

APPENDIX A: Surveys

Federal funding supports a wide variety of surveys. Information about underage alcohol use, abuse, and consequences primarily comes from three federally funded surveys—the National Survey on Drug Use and Health (NSDUH), Monitoring the Future (MTF), and the national Youth Risk Behavior Survey (YRBS). Each of these surveys makes a unique contribution to our understanding of the nature of youth alcohol use. NSDUH assesses illicit drug, alcohol, and tobacco use among noninstitutionalized individuals who are 12 years old and older, and serves as the major Federal source of nationally representative data on substance use in the general population of the United States. MTF examines attitudes and behaviors of 8th, 10th, and 12th graders with regard to alcohol, drug, and tobacco use and provides important data on both substance use and the attitudes and beliefs that may contribute to such behaviors. YRBS examines risk behaviors among high school students and provides vital information on specific behaviors that cause the most significant health problems among American youth today.

These surveys sometimes differ in their findings. To address differences in youth substance use prevalence estimates generated by these surveys and to improve Federal policymakers' understanding of the influence of methodological differences on those estimates, the Office of the Assistant Secretary for Planning and Evaluation (ASPE) within the Department of Health and Human Services commissioned a group of recognized experts in survey design, sampling techniques, and statistical analysis to examine and compare the methodologies of the surveys. The resulting papers and accompanying Federal commentaries appear in a special issue of *Journal of Drug Issues* (Volume 31, Number 3, Spring 2001). Experts agreed that the overall methodology for each survey is strong, and that observed differences are not the result of flaws or serious weaknesses in survey design. In fact, some differences are to be expected—such as those resulting from home- vs. school-based settings. From a policy perspective, serious and complex issues such as youth alcohol use and related behavior often require examination and analysis from multiple perspectives. Because no one survey is absolute or perfectly precise, input from multiple sources is not only valuable, but necessary.

National Survey on Drug Use and Health

NSDUH, the primary source of illegal drug-use statistics for the United States population who are 12 years old and older, also collects information about alcohol use; use of tobacco products; trends in initiation of substance use; prevention-related issues; substance dependence, abuse, and treatment; and mental health. Initiated in 1971 and conducted annually since 1990, the survey collects data by administering questionnaires to individuals comprising a representative sample of the population through face-to-face interviews at their places of residence. Substance Abuse and Mental Health Services Administration (SAMHSA) sponsors the survey, and SAMHSA's Center for Behavioral Health Statistics and Quality (CBHSQ) plans and manages it. RTI International collects data under contract. NSDUH collects information from residents of households and noninstitutional group quarters (e.g., shelters, rooming houses, dormitories), and civilians living on military bases.

Since 1999, NSDUH has been conducted via computer-assisted interviewing. Most questions are administered with audio computer-assisted self-interviewing (ACASI), which provides

respondents with a highly private and confidential means of responding to questions. This method increases the level of honest reporting of illicit drug use and other sensitive behaviors. Less sensitive items are administered using computer-assisted personal interviewing (CAPI).

NSDUH provides estimates for each of the 50 States and the District of Columbia, as well as national estimates. Its design oversamples youth who are 12 to 17 years old and young adults who are 18 to 25 years old. For the 2010 survey, 68,487 interviews were completed for a weighted interview response rate of 74.7 percent. Prior to 2002, NSDUH was called the National Household Survey on Drug Abuse (NHSDA). Because of improvements in the survey in 2002, the 2002 data constitute a new baseline for tracking trends in substance use. Therefore, SAMHSA recommends that estimates from 2002 forward not be compared with estimates from 2001 and earlier years of NHSDA.

Monitoring the Future Study

MTF measures alcohol, tobacco, and illicit drug use, as well as perceived risk, personal disapproval, and perceived availability associated with each substance among nationally representative samples of students in public and private secondary schools throughout the conterminous United States. The National Institute on Drug Abuse (NIDA) supports MTF through a series of investigator-initiated grants to the University of Michigan's Institute for Social Research. Every year since 1975, a national sample of 12th graders has been surveyed. In 1991, the survey was expanded to include comparable numbers of 8th and 10th graders each year. It also administers followup surveys by mail to a representative sample of adults through age 50 from previous high school graduating classes, and to a representative sample of college students who are 1 to 4 years past high school. In 2010, 15,769 8th graders (88 percent response rate), 15,586 10th graders (87 percent response rate), and 15,127 12th graders (85 percent response rate) were surveyed. University of Michigan staff members administer the questionnaires to students, usually in their classrooms during a regular class period. Questionnaires are self-completed and formatted for optical scanning. In 8th and 10th grades, the questionnaires are completely anonymous. In the 12th grade, they are confidential (to permit the longitudinal followup of a random subsample of participants). Extensive procedures are followed to protect the confidentiality of subjects and their data.

Youth Risk Behavior Survey

In the United States in the late 1980s, only a limited number of health-related school-based surveys such as MTF existed; therefore, the Centers for Disease Control and Prevention (CDC) developed the Youth Risk Behavior Surveillance System (YRBSS) to monitor six categories of priority health-risk behaviors that contribute substantially to the leading causes of death, disability, and social problems among youth and young adults. YRBSS includes biennial national, State, and local school-based surveys of representative samples of students in grades 9 through 12, as well as other national and special-population surveys. The national survey—YRBS—is conducted by CDC with a target population comprising all public and private high school students in the 50 States and the District of Columbia. Education and health agencies conduct State and local surveys. The national sample is not an aggregation of the State and local surveys, and State and local estimates cannot be obtained from the national sample. In 2009, 16,410 students completed the national YRBS with an overall response rate of 71 percent.

Additional Surveys

Three additional federally supported surveys collect alcohol consumption and related information from a segment of the underage population—18- to 20-year-olds. First among these is The National Epidemiologic Survey on Alcohol and Related Conditions (NESARC), a large nationwide household survey sponsored by the National Institute on Alcohol Abuse and Alcoholism (NIAAA) and fielded by the Census Bureau. It assesses the prevalence of alcohol-use disorders and associated disabilities in the general population who are 18 years old and older. The first wave of this longitudinal survey was fielded in 2001 and lasted through 2002. The second wave of NESARC was conducted in 2005 among the individuals who participated in Wave 1; longitudinal information first became available in 2008.

Begun in the early 1980s and fielded every 2 to 4 years, the Worldwide Survey of Substance Abuse and Health Behaviors Among Military Personnel measures prevalence of substance use and health behaviors among active-duty military personnel on United States military bases worldwide. In 2005, the Department of Defense (DoD) initiated the DoD Lifestyle Assessment Program, which incorporates the active-duty health behaviors study and expands the scope to include the National Guard and Reserves, as well as other special studies. In 2006, a Reserves component of the survey was conducted. Data from the 2005 survey, now called the DoD Survey of Health Related Behaviors Among Active Duty Military Personnel, became available in December 2006. Data from the 2008 Active Duty Military Survey, the first of the surveys to include Coast Guard personnel, was released in December 2009. Analyses of the 2009–2010 DoD Survey of Health Related Behaviors Among Guard/Reserve Personnel are currently underway, and the 2011 DoD Survey of Health Related Behaviors Among Active Duty Military Personnel is currently in the field.

Begun in 1957, the National Health Interview Survey (NHIS) is an annual, multistage probability sample survey of households by United States Census Bureau interviewers for the CDC National Center for Health Statistics (Pleis & Lethbridge-Cejku, 2007). Information related to underage drinkers age 18 to 20 from these three surveys may be added to this Report in the future.

Association vs. Causation

In reviewing data related to risky behaviors and different categories of alcohol use, readers should keep in mind that association does not prove causation. Just because alcohol use is associated with other risky behaviors does not mean that it *causes* these other risky behaviors. Often, additional research is needed to establish alcohol as a causative factor.

Additional Methodological Caveats

When reviewing studies of the age of initiation of alcohol use, one must recognize that different researchers use different methods to describe initiation of drinking and to estimate the average age at first use of alcohol. In some cases, this has resulted in large differences in estimates, primarily due to differences in how age groups and time periods are specified in the calculations. The following examples will help readers understand these methodological differences.

A popular method for computing average age involves restricting the age group of estimation to persons who are 12 to 17 years old or 12 to 20 years old, with no restriction on the time period.

This method provides an estimate of the average age of first use among those in the age group who have used alcohol at some point in their lifetime, which typically results in a younger estimated average age of first use than other methods. This is because initiation occurring in older age groups is excluded from the calculation, and also because the calculation gives too much weight to very early initiation. For example, 15-year-olds who will first use at age 17 are excluded, since they have not yet used alcohol at the time of data collection. Thus, the 2003 NSDUH average age of first use among lifetime alcohol users who are 12 to 20 years old is 14.0 years; among 20-year-olds, 15.4 years; and among all lifetime drinkers, 16.8 years.

The method has limited utility for assessing trends because estimates do not reflect a well-defined recent period. A 20-year-old may have first used alcohol at age 10, so an average age of first use among 12 to 20-year-olds would span a period covering as many as 10 years. In addition to not reflecting the most current patterns, year-to-year change in this average is typically negligible due to the substantial overlap in the covered periods. Trends in average age of initiation are best measured by estimating the average age among those who initiated alcohol use during a specific period, such as a calendar year or within the 12 months prior to interview, in a repeated cross-sectional survey. These estimates can be made with or without age restrictions; for example, the average age of first use among persons in 2003 who initiated within the past 12 months was 16.5 years, but restricting the calculation to only those who initiated before age 21 results in an average age of 15.6. Based on the 2003 NSDUH, an estimated 11 percent of recent initiates were 21 years old or older when they first used.

Estimates of average age of first use among recent initiates based on the NSDUH sample of people 12 years old and older is biased upward because it does not capture initiation prior to age 12. The 2003 NSDUH estimated that 6.6 percent of alcohol initiates during 1990 to 1999 were 11 years old or younger. Excluding these early initiates from calculations inflates the estimate of average age by approximately half a year. This bias can be diminished by making estimates only for time periods at least 2 years prior (e.g., using the 2003 NSDUH, estimate the average age at first use for 2001, but not 2002), an approach used in previous NSDUH reports. Although this approach can provide interesting historical data, it does not give timely information about emerging patterns of alcohol initiation. Furthermore, there are serious bias concerns with historical estimates of the number of initiates and their average age at first use constructed from retrospectively reported age at first use. Older respondents are more likely not to remember accurately when an event occurred. An event may be remembered as having occurred more recently than it actually did—a “forward telescoping” of the recalled timing of events. Evidence of telescoping suggests that trend estimates based on reported age at first use may be misleading.

For example, in the 2006 MTF, alcohol use by the end of 6th grade was reported by 19.4 percent of 8th graders but only by 5.2 percent of 12th graders. Several factors, including telescoping, probably contribute to this difference. Eventual dropouts are more likely than average to drink at an early age; thus, they will be captured as 8th but not 12th graders. Lower grades also have lower absentee rates. Another factor relates to the issue of what is meant by first use of an alcoholic beverage. Students in 12th grade are more inclined to report use that is not adult-approved, and to not report having less than a glass with parents or for religious purposes. Younger students may be more likely to report first use of a limited amount of alcohol. Thus, 8th and 9th grade data probably exaggerate drinking while 11th and 12th grade data may understate it.

Web Sites for Data on Underage Drinking

These Federal Web sites can be useful to persons seeking data related to underage drinking:

1. Information from SAMHSA on underage drinking is available at <http://oas.samhsa.gov/underage.cfm>.
2. Information from the YRBS is available at <http://www.cdc.gov/HealthyYouth/yrbs/index.htm>.
3. Information from NHTSA on underage drinking and on drinking and driving is available at <http://www.nhtsa.gov/Impaired>.
4. Information from NIAAA on underage drinking is available at <http://www.niaaa.nih.gov/AboutNIAAA/NIAAASponsoredPrograms/underage.htm>.
5. Information from NIDA's MTF survey is available at <http://www.monitoringthefuture.org>.