4 percent) or their own home (30.3 percent). Drinkers aged 12 to 14 were more likely to have been at their own home the last time they drank and less likely to have been at someone else's home compared with drinkers in older age groups, and drinkers aged 18 to 20 were more

likely than those in younger age groups to have been in a restaurant, bar, or club on their last drinking occasion.

Among all underage current drinkers, 9.3 percent purchased the alcohol themselves, and 21.6 percent gave money to someone else to purchase it. Underage persons who paid for alcohol themselves consumed more drinks on their last drinking occasion (average of 5.9 drinks) than did those who did not pay for the alcohol themselves (average of 3.9 drinks). More than one in four underage drinkers (25.8 percent) indicated that on their last drinking occasion they were given alcohol for free by an unrelated person aged 21 or older. Among underage drinkers, males were more likely to have paid for alcohol themselves on their last drinking occasion (36.7 percent) than were females (24.5 percent).

In 2006, more than one third (35.8 percent) of persons aged 12 to 20 who used alcohol in the past month also had used an illicit drug in the past month, and 16.0 percent of underage drinkers used an illicit drug with alcohol or within 2 hours of alcohol use on their last occasion of alcohol use in the past month. Marijuana was the illicit drug most used by underage drinkers, with nearly one third (30.0 percent) having used marijuana in the past month, and 15.0 percent having used marijuana with alcohol or within 2 hours of their last alcohol use. Males were more likely than females to have used an illicit drug within 2 hours of their last alcohol use in the past month (18.3 percent for males, 13.4 percent for females).

References

- American Psychiatric Association. (1994). *Diagnostic and statistical manual of mental disorders (DSM-IV)* (4th ed.). Washington, DC: American Psychiatric Association.
- Aquilino, W. S. (1994). Interview mode effects in surveys of drug and alcohol use: A field experiment. *Public Opinion Quarterly*, 58, 210-240.
- Biglan, M., Gilpin, E. A., Rohrbach, L. A., & Pierce, J. P. (2004). Is there a simple correction factor for comparing adolescent tobacco-use estimates from school- and home-based surveys? *Nicotine & Tobacco Research*, 6, 427-437.
- Bradburn, N. M., & Sudman, S. (1983). *Improving interview method and questionnaire design*. Washington, DC: Jossey-Bass.
- Butler, M. A., & Beale, C. L. (1994, September). *Rural–urban continuum codes for metro and non-metro counties, 1993* (Staff Report No. AGES 9425). Washington, DC: U.S. Department of Agriculture, Economic Research Service. [Current codes available at <http://ers.usda.gov/Briefing/Rurality/ruralurbcon>]
- Chen, P., Dai, L., Gordek, H., Shi, W., Singh, A., & Westlake, M. (2005, January). Person-level sampling weight calibration for the 2003 NSDUH. In *2003 National Survey on Drug Use and Health: Methodological resource book* (Section 3, prepared for the Substance Abuse and Mental Health Services Administration, Office of Applied Studies, under Contract No. 283-98-9008, Deliverable No. 28, RTI/07190.574.100). Research Triangle Park, NC: RTI International. [Available as a PDF at <http://oas.samhsa.gov/nhsda/methods.cfm>]
- Deville, J. C., & Särndal, C. E. (1992). Calibration estimators in survey sampling. *Journal of the American Statistical Association*, 87, 376-382.
- Fendrich, M., Johnson, T. P., Sudman, S., Wislar, J. S., & Spiehler, V. (1999). Validity of drug use reporting in a high-risk community sample: A comparison of cocaine and heroin survey reports with hair tests. *American Journal of Epidemiology*, 149, 955-962.
- Folsom, R. E., & Singh, A. C. (2000). The generalized exponential model for sampling weight calibration for extreme values, nonresponse, and poststratification. In *Proceedings of the 2000 Joint Statistical Meetings, American Statistical Association, Survey Research Methods Section, Indianapolis, IN* (pp. 598-603). Alexandria, VA: American Statistical Association. [Available as a PDF at <http://www.amstat.org/sections/SRMS/proceedings/>]
- Grant, B. F., & Dawson, D. A. (1997). Age at onset of alcohol use and its association with DSM-IV alcohol abuse and dependence: Results from the National Longitudinal Alcohol Epidemiologic Survey. *Journal of Substance Abuse*, 9, 103-110.

Hingson, R., & Kenkel, D. (2004). Social, health, and economic consequences of underage drinking. In R. J. Bonnie & M. E. O'Connell (Eds.), *Reducing underage drinking: A collective responsibility* (pp. 351-382). Washington, DC: National Academies Press. [Available at <http://www.nap.edu/books/0309089352/html>]

Hser, Y. I., & Anglin, M. D. (Eds.). (1993). Prevalence estimation techniques for drug-using populations [Special issue]. *Journal of Drug Issues*, 23(2), 163-360.

Johnston, L. D., O'Malley, P. M., Bachman, J. G. , & Schulenberg, J. E. (2007a). *Monitoring the Future national survey results on drug use, 1975-2006: Secondary school students* (NIH Publication No. 07-6205, Vol. I). Bethesda, MD: National Institute on Drug Abuse. [Available as a PDF at <http://monitoringthefuture.org/pubs.html#monographs>]

Johnston, L. D., O'Malley, P. M., Bachman, J. G. , & Schulenberg, J. E. (2007b). *Monitoring the Future national survey results on drug use, 1975-2006: College students and adults ages 19-45* (NIH Publication No. 07-6206, Vol. II). Bethesda, MD: National Institute on Drug Abuse. [Available as a PDF at <http://monitoringthefuture.org/pubs.html#monographs>]

Manly, B. F. J. (1986). *Multivariate statistical methods: A primer*. London, England: Chapman and Hall.

Morton, K. B., Chromy, J. R., Hunter, S. R., & Martin, P. C. (2007, January; revised February 2008). Sample design report [2006]. In *2006 National Survey on Drug Use and Health: Methodological resource book* (Section 2, prepared for the Substance Abuse and Mental Health Services Administration, Office of Applied Studies, under Contract No. 283-2004-00022, Phase II, Deliverable No. 8, RTI/0209009.230.004). Research Triangle Park, NC: RTI International. [Available as a PDF at <http://oas.samhsa.gov/nsduh/methods.cfm>]

National Highway Traffic Safety Administration. (2002). *Youth fatal crash and alcohol facts 2000* (DOT HS 809 406). Washington, DC: Author.

National Institute on Alcohol Abuse and Alcoholism. (2004, Winter). NIAAA council approves definition of binge drinking. *NIAAA Newsletter*, 3, 3. [Available as NIH Publication No. 04-5346 at http://pubs.niaaa.nih.gov/publications/Newsletter/winter2004/Newsletter_Number3.pdf]

National Institute on Alcohol Abuse and Alcoholism. (2006, January). *Alcohol Alert No. 67: Underage drinking: Why do adolescents drink, what are the risks, and how can underage drinking be prevented?* Retrieved January 28, 2008, from <http://pubs.niaaa.nih.gov/publications/AA67/AA67.htm>

Office of Applied Studies. (2007a). *Results from the 2006 National Survey on Drug Use and Health: National findings* (DHHS Publication No. SMA 07-4293, NSDUH Series H-32). Rockville, MD: Substance Abuse and Mental Health Services Administration. [Available at <http://oas.samhsa.gov/p0000016.htm>]

Office of Applied Studies. (2007b). Table 7.36A. Alcohol dependence or abuse in the past year among persons aged 21 or older, by age first used alcohol and age group: Numbers in thousands, 2005 and 2006. In *Results from the 2006 National Survey on Drug Use and Health: Detailed tables*. Rockville, MD: Substance Abuse and Mental Health Services Administration. [Available at <http://oas.samhsa.gov/WebOnly.htm#NHSDAtabs>]

Office of Management and Budget. (2003, June 6). *OMB Bulletin No. 03-04: Revised definitions of metropolitan statistical areas, new definitions of micropolitan statistical areas and combined statistical areas, and guidance on uses of the statistical definitions of these areas*. Retrieved March 21, 2008, from <http://www.whitehouse.gov/omb/bulletins/b03-04.html>

Office of Management and Budget. (1997). Revisions to the standards for the classification of federal data on race and ethnicity. *Federal Register*, 62(210), 58781-58790. [Available at <http://www.whitehouse.gov/omb/fedreg/1997standards.html>].

RTI International. (2004). *SUDAAN[®] language manual, Release 9.0*. Research Triangle Park, NC: Author.

RTI International. (2008). *2006 National Survey on Drug Use and Health: Methodological resource book* (RTI 0209009, prepared for the Substance Abuse and Mental Health Services Administration, Office of Applied Studies, under Contract No. 283-2004-00022, Deliverable No. 39). Research Triangle Park, NC: Author. [Available as PDFs at <http://oas.samhsa.gov/nsduh/methods.cfm>]

Rubin, D. B. (1986). Statistical matching using file concatenation with adjusted weights and multiple imputations. *Journal of Business and Economic Statistics*, 4(1), 87-94.

Singh, A., Grau, E., & Folsom, R., Jr. (2001). Predictive mean neighborhood imputation with application to the person-pair data of the National Household Survey on Drug Abuse. In *Proceedings of the 2001 Joint Statistical Meetings, American Statistical Association, Survey Research Methods Section, Atlanta, GA* [CD-ROM]. Alexandria, VA: American Statistical Association. [Available as a PDF at <http://www.amstat.org/sections/SRMS/proceedings/>]

Singh, A., Grau, E., & Folsom, R., Jr. (2002). Predictive mean neighborhood imputation for NHSDA substance use data. In J. Gfroerer, J. Eyerman, & J. Chromy (Eds.), *Redesigning an ongoing national household survey: Methodological issues* (DHHS Publication No. SMA 03-3768, pp. 111-133). Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies. [Available as a PDF at <http://oas.samhsa.gov/nhsda/methods.cfm>]

SRNT Subcommittee on Biochemical Verification. (2002). Biochemical verification of tobacco use and cessation. *Nicotine & Tobacco Research*, 4(2), 149-159.

Stueve, A., & O'Donnell, L. N. (2005). Early alcohol initiation and subsequent sexual and alcohol risk behaviors among urban youths. *American Journal of Public Health*, 95, 887-893.

Substance Abuse and Mental Health Data Archive. (2008). *Online analysis of data from the 2006 Treatment Episode Data Set*. Retrieved on April 1, 2008, from <http://www.icpsr.umich.edu/SAMHDA/>

Swahn, M. H., Bossarte, R. M., & Sullivent, E. E. 3rd. (2008). Age of alcohol use initiation, suicidal behavior, and peer and dating violence victimization and perpetration among high-risk, seventh-grade adolescents. *Pediatrics*, *121*, 297-305.

Turner, C. F., Lessler, J. T., & Gfroerer, J. C. (Eds.). (1992). *Survey measurement of drug use: Methodological studies* (DHHS Publication No. ADM 92-1929). Rockville, MD: National Institute on Drug Abuse.

U.S. Department of Health and Human Services. (2006, January). *A comprehensive plan for preventing and reducing underage drinking* (DHHS Publication No. SMA 01-3517). Rockville, MD: U.S. Department of Health and Human Services, Substance Abuse and Mental Health Services Administration. [Available as a PDF at <http://www.stopalcoholabuse.gov/more.aspx>]

U.S. Department of Health and Human Services. (2007). *The Surgeon General's call to action to prevent and reduce underage drinking*. Rockville, MD: Office of the Surgeon General. [Available at <http://www.surgeongeneral.gov/topics/underagedrinking/>]

Wright, D., Sathe, N., & Spagnola, K. (2007). *State estimates of substance use from the 2004-2005 National Surveys on Drug Use and Health* (DHHS Publication No. SMA 07-4235, NSDUH Series H-31). Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies. [Available at <http://oas.samhsa.gov/states.htm>]

Appendix A: Description of the Surveys

A.1 Sample Design

The designs for the 2002 to 2006 National Surveys on Drug Use and Health (NSDUH)¹ are part of coordinated sample designs providing estimates for all 50 States plus the District of Columbia. Survey years 2002 to 2004 come from a coordinated 5-year design for the 1999 through 2004 surveys, while the 2005 and 2006 designs are from a coordinated 5-year design for the 2005 through 2009 NSDUHs. The respondent universe is the civilian, noninstitutionalized population aged 12 years old or older residing within the 50 States and the District of Columbia. The survey includes persons living in noninstitutionalized group quarters (e.g., shelters, rooming/boarding houses, college dormitories, migratory workers' camps, halfway houses), and civilians living on military bases. Persons excluded from NSDUH include persons with no fixed household address (e.g., homeless and/or transient persons not in shelters), active-duty military personnel, and residents of institutional group quarters, such as correctional facilities, nursing homes, mental institutions, and long-term hospitals.

For the 50-State design, 8 States were designated as large sample States (California, Florida, Illinois, Michigan, New York, Ohio, Pennsylvania, and Texas) with samples large enough to support direct State estimates. In 2006, sample sizes in these States ranged from 3,512 to 3,671. For the remaining 42 States and the District of Columbia, smaller, but adequate, samples were selected to support State estimates using small area estimation (SAE).² Sample sizes in these States ranged from 862 to 1,000 in 2006.

In 2005 and 2006, States were first stratified into a total of 900 State sampling (SS) regions (48 regions in each large sample State and 12 regions in each small sample State). These regions were contiguous geographic areas designed to yield the same number of interviews on average.³ Unlike the 2002 through 2004 NSDUHs in which the first-stage sampling units were clusters of census blocks called "area segments," the first stage of selection for the 2005 through 2009 NSDUHs was census tracts.⁴ This stage was included to contain sample segments within a single census tract to the extent possible.⁵

For each SS region, 48 census tracts were selected with probability proportional to size. Within sampled census tracts, adjacent census blocks were combined to form the second-stage sampling units or area segments. One area segment was selected within each sampled census

¹ Prior to 2002, the survey was known as the National Household Survey on Drug Abuse (NHSDA).

² SAE is a hierarchical Bayes modeling technique used to make State-level estimates for approximately 20 substance-use-related measures. For more details, see the *State Estimates of Substance Use from the 2004-2005 National Surveys on Drug Use and Health* (Wright, Sathe, & Spagnola, 2007).

³ Areas were defined using 2000 census geography. Dwelling units (DUs) and population counts were obtained from the 2000 census data supplemented with revised population counts from Claritas (<http://cluster1.claritas.com/claritas/Default.jsp>).

⁴ Census tracts are relatively permanent statistical subdivisions of counties and provide a stable set of geographic units across decennial census periods.

⁵ Some census tracts had to be aggregated in order to meet the minimum DU requirement of 150 DUs in urban areas and 100 DUs in rural areas.

tract with probability proportional to population size to support the 5-year sample and any supplemental studies that the Substance Abuse and Mental Health Services Administration (SAMHSA) may choose to field.⁶ Of these segments, 24 were designated for the coordinated 5-year sample and 24 were designated as "reserve" segments. Eight sample segments per SS region were fielded during the 2006 survey year.

These sampled segments were allocated equally into four separate samples, one for each 3-month period (calendar quarter) during the year, so that the survey was essentially continuous in the field. In each of these area segments, a listing of all addresses was constructed and used as the frame for selecting a sample of addresses. Selected addresses were determined to be eligible sample units or to be ineligible. In the eligible sample units (which can be either households or units within group quarters), sample persons were randomly selected using an automated screening procedure programmed in a handheld computer carried by the interviewers. Persons aged 12 to 17 years and those aged 18 to 25 years were oversampled at this stage. Because of the large sample sizes in each year, there was no need to oversample racial/ethnic groups, as was done on surveys prior to 1999. Consistent with previous surveys in this series, the final respondent samples in each survey year were representative of the U.S. general population (since 1991, the civilian, noninstitutionalized population) aged 12 or older. In addition, State samples were representative of their respective State populations. More detailed information on the disposition of the national screening and interview samples can be found in Appendix B.

NSDUH covers residents of households (living in houses/townhouses, apartments, condominiums, etc.), persons in noninstitutional group quarters (e.g., shelters, rooming/boarder houses, college dormitories, migratory workers' camps, halfway houses), and civilians living on military bases. Although the survey covers residents of these types of units (they are given a nonzero probability of selection), the sample sizes of most specific groups are too small to provide separate estimates.

More information on the sample design can be found in the 2006 NSDUH sample design report by Morton et al. (2007) on the Office of Applied Studies (OAS) website (available at <http://oas.samhsa.gov/nsduh/methods.cfm>).

A.2 Data Collection Methodology

The data collection method used in NSDUH involves in-person interviews with sample persons, incorporating procedures designed to maximize respondents' cooperation and willingness to report honestly about their illicit drug use behavior. Confidentiality is stressed in all written and oral communications with potential respondents. Respondents' names are not collected with the data, and computer-assisted interviewing (CAI) methods, including audio computer-assisted self-interviewing (ACASI), are used to provide a private and confidential setting to complete the interview.

Introductory letters are sent to sampled addresses, followed by an interviewer visit. A 5-minute screening procedure using a handheld computer involves listing all household members

⁶ For more details on the 5-year sample, see the 2006 sample design report in the *2006 NSDUH Methodological Resource Book* (Morton, Chromy, Hunter, & Martin, 2007).

along with their basic demographic data. The computer uses the demographic data in a preprogrammed selection algorithm to select zero, one, or two sample person(s), depending on the composition of the household. This selection process is designed to provide the necessary sample sizes for the specified population age groupings and to select a subsample of pairs of individual respondents within the same households.

Interviewers immediately attempt to conduct the NSDUH interview with each selected person in the household. The interviewer requests the selected respondent to identify a private area in the home to conduct the interview away from other household members. The interview averages about an hour and includes a combination of CAPI (computer-assisted personal interviewing, in which the interviewer reads the questions) and ACASI (which is self-administered by the respondent).

The NSDUH interview consists of a core and supplemental sections. A core set of questions critical for basic trend measurement of prevalence estimates remains in the survey every year and comprises the first part of the interview. Supplemental questions, or modules, that can be revised, dropped, or added from year to year make up the remainder of the interview. The core consists of initial demographic items (which are interviewer-administered) and self-administered questions pertaining to the use of tobacco, alcohol, marijuana, cocaine, crack cocaine, heroin, hallucinogens, inhalants, pain relievers, tranquilizers, stimulants, and sedatives. Supplemental topics in the remaining self-administered sections include (but are not limited to) injection drug use, perceived risks of substance use, substance dependence or abuse, arrests, treatment for substance use problems, pregnancy and health care issues, and mental health issues. Supplemental demographic questions (which are interviewer-administered and follow the ACASI questions) address such topics as immigration, current school enrollment, employment and workplace issues, health insurance coverage, and income. It should be noted that some of the supplemental portions of the interview have remained in the survey, relatively unchanged, from year to year (e.g., current health insurance coverage, employment).

Thus, the interview begins in CAPI mode with the field interviewer (FI) reading the questions from the computer screen and entering the respondent's replies into the computer. The interview then transitions to the ACASI mode for the sensitive questions. In this mode, the respondent can read the questions silently on the computer screen and/or listen to the questions read through headphones and enter his or her responses directly into the computer. At the conclusion of the ACASI section, the interview returns to the CAPI mode with the interviewer completing the questionnaire. Each respondent who completes a full interview is given a \$30.00 cash payment as a token of appreciation for his or her time.

No personal identifying information is captured in the CAI record for the respondent. Interviewers transmit the completed interview data to RTI in Research Triangle Park, North Carolina, via home telephone lines.

A.3 Data Processing

Computers at RTI direct the information to a raw data file that consists of one record for each completed interview. Even though editing and consistency checks are done by the CAI program during the interview, additional, more complex edits and consistency checks are

completed at RTI. Cases are retained only if respondents provided data on lifetime use of cigarettes and at least nine other substances in the core section of the questionnaire. An important aspect of subsequent editing routines involves assignment of codes when respondents legitimately were skipped out of questions that definitely did not apply to them (e.g., if respondents never used a drug of interest). For key alcohol and other drug use measures, the editing procedures identify inconsistencies between related variables. Inconsistencies in variables pertaining to the most recent period that respondents used alcohol or other drugs are edited by assigning an "indefinite" period of use (e.g., use at some point in the lifetime, which could mean use in the past 30 days or past 12 months). Inconsistencies in other key substance use variables are edited by assigning missing data codes. These inconsistencies then are resolved through statistical imputation procedures, as discussed in Section A.3.1.

In addition, an important principle that was followed in editing NSDUH data was that data from core substance use modules (i.e., tobacco through sedatives, and including the core alcohol module) generally were not used to edit data in noncore modules, such as the consumption of alcohol module that was the source of estimates in some chapters of this report. In particular, noncore self-administered data (including the consumption of alcohol module in 2006) were *never* used to edit related variables in the core self-administered modules, such as alcohol. Consequently, variables in noncore sections of the interview could be inconsistent with variables in core sections. For example, respondents could report in the core alcohol module that they did not engage in binge alcohol use in the past 30 days (i.e., consumed five or more drinks in a single occasion on 0 days in the past 30 days), but they also could report in the noncore consumption of alcohol module that they had five or more drinks the last time they drank alcohol in the past 30 days. No further editing was done to make these core and noncore reports about binge alcohol use consistent with one another.

In an exception to the principle that items from noncore modules not be used to edit core variables, new methamphetamine items added to the special drugs noncore module in 2005 and 2006 were considered in the estimates of methamphetamine use in the past year among past year alcohol users in the top section of Table 4.5 in Appendix C. These methamphetamine items were added to better account for how methamphetamine is supplied and obtained. Unlike other stimulants that are available by prescription, most methamphetamine in the United States is supplied through illicit manufacturing and trafficking rather than through the conventional prescription drug distribution process. Therefore, one concern is that methamphetamine use may have been underestimated in NSDUH due to its inclusion within a set of questions about prescription-type drugs. Specifically, survey respondents who used methamphetamine might not have reported its use when questions about it were asked in the context of other questions about prescription pharmaceuticals. Section B.4.6 in Appendix B of the 2006 NSDUH national findings report (Office of Applied Studies [OAS], 2007a) provides a discussion of the new items and the process used to generate the prevalence estimates based on them.

A.3.1 Statistical Imputation

For some key variables that still had missing or ambiguous values after editing, statistical imputation was used to replace these values with appropriate response codes. For example, the response is ambiguous if the editing procedures assigned a respondent's most recent use of alcohol or other drugs to "use at some point in the lifetime," with no definite period within the

lifetime. In this case, the imputation procedures assign a definite value for when the respondent last used the substance (e.g., in the past 30 days, more than 30 days ago but within the past 12 months, more than 12 months ago). Similarly, if a response is completely missing, the imputation procedures replace missing values with nonmissing ones.

In most cases, missing or ambiguous values are imputed in NSDUH using a methodology called predictive mean neighborhoods (PMN), which was developed specifically for the 1999 survey and used in all subsequent survey years. The PMN method offers a rigorous and flexible method that was implemented to improve the quality of estimates and allow more variables to be imputed. Some of the key reasons for implementing this method include the following: (1) the ability to use covariates to determine donors is far greater than that offered in the hot deck, (2) the relative importance of covariates can be determined by standard estimating equation techniques, (3) the correlations across response variables can be accounted for by making the imputation multivariate, and (4) sampling weights can be easily incorporated in the models. The PMN method has some similarity with the predictive mean matching method of Rubin (1986) except that, for the donor records, Rubin used the observed variable value (not the predictive mean) to compute the distance function. Also, the well-known method of nearest neighbor imputation is similar to PMN, except that the distance function is in terms of the original predictor variables and often requires somewhat arbitrary scaling of discrete variables. PMN is a combination of a model-assisted imputation methodology and a random nearest neighbor hot-deck procedure. The hot-deck procedure is set up in such a way that imputed values are made consistent with preexisting nonmissing values for other variables. Whenever feasible, the imputation of variables using PMN is multivariate, in which imputation is accomplished on several response variables at once. Variables requiring imputation using PMN are the core demographic variables, core alcohol and other drug use variables (recency of use, frequency of use, and age at first use), income, health insurance, and noncore demographic variables for work status, immigrant status, and the household roster.

In the modeling stage of PMN, the model chosen depends on the nature of the response variable Y . In the 2006 NSDUH, the models included binomial logistic regression, multinomial logistic regression, Poisson regression, and ordinary linear regression, where the models incorporated the sampling design weights.

In general, hot-deck imputation replaces an item nonresponse (missing or ambiguous value) with a recorded response that is donated from a "similar" respondent who has nonmissing data. For random nearest neighbor hot-deck imputation, the missing or ambiguous value is replaced by a responding value from a donor randomly selected from a set of potential donors. Potential donors are those defined to be "close" to the unit with the missing or ambiguous value according to a predefined function called a distance metric. In the hot-deck stage of PMN, the set of candidate donors (the "neighborhood") consists of respondents with complete data who have a predicted mean close to that of the item nonrespondent. The predicted means are computed both for respondents with and without missing data, which differs from Rubin's method where predicted means are not computed for the donor respondent (Rubin, 1986). In particular, the neighborhood consists of either the set of the closest 30 respondents or the set of respondents with a predicted mean (or means) within 5 percent of the predicted mean(s) of the item nonrespondent, whichever set is smaller. If no respondents are available who have a predicted

mean (or means) within 5 percent of the item nonrespondent, the respondent with the predicted mean(s) closest to that of the item nonrespondent is selected as the donor.

In the univariate case (where only one variable is imputed using PMN), the neighborhood of potential donors is determined by calculating the relative distance between the predicted mean for an item nonrespondent and the predicted mean for each potential donor, then choosing those means defined by the distance metric. The pool of donors is restricted further to satisfy logical constraints whenever necessary (e.g., age at first crack use must not be less than age at first cocaine use).

Whenever possible, missing or ambiguous values for more than one response variable are considered at a time. In this (multivariate) case, the distance metric is a Mahalanobis distance (Manly, 1986) rather than a relative Euclidean distance. Whether the imputation is univariate or multivariate, only missing or ambiguous values are replaced, and donors are restricted to be logically consistent with the response variables that are not missing. Furthermore, donors are restricted to satisfy "likeness constraints" whenever possible. That is, donors are required to have the same values for variables highly correlated with the response. If no donors are available who meet these conditions, these likeness constraints can be loosened. For example, donors for the age at first use variable are required to be of the same age as recipients, if at all possible. Further details on the PMN methodology are provided in RTI International (2008) and by Singh, Grau, and Folsom (2001, 2002).

Although statistical imputation could not proceed separately within each State due to insufficient pools of donors, information about each respondent's State of residence was incorporated in the modeling and hot-deck steps. For most drugs, respondents were separated into three "State usage" categories as follows: respondents from States with high usage of a given drug were placed in one category, respondents from States with medium usage into another, and the remainder into a third category. This categorical "State rank" variable was used as one set of covariates in the imputation models. In addition, eligible donors for each item nonrespondent were restricted to be of the same State usage category (i.e., the same "State rank") as the nonrespondent.

A.3.2 Development of Analysis Weights

The general approach to developing and calibrating analysis weights involved developing design-based weights, d_k , as the product of the inverse of the selection probabilities at each selection stage. The 2005 and 2006 NSDUHs used a four-stage sample selection scheme in which an extra selection stage of census tracts was added before the selection of a segment. Thus, the design-based weights, d_k , for the 2005 and 2006 NSDUHs incorporated the extra layer of sampling selection to reflect the change in sample design relative to the 2002 to 2004 NSDUHs. Adjustment factors, $a_k(\lambda)$, then were applied to the design-based weights to adjust for nonresponse, to poststratify to known population control totals, and to control for extreme weights when necessary. In view of the importance of State-level estimates with the 50-State design, it was necessary to control for a much larger number of known population totals. Several other modifications to the general weight adjustment strategy that had been used in past surveys also were implemented for the first time beginning with the 1999 CAI sample.

Weight adjustments were based on a generalization of Deville and Särndal's (1992) logit model. This generalized exponential model (GEM) (Folsom & Singh, 2000) incorporates unit-specific bounds (ℓ_k, u_k), $k \in s$, for the adjustment factor $a_k(\lambda)$ as follows:

$$a_k(\lambda) = \frac{\ell_k(u_k - c_k) + u_k(c_k - \ell_k) \exp(A_k x_k' \lambda)}{(u_k - c_k) + (c_k - \ell_k) \exp(A_k x_k' \lambda)},$$

where c_k are prespecified centering constants, such that $\ell_k < c_k < u_k$ and $A_k = (u_k - \ell_k) / (u_k - c_k)(c_k - \ell_k)$. The variables ℓ_k, c_k , and u_k are user-specified bounds, and λ is the column vector of p model parameters corresponding to the p covariates x . The λ -parameters are estimated by solving

$$\sum_s x_k d_k a_k(\lambda) - \tilde{T}_x = 0,$$

where \tilde{T}_x denotes control totals that could be either nonrandom, as is generally the case with poststratification, or random, as is generally the case for nonresponse adjustment.

The final weights $w_k = d_k a_k(\lambda)$ minimize the distance function $\Delta(w, d)$ defined as

$$\Delta(w, d) = \sum_{k \in s} \frac{d_k}{A_k} \left\{ (a_k - \ell_k) \log \frac{a_k - \ell_k}{c_k - \ell_k} + (u_k - a_k) \log \frac{u_k - a_k}{u_k - c_k} \right\}.$$

This general approach was used at several stages of the weight adjustment process, including (1) adjustment of household weights for nonresponse at the screener level, (2) poststratification of household weights to meet population controls for various demographic groups by State, (3) adjustment of household weights for extremes, (4) poststratification of selected person weights, (5) adjustment of responding person weights for nonresponse at the questionnaire level, (6) poststratification of responding person weights, and (7) adjustment of responding person weights for extremes.

Every effort was made to include as many relevant State-specific covariates (typically defined by demographic domains within States) as possible in the multivariate models used to calibrate the weights (nonresponse adjustment and poststratification steps). Because further subdivision of State samples by demographic covariates often produced small cell sample sizes, it was not possible to retain all State-specific covariates (even after meaningful collapsing of covariate categories) and still estimate the necessary model parameters with reasonable precision. Therefore, a hierarchical structure was used in grouping States with covariates defined at the national level, at the census division level within the Nation, at the State group within the census division, and, whenever possible, at the State level. In every case, the controls for the total population within a State and the five age groups (12 to 17, 18 to 25, 26 to 34, 35 to 49, 50 or older) within a State were maintained except that, in the last step of poststratification of person weights, six age groups (12 to 17, 18 to 25, 26 to 34, 35 to 49, 50 to 64, 65 or older) were used. Census control totals by age, race, gender, and Hispanicity were required for the civilian, noninstitutionalized population of each State. Beginning with the 2002 NSDUH, the Population Estimates Branch of the U.S. Census Bureau has produced the necessary population estimates in response to a special request based on the 2000 census.

Consistent with the surveys from 1999 onward, control of extreme weights through separate bounds for adjustment factors was incorporated into the GEM calibration processes for both nonresponse and poststratification. This is unlike the traditional method of winsorization in which extreme weights are truncated at prespecified levels and the trimmed portions of weights are distributed to the nontruncated cases. In GEM, it is possible to set bounds around the prespecified levels for extreme weights, and then the calibration process provides an objective way of deciding the extent of adjustment (or truncation) within the specified bounds. A step was added to poststratify the household-level weights to obtain census-consistent estimates based on the household rosters from all screened households; these household roster-based estimates then provided the control totals needed to calibrate the respondent pair weights for subsequent planned analyses. An additional step poststratified the selected person sample to conform to the adjusted roster estimates. This additional step takes advantage of the inherent two-phase nature of the NSDUH design. The final step poststratified the respondent person sample to external census data (defined within the State whenever possible, as discussed above). For more detailed information, see the *2006 NSDUH Methodological Resource Book* (RTI International, 2008).

In addition to the person-level analysis weights discussed above, person pair-level analysis weights also were calculated. In each year of NSDUH, the person pair-level analysis weights and person-level analysis weights shared the same weight components at the screening dwelling unit (SDU) level. In addition to these common weight components, the person pair-level analysis weights had several specific weight components: (1) inverse of person-pair selection probability, (2) poststratification of selected person-pair weights, (3) adjustment of responding person-pair weights for nonresponse, (4) poststratification of responding person-pair weights, and (5) adjustment of responding person-pair weights for extremes. The person-pair analysis weights were the product of all of the weight components. For more detailed information, see the *2006 NSDUH Methodological Resource Book* (RTI International, 2008).

For many populations of interest in this report, 5 years of NSDUH data were combined to obtain annual averages. The person-level weights and the person-pair weight for estimates based on the annual averages were obtained by dividing the person-level analysis weights and the person-pair analysis weight for the 5 specific years by a factor of 5.

Appendix B: Statistical Methods and Measurement

B.1 Target Population

An important limitation of estimates of drug use prevalence from the National Survey on Drug Use and Health (NSDUH) is that they are only designed to describe the target population of the survey—the civilian, noninstitutionalized population aged 12 or older. Although this population includes almost 98 percent of the total U.S. population aged 12 or older, it excludes some important and unique subpopulations who may have very different alcohol and drug use patterns. Within the population aged 12 or older, this report focuses on persons between the ages of 12 and 20, that is, those who are below the legal drinking age.

B.2 Sampling Error and Statistical Significance

This report includes tables for national and State estimates, produced using a multiprocedure package called SUDAAN[®] Software for Statistical Analysis of Correlated Data. SUDAAN was designed for the statistical analysis of data collected using stratified, multistage cluster sampling designs, as well as other observational and experimental studies involving repeated measures or studies subject to cluster correlation effects (RTI International, 2004). The final, nonresponse-adjusted, and poststratified analysis weights were used in SUDAAN to compute unbiased design-based drug use estimates.

The sampling error (i.e., the standard error or SE) of an estimate is the error caused by the selection of a sample instead of conducting a census of the population. The sampling error may be reduced by selecting a large sample and/or by using efficient sample design and estimation strategies, such as stratification, optimal allocation, and ratio estimation.

With the use of probability sampling methods in NSDUH, it is possible to develop estimates of sampling error from the survey data. These estimates have been calculated using SUDAAN for all estimates presented in this report using a Taylor series linearization approach that takes into account the effects of NSDUH's complex design features. The sampling errors are used to identify unreliable estimates and to test for the statistical significance of differences between estimates.

B.2.1 Variance Estimation for Totals

Estimates of means or proportions, \hat{p}_d , such as drug use prevalence estimates for a domain d , can be expressed as a ratio estimate:

$$\hat{p}_d = \frac{\hat{Y}_d}{\hat{N}_d},$$

where \hat{Y}_d is a linear statistic estimating number of substance users in the domain, and \hat{N}_d is a linear statistic estimating the total number of persons in domain d (both users and nonusers). The SUDAAN software used to develop estimates and their SEs produces direct estimates \hat{Y}_d and \hat{N}_d and their SEs. The SUDAAN application also uses a Taylor series approximation method to estimate the SEs of the ratio estimate \hat{p}_d .

When the domain size, \hat{N}_d , is free of sampling error, an appropriate estimate of the SE for the total number of substance users is

$$SE(\hat{Y}_d) = \hat{N}_d SE(\hat{p}_d).$$

This approach is theoretically correct when the domain size estimates, \hat{N}_d , are among those forced to match their respective U.S. Census Bureau population projections through the weight calibration process (Chen et al., 2005). In these cases, \hat{N}_d is not subject to sampling error. For a more detailed explanation of the weight calibration process, see Section A.3.2 in Appendix A.

For estimated domain totals, \hat{Y}_d , where \hat{N}_d is not fixed (i.e., where domain size estimates are not forced to match the U.S. Census Bureau population projections), this formulation may still provide a good approximation if it can be assumed that the sampling variation in \hat{N}_d is negligible relative to the sampling variation in \hat{p}_d . This is a reasonable assumption for most cases in this study.

For a subset of the estimates produced from the 2002 to 2006 data, the above approach yielded an underestimate of the variance of a total because \hat{N}_d was subject to considerable variation. In these cases, the SEs for the total estimates calculated directly within SUDAAN are reported. Using the SEs from the total estimates directly from SUDAAN does not affect the SE estimates for the corresponding proportions presented in the same sets of tables.

B.2.2 Suppression Criteria for Unreliable Estimates

As has been done in other NSDUH reports, direct survey estimates produced for this study that are considered to be unreliable due to unacceptably large sampling errors are not shown in this report and are noted by asterisks (*) in the tables containing such estimates. The criteria used for suppressing all direct survey estimates were based on the relative standard error (RSE) (defined as the ratio of the SE over the estimate), nominal (actual) sample size, and effective sample size for each estimate.

Proportion estimates (\hat{p}) within the range $[0 < \hat{p} < 1]$, rates, and the corresponding estimated number of users were suppressed if

$$RSE[-\ln(\hat{p})] > .175 \text{ when } \hat{p} \leq .5$$

or

$$\text{RSE}[-\ln(1 - \hat{p})] > .175 \text{ when } \hat{p} > .5.$$

Using a first-order Taylor series approximation to estimate $\text{RSE}[-\ln(\hat{p})]$ and $\text{RSE}[-\ln(1 - \hat{p})]$, the following equation was derived and used for computational purposes:

$$\frac{\text{SE}(\hat{p})/\hat{p}}{-\ln(\hat{p})} > .175 \text{ when } \hat{p} \leq .5$$

or

$$\frac{\text{SE}(\hat{p})/(1-\hat{p})}{-\ln(1-\hat{p})} > .175 \text{ when } \hat{p} > .5.$$

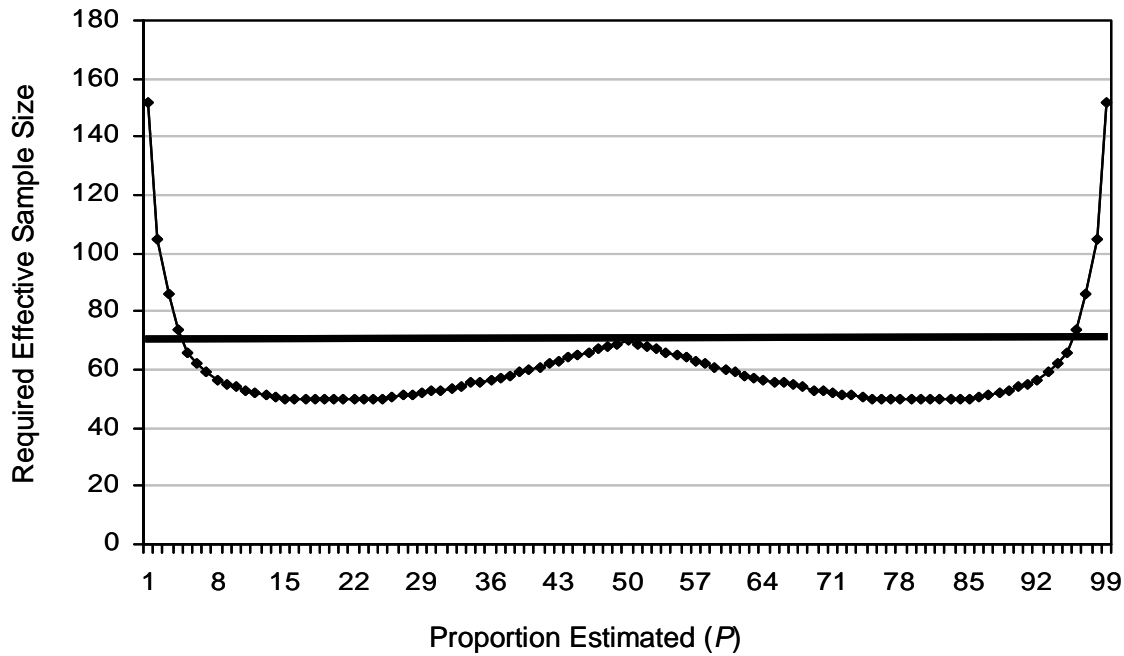
The separate formulas for $\hat{p} \leq .5$ and $\hat{p} > .5$ produce a symmetric suppression rule; that is, if \hat{p} is suppressed, $1 - \hat{p}$ will be suppressed as well. This ad hoc rule requires an effective sample size in excess of 50. When $.05 < \hat{p} < .95$, the symmetric property of the rule produces a local maximum effective sample size of 68 at $\hat{p} = .5$. Thus, estimates with these values of \hat{p} along with effective sample sizes falling below 68 are suppressed. See Figure B.1 for a representation of the required minimum effective sample sizes as a function of the proportion estimated.

A minimum nominal sample size suppression criterion ($n = 100$) that protects against unreliable estimates caused by small design effects and small nominal sample sizes was employed. Prevalence estimates also were suppressed if they were close to 0 or 100 percent (i.e., if $\hat{p} < .00005$ or if $\hat{p} \geq .99995$).

Estimates of other totals along with means and rates that are not bounded between 0 and 1 (e.g., mean age at first use and incidence rates) were suppressed if the RSEs of the estimates were larger than .5. Additionally, estimates of the mean age at first use were suppressed if the sample size was smaller than 10 respondents. Also, the estimated incidence rate and number of initiates were suppressed if they rounded to 0.

The suppression criteria for various NSDUH estimates are summarized in Table B.1 at the end of this appendix.

Figure B.1 Required Effective Sample as a Function of the Proportion Estimated
Current Rule: NSDUH 2006



B.2.3 Statistical Significance of Differences

This section describes the methods used to compare prevalence estimates in this report. Customarily, the observed difference between estimates is evaluated in terms of its statistical significance. Statistical significance is based on the p value of the test statistic and refers to the probability that a difference as large as that observed would occur due to random variability in the estimates if there were no difference in the prevalence estimates for the population groups being compared. The significance of observed differences in this report is reported at the .05 level. When comparing prevalence estimates, the null hypothesis (no difference between prevalence estimates) was tested against the alternative hypothesis (there is a difference in prevalence estimates) using the standard difference in proportions test expressed as

$$Z = \frac{\hat{p}_1 - \hat{p}_2}{\sqrt{\text{var}(\hat{p}_1) + \text{var}(\hat{p}_2) - 2\text{cov}(\hat{p}_1, \hat{p}_2)}} ,$$

where \hat{p}_1 = first prevalence estimate, \hat{p}_2 = second prevalence estimate, $\text{var}(\hat{p}_1)$ = variance of first prevalence estimate, $\text{var}(\hat{p}_2)$ = variance of second prevalence estimate, and $\text{cov}(\hat{p}_1, \hat{p}_2)$ = covariance between \hat{p}_1 and \hat{p}_2 . In cases where significance tests between years were performed, the prevalence estimate from the earlier year (2002, 2003, 2004, or 2005) becomes the first prevalence estimate, and the prevalence estimate from the later year (2006) becomes the second prevalence estimate.

Under the null hypothesis, Z is asymptotically distributed as a normal random variable. Therefore, calculated values of Z can be referred to the unit normal distribution to determine the corresponding probability level (i.e., p value). Because the covariance term between the two estimates is not necessarily zero, SUDAAN was used to compute estimates of Z along with the associated p values using the analysis weights and accounting for the sample design as described in Appendix A. A similar procedure and formula for Z were used for estimated totals; however, it should be noted that because it was necessary to calculate the SE outside of SUDAAN for domains forced by the weighting process to match their respective U.S. Census Bureau population estimates, the corresponding test statistics also were computed outside of SUDAAN.

When comparing population subgroups across three or more levels of a categorical variable, log-linear chi-square tests of independence of the subgroups and the prevalence variables were conducted first to control the error level for multiple comparisons. If the chi-square test indicated overall significant differences, the significance of each particular pairwise comparison of interest was tested using SUDAAN analytic procedures to properly account for the sample design. Using the published estimates and SEs to perform independent t tests for the difference of proportions usually will provide the same results as tests performed in SUDAAN. However, where the significance level is borderline, results may differ for two reasons: (1) the covariance term is included in SUDAAN tests, whereas it is not included in independent t tests; and (2) the reduced number of significant digits shown in the published estimates may cause rounding errors in the independent t tests.

B.3 Other Information on Data Accuracy

The accuracy of survey estimates can be affected by nonresponse, coding errors, computer processing errors, errors in the sampling frame, reporting errors, and other errors not due to sampling. They are sometimes referred to as "nonsampling errors." These types of errors and their impact are reduced through data editing, statistical adjustments for nonresponse, close monitoring and periodic retraining of interviewers, and improvement in various quality control procedures.

Although these types of errors often can be much larger than sampling errors, measurement of most of these errors is difficult. However, some indication of the effects of some types of these errors can be obtained through proxy measures, such as response rates and from other research studies.

B.3.1 Screening and Interview Response Rate Patterns

Beginning in 2002 and continuing through 2006, respondents received a \$30 incentive in an effort to maximize response rates. Of the 151,288 eligible households sampled for the 2006 NSDUH, 137,057 were screened successfully, for a weighted screening response rate of 90.6 percent. In these screened households, a total of 85,034 sample persons were selected, and completed interviews were obtained from 67,802 of these sample persons, for a weighted interview response rate of 74.2 percent. The overall weighted response rate, defined as the product of the weighted screening response rate and weighted interview response rate, was 67.2 percent in 2006. The interview response rate for persons aged 12 to 20 was 84.9 percent.

The weighted screening rates for the 2002 to 2005 NSDUHs ranged from 90.7 to 91.3 percent, the interviewer response rates ranged from 76.2 to 78.6 percent, and the overall response rates ranged from 71.3 percent in 2002 to 69.2 percent in 2005. For the sample aged 12 to 20, the interview response rates ranged from 84.9 to 89.2 percent.

Nonresponse bias can be expressed as the product of the nonresponse rate ($1 - R$) and the difference between the characteristic of interest between respondents and nonrespondents in the population ($P_r - P_{nr}$). By maximizing NSDUH response rates, it is hoped that the bias due to the difference between the estimates from respondents and nonrespondents is minimized. Alcohol and drug use surveys are particularly vulnerable to nonresponse due to the difficult nature of accessing heavy alcohol and drug users.

B.3.2 Inconsistent Responses and Item Nonresponse

Among survey participants, item response rates were above 99 percent for most drug use items. However, inconsistent responses for some items were common. Estimates of substance use from NSDUH are based on responses to multiple questions by respondents, so that the maximum amount of information is used in determining whether a respondent is classified as a drug user. Inconsistencies in responses are resolved through a logical editing process that involves some judgment on the part of survey analysts. Additionally, missing or inconsistent responses are imputed using statistical methodology. Editing and imputation of missing responses are potential sources of error.

Respondents were asked the dependence and abuse questions if they reported alcohol use on more than 5 days in the past year, or if they reported any alcohol use in the past year but did not report their frequency of past year use. Therefore, inconsistencies could have occurred where the imputed frequency of use response indicated less frequent use than required for respondents to be asked the dependence and abuse questions originally.

Respondents might have provided ambiguous information about past year use of alcohol, in which case these respondents were not asked the dependence and abuse questions for alcohol. Subsequently, these respondents could have been imputed to be past year users of alcohol. In this situation, the dependence and abuse data were unknown; thus, these respondents were classified as not dependent on or abusing alcohol. However, such a respondent never actually was asked the dependence and abuse questions.

B.3.3 Validity of Self-Reported Substance Use

Most drug use prevalence estimates, including those produced for NSDUH, are based on self-reports of use. Although studies have generally supported the validity of self-report data, it is well documented that these data often are biased (underreported or overreported) by several factors, including the mode of administration, the population under investigation, and the type of drug (Bradburn & Sudman, 1983; Hser & Anglin, 1993). Higher levels of bias also are observed among younger respondents and those with higher levels of drug use (Biglan, Gilpin, Rohrbach, & Pierce, 2004). Methodological procedures, such as biological specimens (e.g., urine, hair, saliva), proxy reports (e.g., family member, peer), and repeated measures (e.g., recanting), have been used to validate self-report data (Fendrich, Johnson, Sudman, Wislar, & Spiehler, 1999).

However, these procedures often are impractical or too costly for community-based epidemiological studies (SRNT Subcommittee on Biochemical Verification, 2002). NSDUH utilizes widely accepted methodological practices for ensuring validity, such as encouraging privacy through audio computer-assisted self-interviewing (ACASI). Comparisons using these methods within NSDUH have been shown to reduce reporting bias (Aquilino, 1994; Turner, Lessler, & Gfroerer, 1992).

B.4 Measurement Issues and Additional Findings for Alcohol Items Added in 2006

As noted in Section 1.4 of Chapter 1, NSDUH in 2006 incorporated a new consumption of alcohol module that collected additional information about respondents' last use of alcohol for those who indicated that they had consumed alcohol at least once in the past month. The module included some items that were administered only to persons aged 12 to 20. Among the items in the new module were two related to binge drinking among females based on consumption of four or more drinks on an occasion, rather than the usual NSDUH criterion of five or more drinks. Other items in the consumption of alcohol module included the source of alcohol, location, and social context of the last drinking episode among past month alcohol users aged 12 to 20; the number of drinks consumed on the last drinking occasion; and the use of illicit drugs in combination with alcohol or within 2 hours of consuming alcohol on the last drinking occasion. Findings for many of these items are covered in the tables in Appendix C and discussed in Chapter 4. This section provides further information on some of the items in the new module, including a discussion of data collection issues with the new four-drink binge drinking measure for females and additional findings for this and selected other variables.

B.4.1 Data Issues Involving the Measurement of Binge Alcohol Use for Females

In 2006, new items were added within the consumption of alcohol module to investigate whether the current binge drinking definition based on drinking five or more drinks on the same occasion should be changed to a lower threshold of four or more drinks on the same occasion for females. The four or more drinks definition corresponds to that used by the National Institute on Alcohol Abuse and Alcoholism (NIAAA, 2004). Although all persons aged 12 or older were asked the new items regarding lifetime binge use and age of initiation of binge use based on the five or more drinks definition, the question pertaining to binge use based on four or more drinks and related follow-up questions were asked only of females. The intent was to route all female respondents who were lifetime drinkers into the questions regarding their history of having four or more drinks on the same occasion.

During the editing process, it was discovered that females who had some history of consuming five or more drinks on the same occasion were skipped out of the questions regarding their history of having four or more drinks. The sole exception to this was that females who had a history of having five or more drinks on the same occasion and who also indicated that they had four or more drinks when they last used alcohol were properly routed into the questions about their history of having five or more drinks on the same occasion. As a result of this error, 1,235 females aged 12 to 20 who were lifetime alcohol users (8.0 percent of all females in this group) were not asked the questions regarding their history of having four or more drinks on the same occasion.

In most cases, females who were incorrectly skipped out of the four or more drinks questions could be assigned a four or more drinks status for both past month and lifetime use either from previous responses to questions about the number of drinks on the last occasion or questions about binge use based on five or more drinks earlier in the same module. In cases where there was unknown data, the information from the core computer-assisted interviewing (CAI) module about binge use status, an imputed revised measure, was used to determine whether the female should be recoded to be a binge drinker based on the four or more drinks definition. Data on initiation of binge alcohol use based on the four or more drinks definition were not available for those females incorrectly skipped from these questions. Because of the large number of females who were improperly skipped, estimates of the age of initiation of binge drinking based on four or more drinks definition are not presented in this report.

B.4.2 Results from Selected Alcohol Use Items Added in 2006

The results based on many of the new items in the consumption of alcohol module are presented in Chapter 4. This section presents supplementary tables on the number of drinks consumed when persons aged 12 to 20 last consumed alcohol, as well as comparisons of binge drinking rates using the criterion of five more drinks on the same occasion for males and females and the criterion of four or more drinks on the same occasion for females.

Table B.2AB presents the number of drinks consumed the last time past month drinkers aged 12 to 20 drank alcohol, both for the full sample and by gender and age group. The majority of underage drinkers in each age and gender group reported drinking four or fewer drinks the last time they used alcohol. Current drinkers aged 12 to 14 were more likely to have had only one drink on their last drinking occasion (43.7 percent) compared with those aged 15 to 17 (23.7 percent) or those aged 18 to 20 (17.0 percent). The 18 to 20 year olds had the highest percentage of persons who reported drinking nine or more drinks at the last occasion (14.6 percent) compared with the other age groups (5.9 percent for those aged 12 to 14, 10.8 percent for those aged 15 to 17). Females were more likely than males to have had one drink (22.8 percent for females, 19.2 percent for males), two drinks (20.2 percent for females, 15.3 percent for males), or three or four drinks (27.1 percent for females, 19.8 percent for males) when they last drank alcohol. In contrast, underage males were more likely than underage females to have had five to eight drinks (26.6 percent for males, 24.1 percent for females) or nine or more drinks (19.1 percent for males, 5.8 percent for females) when they last drank alcohol.

Information on the mean number of drinks for these groups is also included in Table B.2AB. Overall, current drinkers aged 12 to 20 averaged 4.5 drinks when they last used alcohol. The mean number of drinks reported increased with age. Persons aged 12 to 14 had the lowest mean number of drinks (2.8 drinks), those aged 15 to 17 reported a higher amount at 4.3 drinks on average, and the 18 to 20 age group reported the highest average number at 4.8 drinks on the last occasion. Among current drinkers, underage males consumed more drinks on their last drinking occasion (mean of 5.3 drinks) than underage females (mean of 3.7 drinks).

Tables B.3A and B.3B present information from 2006 on binge alcohol use as defined by drinking five or more drinks on one occasion for both males and females, and an alternative definition based on five or more drinks for males but four or more drinks for females. Using the definition of five or more drinks on one occasion for both males and females, the rate of lifetime

binge drinking was higher for underage males (32.0 percent) than for underage females (28.0 percent). This difference was principally found for those aged 18 to 20, where males had a higher rate of lifetime binge use (59.0 percent) compared with females (49.5 percent). A similar pattern was found for past month binge use using the five or more drinks criterion, with males having a higher rate than females (21.8 to 16.9 percent, respectively). Among both 15 to 17 year olds and 18 to 20 year olds, males had higher rates of past month binge drinking compared with females when binge drinking was defined as five or more drinks for both males and females.

Although a statistical comparison cannot be drawn between the binge drinking rates based on the two different definitions, it can be seen that using the less stringent definition for lifetime binge use increased the rate of lifetime binge alcohol use for females from 28.0 to 31.0 percent, and it increased the rate of past month binge alcohol use for females from 16.9 to 18.5 percent. This higher rate of binge drinking for females using the four or more drinks criterion also can be seen in the overall rate of binge drinking including both males and females; lifetime binge drinking increased from 30.1 to 31.5 percent, and past month binge drinking increased from 19.4 to 20.2 percent. The increase in the prevalence of binge drinking among females using the four or more drinks criterion was primarily found for females aged 18 to 20.

Regarding initiation of binge drinking, 10.2 percent of all those aged 12 to 20 reported that they first had five or more drinks on the same occasion during the past year. Information on the measurement of initiation can be found in Section B.4.1 of the 2006 NSDUH national findings report (Office of Applied Studies [OAS], 2007a). The past year initiation rate of binge drinking was higher for those aged 15 to 17 and those aged 18 to 20 (13.9 and 13.1 percent, respectively) than for those aged 12 to 14 (3.5 percent). In addition, a higher percentage of males (10.9 percent) than females (9.5 percent) reported that they engaged in binge drinking for the first time in the past year. However, this pattern of gender differences varied by age group. Among those aged 12 to 14, the rate for past year initiation of binge drinking was higher among females (3.9 percent) than among males (3.0 percent). Among those aged 15 to 17, there was no statistically significant difference between males and females in past year initiation of binge drinking. Among those aged 18 to 20, however, males had a higher rate for past year initiation (15.2 percent) than females (10.9 percent).

Table B.1 Summary of NSDUH Suppression Rules

Estimate	Suppress if:
Prevalence Rate, \hat{p} , with Nominal Sample Size, n , and Design Effect, $deff$	(1) The estimated prevalence rate, \hat{p} , is $< .00005$ or $\geq .99995$, or (2) $\frac{SE(\hat{p}) / \hat{p}}{-\ln(\hat{p})} > .175$ when $\hat{p} \leq .5$, or $\frac{SE(\hat{p}) / (1 - \hat{p})}{-\ln(1 - \hat{p})} > .175$ when $\hat{p} > .5$, or (3) Effective $n < 68$, where Effective $n = \frac{n}{deff}$ or (4) $n < 100$. Note: The rounding portion of this suppression rule for prevalence rates will produce some estimates that round at one decimal place to 0.0 or 100.0 percent but are not suppressed from the tables.
Estimated Number (Numerator of \hat{p})	The estimated prevalence rate, \hat{p} , is suppressed. Note: In some instances when \hat{p} is not suppressed, the estimated number may appear as a 0 in the tables. This means that the estimate is greater than 0 but less than 500 (estimated numbers are shown in thousands).
Mean Age at First Use, \bar{x} , with Nominal Sample Size, n	(1) $RSE(\bar{x}) > .5$, or (2) $n < 10$.

SE = standard error; RSE = relative standard error; deff = design effect.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2006.

Table B.2AB Number of Drinks Consumed on Last Occasion of Alcohol Use in the Past Month among Past Month Alcohol Users Aged 12 to 20, by Gender and Age Group: Numbers in Thousands, Percentage Distribution and Mean, 2006

	TOTAL	AGE GROUP			GENDER	
		12 to 14	15 to 17	18 to 20	Male	Female
Number of Drinks Consumed on Last Occasion of Alcohol Use	Numbers in Thousands, by Number of Drinks Consumed					
1 Drink	2,166	318	754	1,094	1,056	1,111
2 Drinks	1,821	177	565	1,078	839	982
3 or 4 Drinks	2,403	116	721	1,566	1,087	1,316
5 to 8 Drinks	2,633	74	799	1,760	1,461	1,172
9 or More Drinks	1,330	43	345	942	1,046	284
Number of Drinks Consumed on Last Occasion of Alcohol Use	Percentage Distribution, by Number of Drinks Consumed					
1 Drink	20.9	43.7	23.7	17.0	19.2	22.8
2 Drinks	17.6	24.4	17.8	16.7	15.3	20.2
3 or 4 Drinks	23.2	15.9	22.6	24.3	19.8	27.1
5 to 8 Drinks	25.4	10.1	25.1	27.3	26.6	24.1
9 or More Drinks	12.8	5.9	10.8	14.6	19.1	5.8
	Number of Drinks Consumed					
Mean Number of Drinks Consumed	4.5	2.8	4.3	4.8	5.3	3.7

*Low precision; no estimate reported.

NOTE: Respondents with unknown responses to number of drinks consumed on last occasion of alcohol use were excluded.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2006.

Table B.3A Binge Alcohol Use in the Lifetime and Past Month and Binge Alcohol Use Initiates among Persons Aged 12 to 20, by Binge Drinking Definition, Age Group, and Gender: Numbers in Thousands, 2006

	Binge Alcohol Use Defined as Five or More Drinks on One Occasion			Binge Alcohol Use Defined as Four or More Drinks on One Occasion—Females Only ¹	Binge Alcohol Use Defined as Five Drinks for Males and Four Drinks for Females ¹
	TOTAL	Male	Female		
Age Group	Engaged in Binge Alcohol Use in Lifetime				
12 to 20 Years	11,488	6,310	5,178	5,723	12,034
12 to 14 Years	689	339	350	380	719
15 to 17 Years	3,832	2,003	1,829	2,007	4,010
18 to 20 Years	6,967	3,968	2,999	3,336	7,305
Age Group	Engaged in Binge Alcohol Use in Past Month				
12 to 20 Years	7,421	4,293	3,128	3,427	7,719
12 to 14 Years	409	196	213	222	418
15 to 17 Years	2,298	1,239	1,059	1,148	2,387
18 to 20 Years	4,713	2,858	1,855	2,057	4,915
Age Group	Initiated Binge Alcohol Use in Past 12 Months^{2,3}				
12 to 20 Years	3,798	2,087	1,712	†	†
12 to 14 Years	423	191	231	†	†
15 to 17 Years	1,761	921	840	†	†
18 to 20 Years	1,615	975	640	†	†

*Low precision; no estimate reported.

†Estimate is available but has not been reported because of an invalid anomaly in the data collection.

¹ The Four or More Drinks definition corresponds to that used by the National Institute on Alcohol Abuse and Alcoholism (NIAAA, 2004).

² Respondents with unknown responses were excluded.

³ Binge Alcohol Use Initiates are defined as persons who binged on alcohol for the first time in the 12 months prior to the date of the interview.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2006.

Table B.3B Binge Alcohol Use in the Lifetime and Past Month and Binge Alcohol Use Initiates among Persons Aged 12 to 20, by Binge Drinking Definition, Age Group, and Gender: Percentages, 2006

	Binge Alcohol Use Defined as Five or More Drinks on One Occasion			Binge Alcohol Use Defined as Four or More Drinks on One Occasion—Females Only ¹	Binge Alcohol Use Defined as Five Drinks for Males and Four Drinks for Females ¹
	TOTAL	Male	Female		
Age Group	Engaged in Binge Alcohol Use in Lifetime				
12 to 20 Years	30.1	32.0	28.0	31.0	31.5
12 to 14 Years	5.6	5.3	5.9	6.4	5.8
15 to 17 Years	29.3	30.4	28.3	31.0	30.7
18 to 20 Years	54.5	59.0	49.5	55.0	57.1
Age Group	Engaged in Binge Alcohol Use in Past Month				
12 to 20 Years	19.4	21.8	16.9	18.5	20.2
12 to 14 Years	3.3	3.1	3.6	3.7	3.4
15 to 17 Years	17.6	18.8	16.4	17.8	18.3
18 to 20 Years	36.8	42.5	30.6	33.9	38.4
Age Group	Initiated Binge Alcohol Use in Past 12 Months^{2,3}				
12 to 20 Years	10.2	10.9	9.5	†	†
12 to 14 Years	3.5	3.0	3.9	†	†
15 to 17 Years	13.9	14.4	13.3	†	†
18 to 20 Years	13.1	15.2	10.9	†	†

*Low precision; no estimate reported.

†Estimate is available but has not been reported because of an invalid anomaly in the data collection. See Section B.4.1 in this appendix.

¹ The Four or More Drinks definition corresponds to that used by the National Institute on Alcohol Abuse and Alcoholism (NIAAA, 2004).

² Respondents with unknown responses were excluded.

³ Binge Alcohol Use Initiates are defined as persons who binged on alcohol for the first time in the 12 months prior to the date of the interview.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2006.

Appendix C: Prevalence Tables

Table 2.1A Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Gender: Numbers in Thousands, 2002-2006

Gender/Alcohol Measure	2002	2003	2004	2005	2006
TOTAL					
Lifetime Use	20,911	20,936	20,709	20,671	20,574
Past Year Use	17,492	17,554	17,568	17,729	17,598
Past Month Use	10,713	10,876	10,838	10,819	10,823
Binge Alcohol Use ¹	7,175	7,190	7,397	7,197	7,239
Heavy Alcohol Use ¹	2,301	2,297	2,375	2,296	2,359
Past Year Dependence or Abuse ²	3,570	3,468	3,616	3,592	3,475
MALE					
Lifetime Use	10,719	10,537	10,624	10,500	10,647
Past Year Use	8,847	8,735	8,946	8,927	9,064
Past Month Use	5,619	5,720	5,723	5,658	5,752
Binge Alcohol Use ¹	4,140	4,162	4,271	4,175	4,192
Heavy Alcohol Use ¹	1,544	1,506	1,582	1,492	1,561
Past Year Dependence or Abuse ²	2,079	1,905	2,092	1,958	1,893
FEMALE					
Lifetime Use	10,192	10,399 ^a	10,085	10,171	9,927
Past Year Use	8,645	8,819	8,622	8,802	8,534
Past Month Use	5,094	5,156	5,115	5,160	5,072
Binge Alcohol Use ¹	3,035	3,027	3,127	3,022	3,047
Heavy Alcohol Use ¹	756	791	793	803	798
Past Year Dependence or Abuse ²	1,491	1,563	1,524	1,634	1,582

*Low precision; no estimate reported.

^a Difference between estimate and 2006 estimate is statistically significant at the 0.05 level.

^b Difference between estimate and 2006 estimate is statistically significant at the 0.01 level.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 2.1B Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Gender: Percentages, 2002-2006

Gender/Alcohol Measure	2002	2003	2004	2005	2006
TOTAL					
Lifetime Use	56.2 ^b	55.8 ^b	54.9	53.9	53.9
Past Year Use	47.0	46.8	46.6	46.3	46.1
Past Month Use	28.8	29.0	28.7	28.2	28.3
Binge Alcohol Use ¹	19.3	19.2	19.6	18.8	19.0
Heavy Alcohol Use ¹	6.2	6.1	6.3	6.0	6.2
Past Year Dependence or Abuse ²	9.6	9.2	9.6	9.4	9.1
MALE					
Lifetime Use	56.5 ^b	55.0	54.9	53.7	54.0
Past Year Use	46.6	45.6	46.3	45.6	46.0
Past Month Use	29.6	29.9	29.6	28.9	29.2
Binge Alcohol Use ¹	21.8	21.7	22.1	21.3	21.3
Heavy Alcohol Use ¹	8.1	7.9	8.2	7.6	7.9
Past Year Dependence or Abuse ²	10.9 ^b	9.9	10.8 ^a	10.0	9.6
FEMALE					
Lifetime Use	56.0 ^b	56.6 ^b	54.8	54.2	53.7
Past Year Use	47.5	48.0 ^a	46.9	46.9	46.2
Past Month Use	28.0	28.1	27.8	27.5	27.4
Binge Alcohol Use ¹	16.7	16.5	17.0	16.1	16.5
Heavy Alcohol Use ¹	4.2	4.3	4.3	4.3	4.3
Past Year Dependence or Abuse ²	8.2	8.5	8.3	8.7	8.6

*Low precision; no estimate reported.

^a Difference between estimate and 2006 estimate is statistically significant at the 0.05 level.

^b Difference between estimate and 2006 estimate is statistically significant at the 0.01 level.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 2.2A Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Age Group: Numbers in Thousands, 2002-2006

Age Group/Alcohol Measure	2002	2003	2004	2005	2006
AGE 12 TO 14					
Lifetime Use	3,149 ^b	3,001 ^b	3,008 ^b	2,739	2,723
Past Year Use	2,231 ^b	2,154	2,193 ^a	2,074	2,002
Past Month Use	940 ^a	924 ^a	902	805	815
Binge Alcohol Use ¹	455	423	415	386	381
Heavy Alcohol Use ¹	81	64	64	61	49
Past Year Dependence or Abuse ²	247	267 ^a	252	213	211
AGE 15 TO 17					
Lifetime Use	7,598	7,713	7,587	7,567	7,532
Past Year Use	6,333	6,409	6,344	6,380	6,359
Past Month Use	3,424	3,501	3,534	3,387	3,406
Binge Alcohol Use ¹	2,186	2,235	2,379	2,127	2,232
Heavy Alcohol Use ¹	549	588	607	550	554
Past Year Dependence or Abuse ²	1,206	1,204	1,265	1,194	1,149
AGE 18 TO 20					
Lifetime Use	10,164	10,223	10,113	10,365	10,319
Past Year Use	8,928	8,991	9,031	9,275	9,236
Past Month Use	6,348	6,451	6,402	6,628	6,602
Binge Alcohol Use ¹	4,534	4,531	4,604	4,684	4,625
Heavy Alcohol Use ¹	1,671	1,645	1,704	1,685	1,756
Past Year Dependence or Abuse ²	2,117	1,997	2,099	2,185	2,115

*Low precision; no estimate reported.

^a Difference between estimate and 2006 estimate is statistically significant at the 0.05 level.

^b Difference between estimate and 2006 estimate is statistically significant at the 0.01 level.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 2.2B Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Age Group: Percentages, 2002-2006

Age Group/Alcohol Measure	2002	2003	2004	2005	2006
AGE 12 TO 14					
Lifetime Use	24.9 ^b	23.9 ^a	23.6 ^a	21.8	22.1
Past Year Use	17.6 ^a	17.1	17.2	16.5	16.2
Past Month Use	7.4	7.3	7.1	6.4	6.6
Binge Alcohol Use ¹	3.6	3.4	3.3	3.1	3.1
Heavy Alcohol Use ¹	0.6	0.5	0.5	0.5	0.4
Past Year Dependence or Abuse ²	2.0	2.1	2.0	1.7	1.7
AGE 15 TO 17					
Lifetime Use	62.7 ^b	62.1 ^b	60.8 ^b	59.2	57.7
Past Year Use	52.3 ^b	51.6 ^b	50.9 ^a	49.9	48.7
Past Month Use	28.3 ^b	28.2 ^b	28.3 ^b	26.5	26.1
Binge Alcohol Use ¹	18.1	18.0	19.1 ^b	16.6	17.1
Heavy Alcohol Use ¹	4.5	4.7	4.9	4.3	4.2
Past Year Dependence or Abuse ²	10.0 ^a	9.7	10.1 ^b	9.3	8.8
AGE 18 TO 20					
Lifetime Use	81.7	81.6	80.8	79.9	80.7
Past Year Use	71.7	71.8	72.1	71.5	72.2
Past Month Use	51.0	51.5	51.1	51.1	51.6
Binge Alcohol Use ¹	36.4	36.2	36.8	36.1	36.2
Heavy Alcohol Use ¹	13.4	13.1	13.6	13.0	13.7
Past Year Dependence or Abuse ²	17.0	16.0	16.8	16.9	16.5

*Low precision; no estimate reported.

^a Difference between estimate and 2006 estimate is statistically significant at the 0.05 level.

^b Difference between estimate and 2006 estimate is statistically significant at the 0.01 level.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.1A Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Demographic Characteristics: Numbers in Thousands, Annual Averages Based on 2002-2006

Demographic Characteristic	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
TOTAL	20,760	17,588	10,814	7,240	2,325	3,544
GENDER						
Male	10,605	8,904	5,694	4,188	1,537	1,985
Female	10,155	8,684	5,119	3,052	788	1,559
AGE						
12	441	263	94	38	3	20
13	954	682	257	109	16	67
14	1,530	1,185	526	266	45	151
15	2,178	1,765	858	499	100	280
16	2,577	2,174	1,171	749	181	420
17	2,845	2,427	1,422	984	288	504
18	3,478	3,082	2,062	1,461	507	671
19	3,313	2,930	2,119	1,527	572	719
20	3,445	3,081	2,305	1,607	612	712
GENDER/RACE/HISPANIC ORIGIN						
Male, White, Not Hispanic	6,851	5,938	3,967	3,013	1,214	1,381
Female, White, Not Hispanic	6,673	5,899	3,640	2,269	654	1,157
Male, Black, Not Hispanic	1,326	1,005	561	310	71	159
Female, Black, Not Hispanic	1,259	974	485	207	25	95
Male, Hispanic	1,849	1,494	911	684	201	334
Female, Hispanic	1,635	1,323	732	434	82	222

*Low precision; no estimate reported.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.1B Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Demographic Characteristics: Percentages, Annual Averages Based on 2002-2006

Demographic Characteristic	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
TOTAL	54.9	46.5	28.6	19.2	6.2	9.4
GENDER						
Male	54.8	46.0	29.4	21.6	7.9	10.3
Female	55.1	47.1	27.8	16.5	4.3	8.5
AGE						
12	11.0	6.5	2.3	0.9	0.1	0.5
13	22.4	16.0	6.0	2.6	0.4	1.6
14	35.6	27.6	12.3	6.2	1.0	3.5
15	50.8	41.2	20.0	11.6	2.3	6.5
16	61.4	51.8	27.9	17.8	4.3	10.0
17	69.7	59.4	34.8	24.1	7.1	12.3
18	76.5	67.8	45.4	32.2	11.2	14.8
19	81.3	71.9	52.0	37.5	14.0	17.7
20	85.5	76.4	57.2	39.9	15.2	17.7
GENDER/RACE/HISPANIC ORIGIN						
Male, White, Not Hispanic	57.5	49.8	33.3	25.3	10.2	11.6
Female, White, Not Hispanic	58.5	51.7	31.9	19.9	5.7	10.1
Male, Black, Not Hispanic	46.8	35.5	19.8	11.0	2.5	5.6
Female, Black, Not Hispanic	46.2	35.8	17.8	7.6	0.9	3.5
Male, Hispanic	55.4	44.7	27.3	20.5	6.0	10.0
Female, Hispanic	53.5	43.3	23.9	14.2	2.7	7.3

*Low precision; no estimate reported.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.2A Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Racial/Ethnic Subgroups: Numbers in Thousands, Annual Averages Based on 2002-2006

Racial/Ethnic Subgroup	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
TOTAL³	20,760	17,588	10,814	7,240	2,325	3,544
NOT HISPANIC OR LATINO³	17,276	14,771	9,171	6,122	2,043	2,988
White	13,523	11,837	7,607	5,282	1,868	2,538
Black or African American	2,585	1,979	1,046	517	96	255
American Indian or Alaska Native	139	112	67	51	11	37
Native Hawaiian or Other Pacific Islander	75	60	34	26	6	18
Asian	654	529	268	143	28	77
Chinese	131	106	48	22	6	12
Filipino	137	106	56	33	5	17
Japanese	34	30	17	9	2	2
Indian	89	79	44	24	3	11
Korean	83	70	40	22	4	16
Vietnamese	77	59	25	9	1	6
HISPANIC OR LATINO³	3,484	2,817	1,643	1,118	283	556
Mexican	2,420	1,938	1,113	780	201	396
Puerto Rican	391	321	176	114	28	48
Central or South American	374	301	182	123	23	60
Cuban	107	94	62	33	10	16

*Low precision; no estimate reported.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*.

³ Totals include data from respondents reporting racial/ethnic subgroups not shown, as well as respondents reporting more than one subgroup.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.2B Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Racial/Ethnic Subgroups: Percentages, Annual Averages Based on 2002-2006

Racial/Ethnic Subgroup	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
TOTAL³	54.9	46.5	28.6	19.2	6.2	9.4
NOT HISPANIC OR LATINO³	55.0	47.0	29.2	19.5	6.5	9.5
White	58.0	50.8	32.6	22.6	8.0	10.9
Black or African American	46.5	35.6	18.8	9.3	1.7	4.6
American Indian or Alaska Native	56.7	45.5	27.2	20.8	4.5	14.9
Native Hawaiian or Other Pacific Islander	53.4	42.6	24.3	18.8	4.0	12.7
Asian	41.7	33.7	17.1	9.1	1.8	4.9
Chinese	41.9	33.9	15.2	7.2	1.9	3.9
Filipino	49.0	37.9	20.0	12.0	1.9	6.1
Japanese	47.7	42.6	24.0	12.9	2.7	3.0
Indian	26.7	23.6	13.1	7.1	1.0	3.4
Korean	48.3	40.6	23.4	12.9	2.2	9.3
Vietnamese	46.6	36.1	14.9	5.2	0.9	3.9
HISPANIC OR LATINO³	54.4	44.0	25.7	17.5	4.4	8.7
Mexican	54.1	43.3	24.9	17.4	4.5	8.9
Puerto Rican	55.5	45.6	25.0	16.2	4.1	6.8
Central or South American	53.3	42.9	26.0	17.6	3.4	8.5
Cuban	55.9	48.8	32.0	17.4	5.3	8.1

*Low precision; no estimate reported.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*.

³ Totals include data from respondents reporting racial/ethnic subgroups not shown, as well as respondents reporting more than one subgroup.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.3A Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 14, by Demographic Characteristics: Numbers in Thousands, Annual Averages Based on 2002-2006

Demographic Characteristic	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
TOTAL	2,924	2,131	877	412	64	238
GENDER						
Male	1,506	1,025	403	200	32	103
Female	1,418	1,106	474	212	32	135
HISPANIC ORIGIN AND RACE						
Not Hispanic or Latino	2,377	1,732	705	318	47	190
White	1,829	1,379	571	255	40	157
Black or African American	399	245	91	40	3	20
American Indian or Alaska Native	24	19	9	7	1	4
Native Hawaiian or Other Pacific Islander	6	6	3	2	0	1
Asian	62	41	15	7	1	3
Two or More Races	57	42	16	7	2	5
Hispanic or Latino	548	398	172	94	17	48
GENDER/RACE/HISPANIC ORIGIN						
Male, White, Not Hispanic	943	663	260	121	17	64
Female, White, Not Hispanic	886	716	311	133	23	93
Male, Black, Not Hispanic	198	113	42	19	2	9
Female, Black, Not Hispanic	201	132	49	22	1	12
Male, Hispanic	286	195	83	50	11	25
Female, Hispanic	262	204	89	44	6	23

*Low precision; no estimate reported.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.3B Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 14, by Demographic Characteristics: Percentages, Annual Averages Based on 2002-2006

Demographic Characteristic	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
TOTAL	23.3	16.9	7.0	3.3	0.5	1.9
GENDER						
Male	23.4	15.9	6.3	3.1	0.5	1.6
Female	23.1	18.0	7.7	3.5	0.5	2.2
HISPANIC ORIGIN AND RACE						
Not Hispanic or Latino	22.9	16.7	6.8	3.1	0.5	1.8
White	24.1	18.2	7.5	3.4	0.5	2.1
Black or African American	20.6	12.7	4.7	2.1	0.2	1.0
American Indian or Alaska Native	27.7	22.0	10.3	8.1	1.0	4.2
Native Hawaiian or Other Pacific Islander	15.1	14.4	6.4	4.6	0.1	1.8
Asian	12.8	8.5	3.2	1.5	0.1	0.7
Two or More Races	25.2	18.3	7.2	3.1	0.8	2.3
Hispanic or Latino	24.8	18.1	7.8	4.3	0.8	2.2
GENDER/RACE/HISPANIC ORIGIN						
Male, White, Not Hispanic	24.3	17.1	6.7	3.1	0.4	1.6
Female, White, Not Hispanic	23.8	19.2	8.3	3.6	0.6	2.5
Male, Black, Not Hispanic	20.1	11.5	4.2	1.9	0.2	0.9
Female, Black, Not Hispanic	21.2	14.0	5.2	2.3	0.1	1.2
Male, Hispanic	24.9	17.0	7.2	4.4	1.0	2.2
Female, Hispanic	24.7	19.2	8.4	4.1	0.6	2.2

*Low precision; no estimate reported.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.4A Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 15 to 17, by Demographic Characteristics: Numbers in Thousands, Annual Averages Based on 2002-2006

Demographic Characteristic	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
TOTAL	7,599	6,365	3,451	2,232	569	1,204
GENDER						
Male	3,819	3,142	1,751	1,217	354	604
Female	3,780	3,223	1,700	1,014	216	600
HISPANIC ORIGIN AND RACE						
Not Hispanic or Latino	6,334	5,340	2,922	1,885	495	1,009
White	4,999	4,339	2,468	1,650	458	873
Black or African American	932	679	310	147	20	71
American Indian or Alaska Native	52	40	21	16	4	15
Native Hawaiian or Other Pacific Islander	26	20	8	4	1	3
Asian	213	168	66	33	4	21
Two or More Races	112	93	49	34	8	25
Hispanic or Latino	1,265	1,025	529	347	75	195
GENDER/RACE/HISPANIC ORIGIN						
Male, White, Not Hispanic	2,516	2,149	1,260	905	281	434
Female, White, Not Hispanic	2,483	2,190	1,209	745	176	439
Male, Black, Not Hispanic	472	337	160	84	14	42
Female, Black, Not Hispanic	460	342	150	63	5	30
Male, Hispanic	627	503	263	184	48	97
Female, Hispanic	638	522	265	163	27	97

*Low precision; no estimate reported.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.4B Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 15 to 17, by Demographic Characteristics: Percentages, Annual Averages Based on 2002-2006

Demographic Characteristic	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
TOTAL	60.5	50.6	27.5	17.8	4.5	9.6
GENDER						
Male	59.6	49.0	27.3	19.0	5.5	9.4
Female	61.4	52.3	27.6	16.5	3.5	9.7
HISPANIC ORIGIN AND RACE						
Not Hispanic or Latino	60.1	50.7	27.7	17.9	4.7	9.6
White	63.7	55.3	31.4	21.0	5.8	11.1
Black or African American	50.3	36.6	16.7	7.9	1.1	3.8
American Indian or Alaska Native	65.2	50.3	26.3	20.0	4.7	19.0
Native Hawaiian or Other Pacific Islander	58.5	46.7	17.4	9.1	3.0	7.3
Asian	40.3	31.7	12.4	6.3	0.8	3.9
Two or More Races	62.0	51.6	27.0	18.8	4.7	13.8
Hispanic or Latino	62.3	50.5	26.0	17.1	3.7	9.6
GENDER/RACE/HISPANIC ORIGIN						
Male, White, Not Hispanic	62.4	53.3	31.2	22.4	7.0	10.8
Female, White, Not Hispanic	65.0	57.4	31.7	19.5	4.6	11.5
Male, Black, Not Hispanic	50.2	35.9	17.0	8.9	1.5	4.4
Female, Black, Not Hispanic	50.3	37.4	16.5	6.9	0.6	3.2
Male, Hispanic	61.6	49.5	25.9	18.1	4.7	9.6
Female, Hispanic	63.0	51.6	26.2	16.1	2.7	9.6

*Low precision; no estimate reported.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.5A Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 18 to 20, by Demographic Characteristics: Numbers in Thousands, Annual Averages Based on 2002-2006

Demographic Characteristic	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
TOTAL	10,237	9,092	6,486	4,596	1,692	2,103
GENDER						
Male	5,280	4,736	3,541	2,770	1,152	1,278
Female	4,957	4,356	2,945	1,825	540	824
HISPANIC ORIGIN AND RACE						
Not Hispanic or Latino	8,566	7,698	5,544	3,919	1,501	1,789
White	6,696	6,119	4,567	3,377	1,370	1,508
Black or African American	1,254	1,054	645	330	73	163
American Indian or Alaska Native	63	52	37	28	6	18
Native Hawaiian or Other Pacific Islander	44	34	24	21	4	14
Asian	379	320	187	102	24	53
Two or More Races	131	119	85	62	24	34
Hispanic or Latino	1,671	1,394	942	677	191	313
GENDER/RACE/HISPANIC ORIGIN						
Male, White, Not Hispanic	3,392	3,126	2,447	1,986	915	883
Female, White, Not Hispanic	3,304	2,993	2,121	1,390	455	625
Male, Black, Not Hispanic	656	555	359	208	54	109
Female, Black, Not Hispanic	598	499	285	122	18	54
Male, Hispanic	937	797	565	450	142	212
Female, Hispanic	734	597	377	227	49	101

*Low precision; no estimate reported.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.5B Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 18 to 20, by Demographic Characteristics: Percentages, Annual Averages Based on 2002-2006

Demographic Characteristic	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
TOTAL	80.9	71.9	51.3	36.3	13.4	16.6
GENDER						
Male	81.2	72.8	54.4	42.6	17.7	19.6
Female	80.7	70.9	47.9	29.7	8.8	13.4
HISPANIC ORIGIN AND RACE						
Not Hispanic or Latino	81.7	73.4	52.9	37.4	14.3	17.1
White	85.1	77.7	58.0	42.9	17.4	19.2
Black or African American	70.7	59.5	36.4	18.6	4.1	9.2
American Indian or Alaska Native	79.1	65.9	46.3	35.4	7.9	22.1
Native Hawaiian or Other Pacific Islander	75.9	58.8	41.9	35.9	7.4	24.5
Asian	68.5	57.8	33.7	18.4	4.3	9.6
Two or More Races	86.0	78.2	55.6	40.5	15.9	22.4
Hispanic or Latino	77.3	64.5	43.5	31.3	8.8	14.5
GENDER/RACE/HISPANIC ORIGIN						
Male, White, Not Hispanic	84.5	77.9	61.0	49.5	22.8	22.0
Female, White, Not Hispanic	85.6	77.6	55.0	36.0	11.8	16.2
Male, Black, Not Hispanic	71.9	60.9	39.4	22.8	5.9	12.0
Female, Black, Not Hispanic	69.4	58.0	33.1	14.1	2.1	6.3
Male, Hispanic	79.6	67.7	48.0	38.2	12.1	18.0
Female, Hispanic	74.5	60.6	38.2	23.0	5.0	10.2

*Low precision; no estimate reported.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.6A Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Family Income and Geographic Characteristics: Numbers in Thousands, Annual Averages Based on 2002-2006

Family Income/ Geographic Characteristic	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
TOTAL	20,760	17,588	10,814	7,240	2,325	3,544
FAMILY INCOME						
Less Than \$20,000	5,365	4,504	3,002	2,102	767	1,030
\$20,000 - \$49,999	6,817	5,619	3,274	2,136	602	1,056
\$50,000 - \$74,999	3,408	2,911	1,726	1,132	326	555
\$75,000 or More	5,171	4,555	2,812	1,870	631	903
GEOGRAPHIC REGION						
Northeast	3,890	3,401	2,156	1,445	481	645
Midwest	4,881	4,225	2,664	1,875	635	917
South	7,246	6,014	3,584	2,330	743	1,135
West	4,743	3,949	2,410	1,589	467	847
COUNTY TYPE						
Metropolitan	17,120	14,527	8,942	5,914	1,888	2,872
Large Metropolitan	10,680	9,066	5,465	3,518	1,048	1,686
Small Metropolitan	6,440	5,461	3,477	2,396	840	1,187
250K - 1 Mil. Pop.	4,171	3,522	2,213	1,513	519	749
< 250K Pop.	2,268	1,939	1,264	883	321	437
Nonmetropolitan	3,640	3,061	1,872	1,326	437	672
Urbanized (Urban Pop. \geq 20K)	1,552	1,323	830	589	218	309
Rural (Urban Pop. < 20K)	2,089	1,739	1,042	737	219	363
Urban Pop. 2,500-19,999	1,730	1,449	874	613	180	296
Urban Pop. < 2,500	359	289	168	123	39	67

*Low precision; no estimate reported.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.6B Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Family Income and Geographic Characteristics: Percentages, Annual Averages Based on 2002-2006

Family Income/ Geographic Characteristic	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
TOTAL	54.9	46.5	28.6	19.2	6.2	9.4
FAMILY INCOME						
Less Than \$20,000	60.6	50.9	33.9	23.7	8.7	11.6
\$20,000 - \$49,999	54.2	44.7	26.0	17.0	4.8	8.4
\$50,000 - \$74,999	52.2	44.6	26.4	17.3	5.0	8.5
\$75,000 or More	52.6	46.3	28.6	19.0	6.4	9.2
GEOGRAPHIC REGION						
Northeast	57.5	50.3	31.9	21.4	7.1	9.5
Midwest	56.8	49.2	31.0	21.8	7.4	10.7
South	53.7	44.6	26.6	17.3	5.5	8.4
West	53.0	44.2	26.9	17.8	5.2	9.5
COUNTY TYPE						
Metropolitan	54.5	46.2	28.5	18.8	6.0	9.1
Large Metropolitan	53.7	45.6	27.5	17.7	5.3	8.5
Small Metropolitan	55.8	47.3	30.1	20.8	7.3	10.3
250K - 1 Mil. Pop.	54.6	46.1	29.0	19.8	6.8	9.8
< 250K Pop.	58.1	49.6	32.4	22.6	8.2	11.2
Nonmetropolitan	57.2	48.1	29.4	20.8	6.9	10.6
Urbanized (Urban Pop. ≥ 20K)	58.4	49.8	31.3	22.2	8.2	11.7
Rural (Urban Pop. < 20K)	56.2	46.8	28.1	19.8	5.9	9.8
Urban Pop. 2,500-19,999	56.3	47.2	28.5	20.0	5.9	9.6
Urban Pop. < 2,500	55.8	45.0	26.1	19.2	6.0	10.5

*Low precision; no estimate reported.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.7A Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20 Residing in Metropolitan Counties, by Demographic Characteristics: Numbers in Thousands, Annual Averages Based on 2002-2006

Demographic Characteristic	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month¹	Heavy Use in Past Month¹	Dependence or Abuse in Past Year²
TOTAL	17,120	14,527	8,942	5,914	1,888	2,872
AGE						
12 to 14	2,375	1,728	700	320	47	183
15 to 17	6,251	5,244	2,824	1,802	461	967
18 to 20	8,494	7,555	5,417	3,792	1,381	1,722
GENDER						
Male	8,729	7,329	4,673	3,396	1,240	1,611
Female	8,391	7,198	4,269	2,517	648	1,261
HISPANIC ORIGIN AND RACE						
Not Hispanic or Latino	13,909	11,933	7,438	4,900	1,643	2,370
White	10,637	9,380	6,081	4,191	1,495	1,995
Black or African American	2,266	1,731	911	441	83	216
American Indian or Alaska Native	65	52	31	23	5	16
Native Hawaiian or Other Pacific Islander	65	52	30	23	5	15
Asian	625	505	257	136	27	74
Two or More Races	251	213	128	87	29	54
Hispanic or Latino	3,211	2,594	1,503	1,014	245	502

*Low precision; no estimate reported.

NOTE: Metropolitan Counties include both large metropolitan areas (≥ 1 million population) and small metropolitan areas (< 1 million population). For more detailed definitions of county types, see Section 1.5 in Chapter 1.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.7B Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20 Residing in Metropolitan Counties, by Demographic Characteristics: Percentages, Annual Averages Based on 2002-2006

Demographic Characteristic	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
TOTAL	54.5	46.2	28.5	18.8	6.0	9.1
AGE						
12 to 14	22.7	16.5	6.7	3.1	0.4	1.7
15 to 17	60.0	50.3	27.1	17.3	4.4	9.3
18 to 20	80.8	71.9	51.5	36.1	13.1	16.4
GENDER						
Male	54.3	45.6	29.1	21.1	7.7	10.0
Female	54.7	46.9	27.8	16.4	4.2	8.2
HISPANIC ORIGIN AND RACE						
Not Hispanic or Latino	54.6	46.8	29.2	19.2	6.4	9.3
White	58.0	51.2	33.2	22.9	8.2	10.9
Black or African American	46.1	35.2	18.5	9.0	1.7	4.4
American Indian or Alaska Native	54.9	44.0	26.5	19.1	4.1	13.3
Native Hawaiian or Other Pacific Islander	52.2	41.5	23.8	18.3	3.7	12.1
Asian	41.3	33.3	17.0	9.0	1.8	4.9
Two or More Races	53.5	45.4	27.4	18.5	6.3	11.6
Hispanic or Latino	54.0	43.6	25.3	17.0	4.1	8.4

*Low precision; no estimate reported.

NOTE: Metropolitan Counties include both large metropolitan areas (≥ 1 million population) and small metropolitan areas (< 1 million population). For more detailed definitions of county types, see Section 1.5 in Chapter 1.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.8A Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20 Residing in Urbanized Nonmetropolitan Counties, by Demographic Characteristics: Numbers in Thousands, Annual Averages Based on 2002-2006

Demographic Characteristic	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
TOTAL	1,552	1,323	830	589	218	309
AGE						
12 to 14	217	159	69	32	6	22
15 to 17	537	445	240	165	44	94
18 to 20	798	719	521	392	168	193
GENDER						
Male	799	677	449	350	147	170
Female	753	646	381	239	71	139
HISPANIC ORIGIN AND RACE						
Not Hispanic or Latino	1,427	1,221	768	544	200	285
White	1,211	1,049	673	481	186	247
Black or African American	142	111	62	39	7	21
American Indian or Alaska Native	21	16	9	8	2	7
Native Hawaiian or Other Pacific Islander	*	*	*	*	*	*
Asian	15	13	8	5	*	3
Two or More Races	31	26	13	9	3	5
Hispanic or Latino	125	101	62	45	19	24

*Low precision; no estimate reported.

NOTE: Urbanized Nonmetropolitan Counties include counties containing populations of 20,000 or more in urbanized areas. For more detailed definitions of county types, see Section 1.5 in Chapter 1.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.8B Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20 Residing in Urbanized Nonmetropolitan Counties, by Demographic Characteristics: Percentages, Annual Averages Based on 2002-2006

Demographic Characteristic	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
TOTAL	58.4	49.8	31.3	22.2	8.2	11.7
AGE						
12 to 14	25.5	18.7	8.1	3.7	0.7	2.5
15 to 17	62.9	52.1	28.1	19.3	5.2	11.1
18 to 20	83.8	75.5	54.8	41.2	17.7	20.3
GENDER						
Male	58.7	49.7	33.0	25.7	10.8	12.5
Female	58.2	49.9	29.4	18.5	5.5	10.7
HISPANIC ORIGIN AND RACE						
Not Hispanic or Latino	58.4	50.0	31.5	22.3	8.2	11.7
White	59.4	51.4	33.0	23.6	9.1	12.1
Black or African American	52.3	41.1	23.0	14.2	2.4	7.8
American Indian or Alaska Native	58.2	46.0	24.8	21.3	5.2	19.6
Native Hawaiian or Other Pacific Islander	*	*	*	*	*	*
Asian	49.2	41.6	25.5	15.6	*	9.7
Two or More Races	57.0	47.5	23.9	17.3	5.3	9.4
Hispanic or Latino	58.7	47.7	29.1	21.1	8.7	11.3

*Low precision; no estimate reported.

NOTE: Urbanized Nonmetropolitan Counties include counties containing populations of 20,000 or more in urbanized areas. For more detailed definitions of county types, see Section 1.5 in Chapter 1.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.9A Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20 Residing in Rural Counties, by Demographic Characteristics: Numbers in Thousands, Annual Averages Based on 2002-2006

Demographic Characteristic	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month¹	Heavy Use in Past Month¹	Dependence or Abuse in Past Year²
TOTAL	2,089	1,739	1,042	737	219	363
AGE						
12 to 14	332	243	108	60	11	33
15 to 17	812	676	386	265	65	143
18 to 20	945	819	548	411	143	187
GENDER						
Male	1,077	898	573	442	150	204
Female	1,011	840	469	295	69	159
HISPANIC ORIGIN AND RACE						
Not Hispanic or Latino	1,941	1,616	964	678	200	333
White	1,676	1,407	853	610	186	295
Black or African American	177	137	73	38	7	18
American Indian or Alaska Native	54	44	27	21	4	14
Native Hawaiian or Other Pacific Islander	*	*	*	*	*	*
Asian	*	*	*	*	*	*
Two or More Races	19	15	8	6	2	5
Hispanic or Latino	148	123	78	59	19	30

*Low precision; no estimate reported.

NOTE: Rural Counties include nonmetropolitan counties containing populations of fewer than 20,000 in urbanized areas. For more detailed definitions of county types, see Section 1.5 in Chapter 1.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.9B Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20 Residing in Rural Counties, by Demographic Characteristics: Percentages, Annual Averages Based on 2002-2006

Demographic Characteristic	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
TOTAL	56.2	46.8	28.1	19.8	5.9	9.8
AGE						
12 to 14	26.8	19.7	8.7	4.9	0.9	2.7
15 to 17	62.9	52.4	30.0	20.6	5.0	11.1
18 to 20	79.6	68.9	46.1	34.6	12.0	15.7
GENDER						
Male	56.3	47.0	30.0	23.1	7.8	10.7
Female	56.1	46.6	26.0	16.4	3.8	8.8
HISPANIC ORIGIN AND RACE						
Not Hispanic or Latino	55.9	46.5	27.8	19.5	5.8	9.6
White	56.8	47.7	28.9	20.7	6.3	10.0
Black or African American	48.0	37.0	19.6	10.4	1.8	4.9
American Indian or Alaska Native	58.4	47.2	29.0	22.9	4.7	15.1
Native Hawaiian or Other Pacific Islander	*	*	*	*	*	*
Asian	*	*	*	*	*	*
Two or More Races	49.0	40.8	22.3	16.8	5.9	12.3
Hispanic or Latino	61.7	51.2	32.4	24.7	7.9	12.5

*Low precision; no estimate reported.

NOTE: Rural Counties include nonmetropolitan counties containing populations of fewer than 20,000 in urbanized areas. For more detailed definitions of county types, see Section 1.5 in Chapter 1.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.10A Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by State: Numbers in Thousands, Annual Averages Based on 2002-2006

State	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
Total United States	20,760	17,588	10,814	7,240	2,325	3,544
Alabama	315	254	154	102	32	48
Alaska	51	43	26	18	5	9
Arizona	401	328	208	142	45	71
Arkansas	200	161	97	71	25	38
California	2,484	2,054	1,222	782	205	414
Colorado	344	302	191	123	34	65
Connecticut	243	215	141	94	28	41
Delaware	59	50	31	20	6	9
District of Columbia	32	26	18	11	4	5
Florida	1,140	975	573	361	124	188
Georgia	582	469	271	173	48	84
Hawaii	81	66	40	28	8	15
Idaho	94	79	49	35	14	23
Illinois	899	776	485	335	109	166
Indiana	448	374	220	156	56	77
Iowa	222	199	128	95	38	50
Kansas	215	184	121	89	28	44
Kentucky	291	240	145	100	25	39
Louisiana	360	306	185	116	36	58
Maine	94	81	51	35	11	16
Maryland	377	323	194	114	41	57
Massachusetts	447	396	259	186	67	77
Michigan	746	645	403	276	90	128
Minnesota	366	323	207	147	48	71
Mississippi	208	162	96	64	22	29
Missouri	440	374	239	165	56	82
Montana	77	68	47	35	12	21

See notes at end of table.

(continued)

Table 3.10A Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by State: Numbers in Thousands, Annual Averages Based on 2002-2006 (continued)

State	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
Nebraska	131	115	78	54	18	31
Nevada	156	128	76	49	15	26
New Hampshire	100	90	59	42	19	21
New Jersey	599	526	323	195	53	92
New Mexico	162	134	83	57	18	34
New York	1,366	1,196	763	504	168	225
North Carolina	539	443	262	176	49	81
North Dakota	59	53	37	28	12	16
Ohio	835	718	440	310	104	141
Oklahoma	255	213	124	87	27	47
Oregon	250	210	127	85	30	43
Pennsylvania	904	777	477	331	114	146
Rhode Island	85	76	52	36	14	17
South Carolina	272	212	126	84	28	40
South Dakota	67	60	39	29	9	17
Tennessee	368	304	167	106	37	57
Texas	1,644	1,361	816	522	166	249
Utah	137	111	71	52	17	30
Vermont	51	45	31	22	8	10
Virginia	480	409	260	177	58	86
Washington	463	391	248	166	58	85
West Virginia	125	105	63	47	15	23
Wisconsin	453	404	268	191	67	94
Wyoming	43	36	23	17	6	10

*Low precision; no estimate reported.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.10B Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by State: Percentages, Annual Averages Based on 2002-2006

State	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
Total United States	54.9	46.5	28.6	19.2	6.2	9.4
Alabama	52.5	42.4	25.7	17.0	5.4	7.9
Alaska	53.0	44.0	26.8	18.2	5.4	9.8
Arizona	54.9	44.8	28.5	19.4	6.1	9.7
Arkansas	55.6	44.6	27.0	19.8	7.1	10.4
California	51.5	42.5	25.3	16.2	4.2	8.6
Colorado	59.7	52.4	33.1	21.4	5.8	11.2
Connecticut	57.3	50.6	33.1	22.0	6.6	9.7
Delaware	57.2	47.9	29.5	19.2	5.7	8.2
District of Columbia	53.6	44.7	30.2	19.0	6.3	8.1
Florida	55.1	47.1	27.7	17.4	6.0	9.1
Georgia	50.5	40.7	23.5	15.0	4.1	7.3
Hawaii	53.7	43.9	26.7	18.9	5.2	9.9
Idaho	47.8	40.2	24.9	18.0	7.2	11.7
Illinois	54.9	47.4	29.7	20.5	6.6	10.2
Indiana	53.8	44.9	26.4	18.7	6.7	9.2
Iowa	58.0	51.8	33.4	24.8	9.9	13.2
Kansas	58.4	50.1	32.9	24.2	7.7	11.9
Kentucky	57.9	47.9	29.0	19.9	4.9	7.9
Louisiana	59.0	50.2	30.4	19.0	5.9	9.4
Maine	57.0	48.8	30.7	21.4	6.5	9.7
Maryland	53.8	46.1	27.6	16.3	5.9	8.1
Massachusetts	58.5	51.8	33.9	24.3	8.7	10.1
Michigan	55.6	48.1	30.0	20.5	6.7	9.6
Minnesota	56.1	49.5	31.7	22.6	7.3	10.9
Mississippi	51.9	40.4	24.1	15.9	5.6	7.1
Missouri	59.1	50.2	32.1	22.2	7.5	11.0
Montana	64.0	56.7	38.5	29.3	10.2	17.8

See notes at end of table.

(continued)

Table 3.10B Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by State: Percentages, Annual Averages Based on 2002-2006 (continued)

State	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ¹	Heavy Use in Past Month ¹	Dependence or Abuse in Past Year ²
Nebraska	57.4	50.3	34.0	23.6	8.1	13.5
Nevada	56.0	45.8	27.1	17.4	5.5	9.3
New Hampshire	59.0	53.2	34.9	24.6	11.5	12.6
New Jersey	57.3	50.3	30.9	18.7	5.0	8.7
New Mexico	61.3	50.8	31.3	21.4	6.8	13.0
New York	57.3	50.2	32.0	21.2	7.1	9.4
North Carolina	51.5	42.3	25.1	16.8	4.6	7.7
North Dakota	66.2	59.1	41.2	31.7	12.9	17.7
Ohio	56.6	48.7	29.8	21.0	7.0	9.5
Oklahoma	55.3	46.3	26.9	18.9	5.9	10.2
Oregon	56.3	47.4	28.6	19.2	6.8	9.7
Pennsylvania	56.9	48.8	30.0	20.8	7.1	9.2
Rhode Island	61.0	54.8	37.8	26.2	9.9	12.2
South Carolina	52.0	40.6	24.2	16.0	5.3	7.7
South Dakota	63.6	56.8	37.2	27.9	8.9	15.9
Tennessee	50.1	41.3	22.7	14.4	5.0	7.7
Texas	54.0	44.7	26.8	17.2	5.5	8.2
Utah	37.1	30.0	19.3	14.1	4.6	8.0
Vermont	61.8	54.9	37.2	26.5	9.2	12.4
Virginia	52.8	45.0	28.6	19.5	6.4	9.4
Washington	56.4	47.6	30.3	20.3	7.1	10.4
West Virginia	57.1	48.0	29.0	21.6	6.7	10.6
Wisconsin	61.9	55.2	36.6	26.1	9.2	12.9
Wyoming	62.6	53.2	33.8	24.4	8.2	14.8

*Low precision; no estimate reported.

¹ Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

² Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.11A Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Parental Alcohol Use: Numbers in Thousands, Annual Averages Based on 2002-2006

Parental Alcohol Use¹	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month²	Heavy Use in Past Month²	Dependence or Abuse in Past Year³
Mother's Alcohol Use						
No Use in Past Year	4,067	3,025	1,465	966	260	537
Used in Past Year	11,593	9,956	5,916	3,820	1,128	1,712
Used in Past Month But No Binge Use ²	5,759	5,083	3,043	1,908	557	841
Binge Use at Least Once in Past Month ²	2,778	2,395	1,536	1,039	368	440
Father's Alcohol Use						
No Use in Past Year	2,607	1,979	999	665	147	341
Used in Past Year	9,594	8,132	4,798	3,083	944	1,493
Used in Past Month But No Binge Use ²	3,799	3,321	1,865	1,203	313	551
Binge Use at Least Once in Past Month ²	4,274	3,693	2,319	1,482	570	773

*Low precision; no estimate reported.

NOTE: Estimates were created from mother-child and father-child pair data. For further details, see Section A.2 in Appendix A.

¹ Parent was female in 60 percent of the cases.

² Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

³ Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.11B Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Parental Alcohol Use: Percentages, Annual Averages Based on 2002-2006

Parental Alcohol Use¹	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month²	Heavy Use in Past Month²	Dependence or Abuse in Past Year³
Mother's Alcohol Use						
No Use in Past Year	39.1	29.1	14.1	9.3	2.5	5.2
Used in Past Year	53.5	46.0	27.3	17.6	5.2	7.9
Used in Past Month But No Binge Use ²	52.7	46.5	27.9	17.5	5.1	7.7
Binge Use at Least Once in Past Month ²	57.0	49.1	31.5	21.3	7.5	9.0
Father's Alcohol Use						
No Use in Past Year	39.9	30.3	15.3	10.2	2.2	5.2
Used in Past Year	51.5	43.6	25.7	16.5	5.1	8.0
Used in Past Month But No Binge Use ²	48.6	42.5	23.9	15.4	4.0	7.1
Binge Use at Least Once in Past Month ²	56.1	48.5	30.5	19.5	7.5	10.2

*Low precision; no estimate reported.

NOTE: Estimates were created from mother-child and father-child pair data. For further details, see Section A.2 in Appendix A.

¹ Parent was female in 60 percent of the cases.

² Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

³ Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.12A Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Parental Alcohol Use and Household Structure: Numbers in Thousands, Annual Averages Based on 2002-2006

Parental Alcohol Use/ Household Structure ¹	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ²	Heavy Use in Past Month ²	Dependence or Abuse in Past Year ³
MOTHER'S ALCOHOL USE						
One-Parent Household						
No Use in Past Year	1,066	752	295	184	19	151
Used in Past Year	2,482	2,097	1,239	761	242	427
Used in Past Month But No Binge Use ²	1,004	883	572	322	80	147
Binge Use at Least Once in Past Month ²	798	678	422	272	101	145
Two-Parent Household⁴						
No Use in Past Year	3,001	2,273	1,170	782	241	386
Used in Past Year	9,111	7,859	4,676	3,059	886	1,285
Used in Past Month But No Binge Use ²	4,755	4,200	2,471	1,586	477	694
Binge Use at Least Once in Past Month ²	1,981	1,716	1,113	767	267	295
FATHER'S ALCOHOL USE						
One-Parent Household⁴						
No Use in Past Year	*	*	*	18	3	*
Used in Past Year	580	514	278	190	53	108
Used in Past Month But No Binge Use ²	*	*	*	50	*	*
Binge Use at Least Once in Past Month ²	*	*	154	112	22	63
Two-Parent Household⁴						
No Use in Past Year	2,494	1,887	967	647	144	334
Used in Past Year	9,014	7,619	4,519	2,894	891	1,385
Used in Past Month But No Binge Use ²	3,613	3,158	1,793	1,153	284	518
Binge Use at Least Once in Past Month ²	3,985	3,437	2,165	1,370	548	711

*Low precision; no estimate reported.

NOTE: Estimates were created from mother-child and father-child pair data. For further details, see Section A.2 in Appendix A.

¹ Parent was female in 60 percent of the cases.

² Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

³ Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV).

⁴ Includes parent-child pairs reporting more than two parents in the household, which may occur because the definition of parent includes all biological, adoptive, step-, and foster relationships.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 3.12B Alcohol Use in the Lifetime, Past Year, and Past Month; Binge and Heavy Alcohol Use in the Past Month; and Alcohol Dependence or Abuse in the Past Year among Persons Aged 12 to 20, by Parental Alcohol Use and Household Structure: Percentages, Annual Averages Based on 2002-2006

Parental Alcohol Use/ Household Structure ¹	Lifetime Use	Past Year Use	Past Month Use	Binge Use in Past Month ²	Heavy Use in Past Month ²	Dependence or Abuse in Past Year ³
MOTHER'S ALCOHOL USE						
One-Parent Household						
No Use in Past Year	45.3	31.9	12.5	7.8	0.8	6.4
Used in Past Year	51.7	43.7	25.8	15.9	5.0	8.9
Used in Past Month But No Binge Use ²	53.1	46.7	30.3	17.0	4.2	7.8
Binge Use at Least Once in Past Month ²	52.6	44.7	27.8	17.9	6.6	9.6
Two-Parent Household⁴						
No Use in Past Year	37.4	28.3	14.6	9.7	3.0	4.8
Used in Past Year	54.0	46.6	27.7	18.1	5.3	7.6
Used in Past Month But No Binge Use ²	52.7	46.5	27.4	17.6	5.3	7.7
Binge Use at Least Once in Past Month ²	59.0	51.1	33.2	22.9	8.0	8.8
FATHER'S ALCOHOL USE						
One-Parent Household⁴						
No Use in Past Year	*	*	*	5.6	0.9	*
Used in Past Year	57.5	50.9	27.5	18.8	5.2	10.7
Used in Past Month But No Binge Use ²	*	*	*	15.0	*	*
Binge Use at Least Once in Past Month ²	*	*	33.0	23.8	4.7	13.4
Two-Parent Household⁴						
No Use in Past Year	40.2	30.4	15.6	10.4	2.3	5.4
Used in Past Year	51.1	43.2	25.6	16.4	5.1	7.9
Used in Past Month But No Binge Use ²	48.3	42.2	24.0	15.4	3.8	6.9
Binge Use at Least Once in Past Month ²	55.8	48.1	30.3	19.2	7.7	9.9

*Low precision; no estimate reported.

NOTE: Estimates were created from mother-child and father-child pair data. For further details, see Section A.2 in Appendix A.

¹ Parent was female in 60 percent of the cases.

² Binge Alcohol Use is defined as drinking five or more drinks on the same occasion (i.e., at the same time or within a couple of hours of each other) on at least 1 day in the past 30 days. Heavy Alcohol Use is defined as drinking five or more drinks on the same occasion on each of 5 or more days in the past 30 days; all heavy alcohol users are also binge alcohol users.

³ Dependence or abuse is based on definitions found in the 4th edition of the *Diagnostic and Statistical Manual of Mental Disorders (DSM-IV)*.

⁴ Includes parent-child pairs reporting more than two parents in the household, which may occur because the definition of parent includes all biological, adoptive, step-, and foster relationships.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2002, 2003, 2004, 2005, and 2006.

Table 4.1A Social Context and Location of Last Alcohol Use in the Past Month among Past Month Alcohol Users Aged 12 to 20, by Age Group and Gender: Numbers in Thousands, 2006

Social Context and Location of Last Alcohol Use	TOTAL	AGE GROUP			GENDER	
		12-14	15-17	18-20	Male	Female
SOCIAL CONTEXT OF LAST ALCOHOL USE¹						
Alone	514	68	171	275	351	164
With One Other Person	1,506	167	481	858	859	647
With Two or More Other People	8,540	525	2,645	5,371	4,398	4,143
LOCATION OF LAST ALCOHOL USE^{1,2}						
In a Car or Other Vehicle	580	39	251	290	295	285
At Home	3,174	290	846	2,038	1,790	1,383
At Someone Else's Home	5,606	335	1,985	3,287	2,910	2,696
At a Park, on a Beach, or in a Parking Lot	500	62	250	188	255	245
At a Restaurant, Bar, or Club	990	35	120	836	400	590
At a Concert or Sports Game	172	8	69	96	89	83
At School	240	21	60	158	117	123
At Some Other Place ³	686	53	238	395	381	304
Party, Wedding, or Celebration	199	18	70	112	87	112
Outside; location not specified	98	12	46	40	66	32
Hotel, Motel, or Resort	80	4	21	55	30	50
Camping, Hunting, or Fishing	40	3	20	18	18	23
Cabin, Cottage, Vacation Home, etc.	35	3	13	18	28	6
Dorm Room	19	*	2	18	9	11

*Low precision; no estimate reported.

¹ Respondents with unknown responses were excluded.

² Respondents could indicate multiple locations for the last time they used alcohol; thus, these response categories are not mutually exclusive.

³ Some Other Place includes only valid responses from the other-specify questions, including these six most commonly reported locations.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2006.

Table 4.1B Social Context and Location of Last Alcohol Use in the Past Month among Past Month Alcohol Users Aged 12 to 20, by Age Group and Gender: Percentages, 2006

Social Context and Location of Last Alcohol Use	TOTAL	AGE GROUP			GENDER	
		12-14	15-17	18-20	Male	Female
SOCIAL CONTEXT OF LAST ALCOHOL USE¹						
Alone	4.9	9.0	5.2	4.2	6.3	3.3
With One Other Person	14.3	21.9	14.6	13.2	15.3	13.1
With Two or More Other People	80.9	69.1	80.2	82.6	78.4	83.6
LOCATION OF LAST ALCOHOL USE^{1,2}						
In a Car or Other Vehicle	5.5	5.2	7.7	4.5	5.3	5.8
At Home	30.3	38.8	26.0	31.4	32.2	28.1
At Someone Else's Home	53.4	45.0	60.9	50.7	52.3	54.7
At a Park, on a Beach, or in a Parking Lot	4.8	8.3	7.7	2.9	4.6	5.0
At a Restaurant, Bar, or Club	9.4	4.6	3.7	12.9	7.2	12.0
At a Concert or Sports Game	1.6	1.0	2.1	1.5	1.6	1.7
At School	2.3	2.8	1.9	2.4	2.1	2.5
At Some Other Place ³	6.6	7.2	7.5	6.2	7.0	6.3
Party, Wedding, or Celebration	1.9	2.4	2.2	1.7	1.6	2.3
Outside; location not specified	0.9	1.6	1.4	0.6	1.2	0.7
Hotel, Motel, or Resort	0.8	0.6	0.7	0.9	0.5	1.0
Camping, Hunting, or Fishing	0.4	0.4	0.6	0.3	0.3	0.5
Cabin, Cottage, Vacation Home, etc.	0.3	0.4	0.4	0.3	0.5	0.1
Dorm Room	0.2	*	0.1	0.3	0.2	0.2

*Low precision; no estimate reported.

¹ Respondents with unknown responses were excluded.

² Respondents could indicate multiple locations for the last time they used alcohol; thus, these response categories are not mutually exclusive.

³ Some Other Place includes only valid responses from the other-specify questions, including these six most commonly reported locations.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2006.

Table 4.2 Mean Number of Drinks Consumed on Last Occasion of Alcohol Use in the Past Month among Past Month Alcohol Users Aged 12 to 20, by Social Context and Location of Last Alcohol Use, Age Group, and Gender: 2006

Social Context and Location of Last Alcohol Use	TOTAL	AGE GROUP			GENDER	
		12-14	15-17	18-20	Male	Female
TOTAL	4.5	2.8	4.3	4.8	5.3	3.7
SOCIAL CONTEXT OF LAST ALCOHOL USE¹						
Alone	2.9	2.4	2.8	3.1	3.1	2.6
With One Other Person	3.1	2.0	3.1	3.3	3.5	2.5
With Two or More Other People	4.9	3.1	4.6	5.2	5.8	3.9
LOCATION OF LAST ALCOHOL USE^{1,2}						
In a Car or Other Vehicle	5.1	3.2	4.9	5.5	5.7	4.4
At Home	4.0	2.2	3.6	4.4	4.6	3.3
At Someone Else's Home	4.9	3.4	4.7	5.2	5.8	4.0
At a Park, on a Beach, or in a Parking Lot	5.1	4.6	4.9	5.7	5.7	4.6
At a Restaurant, Bar, or Club	4.6	2.1	4.4	4.7	5.5	4.0
At a Concert or Sports Game	6.0	*	5.4	6.6	7.7	4.1
At School	5.1	2.0	5.6	5.3	6.4	3.8
At Some Other Place ³	5.8	3.1	5.0	6.6	6.9	4.4
Party, Wedding, or Celebration	5.3	2.8	4.5	6.1	6.2	4.6
Outside; location not specified	6.1	4.0	5.0	8.0	7.5	3.4
Hotel, Motel, or Resort	5.7	*	4.9	6.3	7.0	4.9
Camping, Hunting, or Fishing	3.5	*	2.9	4.5	4.2	3.0
Cabin, Cottage, Vacation Home, etc.	5.7	*	5.7	6.4	6.5	*
Dorm Room	4.3	*	*	4.4	5.5	3.2

*Low precision; no estimate reported.

NOTE: Respondents with unknown responses to number of drinks consumed on last occasion of alcohol use were excluded.

¹ Respondents with unknown responses were excluded.

² Respondents could indicate multiple locations for the last time they used alcohol; thus, these response categories are not mutually exclusive.

³ Some Other Place includes only valid responses from the other-specify questions, including these six most commonly reported locations.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2006.

Table 4.3A Source of Last Alcohol Use in the Past Month among Past Month Alcohol Users Aged 12 to 20, by Age Group and Gender: Numbers in Thousands, 2006

Source of Last Alcohol Use in the Past Month ¹	TOTAL	AGE GROUP			GENDER	
		12-14	15-17	18-20	Male	Female
UNDERAGE DRINKER PAID	3,269	50	772	2,448	2,052	1,217
Purchased It Himself or Herself	983	9	178	796	640	343
From Store, Restaurant, Bar, Club, or Event	763	7	119	636	508	255
Liquor, Convenience, or Grocery Store	497	7	84	406	356	141
Restaurant, Bar, or Club	254	*	29	225	141	113
Concert, Sports, or Other Event	10	*	5	5	10	0
From Another Person	94	1	35	58	63	30
From Person under Age 21	30	*	18	12	18	12
From Person Aged 21 or Older	63	1	17	45	46	17
Purchased by Someone Else	2,271	40	589	1,642	1,404	868
Parent or Guardian	71	3	16	52	48	22
Another Family Member Aged 21 or Older	254	2	44	208	145	109
Someone Not Related Aged 21 or Older	1,577	22	384	1,170	943	634
Someone under Age 21	310	11	121	178	225	85
UNDERAGE DRINKER DID NOT PAY	7,284	705	2,519	4,061	3,542	3,742
Got It from Parent or Guardian	652	121	253	277	316	336
Got It from Another Family Member Aged 21 or Older	854	93	282	478	465	389
Got It from Someone Not Related Aged 21 or Older	2,637	97	632	1,908	1,200	1,437
Got It from Someone under Age 21	1,449	124	626	698	677	772
Took It from Own Home	396	106	157	132	202	193
Took It from Someone Else's Home	296	47	148	102	157	139
Got It Some Other Way	675	71	278	326	343	332
From Friend or Acquaintance, Unspecified Age and Method	313	35	156	122	140	173

*Low precision; no estimate reported.

NOTE: Respondents with unknown responses to number of drinks consumed on last occasion of alcohol use were excluded.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2006.

Table 4.3B Source of Last Alcohol Use in the Past Month among Past Month Alcohol Users Aged 12 to 20, by Age Group and Gender: Percentages, 2006

Source of Last Alcohol Use in the Past Month ¹	TOTAL	AGE GROUP			GENDER	
		12-14	15-17	18-20	Male	Female
UNDERAGE DRINKER PAID	31.0	6.6	23.5	37.6	36.7	24.5
Purchased It Himself or Herself	9.3	1.2	5.4	12.2	11.5	6.9
From Store, Restaurant, Bar, Club, or Event	7.3	1.0	3.7	9.9	9.2	5.2
Liquor, Convenience, or Grocery Store	4.8	1.0	2.6	6.3	6.5	2.9
Restaurant, Bar, or Club	2.4	*	0.9	3.5	2.5	2.3
Concert, Sports, or Other Event	0.1	*	0.2	0.1	0.2	0.0
From Another Person	0.9	0.1	1.1	0.9	1.1	0.6
From Person under Age 21	0.3	*	0.6	0.2	0.3	0.2
From Person Aged 21 or Older	0.6	0.1	0.5	0.7	0.8	0.3
Purchased by Someone Else	21.6	5.3	17.9	25.3	25.1	17.5
Parent or Guardian	0.7	0.4	0.5	0.8	0.9	0.5
Another Family Member Aged 21 or Older	2.4	0.2	1.4	3.2	2.6	2.2
Someone Not Related Aged 21 or Older	15.0	3.0	11.8	18.1	17.0	12.8
Someone under Age 21	3.0	1.5	3.7	2.8	4.1	1.7
UNDERAGE DRINKER DID NOT PAY	69.0	93.4	76.5	62.4	63.3	75.5
Got It from Parent or Guardian	6.4	17.1	8.0	4.4	5.8	7.0
Got It from Another Family Member Aged 21 or Older	8.3	13.1	9.0	7.5	8.6	8.1
Got It from Someone Not Related Aged 21 or Older	25.8	13.7	20.1	30.0	22.2	29.8
Got It from Someone under Age 21	14.2	17.5	19.9	11.0	12.5	16.0
Took It from Own Home	3.9	15.0	5.0	2.1	3.7	4.0
Took It from Someone Else's Home	2.9	6.6	4.7	1.6	2.9	2.9
Got It Some Other Way	6.6	10.0	8.8	5.1	6.3	6.9
From Friend or Acquaintance, Unspecified Age and Method	3.1	4.9	5.0	1.9	2.6	3.6

*Low precision; no estimate reported.

NOTE: Respondents with unknown responses to number of drinks consumed on last occasion of alcohol use were excluded.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2006.

Table 4.4 Mean Number of Drinks Consumed on Last Occasion of Alcohol Use in the Past Month among Past Month Alcohol Users Aged 12 to 20, by Source of Last Alcohol Used in the Past Month, Age Group, and Gender: 2006

Source of Last Alcohol Use in the Past Month ¹	TOTAL	AGE GROUP			GENDER	
		12-14	15-17	18-20	Male	Female
TOTAL	4.5	2.8	4.3	4.8	5.3	3.7
UNDERAGE DRINKER PAID	5.9	4.8	6.1	5.9	6.8	4.5
Purchased It Himself or Herself	5.7	*	6.0	5.7	6.5	4.2
From Store, Restaurant, Bar, Club, or Event	5.7	*	6.1	5.6	6.5	4.2
Liquor, Convenience, or Grocery Store	6.0	*	6.5	6.0	6.7	4.3
Restaurant, Bar, or Club	4.8	*	5.0	4.8	5.5	4.0
Concert, Sports, or Other Event	9.8	*	*	*	*	*
From Another Person	6.6	*	6.0	7.0	7.2	5.4
From Person under Age 21	8.0	*	5.7	11.5	9.3	6.0
From Person Aged 21 or Older	6.0	*	6.3	5.8	6.4	4.9
Purchased by Someone Else	6.0	4.9	6.1	6.0	6.8	4.6
Parent or Guardian	4.9	*	5.3	4.8	5.5	3.6
Another Family Member Aged 21 or Older	5.2	*	5.4	5.1	6.3	3.8
Someone Not Related Aged 21 or Older	6.1	4.4	6.3	6.1	7.0	4.8
Someone under Age 21	6.1	*	5.7	6.5	6.7	4.6
UNDERAGE DRINKER DID NOT PAY	3.9	2.7	3.7	4.2	4.4	3.4
Got It from Parent or Guardian	2.5	1.7	2.1	3.2	2.8	2.2
Got It from Another Family Member Aged 21 or Older	3.8	2.4	3.6	4.3	4.2	3.3
Got It from Someone Not Related Aged 21 or Older	4.1	3.5	4.1	4.2	4.9	3.6
Got It from Someone under Age 21	4.2	3.1	3.9	4.7	4.7	3.8
Took It from Own Home	2.9	2.5	3.5	2.6	3.3	2.5
Took It from Someone Else's Home	3.8	2.2	4.0	4.3	3.7	4.0
Got It Some Other Way	4.4	3.4	4.3	4.7	4.9	3.9
From Friend or Acquaintance, Unspecified Age and Method	3.9	3.6	4.1	3.7	4.2	3.7

*Low precision; no estimate reported.

NOTE: Respondents with unknown responses to number of drinks consumed on last occasion of alcohol use were excluded.

¹ Respondents with unknown responses to the questions on source of last alcohol use were excluded.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2006.

Table 4.5A Illicit Drug Use in the Past Month and Illicit Drugs Used in the Past Month with Alcohol or within 2 Hours of Alcohol Use on Last Occasion of Alcohol Use among Past Month Alcohol Users Aged 12 to 20, by Age Group and Gender: Numbers in Thousands, 2006

Drug	TOTAL	AGE GROUP			GENDER	
		12-14	15-17	18-20	Male	Female
Used Specified Drug Anytime in the Past Month						
ILLCIT DRUGS¹	3,871	205	1,261	2,404	2,145	1,726
Marijuana or Hashish	3,244	126	1,056	2,062	1,823	1,421
Cocaine (Including Crack)	416	14	77	325	236	181
Heroin	37	5	7	25	24	12
Hallucinogens	423	22	105	295	224	198
Inhalants	234	46	118	70	121	113
Pain Relievers ²	957	68	280	609	522	435
Tranquilizers ²	329	9	84	237	160	169
Stimulants ²	264	15	69	181	123	141
Methamphetamine ³	101	1	23	77	45	56
Sedatives ²	39	4	13	23	16	23
ILLCIT DRUGS OTHER THAN MARIJUANA¹	1,812	124	521	1,167	964	849
Used Specified Drug with Alcohol or within 2 Hours of Alcohol Use on Last Occasion of Alcohol Use in the Past Month						
Drug⁴						
ILLCIT DRUGS¹	1,701	42	523	1,135	1,035	666
Marijuana or Hashish	1,594	37	500	1,058	967	627
Cocaine (Including Crack)	70	2	16	52	42	28
Heroin	2	*	1	1	2	0
Hallucinogens	21	*	10	11	13	8
Inhalants	13	2	10	1	6	7
Pain Relievers ²	128	4	28	95	70	58
Tranquilizers ²	26	*	7	20	17	9
Stimulants ²	15	*	4	11	8	7
Methamphetamine ⁵	22	*	4	18	14	8
Sedatives ²	1	*	1	*	*	1
ILLCIT DRUGS OTHER THAN MARIJUANA¹	267	9	67	191	157	109

*Low precision; no estimate reported.

¹ Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically.

² Refers to nonmedical use; does not include over-the-counter drugs.

³ Estimate includes responses to the core Stimulants module with imputations for unknown responses, as well as additional questions in the noncore Special Drugs module for respondents who initially did not report methamphetamine use in the core module because they did not consider methamphetamine to be a prescription drug.

⁴ Respondents could indicate multiple other drugs used with alcohol; thus, these response categories are not mutually exclusive. Respondents with unknown responses to questions about other drugs used with alcohol were excluded.

⁵ Estimate is based responses to the core Stimulants module *without* imputations for unknown responses, as well as additional questions in the noncore Special Drugs module for respondents who initially did not report methamphetamine use in the core module, as described in footnote 3.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2006.

Table 4.5B Illicit Drug Use in the Past Month and Illicit Drugs Used in the Past Month with Alcohol or within 2 Hours of Alcohol Use on Last Occasion of Alcohol Use among Past Month Alcohol Users Aged 12 to 20, by Age Group and Gender: Percentages, 2006

Drug	TOTAL	AGE GROUP			GENDER	
		12-14	15-17	18-20	Male	Female
Used Specified Drug Anytime in the Past Month						
ILLCIT DRUGS¹	35.8	25.2	37.0	36.4	37.3	34.0
Marijuana or Hashish	30.0	15.5	31.0	31.2	31.7	28.0
Cocaine (Including Crack)	3.8	1.7	2.3	4.9	4.1	3.6
Heroin	0.3	0.6	0.2	0.4	0.4	0.2
Hallucinogens	3.9	2.7	3.1	4.5	3.9	3.9
Inhalants	2.2	5.7	3.5	1.1	2.1	2.2
Pain Relievers ²	8.8	8.4	8.2	9.2	9.1	8.6
Tranquilizers ²	3.0	1.1	2.5	3.6	2.8	3.3
Stimulants ²	2.4	1.8	2.0	2.7	2.1	2.8
Methamphetamine ³	0.9	0.1	0.7	1.2	0.8	1.1
Sedatives ²	0.4	0.5	0.4	0.3	0.3	0.5
ILLCIT DRUGS OTHER THAN MARIJUANA¹	16.74	15.2	15.3	17.7	16.8	16.7
Used Specified Drug with Alcohol or within 2 Hours of Alcohol Use on Last Occasion of Alcohol Use in the Past Month						
Drug⁴						
ILLCIT DRUGS¹	16.0	5.4	15.7	17.4	18.3	13.4
Marijuana or Hashish	15.0	4.6	15.1	16.3	17.2	12.6
Cocaine (Including Crack)	0.7	0.3	0.5	0.8	0.7	0.6
Heroin	0.0	*	0.0	0.0	0.0	0.0
Hallucinogens	0.2	*	0.3	0.2	0.2	0.2
Inhalants	0.1	0.2	0.3	0.0	0.1	0.1
Pain Relievers ²	1.2	0.6	0.8	1.5	1.2	1.2
Tranquilizers ²	0.2	*	0.2	0.3	0.3	0.2
Stimulants ²	0.1	*	0.1	0.2	0.1	0.1
Methamphetamine ⁵	0.2	*	0.1	0.3	0.2	0.2
Sedatives ²	0.0	*	0.0	*	*	0.0
ILLCIT DRUGS OTHER THAN MARIJUANA¹	2.5	1.1	2.0	2.9	2.8	2.2

*Low precision; no estimate reported.

¹ Illicit Drugs include marijuana/hashish, cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically. Illicit Drugs Other Than Marijuana include cocaine (including crack), heroin, hallucinogens, inhalants, or prescription-type psychotherapeutics used nonmedically.

² Refers to nonmedical use; does not include over-the-counter drugs.

³ Estimate includes responses to the core Stimulants module with imputations for unknown responses, as well as additional questions in the noncore Special Drugs module for respondents who initially did not report methamphetamine use in the core module because they did not consider methamphetamine to be a prescription drug.

⁴ Respondents could indicate multiple other drugs used with alcohol; thus, these response categories are not mutually exclusive. Respondents with unknown responses to questions about other drugs used with alcohol were excluded.

⁵ Estimate is based responses to the core Stimulants module *without* imputations for unknown responses, as well as additional questions in the noncore Special Drugs module for respondents who initially did not report methamphetamine use in the core module, as described in footnote 3.

Source: SAMHSA, Office of Applied Studies, National Survey on Drug Use and Health, 2006.

