MONITORING *the* FUTURE

NATIONAL SURVEY RESULTS
ON DRUG USE
1975-2014

2014
Volume 1

Secondary School Students

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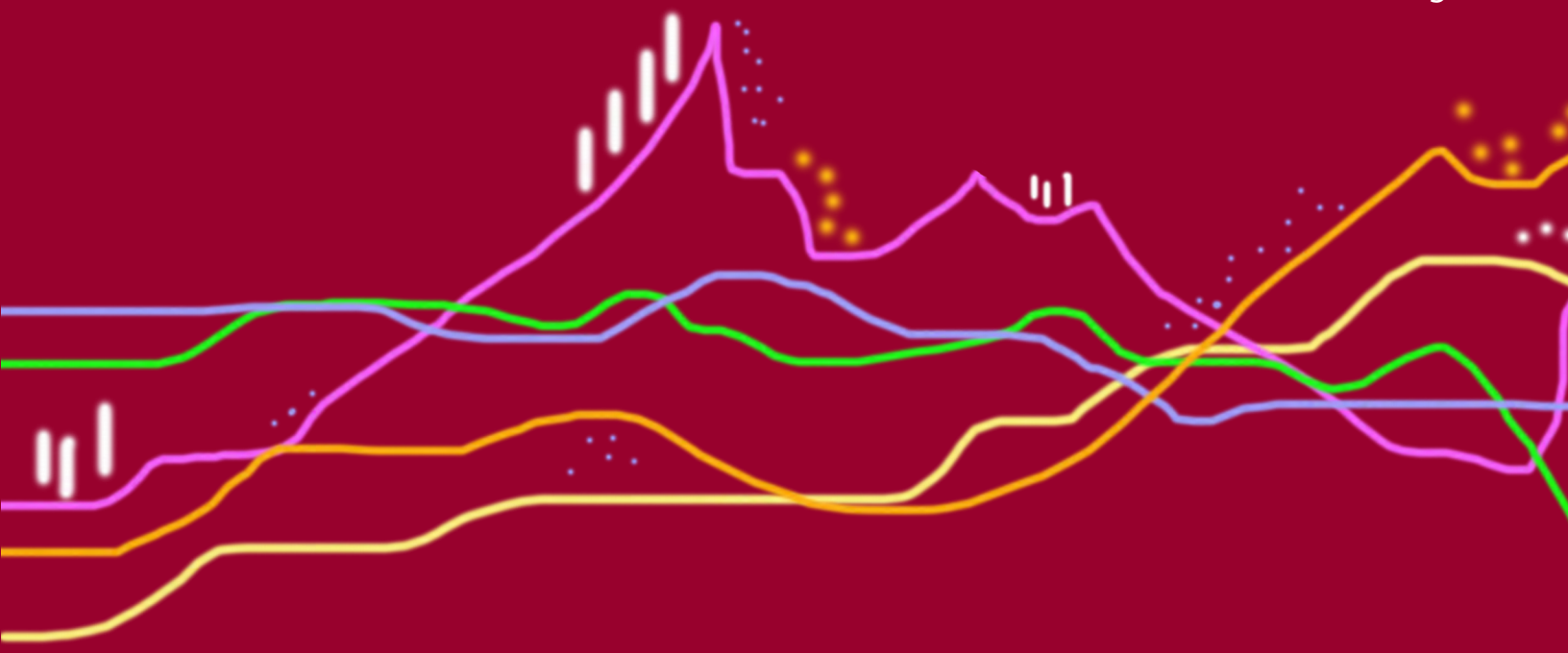

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by

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Institute for Social Research

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The University of Michigan
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Chapter 1

INTRODUCTION

Substance use is a leading cause of preventable morbidity and mortality, and it is in large part why people in the U.S. have the highest probability among 17 high-income nations of dying by age 50.[1] Substance use is also an important contributor to many social ills including child and spouse abuse, violence more generally, theft, suicide, and more; and it typically is initiated during adolescence. It warrants our sustained attention.

Monitoring the Future (MTF) is designed to give sustained attention to substance use among the nation's youth and adults. It is an investigator-initiated study that originated with and is conducted by a team of research professors at the University of Michigan's Institute for Social Research. Since its onset in 1975, MTF has been continuously funded by the National Institute on Drug Abuse—one of the National Institutes of Health—under a series of peer-reviewed, competitive research grants. The 2014 survey, reported here, is the 40th consecutive survey of 12th-grade students and the 24th such survey of 8th and 10th graders.

MTF contains ongoing series of national surveys of both American adolescents and adults. It provides the nation with a vital window into the important but largely hidden problem behaviors of illegal drug use, alcohol abuse, tobacco use, anabolic steroid abuse, and psychotherapeutic drug abuse. For four decades MTF has helped provide a clearer view of the changing topography of these problems among adolescents and adults, a better understanding of the dynamics of factors that drive some of these problems, and a better understanding of some of their consequences. It has also given policymakers, government agencies, and nongovernmental organizations (NGOs) in the field some practical approaches for intervening.

A widespread epidemic of illicit drug use emerged in the 1960s among American youth, and since then dramatic changes have occurred in the use of nearly all types of illicit drugs, as well as alcohol and tobacco. Of particular importance, as discussed in detail below, are the many new illicit drugs that have emerged, along with new forms of alcoholic beverages and tobacco products. Among the more recently abused substances are new classes of drugs, including over-the-counter medications, synthetic marijuana, synthetic stimulants, such as "bath salts," drugs taken for strength enhancement, new tobacco- and nicotine-based products, and a number of so-called club drugs. E-cigarettes, a recent arrival on the scene of adolescent drug use, have been added to MTF coverage this year. Unfortunately, while many new substances have been added to the list over the years, very few have been removed because they have remained in active use. Throughout these many changes, substance use among the nation's youth has remained a major concern for parents, teachers, youth workers, health professionals, law enforcement, and policymakers, largely because substance abuse is one of the largest and yet most preventable causes of morbidity and mortality during and after adolescence.

[1] National Research Council and Institute of Medicine. (2013). *U.S. health in international perspective: Shorter lives, poorer health*. Washington, D.C.: The National Academies Press. Available at http://www.iom.edu/Reports/2013/US-Health-in-International-Perspective-Shorter-Lives-Poorer-Health.aspx

This annual monograph series has been a primary vehicle for disseminating MTF's epidemiological findings. The latest two-volume monograph presents the results of the 40th survey of drug use and related attitudes and beliefs among American high school seniors, the 35th such survey of American college students, and the 24th such survey of 8th- and 10th-grade students. Importantly, results are also reported for high school graduates followed in a series of panel studies through age 55.

Results from the samples of 8th, 10th, and 12th graders are contained in this volume, which is preceded by two national press releases[2,3] and a brief monograph[4] summarizing the findings on adolescents; the latter is published online on or about January 31st each year. Results on college students and other adults are reported annually in *Volume II*,[5] published a few months after this volume. An annual monograph on risk and protective behaviors for the spread of HIV/AIDS[6] among young adults was added beginning in 2009. (In years prior to 2009, findings from the study on risk and protective behaviors for the spread of HIV/AIDS were contained in *Volume II*.) All MTF publications, including press releases, are available on the project website at http://monitoringthefuture.org.

CONTENT AREAS COVERED

Two of the major topics included in the present volume are (a) the *prevalence and frequency* of use of a great many drugs among American secondary school students in 8th, 10th, and 12th grades and (b) *historical trends* in use by students in those grades. Distinctions are made among important demographic subgroups in these populations based on gender, college plans, region of the country, population density, parent education, and race/ethnicity. MTF has demonstrated that key attitudes and beliefs about drug use are important determinants of usage trends, in particular the amount of risk to the user perceived to be associated with the various drugs and disapproval of using them; thus, those measures also are tracked over time, as are students' perceptions of certain relevant aspects of the social environment—in particular, perceived availability, peer norms, use by friends, and exposure to use by others of the various drugs. Data on grade of first use, discontinuation of use, trends in use in lower grades, and intensity of use are also reported.

[2] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2014, December 16). National press release, "E-cigarettes surpass tobacco cigarettes among teens." University of Michigan News Service, Ann Arbor, 16 pp. Available at http://monitoringthefuture.org/pressreleases/14cigpr_complete.pdf

[3] Johnston, L. D., Miech, R. A., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (2014, December 16). National press release, "Use of alcohol, cigarettes, and a number of illicit drugs declines among U.S. teens." University of Michigan News Service, Ann Arbor, 35 pp. Available at http://monitoringthefuture.org/pressreleases/14drugpr_complete.pdf

[4] Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2015). *Monitoring the Future national survey results on drug use: 1975-2014: Overview, key findings on adolescent drug use*. Ann Arbor: Institute for Social Research, The University of Michigan, 90pp. Available at http://monitoringthefuture.org/pubs/monographs/mtf-overview2014.pdf

[5] Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Miech, R. A. (2014). *Monitoring the Future national survey results on drug use, 1975-2013: Volume II, college students and adults ages 19-55*. Ann Arbor: Institute for Social Research, The University of Michigan, 424 pp. Available at http://monitoringthefuture.org/pubs/monographs/mtf-vol2_2013.pdf

[6] Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., Patrick, M. E., Miech, R. A. (2014). *HIV/AIDS: Risk & protective behaviors among adults ages 21 to 40 in the U.S., 2004-2013*. Ann Arbor: Institute for Social Research, The University of Michigan, 112 pp. Available at http://monitoringthefuture.org/pubs/monographs/mtf-hiv-aids_2013.pdf

Drug Classes

Initially, 11 separate classes of drugs were distinguished in order to heighten comparability with a parallel series of publications based on the National Survey of Drug Use and Health (NSDUH): marijuana (including hashish), inhalants, hallucinogens, cocaine, heroin, narcotics other than heroin (both natural and synthetic), amphetamines, sedatives, tranquilizers, alcohol, and tobacco. Separate statistics are now presented for a number of subclasses of drugs within these more general categories: PCP and LSD (both hallucinogens), barbiturates and methaqualone (both sedatives), methamphetamine, crystal methamphetamine ("ice"), and crack and other cocaine.

A number of drugs appeared on the American scene after MTF began, so in subsequent years these were added to the 12th-grade questionnaires, and most of them were also added to the follow-up questionnaires. For example, trend data for PCP and nitrite inhalants were added in 1979, when considerable concern emerged over their rising popularity and deleterious effects. (Nitrites—one of the few classes of drugs to fade from widespread use—was dropped from the study in 2010. Methaqualone is another; questions on its prevalence were dropped from the study in 2013). Also because of increasing concerns, a single question about crack cocaine was added to the 1986 survey, and more detailed questions on crack and other cocaine were added in 1987.

In the intervening years many additional categories of abusable substances have been added to the MTF questionnaires, in many but not all cases in the questionnaires used with all three grades. Relatively few substances have been dropped due to their having very low prevalence. The substances added and dropped are shown in Table 1-1 sequentially by year and within year by the grades affected.

The large number of substances that have been added over the years illustrates the dynamic and multidimensional nature of the country's drug problems. As time passes and new trends develop, additional drugs will be added to the study's coverage; occasionally ones that prove to have very low prevalence (like kreteks, bidis, and Provigil) will be dropped. It is important, given this rapidly shifting smorgasbord of drugs, that information be gathered relatively quickly to inform legislators, regulatory agencies, scientific institutes, scientists, practitioners in the field, parents, and educators to what extent newer drugs are making inroads in the youth population and what subgroups are proving most vulnerable.

Most of the information reported here deals with illicit use of controlled substances. The major exceptions are alcohol, cigarettes, other tobacco products, inhalants, nonprescription stimulants, creatine, cough and cold medicines, and salvia. In the questions about nonmedical use of psychotherapeutic drugs, respondents are asked to exclude any use under medical supervision.[7]

Throughout this report we have chosen to focus attention on drug use at the higher frequency levels rather than simply report proportions that have ever used various drugs. This is done to help differentiate levels of seriousness, or extent, of drug involvement. While there is no public consensus on what levels or patterns of use constitute abuse, there is a consensus that higher levels of use are more likely to have detrimental effects for the user and for society. We have also introduced indirect measures of dosage per occasion by asking respondents about the duration and

[7] Medically supervised use of such drugs is addressed in the following article: Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1987). Psychotherapeutic, licit, and illicit use of drugs among adolescents: An epidemiological perspective. *Journal of Adolescent Health Care, 8,* 36–51. This volume also contains a section in Chapter 10 dealing with the use of stimulants in the treatment of ADHD.

intensity of highs they usually experience with each type of drug. These items have shown some interesting trends over the years, as are detailed in Chapter 7.

Attitudes, Beliefs, and Early Experiences

Separate sections or whole chapters are devoted to the following issues related to a number of licit and illicit drugs:

- grade of first use;
- noncontinuation[8] of use;
- respondents' own attitudes and beliefs;
- degree and duration of the highs attained
- perception of drug availability; and
- perception of attitudes and behaviors of others in the social environment.

Some of these variables have proven to be very important in explaining changes in use, as we discuss in detail in Chapter 8.

Over-the-Counter Substances

Chapter 10 discusses use of *nonprescription* stimulants, including diet pills, stay-awake pills, and "look-alike" pseudoamphetamines. Questions on these substances were added beginning in 1982 because their use appeared to be on the rise, and it seemed that some respondents inappropriately included these substances in their answers about amphetamine use. That inappropriate inclusion affected some of the observed trends in amphetamine use until the clarification in 1982. Tables on the performance-enhancing substances androstenedione (andro)—previously an over-the-counter substance—and creatine are also included, and the degree of overlap in the reporting of steroid and andro use is examined.

Cumulative Lifetime Daily Marijuana Use

Chapter 10 also presents trend results from a set of questions about cumulative lifetime marijuana use at a daily or near-daily level. These questions were added to enable us to develop a more complete individual history of daily use over a period of years. They reveal some important facts about frequent users of this drug.

Trends in Use of Specific Alcoholic Beverages

Beginning in 2003, and in every year since, we have published an occasional paper on subgroup usage and trends for all substances with tables including prevalence and trend estimates for use of specific classes of alcoholic beverages.[9] Twelfth-grade data are reported for beer, liquor, wine, wine coolers, and flavored alcoholic beverages. For 8th and 10th graders, the measures are restricted to beer and wine coolers (though the category of wine coolers was dropped from the questionnaires in 2004 to make space for the more general class of flavored alcoholic beverages). Results on these various beverage classes are discussed in Chapters 4 and 5.

[8] Chapter 4 contains a description of our use of noncontinuation.

[9] Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2015). *Demographic subgroup trends among young adults in the use of various licit and illicit drugs 1975-2014* (Monitoring the Future Occasional Paper No. 83). Ann Arbor, MI: Institute for Social Research, University of Michigan, 530 pp. http://monitoringthefuture.org/pubs/occpapers/mtf-occ83.pdf

Sources of Prescription Drugs

MTF has previously reported on the growing importance of prescription-type psychotherapeutic drugs used without medical supervision. In 2007, new questions regarding where users secured several such drugs were added to one 12th-grade questionnaire form. A section in Chapter 10 reports responses to these questions, as well as to other questions which have since been elaborated. Since 2008, Chapter 10 also contains estimates of the proportion of 12th-grade students who use *any* psychotherapeutic drugs in each prevalence period; these estimates can be made only for 12th graders, because estimates of use of sedatives and narcotics other than heroin are not available for students in the lower grades.

Synopses of Other MTF Publications

Chapter 10 contains short synopses of a number of other MTF publications produced during the past year (journal articles, chapters, occasional papers, etc.). References to the full documents are provided, and some are available on the MTF website.

Appendixes

Appendix A addresses the issue of whether missing the absentees and school dropouts from the MTF sample coverage affects the results and, if so, to what extent. For illustrative purposes, the appendix provides estimates of prevalence and trend results adjusted for these missing segments of the population for marijuana and cocaine.

Appendix B gives the exact definitions of the various demographic subgroups discussed.

Appendix C provides a guide on how to calculate confidence intervals for point estimates and how to calculate statistics that test the significance of changes over time or of differences between subgroups. While many tables in these volumes already contain such statistics for selected point estimates and change intervals, some readers may wish to conduct additional computations. This appendix contains the necessary formulas and design-effect corrections to permit such computations.

Appendix D cross-references the latest MTF occasional paper reporting cross-time trends in the use of numerous drugs for various demographic subgroups—specifically, subgroups differentiated on the basis of gender, college plans, region of the country, community size, parental education level (a proxy for socioeconomic status), and racial/ethnic group. Until 2012, a large set of tables was included in Appendix D in this volume. Now a link is provided in Appendix D to a separate occasional paper[10] which provides all of those same trend tables; in addition, the occasional paper provides graphical presentations of the trends in color, which are much easier to comprehend than the tabular data.

Appendix E provides trends for 12th grade only on various subclasses of drugs within the following five general classes: hallucinogens other than LSD, amphetamines, tranquilizers, narcotics other

[10] Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2015). *Demographic subgroup trends among young adults in the use of various licit and illicit drugs 1975-2014* (Monitoring the Future Occasional Paper No. 83). Ann Arbor, MI: Institute for Social Research, University of Michigan, 530 pp. http://monitoringthefuture.org/pubs/occpapers/mtf-occ83.pdf

than heroin, and sedatives. These tables provide annual prevalence rates over time and show how the mix of subclasses has changed over the years within each of the general classes.[11]

Appendix F provides trends in drug use for the *three grades combined*, as well as the absolute decline and the proportional decline in the prevalence of each drug since the most recent *peak* level (since 1991). Such tables are helpful in getting a quick read on the trends. By combining the three grades, however, much of the meaningful detail available from grade-specific estimates is lost.

PURPOSES AND RATIONALE FOR THIS RESEARCH

Perhaps no social problem has proven more clearly appropriate for and in need of the application of systematic research and reporting than that of substance abuse. Substance-abusing behaviors are often hidden from public view, can change rapidly and frequently, and are of great importance to the well-being of the nation. Many legislative and programmatic interventions are aimed at these behaviors, such as the policies that were put into place in response to the increases in adolescent smoking and illicit drug use we reported in the 1970s and then again in the 1990s as a relapse in the illicit drug epidemic unfolded.

Young people are often at the leading edge of social change, and this has been particularly true of drug use. The massive upsurge in illicit drug use during the last 50 or so years has proven to be largely a youth phenomenon, and MTF documented that the relapse in the drug epidemic in the early 1990s initially occurred almost exclusively among adolescents. Adolescents and adults in their 20s fall into the age groups at highest risk for illicit drug use. Moreover, for some drug users, use that begins in adolescence continues well into adulthood. This is indicated in the cohort effects that we report for a number of substances (and even in some attitudes and beliefs about them). The original epidemic of illicit drug use in the 1960s began on the nation's college campuses and then spread downward in age. The more recent relapse phase in the 1990s, however, first manifested itself among secondary school students and then started moving upward in age as those cohorts matured.

One of MTF's many purposes is to develop an accurate description of these important changes as they are unfolding. A reasonably accurate picture of the basic size and contours of the illicit drug use problem among youth in the U.S. is a prerequisite for informed public debate and policymaking. In the absence of reliable *prevalence* data, substantial misconceptions can develop and resources can be misallocated. In the absence of reliable *trend* data, early detection and localization of emerging problems are more difficult and societal responses, more lagged. For example, MTF provided early evidence that cigarette smoking among American adolescents was rising sharply in the early 1990s, which helped stimulate and support some extremely important policy initiatives that culminated in the tobacco settlement between the tobacco industry and the states. More recently, MTF documented and described the sharp rise and subsequent decline in ecstasy use, illustrating the important role that *perceived risk* played in these changes, as it has done for a number of other drugs in the past. The study also helped draw attention to the rise in steroid and androstenedione use among adolescents in the late 1990s, resulting in some legislative

[11] Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2015). *Demographic subgroup trends among young adults in the use of various licit and illicit drugs 1975-2014* (Monitoring the Future Occasional Paper No. 83). Ann Arbor, MI: Institute for Social Research, University of Michigan, 530 pp. http://monitoringthefuture.org/pubs/occpapers/mtf-occ83.pdf

and regulatory action. It exposed a rise in the use of narcotic drugs other than heroin (especially certain prescription-type analgesics), stimulating an initiative at the White House Office of National Drug Control Policy aimed at reducing use. In addition to early detection and localization of problems, valid trend data make assessments of the impact of major historical and policy-induced events much less conjectural.

The accurate empirical comparison of subgroup differences has challenged conventional wisdom in some important ways. Accurately characterizing not only differences but also differential changes among subgroups has been an important scientific contribution from MTF. For example, dramatic racial/ethnic differences in cigarette smoking have emerged during the life of the study—differences that were almost nonexistent when MTF began in 1975. Further, the misinformed assumption that African-American students use illicit drugs more than do White students has been disproven since the beginning of the study, which shows lower rates of use for African-American students in most years.

MTF also monitors a number of factors—peer norms regarding drugs, beliefs about the dangers of drugs, and perceived availability—that help explain the historical changes observed in drug use. Monitoring these factors has made it possible to examine a central policy issue in this nation's efforts to reduce drug use—namely, the relative importance of supply versus demand factors in bringing about some of the observed declines and increases in drug use. We have also developed a general theory of drug epidemics that uses many of these concepts to help explain the rises and declines that occur in use and emphasizes the importance of demand-side factors.[12]

In addition to accurately assessing prevalence and trends and trying to determine their causes, MTF has a substantial number of other important research objectives. These include (a) helping to determine which young people are at greatest risk for developing various short- and long-term patterns of drug abuse; (b) gaining a better understanding of the lifestyles and value orientations associated with various patterns of drug use, and monitoring how subgroup differences shift over time; (c) determining the immediate and more general aspects of the social environment associated with drug use and abuse; (d) determining how major transitions in the social environment (e.g., entry into military service, civilian employment, college, homemaking, and unemployment) or in social roles (e.g., engagement, marriage, pregnancy, parenthood, divorce, and remarriage) affect changes in drug use; (e) determining the life course trajectories and comorbidity of the various drug-using behaviors from early adolescence to adulthood, and distinguishing such age effects from cohort and period effects; (f) evaluating possible explanations of period and age effects, including determining the effects of social legislation on various types of substance use; (g) examining possible consequences of using various drugs; (h) examining linkages between educational success or failure and substance use; and (i) determining the changing connotations of drug use and changing patterns of multiple drug use among youth.[13]

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[12] See Johnston, L. D. (1991). Toward a theory of drug epidemics. In R. L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp. 93–132). Hillsdale, NJ: Lawrence Erlbaum. (This chapter is also available online at http://www.monitoringthefuture.org/pubs/chapters/ldj1991theory.pdf.)

[13] For an elaboration and discussion of the full range of MTF research objectives in the domain of substance abuse, see Johnston, L. D., O'Malley, P. M., Schulenberg, J. E., & Bachman, J. G. (2006). *The aims and objectives of the Monitoring the Future study and progress toward fulfilling them as of 2006* (Monitoring the Future Occasional Paper No. 65). Ann Arbor, MI: Institute for Social Research. Available online at http://www.monitoringthefuture.org/pubs/occpapers/occ65.pdf.

The differentiation of period, age, and cohort effects in the use of various substances has been a particularly important contribution of MTF and one for which the study's cohort-sequential research design is especially well suited. Readers interested in publications dealing with any of these other areas should visit the MTF website at www.monitoringthefuture.org or send an e-mail to mtfinformation@umich.edu.

In recent years we have also been reporting about factors related to the spread of HIV/AIDS. These factors include number of sexual partners, gender of sexual partners, condom use, injection drug use, injection drug use using shared needles, illicit drug and alcohol use more generally, and getting tested for HIV/AIDS. Most of the research objectives listed above for licit and illicit drug use can also be addressed in relation to these very important behaviors. In these initial stages, our emphasis is on measuring and reporting prevalence and trends in HIV/AIDS-related behaviors in the general population of young adults ages 21–40 who are high school graduates. We have also been measuring the extent to which these various risk and protective behaviors are correlated. Increasingly, as the numbers of cases cumulate, we will be looking at cross-time predictions and differences associated with age, period, and cohort effects.

Thus, our efforts over the years and going into the future cover both the epidemiology and etiology of substance use and related risk behaviors. Including both sets of efforts within the same large-scale study, keeping measurement constant across historical and developmental time, allows us to provide the nation with scientifically reliable, nationally representative estimates of historical trends of substance use as well as the developmental trends and possible causes, correlates, and consequences of substance use and other risk behaviors from adolescence through adulthood.

TABLE 1-1
New and Deleted Prevalence of Use Questions for 8th, 10th, and 12th Graders

Drug Name	Year in which added	Grades in which added			Year in which dropped	Grades in which dropped		
		8th	10th	12th		8th	10th	12th
Methaqualone	1975			X	1990/2013			X
Nitrites	1979			X	2010			X
PCP	1979			X	2014 [c]			X
Nonprescription Diet Pills	1982			X				
Look-Alikes	1982			X				
Stay-Awake Pills	1982			X				
Smokeless Tobacco [a]	1986 & 1992			X	1990			X
Crack [b]	1986–1987, 1990			X				
Cocaine Powder	1987			X				
Steroids	1989			X				
Crystal Methamphetamine (Ice)	1990			X				
Been Drunk	1991			X				
Heroin With a Needle	1995	X	X	X				
Heroin Without a Needle	1995	X	X	X				
Ecstasy (MDMA)	1996	X	X	X				
Rohypnol	1996	X	X	X	2002 [h]			X
Methamphetamine	1999	X	X	X				
GHB	2000	X	X	X	2012	X	X	
Ketamine	2000	X	X	X	2012	X	X	
Bidis	2000	X	X		2006	X	X	
	2000			X	2011			X
Kreteks	2001	X	X	X	2006	X	X	
Androstenedione	2001	X	X	X				
Creatine	2001	X	X	X				
Ritalin	2001	X	X	X				
OxyContin	2002	X	X	X				
Vicodin	2002	X	X	X				
Flavored Alcoholic	2003			X				
Beverages (Alcopops) [d]	2004	X	X					
ADHD Stimulant-type drug—prescribed	2005	X	X	X				
ADHD Non-stimulant-type drug—prescribed	2005	X	X	X				
Any Prescription Drug—not prescribed [e]	2005			X				
Over-the-counter Cough/Cold Medicines	2006	X	X	X				
Adderall	2009	X	X	X				
Salvia	2009			X				
	2010	X	X					
Provigil	2009			X	2012			X
Tobacco using a Hookah	2010			X				
Small Cigars	2010			X				
Synthetic Marijuana [g]	2011			X				
	2012	X	X					
Alcohol Beverages containing Caffeine [f]	2011	X	X	X				
Dissolvable Tobacco Products	2011			X				
	2012	X	X					
Snus	2011			X				
	2012	X	X					
Bath Salts (synthetic stimulants)	2012	X	X	X				
E-cigarettes	2014	X	X	X				
Large Cigars	2014	X	X	X				
Flavored Little Cigars	2014	X	X	X				
Regular Little Cigars	2014	X	X	X				

Source. The Monitoring the Future study, the University of Michigan.

Note. All prescription-type drugs listed refer to use without a doctor's orders, unless otherwise noted.

[a] Smokeless tobacco was added to one questionnaire form in 1986, dropped in 1990, then added to a different questionnaire form in 1992.

[b] A question on annual use of crack was added to a single form in 1986. The standard triplet questions (lifetime, annual, and 30-day use) were added to two forms in 1987 and to all forms in 1990.

[c] For 12th grade only: Lifetime and 30-day prevalence of use questions were dropped in 2002. A question on annual use remains in the study.

[d] For 12th grade only: A question on annual use of Alcopops was added to a single form in 2003. In 2004 it was replaced by the standard triplet questions (lifetime, annual, and 30-day use) about use of flavored alcoholic beverages.

[e] For 12th grade only: The use of any prescription drug includes use of any of the following: amphetamines, sedatives (barbiturates), narcotics other than heroin, or tranquilizers…without a doctor telling you to use them.

[f] For all grades: In 2012 the alcoholic beverages containing caffeine question text was changed. See text for details.

[g] For all grades: Questions on the annual use of synthetic marijuana were added to the survey in the year specified in the table. Questions on use in the past 30 days were added in 2014 for all three grades.

[h] For 12th grade only: Lifetime and 30-day prevalence of use questions were dropped in 2014. A question on annual use remains in the study.

Chapter 2

KEY FINDINGS
AN OVERVIEW AND INTEGRATION ACROSS FIVE POPULATIONS

Monitoring the Future, now having completed its 40th year of data collection, has become one of the nation's most relied-upon scientific sources of valid information on trends in use of licit and illicit psychoactive drugs by US adolescents, college students, young adults, and adults up to age 55. During the last four decades, the study has tracked and reported on the use of an ever-growing array of such substances in these populations.

This annual series of monographs is the primary mechanism through which the epidemiological findings from MTF are reported. Findings from the inception of the study in 1975 through 2014 are included—the results of 40 national in-school surveys and 38 national follow-up surveys.

MTF has conducted in-school surveys of nationally representative samples of (a) 12th-grade students each year since 1975 and (b) 8th- and 10th-grade students each year since 1991. In addition, beginning with the class of 1976, the project has conducted follow-up mail surveys on representative subsamples of the respondents from each previously participating 12th-grade class. These follow-up surveys now continue well into adulthood, currently up to age 55.

A number of important findings are summarized in this chapter to provide the reader with an overview of the key epidemiological results from the study. Because so many populations, drugs, and prevalence intervals are discussed here, a single integrative set of tables (Tables 2-1 through 2-4) shows the 1991–2014 trends for all drugs on five populations: 8th-grade students, 10th-grade students, 12th-grade students, full-time college students modal ages 19–22, and all young adults modal ages 19–28 who are high school graduates. (Note that the young adult group includes the college student population.) *Volume II* also contains data on older age groups based on the longer term follow-up surveys, specifically ages 35, 40, 45, 50, and 55, the latter available since 2013.

TRENDS IN DRUG USE—THE ADVENT OF COHORT EFFECTS

Early in the 1990s, we reported an increase in use of several illicit drugs among secondary school students, and some important changes among the students in terms of certain key attitudes and beliefs related to drug use. In the volume reporting 1992 survey results, we noted the beginning of such reversals in both use and attitudes among 8th graders, the youngest respondents surveyed in this study, and also a reversal in attitudes among 12th graders. Specifically, the proportions seeing great risk in using drugs began to decline, as did the proportions saying they disapproved of use. As we suggested then, those reversals indeed presaged "an end to the improvements in the drug situation that the nation may be taking for granted." The use of illicit drugs rose sharply in all three grade levels after 1992, in what we refer to as the "relapse phase" in the larger epidemic of illicit drug use, as negative attitudes and beliefs about drug use continued to erode. This pattern continued into the mid-1990s, and beyond that for some drugs.

Then in 1997, for the first time in six years, the overall level of ***illicit drug*** use finally showed a decline among 8th graders. Although marijuana use continued to rise that year among 10th and 12th graders, their use of several other drugs leveled off, and relevant attitudes and beliefs also began to reverse in many cases. In 1998, illicit drug use continued a gradual decline among 8th graders and also started to decline at 10th and 12th grades. In 1999 and 2000, the decline continued for 8th graders, while use held fairly level among 10th and 12th graders. In 2002 and 2003, use by 8th and 10th graders decreased significantly, and use by 12th graders finally began to drop; declines then continued for all three grades in 2004 and for several years thereafter. But in 2008, illicit drug use increased once again among 8th and 12th graders, followed by some increase in 8th and 10th grades in 2009, signaling an end to the immediately preceding period of decline. In 2010 the overall level of illicit drug use increased for all grades, although only the increase among 8th graders was significant. In 2011 the increase continued among 10th and 12th graders and declined some at 8th grade. We expected a continued increase into 2012 and later years, in part because of the ongoing trend toward increased use and in part because of the movement by some states to legalize the medical use of marijuana. Publicity around legalizing medical, and in some cases recreational, use may serve to normalize use of marijuana, the most widely used of all illicit substances. However, this anticipated rise has yet to pick up momentum, and in 2014 illicit drug use actually showed non-significant declines in all three grades for lifetime, annual, and 30-day use. Whether we will see the expected future increase in illicit drug use is a matter to be clarified with continued monitoring.

As will be illustrated below in the discussion of specific drugs, the increase in use of many drugs during the 1990s among secondary school students, combined with fairly level use among college students and young adults, resulted in some unusual reversals in prevalence levels by age (see Figure 2-1). In the early years of the epidemic, illicit drug use levels were clearly higher in the college-age group (and eventually the young adults) than they were among secondary school students. But by the late 1990s, the highest levels of active use (i.e., use within the prior year or prior 30 days) were found in the late secondary school years. In fact, in 1996 and 1997 both 10th and 12th graders actually had higher annual prevalence levels for illicit drug use (i.e., higher percentages reporting any use within the prior year) than either college students or all young adults. This changed somewhat after 2001, as the earlier, heavier-using cohorts of adolescents began to comprise the college student and young adult populations, while at the same time use among the incoming secondary school students was declining.

- As can be seen by the divergence of trends for the different age groups in what follows, something other than a simple secular trend in drug use was taking place; important cohort differences were emerging. (A cohort refers to a group of people born at the same time or, in this case, are in the same graduating class. A secular trend is a trend across time that occurs across multiple cohorts and multiple age groups.)

- In 2014, the rank order by age group for annual prevalence of using ***any illicit drug*** was 12th graders and college students (39%), 19- to 28-year-olds (38%), 10th graders (30%), and 8th graders (15%). With respect to using ***any illicit drug other than marijuana*** in the past 12 months, prevalence ranged from 19- to 28-year-olds and college students (21%) to 12th graders (16%), 10th graders (11%), and finally 8th graders (6%).

- ***Bath salts***, so-called because they are sold over the counter as apparently innocuous products like bath salts but really contain strong stimulants, have been given much media attention in the past few years; however, there has been very little scientific information about the prevalence of their use. We believe that the 2012 MTF survey provided the first national survey data on their use. Fortunately, we found the annual prevalence in 2012 to be very low, at 0.8%, 0.6%, and 1.3% in grades 8, 10, and 12, respectively. In 2014 the prevalence levels are 0.5%, 0.9%, and 0.9% in grades 8, 10, and 12, respectively.

- From the early 1990s until 1997, ***marijuana*** use rose sharply among secondary school students, as did their use of a number of ***other illicit drugs***, though more gradually. As previously stated, we have called this period a "relapse phase" in the longer term epidemic. An increase in marijuana use also began to occur among U.S. college students, largely reflecting "generational replacement" (i.e., a cohort effect), wherein earlier cohorts were replaced in the college population by more recent ones who were more drug-experienced before they left high school. This resurgence in illicit drug use spread *up* the age spectrum in a reversal of the way the epidemic spread several decades earlier. In the 1960s the epidemic began on the nation's college campuses, and then diffused downward in age to high school students and eventually to middle school students. This time the increases began in middle schools and radiated up the age spectrum. The graduating class cohorts in the middle and late 1990s carried with them the pattern of heavier drug use that emerged while they were in secondary school in the early 1990s.

  Increases during the 1990s in use of ***any illicit drug*** (including use of ***marijuana*** and use of ***other illicit drugs*** treated as a class) were substantially larger, in both proportional and absolute terms, in the three secondary school grades than in either the college or young adult populations. Among college students and young adults, the annual prevalence of use of ***any illicit drug*** held remarkably stable from 1991 through 1997, at the same time use rose appreciably among adolescents (see Figure 2-1). We predicted that, as generational replacement continued to occur, we would likely see some increase in use of illicit drugs by the young adults. As would be expected given their younger age range (19–22), the increase happened sooner and more sharply among the college students than among the young adults in general (age range 19–28). Peak levels (since 1990) in annual prevalence of ***any illicit drug*** were reached in 1996 among 8th graders, in 1997 among 10th and 12th graders, in 2001 among college students (before leveling for some years), and in 2004 (before leveling) in the young adult segment. Similarly, the more recent declines in use among secondary students have thus far shown up only modestly and briefly among college students, and hardly at all among young adults (see Figure 2-1). In the last few years, including 2014, the five populations do not show any consistent trends.

  Again, the earlier diverging trends across the different age strata clearly show that changes during the 1990s reflected some important cohort effects rather than broad secular trends that would have appeared simultaneously in all of the age groups. During all of the previous years of the study, the use of most drugs moved in parallel across most age groups, indicating that secular change was prevailing then.

- Similar to the use patterns for illicit drugs, the trend for ***cigarette*** smoking evidenced a generational replacement effect during the 1990s in that college students showed a sharp increase in smoking beginning in 1995, as the heavier smoking cohorts of secondary school students from the early to mid-1990s entered college. This has been a more typical pattern of change for cigarettes, however, since differences in cigarette smoking levels among class cohorts tend to remain through the life course and also tend to account for much of the overall change in use observed at any given age.

  In the early 1990s, cigarette smoking among 8th and 10th graders rose by about 50%—a particularly sharp and worrisome rise (based on 30-day prevalence levels shown in Table 2-3, and daily and half-pack levels shown in Table 2-4); MTF was the first study to draw national attention to this momentous development. Smoking also rose among 12th graders, beginning a year later.

  The increase in current smoking ended among 8th and 10th graders in 1996, among 12th graders in 1997, and among college students in 1999. The nation then entered a period of appreciable decline in smoking levels that first began among 8th graders in 1997 and radiated up the age spectrum as those cohorts aged. (The 8th-grade 30-day prevalence fell by about three fourths, from 21% in 1996 to 4.5% in 2013.) Among the college and the young adult strata, the declines have been less sharp so far, but they are continuing. The 30-day smoking prevalence for college students in 2013 (14%) was down more than half from the recent peak of 31% in 1999, with the decline accelerating after 2005 as the cohort effect worked its way up the age bands. Smoking among the young adult subgroup, on the other hand, has dropped by only about one third (to 20% by 2013) since its recent peak of 31% in 1998. The decline in smoking levels among secondary school students had been decelerating in all three grades in recent years; there was some evidence in 2010 that the decline had halted among 8th and 10th graders, and that a turnaround might occur. Fortunately, all three grades showed further declines from 2011 to 2014, with significant declines in 10th and 12th grades in 2014 (The recent decline may be due at least in part to a 2009 increase in federal taxes on tobacco products.) In 2014 college students showed a non-significant decline of 1.1 percentage points and young adults showed a significant decline of 2.6 percentage points in 30-day smoking prevalence.

- ***E-cigarette*** use was assessed by the study for the first time 2014. E-cigarettes now have the highest 30-day prevalence of all tobacco products, including regular cigarettes, among 8th, 10th, and 12th graders. Prevalence of 2014 e-cigarette use is 9%, 16%, and 17% in these respective grades. In 8th and 10th grades e-cigarette prevalence is more than twice the prevalence of regular cigarettes. Part of the reason for the popularity of e-cigarettes is their low perceived risk: in all grades only 15% or less see a "great risk" in regular e-cigarette use, one of the lowest levels of perceived risk for all drugs measured. E-cigarettes have not surpassed regular cigarette use among the older populations: about 10% of college students and young adults used e-cigarettes in the prior 30 days.

- During the 1990s, the annual prevalence of ***marijuana*** use tripled among 8th graders (from 6% in 1991 to 18% in 1996), more than doubled among 10th graders (from 15% in 1992 to 35% in 1997), and nearly doubled among 12th graders (from 22% in 1992 to 39% in 1997). Among college students, however, the increase in marijuana use, presumably due to a

generational replacement effect, was much more gradual. Annual prevalence of use rose by about one third, from 27% in 1991 to 36% in 1998. Marijuana use began to decline in 1997 among 8th graders and then did the same in 1998 among 10th and 12th graders. The rate of decline was rather modest, however, perhaps due in part to effects of the public debates over medical use of marijuana during that period. In 2001, use remained level in all three grades, but between 2001 and 2004 all three grades showed significant declines in their annual prevalence of marijuana use, with the proportional decline greatest among 8th graders. Eighth graders exhibited the steadiest long-term decline from their recent peak in 1996, a decline of more than four-tenths by 2007. After 2007 use began to increase among 8th graders (see Figure 5-4a in Chapter 5). Declines among 10th and 12th graders started a year later and accelerated after about 2001; between approximately 1997 and 2008, annual prevalence levels fell by 31% and 18% for 10th and 12th graders, respectively. All three grades have shown slight increases in annual prevalence since the mid-2000s although the increases have been uneven. In 2014 this trend halted and use declined in all three grades (the decline was significant in 10th grade), as well as among college students and young adults. This halt is unexpected given declining levels of perceived risk and disapproval of marijuana among secondary school students (discussed in Chapter 8 of Volume 1), suggesting that other factors may be at work to curb youth marijuana use.

- ***Current daily marijuana use*** in all of these groups rose substantially after 1992, reaching peak levels in a somewhat staggered fashion as that just described (see Table 2-4 and Figure 5-4a in Chapter 5). Daily use began a slow decline after 1999 among 8th graders until 2007, after 2001 until 2009 among 10th graders, and after 2003 until 2010 among 12th graders, consistent with a cohort effect pattern. Use at all three grade levels was fairly level after 2004. In 2010 daily use at all three grade levels increased significantly and it increased further in grades 10 and 12 in 2011 and 2012, while holding steady in 8th grade. In 2014 the prevalence of daily marijuana use declined in all three grades, with a significant decline in 10th grade. The 2014 daily prevalence levels in grades 8, 10, and 12, respectively, are 1.0%, 3.4%, and 5.8%. *In other words, about one in every seventeen high school seniors is a daily marijuana user.* (Additional detail on daily marijuana use over longer periods of time among middle and high school students is provided in Chapter 10.) College student and young adult levels of daily use have overall increased since 2007, from 3.5% to 5.9% in 2014 among college students and from 5.0% to 6.9% over that same interval among young adults. In general, prevalence of daily marijuana use was slow to decline, when annual and 30-day prevalence figures were dropping. Although the levels today are low relative to the peaks reported in the late 1970s, the 6.6% figure for 12th graders in 2011 was the highest observed in some 30 years. The fact that daily marijuana use was rising through 2011 in all three grades serves as a reminder that a relapse in the epidemic of marijuana use, as occurred in the early 1990s, could still occur. The role of the many debates on legalizing marijuana for medical use, the actual legalization for recreational use by adults in some states, and the experiences those states have with the new laws likely will have an impact on present and future secular trends in use.

  The amount of perceived risk associated with using marijuana fell during the earlier period of increased use in the late 1970s, and fell again during the more recent resurgence of use in the 1990s. Indeed, perceived risk among 12th graders began to decline a year *before* use began to rise in the upturn of the 1990s, making perceived risk a leading indicator of change

in use. (The same may have happened in 8th grade, but we do not have data starting early enough to check that possibility.) The decline in perceived risk halted after 1997 for 8th and 10th graders, and annual prevalence began to decline a year or two later. Perceived risk also declined prior to the recent rebound in marijuana use. Again, perceived risk has been a leading indicator of change in use, as it has proven to be for a number of drugs. As discussed in Chapter 8, these attitudes, as well as the behaviors that they predict themselves, show evidence of cohort effects over the past decade and a half. Perceived risk of trying marijuana has been declining in recent years and dropped for 8th, 10th, and 12th graders in 2014.

Personal disapproval of marijuana use slipped considerably among 8th graders between 1991 and 1996 and among 10th and 12th graders between 1992 and 1997, as use rose considerably. For example, the proportions of 8th, 10th, and 12th graders who said they disapproved of trying marijuana once or twice fell by 17, 21, and 19 percentage points, respectively, during their respective intervals of decline. Subsequently, disapproval began to rise among 8th graders after roughly 1997 and continued through 2007, while it began to rise in the upper grades in 2002 and also continued through 2007 among 10th and 12th graders, as use declined gradually. Since 2007 or 2008 there has been some reversal on this attitude as well as in use, with disapproval falling steadily in the upper grades and less consistently in grade 8 (see Figure 8-1b in Chapter 8). In 2014 disapproval continued to decline in 8th and 12th grades, although these declines were not statistically significant.

- ***Synthetic marijuana***, so named because it contains synthetic versions of some of the cannabinoids found in marijuana, is a recent and important addition to the smorgasbord of drugs available to young people in the US. These designer chemicals are sprayed onto herbal materials that are then sold in small packets under such brand names as Spice and K-2. They have been readily available as over-the-counter drugs on the Internet and in venues like head shops and gas stations. While many of the most widely used chemicals were scheduled by the Drug Enforcement Administration in March of 2011, making their sale no longer legal, purveyors of these products have skirted the restrictions by making small changes in the chemical composition of the cannabinoids used. Use of these products was first measured in MTF in 2011 in a tripwire question for 12th graders, asking about their frequency of use in the prior 12 months (see Table 2-2). Annual prevalence was found to be 11.4%, making synthetic marijuana the second most widely used class of illicit drug after marijuana that year. In spite of the DEA's scheduling of the most common ingredients, use among 12th graders remained unchanged in 2012, with 11.3% annual prevalence. Eighth and 10th graders were also asked about use of these drugs in 2012, and their annual prevalence levels were 4.4% and 8.8%, respectively, making synthetic marijuana the second most widely used illicit drug among 10th graders, as well, and the third among 8th graders behind marijuana and inhalants. In 2013 use dropped appreciably in all five populations, including statistically significant drops among 12th graders, college students, and young adults. These declines continued in 2014 with significant drops in prevalence among young adults, college students, 12th and 10th graders (a decline among 8th-grade students was not statistically significant). Efforts by the DEA and various states to make their sale illegal may well be making an impact. There is a relatively low level of perceived risk for trying synthetic marijuana once or twice, despite growing evidence of serious problems resulting from the use of these drugs. In 2014 a 30-day use question was

added for all five populations, and the observed rates were 4.4% in 8th grade, 2.7% in 10th grade, 2.7% in 12th grade, 0.0% among college students, and 0.4% among young adults. Obviously, the active use of these drugs has become concentrated among the younger secondary students.

- Among 12th graders, the proportions using ***any illicit drug other than marijuana*** in the past twelve months rose from a low of 15% in 1992 to a high of 21% in 1999 (see Table 2-2); these levels were substantially below the 34% peak level reached two decades earlier, in 1981. All of the younger groups showed significant increases between 1992 and 1997, with use beginning to increase in 1992 among 8th graders, in 1993 among 10th and 12th graders, and in 1995 among college students—reflecting strong evidence of a cohort effect. Use peaked in 1996 among 8th and 10th graders, in 1997 among 12th graders, around 2004 for college students, and in 2008 for young adults. Since 1996 the 8th graders have shown a gradual but considerable decline of one half in their use of illicit drugs other than marijuana, treated as a class (13.1% annual prevalence in 1996 to 6.4% in 2014). The decline among 10th graders paused from 1998 to 2001 with a net decline of about a third in annual prevalence from 18.4% in 1996 to 11.3% in 2008; use leveled again for several years and then declined further in 2011. It now stands at 11.2%. Twelfth-grade use also showed some decline beginning after 2001 (21.6%) but stands just 5.7 percentage points lower (15.9%) in 2014. College students so far have shown little change with a recent high point of 18.6% in 2004, but their use rose to 20.8% in 2014 (following a question change in 2013). Use among young adults varied between the narrow range of 17% and 19% from 2003 to 2013, but in 2014 use significantly increased to 21%. In 2014, both college students and young adults generally showed some increases in their use of powder cocaine and amphetamines, which may explain their increases in 2014 in this index.

- Between 1989 and 1992 we noted an increase among 12th graders, college students, and young adults in their use of ***LSD***, a drug quite popular in the late 1960s and early 1970s. In 1992 the newly added populations (8th and 10th graders) were also showing an increase in LSD use; for several more years, modest increases persisted in all five populations. Use of LSD peaked in 1995 among college students and young adults and in 1996 among 8th, 10th, and 12th graders, after which LSD use gradually declined in all five populations until 2005 for 8th , 10th, and 12th graders. Overall, the pattern for LSD use seems more consistent with secular change than a cohort effect. The different age groups moved in parallel for the most part, likely in response to historical events in the environment, including a sharp reduction in LSD availability after 2001.

  The proportion of 12th graders seeing great risk associated with trying LSD declined by 4.3-percentage-points between 1991 and 1992, just prior to the significant increase in LSD use in 1993. The decline in perceived risk continued through 1997, halted in 1998, and has resumed since 2009. The proportion of 12th graders disapproving of LSD use began to decline in 1992, and continued to decline through 1996.

  Because LSD was one of the earliest drugs to be popularly used in the US drug epidemic, young people in the 1990s may have been relatively unaware of the risks of use. They had less opportunity to learn vicariously about the consequences of use by observing others

around them or to learn from intense media coverage of the issue, which occurred some years earlier. We were concerned that this type of generational forgetting of the dangers of a drug, which occurs as a result of generational replacement, could set the stage for a whole new epidemic of use. In fact, perceived harmfulness of LSD began to decline after 1991 among 12th graders. Perceived risk and disapproval among 8th and 10th graders, first measured in 1993, both showed declines until 1997 or 1998, after which they leveled among 10th graders but then declined considerably more among 8th graders. In 2004, twelfth graders' personal disapproval of trying LSD increased significantly, with little change since. Because the decline in use in the last few years has generally *not* been accompanied by expected changes in these attitudes and beliefs, we suspected that some displacement by another drug might have been taking place, at least through 2001. The most logical candidate is ***ecstasy*** (***MDMA***), which, like LSD, is used for its hallucinogenic effects; ecstasy was popular in the club and rave scenes, and was very much on the rise through 2001. After 2001, a sharp decline in the reported availability of LSD in all five populations (which corresponded to the closing of a major LSD lab by the Drug Enforcement Administration) very likely played a major role in the sharp decline in use of LSD among all groups. However, we want to caution that 8th graders' attitudes, in particular, are changing such as to make them receptive to LSD use some time in the future, should a plentiful supply re-emerge. Fortunately, 8th and 10th graders reported declining availability in 2012. In 2014 there were no significant changes in perceived availability across the three grades.

- Questions about the use of ***ecstasy*** (***MDMA***) have been included in the follow-up surveys of college students and young adults since 1989; however, because of our concern about stimulating interest in an attractive-sounding and little-known drug, these questions were not added to the secondary school surveys until 1996. From 1989 to 1994, the annual prevalence levels tended to be quite low in the older age groups for which we had data, but in 1995 these levels increased—from 0.5% in 1994 to 2.4% in 1995 among college students, and from 0.7% to 1.6% over the same time span among young adults generally.

  When usage data were first gathered on secondary school students in 1996, the 10th and 12th graders actually showed higher levels of annual use (both 4.6%) than the college students (2.8%). Ecstasy use then fell steadily in all three grades between 1996 and 1998, though it did not fall in the older age groups (see Table 2-2). But between 1998 and 2001, use rose sharply in all five populations. In fact, annual prevalence more than doubled in that three-year period among 12th graders, college students, and young adults, and nearly doubled in the lower grades. In 2000 even the 8th graders showed a significant increase in use. Ecstasy use for all five age groups declined slightly in 2002, but significantly only for 10th graders; declined again in 2003, with significant drops for all groups except the college students; and showed some decline again in 2004, with the largest decreases among college students and young adults. This pattern suggests that both cohort effects and a secular trend were at work. Once again, this decline in use among 12th graders was predicted by an increase in perceived risk in 2001—an increase that continued through 2005. Among college students the annual prevalence fell by half in 2004 alone, and all five groups are at levels that are still much lower than their recent peaks in 2001. Since 2005 or 2006 to 2011, there was some rebound in use among all five populations, including a significant increase in the lower grades in 2010. In 2014 levels of use are lower than they were in 2011 for

students in 8th, 10th, and 12th grades, but higher for college students and about the same for young adults.

Ecstasy use has been moving fairly synchronously among all five populations since 1999, which suggests a secular trend (some change in events in the social environment) that affected everyone. An important change during this period was the increasing availability of information on the adverse effects of ecstasy use via stories in the popular media, dissemination of the scientific evidence by the National Institute on Drug Abuse, and an anti-ecstasy media campaign by the Partnership for a Drug-Free America and the Office of National Drug Control Policy, initiated in 2002.

Availability of ecstasy increased dramatically through 2001, as reported by 12th graders and substantiated by law enforcement data on ecstasy seizures. Of the 12th graders surveyed in 1991, only 22% thought they could get ecstasy fairly easily, but a decade later (in 2001) 62% thought that they could. After 2001, however, the perceived availability of ecstasy began decreasing in all three grades, possibly due in part to the steep decline in the number of users who serve as supply points for others. The decreases continued through 2012 in the lower grades. In 12th grade, the decline in perceived availability continued through 2009, then leveled. (See Figure 8-6 in *Volume I*, chapter 8 for a graphic presentation of the trends in ecstasy use, availability, and perceived risk for 12th graders.) However, perhaps the most important change that has been taking place since 2005 is a continual decline in perceived risk for ecstasy use among 8th, 10th, and 12th graders, possibly as a result of generational forgetting. In our 2009 MTF report, we suggested that this decline in perceived risk was leaving students increasingly vulnerable to a possible rebound in use of ecstasy; indeed, there was some evidence that just such a rebound was occurring, at least through 2010 or 2011, but there had been no further increase after 2011.

- Between 1982 and 1992, among 12th graders levels of ***amphetamine*** use in the past 12 months (other than use that was ordered by a physician) fell by nearly two thirds, from 20.3% to 7.1%. Levels among college students fell even more over the same interval, from 21.1% to 3.6%. During the relapse phase in the drug epidemic in the 1990s, annual amphetamine use increased by about half among 8th and 10th graders between 1991 and 1996, and also increased among 12th graders and college students between 1992 and 1996. After 1996 the age groups diverged, with amphetamine use declining gradually and substantially among 8th graders—where use is now a fraction of what it was in 1996—but continuing to rise among 12th graders (and eventually 10th graders), college students, and young adults until about 2002. The declines continued in the upper grades through about 2008 but through 2013 for 8th graders. Since 2009, annual prevalence has increased among 12th graders (from 6.6% to 8.1% in 2014), perhaps as a result of more students using amphetamines to help their academic work. Among students in college, amphetamine use rose even more sharply from 5.7% in 2008 to 10.1% in 2014, likely for the same reason. Young adults, who include the college students, showed less of an increase over the same interval, from 5.3% in 2008 to 8.0% in 2014. The pattern of cross-age-group change suggests a cohort effect at work for amphetamine use. Since the late 1990s there has been a greater difference between use among 8th graders and use by older students, suggesting that an age effect has emerged, possibly due to the older students becoming more likely to use amphetamines to aid their academic performance. ("To help me study" was the highest

endorsed reason 12th graders gave for amphetamine use in 2012 and the third highest in 2014.)

Among 12th graders, the increase in nonmedical use of amphetamines (and a concurrent decrease in disapproval) began in 1993; this followed a sharp drop in perceived risk a year earlier (which, as we have noted for a number of drugs, often serves as a leading indicator). Following a period of decline, perceived risk among 12th graders increased gradually from 1995 through 2009.[1]

- Use of the stimulant drug ***Ritalin*** outside of medical supervision showed a distinct increase around 1997—with annual prevalence among 12th graders going from 0.1% in 1992 to 2.8% in 1997—and then stayed level for a few years (see Appendix E, Table E-2[2]). Because of its increasing importance, a differently structured question was introduced for Ritalin use in 2001 (2002 in the follow-ups of college students and young adults). This new question, which we prefer to the original, does not use a prior branching question and produced somewhat higher prevalence levels. Results from the new question suggest an ongoing decline in Ritalin use, with prevalence levels in 2014 less than half of what they were when first measured in 2001-02.

- Another stimulant used in the treatment of the symptoms of attention deficit hyperactivity disorder (ADHD) is the amphetamine drug ***Adderall***. A new question on its non-medical use was introduced in 2009; annual prevalence levels in 2009 through 2014 were higher than those for Ritalin in all five populations. This suggests that Adderall may have to some degree replaced the use of Ritalin and may help to account for the declines that we have been observing for the latter drug. Annual prevalence of Adderall changed rather little between 2009 and 2014 in 8th and 10th grades, although the levels seem to be drifting down. In 12th grade, however, annual prevalence has risen from 5.4% in 2009 to 7.6% in 2012, followed by non-significant declines over the next two years. The absolute prevalence levels in 2014 are fairly high, particularly among 12th graders (6.8%), young adults (7.8%), and college students (9.6%).

- ***Methamphetamine*** questions were introduced in 1999 because of rising concern about use of this drug; but a decline in use has been observed among all five populations in the years since then, through about 2012. In 2014 annual use in all five populations was very low — particularly among college students (0.1%). These substantial declines occurred during a period in which there were many stories in the media suggesting that methamphetamine use was a *growing* problem—an example of the importance of having accurate epidemiological data available against which to test conventional wisdom.

- Measures on the use of ***crystal methamphetamine*** or ***ice*** (a crystallized form of methamphetamine that can be smoked, much like crack) have been included in MTF since 1990. The use of crystal methamphetamine increased between the early and late 1990s

[1] In 2011 the question on perceived risk was modified to include Adderall and Ritalin as examples, which seems to have lowered the level of perceived risk (pep pills and bennies were deleted from the list of examples that same year).

[2] As discussed in Appendix E, the absolute prevalence rates for Ritalin are probably higher than the statistics indicate, but the trend story is likely quite accurate. See Table 2-2 for more accurate estimates of the absolute annual prevalence rates in recent years; these estimates are based on a new question that does not require the respondent to indicate some amphetamine use before being branched to a question about Ritalin use.

among the three populations asked about their use: 12th graders, college students, and young adults. However, use never reached very high levels. The estimates are less stable than usual due to the relatively small samples asked about this drug, but it appears that among 12th graders crystal methamphetamine use held fairly steady from 1999 through 2005 (when it was 2.3%); since then it has declined by roughly two-thirds, to 0.8% in 2014. Use rose somewhat among college students and other young adults until 2005, before dropping substantially since then. After their peak levels were reached in 2005, college students and young adults showed substantial drops in annual prevalence to less than 0.5% by 2014 for college students and young adults generally (see Table 2-2).

- ***Inhalants*** are defined as fumes or gases that are inhaled to get high, and they include common household substances such as glues, aerosols, butane, and solvents of various types. Among 12th graders there was a long-term gradual increase in the use of inhalants (unadjusted for nitrite inhalants) from 1976 to 1987, followed by a leveling for a few years and then a further increase in the early 1990s. This troublesome increase in inhalant use also occurred among students in the lower grades, and was followed by a reversal in all 3 grades after 1995. After reaching a low point by 2002 or 2003 in grades 8, 10, and 12, use of inhalants increased some in all grades, but then declined in all grades. Annual prevalence is now at the lowest point in the history of the study for 10th and 12th graders, and near the lowest point for 8th graders. Perceived risk for inhalant use among 8th and 10th graders declined fairly steadily after 2001, quite possibly as a result of generational forgetting of the dangers of these drugs; by 2014 the percent of 8th and 10th graders seeing great risk in trying inhalants fell by 11 and 7 percentage points. A new anti-inhalant campaign could well be effective in offsetting this decline in perceived risk in recent years, much as a similar campaign appeared to do in the mid-1990s.

- ***Amyl and butyl nitrites***, one class of inhalants, became somewhat popular in the late 1970s, but their use has been almost eliminated in the years since then. The annual prevalence among 12th-grade students was 6.5% in 1979 but only 0.9% in 2009. (Because of this decrease in use, and to allow for the addition of other questions, the questions on nitrite use were dropped from the study in 2010.) When nitrites were included in the definition of inhalants, they masked the increase that was occurring in the use of other inhalants, because their use was declining at the same time that the use of the other inhalants was increasing (see Figure 5-4c).

- ***Crack cocaine*** use spread rapidly from the early to mid-1980s. Still, among 12th graders, the use of crack remained relatively low during this period (3.9% annual prevalence in 1987). Clearly, crack had quickly attained a reputation as a dangerous drug, and by the time of our first measurement of perceived risk in 1987, it was seen as the most dangerous of all drugs. Annual prevalence dropped sharply in the next few years, reaching 1.5% by 1991, where it remained through 1993. Perceived risk began a long and substantial decline after 1990—again serving as a driver and leading indicator of use. (The decline in perceived risk in this period may well reflect generational forgetting of the dangers of this drug.) Annual prevalence among 12th graders rose gradually after 1993, from 1.5% to 2.7% by 1999. It finally declined slightly in 2000 and then held level through 2007. Since then,

some additional decline has occurred. In 2014 annual prevalence for crack cocaine was at 1.1%.

Among 8th and 10th graders, crack use rose gradually in the 1990s: from 0.7% in 1991 to 2.1% by 1998 among 8th graders, and from 0.9% in 1992 to 2.5% in 1998 among 10th graders. And, as just discussed, use among 12th graders peaked in 1999 at 2.7% and among young adults at 1.4%. Since those peak years, crack use has declined appreciably—by more than half among 8th, 10th, and 12th graders—yet it held fairly steady among college students and young adults, at least until 2007, when use among college students finally began to decline. The 2014 prevalence levels for this drug are relatively low—between 0.4% and 1.1% in all five groups. Twelfth graders have the highest prevalence. Annual crack prevalence among the college-bound has generally been considerably lower than among those not bound for college. The levels of use in 2014 are 0.9% for college-bound and 1.8% for noncollege-bound.

We believe that the particularly intense and early media coverage of the hazards of crack cocaine likely had the effect of capping an epidemic early by deterring many would-be users and motivating many experimenters to desist use. As has been mentioned, when we first measured crack use in 1987, it had the highest level of perceived risk of any illicit drug. Also, it did not turn out to be "instantly addicting" upon first-time use, as had been widely reported. In some earlier years, 1994 and 1995 for example, 3% of 12th graders reported ever trying crack; however, only about 2% used in the prior 12 months and only about 1.0% used in the prior 30 days. It thus appears that, among the small numbers of 12th graders who have ever tried crack, the majority of those who tried it did not establish a pattern of continued use, let alone develop an addiction.

Perceived risk and disapproval associated with crack dropped in all three grade levels in 1993, foretelling the rise in use that occurred in all three grades between 1994 and 1998 (1999 in the case of the 12th graders). Because more than a decade had passed since the 1986 media frenzy over crack and its dangers, it is quite possible that generational forgetting of the risks of this drug contributed to the declines in perceived risk and disapproval. Indeed, perceived risk of crack use eroded steadily at all grade levels from 1991 (or 1992 for 12th graders) through 2000. There was not much systematic change in risk or disapproval of crack after that, though disapproval did rise some in all grades and perceived risk has increased some among the 12th graders since 2009. For 10th and 12th graders perceived risk of trying crack rose after 2007.

- Use of ***cocaine***[3] in general began to decline a year earlier than crack, probably because crack was still in the process of diffusing to new parts of the country, being still quite new. Between 1986 and 1987 the annual prevalence for cocaine dropped dramatically, by about one fifth in all three populations being studied at that time—12th graders, college students, and young adults. The decline occurred when young people finally began to view experimental and occasional use—the type of use in which they thought they would be most likely to engage—as more dangerous. This change was probably influenced by the extensive media campaigns that began in the preceding year, but also almost surely by the

[3] Unless otherwise specified, all references to cocaine concern the use of cocaine in any form, including crack.

highly publicized cocaine-related deaths in 1986 of sports stars Len Bias and Don Rogers. By 1992 the annual prevalence of cocaine use had fallen by about two thirds among the three populations for which long-term data are available (12th graders, college students, and young adults).

During the resurgence of illicit drug use in the 1990s, however, cocaine use in all five populations increased once again, both beginning and ending in a staggered pattern by age, consistent with a cohort effect. Use rose among 8th graders from 1991 to 1998, among 10th and 12th graders from 1992 to 1999, among college students from 1994 to 2004, and among young adults from 1996 through 2004. As with crack, all five populations showed some decline in cocaine use in 2008 through 2011 and a levelling over the next two years. In 2014 little change in prevalence was apparent in 8th, 10th, and 12th grades, but for the first time in a decade significant increases took place among college students and young adults. Annual prevalence levels in 2014 were 1.0%, 1.5%, 2.6%, 4.4%, and 5.0% for the five populations, respectively. For a few years (1996–1999) 12th graders had higher prevalence than did the young adults; but because of the staggered declines in use, young adults have had the highest prevalence in all years since then (see Table 2-4).

The story regarding attitudes and beliefs about cocaine use is informative. Having risen substantially after 1986, the perceived risk of using cocaine showed some (nonsignificant) decline in 1992 among 12th graders. In 1993, perceived risk for cocaine powder fell sharply in all grades and disapproval began to decline in all grades, though not as sharply as perceived risk. During this time cocaine use was making a comeback. The decline in perceived risk had virtually ended by 1995 among 8th graders, by 1998 among 10th graders, and by 2001 among 12th graders, suggesting a cohort effect at work in this important *belief*, which tends to drive use. Tenth graders' perceived risk for trying cocaine powder rose further after 2007, and 12th graders' disapproval of trying cocaine also has increased in recent years.

The perceived availability of cocaine among 12th graders rose steadily from 1983 to 1989, suggesting that availability played *no* role in the substantial downturn in use that occurred after 1986. After 1989, however, perceived availability fell some among 12th graders—which may be explained in part by the greatly reduced proportions of 12th graders who said they have any friends who use, because friendship circles are an important part of the supply system. After 1995, availability began a long and substantial drop among 8th graders, as it did after 1998 among 10th graders and after 2006 among 12th graders.

- Use of ***PCP,*** measured and reported only for 12th graders and young adults, fell sharply among 12th graders between 1979 and 1982, from an annual prevalence of 7.0% to 2.2%. It reached a low point of 1.2% in 1988, rose some in the 1990s during the relapse period in the drug epidemic, reaching 2.6% by 1996, and then declined to 0.8% in 2014. For young adults, annual prevalence has fluctuated between 0.1% and 0.6%, but has remained quite low in recent years, standing at 0.1% in 2014.

- The annual prevalence of ***heroin*** use among 12th graders fell by half between 1975 (1.0%) and 1979 (0.5%), then stabilized for 15 years, through 1994. Heroin use was also stable in the early 1990s among the other four populations covered here (see Table 2-2). Then, in

1994 for 8th graders and in 1995 for all other groups, use suddenly increased, with prevalence doubling or tripling in one or two years for 12th graders, college students, and young adults, and then remaining at the new higher levels among all five populations for the rest of the decade. After the period 1999 to 2001, heroin use fell back to lower levels than were observed in the mid- to late-1990s. Most of that decline was in heroin use without a needle, which we believe was largely responsible for the increase in use in the first half of the 1990s. In sum, all age groups except for the young adults had annual levels of heroin use in 2014 that were well below recent peaks (by roughly one half to two thirds). Young adults have remained at peak levels (0.4–0.6% in 2008–2014), perhaps due in part to a cohort effect working its way up through the age spectrum. Twelfth graders did show a significant increase to 0.7% annual prevalence in 2010 for heroin use with a needle, though there was no evidence of such an increase in any of the other four populations, which left us cautious about that finding. However, the 2011 prevalence provided some confirmation that an increase did occur—annual prevalence was at 0.6%, which, except for 2010, was higher than any level reported since 1995 when this question was first asked. There is little evidence of any ongoing trend at present—indeed, the 12th graders' annual prevalence for heroin use with a needle was 0.5% in 2014, suggesting that if there was an increase in use, it was short-lived. Four of the five populations show annual prevalence levels at 0.5% or less; 12th graders are at 0.6%.

Two factors very likely contributed to the upturn in heroin use in the 1990s. One is a long-term decline in the perceived risk of harm, probably due to generational forgetting, because it had been a long time since the country had experienced a heroin epidemic along with accompanying publicity about its casualties. The second factor, not unrelated to the first, is that in the 1990s the greatly increased purity of heroin allowed it to be used by means other than injection. This may have lowered an important psychological barrier for some potential users, making heroin use less aversive and seemingly less addictive and less risky in general, because avoiding injection reduces the likelihood of transmission of HIV, hepatitis, or other serious blood-borne diseases. The introduction of additional questions on heroin use in 1995 showed that significant proportions of past-year users in all five populations were indeed taking heroin by means other than injection at that point (see Table 2-2, and Chapter 4 here and in *Volume II* for details).

The risk perceived to be associated with heroin fell for more than a decade after the study began, with 60% of the 1975 twelfth graders seeing a great risk of trying heroin once or twice, and only 46% of the 1986 twelfth graders saying the same. Between 1986 and 1991, perceived risk rose some, from 46% to 55%, undoubtedly reflecting the newly recognized threat of HIV infection associated with heroin injection. After 1991, however, perceived risk began to fall once again (to 51% by 1995), this time perhaps reflecting the fact that the newer heroin available on the street could be administered by methods other than injection. Between 1996 and 1998, perceived risk among 12th graders rose—possibly as the result of an anti-heroin campaign launched by the Partnership for a Drug-Free America in June 1996, as well as the visibility of heroin-related deaths of some celebrities in the entertainment and fashion design worlds (what we call the "unfortunate role models"). The perceived risk of trying heroin decreased among 12th graders in 1999, however, foretelling a significant increase in their use of the drug in 2000. In 2001, as the perceived risk of trying heroin increased slightly, 12th-grade use declined significantly. In recent years there

has been little systematic change in the perceived risk nor in the very high levels of disapproval of heroin use.

Questions about the degree of risk perceived to be associated with heroin use were introduced into the questionnaires for 8th and 10th graders in 1995. The questions asked specifically and only about use "without using a needle" because we thought this was the form of heroin use of greatest concern at that point. (Similar questions were asked of 12th graders, as well, in one of the six questionnaire forms used in 12th grade.) In general, perceived risk for ***heroin use without a needle*** began rising after 1995, leveled for a while, and then began rising further. Perceived risk held fairly steady among 8th and 10th graders since it was first measured.

- The use of ***narcotics other than heroin*** is reported only for 12th graders and older populations because we believe that younger students are not accurately discriminating among the drugs that should be included or excluded from this general class. Use declined gradually over most of the first half of the study in these three older groups. Twelfth graders had an annual prevalence in 1977 of 6.4%, which fell to 3.3% by 1992. But after about 1992 or 1993, all of the older age groups showed continuing increases for a decade or more, through 2003 or 2004, before stabilizing. Updating the list of examples given in the question stem in 2002 (to include Vicodin and OxyContin) led to an increase in reported prevalence. After a considerable increase in use from 1992 through 2001, during the relapse phase of the general epidemic and going beyond it, the use of narcotics other than heroin remained relatively constant at high levels through 2010. Since 2012 levels of use have declined in every year in each of the populations of 12th graders, college students, and young adults.

  The specific drugs in this class are listed in Table E-4 in Appendix E. Among these, ***Vicodin***, ***codeine***, ***OxyContin***, and ***Percocet*** are commonly mentioned by 12th graders in recent years. In 2013 ***hydrocodone*** was added to the list of specific narcotics other than heroin and was the most frequently mentioned in both 2013 and 2014.

- In 2002, specific questions were added for ***Vicodin*** and ***OxyContin***. The observed prevalence levels suggest that these two drugs likely help to account for the upturn in use of the general class of narcotics other than heroin. In 2003, Vicodin had attained surprisingly high prevalence levels in the five populations under study here— annual levels of 2.8% in 8th grade, 7.2% in 10th grade, 10.5% in 12th grade, 7.5% among college students, and 8.6% among young adults. In 2014 prevalence levels were down for all age groups: 1.0%, 3.4%, 4.8%, 2.8%, and 4.8%, respectively. OxyContin started with lower annual prevalence levels than Vicodin across all age groups in 2002, but given the highly addictive nature of this narcotic drug these levels were not inconsequential. Annual prevalence for OxyContin increased in 2003 with slight further increases and leveling through 2011. Since then its use has declined overall, although the decline has not been smooth. Prevalence levels in 2014 were 1.0%, 3.0%, 3.3%, 1.3%, and 2.5% for 8th, 10th, and 12th grades, college students, and young adults. Because OxyContin has received considerable adverse publicity in recent years, it is possible that perceived risk (which we did not measure for this drug until 2012) increased. But because its use appears to have originated in several fairly delimited geographic areas, it seems likely that OxyContin was diffusing to new

communities for some time, which may have delayed the turnaround in its use. We believe a similar process happened earlier when crack use and ecstasy use were rising. Questions on perceived risk of Vicodin and OxyContin were added to the 8th- and 10th-grade questionnaires in 2012; perceived risk is relatively low in both grades, although it increased for 8th grade students in 2014.

- Annual prevalence of ***tranquilizer*** use among 12th graders saw a long and substantial decline from 11% in 1977 to 2.8% in 1992. After 1992, use increased significantly among 12th graders as did most drugs, reaching 7.7% in 2002 (but the question was revised slightly in 2001 to include Xanax as an example of a tranquilizer, so a small portion of the increase may be an artifact). Since then, annual prevalence has leveled or even dropped a bit (4.7% in 2014). Reported tranquilizer use also increased modestly among 8th graders, from 1.8% in 1991 to 3.3% in 1996, before declining to 2.6% in 1998. It remained between 2.4% and 2.8% until 2011, when it declined significantly to 2.0%. It was at 1.7% in 2014. As with a number of other drugs, the downturn in use began considerably earlier among 8th graders compared to their older counterparts. Among 10th graders, annual prevalence remained stable between 1991 and 1994 at around 3.3%, and then increased significantly to 7.3% by 2001 (possibly including some artifact, as noted above). Since 2001 tranquilizer use has declined very gradually in all three grades. After a period of stability, college student use showed an increase between 1994 and 2003 (to 6.9%), more than tripling in that period. Since then there has been a gradual decline there as well, to 3.5% by 2014. For the young adult sample, after a long period of decline, annual prevalence more than doubled between 1997 and 2002 to 7.0%, with a slight, overall decline thereafter to 4.8% in 2014. Thus, while there was a considerable increase in use in all five populations, which reflected in part a cohort effect that first began in the early 1990s among 8th graders, that increase is clearly over and there has been some downward correction in recent years. Most of the reported tranquilizer use in recent years has involved ***Valium***, ***Xanax***, and more recently ***Klonopin*** (see Table E-3 in Appendix E).

- The long-term gradual decline in ***sedative*** (***barbiturate***) use among 12th graders, which has been observed since the start of the study in 1975, halted in 1992. (Data are not included here for 8th and 10th graders, again because we believe that these students have more problems with proper classification of the relevant drugs.) Use among 12th graders then rose considerably during the relapse phase in the drug epidemic, from 2.8% in 1992 to 6.7% by 2002—but still well below the peak level of 10.7% in 1975; use has shown a modest decline since 2002, to 4.3% in 2014. The 2014 annual prevalence of this class of drugs was highest among 12th graders (4.3%) as compared to young adults (3.2%) and college students (3.1%). Use among college students began to rise a few years later than it did among 12th graders, again likely reflecting a cohort effect, but by 2011 it was at its lowest point since 1998. There followed a small increase from 2012 to 2014. Among young adults, sedative (barbiturate) use increased since the early 1990s, rising from 1.6% in 1992 to 4.4% in 2004. It stands at 3.2% % in 2014, after declining some in recent years.

- ***Methaqualone***, another sedative drug, has shown a trend pattern quite different from barbiturates. Methaqualone use rose among 12th graders from 1975 to 1981, when annual prevalence reached 7.6%. Its use then fell sharply, declining to 0.2% by 1993 before rising some during the general drug resurgence in the 1990s, although only to 1.1% by 1996.

Prevalence levels have shown little consistent change since then, with use standing at 0.4% in 2012. The question was dropped in 2013 to make room for other questions. Use also fell in the 1980s among young adults and college students, who had annual prevalence levels by 1989—the last year they were asked about this drug—of only 0.3% and 0.2%, respectively. In the late 1980s, shrinking availability may well have played a role in the decline, as legal manufacture and distribution of methaqualone ceased. Because of very low usage, only 12th graders were asked about use of this drug for some years, before it was dropped. Methaqualone is one of the very few illegal drugs, the use of which has dropped to relatively negligible levels during the life of MTF. PCP is another.

- Clearly use of most of the several classes of ***psychotherapeutic drugs***—sedatives (barbiturates), tranquilizers, and narcotics other than heroin—has become a larger part of the nation's drug abuse problem. While the rise in use appears to have halted, most prevalence levels remain relatively high. During much of the 1990s and into the 2000s, we were seeing a virtually uninterrupted increase among 12th graders, college students, and young adults in the use of all of these drugs, which had fallen from favor from the mid-1970s through the early 1990s. These drugs continued to rise, even after the increase in use of most illegal drugs ended in the late 1990s and began to reverse.

- For many years, five classes of illicitly used drugs—***marijuana***, ***amphetamines***, ***cocaine***, ***LSD***, and ***inhalants***—had an impact on appreciable proportions of young Americans in their late teens and 20s. In 2014, twelfth graders showed annual prevalence levels for these drugs of 35.1%, 8.1%, 2.6%, 2.5%, and 1.9%, respectively, reflecting declines in most of them, especially LSD. Among college students in 2014, the comparable annual prevalence levels were 34.4%, 10.1%, 4.4%, 2.2%, and 1.3%; for all young adults the levels were 31.6%, 8.0%, 5.0%, 2.2%, and 1.1%. Because ***LSD*** use has fallen so precipitously since 2001 in all five populations, it no longer ranks as one of the major drugs of abuse, whereas ***narcotics other than heroin*** have become quite important due to the long-term rise in use that began in the 1990s. These narcotics now have annual prevalence levels of 5–6% among 12th graders, college students, and young adults. ***Tranquilizers*** have also become more important due to a similar rise in use, with prevalence levels in 2014 of about 4–5% across the same three populations, as have ***sedatives*** (***barbiturates***), with levels of 4.3%, 3.1%, and 3.2%, respectively. The increase in use of these prescription-type drugs, combined with the decline in use of many illegal drugs, means that the misuse of prescription-type drugs clearly became a more important part of the nation's drug problem.

  Ecstasy (***MDMA***) joined this set of long-established, more prevalent drugs for a period of time, but annual prevalence levels for ecstasy dropped considerably between 2000 and 2009, making ecstasy less prevalent than a number of other illicit drugs. In 2012 annual use declined significantly for all three grades. The 2014 levels are less than half the peaks observed in 2001 for 8th, 10th, and 12th graders, and college students. For young adults 2014 annual prevalence is down about 1/3 from its peak in 2001.

- In 8th grade ***inhalants*** rank second only to marijuana among the illicitly used drugs in terms of thirty-day, annual and lifetime prevalence. Because the use of inhalants reflects a form of illicit psychoactive drug use, and because of its importance among the younger

adolescents, an additional index of "any illicit drug use including inhalants" was introduced in Tables 2-1 through 2-3. The inclusion of inhalants makes relatively little difference in the illicit drug index prevalence levels for the older age groups, but considerable difference for the younger ones. For example, in 2014 the proportion of 8th graders reporting any illicit drug use in their lifetime, exclusive of inhalants, was 20%, whereas including inhalants raised the figure to 25%.

- Several drugs have been added to MTF's coverage over the years, including ***ketamine***, ***GHB***, and ***Rohypnol***, which are so-called "club drugs" (in addition to LSD and ecstasy). In general, these drugs have low prevalence levels that have declined over the past several years among 8th, 10th, and 12th graders. For that reason GHB and ketamine were dropped from the 8th- and 10th-grade surveys in 2012. For 12th graders, the 2014 annual prevalence was 1.5% for ***ketamine*** and 1.0% for ***GHB***. Annual prevalence of ***Rohypnol*** was 0.3% for 8th graders, 0.5% for 10th graders, and 0.7% for 12th graders in 2014.

- The two narcotic drugs added to MTF's coverage in 2002—***OxyContin*** and ***Vicodin***—show considerably higher levels of prevalence, as noted earlier.

- Questions on use of ***Provigil*** (a prescription stay-awake drug used for narcolepsy, shift work, etc.) were added to the 12th-grade and follow-up questionnaires in 2009. In 2011 levels of Provigil use in the past year by 12th graders, college students, and young adults were 1.5%, 0.2%, and 0.3%, respectively, suggesting that this drug had not made serious inroads in terms of non-medically supervised use. Given the low use, questions on Provigil were dropped from the study in 2012.

- ***Salvia divinorum*** is a psychoactive plant that is legally available in most states; questions on salvia were added to the 12th-grade and follow-up questionnaires in 2009 and were added to the 8th- and 10th-grade questionnaires in 2010. Unlike Provigil, the annual prevalence levels of salvia were not inconsequential; in 2011, the levels were 1.6% among 8th graders, 3.9% among 10th graders, 5.9% among 12th graders, 3.1% for college students, and 2.2% for young adults (see Table 2-2). But by 2014 levels of salvia use had declined in all five populations, suggesting that the popularity of this drug has peaked. Still, 1.8% of the 12th graders report some past-year use in 2014, but the college and young adult populations have prevalence levels at or below 1.2%.

- ***Anabolic steroid*** use occurs predominantly among males. In 2014 the annual prevalence levels for males in 8th, 10th, and 12th grades were 0.6%, 1.1%, and 2.0%, compared with 0.5%, 0.5%, and 0.7% for females. Between 1991 and 1998, the overall annual prevalence levels were fairly stable among 8th and 10th graders, ranging between 0.9% and 1.2%. In 1999, however, use jumped from 1.2% to 1.7% in both grades. Almost all of that increase occurred among males, from 1.6% in 1998 to 2.5% in 1999 in 8th grade and from 1.9% to 2.8% in 10th grade. Thus, levels among males increased by about half in a single year, which corresponded in time to stories in the news media about the use of androstenedione, a steroid precursor, by baseball home-run king Mark McGwire. Since then, among all 8th graders, anabolic steroid use has declined by almost two thirds to 0.6% in 2014. Among 10th graders, use continued to increase, reaching 2.2% in 2002, suggesting a cohort effect, but then declined by more than half to 0.8% by 2014. Among 12th graders, annual

prevalence rose significantly to 2.4% in 2001, but then decreased to 1.5% by 2014. Use generally has been much lower among college students and young adults, and was 0.5-0.7% annual prevalence in 2014.

- Two other substances used primarily by males to develop physique and physical strength were added to the question set in 2001. One is ***androstenedione,*** a precursor to anabolic steroids and available over the counter until early 2005. Among males, where use has tended to be more concentrated, the 2014 annual prevalence levels were 0.4%, 1.1%, and 2.0% in grades 8, 10, and 12, respectively. Among females, the levels were 0.4%, 0.7%, and 0.3%. As discussed in Chapter 10, the proportion of young males who report past-year use of ***androstenedione*** and/or ***steroids*** was appreciable. In 2001, when the "andro" question was introduced, annual prevalence for androstenedione and/or steroids was 8.0% for 12th-grade boys. Prevalence has fallen considerably in all three grades since then; among 12th-grade boys it was down to 3.2% in 2014.

- ***Creatine*** is another substance taken to enhance physique; it is not classified as a drug but rather as a type of protein supplement. Because we believed its use was often combined with the use of steroids and androstenedione, we introduced a question on it in 2001 and found prevalence of use to be very high. Among males, who again are the primary users, the 2014 annual prevalence for creatine was 2.9%, 11.0%, and 18.5% in grades 8, 10, and 12. In other words, nearly one in every five 12th-grade boys used creatine in the prior year. For girls, prevalence levels were far lower at 0.5%, 1.3%, and 2.0%, respectively.

- Beginning in 1982, MTF included a set of questions about the use of *nonprescription* stimulants, including stay-awake pills, diet pills, and the so-called "look-alikes" (see Chapter 10 for more detailed findings). One important finding shown in that chapter (see Table 10-3) is that the use of each of these over-the-counter substances is correlated positively with the respondent's use of illicit drugs. *In other words, there is a more general propensity of some youth to use or not use psychoactive substances, regardless of the drug's legal status.*[4]

  The annual prevalence among 12th graders of over-the-counter ***stay-awake pills***, which usually contain caffeine as their active ingredient, more than doubled between 1982 and 1988, increasing from 12% to 26%. After 1988 this statistic fell considerably reaching 3.2% by 2010, the lowest level ever reported. By 2014 it had increased only slightly to 3.5%.

- The ***look-alike stimulants*** have also shown considerable falloff since we first measured their use in 1982. Among 12th graders, annual prevalence decreased by half from 10.8% in 1982 to 5.2% in 1991. Their use rose only slightly during the relapse phase of the illicit drug epidemic in the 1990s, reaching 6.8% in 1995—roughly where it stayed through 2001. Since then the use of look-alikes decreased to 1.4% by 2014, the lowest level ever reported by MTF.

[4] For a more extended discussion and documentation of this point, see Johnston, L.D. (2003). Alcohol and illicit drugs: The role of risk perceptions. In Dan Romer (Ed.), *Reducing adolescent risk: Toward an integrated approach* (pp. 56-74). Thousand Oaks, CA: Sage. Available at http://www.monitoringthefuture.org/pubs/chapters/ldj2003.pdf.

- Among 12th graders, annual prevalence levels for over-the-counter ***diet pills*** have fluctuated widely over the life of the study. Annual prevalence declined from 21% in 1983 to 8% a decade later, increased to 15% by 2002, then declined significantly to 4.3% by 2010, the lowest point since the questions were added in 1982. Use of this class of drugs in 2014 was up only slightly, to 6.4%. Among 12th-grade girls in 2014 substantial proportions were using over-the-counter diet pills—12.9% had tried diet pills by the end of senior year, 8.6% used them in the past year, and 4.5% used them in just the past 30 days.

- One additional type of over-the-counter drug was added to the 8th-, 10th-, and 12th-grade questionnaires in 2006—***dextromethorphan***, a cough suppressant found in many cough and cold medications. Respondents were asked, "How often have you taken cough or cold medicines to get high?" The proportions indicating such use in the prior 12 months were 4%, 5%, and 7% in grades 8, 10, and 12 in 2006—not inconsequential proportions. In the following years prevalence declined overall, to 2.0%, 3.7%, and 4.1% in 2014. In 2014 use significantly declined among 8th-grade students (from 2.9% in 2013).

College–Noncollege Differences in Illicit Drug Use

- For analytic purposes, "college students" are defined here as those respondents one to four years past high school who are actively enrolled full-time in a two- or four-year college in March of the year of the survey. For nearly all categories of illicit drugs, college students show *lower* levels of use than their age-mates not in college. However, for a few categories of drugs—including ***any illicit drug***, ***marijuana***, and ***hallucinogens***—college students show annual usage levels that are about average for all high school graduates their age. (College students are about average on the index of any illicit drug use because they have average levels of marijuana use, which largely drives the index.)

- Although college-bound 12th graders have generally had below-average levels of use on *all* of the ***illicit drugs*** while they were in high school, these students' eventual use of some illicit drugs attained equivalence with, or even exceeded, the levels of their age-mates who do not attend college. As MTF results have shown, this college effect of "catching up" is largely explainable in terms of differential rates of leaving the parental home after high school graduation and of getting married. College students are more likely than their age peers to have left the parental home, and they tend to defer marriage, leaving them comparatively less constrained.[5]

- In general, the substantial decline in ***illicit substance use*** among American college students after 1980 paralleled that of their age peers not in college. Further, for the 12-year period 1980 to 1992, all young adult high school graduates through age 28, as well as college students taken separately, showed trends that were highly parallel, for the most part, to trends among 12th graders (see Chapter 9 of *Volume II*). However, after 1992 a number of

[5] Bachman, J. G., Wadsworth, K. N., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (1997). *Smoking, drinking, and drug use in young adulthood: The impacts of new freedoms and new responsibilities.* Mahwah, NJ: Lawrence Erlbaum Associates. See also Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Bryant, A. L., & Merline, A. C. (2002). *The decline of substance use in young adulthood: Changes in social activities, roles, and beliefs.* Mahwah, NJ: Lawrence Erlbaum Associates.

drugs showed an increase in use among 12th graders (as well as 8th and 10th graders), but *not* among college students and young adults for some period of time.

This divergence, combined with the fact that the upturn began first among 8th graders (in 1992), suggests that cohort effects were emerging for illicit drug use, as discussed earlier. Indeed, as those heavier-using cohorts of 12th graders entered the college years, we saw a lagged increase in the use of several drugs in college. For example, annual prevalence reached a low point among 12th graders in 1992 for a number of drugs (e.g., ***cocaine***, ***amphetamines***, ***sedatives, tranquilizers***, ***narcotics other than heroin***, and ***any illicit drug other than marijuana***) before rising thereafter. Among college students, those same drugs reached a low two years later in 1994, and then began to rise gradually. Then, in 1998, as ***marijuana*** use already was declining in secondary school, we saw a sharp increase in its use among college students. Consistent with our earlier predictions, the evidence for cohort effects resulting from generational replacement is quite substantial.

Male–Female Differences in Substance Use

- Regarding gender differences in the three older populations (12th graders, college students, and young adults), males are more likely to use most *illicit drugs*, and the differences tend to be largest at the higher frequency levels. For example, 2014 ***daily marijuana*** use levels among 12th graders are 8.5% for males versus 3.3% for females.

- The 8th- and 10th-grade samples evidence fewer and smaller gender differences in the use of drugs than do the older populations. While the level of past-year ***marijuana*** use is slightly higher for males, the level of use for ***any illicit drug other than marijuana*** generally has tended to be slightly higher for females. There are no appreciable gender differences in 2014 among 8th graders in their use of ***LSD***, ***MDMA***, ***salvia***, ***cocaine***, ***crack***, ***other cocaine***, ***heroin***, ***OxyContin***, ***Vicodin***, ***Ritalin***, ***Adderall***, ***methamphetamine***, ***bath salts***, or ***Rohypnol***. The levels of use of ***inhalants***, ***alcohol***, ***flavored alcoholic beverages***, and the frequency of ***being drunk*** are slightly higher among females in 8th grade. By 10th grade use among boys catches up and in some cases surpasses use among girls on many of these drugs.

TRENDS IN ALCOHOL USE

- Several findings about ***alcohol*** use in these age groups are noteworthy. First, despite the fact that it is illegal for virtually all secondary school students and most college students to purchase alcoholic beverages, they have had a substantial amount of experience with alcohol. Alcohol has been tried by 27% of 8th graders, 49% of 10th graders, 66% of 12th graders, 79% of college students, and 86% of young adults (19 to 28 years old). Current use (use in past 30 days) is also widespread. Most important, perhaps, is the prevalence of ***occasions of heavy drinking***—five or more drinks in a row at least once in the prior two-week period—which was reported by 4% of 8th graders, 13% of 10th graders, 19% of 12th graders, 35% of college students, and 34% of young adults who were surveyed in 2014.

  Alcohol use did not increase as use of other illicit drugs decreased among 12th graders from the late 1970s to the early 1990s, although it was common to hear such a "displacement

hypothesis" asserted. MTF demonstrates that the opposite seems to be true. After 1980, when illicit drug use was declining, the ***monthly prevalence of alcohol use*** among 12th graders also declined gradually, but substantially, from 72% in 1980 to 51% in 1992. ***Daily alcohol use*** declined by half over the same interval, from a peak of 6.9% in 1979 to 3.4% in 1992; the prevalence of drinking ***five or more drinks in a row*** during the prior two-week interval fell from 41% in 1983 to 28% in 1993—nearly a one-third decline. When illicit drug use rose again in the 1990s, alcohol use (particularly binge drinking) rose some as well—albeit not as sharply as marijuana use. In the late 1990s, as illicit drug use leveled in secondary schools and began a gradual decline, similar trends were observed for alcohol. *Therefore, long-term evidence indicates that alcohol use moves much more in concert with illicit drug use than counter to it.* From 2007 through 2011, however, alcohol use continued its long term decline, reaching historic lows in the life of the study, whereas marijuana use was rising gradually. In 2012 the story became more complicated, with marijuana use still rising among college students, leveling among 12th graders and actually declining a bit among 8th and 10th graders. Thirty-day alcohol use rose in all groups except the 8th graders in 2012 (who had a significant decline of 1.7 percentage points); the increase of 4.2 percentage points among college students was significant. In 2014 alcohol use and annual marijuana use moved in concert, with both decreasing in all five populations.

College–Noncollege Differences in Alcohol Use

- Trends in ***alcohol*** use among college students are quite different than those for 12th graders or noncollege respondents of the same age as the college students (see Figure 9-14 in *Volume II*). From 1980 to 1993, college students showed considerably less dropoff in monthly prevalence of ***alcohol*** use (82% to 70%) than did 12th graders (72% to 51%), and also less decline in ***occasions of heavy drinking*** (from 44% to 40%) than either 12th graders (41% to 28%) or their noncollege age-mates (41% to 34%). Because both the noncollege 19- to 22-year-olds and high school students were showing greater declines, the college students stood out as having maintained a high level of episodic heavy (or binge) drinking. Since 1993, this behavior has not changed a great deal among college students—their level of binge drinking in 2014 was 35%, down modestly from their 1993 (and 2008) level of 40%. The level among noncollege age-mates was 31% in 2014 (and 30% in 2012)—down from 34% in 1993. The 12th graders' level, after increasing to 32% in 1998, dropped to 25% by 2006 where it remained through 2009; it then declined to its lowest level recorded of 19% in 2014. College students continue to stand out as having a relatively high level of binge drinking, though at 35% it is still somewhat below where it was in 1993 and 2008.

  College-bound 12th graders are consistently less likely than their noncollege-bound counterparts to report occasions of heavy drinking, yet the higher levels of such drinking among college students compared to noncollege peers indicate that these 12th graders catch up to and pass their peers in binge drinking after high school graduation. As stated above, we have shown that this differential change after high school is largely attributable to the fact that college students are more likely to leave the parental home and less likely to get married in the four years after high school graduation than their age mates. An MTF journal

article also shows that membership in a fraternity or sorority is associated with a greater than average increase in heavy episodic drinking and marijuana use in college.[6]

- Since 1980, college students have generally had levels of ***daily drinking*** that were slightly lower than their age peers, suggesting that they were more likely to confine their drinking to weekends, when they tend to drink a lot. The prevalence of daily drinking among the *noncollege* group fell from 8.3% in 1980 to 3.2% in 1994, rose to 5.8% by 2000, and dropped some to 4.1% in 2014. Daily drinking by the *college* group also dropped in approximately the same time period, from 6.5% in 1980 to 3.0% in 1995, then increased to 5.0% in 2002; since then it has hovered between 3.6% and 4.8%. By 2014 the two groups have similar levels of daily drinking, which is a change in a long-standing difference.

Male–Female Differences in Alcohol Use

- Given that the physiological impacts of five drinks are considerably greater for the typical young female versus the typical young male, it is not surprising that we find substantial gender differences in the prevalence of having ***five or more drinks in a row***. Among 12th graders, the levels of prevalence in 2014 are 17% for females versus 22% for males. This difference has generally been diminishing since MTF began; in 1975 there was a 23-percentage-point difference, versus a 5-point difference in 2014. The proportions indicating in 2014 that they have ***been drunk*** in the prior 30 days are somewhat higher at 24% and 33% for females and males, respectively.

TRENDS IN CIGARETTE SMOKING

A number of very important findings about ***cigarette smoking*** among American adolescents and young adults have emerged during the life of the study, and we believe that one of the study's more important contributions to the long-term health of the nation has been to document and call public attention to these trends. Despite the demonstrated health risks associated with smoking, young people have continued to establish regular cigarette habits during late adolescence in sizable proportions, and, during the first half of the 1990s, in rapidly growing proportions. In fact, since MTF began in 1975, cigarettes have consistently remained the class of abusable substances most frequently used on a daily basis by high school students.

- During most of the 1980s, when smoking levels were falling steadily among adults, we reported that smoking among adolescents was *not* declining. Then the situation went from bad to worse. Among 8th and 10th graders, levels of ***current*** (***past 30-day***) ***smoking*** increased by about half between 1991 (when their use was first measured) and 1996; among 12th graders, current smoking rose by nearly one third between 1992 and 1997. MTF played an important role in bringing these disturbing increases in adolescent smoking to public attention during those years, which was the historical period in which major social action was initiated in the White House, the Food & Drug Administration, the Congress, and

[6] McCabe, S. E., Schulenberg, J. E., Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Kloska, D. D. (2005). Selection and socialization effects of fraternities and sororities on U.S. college student substance use: A multi-cohort national longitudinal study. *Addiction, 100,* 512–524.

eventually the state attorneys general, culminating in the 1998 Tobacco Master Settlement agreement between the tobacco industry and the states.

Fortunately—and largely as a result of that settlement, we believe—there have been some important declines in current smoking since 1996 among 8th and 10th graders, and since 1997 among 12th graders. In fact, the declines have more than offset the increases observed earlier in the 1990s. In 2014, 4% of 8th graders (down from 14% in 1991 and 21% in 1996) reported smoking one or more cigarettes in the prior 30 days—a decline of 80% from the 1996 peak level. Some 7% of 10th graders were current smokers in 2014 (down from 21% in 1991 and 30% in 1996), representing a drop of nearly three quarters from the 1996 peak level. And among 2014 12th-grade students 14% were current smokers (versus 28% in 1991 and 37% in 1997), representing a drop of more than half from the 1997 peak. Monthly prevalence of use for all three grades is now at the lowest point in the history of the study, and significantly declined in 2014 for 10th- and 12th-grade students.

Several of the important attitudinal changes that accompanied these declines in use ended some years ago (around 2007), leading us to conclude that further reductions in smoking levels will likely have to come from changes in the environment—for example, enacting such policies as tobacco tax increases, further reducing the places in which smoking is permitted, and providing effective quit-smoking programs. In 2009, federal taxes on tobacco products were in fact raised, which may well have contributed to the resumption of declines in use starting in 2011. Despite these very important improvements in the past decade and a half, about one seventh (14%) of young Americans are current smokers by the time they complete high school. Other research consistently shows that smoking levels are substantially higher among those who drop out before graduating, so the estimates here, based on high school seniors, are low for the age cohort as a whole.[7]

Among college students, the peak level in current smoking (31%) was not reached until 1999—reflecting a cohort effect—after which it has since declined to 13% in 2014. Young adults 19 to 28 years old have also shown a decline between 2001 (30%) and 2014 (18%)—a decline of four tenths including a significant decrease in 2014.

- The dangers that survey participants perceive to be associated with ***pack-a-day smoking*** differ greatly by grade level, and seem to be unrealistically low at all grade levels. Currently, about three quarters of 12th graders (78%) think that pack-a-day smokers run a great risk of harming themselves physically or in other ways, but only 62% of the 8th graders think the same. All three grades showed a decrease in perceived risk between 1993 and 1995, as use was rising rapidly, but a slightly larger and offsetting increase in perceived risk occurred between 1995 and 2000, presaging the subsequent downturn in smoking. After 2000 there was a slight upward drift in perceived risk at all three grade levels, but it leveled off after 2004 in the lower grades and after 2006 at 12th grade. After that the upward drift resumed in all three grades. In 2014 there was no consistent change in direction across the three grades.

[7] For a recent analysis showing much higher smoking rates among 8th graders who later dropped out before completing high school, see Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Freedman-Doan, P., & Messersmith, E. E. (2008). *The education–drug use connection: How successes and failures in school relate to adolescent smoking, drug use, and delinquency.* New York: Lawrence Erlbaum Associates/Taylor & Francis.

- *Disapproval* of cigarette smoking was in decline for a considerable period: from 1991 through 1996 among 8th and 10th graders, and from 1992 to 1996 among 12th graders. Since then there has been a fairly steady increase in disapproval of cigarette smoking in all three grades. Undoubtedly the heavy media coverage of the tobacco issue (the settlement with the states attorneys general, the congressional debate, the congressional testimony of the tobacco executives, the eventual state settlements, etc.) had an important influence on these attitudes and beliefs. However, that coverage diminished considerably in 1998, raising the question of whether those changes in youth attitudes would continue. The removal of certain kinds of cigarette advertising and promotion, combined with national- and state-level antismoking campaigns and subsequent significant increases in cigarette prices, may well serve to sustain and prolong these changes. Trend data support the case for long-lasting effects, with disapproval at the highest levels ever recorded by the study. In 2014 the percentage disapproving of cigarette use in 8th, 10th, and 12th grades were 88%, 88%, and 85%, respectively, percentages that include significant increases in 10th and 12th grades in 2014.

Age- and Cohort-Related Differences in Cigarette Smoking

- Initiation of smoking occurs most often in grades 6 through 9 (i.e., at modal ages 11–12 to 14–15), although according to the 2014 eighth graders, 7% had already initiated smoking in grade 6 or earlier. The initiation rate trails off considerably by 12th grade, although, as we have shown in our follow-up studies, a number of the light smokers in 12th grade make the transition to heavy smoking in the first two years after high school. Analyses presented in this volume and elsewhere have shown that cigarette smoking evidences a clear cohort effect. That is, if a group of people all born around the same time (also known as a birth cohort) establishes an unusually high level of smoking at an early age relative to other cohorts, the level is likely to remain high throughout the life cycle when compared to that of other birth cohorts at equivalent ages.

- As we reported in "Other Findings from the Study" in the 1986 Volume I in this series, some 53% of 12th graders who were half-pack-a-day (or more) smokers in senior year in 1985 said that they had tried to quit smoking but could not. Of those who had been daily smokers in 12th grade, nearly three quarters were still daily smokers seven to nine years later (based on the 1985 follow-up surveys of the Class of 1985), despite the fact that in high school only 5% thought they would "definitely" be smoking five years hence. A subsequent analysis, based on the 1995 follow-up survey, showed similar results. Nearly two thirds (63%) of those who had been daily smokers in 12th grade were still daily smokers seven to nine years later, although in high school only 3% of them had thought they would "definitely" be smoking five years hence. Clearly, the smoking habit is established at an early age, is difficult to break for those young people who have initiated use, and young people greatly overestimate their own ability to quit. Additional data from 8th- and 10th-grade students show us that younger adolescents are even more likely than older ones to seriously underestimate the dangers of smoking.

- MTF surveys of 8th and 10th graders also show that cigarettes are readily available to teens in 2014, even though perceived availability has been dropping for some years in these two

grades; 47% of 8th graders and 69% of 10th graders say that cigarettes would be "fairly easy" or "very easy" for them to get, if they wanted them. Perceived availability was first asked of 8th and 10th graders in 1992; 12th graders have not been asked this question. After 1997, perceived availability of cigarettes decreased significantly for 8th and 10th graders, quite likely reflecting the impact of new regulations and related enforcement efforts aimed at reducing the sale of cigarettes to minors (including the Synar amendment, which required states to pass and enforce laws prohibiting the sale and distribution of tobacco products to persons under 18).[8]

College–Noncollege Differences in Cigarette Smoking

- A striking difference in smoking levels has long existed between college-bound and noncollege-bound 12th graders. For example, in 2014, smoking a half pack or more per day is three times as prevalent among the noncollege-bound 12th graders as among the college bound (6.2% vs. 1.7%). Among respondents of college age (one to four years past high school), those not in college also show dramatically higher levels of half-pack-a-day smoking than those who are in college—10.1% versus 2.4%, respectively. Clearly, these important differences precede college attendance.

- In the first half of the 1990s, smoking rose among college students and their same-age peers, although the increases were not as steep for either group as they were among 12th graders. But in 1998 and 1999, while smoking was declining among secondary school students at all grades, smoking continued to increase among college students and their noncollege age peers, reflecting the cohort effect from earlier, more heavily smoking classes of 12th graders moving into the older age groups. Between 1991 and 1999, the 30-day prevalence of cigarette smoking by college students rose from 23% to 31%, or by about one third, and daily smoking rose from 14% to 19%, also by about one third. The year 2000 showed, for the first time in several years, a decline in college student smoking; that continued with a significant decline to 23% in 2003, and another significant decline to 19% in 2006. The level in 2014 was 13%. (Because of the smaller numbers of cases in the college student samples, the trend lines are not always as smooth as they are for most of the other groups discussed here.) A much more modest decline has also been observed among their noncollege peers, but only since 2001; and the difference between their smoking levels and those of 12th graders in the same year have grown very large. A number of in-depth analyses of MTF panel data have revealed that the differences in smoking levels between those who do and do not attend college are evident by the end of 12th grade and have their roots in earlier educational successes and failures.[9]

[8] For a more detailed examination of changes in youth access to cigarettes, see Johnston, L. D., O'Malley, P. M., & Terry-McElrath, Y. M. (2004). Methods, locations, and ease of cigarette access for American youth, 1997–2002. *American Journal of Preventive Medicine, 27*, 267–276.

[9] Bachman, J. G., Wadsworth, K. N., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (1997). *Smoking, drinking, and drug use in young adulthood: The impacts of new freedoms and new responsibilities*. Mahwah, NJ: Lawrence Erlbaum Associates. Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Bryant, A. L., & Merline, A. C. (2002). *The decline of substance use in young adulthood: Changes in social activities, roles, and beliefs*. Mahwah, NJ: Lawrence Erlbaum Associates. Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Freedman-Doan, P., & Messersmith, E. E. (2008). *The education–drug use connection: How successes and failures in school relate to adolescent smoking, drinking, drug use, and delinquency*. New York: Lawrence Erlbaum Associates/Taylor & Francis.

Male–Female Differences in Cigarette Smoking

- In the 1970s, 12th-grade females caught up to and passed 12th-grade males in levels of ***current smoking***. Both genders then showed a decline in use followed by a long, fairly level period, with use by females consistently higher, but with the gender difference diminishing. In the early 1990s, another crossover occurred among the 12th graders when levels rose more among males than females; thereafter, males have had consistently slightly higher levels of current smoking. In the lower grades, the genders have generally had similar smoking levels since their use was first measured in 1991.

- Among college students, females had a slightly higher probability of being daily smokers from 1980 through 1994—although this long-standing gender difference was not seen among their age peers who were not in college. However, a crossover occurred between 1994 and 2001, with college males exceeding college females in daily smoking—an echo of the crossover among 12th graders in 1991. Since about 2001 there has been little consistent gender difference in smoking among college students.

RACIAL/ETHNIC COMPARISONS

The three largest ethnic groups in the population—Whites, African Americans, and Hispanics—are examined here for 8th, 10th, and 12th graders. (Sample size limitations simply do not allow accurate characterization of smaller racial/ethnic groups unless data from a number of years are combined. Separate publications from the study have done just that.[10]) A number of interesting findings emerge from the comparison of these three groups; the reader is referred to Chapters 4 and 5 for a full discussion and to MTF Occasional Paper 83[11] for both tabular and graphic documentation of differences among these three ethnic groups across all drugs.

- African-American 12th graders have consistently shown lower levels of use than White 12th graders for most drugs, both licit and illicit. At the lower grade levels, where few have yet dropped out of school, African-American students also have generally had lower levels of use for many drugs, though not all. The differences in the upper grades generally have been quite large for some drugs, including ***inhalants***, ***LSD*** specifically, ***hallucinogens other***

[10] We periodically publish comparisons that contain a number of the smaller racial/ethnic groups in the population, based on data combined for a number of contiguous years in order to attain adequate sample sizes. The first was Bachman, J. G., Wallace, J. M., Jr., O'Malley, P. M., Johnston, L. D., Kurth, C. L., & Neighbors, H. W. (1991). Racial/ethnic differences in smoking, drinking, and illicit drug use among American high school seniors, 1976–1989. *American Journal of Public Health, 81*, 372–377. More recent articles are: Bachman, J. G., O'Malley, P. M., Johnston, L. D., Schulenberg, J. E., & Wallace, J. M., Jr. (2011). Racial/ethnic differences in the relationship between parental education and substance use among U.S. 8th-, 10th-, and 12th-grade students: Findings from the Monitoring the Future Project. *Journal of Studies on Alcohol and Drugs, 72*(2), 279-285. doi: 10.1037/a0031464; Wallace, J. M., Jr., Bachman J. G., O'Malley, P. M., Johnston, L. D., Schulenberg, J. E., & Cooper, S. M. (2002). Tobacco, alcohol and illicit drug use: Racial and ethnic differences among U.S. high school seniors, 1976–2000. *Public Health Reports, 117 (Supplement 1),* S67–S75; Wallace, J. M., Jr., Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Cooper, S. M., & Johnston, L. D. (2003). Gender and ethnic differences in smoking, drinking, and illicit drug use among American 8th, 10th, and 12th grade students, 1976–2000. *Addictions, 98*, 225–234; and Delva, J., Wallace, J. M., Jr., O'Malley, P. M., Bachman, J. G., Johnston, L. D., & Schulenberg, J. E. (2005). The epidemiology of alcohol, marijuana, and cocaine use among Mexican American, Puerto Rican, Cuban American, and other Latin American 8th-grade students in the United States: 1991–2002. *American Journal of Public Health, 95*, 696–702. See also Bachman, J. G., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (2010). *Impacts of parental education on substance use: Differences among White, African-American, and Hispanic students in 8th, 10th, and 12th grades (1999–2008)* (Monitoring the Future Occasional Paper No. 70). Ann Arbor, MI: Institute for Social Research. Available at http://www.monitoringthefuture.org/pubs/occpapers/occ70.pdf.

[11] Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2015). *Demographic subgroup trends among young adults in the use of various licit and illicit drugs 1975-2014* (Monitoring the Future Occasional Paper No. 83). Ann Arbor, MI: Institute for Social Research, University of Michigan. Available at http://monitoringthefuture.org/pubs/occpapers/mtf-occ83.pdf

than LSD, ***ecstasy*** (***MDMA***), ***salvia***, ***narcotics other than heroin***, ***OxyContin***, ***Vicodin***, ***amphetamines***, ***Adderall***, ***sedatives*** (***barbiturates***), and ***tranquilizers***. But, in 2014 African-American 8th graders have levels of use roughly equivalent to White 8th graders for a number of drugs, and for some drugs African Americans have a higher annual prevalence, ***marijuana*** in particular (13% vs. 9%).

- African-American students currently have a much lower 30-day prevalence of ***cigarette smoking*** than do White students (9% vs. 18% among 12th graders in 2014), partly because smoking among African-American students declined from 1980 to 1992, while for White students it remained fairly stable. After 1992, smoking levels rose among both White and African-American 12th graders, but less so among the latter. After 1996 (or 1998 in the case of 12th graders) smoking among White students showed a sharp and continuing decline in all three grades for some years, which considerably narrowed the smoking differences between the races, despite some decline among African Americans as well; nevertheless, there remain substantial differences. Smoking levels among Hispanic students have tended to fall in between the other two groups in the upper grades, and have tracked closely to the White smoking levels at 8th grade.

- In 12th grade, ***occasions of heavy drinking*** are much less likely to be reported by African-American students (11%) than White (24%) or Hispanic students (20%).

- In 12th grade, of the three racial/ethnic groups, Whites have tended to have the highest levels of use on a number of drugs, including ***hallucinogens***, ***LSD*** specifically, ***hallucinogens other than LSD***, ***salvia***, ***narcotics other than heroin***, ***OxyContin*** specifically, ***Vicodin*** specifically, ***amphetamines***, ***Ritalin*** specifically, ***Adderall*** specifically, ***sedatives*** (***barbiturates***), ***tranquilizers***, ***alcohol***, ***getting drunk***, ***cigarettes***, and ***smokeless tobacco***.

- Throughout most of the study Whites typically had the highest levels of ***marijuana*** use. However, levels of use for Whites and African-Americans began to converge in the mid-2000s, when 30-day use leveled among Whites and increased among African-Americans. In 2014 prevalence was actually slightly higher among 12th-grade African-Americans (23%) than it was among Whites (21%). Levels of marijuana use for Hispanics have typically been similar to those for African-Americans, with the exception of higher levels of use in the early 1990s and early 2000s. In 2014, 30-day marijuana prevalence for 12th-grade Hispanics was 23%, the same as African-Americans.

- Hispanics have tended to have the highest usage rate in terms of annual prevalence in 12th grade for a number of the most dangerous drugs, such as ***crack*** and ***crystal methamphetamine*** (***ice***). Whites and African-American typically have the highest level of use for ***heroin*** and ***heroin use with a needle***.

- Hispanics have the highest levels of use for many drugs in 8th grade, but not for as many in 12th; their considerably higher dropout rate (compared to Whites and African Americans) may contribute to their changed relative ranking by 12th grade.

- With regard to trends, 12th graders in all three racial/ethnic groups exhibited declines in ***cocaine*** use from 1986 through 1992, although the decline was less steep among African-American 12th graders because their earlier increase in use was not as large as the increase among White and Hispanic students.

- For virtually ***all of the illicit drugs***, the three groups have tended to trend in parallel at 12th grade. Because White 12th graders had the highest level of use on a number of drugs—including ***amphetamines***, ***sedatives*** (***barbiturates***), and ***tranquilizers***—they also had the largest percentage declines; African Americans have had the lowest levels of use and, therefore, the smallest declines.

For a more detailed consideration of racial/ethnic differences in substance use, see the last sections of Chapters 4 and 5.

DRUG USE IN EIGHTH GRADE

It is useful to focus specifically on the youngest age group in the study—the 8th graders, most of whom are 13 or 14 years old—in part because the worrisome levels of both licit and illicit drug use that they report help illustrate the nation's urgent need to continue to address the substance abuse problems among its youth. Further, it is a well-established fact that the earlier young people start to use drugs, both licit and illicit, the more likely they are to experience adverse outcomes.[12,13,14]

- Among 8th graders in 2014, more than one in four (27%) report having tried ***alcohol*** (more than just a few sips), and about one in nine (11%) indicates having already been ***drunk*** at least once.

- About one seventh of 8th graders in 2014 (14%) has tried ***cigarettes***, and one in twenty-five (4.0%) reports having smoked in the prior month. Shocking to many adults is the fact that only 62% of 8th graders recognize that there is great risk associated with smoking one or more packs of cigarettes per day. While an increasing proportion of youth will recognize the risk by 12th grade, for many this is too late, because they will have developed a smoking habit by then.

- Among 8th grade males in 2014, 10% tried ***smokeless tobacco***, 4% used it in the past month, and 0.9% used it daily. Levels of use are much lower among females.

[12]Merline, A.C., O'Malley, P.M., Schulenberg, J.E., Bachman, J.G., & Johnston, L.D. (2004). Substance use among adults 35 years of age: Prevalence, adulthood predictors, and impact of adolescent substance use. *American Journal of Public Health, 94*, 96-102.

[13]Zucker, R. A. (2006). Alcohol use and the alcohol use disorders: A developmental-biopsychosocial systems formulation covering the lifecourse. In D. Cicchetti & D. J. Cohen (Eds.), *Developmental psychopathology:Vol. 3. Risk, disorder, and adaptation* (2nd ed., pp. 620–656). Hoboken, NJ: Wiley.

[14]Office of the Surgeon General. (2007). *The Surgeon General's call to action to prevent and reduce underage drinking.* Rockville, MD: Department of Health and Human Services.

- One 8th grader in nine (11%) reports ever trying ***inhalants***, and one in 43 (2.3%) reports inhalant use in just the month prior to the 2014 survey. This is the only class of drugs for which use is substantially higher in 8th grade than in 10th or 12th grade.

- ***Marijuana*** has been tried by one in every six 8th graders (16%) and has been used in the prior month by about one in every 15 (6.5%). Some 1.0% use it on a daily or near-daily basis in 8th grade.

- A surprisingly large number of 8th graders (6.7%) say they have tried prescription-type ***amphetamines*** without medical instruction; 2.1% say they have used them in the prior 30 days.

- For most of the ***other illicit drugs***, relatively few 8th graders in 2014 say they have tried them. (This is consistent with the retrospective reports from 12th graders concerning the grades in which they first used the various drugs.) But the proportions having at least some experience with them is not inconsequential. Even prevalence as low as 3% represents about one child in every 30-student classroom, on average. The 2014 eighth-grade proportions reporting any lifetime experience with the other illicit drugs are: ***tranquilizers*** (2.9%), ***hallucinogens other than LSD*** (1.5%), ***ecstasy*** and ***cocaine other than crack*** (both 1.4%), ***crack*** (1.2%), ***LSD*** (1.1%), ***methamphetamine*** and ***steroids*** (both 1.0%), ***heroin*** (0.9%), and ***Rohypnol*** (0.6%).

- In total, 25% of all 8th graders in 2014 have tried some ***illicit drug*** (including inhalants), while 10%, or one in ten, have tried ***some illicit drug other than marijuana*** or ***inhalants***. Put another way, in an average 30-student classroom of 8th graders, about eight have used some illicit drug other than marijuana, including inhalants; and about three have used some illicit drug other than marijuana or inhalants.

- The very large number of 8th graders who have already begun using the so-called "gateway drugs" (***tobacco***, ***alcohol***, ***inhalants***, and ***marijuana***) suggests that a substantial number are also at risk of proceeding further to such drugs as LSD, cocaine, amphetamines, and heroin.

SUMMARY AND CONCLUSIONS

We can summarize the findings on trends as follows: For more than a decade—from the late 1970s to the early 1990s—the use of a number of ***illicit drugs*** declined appreciably among 12th-grade students, and declined even more among American college students and young adults. These substantial improvements—which seem largely explainable in terms of changes in attitudes about drug use, beliefs about the risks of drug use, and peer norms against drug use—have some extremely important policy implications. One clear implication is that these various substance-using behaviors among American young people are malleable—they *can* be changed. It has been done before. The second is that demand-side (rather than supply-side) factors appear to have been pivotal in bringing about most of those changes. The levels of ***marijuana*** availability, as reported by 12th graders, have held fairly steady at high levels throughout the life of the study. (Moreover,

among students who abstained from marijuana use, as well as among those who quit, availability and price rank very low on their lists of reasons for their not using.) And, in fact, the perceived availability of ***cocaine*** was actually rising during the beginning of the sharp decline in cocaine and crack use in the mid- to late- 1980s, which occurred when the perceived risk associated with that drug rose sharply. (See the last section of Chapter 9 for more examples and further discussion of this point.)

However, improvements should not be taken for granted. Relapse is always possible and just such a relapse in the longer term epidemic occurred during the early to mid-1990s, as the country let down its guard on many fronts. (See Chapter 8 for a more detailed discussion.)

Over the years, MTF has demonstrated that changes in perceived risk and disapproval have been important causes of change in the use of a number of drugs. These beliefs and attitudes are almost certainly influenced by the amount and nature of public attention paid to the drug issue in the historical period during which young people are growing up. A substantial decline in attention to this issue in the early 1990s very likely explains why the increases in perceived risk and disapproval among students ceased and began to backslide. News coverage of the drug issue plummeted between 1989 and 1993 (although it made a considerable comeback as surveys—including MTF—began to document that the nation's drug problem was worsening again), and the media's *pro bono* placement of ads from the Partnership for a Drug-Free America also fell considerably. (During that period, MTF 12th graders showed a steady decline in their recalled exposure to such ads, and in the judged impact of such ads on their own drug-taking behavior.[15])

Also, the deterioration in the drug abuse situation first began among our youngest cohorts—perhaps because as they were growing up they had not had the same opportunities for vicarious learning from the adverse drug experiences of people around them and people portrayed in the media—those we have called the "unfortunate role models." Clearly, there was a danger that, as the drug epidemic subsided in the 1980s and early 1990s, newer cohorts would have far less opportunity to learn through informal means about the dangers of drugs—that what we have called a generational forgetting of those risks would occur through a process of generational replacement of older, more drug-savvy cohorts with newer, more naive ones. *This suggests that as drug use subsides, as it did by the early 1990s, the nation must redouble its efforts to ensure that such naive cohorts learn these lessons about the dangers of drugs through more formal means—from schools, parents, and focused messages in the media, for example—and that this more formalized prevention effort be institutionalized so that it will endure for the long term*.

Clearly, for the foreseeable future, American young people will be aware of the psychoactive potential of a host of drugs and will continue to have access to them—a situation quite different from the one that preceded the late 1960s. (Awareness and access are two necessary conditions for an epidemic.[16]) That means that each new generation of young people must learn the reasons that they should *not* use drugs. Otherwise, their natural curiosity and desire for new experiences will lead a great many to use.

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[15] Johnston, L. D. (2002, June 19). Written and oral testimony presented at hearings on the National Youth Anti-Drug Media Campaign, held by the Treasury and General Government Subcommittee on Appropriations of the U.S. Senate Appropriations Committee. Published in The Congressional Record.

[16] Johnston, LD (1991). Toward a theory of drug epidemics. In L Donhew, HE Sypher, and WJ Bukiski (Eds.), *Persuasive communication and drug abuse prevention* (pp.93-131). Hillsdale, NJ, Earlbaum. Available at www.monitoringthefuture.org/pubs/chapters/ldj1991theory.pdf

One lesson evident from the changes of the past decade or so is that the types of drugs most in favor can change substantially over time. The illegal drugs began to decline in use in the late 1990s, while prescription drugs, and even over-the-counter drugs, began to gain favor. Today a good many of the drugs having the highest prevalence levels among teens are of this type, including narcotic drugs other than heroin.

Unfortunately, a second relapse phase in America's youth epidemic of drug use may now be beginning, as indicated by the upturn in marijuana use in recent years. Perceived risk for marijuana (and for Ecstasy) has been falling, and recalled exposure to anti-drug ads has declined sharply in recent years. To a considerable degree the issue has fallen off the national screen (just as happened in the late 1980s and early 1990s), as other urgent matters (including two wars, acts of terrorism, and a major recession) have competed for attention. Indeed, this confluence of events is very reminiscent of the period preceding the first relapse—including a considerable decrease in the levels of drug use, little attention paid to the issue by the media or government, a sharp drop in funding for anti-drug prevention programs and ad campaigns, a war and a recession. While marijuana use, specifically, is now receiving more attention, that attention has been focused on the medical use and full legalization, not so much on the consequences of use.

Another lesson that derives from the MTF epidemiological data is that social influences that tend to reduce the *initiation* of substance use also have the potential to deter *continuation* by those who have already begun to use, particularly if they are not yet habitual users. Chapter 5 of *Volume I* shows how increased quitting rates have contributed importantly to downturns in the use of a number of drugs at different historical periods. The lesson is that primary prevention should not be the only goal of intervention programs; early-stage users may be persuaded to quit when their beliefs and attitudes regarding drugs are changed.

The following facts help to put into perspective the magnitude and variety of substance use problems that presently remain among young people in the US:

- A quarter (25%) of today's 8th graders have tried an ***illicit drug*** (if inhalants are included as an illicit drug), and half (50%) of 12th graders haves done so.

- By their late 20s, nearly two thirds (61%) of today's young adults have tried an ***illicit drug***, and about four in ten (37%) have tried some ***illicit drug other than marijuana***, usually in addition to marijuana. (These figures do not include inhalants.)

- Today, about one in eight young adults (12% in 2014) has tried ***cocaine***, and 4.6% have tried it by their senior year of high school, when they are 17 or 18 years old. One in every 56 twelfth graders (1.8%) has tried ***crack***. Among young adults 29–30 years of age, one in 25 (4.0%) has tried crack.

- One in every 17 twelfth graders (5.8%) in 2014 smokes ***marijuana daily***. Among young adults ages 19 to 28, the percentage is a little higher (6.9%). Among those same 12th graders in 2014, nearly one in every seven (14%) has been a daily marijuana smoker at some time for at least a month, and among young adults the comparable figure is 18%, about one in six.

- About one in five 12th graders (19%) had ***five or more drinks in a row*** on at least one occasion in the two weeks prior to the survey, and we know that such behavior tends to increase among young adults one to four years past high school—that is, in the peak college years. Indeed, 43% of all male college students report such binge drinking. (The study also has documented evidence of ***extreme binge drinking*** with 7% of 12th graders in 2014 indicating having had 10 or more drinks in a row, and 4.1% indicating 15 or more drinks in a row, in the prior two weeks; see Table 5-5e.)

- Even with considerable declines in smoking among US adolescents since the late 1990s, about one in seven (14%) of 12th graders in 2014 currently smoke ***cigarettes***, and one in fifteen (7%) is already a ***daily smoker***. In addition, we know from studying previous cohorts that many young adults increase their levels of smoking within a year or so after they leave high school.

  Despite the substantial improvement in this country's drug situation in the 1980s and early 1990s, and then some further improvement beginning in the late 1990s, American secondary school students and young adults show a level of involvement with ***illicit drugs*** that is among the highest in the world's industrialized nations.[17] Even by longer term historical standards in the U.S. these levels remain extremely high, though in general they are not as high as in the peak years of the epidemic in the late 1970s. ***Heavy drinking*** also remains widespread and troublesome, though it has been declining gradually over a long period and now is at or near historical lows among teens. Of course, the continuing initiation to ***cigarette smoking*** of a fair-sized, albeit decreasing proportion of young people remains a matter of great public health concern. The declines in youth smoking have decelerated sharply in all grades in recent years although negative youth attitudes about smoking and smokers leveled off several years ago. The improvements in youth smoking overall may be nearing an end unless there is further change in environmental factors, such as cigarette prices (including taxes), advertising and promotion of cigarettes, places where smoking is permitted, and the availability of quit-smoking services. In fact, an increase in federal taxes on tobacco becoming effective in August, 2010 may help to explain why all three grades showed further declines in smoking prevalence since 2011.

  E-cigarettes present a new challenge. MTF asked about e-cigarettes for the first time in 2014, and their prevalence is greater than any other tobacco product, including regular cigarettes, with 16% of 12th-grade students reporting e-cigarette use in the past 30 days. No one yet knows whether e-cigarettes prime youth for use of regular cigarettes, a topic MTF will be able to address with its longitudinal follow-up data in future years.

[17] A published report from an international collaborative study, modeled largely after MTF, provides comparative data from national school surveys of 15- to 16-year-olds that was completed in 2011 in 36 European countries. It also includes 2011 MTF data from 10th graders in the United States. See Hibell, B., Guttormsson, U, Ahlström, S., Balakireva, O., Bjarnasson, T., Kokkevi, A., & Kraus, L. (Eds.). (2012). *The 2011 ESPAD report Substance Use among Students in 36 European countries.* Stockholm: The Swedish Council for Information on Alcohol and Other Drugs, The European Monitoring Centre for Drugs and Drug Addiction, the Council of Europe Co-operation Group to Combat Drug Abuse and Illicit Trafficking in Drugs (the Pompidou Group). See also, Johnston, L. et al., American teens are less likely than European teens to use cigarettes and alcohol, but more likely to use illicit drugs. National press release from the University of Michigan's News and Information Services, June 1, 2012. Available at http://www.ns.umich.edu/new/releases/20420-american-teens-are-less-likely-than-european-teens-to-use-cigarettes-and-alcohol-but-more-likely-to-use-illicit-drugs.

After a long period of improvement, there was evidence in recent years that the use of ***smokeless tobacco*** has been on the rise among adolescents. Fortunately, this rise has begun to slow. The increase in the federal tobacco tax may be responsible for this slowing, by helping to counter the tobacco industry's promotion of new products such as snus and dissolvable tobacco.

Of particular note, prevalence of abusable prescription drugs has declined in recent years, a welcome decline after prevalence of these drugs stayed stubbornly high throughout the 2000s. Among 12th-grade students annual prevalence of ***narcotics other than heroin*** has declined for three years in a row. Annual use of ***sedatives*** among 12th graders declined (albeit non-significantly) in 2014 to the lowest level in 20 years, and the prevalence of 4.3% is four-tenths of the 7.2% peak recorded in 2005. Annual use of ***tranquilizers*** is at or near the lowest levels since 2001 (when the question was last updated) in all grades. The update to the question on ***amphetamines*** in 2013 makes long-term trends difficult to discern, although non-significant declines in past-year use were apparent for both 10th and 12th grades students in 2014. Perceived risk tends to be relatively low for these prescription-type drugs, which we believe is a major reason why their use had been relatively high.

- Finally, we note the seemingly unending capacity of pharmacological experts and amateurs to discover new substances with abuse potential that can be used to alter mood and consciousness (e.g., bath salts and synthetic marijuana), and of young people to discover the abuse potential of existing products (such as ***Robitussin*** and plants like ***salvia)*** and to rediscover older drugs (such as ***LSD*** and ***heroin***). While as a society we have made significant progress on a number of fronts in the fight against drug abuse, we must remain vigilant against the opening of new fronts, as well as the reemergence of trouble on older ones. In particular, we must guard against generational forgetting in our newest cohorts of adolescents due to a lack of public attention to the issue during the time that they are growing up.

  One of the dynamics that keeps the drug epidemic rolling is the emergence of new drugs whose hazards are little known. In 1999 we saw this happen with the drug ***ecstasy*** (***MDMA***). Other drugs like ***Rohypnol***, ***ketamine***, ***GHB***, and ***OxyContin*** appeared in the 1990s and were added to the list of drugs under study. Recently, questions on use of ***salvia***, ***Adderall***, and ***Provigil*** were added to the questionnaires. In 2011 we added ***synthetic marijuana***, which turned out to be the second most used illicit drug after natural marijuana, and in 2012 we added ***bath salts***. In 2014 we added questions on e-cigarettes, which we discovered have made rapid inroads among today's adolescents. The spread of such new drugs appears to be facilitated and hastened today by young people's widespread use of web-based social networks. We expect to see a continuous flow of such new substances onto the scene, and believe that the task of rapidly documenting their emergence, establishing their adverse consequences, and quickly demystifying them will remain an important means by which policymakers, researchers, and educators deal with the continuing threats posed by such drugs. We also anticipate that there will be rediscoveries of older substances, as occurred in recent years with respect to the various psychotherapeutic prescription drugs, including ***tranquilizers***, ***sedatives*** (***barbiturates***), and ***narcotic drugs***.

The drug problem is not an enemy that can be vanquished. It is more a recurring and relapsing problem that must be contained to the extent possible on an ongoing basis. Therefore, it is a problem that requires an ongoing, dynamic response—one that takes into account the continuing generational replacement of our children, the generational forgetting of the dangers of drugs that can occur with that replacement, and the perpetual stream of new abusable substances that will threaten to lure young people into involvement with drugs.

TABLE 2-1
Trends in Lifetime Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Any Illicit Drug [a]																									
8th Grade	18.7	20.6	22.5	25.7	28.5	31.2	29.4	29.0	28.3	26.8	26.8	24.5	22.8	21.5	21.4	20.9	19.0	19.6	19.9	21.4	20.1	18.5‡	21.1	20.3	-0.8
10th Grade	30.6	29.8	32.8	37.4	40.9	45.4	47.3	44.9	46.2	45.6	45.6	44.6	41.4	39.8	38.2	36.1	35.6	34.1	36.0	37.0	37.7	36.8‡	39.1	37.4	-1.7
12th Grade	44.1	40.7	42.9	45.6	48.4	50.8	54.3	54.1	54.7	54.0	53.9	53.0	51.1	51.1	50.4	48.2	46.8	47.4	46.7	48.2	49.9	49.1‡	49.8	49.1	-0.8
College Students	50.4	48.8	45.9	45.5	45.5	47.4	49.0	52.9	53.2	53.7	53.6	51.8	53.9	52.2	52.3	50.6	50.5	49.5	51.4	49.1	49.2	50.5‡	53.3	52.4	-0.9
Young Adults	62.2	60.2	59.6	57.5	57.4	56.4	56.7	57.0	57.4	58.2	58.1	59.0	60.2	60.5	60.4	59.7	59.8	59.3	59.3	58.4	59.1	58.9‡	60.0	62.2	+2.3
Any Illicit Drug other than Marijuana [a,b]																									
8th Grade	14.3	15.6	16.8	17.5	18.8	19.2	17.7	16.9	16.3	15.8‡	17.0	13.7	13.6	12.2	12.1	12.2	11.1	11.2	10.4	10.6	9.8	8.7‡	10.4	10.0	-0.5
10th Grade	19.1	19.2	20.9	21.7	24.3	25.5	25.0	23.6	24.0	23.1‡	23.6	22.1	19.7	18.8	18.0	17.5	18.2	15.9	16.7	16.8	15.6	14.9‡	16.4	15.9	-0.5
12th Grade	26.9	25.1	26.7	27.6	28.1	28.5	30.0	29.4	29.4	29.0‡	30.7	29.5	27.7	28.7	27.4	26.9	25.5	24.9	24.0	24.7	24.9	24.1‡	24.8	22.6	-2.2
College Students	25.8	26.1	24.3	22.0	24.5	22.7	24.4	24.8	25.5	25.8‡	26.3	26.9	27.6	28.0	26.5	26.3	25.3	22.6	25.6	24.8	24.3	23.8‡	28.3	29.0	+0.7
Young Adults	37.8	37.0	34.6	33.4	32.8	31.0	30.5	29.9	30.2	31.3‡	31.6	32.8	33.9	35.2	34.0	34.8	34.2	34.7	32.8	33.3	33.2	32.8‡	34.0	37.3	+3.3 ss
Any Illicit Drug including Inhalants [a,c,d]																									
8th Grade	28.5	29.6	32.3	35.1	38.1	39.4	38.1	37.8	37.2	35.1	34.5	31.6	30.3	30.2	30.0	29.2	27.7	28.3	27.9	28.6	26.4	40.0‡	25.9	25.2	-0.7
10th Grade	36.1	36.2	38.7	42.7	45.9	49.8	50.9	49.3	49.9	49.3	48.8	47.7	44.9	43.1	42.1	40.1	39.8	38.7	40.0	40.6	40.8	25.1‡	41.6	40.4	-1.2
12th Grade	47.6	44.4	46.6	49.1	51.5	53.5	56.3	56.1	56.3	57.0	56.0	54.6	52.8	53.0	53.5	51.2	49.1	49.3	48.4	49.9	51.8	50.3‡	52.3	49.9	-2.4
College Students	52.0	50.3	49.1	47.0	47.0	49.1	50.7	55.4	54.4	54.6	53.1	52.3	54.1	52.9	53.9	53.3	52.5	51.0	51.1	50.0	49.7	52.0‡	53.3	51.8	-1.5
Young Adults	63.4	61.2	61.2	58.5	59.0	58.2	58.4	58.5	58.5	59.5	59.0	59.6	60.6	62.5	61.4	61.2	61.2	60.2	59.3	59.3	59.5	59.5‡	62.2	60.6	-1.6
Marijuana/Hashish																									
8th Grade	10.2	11.2	12.6	16.7	19.9	23.1	22.6	22.2	22.0	20.3	20.4	19.2	17.5	16.3	16.5	15.7	14.2	14.6	15.7	17.3	16.4	15.2	16.5	15.6	-0.9
10th Grade	23.4	21.4	24.4	30.4	34.1	39.8	42.3	39.6	40.9	40.3	40.1	38.7	36.4	35.1	34.1	31.8	31.0	29.9	32.3	33.4	34.5	33.8	35.8	33.7	-2.2
12th Grade	36.7	32.6	35.3	38.2	41.7	44.9	49.6	49.1	49.7	48.8	49.0	47.8	46.1	45.7	44.8	42.3	41.8	42.6	42.0	43.8	45.5	45.2	45.5	44.4	-1.1
College Students	46.3	44.1	42.0	42.2	41.7	45.1	46.1	49.9	50.8	51.2	51.0	49.5	50.7	49.1	49.1	46.9	47.5	46.8	47.5	46.8	46.6	49.1	47.7	48.5	+0.8
Young Adults	58.6	56.4	55.9	53.7	53.6	53.4	53.8	54.4	54.6	55.1	55.7	56.8	57.2	57.4	57.0	56.7	56.7	55.9	56.0	55.9	56.3	56.5	57.1	57.5	+0.4
Inhalants [c,d]																									
8th Grade	17.6	17.4	19.4	19.9	21.6	21.2	21.0	20.5	19.7	17.9	17.1	15.2	15.8	17.3	17.1	16.1	15.6	15.7	14.9	14.5	13.1	11.8	10.8	10.8	0.0
10th Grade	15.7	16.6	17.5	18.0	19.0	19.3	18.3	18.3	17.0	16.6	15.2	13.5	12.7	12.4	13.1	13.3	13.6	12.8	12.3	12.0	10.1	9.9	8.7	8.7	+0.1
12th Grade	17.6	16.6	17.4	17.7	17.4	16.6	16.1	15.2	15.4	14.2	13.0	11.7	11.2	10.9	11.4	11.1	10.5	9.9	9.5	9.0	8.1	7.9	6.9	6.5	-0.4
College Students	14.4	14.2	14.8	12.0	13.8	11.4	12.4	12.8	12.4	12.9	9.6	7.7	9.7	8.5	7.1	7.4	6.3	4.9	6.9	5.5	3.7	5.7	4.3	3.5	-0.7
Young Adults	13.4	13.5	14.1	13.2	14.5	14.1	14.1	14.2	14.2	14.3	12.8	12.4	12.2	11.6	10.3	10.9	9.1	9.5	8.9	7.9	7.2	7.2	6.5	6.7	+0.2
Nitrites [e]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.6	1.5	1.4	1.7	1.5	1.8	2.0	2.7	1.7	0.8	1.9	1.5	1.6	1.3	1.1	1.2	1.2	0.6	1.1	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	1.4	1.2	1.3	1.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hallucinogens [b,f]																									
8th Grade	3.2	3.8	3.9	4.3	5.2	5.9	5.4	4.9	4.8	4.6‡	5.2	4.1	4.0	3.5	3.8	3.4	3.1	3.3	3.0	3.4	3.3	2.8	2.5	2.0	-0.5
10th Grade	6.1	6.4	6.8	8.1	9.3	10.5	10.5	9.8	9.7	8.9‡	8.9	7.8	6.9	6.4	5.8	6.1	6.4	5.5	6.1	6.1	6.0	5.2	5.4	5.0	-0.4
12th Grade	9.6	9.2	10.9	11.4	12.7	14.0	15.1	14.1	13.7	13.0‡	14.7	12.0	10.6	9.7	8.8	8.3	8.4	8.7	7.4	8.6	8.3	7.5	7.6	6.3	-1.3
College Students	11.3	12.0	11.8	10.0	13.0	12.6	13.8	15.2	14.8	14.4‡	14.8	13.6	14.5	12.0	11.0	10.6	9.1	8.5	8.0	7.8	7.4	7.6	7.8	7.6	-0.2
Young Adults	15.7	15.7	15.4	15.4	16.1	16.4	16.8	17.4	18.0	18.4‡	18.3	19.6	19.7	19.3	17.6	17.2	16.0	14.8	14.2	13.9	13.0	12.2	12.4	11.9	-0.5

(Table continued on next page.)

TABLE 2-1 (cont.)
Trends in Lifetime Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
LSD																									
8th Grade	2.7	3.2	3.5	3.7	4.4	5.1	4.7	4.1	4.1	3.9	3.4	2.5	2.1	1.8	1.9	1.6	1.6	1.9	1.7	1.8	1.7	1.3	1.4	1.1	-0.3
10th Grade	5.6	5.8	6.2	7.2	8.4	9.4	9.5	8.5	8.5	7.6	6.3	5.0	3.5	2.8	2.5	2.7	3.0	2.6	3.0	3.0	2.8	2.6	2.7	2.6	-0.1
12th Grade	8.8	8.6	10.3	10.5	11.7	12.6	13.6	12.6	12.2	11.1	10.9	8.4	5.9	4.6	3.5	3.3	3.4	4.0	3.1	4.0	4.0	3.8	3.9	3.7	-0.2
College Students	9.6	10.6	10.6	9.2	11.5	10.8	11.7	13.1	12.7	11.8	12.2	8.6	8.7	5.6	3.7	3.5	3.3	4.3	3.3	4.0	3.7	3.1	4.4	4.5	+0.1
Young Adults	13.5	13.8	13.6	13.8	14.5	15.0	15.0	15.7	16.2	16.4	16.0	15.1	14.6	13.4	11.2	10.1	9.6	8.1	7.3	7.2	6.1	6.2	6.3	6.6	+0.3
Hallucinogens other than LSD [b]																									
8th Grade	1.4	1.7	1.7	2.2	2.5	3.0	2.6	2.5	2.4	2.3‡	3.9	3.3	3.2	3.0	3.3	2.8	2.6	2.5	2.4	2.7	2.8	2.3	1.9	1.5	-0.4
10th Grade	2.2	2.5	2.8	3.8	3.9	4.7	4.8	5.0	4.7	4.8‡	6.6	6.3	5.9	5.8	5.2	5.5	5.7	4.8	5.4	5.3	5.2	4.5	4.4	4.1	-0.4
12th Grade	3.7	3.3	3.9	4.9	5.4	6.8	7.5	7.1	6.7	6.9‡	10.4	9.2	9.0	8.7	8.1	7.8	7.7	7.8	6.8	7.7	7.3	6.6	6.4	5.1	-1.3 ss
College Students	6.0	5.7	5.4	4.4	6.5	6.5	7.5	8.7	8.8	8.2‡	10.7	11.0	12.8	10.1	10.6	10.1	8.5	8.2	7.8	7.1	6.9	7.2	6.8	6.8	0.0
Young Adults	8.4	8.0	7.6	7.4	7.8	7.9	8.5	9.4	9.3	9.9‡	12.0	15.0	16.4	15.6	15.4	14.9	14.1	13.0	13.0	12.6	12.1	11.1	11.4	10.8	-0.7
PCP [g]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	2.9	2.4	2.9	2.8	2.7	4.0	3.9	3.9	3.4	3.4	3.5	3.1	2.5	1.6	2.4	2.2	2.1	1.8	1.7	1.8	2.3	1.6	1.3	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	3.1	2.0	1.9	2.0	2.2	1.9	2.4	2.7	2.3	2.3	3.1	2.5	3.0	2.7	2.0	2.4	2.1	2.2	1.6	1.6	1.7	1.1	1.4	0.6	-0.8
Ecstasy (MDMA) [h]																									
8th Grade	—	—	—	—	—	3.4	3.2	2.7	2.7	4.3	5.2	4.3	3.2	2.8	2.8	2.5	2.3	2.4	2.2	3.3	2.6	2.0	1.8	1.4	-0.3
10th Grade	—	—	—	—	—	5.6	5.7	5.1	6.0	7.3	8.0	6.6	5.4	4.3	4.0	4.5	5.2	4.3	5.5	6.4	6.6	5.0	5.7	3.7	-1.9 sss
12th Grade	—	—	—	—	—	6.1	6.9	5.8	8.0	11.0	11.7	10.5	8.3	7.5	5.4	6.5	6.5	6.2	6.5	7.3	8.0	7.2	7.1	5.6	-1.5
College Students	2.0	2.9	2.3	2.1	3.1	4.3	4.7	6.8	8.4	13.1	14.7	12.7	12.9	10.2	8.3	6.9	5.4	6.2	6.5	6.2	6.8	8.7	8.1	8.2	+0.1
Young Adults	3.2	3.9	3.8	3.8	4.5	5.2	5.1	7.2	7.1	11.6	13.0	14.6	15.3	16.0	14.9	14.4	13.1	13.1	11.5	12.3	11.3	11.4	11.6	11.4	-0.3
Cocaine																									
8th Grade	2.3	2.9	2.9	3.6	4.2	4.5	4.4	4.6	4.7	4.5	4.3	3.6	3.6	3.4	3.7	3.4	3.1	3.0	2.6	2.6	2.2	1.9	1.7	1.8	0.0
10th Grade	4.1	3.3	3.6	4.3	5.0	6.5	7.1	7.2	7.7	6.9	5.7	6.1	5.1	5.4	5.2	4.8	5.3	4.5	4.6	3.7	3.3	3.3	3.3	2.6	-0.7
12th Grade	7.8	6.1	6.1	5.9	6.0	7.1	8.7	9.3	9.8	8.6	8.2	7.8	7.7	8.1	8.0	8.5	7.8	7.2	6.0	5.5	5.2	4.9	4.5	4.6	0.0
College Students	9.4	7.9	6.3	5.0	5.5	5.0	5.6	8.1	8.4	9.1	8.6	8.2	9.2	9.5	8.8	7.7	8.5	7.2	8.1	6.6	5.5	5.2	5.1	6.2	+1.0
Young Adults	21.0	19.5	16.9	15.2	13.7	12.9	12.1	12.3	12.8	12.7	13.1	13.5	14.7	15.2	14.3	15.2	14.7	14.8	13.9	13.6	12.5	11.9	12.2	11.7	-0.6
Crack [i]																									
8th Grade	1.3	1.6	1.7	2.4	2.7	2.9	2.7	3.2	3.1	3.1	3.0	2.5	2.5	2.4	2.4	2.3	2.1	2.0	1.7	1.5	1.5	1.0	1.2	1.2	+0.1
10th Grade	1.7	1.5	1.8	2.1	2.8	3.3	3.6	3.9	4.0	3.7	3.1	3.6	2.7	2.6	2.5	2.2	2.3	2.0	2.1	1.8	1.6	1.4	1.5	1.0	-0.4 s
12th Grade	3.1	2.6	2.6	3.0	3.0	3.3	3.9	4.4	4.6	3.9	3.7	3.8	3.6	3.9	3.5	3.5	3.2	2.8	2.4	2.4	1.9	2.1	1.8	1.8	-0.1
College Students	1.5	1.7	1.3	1.0	1.8	1.2	1.4	2.2	2.4	2.5	2.0	1.9	3.1	2.0	1.7	2.3	1.3	1.4	1.0	1.2	0.8	0.7	0.7	1.4	+0.7
Young Adults	4.8	5.1	4.3	4.4	3.8	3.9	3.6	3.8	4.3	4.6	4.7	4.3	4.7	4.2	4.1	4.4	3.9	4.3	3.3	3.6	2.9	2.7	2.6	2.1	-0.5
Other Cocaine [j]																									
8th Grade	2.0	2.4	2.4	3.0	3.4	3.8	3.5	3.7	3.8	3.5	3.3	2.8	2.7	2.6	2.9	2.7	2.6	2.4	2.1	2.1	1.8	1.6	1.4	1.4	0.0
10th Grade	3.8	3.0	3.3	3.8	4.4	5.5	6.1	6.4	6.8	6.0	5.0	5.2	4.5	4.8	4.6	4.3	4.8	4.0	4.1	3.4	3.0	3.0	2.9	2.2	-0.6
12th Grade	7.0	5.3	5.4	5.2	5.1	6.4	8.2	8.4	8.8	7.7	7.4	7.0	6.7	7.3	7.1	7.9	6.8	6.5	5.3	5.1	4.9	4.4	4.2	4.1	-0.1
College Students	9.0	7.6	6.3	4.6	5.2	4.6	5.0	7.4	7.8	8.1	8.3	8.6	8.5	9.3	8.1	6.2	8.0	7.1	7.9	6.7	5.4	5.1	5.2	6.2	+1.0
Young Adults	19.8	18.4	15.1	13.9	12.4	11.9	11.3	11.5	11.8	11.7	12.1	12.8	13.5	14.4	13.3	14.4	14.0	13.9	13.5	13.1	12.2	11.8	11.8	11.6	-0.2

(Table continued on next page.)

TABLE 2-1 (cont.)
Trends in Lifetime Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Heroin [k]																									
8th Grade	1.2	1.4	1.4	2.0	2.3	2.4	2.1	2.3	2.3	1.9	1.7	1.6	1.6	1.6	1.5	1.4	1.3	1.4	1.3	1.3	1.2	0.8	1.0	0.9	0.0
10th Grade	1.2	1.2	1.3	1.5	1.7	2.1	2.1	2.3	2.3	2.2	1.7	1.8	1.5	1.5	1.5	1.4	1.5	1.2	1.5	1.3	1.2	1.1	1.0	0.9	-0.2
12th Grade	0.9	1.2	1.1	1.2	1.6	1.8	2.1	2.0	2.0	2.4	1.8	1.7	1.5	1.5	1.5	1.4	1.5	1.3	1.2	1.6	1.4	1.1	1.0	1.0	-0.1
College Students	0.5	0.5	0.6	0.1	0.6	0.7	0.9	1.7	0.9	1.7	1.2	1.0	1.0	0.9	0.5	0.7	0.5	0.7	0.8	0.7	0.6	0.5	0.4	0.3	-0.2
Young Adults	0.9	0.9	0.9	0.8	1.1	1.3	1.3	1.6	1.7	1.8	2.0	1.8	1.9	1.9	1.7	1.9	1.6	1.9	1.6	1.8	1.7	1.6	1.6	1.4	-0.1
With a Needle [l]																									
8th Grade	—	—	—	—	1.5	1.6	1.3	1.4	1.6	1.1	1.2	1.0	1.0	1.1	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.6	0.6	0.8	+0.2
10th Grade	—	—	—	—	1.0	1.1	1.1	1.2	1.3	1.0	0.8	1.0	0.9	0.8	0.8	0.9	0.9	0.7	0.9	0.8	0.8	0.7	0.7	0.6	-0.1
12th Grade	—	—	—	—	0.7	0.8	0.9	0.8	0.9	0.8	0.7	0.8	0.7	0.7	0.9	0.8	0.7	0.7	0.6	1.1	0.9	0.7	0.7	0.8	+0.1
College Students	—	—	—	—	0.4	0.1	0.2	0.5	0.8	0.7	0.2	0.3	0.1	0.1	0.3	0.3	0.1	0.0	0.1	0.1	0.3	0.2	0.1	0.0	-0.1
Young Adults	—	—	—	—	0.4	0.4	0.3	0.4	0.6	0.4	0.6	0.4	0.5	0.4	0.6	0.6	0.5	0.5	0.5	0.8	0.7	0.5	1.0	0.7	-0.3
Without a Needle [l]																									
8th Grade	—	—	—	—	1.5	1.6	1.4	1.5	1.4	1.3	1.1	1.0	1.1	1.0	0.9	0.9	0.7	0.9	0.8	0.7	0.7	0.5	0.5	0.4	-0.1
10th Grade	—	—	—	—	1.1	1.7	1.7	1.7	1.6	1.7	1.3	1.3	1.0	1.1	1.1	1.0	1.1	0.8	1.0	0.9	0.8	0.8	0.7	0.5	-0.1
12th Grade	—	—	—	—	1.4	1.7	2.1	1.6	1.8	2.4	1.5	1.6	1.8	1.4	1.3	1.1	1.4	1.1	0.9	1.4	1.3	0.8	0.9	0.7	-0.2
College Students	—	—	—	—	0.5	1.0	1.2	2.1	1.0	2.5	1.3	1.2	1.1	1.0	0.3	0.8	0.4	0.7	0.4	0.4	0.4	0.5	0.8	0.1	-0.6
Young Adults	—	—	—	—	0.9	1.3	1.5	1.7	1.9	2.1	2.1	1.8	2.2	2.1	1.8	2.4	1.9	2.1	1.9	1.8	1.6	1.7	1.8	1.2	-0.6
Narcotics other than Heroin [m,n]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	6.6	6.1	6.4	6.6	7.2	8.2	9.7	9.8	10.2	10.6	9.9‡	13.5	13.2	13.5	12.8	13.4	13.1	13.2	13.2	13.0	13.0	12.2	11.1	9.5	-1.6 ss
College Students	7.3	7.3	6.2	5.1	7.2	5.7	8.2	8.7	8.7	8.9	11.0‡	12.2	14.2	13.8	14.4	14.6	14.1	12.4	14.0	12.2	12.4	10.3	10.8	9.9	-0.9
Young Adults	9.3	8.9	8.1	8.2	9.0	8.3	9.2	9.1	9.5	10.0	11.5‡	13.9	16.8	17.6	17.8	18.7	18.8	19.5	18.5	19.0	18.2	17.6	17.4	16.3	-1.1
Amphetamines [m,o]																									
8th Grade	10.5	10.8	11.8	12.3	13.1	13.5	12.3	11.3	10.7	9.9	10.2	8.7	8.4	7.5	7.4	7.3	6.5	6.8	6.0	5.7	5.2	4.5‡	6.9	6.7	-0.2
10th Grade	13.2	13.1	14.9	15.1	17.4	17.7	17.0	16.0	15.7	15.7	16.0	14.9	13.1	11.9	11.1	11.2	11.1	9.0	10.3	10.6	9.0	8.9‡	11.2	10.6	-0.6
12th Grade	15.4	13.9	15.1	15.7	15.3	15.3	16.5	16.4	16.3	15.6	16.2	16.8	14.4	15.0	13.1	12.4	11.4	10.5	9.9	11.1	12.2	12.0‡	13.8	12.1	-1.7
College Students	13.0	10.5	10.1	9.2	10.7	9.5	10.6	10.6	11.9	12.3	12.4	11.9	12.3	12.7	12.3	10.7	11.2	9.1	11.8	12.1	13.4	14.4‡	16.1	15.0	-1.2
Young Adults	22.4	20.2	18.7	17.1	16.6	15.3	14.6	14.3	14.1	15.0	15.0	14.8	15.2	15.9	14.6	15.6	15.3	14.6	14.9	16.1	16.5	17.4‡	18.8	18.7	-0.1
Methamphetamine [p,q]																									
8th Grade	—	—	—	—	—	—	—	—	4.5	4.2	4.4	3.5	3.9	2.5	3.1	2.7	1.8	2.3	1.6	1.8	1.3	1.3	1.4	1.0	-0.4
10th Grade	—	—	—	—	—	—	—	—	7.3	6.9	6.4	6.1	5.2	5.3	4.1	3.2	2.8	2.4	2.8	2.5	2.1	1.8	1.6	1.4	-0.2
12th Grade	—	—	—	—	—	—	—	—	8.2	7.9	6.9	6.7	6.2	6.2	4.5	4.4	3.0	2.8	2.4	2.3	2.1	1.7	1.5	1.9	+0.4
College Students	—	—	—	—	—	—	—	—	7.1	5.1	5.3	5.0	5.8	5.2	4.1	2.9	1.9	1.9	1.0	1.1	0.6	0.3	0.9	0.7	-0.3
Young Adults	—	—	—	—	—	—	—	—	8.8	9.3	9.0	9.1	8.9	9.0	8.3	7.3	6.7	6.3	4.7	4.3	3.2	3.5	3.1	2.3	-0.8
Crystal Methamphetamine (Ice) [q]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.3	2.9	3.1	3.4	3.9	4.4	4.4	5.3	4.8	4.0	4.1	4.7	3.9	4.0	4.0	3.4	3.4	2.8	2.1	1.8	2.1	1.7	2.0	1.3	-0.6
College Students	1.3	0.6	1.6	1.3	1.0	0.8	1.6	2.2	2.8	1.3	2.3	2.0	2.9	2.2	2.4	1.7	1.3	1.1	0.7	0.8	0.2	0.6	0.0	0.3	+0.3
Young Adults	2.9	2.2	2.7	2.5	2.1	3.1	2.5	3.4	3.3	3.9	4.0	4.1	4.7	4.7	4.4	4.7	3.7	3.6	3.4	2.8	3.1	2.6	2.8	1.7	-1.1 s

(Table continued on next page.)

TABLE 2-1 (cont.)
Trends in Lifetime Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Sedatives (Barbiturates) [m,r]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	6.2	5.5	6.3	7.0	7.4	7.6	8.1	8.7	8.9	9.2	8.7	9.5	8.8‡	9.9	10.5	10.2	9.3	8.5	8.2	7.5	7.0	6.9	7.5	6.8	-0.6
College Students	3.5	3.8	3.5	3.2	4.0	4.6	5.2	5.7	6.7	6.9	6.0	5.9	5.7	7.2	8.5	6.3	5.9	6.4	6.0	5.3	3.6	3.5‡	5.4	5.9	+0.6
Young Adults	8.2	7.4	6.5	6.4	6.7	6.6	6.5	6.9	7.4	8.1	7.8	8.0	8.7	9.7	10.0	9.5	9.8	10.6	9.5	8.6	7.9	7.2‡	9.5	9.0	-0.4
Methaqualone [m,s]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.3	1.6	0.8	1.4	1.2	2.0	1.7	1.6	1.8	0.8	1.1	1.5	1.0	1.3	1.3	1.2	1.0	0.8	0.7	0.4	0.6	0.8	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers [b,m]																									
8th Grade	3.8	4.1	4.4	4.6	4.5	5.3	4.8	4.6	4.4	4.4‡	5.0	4.3	4.4	4.0	4.1	4.3	3.9	3.9	3.9	4.4	3.4	3.0	2.9	2.9	0.0
10th Grade	5.8	5.9	5.7	5.4	6.0	7.1	7.3	7.8	7.9	8.0‡	9.2	8.8	7.8	7.3	7.1	7.2	7.4	6.8	7.0	7.3	6.8	6.3	5.5	5.8	+0.3
12th Grade	7.2	6.0	6.4	6.6	7.1	7.2	7.8	8.5	9.3	8.9‡	10.3	11.4	10.2	10.6	9.9	10.3	9.5	8.9	9.3	8.5	8.7	8.5	7.7	7.4	-0.3
College Students	6.8	6.9	6.3	4.4	5.4	5.3	6.9	7.7	8.2	8.8‡	9.7	10.7	11.0	10.6	11.9	10.0	9.1	8.6	9.2	8.1	7.1	6.4	7.8	6.9	-0.9
Young Adults	11.8	11.3	10.5	9.9	9.7	9.3	8.6	9.6	9.6	10.5‡	11.9	13.4	13.8	14.9	14.5	15.0	14.5	15.8	13.8	14.3	13.8	13.3	13.2	12.5	-0.7
Any Prescription Drug [o,t]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.0	23.9	22.2	21.5	20.9	21.6	21.7	21.2‡	22.2	19.9	-2.3 s
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rohypnol [u]																									
8th Grade	—	—	—	—	—	1.5	1.1	1.4	1.3	1.0	1.1	0.8	1.0	1.0	1.1	1.0	1.0	0.7	0.7	0.9	2.0	1.0	0.7	0.6	-0.1
10th Grade	—	—	—	—	—	1.5	1.7	2.0	1.8	1.3	1.5	1.3	1.0	1.2	1.0	0.8	1.3	0.9	0.7	1.4	1.2	0.8	1.1	1.0	-0.1
12th Grade	—	—	—	—	—	1.2	1.8	3.0	2.0	1.5	1.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol [v]																									
Any Use																									
8th Grade	70.1	69.3‡	55.7	55.8	54.5	55.3	53.8	52.5	52.1	51.7	50.5	47.0	45.6	43.9	41.0	40.5	38.9	38.9	36.6	35.8	33.1	29.5	27.8	26.8	-1.0
10th Grade	83.8	82.3‡	71.6	71.1	70.5	71.8	72.0	69.8	70.6	71.4	70.1	66.9	66.0	64.2	63.2	61.5	61.7	58.3	59.1	58.2	56.0	54.0	52.1	49.3	-2.8 s
12th Grade	88.0	87.5‡	80.0	80.4	80.7	79.2	81.7	81.4	80.0	80.3	79.7	78.4	76.6	76.8	75.1	72.7	72.2	71.9	72.3	71.0	70.0	69.4	68.2	66.0	-2.2 s
College Students	93.6	91.8	89.3	88.2	88.5	88.4	87.3	88.5	88.0	86.6	86.1	86.0	86.2	84.6	86.6	84.7	83.1	85.3	82.6	82.3	80.5	81.0	78.0	79.4	+1.4
Young Adults	94.1	93.4	92.1	91.2	91.6	91.2	90.7	90.6	90.2	90.7	89.9	90.2	89.3	89.4	89.1	88.9	87.9	88.4	87.9	87.5	87.4	86.5	86.2	86.3	+0.2
Been Drunk [w]																									
8th Grade	26.7	26.8	26.4	25.9	25.3	26.8	25.2	24.8	24.8	25.1	23.4	21.3	20.3	19.9	19.5	19.5	17.9	18.0	17.4	16.3	14.8	12.8	12.2	10.8	-1.4 s
10th Grade	50.0	47.7	47.9	47.2	46.9	48.5	49.4	46.7	48.9	49.3	48.2	44.0	42.4	42.3	42.1	41.4	41.2	37.2	38.6	36.9	35.9	34.6	33.5	30.2	-3.4 ss
12th Grade	65.4	63.4	62.5	62.9	63.2	61.8	64.2	62.4	62.3	62.3	63.9	61.6	58.1	60.3	57.5	56.4	55.1	54.7	56.5	54.1	51.0	54.2	52.3	49.8	-2.5
College Students	79.6	76.8	76.4	74.4	76.6	76.2	77.0	76.8	75.1	74.7	76.1	75.1	74.9	73.4	72.9	73.1	71.6	72.5	69.1	70.5	67.9	70.0	66.5	68.8	+2.3
Young Adults	82.9	81.1	81.4	80.7	82.1	80.7	81.4	79.8	81.6	80.4	81.1	81.2	80.9	80.1	79.9	80.9	80.1	80.1	78.2	79.0	78.9	78.9	77.4	78.3	+0.9
Flavored Alcoholic Beverages [g,p]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	37.9	35.5	35.5	34.0	32.8	29.4	30.0	27.0	23.5	21.9	19.2	-2.7 s
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	58.6	58.8	58.1	55.7	53.5	51.4	51.3	48.4	46.7	44.9	42.3	-2.6
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	71.0	73.6	69.9	68.4	65.5	67.4	62.6	62.4	60.5	58.9	57.5	-1.3
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	79.0	84.5	80.9	80.6	78.6	78.1	77.4	76.7	76.6	67.5	72.7	+5.2
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	83.2	84.6	84.4	84.0	82.6	83.5	81.4	82.2	82.4	80.9	80.6	-0.3

(Table continued on next page.)

TABLE 2-1 (cont.)
Trends in Lifetime Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Cigarettes																									
Any Use																									
8th Grade	44.0	45.2	45.3	46.1	46.4	49.2	47.3	45.7	44.1	40.5	36.6	31.4	28.4	27.9	25.9	24.6	22.1	20.5	20.1	20.0	18.4	15.5	14.8	13.5	-1.3
10th Grade	55.1	53.5	56.3	56.9	57.6	61.2	60.2	57.7	57.6	55.1	52.8	47.4	43.0	40.7	38.9	36.1	34.6	31.7	32.7	33.0	30.4	27.7	25.7	22.6	-3.1 ss
12th Grade	63.1	61.8	61.9	62.0	64.2	63.5	65.4	65.3	64.6	62.5	61.0	57.2	53.7	52.8	50.0	47.1	46.2	44.7	43.6	42.2	40.0	39.5	38.1	34.4	-3.7 ss
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smokeless Tobacco [x]																									
8th Grade	22.2	20.7	18.7	19.9	20.0	20.4	16.8	15.0	14.4	12.8	11.7	11.2	11.3	11.0	10.1	10.2	9.1	9.8	9.6	9.9	9.7	8.1	7.9	8.0	+0.1
10th Grade	28.2	26.6	28.1	29.2	27.6	27.4	26.3	22.7	20.4	19.1	19.5	16.9	14.6	13.8	14.5	15.0	15.1	12.2	15.2	16.8	15.6	15.4	14.0	13.6	-0.4
12th Grade	—	32.4	31.0	30.7	30.9	29.8	25.3	26.2	23.4	23.1	19.7	18.3	17.0	16.7	17.5	15.2	15.1	15.6	16.3	17.6	16.9	17.4	17.2	15.1	-2.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids [y,z]																									
8th Grade	1.9	1.7	1.6	2.0	2.0	1.8	1.8	2.3	2.7	3.0	2.8	2.5	2.5	1.9	1.7	1.6	1.5	1.4	1.3	1.1	1.2	1.2	1.1	1.0	-0.1
10th Grade	1.8	1.7	1.7	1.8	2.0	1.8	2.0	2.0	2.7	3.5	3.5	3.5	3.0	2.4	2.0	1.8	1.8	1.4	1.3	1.6	1.4	1.3	1.3	1.4	+0.2
12th Grade	2.1	2.1	2.0	2.4	2.3	1.9	2.4	2.7	2.9	2.5	3.7	4.0	3.5	3.4	2.6	2.7	2.2	2.2	2.2	2.0	1.8	1.8	2.1	1.9	-0.2
College Students	1.4	1.7	1.9	0.5	0.8	0.6	1.6	0.9	1.3	0.6	1.5	1.2	1.2	1.6	1.0	1.9	0.6	1.6	1.3	0.7	1.1	0.4	0.8	0.9	+0.1
Young Adults	1.7	1.9	1.5	1.3	1.5	1.5	1.4	1.4	1.9	1.4	1.4	1.6	1.8	1.9	1.8	1.8	1.7	1.8	1.8	1.7	1.3	1.7	1.2	1.7	+0.5

Source. The Monitoring the Future study, the University of Michigan.

See footnotes following Table 2-4

TABLE 2-2
Trends in Annual Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Any Illicit Drug [a]																									
8th Grade	11.3	12.9	15.1	18.5	21.4	23.6	22.1	21.0	20.5	19.5	19.5	17.7	16.1	15.2	15.5	14.8	13.2	14.1	14.5	16.0	14.7	13.4‡	15.2	14.6	-0.6
10th Grade	21.4	20.4	24.7	30.0	33.3	37.5	38.5	35.0	35.9	36.4	37.2	34.8	32.0	31.1	29.8	28.7	28.1	26.9	29.4	30.2	31.1	30.1‡	32.1	29.9	-2.1
12th Grade	29.4	27.1	31.0	35.8	39.0	40.2	42.4	41.4	42.1	40.9	41.4	41.0	39.3	38.8	38.4	36.5	35.9	36.6	36.5	38.3	40.0	39.7‡	40.1	38.7	-1.5
College Students	29.2	30.6	30.6	31.4	33.5	34.2	34.1	37.8	36.9	36.1	37.9	37.0	36.5	36.2	36.6	33.9	35.0	35.2	36.0	35.0	36.3	37.3‡	40.5	38.6	-1.9
Young Adults	27.0	28.3	28.4	28.4	29.8	29.2	29.2	29.9	30.3	30.8	32.1	32.4	33.0	33.7	32.8	32.1	32.5	33.8	33.3	33.2	34.7	34.0‡	36.7	37.5	+0.9
Any Illicit Drug other than Marijuana [a,b]																									
8th Grade	8.4	9.3	10.4	11.3	12.6	13.1	11.8	11.0	10.5	10.2‡	10.8	8.8	8.8	7.9	8.1	7.7	7.0	7.4	7.0	7.1	6.4	5.5‡	6.3	6.4	+0.1
10th Grade	12.2	12.3	13.9	15.2	17.5	18.4	18.2	16.6	16.7	16.7‡	17.9	15.7	13.8	13.5	12.9	12.7	13.1	11.3	12.2	12.1	11.2	10.8‡	11.2	11.2	0.0
12th Grade	16.2	14.9	17.1	18.0	19.4	19.8	20.7	20.2	20.7	20.4‡	21.6	20.9	19.8	20.5	19.7	19.2	18.5	18.3	17.0	17.3	17.6	17.0‡	17.8	15.9	-1.9
College Students	13.2	13.1	12.5	12.2	15.9	12.8	15.8	14.0	15.4	15.6‡	16.4	16.6	17.9	18.6	18.5	18.1	17.3	15.3	16.9	17.1	16.8	17.1‡	19.3	20.8	+1.6
Young Adults	14.3	14.1	13.0	13.0	13.8	13.2	13.6	13.2	13.7	14.9‡	15.4	16.3	18.1	18.8	18.5	18.4	18.1	18.9	17.4	18.5	17.6	17.2‡	18.1	21.2	+3.0 ss
Any Illicit Drug including Inhalants [a,c,d]																									
8th Grade	16.7	18.2	21.1	24.2	27.1	28.7	27.2	26.2	25.3	24.0	23.9	21.4	20.4	20.2	20.4	19.7	18.0	19.0	18.8	20.3	18.2	17.0‡	17.6	16.8	-0.7
10th Grade	23.9	23.5	27.4	32.5	35.6	39.6	40.3	37.1	37.7	38.0	38.7	36.1	33.5	32.9	31.7	30.7	30.2	28.8	31.2	31.8	32.5	31.5‡	33.2	31.0	-2.2
12th Grade	31.2	28.8	32.5	37.6	40.2	41.9	43.3	42.4	42.8	42.5	42.6	42.1	40.5	39.1	40.3	38.0	37.0	37.3	37.6	39.2	41.5	40.2‡	42.3	39.2	-3.1
College Students	29.8	31.1	31.7	31.9	33.7	35.1	35.5	39.1	37.4	37.0	38.2	37.7	36.0	35.9	37.9	35.5	36.8	35.7	35.0	34.5	36.5	36.9‡	40.1	36.3	-3.8
Young Adults	27.8	29.2	28.9	29.2	30.4	30.2	30.1	30.6	30.6	31.2	33.2	32.4	32.7	34.9	32.8	32.6	33.2	33.5	33.1	33.3	34.2	34.2‡	38.3	35.3	-3.0
Marijuana/Hashish																									
8th Grade	6.2	7.2	9.2	13.0	15.8	18.3	17.7	16.9	16.5	15.6	15.4	14.6	12.8	11.8	12.2	11.7	10.3	10.9	11.8	13.7	12.5	11.4	12.7	11.7	-1.0
10th Grade	16.5	15.2	19.2	25.2	28.7	33.6	34.8	31.1	32.1	32.2	32.7	30.3	28.2	27.5	26.6	25.2	24.6	23.9	26.7	27.5	28.8	28.0	29.8	27.3	-2.5 s
12th Grade	23.9	21.9	26.0	30.7	34.7	35.8	38.5	37.5	37.8	36.5	37.0	36.2	34.9	34.3	33.6	31.5	31.7	32.4	32.8	34.8	36.4	36.4	36.4	35.1	-1.3
College Students	26.5	27.7	27.9	29.3	31.2	33.1	31.6	35.9	35.2	34.0	35.6	34.7	33.7	33.3	33.3	30.2	31.8	32.3	32.8	32.7	33.2	34.9	35.5	34.4	-1.1
Young Adults	23.8	25.2	25.1	25.5	26.5	27.0	26.8	27.4	27.6	27.9	29.2	29.3	29.0	29.2	28.2	27.7	28.5	28.6	29.3	28.7	31.0	30.2	32.2	31.6	-0.6
Synthetic Marijuana [p,q]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.4	4.0	3.3	-0.7
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.8	7.4	5.4	-2.0 ss
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.4	11.3	7.9	5.8	-2.0 s
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.5	5.3	2.3	0.9	-1.4 s
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.4	5.3	3.2	1.3	-1.9 sss
Inhalants [c,d]																									
8th Grade	9.0	9.5	11.0	11.7	12.8	12.2	11.8	11.1	10.3	9.4	9.1	7.7	8.7	9.6	9.5	9.1	8.3	8.9	8.1	8.1	7.0	6.2	5.2	5.3	+0.1
10th Grade	7.1	7.5	8.4	9.1	9.6	9.5	8.7	8.0	7.2	7.3	6.6	5.8	5.4	5.9	6.0	6.5	6.6	5.9	6.1	5.7	4.5	4.1	3.5	3.3	-0.1
12th Grade	6.6	6.2	7.0	7.7	8.0	7.6	6.7	6.2	5.6	5.9	4.5	4.5	3.9	4.2	5.0	4.5	3.7	3.8	3.4	3.6	3.2	2.9	2.5	1.9	-0.6
College Students	3.5	3.1	3.8	3.0	3.9	3.6	4.1	3.0	3.2	2.9	2.8	2.0	1.8	2.7	1.8	1.5	1.5	1.1	1.2	1.7	0.9	1.5	0.5	1.3	+0.8
Young Adults	2.0	1.9	2.1	2.1	2.4	2.2	2.3	2.1	2.3	2.1	1.7	1.6	1.4	1.7	1.3	1.3	0.8	1.4	0.9	1.2	0.8	1.1	0.5	1.1	+0.6 s
Nitrites [e]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.9	0.5	0.9	1.1	1.1	1.6	1.2	1.4	0.9	0.6	0.6	1.1	0.9	0.8	0.6	0.5	0.8	0.6	0.9	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	0.2	0.1	0.4	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hallucinogens [b,f]																									
8th Grade	1.9	2.5	2.6	2.7	3.6	4.1	3.7	3.4	2.9	2.8‡	3.4	2.6	2.6	2.2	2.4	2.1	1.9	2.1	1.9	2.2	2.2	1.6	1.6	1.3	-0.3
10th Grade	4.0	4.3	4.7	5.8	7.2	7.8	7.6	6.9	6.9	6.1‡	6.2	4.7	4.1	4.1	4.0	4.1	4.4	3.9	4.1	4.2	4.1	3.5	3.4	3.3	-0.1
12th Grade	5.8	5.9	7.4	7.6	9.3	10.1	9.8	9.0	9.4	8.1‡	9.1	6.6	5.9	6.2	5.5	4.9	5.4	5.9	4.7	5.5	5.2	4.8	4.5	4.0	-0.5
College Students	6.3	6.8	6.0	6.2	8.2	6.9	7.7	7.2	7.8	6.7‡	7.5	6.3	7.4	5.9	5.0	5.6	4.9	5.1	4.7	4.9	4.1	4.5	4.5	4.0	-0.5
Young Adults	4.5	5.0	4.5	4.8	5.6	5.6	5.9	5.2	5.4	5.4‡	5.4	4.7	5.2	4.7	4.5	4.1	3.8	3.8	3.9	4.2	3.7	3.6	3.9	4.1	+0.3

(Table continued on next page.)

TABLE 2-2 (cont.)
Trends in Annual Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
LSD																									
8th Grade	1.7	2.1	2.3	2.4	3.2	3.5	3.2	2.8	2.4	2.4	2.2	1.5	1.3	1.1	1.2	0.9	1.1	1.3	1.1	1.2	1.1	0.8	1.0	0.7	-0.3
10th Grade	3.7	4.0	4.2	5.2	6.5	6.9	6.7	5.9	6.0	5.1	4.1	2.6	1.7	1.6	1.5	1.7	1.9	1.8	1.9	1.9	1.8	1.7	1.7	1.9	+0.2
12th Grade	5.2	5.6	6.8	6.9	8.4	8.8	8.4	7.6	8.1	6.6	6.6	3.5	1.9	2.2	1.8	1.7	2.1	2.7	1.9	2.6	2.7	2.4	2.2	2.5	+0.3
College Students	5.1	5.7	5.1	5.2	6.9	5.2	5.0	4.4	5.4	4.3	4.0	2.1	1.4	1.2	0.7	1.4	1.3	2.6	2.0	2.1	2.0	1.9	2.6	2.2	-0.3
Young Adults	3.8	4.3	3.8	4.0	4.6	4.5	4.4	3.5	4.0	3.7	3.4	1.8	1.2	0.9	0.8	1.2	1.1	1.4	1.7	1.5	1.7	1.6	2.0	2.2	+0.2
Hallucinogens other than LSD [b]																									
8th Grade	0.7	1.1	1.0	1.3	1.7	2.0	1.8	1.6	1.5	1.4‡	2.4	2.1	2.1	1.9	2.0	1.8	1.6	1.6	1.5	1.8	1.8	1.3	1.2	1.0	-0.2
10th Grade	1.3	1.4	1.9	2.4	2.8	3.3	3.3	3.4	3.2	3.1‡	4.3	4.0	3.6	3.7	3.5	3.7	3.8	3.3	3.5	3.5	3.5	3.0	2.7	2.6	-0.2
12th Grade	2.0	1.7	2.2	3.1	3.8	4.4	4.6	4.6	4.3	4.4‡	5.9	5.4	5.4	5.6	5.0	4.6	4.8	5.0	4.2	4.8	4.3	4.0	3.7	3.0	-0.6
College Students	3.1	2.6	2.7	2.8	4.0	4.1	4.9	4.4	4.5	4.4‡	5.5	5.8	7.1	5.6	5.0	5.4	4.7	4.4	4.1	4.4	3.4	3.9	3.7	3.2	-0.4
Young Adults	1.7	1.9	1.9	2.0	2.5	2.8	3.1	3.0	3.0	3.4‡	3.5	4.0	4.9	4.5	4.2	3.8	3.6	3.4	3.3	3.7	3.2	2.9	3.2	3.1	-0.1
PCP [g]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.4	1.4	1.4	1.6	1.8	2.6	2.3	2.1	1.8	2.3	1.8	1.1	1.3	0.7	1.3	0.7	0.9	1.1	1.0	1.0	1.3	0.9	0.7	0.8	+0.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	0.3	0.3	0.2	0.3	0.3	0.2	0.5	0.6	0.6	0.3	0.6	0.3	0.3	0.1	0.6	0.2	0.3	0.4	0.1	0.2	0.3	*	0.2	0.1	-0.1
Ecstasy (MDMA) [h]																									
8th Grade	—	—	—	—	—	2.3	2.3	1.8	1.7	3.1	3.5	2.9	2.1	1.7	1.7	1.4	1.5	1.7	1.3	2.4	1.7	1.1	1.1	0.9	-0.2
10th Grade	—	—	—	—	—	4.6	3.9	3.3	4.4	5.4	6.2	4.9	3.0	2.4	2.6	2.8	3.5	2.9	3.7	4.7	4.5	3.0	3.6	2.3	-1.2 ss
12th Grade	—	—	—	—	—	4.6	4.0	3.6	5.6	8.2	9.2	7.4	4.5	4.0	3.0	4.1	4.5	4.3	4.3	4.5	5.3	3.8	4.0	3.6	-0.4
College Students	0.9	2.0	0.8	0.5	2.4	2.8	2.4	3.9	5.5	9.1	9.2	6.8	4.4	2.2	2.9	2.6	2.2	3.7	3.1	4.3	4.2	5.8	5.3	5.0	-0.3
Young Adults	0.8	1.0	0.8	0.7	1.6	1.7	2.1	2.9	3.6	7.2	7.5	6.2	4.5	3.5	3.0	3.0	2.5	3.3	3.1	3.5	3.6	4.1	4.2	4.8	+0.5
Salvia [p,q]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.7	1.6	1.4	1.2	0.6	-0.6 ss
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.7	3.9	2.5	2.3	1.8	-0.5
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.7	5.5	5.9	4.4	3.4	1.8	-1.6 sss
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.8	3.5	3.1	1.5	1.0	1.1	+0.1
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.5	3.6	2.2	1.4	0.9	1.2	+0.3
Cocaine																									
8th Grade	1.1	1.5	1.7	2.1	2.6	3.0	2.8	3.1	2.7	2.6	2.5	2.3	2.2	2.0	2.2	2.0	2.0	1.8	1.6	1.6	1.4	1.2	1.0	1.0	+0.1
10th Grade	2.2	1.9	2.1	2.8	3.5	4.2	4.7	4.7	4.9	4.4	3.6	4.0	3.3	3.7	3.5	3.2	3.4	3.0	2.7	2.2	1.9	2.0	1.9	1.5	-0.4
12th Grade	3.5	3.1	3.3	3.6	4.0	4.9	5.5	5.7	6.2	5.0	4.8	5.0	4.8	5.3	5.1	5.7	5.2	4.4	3.4	2.9	2.9	2.7	2.6	2.6	-0.1
College Students	3.6	3.0	2.7	2.0	3.6	2.9	3.4	4.6	4.6	4.8	4.7	4.8	5.4	6.6	5.7	5.1	5.4	4.4	4.2	3.5	3.3	3.1	2.7	4.4	+1.7 s
Young Adults	6.2	5.7	4.7	4.3	4.4	4.1	4.7	4.9	5.4	5.4	5.8	5.8	6.6	7.1	6.9	6.6	6.2	6.0	5.2	4.7	4.7	4.1	3.9	5.0	+1.1 ss
Crack [i]																									
8th Grade	0.7	0.9	1.0	1.3	1.6	1.8	1.7	2.1	1.8	1.8	1.7	1.6	1.6	1.3	1.4	1.3	1.3	1.1	1.1	1.0	0.9	0.6	0.6	0.7	+0.1
10th Grade	0.9	0.9	1.1	1.4	1.8	2.1	2.2	2.5	2.4	2.2	1.8	2.3	1.6	1.7	1.7	1.3	1.3	1.3	1.2	1.0	0.9	0.8	0.8	0.5	-0.3 ss
12th Grade	1.5	1.5	1.5	1.9	2.1	2.1	2.4	2.5	2.7	2.2	2.1	2.3	2.2	2.3	1.9	2.1	1.9	1.6	1.3	1.4	1.0	1.2	1.1	1.1	0.0
College Students	0.5	0.4	0.6	0.5	1.1	0.6	0.4	1.0	0.9	0.9	0.9	0.4	1.3	1.3	0.8	1.0	0.6	0.5	0.3	0.4	0.3	0.3	0.3	0.8	0.0
Young Adults	1.2	1.4	1.3	1.1	1.1	1.1	1.0	1.1	1.4	1.2	1.3	1.0	1.0	1.3	1.2	1.1	1.0	0.9	0.7	0.5	0.6	0.5	0.3	0.4	+0.1
Other Cocaine [j]																									
8th Grade	1.0	1.2	1.3	1.7	2.1	2.5	2.2	2.4	2.3	1.9	1.9	1.8	1.6	1.6	1.7	1.6	1.5	1.4	1.3	1.3	1.1	1.0	0.8	0.8	0.0
10th Grade	2.1	1.7	1.8	2.4	3.0	3.5	4.1	4.0	4.4	3.8	3.0	3.4	2.8	3.3	3.0	2.9	3.1	2.6	2.3	1.9	1.7	1.8	1.6	1.3	-0.2
12th Grade	3.2	2.6	2.9	3.0	3.4	4.2	5.0	4.9	5.8	4.5	4.4	4.4	4.2	4.7	4.5	5.2	4.5	4.0	3.0	2.6	2.6	2.4	2.4	2.4	0.0
College Students	3.2	2.4	2.5	1.8	3.3	2.3	3.0	4.2	4.2	4.1	4.1	5.0	5.1	6.3	5.0	3.8	5.3	4.2	4.2	4.0	3.0	3.0	2.8	4.1	+1.3
Young Adults	5.4	5.1	3.9	3.6	3.9	3.8	4.3	4.5	4.8	4.8	5.3	5.6	6.1	6.4	6.3	5.9	5.6	5.5	5.0	4.8	4.3	4.0	3.7	4.8	+1.1 s

(Table continued on next page.)

TABLE 2-2 (cont.)
Trends in Annual Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Heroin [k]																									
8th Grade	0.7	0.7	0.7	1.2	1.4	1.6	1.3	1.3	1.4	1.1	1.0	0.9	0.9	1.0	0.8	0.8	0.8	0.9	0.7	0.8	0.7	0.5	0.5	0.5	0.0
10th Grade	0.5	0.6	0.7	0.9	1.1	1.2	1.4	1.4	1.4	1.4	0.9	1.1	0.7	0.9	0.9	0.9	0.8	0.8	0.9	0.8	0.8	0.6	0.6	0.5	-0.1
12th Grade	0.4	0.6	0.5	0.6	1.1	1.0	1.2	1.0	1.1	1.5	0.9	1.0	0.8	0.9	0.8	0.8	0.9	0.7	0.7	0.9	0.8	0.6	0.6	0.6	0.0
College Students	0.1	0.1	0.1	0.1	0.3	0.4	0.3	0.6	0.2	0.5	0.4	0.1	0.2	0.4	0.3	0.3	0.2	0.3	0.4	0.2	0.1	0.1	0.3	0.0	-0.2
Young Adults	0.1	0.2	0.2	0.1	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.2	0.4	0.3	0.4	0.4	0.3	0.5	0.6	0.5	0.5	0.5	0.6	0.4	-0.2
With a Needle [l]																									
8th Grade	—	—	—	—	0.9	1.0	0.8	0.8	0.9	0.6	0.7	0.6	0.6	0.7	0.6	0.5	0.6	0.5	0.5	0.6	0.5	0.4	0.3	0.4	+0.1
10th Grade	—	—	—	—	0.6	0.7	0.7	0.8	0.6	0.5	0.4	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.4	0.5	0.4	0.0
12th Grade	—	—	—	—	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.3	0.7	0.6	0.4	0.4	0.5	+0.2
College Students	—	—	—	—	0.1	*	0.1	0.2	0.1	0.1	0.1	*	0.1	0.1	0.3	0.3	*	0.0	0.1	0.0	0.2	0.2	0.1	0.0	-0.1
Young Adults	—	—	—	—	0.1	0.1	0.1	0.1	0.1	*	0.3	*	*	0.1	0.2	0.3	0.1	0.1	0.1	0.2	0.4	0.3	0.3	0.2	-0.1
Without a Needle [l]																									
8th Grade	—	—	—	—	0.8	1.0	0.8	0.8	0.9	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.6	0.4	0.5	0.4	0.3	0.3	0.2	-0.1
10th Grade	—	—	—	—	0.8	0.9	1.1	1.0	1.1	1.1	0.7	0.8	0.5	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.4	0.3	0.0
12th Grade	—	—	—	—	1.0	1.0	1.2	0.8	1.0	1.6	0.8	0.8	0.8	0.7	0.8	0.6	1.0	0.5	0.6	0.8	0.7	0.4	0.4	0.5	0.0
College Students	—	—	—	—	0.0	0.8	0.4	0.9	0.3	0.8	0.6	0.2	0.1	0.6	0.2	0.3	0.2	0.3	0.1	0.3	0.2	0.1	0.5	0.1	-0.4
Young Adults	—	—	—	—	0.3	0.4	0.4	0.7	0.6	0.5	0.9	0.2	0.4	0.3	0.4	0.5	0.3	0.4	0.6	0.4	0.2	0.4	0.7	0.3	-0.4
Narcotics other than Heroin [m,n]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	3.5	3.3	3.6	3.8	4.7	5.4	6.2	6.3	6.7	7.0	6.7‡	9.4	9.3	9.5	9.0	9.0	9.2	9.1	9.2	8.7	8.7	7.9	7.1	6.1	-1.0 s
College Students	2.7	2.7	2.5	2.4	3.8	3.1	4.2	4.2	4.3	4.5	5.7‡	7.4	8.7	8.2	8.4	8.8	7.7	6.5	7.6	7.2	6.2	5.4	5.4	4.8	-0.6
Young Adults	2.5	2.5	2.2	2.5	3.0	2.9	3.3	3.4	3.8	4.1	5.0‡	7.1	8.5	9.0	8.7	9.1	8.7	9.1	8.4	9.0	7.9	7.3	7.0	6.3	-0.7
OxyContin [m,p,aa,bb]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	1.3	1.7	1.7	1.8	2.6	1.8	2.1	2.0	2.1	1.8	1.6	2.0	1.0	-0.9 s
10th Grade	—	—	—	—	—	—	—	—	—	—	—	3.0	3.6	3.5	3.2	3.8	3.9	3.6	5.1	4.6	3.9	3.0	3.4	3.0	-0.4
12th Grade	—	—	—	—	—	—	—	—	—	—	—	4.0	4.5	5.0	5.5	4.3	5.2	4.7	4.9	5.1	4.9	4.3	3.6	3.3	-0.2
College Students	—	—	—	—	—	—	—	—	—	—	—	1.5	2.2	2.5	2.1	3.0	2.8	3.6	5.0	2.3	2.4	1.2	2.3	1.3	-1.1
Young Adults	—	—	—	—	—	—	—	—	—	—	—	1.9	2.6	3.1	3.1	3.1	2.9	3.9	5.2	3.2	2.8	2.3	2.8	2.5	-0.3
Vicodin [m,p,aa,bb]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	2.5	2.8	2.5	2.6	3.0	2.7	2.9	2.5	2.7	2.1	1.3	1.4	1.0	-0.3
10th Grade	—	—	—	—	—	—	—	—	—	—	—	6.9	7.2	6.2	5.9	7.0	7.2	6.7	8.1	7.7	5.9	4.4	4.6	3.4	-1.1
12th Grade	—	—	—	—	—	—	—	—	—	—	—	9.6	10.5	9.3	9.5	9.7	9.6	9.7	9.7	8.0	8.1	7.5	5.3	4.8	-0.5
College Students	—	—	—	—	—	—	—	—	—	—	—	6.9	7.5	7.4	9.6	7.6	6.7	6.7	8.4	4.9	5.8	3.8	4.4	2.8	-1.6
Young Adults	—	—	—	—	—	—	—	—	—	—	—	8.2	8.6	8.9	9.3	9.1	8.9	9.1	8.9	7.8	7.1	6.3	6.2	4.8	-1.3 s
Amphetamines [m,o]																									
8th Grade	6.2	6.5	7.2	7.9	8.7	9.1	8.1	7.2	6.9	6.5	6.7	5.5	5.5	4.9	4.9	4.7	4.2	4.5	4.1	3.9	3.5	2.9‡	4.2	4.3	+0.1
10th Grade	8.2	8.2	9.6	10.2	11.9	12.4	12.1	10.7	10.4	11.1	11.7	10.7	9.0	8.5	7.8	7.9	8.0	6.4	7.1	7.6	6.6	6.5‡	7.9	7.6	-0.3
12th Grade	8.2	7.1	8.4	9.4	9.3	9.5	10.2	10.1	10.2	10.5	10.9	11.1	9.9	10.0	8.6	8.1	7.5	6.8	6.6	7.4	8.2	7.9‡	9.2	8.1	-1.1
College Students	3.9	3.6	4.2	4.2	5.4	4.2	5.7	5.1	5.8	6.6	7.2	7.0	7.1	7.0	6.7	6.0	6.9	5.7	7.5	9.0	9.3	11.1‡	9.6	10.1	+0.5
Young Adults	4.3	4.1	4.0	4.5	4.6	4.2	4.6	4.5	4.7	5.4	5.8	5.9	5.8	6.2	5.1	5.6	5.6	5.3	6.0	7.1	7.2	7.8‡	7.5	8.0	+0.6
Ritalin [m,p,q,bb]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	2.9	2.8	2.6	2.5	2.4	2.6	2.1	1.6	1.8	1.5	1.3	0.7	1.1	0.9	-0.2
10th Grade	—	—	—	—	—	—	—	—	—	—	4.8	4.8	4.1	3.4	3.4	3.6	2.8	2.9	3.6	2.7	2.6	1.9	1.8	1.8	+0.1
12th Grade	—	—	—	—	—	—	—	—	—	—	5.1	4.0	4.0	5.1	4.4	4.4	3.8	3.4	2.1	2.7	2.6	2.6	2.3	1.8	-0.5
College Students	—	—	—	—	—	—	—	—	—	—	—	5.7	4.7	4.7	4.2	3.9	3.7	3.2	1.7	1.9	2.3	1.8	3.6	1.6	-1.9
Young Adults	—	—	—	—	—	—	—	—	—	—	—	2.9	2.9	2.7	2.5	2.6	2.4	2.4	1.7	1.7	1.5	1.6	2.0	1.6	-0.4

(Table continued on next page.)

TABLE 2-2 (cont.)
Trends in Annual Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Adderall [m,p,q,bb]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.0	2.3	1.7	1.7	1.8	1.3	-0.5
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.7	5.3	4.6	4.5	4.4	4.6	+0.2
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.4	6.5	6.5	7.6	7.4	6.8	-0.6
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.2	9.0	9.8	9.0	10.7	9.6	-1.0
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.8	7.0	6.6	7.4	7.0	7.8	+0.9
Provigil [m,q]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.8	1.3	1.5	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.2	0.0	0.2	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.5	0.5	0.3	—	—	—	—
Methamphetamine [p,q]																									
8th Grade	—	—	—	—	—	—	—	—	3.2	2.5	2.8	2.2	2.5	1.5	1.8	1.8	1.1	1.2	1.0	1.2	0.8	1.0	1.0	0.6	-0.3
10th Grade	—	—	—	—	—	—	—	—	4.6	4.0	3.7	3.9	3.3	3.0	2.9	1.8	1.6	1.5	1.6	1.6	1.4	1.0	1.0	0.8	-0.2
12th Grade	—	—	—	—	—	—	—	—	4.7	4.3	3.9	3.6	3.2	3.4	2.5	2.5	1.7	1.2	1.2	1.0	1.4	1.1	0.9	1.0	0.0
College Students	—	—	—	—	—	—	—	—	3.3	1.6	2.4	1.2	2.6	2.9	1.7	1.2	0.4	0.5	0.3	0.4	0.2	0.0	0.4	0.1	-0.3
Young Adults	—	—	—	—	—	—	—	—	2.8	2.5	2.8	2.5	2.7	2.8	2.4	1.9	1.5	1.0	0.9	0.7	0.5	1.0	0.6	0.5	-0.1
Crystal Methamphetamine (Ice) [q]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.4	1.3	1.7	1.8	2.4	2.8	2.3	3.0	1.9	2.2	2.5	3.0	2.0	2.1	2.3	1.9	1.6	1.1	0.9	0.9	1.2	0.8	1.1	0.8	-0.3
College Students	0.1	0.2	0.7	0.8	1.1	0.3	0.8	1.0	0.5	0.5	0.6	0.8	0.9	1.1	1.4	0.6	0.7	0.1	0.1	0.5	0.1	0.6	0.0	0.0	0.0
Young Adults	0.3	0.4	0.8	0.9	1.2	0.9	0.9	1.1	0.9	1.2	1.1	1.4	1.3	1.5	1.6	1.1	1.1	0.8	0.8	0.5	0.5	0.6	0.8	0.3	-0.5
Sedatives (Barbiturates) [m,r]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.4	2.8	3.4	4.1	4.7	4.9	5.1	5.5	5.8	6.2	5.7	6.7	6.0‡	6.5	7.2	6.6	6.2	5.8	5.2	4.8	4.3	4.5	4.8	4.3	-0.5
College Students	1.2	1.4	1.5	1.2	2.0	2.3	3.0	2.5	3.2	3.7	3.8	3.7	4.1	4.2	3.9	3.4	3.6	3.7	3.1	2.5	1.7	2.2‡	2.7	3.1	+0.3
Young Adults	1.8	1.6	1.9	1.8	2.1	2.2	2.4	2.5	2.8	3.4	3.7	3.9	3.9	4.4	4.2	3.9	4.2	4.7	3.8	3.3	3.2	2.7‡	3.4	3.2	-0.3
Methaqualone [m,s]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.5	0.6	0.2	0.8	0.7	1.1	1.0	1.1	1.1	0.3	0.8	0.9	0.6	0.8	0.9	0.8	0.5	0.5	0.6	0.3	0.3	0.4	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers [b,m]																									
8th Grade	1.8	2.0	2.1	2.4	2.7	3.3	2.9	2.6	2.5	2.6‡	2.8	2.6	2.7	2.5	2.8	2.6	2.4	2.4	2.6	2.8	2.0	1.8	1.8	1.7	-0.1
10th Grade	3.2	3.5	3.3	3.3	4.0	4.6	4.9	5.1	5.4	5.6‡	7.3	6.3	5.3	5.1	4.8	5.2	5.3	4.6	5.0	5.1	4.5	4.3	3.7	3.9	+0.2
12th Grade	3.6	2.8	3.5	3.7	4.4	4.6	4.7	5.5	5.8	5.7‡	6.9	7.7	6.7	7.3	6.8	6.6	6.2	6.2	6.3	5.6	5.6	5.3	4.6	4.7	+0.1
College Students	2.4	2.9	2.4	1.8	2.9	2.8	3.8	3.9	3.8	4.2‡	5.1	6.7	6.9	6.7	6.4	5.8	5.5	5.0	5.4	4.9	4.2	3.4	4.4	3.5	-0.9
Young Adults	3.5	3.4	3.1	2.9	3.4	3.2	3.1	3.8	3.7	4.6‡	5.5	7.0	6.8	7.4	6.7	6.5	7.1	6.8	6.4	6.3	5.9	5.3	5.4	4.8	-0.6
Any Prescription Drug [o,t]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.1	16.8	15.8	15.4	14.4	15.0	15.2	14.8‡	15.9	13.9	-2.0 ss
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Over-the-counter Cough/Cold Medicines [p,q]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.2	4.0	3.6	3.8	3.2	2.7	3.0	2.9	2.0	-0.9 s
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.3	5.4	5.3	6.0	5.1	5.5	4.7	4.3	3.7	-0.6
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	5.8	5.5	5.9	6.6	5.3	5.6	5.0	4.1	-0.9
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(Table continued on next page.)

TABLE 2-2 (cont.)
Trends in Annual Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Rohypnol [u]																									
8th Grade	—	—	—	—	—	1.0	0.8	0.8	0.5	0.5	0.7	0.3	0.5	0.6	0.7	0.5	0.7	0.5	0.4	0.5	0.8	0.4	0.4	0.3	-0.1
10th Grade	—	—	—	—	—	1.1	1.3	1.2	1.0	0.8	1.0	0.7	0.6	0.7	0.5	0.5	0.7	0.4	0.4	0.6	0.6	0.5	0.6	0.5	0.0
12th Grade	—	—	—	—	—	1.1	1.2	1.4	1.0	0.8	0.9‡	1.6	1.3	1.6	1.2	1.1	1.0	1.3	1.0	1.5	1.3	1.5	0.9	0.7	-0.2
College Students	—	—	—	—	—	—	—	—	—	—	—	0.7	0.4	0.3	0.1	0.2	0.1	0.3	0.0	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	0.3	0.5	0.1	0.1	0.2	0.3	0.2	0.1	—	—	—	—	—	—
GHB [p,cc]																									
8th Grade	—	—	—	—	—	—	—	—	—	1.2	1.1	0.8	0.9	0.7	0.5	0.8	0.7	1.1	0.7	0.6	0.6	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	1.1	1.0	1.4	1.4	0.8	0.8	0.7	0.6	0.5	1.0	0.6	0.5	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	1.9	1.6	1.5	1.4	2.0	1.1	1.1	0.9	1.2	1.1	1.4	1.4	1.4	1.0	1.0	0.0
College Students	—	—	—	—	—	—	—	—	—	—	—	0.6	0.3	0.7	0.4	*	0.1	0.2	0.0	0.1	0.1	0.0	0.1	0.2	+0.1
Young Adults	—	—	—	—	—	—	—	—	—	—	—	0.8	0.6	0.5	0.3	0.2	0.4	0.3	0.2	0.3	0.3	0.4	0.3	0.3	0.0
Ketamine [p,dd]																									
8th Grade	—	—	—	—	—	—	—	—	—	1.6	1.3	1.3	1.1	0.9	0.6	0.9	1.0	1.2	1.0	1.0	0.8	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	2.1	2.1	2.2	1.9	1.3	1.0	1.0	0.8	1.0	1.3	1.1	1.2	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	2.5	2.5	2.6	2.1	1.9	1.6	1.4	1.3	1.5	1.7	1.6	1.7	1.5	1.4	1.5	0.0
College Students	—	—	—	—	—	—	—	—	—	—	—	1.3	1.0	1.5	0.5	0.9	0.2	0.4	0.1	0.7	0.6	0.4	0.9	0.1	-0.8
Young Adults	—	—	—	—	—	—	—	—	—	—	—	1.2	0.9	0.6	0.5	0.5	0.3	0.4	0.5	0.8	0.5	0.8	0.5	0.4	-0.1
Alcohol [v]																									
Any Use																									
8th Grade	54.0	53.7‡	45.4	46.8	45.3	46.5	45.5	43.7	43.5	43.1	41.9	38.7	37.2	36.7	33.9	33.6	31.8	32.1	30.3	29.3	26.9	23.6	22.1	20.8	-1.3
10th Grade	72.3	70.2‡	63.4	63.9	63.5	65.0	65.2	62.7	63.7	65.3	63.5	60.0	59.3	58.2	56.7	55.8	56.3	52.5	52.8	52.1	49.8	48.5	47.1	44.0	-3.1 ss
12th Grade	77.7	76.8‡	72.7	73.0	73.7	72.5	74.8	74.3	73.8	73.2	73.3	71.5	70.1	70.6	68.6	66.5	66.4	65.5	66.2	65.2	63.5	63.5	62.0	60.2	-1.8
College Students	88.3	86.9	85.1	82.7	83.2	82.9	82.4	84.6	83.6	83.2	83.0	82.9	81.7	81.2	83.0	82.1	80.9	82.1	79.4	78.6	77.4	79.2	75.6	76.1	+0.5
Young Adults	86.9	86.2	85.3	83.7	84.7	84.0	84.3	84.0	84.1	84.0	84.3	84.9	83.3	84.4	83.8	84.4	84.0	83.6	83.8	82.7	83.5	82.5	82.5	82.3	-0.1
Been Drunk [w]																									
8th Grade	17.5	18.3	18.2	18.2	18.4	19.8	18.4	17.9	18.5	18.5	16.6	15.0	14.5	14.5	14.1	13.9	12.6	12.7	12.2	11.5	10.5	8.6	8.4	7.3	-1.1
10th Grade	40.1	37.0	37.8	38.0	38.5	40.1	40.7	38.3	40.9	41.6	39.9	35.4	34.7	35.1	34.2	34.5	34.4	30.0	31.2	29.9	28.8	28.2	27.1	24.6	-2.4 s
12th Grade	52.7	50.3	49.6	51.7	52.5	51.9	53.2	52.0	53.2	51.8	53.2	50.4	48.0	51.8	47.7	47.9	46.1	45.6	47.0	44.0	42.2	45.0	43.5	41.4	-2.0
College Students	69.1	67.3	65.6	63.1	62.1	64.2	66.8	67.0	65.4	64.7	68.8	66.0	64.7	67.1	64.2	66.2	64.8	66.8	61.5	63.8	60.1	61.5	57.9	60.5	+2.5
Young Adults	62.0	60.9	61.1	58.8	61.6	59.9	63.2	59.6	63.2	60.6	63.1	61.8	62.9	63.8	63.5	65.7	65.8	66.0	65.5	64.8	64.0	64.6	63.1	63.5	+0.5
Flavored Alcoholic Beverages [g,p,ee]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	30.4	27.9	26.8	26.0	25.0	22.2	21.9	19.2	17.0	15.7	13.4	-2.3 s
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	49.7	48.5	48.8	45.9	43.4	41.5	41.0	38.3	37.8	35.6	33.2	-2.4
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	55.2	55.8	58.4	54.7	53.6	51.8	53.4	47.9	47.0	44.4	44.2	43.6	-0.6
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	63.2	67.0	63.5	62.6	65.0	66.1	60.3	63.0	58.1	57.6	64.2	+6.6
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	62.7	58.4	58.5	58.9	58.3	57.0	52.0	56.3	54.8	54.1	55.4	+1.3
Alcoholic Beverages containing Caffeine [p,w]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.8‡	10.9	10.2	9.5	-0.8
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22.5‡	19.7	16.9	14.3	-2.7 s
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26.4‡	26.4	23.5	20.0	-3.6 ss
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.6‡	33.8	39.1	32.8	-6.3
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.1‡	36.7	36.9	35.0	-1.9
Cigarettes																									
Any Use																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
College Students	35.6	37.3	38.8	37.6	39.3	41.4	43.6	44.3	44.5	41.3	39.0	38.3	35.2	36.7	36.0	30.9	30.7	30.0	29.9	28.1	25.8	23.4	23.2	22.6	-0.5
Young Adults	37.7	37.9	37.8	38.3	38.8	40.3	41.8	41.6	41.1	40.9	41.1	39.1	38.6	39.0	39.1	36.9	36.2	35.0	33.9	33.0	31.5	29.8	29.8	27.0	-2.8 ss

(Table continued on next page.)

TABLE 2-2 (cont.)
Trends in Annual Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Bidis [p,ff]																									
8th Grade	—	—	—	—	—	—	—	—	—	3.9	2.7	2.7	2.0	1.7	1.6	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	6.4	4.9	3.1	2.8	2.1	1.6	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	9.2	7.0	5.9	4.0	3.6	3.3	2.3	1.7	1.9	1.5	1.4	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Kreteks [p,ff]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	2.6	2.6	2.0	1.9	1.4	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	6.0	4.9	3.8	3.7	2.8	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	10.1	8.4	6.7	6.5	7.1	6.2	6.8	6.8	5.5	4.6	2.9	3.0	1.6	1.6	+0.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tobacco using a Hookah [s]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.1	18.5	18.3	21.4	22.9	+1.5
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.9	25.7	26.1	32.7	+6.7 s
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.1	19.1	20.4	23.3	+2.9 s
Small Cigars [s]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.1	19.5	19.9	20.4	18.9	-1.5
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.6	20.3	19.0	24.2	+5.2
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.2	18.0	18.4	18.6	+0.1
Dissolvable Tobacco [p,s]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.0	1.1	1.1	0.0
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	1.2	1.3	+0.1
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.5	1.6	1.9	1.1	-0.8
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.0	0.3	0.2	0.5	+0.3
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.3	0.6	0.3	0.5	+0.2
Snus [p,s]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.4	2.0	2.2	+0.2
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	5.2	4.5	-0.6
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.9	7.9	7.7	5.8	-1.9
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.5	4.7	4.8	5.0	+0.2
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.1	5.7	4.8	4.8	0.0
Steroids [y,z]																									
8th Grade	1.0	1.1	0.9	1.2	1.0	0.9	1.0	1.2	1.7	1.7	1.6	1.5	1.4	1.1	1.1	0.9	0.8	0.9	0.8	0.5	0.7	0.6	0.6	0.6	0.0
10th Grade	1.1	1.1	1.0	1.1	1.2	1.2	1.2	1.2	1.7	2.2	2.1	2.2	1.7	1.5	1.3	1.2	1.1	0.9	0.8	1.0	0.9	0.8	0.8	0.8	-0.1
12th Grade	1.4	1.1	1.2	1.3	1.5	1.4	1.4	1.7	1.8	1.7	2.4	2.5	2.1	2.5	1.5	1.8	1.4	1.5	1.5	1.5	1.2	1.3	1.5	1.5	0.0
College Students	0.6	0.2	0.9	0.2	0.4	0.2	0.7	0.2	0.9	0.1	0.6	0.5	0.3	0.6	0.5	0.8	0.6	0.1	0.7	0.3	0.2	0.3	0.8	0.5	-0.3
Young Adults	0.5	0.4	0.3	0.4	0.5	0.3	0.5	0.4	0.6	0.4	0.4	0.4	0.5	0.5	0.5	0.3	0.7	0.4	0.7	0.8	0.2	0.4	0.5	0.7	+0.2
Bath Salts (Synthetic stimulants) [p,q]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	1.0	0.5	-0.5 s
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.6	0.9	0.9	-0.1
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.3	0.9	0.9	0.0
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.3	0.1	0.2	+0.1
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.5	0.4	0.4	0.0

Source. The Monitoring the Future study, the University of Michigan.

See footnotes following Table 2-4.

TABLE 2-3
Trends in 30-Day Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Any Illicit Drug [a]																									
8th Grade	5.7	6.8	8.4	10.9	12.4	14.6	12.9	12.1	12.2	11.9	11.7	10.4	9.7	8.4	8.5	8.1	7.4	7.6	8.1	9.5	8.5	7.7‡	8.7	8.3	-0.4
10th Grade	11.6	11.0	14.0	18.5	20.2	23.2	23.0	21.5	22.1	22.5	22.7	20.8	19.5	18.3	17.3	16.8	16.9	15.8	17.8	18.5	19.2	18.6‡	19.2	18.5	-0.7
12th Grade	16.4	14.4	18.3	21.9	23.8	24.6	26.2	25.6	25.9	24.9	25.7	25.4	24.1	23.4	23.1	21.5	21.9	22.3	23.3	23.8	25.2	25.2‡	25.2	23.7	-1.5
College Students	15.2	16.1	15.1	16.0	19.1	17.6	19.2	19.7	21.6	21.5	21.9	21.5	21.4	21.2	19.5	19.2	19.3	18.9	20.7	19.2	21.4	22.3‡	22.8	22.7	-0.1
Young Adults	15.1	14.8	14.9	15.3	15.8	15.8	16.4	16.1	17.1	18.1	18.8	18.9	19.9	19.1	18.6	18.5	18.9	19.3	19.8	18.9	20.6	19.9‡	21.6	22.3	+0.7
Any Illicit Drug other than Marijuana [a,b]																									
8th Grade	3.8	4.7	5.3	5.6	6.5	6.9	6.0	5.5	5.5	5.6‡	5.5	4.7	4.7	4.1	4.1	3.8	3.6	3.8	3.5	3.5	3.4	2.6‡	3.6	3.3	-0.2
10th Grade	5.5	5.7	6.5	7.1	8.9	8.9	8.8	8.6	8.6	8.5‡	8.7	8.1	6.9	6.9	6.4	6.3	6.9	5.3	5.7	5.8	5.4	5.0‡	4.9	5.6	+0.7
12th Grade	7.1	6.3	7.9	8.8	10.0	9.5	10.7	10.7	10.4	10.4‡	11.0	11.3	10.4	10.8	10.3	9.8	9.5	9.3	8.6	8.6	8.9	8.4‡	8.2	7.7	-0.5
College Students	4.3	4.6	5.4	4.6	6.3	4.5	6.8	6.1	6.4	6.9‡	7.5	7.8	8.2	9.1	8.2	8.2	8.1	7.3	8.4	8.1	8.2	7.8‡	8.8	10.0	+1.2
Young Adults	5.4	5.5	4.9	5.3	5.7	4.7	5.5	5.5	6.0	6.4‡	7.0	7.7	8.3	8.5	8.2	8.1	8.6	8.9	8.5	8.6	8.4	7.8‡	8.3	9.9	+1.7 s
Any Illicit Drug including Inhalants [a,c,d]																									
8th Grade	8.8	10.0	12.0	14.3	16.1	17.5	16.0	14.9	15.1	14.4	14.0	12.6	12.1	11.2	11.2	10.9	10.1	10.4	10.6	11.7	10.5	9.5‡	10.0	9.5	-0.4
10th Grade	13.1	12.6	15.5	20.0	21.6	24.5	24.1	22.5	23.1	23.6	23.6	21.7	20.5	19.3	18.4	17.7	18.1	16.8	18.8	19.4	20.1	19.3‡	20.0	19.1	-0.9
12th Grade	17.8	15.5	19.3	23.0	24.8	25.5	26.9	26.6	26.4	26.4	26.5	25.9	24.6	23.3	24.2	22.1	22.8	22.8	24.1	24.5	26.2	25.2‡	26.5	24.3	-2.2
College Students	15.1	16.5	15.7	16.4	19.6	18.0	19.6	21.0	21.8	22.6	21.9	21.9	21.6	21.7	19.0	19.7	18.1	18.9	21.3	20.5	20.6	20.0‡	23.5	21.1	-2.4
Young Adults	15.4	15.3	15.1	16.1	16.1	16.4	16.9	16.7	17.4	18.8	19.2	19.5	20.1	19.6	18.0	18.4	19.1	19.3	20.3	19.6	20.3	19.1‡	23.5	20.9	-2.6
Marijuana/Hashish																									
8th Grade	3.2	3.7	5.1	7.8	9.1	11.3	10.2	9.7	9.7	9.1	9.2	8.3	7.5	6.4	6.6	6.5	5.7	5.8	6.5	8.0	7.2	6.5	7.0	6.5	-0.5
10th Grade	8.7	8.1	10.9	15.8	17.2	20.4	20.5	18.7	19.4	19.7	19.8	17.8	17.0	15.9	15.2	14.2	14.2	13.8	15.9	16.7	17.6	17.0	18.0	16.6	-1.4
12th Grade	13.8	11.9	15.5	19.0	21.2	21.9	23.7	22.8	23.1	21.6	22.4	21.5	21.2	19.9	19.8	18.3	18.8	19.4	20.6	21.4	22.6	22.9	22.7	21.2	-1.6
College Students	14.1	14.6	14.2	15.1	18.6	17.5	17.7	18.6	20.7	20.0	20.2	19.7	19.3	18.9	17.1	16.7	16.8	17.0	18.5	17.5	19.4	20.5	20.6	20.8	+0.2
Young Adults	13.5	13.3	13.4	14.1	14.0	15.1	15.0	14.9	15.6	16.1	16.7	16.9	17.3	16.5	15.8	15.7	16.0	16.0	17.0	16.1	18.3	17.7	19.0	19.2	+0.2
Synthetic Marijuana																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.4	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.8	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.7	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.0	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.4	—
Inhalants [c,d]																									
8th Grade	4.4	4.7	5.4	5.6	6.1	5.8	5.6	4.8	5.0	4.5	4.0	3.8	4.1	4.5	4.2	4.1	3.9	4.1	3.8	3.6	3.2	2.7	2.3	2.2	-0.1
10th Grade	2.7	2.7	3.3	3.6	3.5	3.3	3.0	2.9	2.6	2.6	2.4	2.4	2.2	2.4	2.2	2.3	2.5	2.1	2.2	2.0	1.7	1.4	1.3	1.1	-0.3
12th Grade	2.4	2.3	2.5	2.7	3.2	2.5	2.5	2.3	2.0	2.2	1.7	1.5	1.5	1.5	2.0	1.5	1.2	1.4	1.2	1.4	1.0	0.9	1.0	0.7	-0.2
College Students	0.9	1.1	1.3	0.6	1.6	0.8	0.8	0.6	1.5	0.9	0.4	0.7	0.4	0.4	0.3	0.4	0.1	0.4	0.1	0.5	0.3	0.2	0.1	0.3	+0.2
Young Adults	0.5	0.6	0.7	0.5	0.7	0.5	0.5	0.7	0.8	0.5	0.4	0.5	0.3	0.3	0.2	0.3	0.2	0.4	0.2	0.1	0.1	0.3	0.1	0.3	+0.1
Nitrites [e]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.4	0.3	0.6	0.4	0.4	0.7	0.7	1.0	0.4	0.3	0.5	0.6	0.7	0.7	0.5	0.3	0.5	0.3	0.6	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	*	0.1	0.2	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hallucinogens [b,f]																									
8th Grade	0.8	1.1	1.2	1.3	1.7	1.9	1.8	1.4	1.3	1.2‡	1.6	1.2	1.2	1.0	1.1	0.9	1.0	0.9	0.9	1.0	1.0	0.6	0.8	0.5	-0.3
10th Grade	1.6	1.8	1.9	2.4	3.3	2.8	3.3	3.2	2.9	2.3‡	2.1	1.6	1.5	1.6	1.5	1.5	1.7	1.3	1.4	1.6	1.4	1.2	1.1	1.2	0.0
12th Grade	2.2	2.1	2.7	3.1	4.4	3.5	3.9	3.8	3.5	2.6‡	3.3	2.3	1.8	1.9	1.9	1.5	1.7	2.2	1.6	1.9	1.6	1.6	1.4	1.5	+0.1
College Students	1.2	2.3	2.5	2.1	3.3	1.9	2.1	2.1	2.0	1.4‡	1.8	1.2	1.8	1.3	1.2	0.9	1.3	1.7	1.0	1.4	1.2	1.1	1.0	1.0	0.0
Young Adults	1.1	1.5	1.2	1.4	1.7	1.2	1.5	1.4	1.3	1.2‡	1.2	0.9	1.2	0.9	0.8	0.7	0.9	0.9	0.8	1.0	0.9	0.6	1.0	0.9	-0.1
LSD																									
8th Grade	0.6	0.9	1.0	1.1	1.4	1.5	1.5	1.1	1.1	1.0	1.0	0.7	0.6	0.5	0.5	0.4	0.5	0.5	0.5	0.6	0.5	0.3	0.5	0.3	-0.2
10th Grade	1.5	1.6	1.6	2.0	3.0	2.4	2.8	2.7	2.3	1.6	1.5	0.7	0.6	0.6	0.6	0.7	0.7	0.7	0.5	0.7	0.7	0.5	0.6	0.6	0.0
12th Grade	1.9	2.0	2.4	2.6	4.0	2.5	3.1	3.2	2.7	1.6	2.3	0.7	0.6	0.7	0.7	0.6	0.6	1.1	0.5	0.8	0.8	0.8	0.8	1.0	+0.3
College Students	0.8	1.8	1.6	1.8	2.5	0.9	1.1	1.5	1.2	0.9	1.0	0.2	0.2	0.2	0.1	0.3	0.3	0.8	0.3	0.7	0.5	0.4	0.4	0.5	+0.1
Young Adults	0.8	1.1	0.8	1.1	1.3	0.7	0.9	1.0	0.8	0.8	0.7	0.3	0.2	0.1	0.1	0.2	0.2	0.4	0.2	0.4	0.3	0.3	0.4	0.4	0.0

(Table continued on next page.)

TABLE 2-3 (cont.)
Trends in 30-Day Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Hallucinogens other than LSD [b]																									
8th Grade	0.3	0.4	0.5	0.7	0.8	0.9	0.7	0.7	0.6	0.6‡	1.1	1.0	1.0	0.8	0.9	0.7	0.7	0.7	0.7	0.8	0.7	0.5	0.5	0.4	-0.1
10th Grade	0.4	0.5	0.7	1.0	1.0	1.0	1.2	1.4	1.2	1.2‡	1.4	1.4	1.2	1.4	1.3	1.3	1.4	1.0	1.1	1.2	1.1	0.9	0.8	0.8	0.0
12th Grade	0.7	0.5	0.8	1.2	1.3	1.6	1.7	1.6	1.6	1.7‡	1.9	2.0	1.5	1.7	1.6	1.3	1.4	1.6	1.4	1.5	1.2	1.3	1.0	1.0	0.0
College Students	0.6	0.7	1.1	0.8	1.6	1.2	1.2	0.7	1.2	0.8‡	0.8	1.1	1.7	1.2	1.1	0.7	1.1	1.3	0.8	1.2	0.8	0.7	0.8	0.7	-0.2
Young Adults	0.3	0.5	0.6	0.6	0.6	0.6	0.7	0.5	0.6	0.7‡	0.6	0.8	1.2	0.9	0.8	0.6	0.8	0.7	0.7	0.8	0.6	0.4	0.7	0.6	-0.1
PCP [g]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.5	0.6	1.0	0.7	0.6	1.3	0.7	1.0	0.8	0.9	0.5	0.4	0.6	0.4	0.7	0.4	0.5	0.6	0.5	0.8	0.8	0.5	0.4	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	0.1	0.2	0.2	0.1	*	0.1	0.1	0.2	0.2	*	*	0.1	0.1	0.1	*	*	*	0.1	*	0.0	0.1	0.0	0.2	0.1	0.0
Ecstasy (MDMA) [h]																									
8th Grade	—	—	—	—	—	1.0	1.0	0.9	0.8	1.4	1.8	1.4	0.7	0.8	0.6	0.7	0.6	0.8	0.6	1.1	0.6	0.5	0.5	0.4	-0.1
10th Grade	—	—	—	—	—	1.8	1.3	1.3	1.8	2.6	2.6	1.8	1.1	0.8	1.0	1.2	1.2	1.1	1.3	1.9	1.6	1.0	1.2	0.8	-0.5 s
12th Grade	—	—	—	—	—	2.0	1.6	1.5	2.5	3.6	2.8	2.4	1.3	1.2	1.0	1.3	1.6	1.8	1.8	1.4	2.3	0.9	1.5	1.4	-0.1
College Students	0.2	0.4	0.3	0.2	0.7	0.7	0.8	0.8	2.1	2.5	1.5	0.7	1.0	0.7	0.8	0.6	0.4	0.6	0.5	1.0	0.7	1.4	0.8	1.4	+0.6
Young Adults	0.1	0.3	0.3	0.2	0.4	0.3	0.6	0.8	1.3	1.9	1.8	1.3	0.8	0.6	0.6	0.7	0.5	0.6	0.6	0.8	0.7	1.0	1.1	1.3	+0.3
Cocaine																									
8th Grade	0.5	0.7	0.7	1.0	1.2	1.3	1.1	1.4	1.3	1.2	1.2	1.1	0.9	0.9	1.0	1.0	0.9	0.8	0.8	0.6	0.8	0.5	0.5	0.5	0.0
10th Grade	0.7	0.7	0.9	1.2	1.7	1.7	2.0	2.1	1.8	1.8	1.3	1.6	1.3	1.7	1.5	1.5	1.3	1.2	0.9	0.9	0.7	0.8	0.8	0.6	-0.2
12th Grade	1.4	1.3	1.3	1.5	1.8	2.0	2.3	2.4	2.6	2.1	2.1	2.3	2.1	2.3	2.3	2.5	2.0	1.9	1.3	1.3	1.1	1.1	1.1	1.0	-0.1
College Students	1.0	1.0	0.7	0.6	0.7	0.8	1.6	1.6	1.2	1.4	1.9	1.6	1.9	2.4	1.8	1.8	1.7	1.2	1.3	1.0	1.2	1.1	0.9	1.8	+1.0 s
Young Adults	2.0	1.8	1.4	1.3	1.5	1.2	1.6	1.7	1.9	1.7	2.2	2.2	2.4	2.2	2.2	2.3	2.1	1.9	1.8	1.4	1.5	1.3	1.5	1.8	+0.3
Crack [i]																									
8th Grade	0.3	0.5	0.4	0.7	0.7	0.8	0.7	0.9	0.8	0.8	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.5	0.3	0.3	0.3	0.0
10th Grade	0.3	0.4	0.5	0.6	0.9	0.8	0.9	1.1	0.8	0.9	0.7	1.0	0.7	0.8	0.7	0.7	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.3	-0.1
12th Grade	0.7	0.6	0.7	0.8	1.0	1.0	0.9	1.0	1.1	1.0	1.1	1.2	0.9	1.0	1.0	0.9	0.9	0.8	0.6	0.7	0.5	0.6	0.6	0.7	0.0
College Students	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.3	0.1	0.3	0.4	0.4	0.1	*	0.1	0.1	0.1	0.1	0.1	0.0	0.3	0.1	-0.2
Young Adults	0.4	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.4	0.2	0.1	0.2	0.1	0.1	0.1	0.0
Other Cocaine [j]																									
8th Grade	0.5	0.5	0.6	0.9	1.0	1.0	0.8	1.0	1.1	0.9	0.9	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.5	0.6	0.3	0.3	0.4	0.0
10th Grade	0.6	0.6	0.7	1.0	1.4	1.3	1.6	1.8	1.6	1.6	1.2	1.3	1.1	1.5	1.3	1.3	1.1	1.0	0.8	0.7	0.6	0.7	0.7	0.5	-0.2
12th Grade	1.2	1.0	1.2	1.3	1.3	1.6	2.0	2.0	2.5	1.7	1.8	1.9	1.8	2.2	2.0	2.4	1.7	1.7	1.1	1.1	1.0	1.0	0.9	0.9	0.0
College Students	1.0	0.9	0.6	0.3	0.8	0.6	1.3	1.5	1.0	0.9	1.5	1.4	1.9	2.2	1.8	1.3	1.6	1.1	1.2	1.0	1.2	1.3	0.9	1.8	+0.9
Young Adults	1.8	1.7	1.1	1.0	1.3	1.1	1.5	1.5	1.6	1.5	1.8	2.0	2.1	2.1	1.9	1.9	2.0	1.7	1.6	1.5	1.4	1.3	1.3	1.8	+0.5
Heroin [k]																									
8th Grade	0.3	0.4	0.4	0.6	0.6	0.7	0.6	0.6	0.6	0.5	0.6	0.5	0.4	0.5	0.5	0.3	0.4	0.4	0.4	0.4	0.4	0.2	0.3	0.3	0.0
10th Grade	0.2	0.2	0.3	0.4	0.6	0.5	0.6	0.7	0.7	0.5	0.3	0.5	0.3	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	+0.1
12th Grade	0.2	0.3	0.2	0.3	0.6	0.5	0.5	0.5	0.5	0.7	0.4	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	+0.1
College Students	0.1	*	*	*	0.1	*	0.2	0.1	0.1	0.2	0.1	*	*	0.1	0.1	0.2	0.1	*	0.1	0.0	0.0	0.1	0.2	0.0	-0.2
Young Adults	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.3	*	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.3	0.2	-0.2
With a Needle [l]																									
8th Grade	—	—	—	—	0.4	0.5	0.4	0.5	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.0
10th Grade	—	—	—	—	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	+0.1
12th Grade	—	—	—	—	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.1	0.4	0.4	0.3	0.2	0.3	+0.1
College Students	—	—	—	—	*	*	0.1	*	0.1	0.1	*	*	0.1	0.1	0.1	0.1	*	0.0	0.1	0.0	0.0	0.2	0.1	0.0	-0.1
Young Adults	—	—	—	—	*	*	0.1	*	0.1	*	0.2	*	*	0.1	0.1	0.1	*	*	0.1	0.1	0.2	0.2	0.3	0.1	-0.1

(Table continued on next page.)

TABLE 2-3 (cont.)
Trends in 30-Day Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Without a Needle [l]																									
8th Grade	—	—	—	—	0.3	0.4	0.4	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	-0.1
10th Grade	—	—	—	—	0.3	0.3	0.4	0.5	0.5	0.4	0.2	0.4	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.0
12th Grade	—	—	—	—	0.6	0.4	0.6	0.4	0.4	0.7	0.3	0.5	0.4	0.3	0.5	0.3	0.4	0.2	0.3	0.4	0.4	0.2	0.2	0.4	+0.1
College Students	—	—	—	—	*	0.1	0.2	0.2	0.3	0.4	0.3	*	*	0.3	*	0.2	0.1	0.1	0.1	0.0	0.0	0.1	0.3	0.0	-0.3
Young Adults	—	—	—	—	0.1	*	0.1	0.2	0.2	0.2	0.4	*	0.1	0.1	0.1	0.3	0.2	*	0.3	0.1	0.1	0.1	0.4	0.1	-0.3
Narcotics other than Heroin [m,n]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.1	1.2	1.3	1.5	1.8	2.0	2.3	2.4	2.6	2.9	3.0‡	4.0	4.1	4.3	3.9	3.8	3.8	3.8	4.1	3.6	3.6	3.0	2.8	2.2	-0.6 ss
College Students	0.6	1.0	0.7	0.4	1.2	0.7	1.3	1.1	1.0	1.7	1.7‡	3.2	2.3	3.0	3.1	3.1	2.2	2.3	2.7	2.3	2.1	2.2	1.5	1.2	-0.4
Young Adults	0.6	0.7	0.7	0.6	0.9	0.7	0.9	0.9	1.2	1.4	1.7‡	2.9	2.9	3.0	3.5	3.2	3.4	3.6	3.2	3.4	2.9	2.7	2.6	2.1	-0.5
Amphetamines [m,o]																									
8th Grade	2.6	3.3	3.6	3.6	4.2	4.6	3.8	3.3	3.4	3.4	3.2	2.8	2.7	2.3	2.3	2.1	2.0	2.2	1.9	1.8	1.8	1.3‡	2.3	2.1	-0.2
10th Grade	3.3	3.6	4.3	4.5	5.3	5.5	5.1	5.1	5.0	5.4	5.6	5.2	4.3	4.0	3.7	3.5	4.0	2.8	3.3	3.3	3.1	2.8‡	3.3	3.7	+0.4
12th Grade	3.2	2.8	3.7	4.0	4.0	4.1	4.8	4.6	4.5	5.0	5.6	5.5	5.0	4.6	3.9	3.7	3.7	2.9	3.0	3.3	3.7	3.3‡	4.2	3.8	-0.4
College Students	1.0	1.1	1.5	1.5	2.2	0.9	2.1	1.7	2.3	2.9	3.3	3.0	3.1	3.2	2.9	2.5	3.1	2.8	3.4	4.1	4.5	4.6‡	5.0	4.8	-0.2
Young Adults	1.5	1.5	1.5	1.7	1.7	1.5	1.7	1.7	1.9	2.3	2.4	2.5	2.5	2.4	2.1	2.2	2.3	2.2	2.5	2.9	3.0	3.2‡	3.0	3.5	+0.5
Methamphetamine [p,q]																									
8th Grade	—	—	—	—	—	—	—	—	1.1	0.8	1.3	1.1	1.2	0.6	0.7	0.6	0.6	0.7	0.5	0.7	0.4	0.5	0.4	0.2	-0.2
10th Grade	—	—	—	—	—	—	—	—	1.8	2.0	1.5	1.8	1.4	1.3	1.1	0.7	0.4	0.7	0.6	0.7	0.5	0.6	0.4	0.3	0.0
12th Grade	—	—	—	—	—	—	—	—	1.7	1.9	1.5	1.7	1.7	1.4	0.9	0.9	0.6	0.6	0.5	0.5	0.6	0.5	0.4	0.5	+0.1
College Students	—	—	—	—	—	—	—	—	1.2	0.2	0.5	0.2	0.6	0.2	0.1	0.2	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.1	+0.1
Young Adults	—	—	—	—	—	—	—	—	0.8	0.7	1.0	1.0	0.7	0.6	0.7	0.5	0.6	0.3	0.3	0.2	0.3	0.4	0.2	0.3	+0.1
Crystal Methamphetamine (Ice) [q]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.6	0.5	0.6	0.7	1.1	1.1	0.8	1.2	0.8	1.0	1.1	1.2	0.8	0.8	0.9	0.7	0.6	0.6	0.5	0.6	0.6	0.4	0.8	0.4	-0.3
College Students	*	*	0.3	0.5	0.3	0.1	0.2	0.3	*	*	0.1	*	0.3	0.1	0.2	*	0.1	0.0	0.0	0.2	0.0	0.3	0.0	0.0	0.0
Young Adults	*	0.1	0.3	0.5	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.5	0.4	0.4	0.6	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.4	0.1	-0.3
Sedatives (Barbiturates) [m,r]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.4	1.1	1.3	1.7	2.2	2.1	2.1	2.6	2.6	3.0	2.8	3.2	2.9‡	2.9	3.3	3.0	2.7	2.8	2.5	2.2	1.8	2.0	2.2	2.0	-0.2
College Students	0.3	0.7	0.4	0.4	0.5	0.8	1.2	1.1	1.1	1.1	1.5	1.7	1.7	1.5	1.3	1.3	1.4	1.4	1.2	0.6	0.8	0.8‡	0.9	0.7	-0.1
Young Adults	0.5	0.5	0.6	0.6	0.8	0.8	0.9	0.9	1.1	1.3	1.7	1.5	1.5	1.8	1.7	1.5	1.6	1.9	1.2	1.1	1.1	1.1‡	1.2	1.0	-0.2
Methaqualone [m,s]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.2	0.4	0.1	0.4	0.4	0.6	0.3	0.6	0.4	0.2	0.5	0.3	0.4	0.5	0.5	0.4	0.4	0.2	0.3	0.2	0.2	0.3	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers [b,m]																									
8th Grade	0.8	0.8	0.9	1.1	1.2	1.5	1.2	1.2	1.1	1.4‡	1.2	1.2	1.4	1.2	1.3	1.3	1.1	1.2	1.2	1.2	1.0	0.8	0.9	0.8	-0.1
10th Grade	1.2	1.5	1.1	1.5	1.7	1.7	2.2	2.2	2.2	2.5‡	2.9	2.9	2.4	2.3	2.3	2.4	2.6	1.9	2.0	2.2	1.9	1.7	1.6	1.6	0.0
12th Grade	1.4	1.0	1.2	1.4	1.8	2.0	1.8	2.4	2.5	2.6‡	2.9	3.3	2.8	3.1	2.9	2.7	2.6	2.6	2.7	2.5	2.3	2.1	2.0	2.1	+0.1
College Students	0.6	0.6	0.4	0.4	0.5	0.7	1.2	1.3	1.1	2.0‡	1.5	3.0	2.8	2.7	2.2	2.1	1.8	1.6	2.2	1.3	1.6	1.1	1.2	1.7	+0.5
Young Adults	0.9	1.0	1.0	0.8	1.1	0.7	1.1	1.2	1.3	1.8‡	2.1	2.8	2.4	2.7	2.6	2.3	2.8	2.7	2.8	2.2	2.3	1.9	1.9	1.9	0.0

(Table continued on next page.)

TABLE 2-3 (cont.)
Trends in 30-Day Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Any Prescription Drug [o,t]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.6	8.1	7.8	7.2	7.3	6.9	7.2	7.0‡	7.1	6.4	-0.7
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rohypnol [u]																									
8th Grade	—	—	—	—	—	0.5	0.3	0.4	0.3	0.3	0.4	0.2	0.1	0.2	0.2	0.4	0.3	0.1	0.2	0.2	0.6	0.1	0.1	0.2	+0.1
10th Grade	—	—	—	—	—	0.5	0.5	0.4	0.5	0.4	0.2	0.4	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.1	0.4	+0.3
12th Grade	—	—	—	—	—	0.5	0.3	0.3	0.3	0.4	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol [v]																									
Any Use																									
8th Grade	25.1	26.1‡	24.3	25.5	24.6	26.2	24.5	23.0	24.0	22.4	21.5	19.6	19.7	18.6	17.1	17.2	15.9	15.9	14.9	13.8	12.7	11.0	10.2	9.0	-1.3
10th Grade	42.8	39.9‡	38.2	39.2	38.8	40.4	40.1	38.8	40.0	41.0	39.0	35.4	35.4	35.2	33.2	33.8	33.4	28.8	30.4	28.9	27.2	27.6	25.7	23.5	-2.2 s
12th Grade	54.0	51.3‡	48.6	50.1	51.3	50.8	52.7	52.0	51.0	50.0	49.8	48.6	47.5	48.0	47.0	45.3	44.4	43.1	43.5	41.2	40.0	41.5	39.2	37.4	-1.8
College Students	74.7	71.4	70.1	67.8	67.5	67.0	65.8	68.1	69.6	67.4	67.0	68.9	66.2	67.7	67.9	65.4	66.6	69.0	65.8	65.0	63.5	67.7	63.1	63.1	-0.1
Young Adults	70.6	69.0	68.3	67.7	68.1	66.7	67.5	66.9	68.2	66.8	67.0	68.3	67.0	68.4	68.6	68.7	69.5	68.9	69.4	68.4	68.8	69.5	68.7	68.4	-0.3
Been Drunk [w]																									
8th Grade	7.6	7.5	7.8	8.7	8.3	9.6	8.2	8.4	9.4	8.3	7.7	6.7	6.7	6.2	6.0	6.2	5.5	5.4	5.4	5.0	4.4	3.6	3.5	2.7	-0.8 ~
10th Grade	20.5	18.1	19.8	20.3	20.8	21.3	22.4	21.1	22.5	23.5	21.9	18.3	18.2	18.5	17.6	18.8	18.1	14.4	15.5	14.7	13.7	14.5	12.8	11.2	-1.6 s
12th Grade	31.6	29.9	28.9	30.8	33.2	31.3	34.2	32.9	32.9	32.3	32.7	30.3	30.9	32.5	30.2	30.0	28.7	27.6	27.4	26.8	25.0	28.1	26.0	23.5	-2.5
College Students	45.0	45.0	43.8	42.8	37.9	40.3	46.4	44.3	44.6	43.9	44.7	44.4	40.4	47.4	43.1	47.6	46.8	45.3	42.4	43.6	39.9	40.1	40.2	42.6	+2.3
Young Adults	35.4	35.6	34.2	34.3	33.0	33.2	35.6	34.2	37.7	35.7	36.8	37.1	37.8	39.0	39.0	42.1	41.4	40.7	40.5	39.4	39.5	39.1	37.7	39.3	+1.6
Flavored Alcoholic Beverages [g,p]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	14.6	12.9	13.1	12.2	10.2	9.5	9.4	8.6	7.6	6.3	5.7	-0.7
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	25.1	23.1	24.7	21.8	20.2	19.0	19.4	15.8	16.3	15.5	14.0	-1.5
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	31.1	30.5	29.3	29.1	27.4	27.4	24.1	23.1	21.8	21.0	19.9	-1.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	34.1	30.9	26.2	27.5	35.8	32.3	31.5	29.5	31.3	29.1	32.9	+3.8
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	29.5	27.6	24.9	25.9	26.7	24.4	24.5	23.8	26.1	25.4	26.9	+1.5
Cigarettes																									
Any Use																									
8th Grade	14.3	15.5	16.7	18.6	19.1	21.0	19.4	19.1	17.5	14.6	12.2	10.7	10.2	9.2	9.3	8.7	7.1	6.8	6.5	7.1	6.1	4.9	4.5	4.0	-0.5
10th Grade	20.8	21.5	24.7	25.4	27.9	30.4	29.8	27.6	25.7	23.9	21.3	17.7	16.7	16.0	14.9	14.5	14.0	12.3	13.1	13.6	11.8	10.8	9.1	7.2	-1.9 ss
12th Grade	28.3	27.8	29.9	31.2	33.5	34.0	36.5	35.1	34.6	31.4	29.5	26.7	24.4	25.0	23.2	21.6	21.6	20.4	20.1	19.2	18.7	17.1	16.3	13.6	-2.7 ss
College Students	23.2	23.5	24.5	23.5	26.8	27.9	28.3	30.0	30.6	28.2	25.7	26.7	22.5	24.3	23.8	19.2	19.9	17.9	17.9	16.4	15.2	12.5	14.0	12.9	-1.1
Young Adults	28.2	28.3	28.0	28.0	29.2	30.1	29.9	30.9	30.3	30.1	30.2	29.2	28.4	29.2	28.6	27.0	26.2	24.6	23.3	22.4	21.3	19.7	20.0	17.5	-2.6 ss
Smokeless Tobacco [x]																									
8th Grade	6.9	7.0	6.6	7.7	7.1	7.1	5.5	4.8	4.5	4.2	4.0	3.3	4.1	4.1	3.3	3.7	3.2	3.5	3.7	4.1	3.5	2.8	2.8	3.0	+0.1
10th Grade	10.0	9.6	10.4	10.5	9.7	8.6	8.9	7.5	6.5	6.1	6.9	6.1	5.3	4.9	5.6	5.7	6.1	5.0	6.5	7.5	6.6	6.4	6.4	5.3	-1.2
12th Grade	—	11.4	10.7	11.1	12.2	9.8	9.7	8.8	8.4	7.6	7.8	6.5	6.7	6.7	7.6	6.1	6.6	6.5	8.4	8.5	8.3	7.9	8.1	8.4	+0.3
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
E-cigarettes [hh]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.7	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.2	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.1	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.7	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.0	—
Large Cigars [ii]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.9	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.9	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.4	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.4	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.6	—

TABLE 2-3
Trends in 30-Day Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Flavored Little Cigars [ii]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.1	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.9	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.8	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	—
Regular Little Cigars [ii]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.5	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.4	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.0	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.6	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.8	—
Steroids [y,z]																									
8th Grade	0.4	0.5	0.5	0.5	0.6	0.4	0.5	0.5	0.7	0.8	0.7	0.8	0.7	0.5	0.5	0.5	0.4	0.5	0.4	0.3	0.4	0.3	0.3	0.2	-0.1
10th Grade	0.6	0.6	0.5	0.6	0.6	0.5	0.7	0.6	0.9	1.0	0.9	1.0	0.8	0.8	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.0
12th Grade	0.8	0.6	0.7	0.9	0.7	0.7	1.0	1.1	0.9	0.8	1.3	1.4	1.3	1.6	0.9	1.1	1.0	1.0	1.0	1.1	0.7	0.9	1.0	0.9	-0.1
College Students	0.3	0.2	0.2	0.2	0.1	*	0.2	0.2	0.4	*	0.3	*	0.1	*	*	*	0.1	*	0.2	0.0	0.2	0.0	0.0	0.0	0.0
Young Adults	0.2	0.1	*	0.1	0.2	0.2	0.2	0.2	0.3	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.4	0.2	0.3	0.5	0.2	0.1	0.1	0.3	+0.2

Source. The Monitoring the Future study, the University of Michigan.

See footnotes following Table 2-4.

TABLE 2-4
Trends in 30-Day Prevalence of Daily Use of Various Drugs for 8th, 10th, and 12th Graders, College Students, and Young Adults (Ages 19–28)

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Marijuana/Hashish Daily [gg]																									
8th Grade	0.2	0.2	0.4	0.7	0.8	1.5	1.1	1.1	1.4	1.3	1.3	1.2	1.0	0.8	1.0	1.0	0.8	0.9	1.0	1.2	1.3	1.1	1.1	1.0	-0.1
10th Grade	0.8	0.8	1.0	2.2	2.8	3.5	3.7	3.6	3.8	3.8	4.5	3.9	3.6	3.2	3.1	2.8	2.8	2.7	2.8	3.3	3.6	3.5	4.0	3.4	-0.6 s
12th Grade	2.0	1.9	2.4	3.6	4.6	4.9	5.8	5.6	6.0	6.0	5.8	6.0	6.0	5.6	5.0	5.0	5.1	5.4	5.2	6.1	6.6	6.5	6.5	5.8	-0.6
College Students	1.8	1.6	1.9	1.8	3.7	2.8	3.7	4.0	4.0	4.6	4.5	4.1	4.7	4.5	4.0	4.3	3.5	3.9	4.9	4.4	4.7	4.8	5.1	5.9	+0.8
Young Adults	2.3	2.3	2.4	2.8	3.3	3.3	3.8	3.7	4.4	4.2	5.0	4.5	5.3	5.0	4.9	5.0	5.0	5.1	5.4	5.3	6.1	5.6	6.2	6.9	+0.7
Alcohol [v,gg]																									
Any Daily Use																									
8th Grade	0.5	0.6‡	1.0	1.0	0.7	1.0	0.8	0.9	1.0	0.8	0.9	0.7	0.8	0.6	0.5	0.5	0.6	0.7	0.5	0.5	0.4	0.3	0.3	0.3	0.0
10th Grade	1.3	1.2‡	1.8	1.7	1.7	1.6	1.7	1.9	1.9	1.8	1.9	1.8	1.5	1.3	1.3	1.4	1.4	1.0	1.1	1.1	0.8	1.0	0.9	0.8	-0.1
12th Grade	3.6	3.4‡	3.4	2.9	3.5	3.7	3.9	3.9	3.4	2.9	3.6	3.5	3.2	2.8	3.1	3.0	3.1	2.8	2.5	2.7	2.1	2.5	2.2	1.9	-0.3
College Students	4.1	3.7	3.9	3.7	3.0	3.2	4.5	3.9	4.5	3.6	4.7	5.0	4.3	3.7	4.6	4.8	4.3	4.0	4.3	3.6	3.8	3.9	3.6	4.3	+0.7
Young Adults	4.9	4.5	4.5	3.9	3.9	4.0	4.6	4.0	4.8	4.1	4.4	4.7	5.1	4.5	5.2	5.4	5.6	5.3	5.3	4.6	5.2	5.5	5.1	5.0	-0.1
Been Drunk Daily [w,gg]																									
8th Grade	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0
10th Grade	0.2	0.3	0.4	0.4	0.6	0.4	0.6	0.6	0.7	0.5	0.6	0.5	0.5	0.4	0.4	0.5	0.5	0.3	0.4	0.3	0.2	0.4	0.3	0.3	0.0
12th Grade	0.9	0.8	0.9	1.2	1.3	1.6	2.0	1.5	1.9	1.7	1.4	1.2	1.6	1.8	1.5	1.6	1.3	1.4	1.1	1.6	1.3	1.5	1.3	1.1	-0.2
College Students	0.5	0.2	0.3	0.8	0.5	0.1	1.3	0.8	1.0	0.7	0.5	0.8	1.1	0.8	0.5	0.6	0.7	0.5	0.7	0.3	1.3	0.4	0.5	0.4	-0.2
Young Adults	0.5	0.4	0.4	0.5	0.3	0.4	0.9	0.5	0.9	0.5	0.4	0.6	0.8	0.7	0.5	0.6	0.6	0.5	1.0	0.7	0.7	0.4	0.5	0.6	+0.1
5+ Drinks in a Row in Last 2 Weeks																									
8th Grade	10.9	11.3	11.3	12.1	12.3	13.3	12.3	11.5	13.1	11.7	11.0	10.3	9.8	9.4	8.4	8.7	8.3	8.1	7.8	7.2	6.4	5.1	5.1	4.1	-1.0 s
10th Grade	21.0	19.1	21.0	21.9	22.0	22.8	23.1	22.4	23.5	24.1	22.8	20.3	20.0	19.9	19.0	19.9	19.6	16.0	17.5	16.3	14.7	15.6	13.7	12.6	-1.1
12th Grade	29.8	27.9	27.5	28.2	29.8	30.2	31.3	31.5	30.8	30.0	29.7	28.6	27.9	29.2	27.1	25.4	25.9	24.6	25.2	23.2	21.6	23.7	22.1	19.4	-2.7 ss
College Students	42.8	41.4	40.2	40.2	38.6	38.3	40.7	38.9	40.0	39.3	40.9	40.1	38.5	41.7	40.1	40.2	41.1	40.0	36.9	37.0	36.1	37.4	35.2	35.4	+0.2
Young Adults	34.7	34.2	34.4	33.7	32.6	33.6	34.4	34.1	35.8	34.7	35.9	35.9	35.8	37.1	37.0	37.6	37.8	37.9	36.7	35.9	36.5	35.5	35.1	33.5	-1.6
Cigarettes																									
Any Daily Use																									
8th Grade	7.2	7.0	8.3	8.8	9.3	10.4	9.0	8.8	8.1	7.4	5.5	5.1	4.5	4.4	4.0	4.0	3.0	3.1	2.7	2.9	2.4	1.9	1.8	1.4	-0.4
10th Grade	12.6	12.3	14.2	14.6	16.3	18.3	18.0	15.8	15.9	14.0	12.2	10.1	8.9	8.3	7.5	7.6	7.2	5.9	6.3	6.6	5.5	5.0	4.4	3.2	-1.3 ss
12th Grade	18.5	17.2	19.0	19.4	21.6	22.2	24.6	22.4	23.1	20.6	19.0	16.9	15.8	15.6	13.6	12.2	12.3	11.4	11.2	10.7	10.3	9.3	8.5	6.7	-1.7 ss
College Students	13.8	14.1	15.2	13.2	15.8	15.9	15.2	18.0	19.3	17.8	15.0	15.9	13.8	13.8	12.4	9.2	9.3	9.2	8.0	7.6	7.3	5.2	5.6	5.2	-0.4
Young Adults	21.7	20.9	20.8	20.7	21.2	21.8	20.6	21.9	21.5	21.8	21.2	21.2	20.3	20.8	19.6	18.6	17.3	16.7	15.0	14.8	13.8	12.8	12.1	10.7	-1.4 s
1/2 Pack+/Day																									
8th Grade	3.1	2.9	3.5	3.6	3.4	4.3	3.5	3.6	3.3	2.8	2.3	2.1	1.8	1.7	1.7	1.5	1.1	1.2	1.0	0.9	0.7	0.6	0.7	0.5	-0.2
10th Grade	6.5	6.0	7.0	7.6	8.3	9.4	8.6	7.9	7.6	6.2	5.5	4.4	4.1	3.3	3.1	3.3	2.7	2.0	2.4	2.4	1.9	1.5	1.5	1.2	-0.3
12th Grade	10.7	10.0	10.9	11.2	12.4	13.0	14.3	12.6	13.2	11.3	10.3	9.1	8.4	8.0	6.9	5.9	5.7	5.4	5.0	4.7	4.3	4.0	3.4	2.6	-0.8 s
College Students	8.0	8.9	8.9	8.0	10.2	8.4	9.1	11.3	11.0	10.1	7.8	7.9	7.6	6.8	6.7	4.9	4.3	4.3	3.8	3.9	2.5	2.4	2.4	2.4	0.0
Young Adults	16.0	15.7	15.5	15.3	15.7	15.3	14.6	15.6	15.1	15.1	14.6	14.2	13.9	13.5	12.5	11.9	11.1	10.2	9.3	9.3	7.5	7.6	7.0	6.6	-0.4
Smokeless Tobacco Daily [x]																									
8th Grade	1.6	1.8	1.5	1.9	1.2	1.5	1.0	1.0	0.9	0.9	1.2	0.8	0.8	1.0	0.7	0.7	0.8	0.8	0.8	0.9	0.8	0.5	0.5	0.5	0.0
10th Grade	3.3	3.0	3.3	3.0	2.7	2.2	2.2	2.2	1.5	1.9	2.2	1.7	1.8	1.6	1.9	1.7	1.6	1.4	1.9	2.5	1.7	2.0	1.9	1.8	0.0
12th Grade	—	4.3	3.3	3.9	3.6	3.3	4.4	3.2	2.9	3.2	2.8	2.0	2.2	2.8	2.5	2.2	2.8	2.7	2.9	3.1	3.1	3.2	3.0	3.4	+0.4
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Source. The Monitoring the Future study, the University of Michigan.

See footnotes on the next page.

Footnotes for Tables 2-1 through 2-4

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available.
' * ' indicates less than 0.05% but greater than 0%. ' ‡ ' indicates some change in the question. See relevant footnote for that drug.
See relevant figure to assess the impact of the wording changes. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

Approximate Weighted *N*s	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
8th Graders	17,500	18,600	18,300	17,300	17,500	17,800	18,600	18,100	16,700	16,700	16,200	15,100
10th Graders	14,800	14,800	15,300	15,800	17,000	15,600	15,500	15,000	13,600	14,300	14,000	14,300
12th Graders	15,000	15,800	16,300	15,400	15,400	14,300	15,400	15,200	13,600	12,800	12,800	12,900
College Students	1,410	1,490	1,490	1,410	1,450	1,450	1,480	1,440	1,440	1,350	1,340	1,260
Young Adults	6,600	6,800	6,700	6,500	6,400	6,300	6,400	6,200	6,000	5,700	5,800	5,300

Approximate Weighted *N*s	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
8th Graders	16,500	17,000	16,800	16,500	16,100	15,700	15,000	15,300	16,000	14,600	14,600	14,600
10th Graders	15,800	16,400	16,200	16,200	16,100	15,100	15,900	15,200	14,900	12,900	12,900	13,000
12th Graders	14,600	14,600	14,700	14,200	14,500	14,000	13,700	14,400	14,100	12,600	12,600	12,400
College Students	1,270	1,400	1,360	1,280	1,250	1,270	1,320	1,260	1,230	1,150	1,090	
Young Adults	5,300	5,700	5,400	5,100	4,800	4,900	4,900	4,900	4,630	4,580	4,360	

[a]For 12th graders, college students, and young adults only: Use of any illicit drug includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin; or any use of narcotics other than heroin, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders. For 8th and 10th graders only: The use of narcotics other than heroin and sedatives (barbiturates) has been excluded because these younger respondents appear to overreport use (perhaps because they include the use of nonprescription drugs in their answers). Due to changes in the amphetamines questions 2013 data for any illicit drug and any illicit drug other than marijuana are based on half the N indicated. For any illicit drug including inhalants, 8th and 10th grades, college students, and young adults are based on one half the N indicated for 2013; 12th graders are based on one sixth of N indicated in 2013.
[p]In 2001 the question text was changed on half of the questionnaire forms for each age group. Other psychedelics was changed to other hallucinogens and shrooms was added to the list of examples. For the tranquilizer list of examples, Miltown was replaced with Xanax. For 8th, 10th, and 12th graders only: The 2001 data presented here are based on the changed forms only; *N* is one half of *N* indicated. In 2002 the remaining forms were changed to the new wording. The data are based on all forms beginning in 2002. Data for any illicit drug other than marijuana and data for hallucinogens are also affected by these changes and have been handled in a parallel manner.
[c]For 12th graders, college students, and young adults only: Data based on five of six forms in 1991–1998; *N* is five sixths of *N* indicated. Data based on three of six forms beginning in 1999; *N* is three sixths of *N* indicated.
[q]Inhalants are unadjusted for underreporting of amyl and butyl nitrites.
[e]For 12th graders and young adults only: Data based on one of six forms; *N* is one sixth of *N* indicated. Questions about nitrite use were dropped from the young adult questionnaires in 1995 and from the 12th-grade questionnaires in 2010.
[f]Hallucinogens are unadjusted for underreporting of PCP.
[g]For 12th graders, college students, and young adults only: Data based on one of six forms; *N* is one sixth of *N* indicated. For 12th graders only: In 2011 the flavored alcoholic beverage question text was changed. Skyy Blue and Zima were removed from the list of examples. An examination of the data did not show any effect from the wording change.
[h]For 8th and 10th graders only: Data based on one of two forms in 1996; *N* is one half of *N* indicated. Data based on one third of *N* indicated in 1997–2001 due to changes in the questionnaire forms. Data based on two of four forms beginning in 2002; *N* is one half of *N* indicated. For 12th graders only: Data based on one of six forms in 1996–2001; *N* is one sixth of *N* indicated. Data based on two of six forms beginning in 2002; *N* is two sixths of *N* indicated. For college students and young adults only: Data based on two of six forms in 1991–2001; *N* is two sixths of *N* indicated. Data based on three of six forms beginning in 2002; *N* is three sixths of *N* indicated.
[i]For college students and young adults only: Data based on five of six forms beginning in 2002; *N* is five sixths of *N* indicated.
[j]For 12th graders only: Data based on four of six forms; *N* is four sixths of *N* indicated. For college students and young adults only: Data based on four of six forms; *N* is four sixths of *N* indicated.
[k]In 1995, the heroin question was changed in one of two forms for 8th and 10th graders, in three of six forms for 12th graders, and in two of six forms for college students and young adults. Separate questions were asked for use with and without injection. In 1996, the heroin question was changed in all remaining 8th- and 10th-grade forms. Data presented here represent the combined data from all forms.
[l]For 8th and 10th graders only: Data based on one of two forms in 1995; *N* is one half of *N* indicated. Data based on all forms beginning in 1996. For 12th graders only: Data based on three of six forms; *N* is three sixths of *N* indicated. For college students and young adults only: Data based on two of six forms; *N* is two sixths of *N* indicated.
[m]Only drug use not under a doctor's orders is included here.
[n]For 12th graders, college students, and young adults only: In 2002 the question text was changed in half of the questionnaire forms. The list of examples of narcotics other than heroin was updated: Talwin, laudanum, and paregoric—all of which had negligible rates of use by 2001—were replaced with Vicodin, OxyContin, and Percocet. The 2002 data presented here are based on the changed forms only; *N* is one half of *N* indicated. In 2003, the remaining forms were changed to the new wording. The data are based on all forms beginning in 2003. In 2013 the list of examples was changed on one form: MS Contin, Roxycodone, Hydrocodone (Lortab, Lorcet, Norco), Suboxone, Tylox, and Tramadol were added to the list. An examination of the data did not show any affect from the wording change.
[o]For 8th, 10th, and 12th graders: In 2009, the question text was changed slightly in half of the forms. An examination of the data did not show any effect from the wording change. In 2010 the remaining forms were changed in a like manner. In 2011 the question text was changed slightly in one form; bennies, Benzedrine and Methadrine were dropped from the list of examples. An examination of the data did not show any effect from the wording change. In 2013 the question wording was changed slightly in two of the 8th and 10th grade questionnaires and in three of the 12th grade questionnaires. The new wording in 2013 asked "On how many occasions (if any) have taken amphetamines or other prescription stimulant drugs…" In contrast, the old wording did not include the text highlighted in red.

(Footnotes continued on next page.)

Footnotes for Tables 2-1 through 2-4 (cont.)

Results in 2013 indicated higher prevalence in questionnaires with the new wording as compared to the old wording; it was proportionally 61% higher in 8th grade, 34% higher in 10th grade, and 21% higher in 12th grade. 2013 data are based on the changed forms only; for 8th, 10th, and 12th graders N is one half of N indicated. In 2014 all questionnaires included the new, updated wording.

[p]For 8th and 10th graders only: Data based on one of four forms; *N* is one third of *N* indicated. In 2011 the flavored alcoholic beverage question text was changed. Skyy Blue and Zima were removed from the list of examples. An examination of the data did not show any effect from the wording change.

[q]For 12th graders only: Data based on two of six forms; *N* is two sixths of *N* indicated. Provigil was dropped from the study in 2012. For college students and young adults only: Beginning in 2009 Salvia data based on one of six forms; *N* is one sixth of *N* indicated. Data based on two of six forms in 2010 and 2011; *N* is two sixths of *N* indicated. Data based on three of six forms beginning in 2012; *N* is three sixths of *N* indicated. For Synthetic Marijuana data based on two of six forms in 2011; *N* is two sixths of *N* indicated. Data based on three of six forms beginning in 2012; *N* is three sixths of *N* indicated. For Bath Salts data based on three of six forms; *N* is three sixths of *N* indicated.

[r]For 12th graders only: In 2004 the question text was changed in half of the questionnaire forms. Barbiturates was changed to sedatives, including barbiturates. Goofballs, yellows, reds, blues, and rainbows were deleted from the list of examples; Phenobarbital, Tuinal, Nembutal, and Seconal were added. An examination of the data did not show any effect from the wording change. In 2005 the remaining forms were changed in a like manner. In 2013 the question text was changed in all forms: Tuinal, Nembutal, and Seconal were replaced with Ambien, Lunesta, and Sonata. In one form the list of examples was also changed: Tuinal was dropped from the list and Dalmane, Restoril, Halcion, Intermezzo, and Zolpimist were added. An examination of the data did not show any effect from the wording change. In 2013 the college student and young adult questionnaires were changed in a like manner. An examination of the data showed an affect from the wording change. For this reason 2012 and 2013 data are not comparable.

[s]For 12th graders only: Data based on one of six forms; *N* is one sixth of *N* indicated. Methaqualone was dropped from the study in 2013. For college students and young adults only: Data based on three of six forms from 2011-2013. *N* is three sixths of *N* indicated. Beginning in 2014, data based on 2 of 6 forms. N is two sixths of N indicated.

[t]The use of any prescription drug includes use of any of the following: amphetamines, sedatives (barbiturates), narcotics other than heroin, or tranquilizers…without a doctor telling you to use them.

[u]For 8th and 10th graders only: Data based on one of two forms in 1996; *N* is one half of *N* indicated. Data based on three of four forms in 1997–1998; *N* is two thirds of *N* indicated. Data based on two of four forms in 1999–2001; *N* is one third of *N* indicated. Data based on one of four forms beginning in 2002; *N* is one sixth of *N* indicated. For 12th graders only: Data based on one of six forms in 1996–2001; *N* is one sixth of *N* indicated. Data based on two of six forms in 2002–2009; *N* is two sixths of *N* indicated. Data for 2001 and 2002 are not comparable due to changes in the questionnaire forms. Data based on one of six forms beginning in 2010; *N* is one sixth of *N* indicated. For college students and young adults only: Data based on two of six forms; *N* is two sixths of *N* indicated.

[v]For 8th, 10th, and 12th graders only: In 1993, the question text was changed slightly in half of the forms to indicate that a drink meant more than just a few sips. The 1993 data are based on the changed forms only; *N* is one half of *N* indicated for these groups. In 1994 the remaining forms were changed to the new wording. The data are based on all forms beginning in 1994. In 2004, the question text was changed slightly in half of the forms. An examination of the data did not show any effect from the wording change. The remaining forms were changed in 2005. For college students and young adults: The revision of the question text resulted in rather little change in the reported prevalence of use. The data for all forms are used to provide the most reliable estimate of change.

[w]For all grades: In 2012 the alcoholic beverage containing caffeine (like Four Loko or Joose) question text was changed to alcoholic beverage mixed with an energy drink (like Red Bull). The data in 2011 and 2012 are not comparable due to this question change. For 12th graders only: Data based on two of six forms; *N* is two sixths of *N* indicated. For college students and young adults only: been drunk data based on three of six forms; *N* is three sixths of *N* indicated. Alcoholic beverages containing caffeine data based on two of six forms; *N* is two sixths of *N* indicated.

[x]For 8th and 10th graders only: Data based on one of two forms for 1991–1996 and on two of four forms beginning in 1997; *N* is one half of *N* indicated. For 12th graders only: Data based on one of six forms; *N* is one sixth of *N* indicated. For 8th, 10th, and 12th graders only: Snus and dissolvable tobacco were added to the list of examples in 2011. An examination of the data did not show any effect from the wording change. For college students and young adults only: Questions about smokeless tobacco use were dropped from the analyses in 1989.

[y]For 8th and 10th graders only: In 2006, the question text was changed slightly in half of the questionnaire forms. An examination of the data did not show any effect from the wording change. In 2007 the remaining forms were changed in a like manner. In 2008 the question text was changed slightly in half of the questionnaire forms. An examination of the data did not show any effect from the wording change. In 2009 the remaining forms were changed in a like manner. For 12th graders only: Data based on two of six forms in 1991–2005; *N* is two sixths of *N* indicated. In 2006 a slightly altered version of the question was added to a third form. An examination of the data did not show any effect from the wording change. Data based on three of six forms beginning in 2006; *N* is three sixths of *N* indicated. In 2007 the remaining forms were changed in a like manner. In 2008 the question text was changed slightly in two of the questionnaire forms. An examination of the data did not show any effect from the wording change. In 2009 the remaining form was changed in a like manner.

[z]For college students and young adults only: Data based on two of six forms in 1990–2009; *N* is two sixths of *N* indicated. In 2008, the question text was changed slightly.

[aa]For 12th graders only: Data based on two of six forms in 2002–2005; *N* is two sixths of *N* indicated. Data based on three of six forms beginning in 2006; *N* is three sixths of *N* indicated.

[bb]For college students and young adults only: Data based on two of six forms through 2009; *N* is two sixths of *N* indicated. Data based on three of six forms beginning in 2010; *N* is three sixths of *N* indicated.

[cc]For 12th graders only: Data based on two of six forms in 2000; *N* is two sixths of *N* indicated. Data based on three of six forms in 2001; *N* is three sixths of *N* indicated. Data based on one of six forms beginning in 2002; *N* is one sixth of *N* indicated. For college students and young adults only: Data based on two of six forms; *N* is two sixths of *N* indicated. Data based on three of six forms beginning in 2010; *N* is three sixths of *N* indicated. Data based on two of six forms beginning in 2012; *N* is two sixths of *N* indicated.

[dd]For 12th graders only: Data based on two of six forms in 2000; *N* is two sixths of *N* indicated. Data based on three of six forms in 2001–2009; *N* is three sixths of *N* indicated. Data based on two of six forms beginning in 2010; *N* is two sixths of *N* indicated. For college students and young adults only: Data based on two of six forms; *N* is two sixths of *N* indicated. Data based on three of six forms beginning in 2010; *N* is three sixths of *N* indicated.

[ee]For 12th graders only: The 2003 flavored alcoholic beverage data were created by adjusting the 2004 data to reflect the observed 2003 to 2004 change in a slightly different version of the flavored alcoholic beverage question. In 2004 the original question was revised to include wine coolers among the examples—a change that had very little effect on the observed prevalence-of-use rate.

[ff]For 12th graders only: Data based on two of six forms in 2000–2008; *N* is two sixths of *N* indicated. Beginning in 2009 data based on one of six forms; *N* is one sixth of *N* indicated.

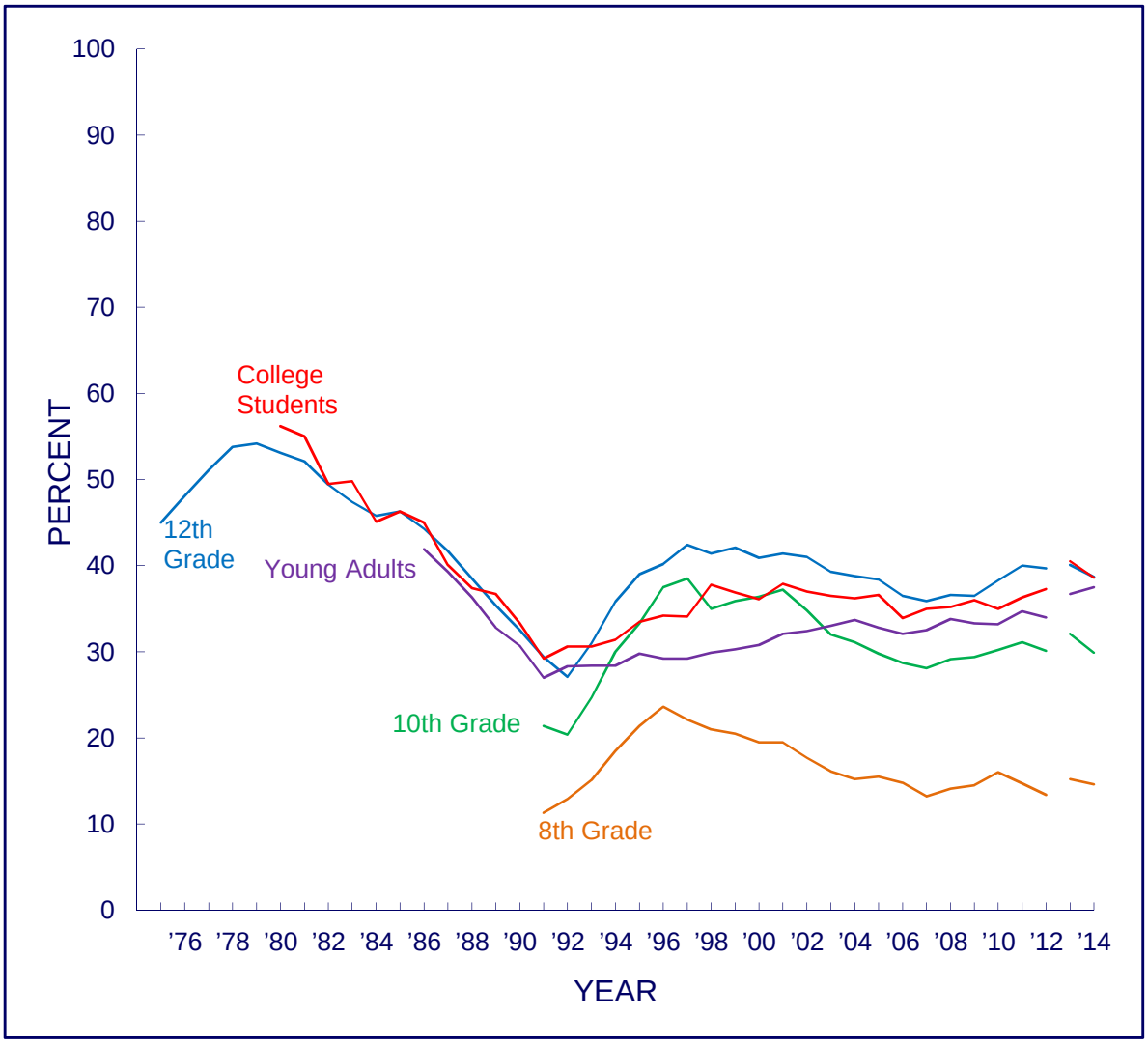
[gg]Daily use is defined as use on 20 or more occasions in the past 30 days except for cigarettes and smokeless tobacco, for which actual daily use is measured, and for 5+ drinks, for which the prevalence of having five or more drinks in a row in the last two weeks is measured.

(Footnotes continued on next page.)

Footnotes for Tables 2-1 through 2-4 (cont.)

[hh]For 8th and 10th graders only: Data based on two of four forms. N is one third of N indicated. For 12th graders only: Data based on four of six forms. N is four sixths of N indicated. For college students and young adults only: Data based on one of six forms. N is one sixth of N indicated.
[ii]For 8th and 10th graders only: Data based on two of four forms. N is one third of N indicated. For 12th graders only: Data based on two of six forms. N is two sixths of N indicated. For college students and young adults only: Data based on one of six forms. N is one sixth of N indicated.

FIGURE 2-1
Trends in Annual Prevalence of an Illicit Drug Use Index across 5 Populations



Source. The Monitoring the Future study, the University of Michigan.

Notes. Illicit drug use index includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin; or any use of narcotics other than heroin which is not under a doctor's orders, stimulants, sedatives (barbiturates), methaqualone (excluded since 1990), or tranquilizers. Beginning in 1982, the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of nonprescription stimulants. The prevalence rate dropped slightly as a result of this methodological change. In 2013, the question on use of amphetamines was changed. Data for any illiict drug were affected by this change.

Chapter 3

STUDY DESIGN AND PROCEDURES

Monitoring the Future (MTF) incorporates several types of surveys into one study, yielding analytic power beyond the sum of those component parts. The components include cross-sectional studies, repeated cross-sectional studies, and panel studies of individual cohorts or sets of cohorts. The annual cross-sectional surveys provide point estimates of various behaviors and conditions in any given year for a number of subpopulations (e.g., 8th graders, 10th graders, 12th graders, college students, all young adult high school graduates ages 19–30, 35-year-olds, 40-year-olds, etc.), as well as point estimates for various subgroups within these different populations. Repeating these annual cross-sectional surveys over time allows an assessment of change across history in consistent age segments of the population, as well as among subgroups. The panel study feature permits the examination of developmental change in the same individuals as they assume adult responsibilities, enter and leave various adult roles and environments, and continue further into adulthood. It also permits an assessment of a number of outcomes later in life that may be linked to substance use in adolescence and beyond.

Finally, with a *series* of panel studies of sequential graduating class cohorts, in what is known as a cohort-sequential design, we are able to offer distinctions among and explanations for three fundamentally different types of change: period, age, and cohort. It is this feature that creates a synergistic effect in terms of analytic and explanatory power.[1,2]

RESEARCH DESIGN AND PROCEDURES FOR THE TWELFTH–GRADE SURVEYS

Twelfth graders have been surveyed in the spring of each year since 1975. Each year's data collection has taken place in between 120 and 146 public and private high schools selected to provide an accurate representative cross-section of 12th graders throughout the coterminous United States (see Figure 3-1).

The Population under Study

Senior year of high school is a strategic point at which to monitor drug use and related attitudes of youth. First, completion of high school represents the end of an important developmental period in this society, demarcating both the end of universal education and, for many, the end of living full-time in the parental home. Therefore, it is a logical point at which to take stock of cumulated influences. Further, completion of high school represents a jumping-off point—a point from which young people diverge into widely differing social environments and experiences. Thus senior year is a good time to take a "before" measure, allowing for the subsequent calculation of changes that

[1] Bachman, J. G., Johnston, L. D., O'Malley, P. M., & Schulenberg, J. E. (2011). *The Monitoring the Future project after thirty-seven years: Design and procedures* (Monitoring the Future Occasional Paper No. 76). Ann Arbor, MI: Institute for Social Research, 93pp. Retrieved from http://monitoringthefuture.org/pubs/occpapers/mtf-occ76.pdf

[2] For a more detailed description of the full range of research objectives of Monitoring the Future, see Johnston, L. D., O'Malley, P. M., Schulenberg, J. E., & Bachman, J. G. (2006). *The aims and objectives of the Monitoring the Future study and progress toward fulfilling them as of 2006* (Monitoring the Future Occasional Paper No. 65). Ann Arbor, MI: Institute for Social Research. Available online at http://www.monitoringthefuture.org/pubs/occpapers/occ65.pdf.

may be attributable to the environmental and role transitions occurring in young adulthood, including college attendance, military service, and so on. Finally, there are some important practical advantages built into the original system of data collections with samples of 12th graders. The need for systematically repeated, large-scale samples from which to make reliable estimates of change requires that considerable emphasis be put on cost efficiency as well as feasibility. The last year of high school constitutes the final point at which a reasonably good national sample of an age-specific cohort can be drawn and studied economically.

The Omission of Dropouts

One limitation in the MTF study design is the exclusion of individuals who drop out of high school before graduation—approximately 8–15% of each age cohort nationally, according to U.S. Census statistics. (The dropout rate has been declining in recent years; 8% is the most recent estimate.) Clearly, the omission of high school dropouts introduces biases in the estimation of certain characteristics of the entire age group; however, for most purposes, the small proportion of students who drop out sets outer limits on the bias. Further, since the bias from missing dropouts should remain relatively constant from year to year, their omission should introduce little or no bias in *change* estimates. Indeed, we believe the changes observed over time for those who are surveyed in the 12th grade are likely to parallel the changes for dropouts in most instances. Appendix A in this volume addresses in detail the likely effects of the exclusion of dropouts (as well as absentees from school) on estimates of drug use prevalence and trends among the entire age cohort.

Sampling Procedures and Sample Weights

A multistage random sampling procedure is used to secure the nationwide sample of 12th graders each year. Stage 1 is the selection of particular geographic areas, Stage 2 is the selection of one or more high schools in each area (with probability proportionate to size), and Stage 3 is the selection of 12th graders within each high school. Up to about 350 twelfth graders in each school may be included. In schools with fewer 12th graders, the usual procedure is to include all of them in the data collection, though a smaller sample is sometimes taken (either by randomly sampling entire classrooms or by some other unbiased, random method) to accommodate the needs of the school. Weights are assigned to compensate for differential probabilities of selection at each stage of sampling. Final weights are normalized to average 1.0 (so that the weighted number of cases equals the unweighted number of cases overall). In order to be able to check observed trends in any given one-year interval, schools participate in the study for two consecutive years on a staggered schedule, with one half of them being replaced with a new random half-sample of schools each year. Therefore in any given year about half of the schools in the sample are participating for the first time and the other half are participating for their second and final year. This three-stage sampling procedure, with annual replacement of half of the sample of schools each year, has yielded the numbers of participating schools and students shown in Table 3-1.

Questionnaire Administration

About three weeks prior to the questionnaire administration date, parents of the target respondents are sent a letter by first-class mail, usually from the principal, announcing and describing the MTF study and providing parents with an opportunity to decline participation of their son or daughter if they wish. A flyer outlining the study in more detail is enclosed with the letter. Copies of the flyers are also given to the students by teachers in the target classrooms in advance of the date of

administration. The flyers make clear that participation is entirely voluntary. Local Institute for Social Research representatives and their assistants conduct the actual questionnaire administrations following standardized procedures detailed in an instruction manual. The questionnaires are administered in classrooms during a normal class period whenever possible; however, circumstances in some schools require the use of larger group administrations. Teachers are asked to remain present in the classroom to help maintain order, but to remain at their desks so that they cannot see students' answers.

Questionnaire Format

Because many questions are needed to cover all of the topic areas in the MTF study, much of the questionnaire content for 12th graders is divided into six different questionnaire forms distributed to participants in an ordered sequence that ensures six virtually identical random subsamples. (Five questionnaire forms were used between 1975 and 1988.) About one third of each form consists of key, or "core," variables common to all forms. All demographic variables are contained in this core set of measures. Key drug use variables are also in the core, while many of the specific drugs that have been added over time are not in the core set, but are in one or more forms. Many questions on attitudes, beliefs, and perceptions of relevant features of the social environment are in fewer forms, and data are thus based on fewer cases—a single form would have one fifth of the total number of cases in 1975–1988 (approximately 3,300 per year) and one sixth of the total beginning in 1989 (approximately 2,500 per year). All tables in this report list the sample sizes upon which the statistics are based, stated in terms of the weighted number of cases (which, as explained above, is roughly equivalent to the actual number of cases).

RESEARCH DESIGN AND PROCEDURES FOR THE EIGHTH- AND TENTH-GRADE SURVEYS

In 1991, MTF was expanded to include nationally representative samples of 8th- and 10th-grade students surveyed on an annual basis. Separate samples of schools and students are drawn at each grade level. In general, the procedures used for the annual in-school surveys of 8th- and 10th-grade students closely parallel those used for 12th graders, including the selection of schools and students, questionnaire administration, and questionnaire format. A major exception is that only two different questionnaire forms were used in 8th and 10th grade from 1991 to 1996, expanding to four forms beginning in 1997. The same four questionnaire forms are used for both 8th and 10th graders; most of the content is drawn from the 12th-grade surveys, including the core section. Thus, key demographic variables and measures of drug use and related attitudes and beliefs are generally identical for all three grades. Many fewer questions about other values and attitudes are included in the 8th- and 10th-grade forms, in part because we think that many of them are likely to be more fully formed by 12th grade and, therefore, are best monitored there.

About 15,000 eighth-grade students in approximately 150 schools (mostly middle schools) and about 13,000 to 15,000 tenth-grade students in approximately 125 schools are surveyed each year (see Table 3-1).

Mode of Administration

Since 1999 all surveys for 8th and 10th graders have been fully anonymous. In previous years MTF collected confidential, personal identification information from these respondents, and from 1991

to 1993 this information was used to follow up with 8th and 10th graders in a manner similar to that for 12th graders.[3] These follow-ups were discontinued after 1993, precluding the need for further collection of confidential, personal identification information. Considerations supporting a switch to fully anonymous surveys in 8th and 10th grade included the following: (a) school cooperation might be easier to obtain; (b) any suppression effect on self-reported substance use that the confidential mode of administration might have could be both quantified and eliminated; and (c) if there *were* any mode of administration effect, it would be removed from the national data, which are widely compared with results of state and local surveys (nearly all of which use anonymous questionnaires), thus making those comparisons more valid.

MTF considered in detail the effects of an anonymous survey as compared to a confidential survey that collected personal identification information. In 1998 the half-sample of 8th and 10th grade schools beginning their two-year participation in MTF received fully anonymous questionnaires, while the half-sample participating for their second and final year continued to get the confidential questionnaires that had been previously in use by MTF since 1991.

Examination of the 1998 results, based on the two equivalent half-samples at grades 8 and 10, revealed that there was no effect of anonymous as compared to confidential surveys among 10th graders and only a very modest effect, if any, in self-reported substance use rates among 8th graders (with prevalence rates slightly higher in the anonymous condition).[4] All tables and figures in this volume combine data from both half-samples of 8th graders surveyed in a given year. This is also true for 10th graders, for whom we found no methodological effect, and 12th graders, for whom we assumed no such effect since none was found for 10th graders. (See this chapter's later section entitled "Representativeness and Sample Accuracy" for a further discussion of half-samples among all three grades.)

Questionnaire Forms and Sample Proportions

A benefit of not interlocking the 8th- and 10th-grade samples was that we could consider having more forms of the questionnaire. Beginning in 1997, the number of forms was expanded to four, although they are not distributed in equal numbers. Forms 1, 2, 3, and 4 are assigned to one third, one third, one sixth, and one sixth of the students, respectively. Thus, if a question appears on only one form, it is administered to either one third or one sixth of the sample. A question in two forms may be assigned to one third of the sample (one sixth plus one sixth), one half of the sample (one third plus one sixth), or two thirds of the sample (one third plus one third). No questions appear on exactly three forms. Footnotes to the tables indicate what proportion of all respondents in each grade completed the question, if that proportion is other than the entire sample. All of the samples, whether based on one or more forms, are random samples.

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[3] A book reporting results from analyses of these younger panels was published in 2008. See Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Freedman-Doan, P., & Messersmith, E. E. (2008). *The education–drug use connection: How successes and failures in school relate to adolescent smoking, drinking, drug use, and delinquency.* New York: Lawrence Erlbaum Associates/Taylor & Francis.

[4] We have examined in detail the effects of administration mode using multivariable controls to assess the effects of the change on 8th-grade self-report data. Our findings generally show even less effect than is to be found without such controls. See O'Malley, P. M., Johnston, L. D., Bachman, J. G., & Schulenberg, J. E. (2000). A comparison of confidential versus anonymous survey procedures: Effects on reporting of drug use and related attitudes and beliefs in a national study of students. *Journal of Drug Issues, 30,* 35–54.

RESEARCH DESIGN AND PROCEDURES FOR THE TWELFTH-GRADE FOLLOW-UP SURVEYS

Beginning with the graduating class of 1976, some members of each 12th-grade class have been selected to be surveyed by mail after high school. From the 13,000–19,000 twelfth graders originally surveyed in a given senior class, a representative sample of 2,400 is randomly chosen for follow-up. In order to ensure that drug-using populations are adequately represented in the follow-up surveys, 12th graders reporting 20 or more occasions of marijuana use in the previous 30 days (i.e., daily users), or *any* use of the other illicit drugs in the previous 30 days are selected with higher probability (by a factor of 3.0) than the remaining 12th graders. Differential weighting is then used in all follow-up analyses to compensate for these differential sampling probabilities. Because those in the drug-using stratum receive a weight of only 0.33 in the calculation of all statistics to correct for their overrepresentation at the selection stage, there are actually more follow-up respondents than are reported in the weighted numbers given in the tables; and in recent years actual numbers average about 22% higher than the weighted numbers. The 2,400 participants selected from each 12th-grade class are randomly split into two groups of 1,200 each—one group to be surveyed on even-numbered calendar years in a series of biannual follow-up surveys, and the other group to be surveyed on odd-numbered years also in a series of biannual follow-up surveys. This two-year cycle is intended to reduce respondent burden, thus yielding better retention rates. By alternating the two half-samples, MTF collects data from every graduating class each year (through age 30), even though any given respondent participates only every other year.

Until 2002, each respondent was surveyed biennially up to seven times; at the seventh follow-up, which would occur either 13 or 14 years after graduation, the respondents had reached modal age 31 or 32. In 2002, as a cost-saving measure, the seventh biennial follow-up was discontinued, and since then each respondent is surveyed every other year until modal age 29 or 30. Additional follow-ups then occur at modal ages 35, 40, 45, 50, and beginning in 2013, age 55. Data like these, gathered on representative national samples over such a large portion of the life span, are extremely rare and can provide needed insight into the etiology and life-course history of substance use and relevant behaviors, including those related to HIV transmission.

Follow-Up Procedures

Using information provided by 12th-grade respondents on a tear-off card (requesting the respondent's name, address, phone numbers, and recent email address), mail contact is maintained with the subset of people selected for inclusion in the follow-up panels. Newsletters are sent to them each year, providing a short summary of results on a variety of survey topics. Name and address corrections are requested from both the U.S. Postal Service and the individual. Questionnaires are sent in the spring to each individual biennially through age 30, then at 5-year intervals. A check, made payable to the respondent, is attached to the front of each questionnaire.[5] Reminder letters and postcards are sent at fixed intervals thereafter; telephone callers attempt to gather up-to-date location information for those respondents with whom we are trying to make contact; and, finally, those whom we can contact but who have not responded receive a prompting phone call from the Survey Research Center's phone interviewing facility in Ann Arbor, Michigan.

[5] Until 1991, the follow-up checks were for $5. After an experiment indicated that an increase was warranted, the check amount was raised to $10 beginning with the class of 1992. The check amount was raised to $20 in 2006, and to $25 beginning in 2008.

If requested, a second copy of the questionnaire is sent. No questionnaire content is administered by phone. If a respondent asks not to be contacted further, that wish is honored.

Follow-Up Questionnaire Format

The questionnaires used in the follow-up surveys of 19- to 30-year-olds parallel those used in 12th grade. Many of the questions are the same, including the core section dealing with drug use. Respondents are consistently mailed the same form of the questionnaire that they first received in 12th grade so that *changes over time* in their behaviors, attitudes, experiences, and so forth can be measured. Questions specific to high school status and experiences are dropped in the follow-ups, and questions relevant to post–high school status and experiences are added (mostly in the core section). The post-high school questions deal with issues such as college attendance, military service, civilian employment, marriage, and parenthood. In the study's early follow-ups (1975-1988), the sample size for a question appearing on a single form was one fifth of the total sample. A sixth form was introduced in 12th grade beginning with the class of 1989 and extended a year later to the follow-up surveys. Therefore, since 1990, a question appearing on a single form has been administered to one sixth of the total sample in the 19-30 age band. Single-form data from a single cohort are typically too small to make reliable estimates; therefore, in most cases where they are reported, single-form data from several adjacent cohorts are combined.

For the five-year surveys beginning at age 35, both half-samples from a class cohort are surveyed simultaneously and only one questionnaire form is used. Much of the questionnaire content is maintained but streamlined with a focus on the major family and work issues relevant to respondents ages 35 to 55; we have also added measures of substance use disorders and health outcomes.

REPRESENTATIVENESS AND SAMPLE ACCURACY

School Participation

Schools are invited to participate in the MTF study for a two-year period. For each school that declines to participate, a similar school (in terms of size, geographic area, urbanicity, etc.) is recruited as a replacement. In 2014, either an original school or a replacement school was obtained in 92% of the sample units. With very few exceptions, each school participating in the first year has agreed to participate in the second year as well. Figure 3-2 provides the year-specific school participation rates and the percentage of units filled since 1977. As shown in the figure, replacements for schools that decline participation are obtained in the vast majority of cases.

Two questions are sometimes raised with respect to school participation rates: (a) Are participation rates sufficient to ensure the representativeness of the sample? (b) Does variation in participation rates over time contribute to changes in estimates of drug use?

With respect to participation rates ensuring that the sample is representative, the selection of a comparable replacement school that is demographically close to the original school occurs in practically all instances in which an original school refuses. This almost entirely removes problems of bias in region, urbanicity, and the like that might result from certain schools declining to participate.

Among participating schools, there is very little difference in substance use rates between the schools that were original selections, taken as a set, and the schools that were replacements. Averaged over the years 2003 through 2014, for grades 8, 10, and 12 combined, the difference between original schools and replacement schools averaged 0.37 percentage points in the observed prevalence rates averaged across a number of drug use measures: two indexes of annual illicit drug use, the annual prevalence of each of the major illicit drug classes, and several measures of alcohol and cigarette use. For half of the measures prevalence was higher in the replacement selections and in the other half it was higher in the original selections; specifically, out of 39 comparisons (13 drugs and drug indexes for each grade), prevalence was higher in 20 of the original selections and in 19 of the replacement selections.

Potential biases at work could be subtle, however. If, for example, it turned out that most schools with "drug problems" refused to participate, the sample would be seriously biased. And if any other single factor were dominant in most refusals, that reason for refusal might also suggest a source of serious bias. However, the reasons schools refuse to participate tend to be varied and are often a function of happenstance events specific to that particular year, such as a school shooting or a weather-related event; only very few schools, if any, object specifically to the drug-related survey content.

If it were the case that schools differed substantially in drug use, then which particular schools participated could have a greater effect on estimates of drug use. However, the great majority of variance in drug use lies *within* schools, not between schools.[6] For example, from 2003 to 2014, for schools with 8th, 10th, or 12th grade students, about 2% to 8% of the variance in smoking cigarettes or drinking alcohol in the past 30 days was between schools. Among the illicit drugs, marijuana showed the largest amount of between schools variation, averaging between slightly less than 4% up to 5% for annual use, and 3% to 4% for 30-day use. Annual prevalence of cocaine use averaged between less than 1% and 1.5%, while prevalence of annual heroin use averaged less than .5%. Further, some, if not most, of the between-schools variance is due to differences related to factors such as region and urbanicity, which remain well controlled in the present sampling design.

With respect to participation rates and changes in estimates of drug use, it is extremely unlikely that results have been significantly affected by changes in school participation rates. If changes in participation rates seriously affected prevalence estimates, there would be noticeable bumps up or down in concert with the changing rates. But this series of surveys produces results that are very smooth and generally change in an orderly fashion from one year to the next. Moreover, different substances trend in distinctly different ways. We have observed, for example, marijuana use decreasing while cocaine use was stable (in the early 1980s), alcohol use declining while cigarette use held steady (in the mid- to late 1980s), ecstasy use rising sharply while cocaine use showed some decline (late 1990s, early 2000s); and marijuana use continuing to rise while alcohol use hit historic lows (since 2011). Moreover, attitudes and perceptions about drugs have changed variously, but generally in ways quite consistent with the changes in actual use. All of these patterns are explainable in terms of psychological, social, and cultural factors; they cannot be explained by the common factor of changes in school participation rates.

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[6] O'Malley, P. M., Johnston, L. D., Bachman, J. G., Schulenberg, J. E., & Kumar, R. (2006). How substance use differs among American secondary schools. *Prevention Science, 7*, 409–420.

Of course, there could be some sort of constant bias across the years, but even in the unlikely event that there is, it seems highly improbable that it would be of much consequence for policy purposes, given that it would not affect trends and likely would have a very modest effect on levels of prevalence. Thus we have a high degree of confidence that school refusal rates have not seriously biased the survey results.

Nevertheless, securing the cooperation of schools has become more difficult in recent years. This is a problem common to the field, not specific to MTF. Therefore, beginning with the 2003 survey, we have provided payment to schools as a means of increasing their incentive to participate. (By that time, several other ongoing school-based survey studies already were using payments to schools.)

At each grade level, half of each year's sample comprises schools that started their participation the previous year, and half comprises schools that began participating in the current year. (Both samples are national replicates, meaning that each is drawn to be nationally representative by itself.) This staggered half sample design is used to check on possible errors in the year-to-year trend estimates due to school turnover. For example, separate sets of one-year trend estimates are computed based on students in the half-sample of schools that participated in *both* 2011 *and* 2012, then based on the students in the half-sample that participated in both 2012 *and* 2013, and so on. Thus, each one-year *matched half-sample* trend estimate derived in this way is based on a constant set of schools (about 65 in 12th grade, for example, over a given one-year interval). When the trend data derived from the matched half sample (examined separately for each class of drugs) are compared with trends based on the total sample of schools, the results are usually highly similar, indicating that the trend estimates are affected little by school turnover or shifting participation rates. As would be expected, levels of *absolute* prevalence for a given year are not as accurately estimated using just the half sample because the sample size is only half as large.

Student Participation

In 2014, completed questionnaires were obtained from 90% of all sampled students in 8th grade, 88% in 10th grade, and 82% in 12th grade (see Table 3-1 for response rates in earlier years). In the large majority of cases, students are missed due to absence from class at the time of data collection; for reasons of cost efficiency, we typically do not schedule special follow-up data collections for absent students. Because students with fairly high rates of absenteeism also report above-average rates of drug use, some degree of bias is introduced into the prevalence estimates by missing the absentees. Much of that bias could be corrected through the use of special weighting based on the reported absentee rates provided by the students who *did* respond; however, we decided not to use such a weighting procedure because the bias in overall drug use estimates was determined to be quite small *and* the necessary weighting procedures would have introduced greater sampling variance in the estimates.[7] Appendix A in this report illustrates the changes in trend and prevalence estimates that would result if corrections for absentees had been included. Of course, some students simply refuse, when asked, to complete a questionnaire. However, the proportion of explicit refusals amounts to less than 1.7% of the target sample for each grade.

[7] See Appendix A in the following publication for a discussion of this point: Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1984). *Drugs and American high school students: 1975–1983* (DHHS (ADM) 85-1374). Washington, DC: U.S. Government Printing Office.

Sampling Accuracy of the Estimates

Confidence intervals (95%) are provided in Tables 4-1a through 4-1d for lifetime, annual, 30-day, and daily prevalence of use for 8th-, 10th-, and 12th-grade students. As can be seen in Table 4-1a, confidence intervals for lifetime prevalence for 12th graders average less than ±1.4% across a variety of drug classes. That is, if we took a large number of samples of this size from the universe of all schools containing 12th graders in the coterminous United States, 95 times out of 100 the sample would yield a result that would be less than 1.4 percentage points divergent from the result we would get from a comparable massive survey of *all* 12th graders in *all* schools. This is a high level of sampling accuracy, permitting detection of fairly small changes from one year to the next. Confidence intervals for the other prevalence periods (last 12 months, last 30 days, and current daily use) are generally smaller than those for lifetime use. In general, confidence intervals for 8th and 10th graders are very similar to those observed for 12th graders. Some drugs (smokeless tobacco, PCP, and others, as indicated in the footnotes for Tables 2-1 to 2-4) are measured on only one or two questionnaire forms; these drugs will have somewhat larger confidence intervals because they are based on smaller sample sizes. Appendix C provides information on how to calculate confidence intervals around other point estimates, as well as information needed to compare trends across time or to test the significance of differences between subgroups in any given year.

PANEL SURVEYS

Results reported in this volume are based on the yearly data from 8th-, 10th-, and 12th-grade respondents. Results from the panel studies that follow respondents in each graduating class of 12th graders are reported in *Volume II*[8] of this series, which also provides detailed information on the panel research design and retention rates in Chapter 3—"Study Design and Procedures."

VALIDITY OF MEASURES OF SELF-REPORTED DRUG USE

Are sensitive behaviors such as drug use honestly reported? Like most studies dealing with sensitive behaviors, we have no direct, totally objective validation of the present measures; however, the considerable amount of existing inferential evidence strongly suggests that the MTF self-report questions produce largely valid data. Here we briefly summarize this evidence.[9]

First, using a three-wave panel design, we established that the various measures of self-reported drug use have a high degree of reliability—a necessary condition for validity.[10] In essence,

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[8] Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Miech, R. A. (2014). Monitoring the Future national survey results on drug use, 1975-2013: Volume II, college students and adults ages 19-55. Ann Arbor: Institute for Social Research, The University of Michigan, 424 pp. Available at http://monitoringthefuture.org/pubs/monographs/mtf-vol2_2013.pdf

[9] A more complete discussion may be found in: Johnston, L. D., & O'Malley, P. M. (1985). Issues of validity and population coverage in student surveys of drug use. In B. A. Rouse, N. J. Kozel, & L. G. Richards (Eds.), *Self-report methods of estimating drug use: Meeting current challenges to validity* (NIDA Research Monograph No. 57 (ADM) 85-1402). Washington, DC: U.S. Government Printing Office; Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1984). *Drugs and American high school students: 1975–1983* (DHHS (ADM) 85-1374). Washington, DC: U.S. Government Printing Office; Wallace, J. M., Jr., & Bachman, J. G. (1993). Validity of self-reports in student-based studies on minority populations: Issues and concerns. In M. de LaRosa (Ed.), *Drug abuse among minority youth: Advances in research and methodology* (NIDA Research Monograph No. 130). Rockville, MD: National Institute on Drug Abuse.

[10] O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (1983). Reliability and consistency in self-reports of drug use. *International Journal of the Addictions, 18*, 805–824.

respondents were highly consistent in their self-reported behaviors over a three- to four-year time interval. Second, we found a high degree of consistency among logically related measures of use within the same questionnaire administration. Third, the proportion of 12th graders reporting some illicit drug use has reached two thirds of all respondents in peak years and over 80% in some follow-up years, constituting *prima facie* evidence that the degree of underreporting must be very limited. Fourth, 12th graders' reports of use by their unnamed friends—about whom they would presumably have considerably less reason to conceal information about use—have been highly consistent with self-reported use in the aggregate, in terms of both prevalence *and* trends in prevalence, as discussed in chapter 9. Fifth, we have found self-reported drug use to relate in consistent and expected ways based on theory to a number of other attitudes, behaviors, beliefs, and social situations—strong evidence of construct validity. Sixth, the missing data rates for the self-reported use questions are only very slightly higher than for the preceding nonsensitive questions, in spite of explicit instructions to respondents immediately preceding the drug section to leave blank those questions they feel they cannot answer honestly. Seventh, an examination of consistency in reporting of lifetime use conducted on the long-term panels of graduating seniors found quite low levels of recanting of earlier reported use of the illegal drugs.[11] There was a higher level of recanting for the psychotherapeutic drugs, suggesting that adolescents may actually overestimate their use of some drugs because of misinformation about definitions, and this misinformation is corrected as they get older. Finally, the great majority of respondents, when asked, say they *would* answer such questions honestly if they were users.[12]

As an additional step to assure the validity of the data, we check for logical inconsistencies in the answers to the triplet of questions about use of each drug (i.e., lifetime, annual, and 30-day use), and if a respondent exceeds a maximum number of inconsistencies across the set of drug use questions, his or her record is deleted from the data set. Similarly, we check for improbably high rates of use of multiple drugs and delete such cases, assuming that the respondents are not taking the task seriously. Fortunately, very few cases have to be eliminated for these reasons.

This is not to argue that self-reported measures of drug use are necessarily valid in all studies. In MTF we have gone to great lengths to create a situation and set of procedures in which respondents recognize that their confidentiality will be protected. We have also tried to present a convincing case as to why such research is needed. The evidence suggests that a high level of validity has been obtained. Nevertheless, insofar as any remaining reporting bias exists, we believe it to be in the direction of underreporting. Thus, with the possible exception of the psychotherapeutic drugs, we believe our estimates to be lower than their true values, even for the obtained samples, but not substantially so.

Consistency and Measurement of Trends

MTF is designed to be sensitive to changes from one time period to another. A great strength of this study is that the measures and procedures have been standardized and applied consistently across many years. To the extent that any biases remain because of limits in school and/or student

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[11] Johnston, L. D., & O'Malley, P. M. (1997). The recanting of earlier reported drug use by young adults. In L. Harrison (Ed.), *The validity of self-reported drug use: Improving the accuracy of survey estimates* (NIDA Research Monograph No. 167, pp. 59–80). Rockville, MD: National Institute on Drug Abuse.

[12] For a discussion of reliability and validity of student self-report measures of drug use like those used in MTF across varied cultural settings, see Johnston, L. D., Driessen, F. M. H. M., & Kokkevi, A. (1994). *Surveying student drug misuse: A six-country pilot study*. Strasbourg, France: Council of Europe. Available at http://monitoringthefuture.org/pubs/monographs/surveying_student_drug_misuse_1994.pdf

participation, and to the extent that there are distortions (lack of validity) in the responses of some students, it seems very likely that such problems will exist in much the same proportions from one year to the next. In other words, biases in the survey estimates will tend to be consistent from one year to another, meaning that our measurement of *trends* should be affected very little. The smooth and consistent nature of most trend curves reported for the various drugs provides rather compelling empirical support for this assertion.

TABLE 3-1
Sample Sizes and Response Rates

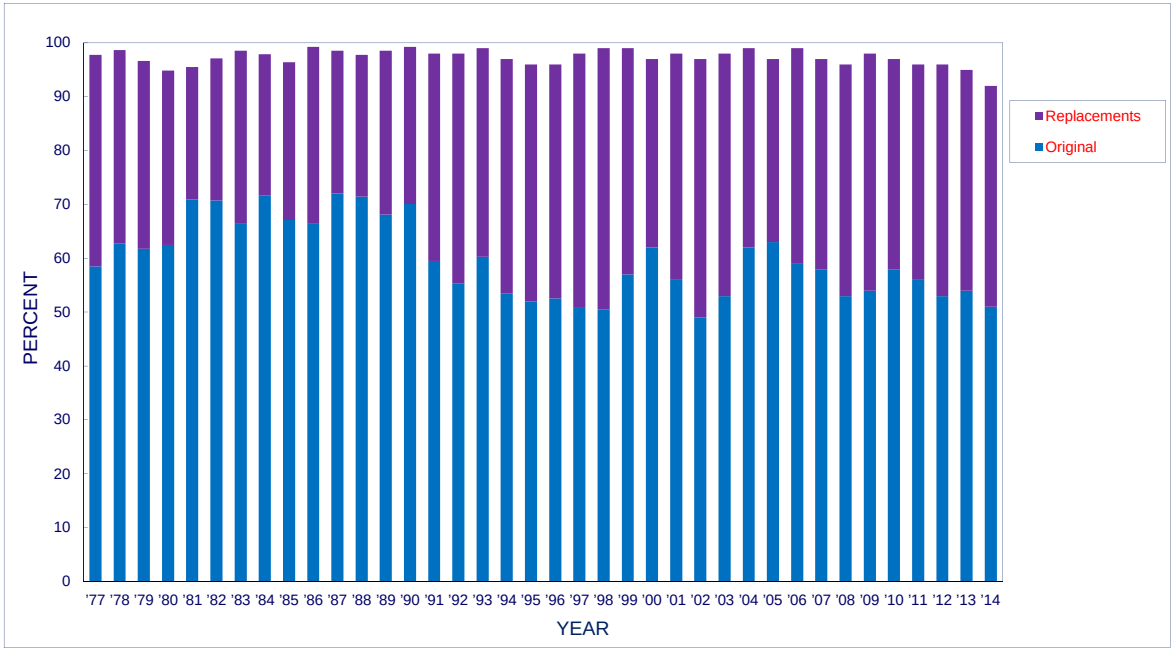
	Number of Public Schools			Number of Private Schools			Total Number of Schools				Total Number of Students				Student Response Rate (%)		
Grade:	8th	10th	12th	8th	10th	12th	8th	10th	12th	Total	8th	10th	12th	Total	*8th*	*10th*	*12th*
1975	—	—	111	—	—	14	—	—	125	—	—	—	15,791	—	—	—	*78*
1976	—	—	108	—	—	15	—	—	123	—	—	—	16,678	—	—	—	*77*
1977	—	—	108	—	—	16	—	—	124	—	—	—	18,436	—	—	—	*79*
1978	—	—	111	—	—	20	—	—	131	—	—	—	18,924	—	—	—	*83*
1979	—	—	111	—	—	20	—	—	131	—	—	—	16,662	—	—	—	*82*
1980	—	—	107	—	—	20	—	—	127	—	—	—	16,524	—	—	—	*82*
1981	—	—	109	—	—	19	—	—	128	—	—	—	18,267	—	—	—	*81*
1982	—	—	116	—	—	21	—	—	137	—	—	—	18,348	—	—	—	*83*
1983	—	—	112	—	—	22	—	—	134	—	—	—	16,947	—	—	—	*84*
1984	—	—	117	—	—	17	—	—	134	—	—	—	16,499	—	—	—	*83*
1985	—	—	115	—	—	17	—	—	132	—	—	—	16,502	—	—	—	*84*
1986	—	—	113	—	—	16	—	—	129	—	—	—	15,713	—	—	—	*83*
1987	—	—	117	—	—	18	—	—	135	—	—	—	16,843	—	—	—	*84*
1988	—	—	113	—	—	19	—	—	132	—	—	—	16,795	—	—	—	*83*
1989	—	—	111	—	—	22	—	—	133	—	—	—	17,142	—	—	—	*86*
1990	—	—	114	—	—	23	—	—	137	—	—	—	15,676	—	—	—	*86*
1991	131	107	117	31	14	19	162	121	136	419	17,844	14,996	15,483	48,323	*90*	*87*	*83*
1992	133	106	120	26	19	18	159	125	138	422	19,015	14,997	16,251	50,263	*90*	*88*	*84*
1993	126	111	121	30	17	18	156	128	139	423	18,820	15,516	16,763	51,099	*90*	*86*	*84*
1994	116	116	119	34	14	20	150	130	139	419	17,708	16,080	15,929	49,717	*89*	*88*	*84*
1995	118	117	120	34	22	24	152	139	144	435	17,929	17,285	15,876	51,090	*89*	*87*	*84*
1996	122	113	118	30	20	21	152	133	139	424	18,368	15,873	14,824	49,065	*91*	*87*	*83*
1997	125	113	125	27	18	21	152	131	146	429	19,066	15,778	15,963	50,807	*89*	*86*	*83*
1998	122	110	124	27	19	20	149	129	144	422	18,667	15,419	15,780	49,866	*88*	*87*	*82*
1999	120	117	124	30	23	19	150	140	143	433	17,287	13,885	14,056	45,228	*87*	*85*	*83*
2000	125	121	116	31	24	18	156	145	134	435	17,311	14,576	13,286	45,173	*89*	*86*	*83*
2001	125	117	117	28	20	17	153	137	134	424	16,756	14,286	13,304	44,346	*90*	*88*	*82*
2002	115	113	102	26	20	18	141	133	120	394	15,489	14,683	13,544	43,716	*91*	*85*	*83*
2003	117	109	103	24	20	19	141	129	122	392	17,023	16,244	15,200	48,467	*89*	*88*	*83*
2004	120	111	109	27	20	19	147	131	128	406	17,413	16,839	15,222	49,474	*89*	*88*	*82*
2005	119	107	108	27	20	21	146	127	129	402	17,258	16,711	15,378	49,347	*90*	*88*	*82*
2006	122	105	116	29	18	20	151	123	136	410	17,026	16,620	14,814	48,460	*91*	*88*	*83*
2007	119	103	111	32	17	21	151	120	132	403	16,495	16,398	15,132	48,025	*91*	*88*	*81*
2008	116	103	103	28	19	17	144	122	120	386	16,253	15,518	14,577	46,348	*90*	*88*	*79*
2009	119	102	106	26	17	19	145	119	125	389	15,509	16,320	14,268	46,097	*88*	*89*	*82*
2010	120	105	104	27	18	22	147	123	126	396	15,769	15,586	15,127	46,482	*88*	*87*	*85*
2011	117	105	110	28	21	19	145	126	129	400	16,496	15,382	14,855	46,733	*91*	*86*	*83*
2012	115	107	107	27	19	20	142	126	127	395	15,678	15,428	14,343	45,449	*91*	*87*	*83*
2013	116	103	106	27	17	20	143	120	126	389	15,233	13,262	13,180	41,675	*90*	*88*	*82*
2014	111	98	105	30	16	17	141	114	122	377	15,195	13,341	13,015	41,551	*90*	*88*	*82*

Source. The Monitoring the Future study, the University of Michigan.

FIGURE 3-1
Schools included in 1 Year's Data Collection
8th, 10th, and 12th Grades

Source. The Monitoring the Future study, the University of Michigan.
Note. One dot equals one school.

FIGURE 3-2
School Participation Rates



Percent of slots filled by...	'77	'78	'79	'80	'81	'82	'83	'84	'85	'86	'87	'88	'89	'90	'91	'92	'93	'94	'95	'96	'97	'98	'99	'00	'01	'02	'03	'04	'05	'06	'07	'08	'09	'10	'11	'12	'13	'14
Original	59	63	62	63	71	71	66	72	67	66	72	71	68	70	59	55	60	53	52	53	51	51	57	62	56	49	53	62	63	59	58	53	54	58	56	53	54	51
Replacements	39	36	35	32	25	26	32	26	29	33	26	26	30	29	39	43	39	44	44	43	47	48	42	35	42	48	45	37	34	40	39	43	44	39	40	43	41	41
Total	98	99	97	95	96	97	99	98	96	99	99	98	99	99	98	98	99	97	96	96	98	99	99	97	98	97	98	99	97	99	97	96	98	97	96	96	95	92

Source: The Monitoring the Future study, the University of Michigan.

Chapter 4

PREVALENCE AND FREQUENCY OF DRUG USE

Drug use can be measured in terms of prevalence (the proportion of a defined population or subpopulation who have used a drug once or more in a particular time interval) or frequency (how many times a drug was used within a defined time interval). In this chapter, both of these important dimensions of drug use are addressed in relation to each of the three time intervals used in the MTF questionnaires—lifetime, past 12 months, and past 30 days—utilizing data from the most recently completed cross-sectional surveys of 8th-, 10th-, and 12th-grade students, conducted in the spring of 2014. We also examine how use varies across a number of important demographic subgroups—defined by gender, college plans, region of the country, population density (or urbanicity), socioeconomic status (as measured by the average educational level of the parents), and racial/ethnic identification.

In addition, the prevalence of current *daily* use is provided for selected drugs—in particular, marijuana, alcohol, and cigarettes. For alcohol, the prevalence and frequency of being drunk and of having 5, 10, or 15 or more drinks in a row in the past two weeks are reported. For cigarettes, the prevalence of daily smoking is reported as is the prevalence of smoking a half pack or more per day. For some drug classes, only the prevalence and frequency of use in the past 12 months are reported, because, due to space limitations in the questionnaires, their use was addressed by only a single question. (We refer to such questions as "tripwire" questions, because their purpose is to alert us to emerging problems. If a tripwire question reveals a sizeable problem, we usually convert our measurement of that drug to a full set of questions covering the three standard time intervals.)

It should be noted that all prevalence statistics are based on students in attendance on the day of survey administration. Selected prevalence estimates for 12th-grade students, reflecting adjustments for missing absentees as well as for dropouts, may be found in Appendix A. On the day of the survey in 2014, 18% of 12th graders were absent. The adjustments are not particularly large and have virtually no effect on trend estimates. The absentee and dropout adjustments for 8th and 10th graders would be much smaller than those shown in Appendix A for 12th graders, because 8th and 10th graders generally have considerably lower rates of absenteeism (10% and 12%, respectively, in 2014) and far lower rates of dropping out, estimated at 2% and 5%, respectively (see Appendix A).

PREVALENCE AND FREQUENCY OF DRUG USE IN 2014: ALL STUDENTS

Prevalence of Lifetime, Annual, and 30-Day Use

Prevalence-of-use estimates are provided in Tables 4-1a through 4-1d for lifetime, past 12 months, past 30 days, and current daily use, respectively. These tables also include the 95% confidence intervals around each estimate, meaning that if samples of this size and type were drawn repeatedly from all students in that grade level in the coterminous United States, they would be expected to generate observed prevalence rates that fell within the confidence intervals 95 times out of 100. The confidence intervals take into account the effects of sample stratification, the clustering of the

sample in schools, and any unequal weighting. Of course, the single best estimate that we can make is the value actually observed in our sample—the point estimate.

To facilitate comparisons, Table 4-2 brings together the point estimates for all four prevalence periods.

Table 4-3 gives a more detailed breakdown for ***heroin*** by mode of administration, differentiating use with and without a needle.

The key findings are summarized below:

- About half of all 12th graders (49%) in 2014 reported ***any illicit drug use*** at some time in their lives (see footnote in Table 4-1 for definition of "any illicit drug"). Over one third (37%) of 10th graders and one fifth (20%) of 8th graders said they have used an illicit drug at some time.

- ***Marijuana*** is by far the most widely used illicit drug. Nearly half of all 12th graders (44%), over one third of 10th graders (34%), and about one in six 8th graders (16%) reported some marijuana use in their lifetime. Among 12th graders, 35% reported some use in the past year, and 21% reported some use in the past month. Among 10th graders, the corresponding percentages were 27% and 17%, respectively, and among 8th-grade students, 12% and 7%.

- Current **daily marijuana use** or near daily use (defined as use on 20 or more occasions in the past 30 days) is also noteworthy. About one in 17 twelfth graders (5.8%) used marijuana daily in the month prior to the survey, as did one in 29 tenth graders (3.4%) and one in 100 eighth graders (1.0%). Long-term daily use of marijuana is covered in a special section of Chapter 10.

- Of all the students in each grade reporting any lifetime illicit drug use, not including inhalants, roughly half reported using ***only marijuana***: 51% of all 8th-grade users of any illicit drug, which amounts to 10% of the *total* 8th-grade sample; 57% of all 10th-grade users of any illicit drug or 22% of the total 10th-grade sample; and 54% of 12th-grade users of any illicit drug or 27% of the total 12th-grade sample. (These figures are not explicitly provided in the tables but can be derived from the information therein.) Put another way, 40% to 50% of those 8th, 10th, and 12th graders who have ever used an illicit drug have used an ***illicit drug other than marijuana***, usually in addition to marijuana.

- Use of ***synthetic marijuana*** has declined recently but remains considerable in 2014. Annual prevalence levels were 3.3%, 5.4%, and 5.8% in 8th, 10th, and 12th grades, respectively.

  Questions on 30-day prevalence and questions on annual prevalence were asked on different questionnaire forms with different formats and answered by different students. These differences result in a methodological artifact in which estimates of 30-day prevalence are slightly higher than annual prevalence in 8th and 10th grade. In 2014 annual prevalence levels were 3.3%, 5.4%, and 5.8%, in 8th, 10th, and 12th grades, respectively. The finding that estimates of 30-day prevalence and annual prevalence are so close together

suggests that both are capturing recent, short-term, limited use—a pattern supported by analysis of the frequency of synthetic marijuana use (see Table 4-4a).

- When inhalants are included in the index of illicit drug use, the percentages categorized as having ever used an illicit drug rise, especially for 8th graders. The percentages using ***any illicit drug including inhalants*** in their lifetime are 25% for 8th graders, 40% for 10th graders, and 50% for 12th graders.

- The proportions having used ***any illicit drug other than marijuana (or inhalants)*** in their lifetime were 10% in 8th grade, 16% in 10th grade, and 23% in 12th grade. Thus, about one in four of the 2014 high school seniors tried an illicit drug other than marijuana at some time.[1]

- ***Inhalants*** rank second among the illicit drugs in lifetime prevalence for 8th graders (11%) and third for 10th graders (8.7%); they rank sixth for 12th graders (6.5%). Inhalants also rank second-highest in 30-day prevalence among the illicit drugs for 8th (2.2%) and fifth (1.1%) among 10th graders, but 13th for 12th graders (0.7%). Note that the youngest respondents report the highest rates of use; this is the only class of drugs for which current use declines with age during adolescence.

- The ranking of drugs by lifetime prevalence varies some by grade level. For 8th graders, ***marijuana*** and ***inhalant*** use are followed in the lifetime prevalence rankings of illicit drugs by ***amphetamines***, at 6.7%.[2] Among 10th graders, the ranking for lifetime prevalence of use is ***marijuana*** (34%), ***amphetamines*** (11%), and ***inhalants*** (8.7%). Among 12th graders, lifetime use is highest for ***marijuana*** (44%), ***amphetamines*** (12%), ***narcotics other than heroin*** (10%), ***tranquilizers*** (7.4%), and ***sedatives (barbiturates)*** (6.8%) and then ***inhalants*** (6.5%).

- Considerably lower prevalence levels are found for the specific class ***methamphetamine***, with 1.0%, 1.4%, and 1.9% of 8th, 10th, and 12th graders, respectively, reporting any lifetime use. ***Crystal methamphetamine*** ("***ice***") also has a low lifetime prevalence among 12th graders (1.3%); use of ice is not asked in the lower grades.

- ***Bath salts*** (synthetic stimulants) were asked about with a "tripwire" question for the first time in 2012. These are often marketed as "bath salts," but are actually products containing designer drugs—synthetic cathinones, which are stimulants that have effects similar to amphetamines. Only *annual* prevalence estimates are available, and they are low: 0.5%, 0.9%, and 0.9% for 8th, 10th, and 12th grades, respectively.

[1] For 12th graders, use of "any illicit drug other than marijuana" includes any use of LSD, hallucinogens other than LSD, crack, other cocaine, or heroin; *and/or* any use that is not under a doctor's orders of narcotics other than heroin, amphetamines, sedatives (barbiturates), methaqualone (excluded since 1990), or tranquilizers. For 8th and 10th graders, the list of drugs is the same except that the use of narcotics other than heroin and sedatives (barbiturates) has been excluded both from the illicit drug indexes and from separate presentation in this volume. Questions on these drugs were included in the questionnaires given to 8th and 10th graders, but the results led us to believe that some respondents were including nonprescription drugs in their answers, resulting in exaggerated prevalence rates.

[2] For findings on specific amphetamines, see Appendix E

- ***Hallucinogens*** are another fairly widely used class of substances. Lifetime prevalence of use is 2.0% for 8th graders, 5.0% for 10th graders, and 6.3% for 12th graders. Until 2001, hallucinogen prevalence ranked this high primarily due to the prevalence of LSD use. But in 2014, larger proportions of students—1.5%, 4.1%, and 5.1% for 8th, 10th, and 12th grades, respectively—indicate using ***hallucinogens other than LSD*** (particularly "***shrooms***" or ***psylocibin***) compared to 1.1%, 2.6%, and 3.7% for ***LSD***.

- ***Ecstasy*** (***MDMA***), another drug used for its somewhat hallucinogenic properties, is reported at higher levels than LSD in all three grades. In 2014, the lifetime prevalence levels for this drug stood at 1.4%, 3.7%, and 5.6% in grades 8, 10, and 12, respectively, while annual prevalence stood at 0.9%, 2.3%, and 3.6%.

- A tripwire question asks about use of ***salvia*** (or *salvia divinorum*) in the last 12 months. Salvia is an herb with hallucinogenic properties, common to southern Mexico and Central and South Americas. Although it currently is not a drug regulated by the Controlled Substances Act, several states have passed legislation to regulate its use, as have several countries. The Drug Enforcement Agency lists salvia as a drug of concern and has considered classifying it as a Schedule I drug, like LSD or marijuana. Annual prevalence of this drug has been in a steady decline, and in 2014 levels were only 0.6%, 1.8%, and 1.8% among 8th, 10th, and 12th graders, respectively.

- When specific questions about ***PCP*** use were added in 1979, we discovered that some PCP users did not report themselves as users of hallucinogens, even though PCP is explicitly included as an example in the questions on hallucinogens. Thus, from 1979 through 2013, we have included the ***hallucinogens adjusted*** prevalence and trend estimates for 12th graders to correct for this known underreporting. As with the correction for under-reporting of nitrites, this adjustment has made very little difference in recent years among 12th graders because the rate of PCP use has become so low and the adjustment has been discontinued.

- PCP use is measured in 12th grade only, with a tripwire question. Annual prevalence in 2014 was 0.8%.

- Lifetime prevalence levels for ***cocaine*** use by 8th, 10th, and 12th graders in 2014 were 1.8%, 2.6%, and 4.6%, respectively.

- ***Crack***, a form of cocaine that comes in small chunks or "rocks," can be smoked to produce a rapid and intense but short-lasting high. In 2014 it had lifetime prevalence levels of under 2% in all three grade levels: 1.2% for 8th, 1.0% for 10th, and 1.8% for 12th graders.

  Of all students reporting *any* cocaine use in their lifetime, significant proportions have some experience with crack: Two thirds of 8th-grade cocaine users (67%), nearly two fifths of 10th-grade users (38%) and nearly two fifths of 12th-grade users (39%) reported having used crack (data derivable from Table 4-1).

- ***Heroin*** is one of the least commonly used illicit drugs at each grade level. Lifetime use in 2014 was 0.9% for 8th and 10th graders and 1.0% for 12th graders in 2014. Annual prevalence levels are 0.5% in 8th and 10th grades and 0.6% in 12th grade. For many years,

the heroin available in the United States had such a low purity that the only practical way to use it was by injection, usually intravenously. However, due to high production in various countries, the purity of heroin available on the street rose substantially, thus making smoking and snorting more common modes of administration. Because of these changes, in 1995 we added separate questions on using heroin with and without a needle. We found that significant proportions of those reporting any heroin use in the previous 12 months reported using ***heroin without a needle***. In 2014, 20% of 8th graders who indicated using heroin in the past year reported that their only use was without a needle; 60% reported using only with a needle; and 20% reported using both ways. Put another way, for 8th graders the proportions reporting past-year use by each of the three methods were 0.1% without a needle, 0.3% with a needle, and 0.1% using both ways. The proportions of 10th graders using heroin among these three methods were 0.1%, 0.2 %, and 0.2%, respectively, and the proportions for 12th grade were 0.1%, 0.1%, and 0.4% for each grade, respectively. See Table 4-3 for more detail on heroin use by mode of administration.

- ***Narcotics other than heroin*** now constitute the class of illicit drugs that was third-highest in ranking among 12th graders, at 10% lifetime prevalence and 6% annual prevalence. (Data for 8th and 10th graders are not reported for narcotics other than heroin due to questionable validity.)

- Tripwire questions about past-year use without a doctor's orders of ***OxyContin*** and ***Vicodin***, two specific narcotic analgesics, were introduced in 2002. The results for OxyContin, a brand of oxycodone, showed annual prevalence rates in 2014 of 1.0%, 3.0%, and 3.3% for grades 8, 10, and 12, respectively. Rates for Vicodin use were higher in the upper grades, with the comparable prevalence rates being 1.0%, 3.4%, and 4.8%, respectively. These levels of use are far higher than for heroin.

- ***Tranquilizers*** also fell in the top third of the prevalence rankings of illicit drugs, with lifetime prevalence levels of 2.9%, 5.8%, and 7.4% for grades 8, 10, and 12, respectively.

- Lifetime prevalence of ***sedative (barbiturates)*** use in 12th grade was 6.8% in 2014. The sedative (barbiturate) questions are included in the 8th- and 10th-grade questionnaires, but the results are not reported because we suspect that these respondents inappropriately include the use of non-prescription drugs.[3]

- The illicit drug classes remain in roughly the same order whether ranked by lifetime, annual, or monthly prevalence of use, as Figure 4-1 illustrates. The only important change in ranking occurs for ***inhalant*** use among 10th and 12th graders, for whom inhalants rank lower for current use than for lifetime use. This variation occurs because use of a number of inhalants such as glues and aerosols tends to be discontinued at a relatively early age.

- Three drugs have been labeled as "club drugs": ***Rohypnol***, ***GHB***, and ***ketamine***. None of these ever attained much popularity among teens. Currently, ***GHB*** and ***ketamine*** are

[3] Barbiturates were the dominant form of sedatives in use when these questions were first introduced, but have been largely displaced by the nonbarbiturate sedatives now on the market. In 2004 in what we call a "splicing design", half of the questionnaires used the original question about barbiturates, while the other half had a question asking about "sedatives, which include barbiturates . . . ." These two versions yielded 12th-grade prevalence rates that were almost identical, suggesting that, in the past, the users of nonbarbiturate sedatives had been including them in their answers about barbiturate use. In 2005, the remaining questionnaire forms were changed as well in the same manner.

measured with tripwire questions in 12th grade only. Annual prevalence levels in 2014 were 1.0% and 1.5%, respectively. ***Rohypnol***, known as a "date rape drug" because it can induce amnesia, is measured with the standard triplet questions in grades 8 and 10, and a tripwire question in grade 12. Annual prevalence levels in 2014 were 0.3%, 0.5%, and 0.7% in grades 8, 10, and 12, respectively.

- ***Alcohol*** and ***cigarettes*** are the two major licit drugs included in the MTF surveys, though even these are legally prohibited for purchase by those the age of most of our respondents. Alcohol use is more widespread than use of illicit drugs. About two thirds of 12th-grade students (66%) have at least tried alcohol, and more than one third (37%) are current drinkers—that is, they reported consuming some alcohol in the 30 days prior to the survey (Table 4-2). Even among 8th graders, more than a quarter (27%) reported any alcohol use in their lifetime, and one in eleven (9%) is a current (past 30-day) drinker.[4]

- Of greater concern than just any use of alcohol is its use to the point of inebriation: In 2014 one ninth of all 8th graders (11%), three tenths of 10th graders (30%), and half of all 12th graders (50%) said they had ***been drunk*** at least once in their lifetime. The levels of self-reported drunkenness during the 30 days immediately preceding the survey are strikingly high—3%, 11%, and 24%, respectively, for grades 8, 10, and 12.

- Prevalence of ***cigarettes*** is generally higher than for any of the illicit drugs, except for marijuana. About one third (34%) of 12th graders reported having tried cigarettes at some time, and one seventh (14%) smoked in the prior 30 days. Even among 8th graders, about one seventh (14%) reported having tried cigarettes and 4% reported smoking in the prior 30 days. Among 10th graders, 23% reported having tried cigarettes, and 7.2% reported smoking in the prior 30 days. The percentages reporting smoking cigarettes in the prior 30 days are actually lower in all three grades in 2014 than the percentages reporting using marijuana in the prior 30 days: 4.0% for cigarettes versus 6.5% for marijuana in 8th grade; 7.2% versus 16.6% in 10th grade; and 13.6% versus 21.2% in 12th grade. These numbers reflect mostly the considerable decline in cigarette use that has occurred in recent years, though the recent increase in marijuana use has contributed to their standing relative to each other as well. Among 8th, 10th and 12th graders, *lifetime* prevalence of marijuana use in 2014 was also higher than lifetime prevalence of cigarette use. (Annual prevalence of cigarettes is not assessed.) As noted below, however, *daily* use in the prior 30 days was higher for cigarettes than for marijuana or alcohol in 8th and 12th grades. For 10th graders marijuana daily use was higher than daily cigarette use (3.4% versus 3.2%).

- A question about ***kreteks***, a type of clove cigarette that is usually imported from Indonesia, was added in 2001 to the list of tripwire questions asking only about annual prevalence and frequency. Because the prevalence turned out to be low, this question also was dropped in 2006 from the 8th- and 10th-grade questionnaires to make room for other drug-related

[4] In 1993 the text of the alcohol prevalence-of-use question was changed slightly in half of the questionnaire forms used at each grade such that the respondent was told explicitly to *exclude* those occasions when they had "just a few sips" of an alcoholic beverage. In 1994 this change was made to the remaining forms. In 2004, there was another minor wording change in half of the forms to encompass the broader range of alcoholic beverages that were becoming more popular, with the wording ". . . alcoholic beverages including beer, wine, and liquor, and any other beverage that contains alcohol." Previously we had asked about ". . . beer, wine, wine coolers, or liquor . . ." An examination of the data did not show any effect from dropping the explicit mention of wine coolers and replacing it with "any other beverage that contains alcohol." The remaining questionnaire forms were changed in the same manner in 2005.

questions. In 2014, only 1.6% of 12th graders reported any use of kreteks in the prior 12 months.

- ***Smokeless tobacco*** is used by a surprisingly large number of young people. Among 8th, 10th, and 12th graders, lifetime prevalence levels are 8%, 14%, and 15%, respectively, and past 30-day prevalence is 3.0%, 5.3%, and 8.4%, respectively. As discussed later in this chapter, prevalence levels are considerably higher among males than among females.

- Two recent developments regarding tobacco use include smoking using hookah water pipes and smoking small cigars. Questions about these forms of tobacco use in the prior 12 months (annual prevalence) are asked only of 12th graders. In 2014, 23% of them reported using a ***hookah*** to smoke tobacco and 19% reported smoking ***small cigars*** in the prior 12 months.

- In 2011 questions were introduced to the 12th-grade questionnaires to assess two other forms of tobacco use that have gained in popularity recently—***snus*** and ***dissolvable tobacco***. The question about ***snus***—a moist form of snuff that is placed under the upper lip—asks on how many occasions in the past 12 months the student "…used snus (a small packet of tobacco that is put in the mouth)." Among 12th graders, the annual prevalence was 5.8% in 2014. Starting in 2012 the question about use of snus was added to the survey of 8th and 10th graders, and annual prevalence levels in 2014 were 2.2% and 4.5%, respectively.

  The question about ***dissolvable tobacco*** products asks on how many occasions in the past 12 months the student "… used dissolvable tobacco products (Ariva, Stonewall, Orbs)." These products, in the form of pellets, strips, or sticks, actually dissolve in the mouth unlike other forms of chewing tobacco. Among 12th graders in 2014, 1.1% reported having used in the prior 12 months. The question was introduced for 8th and 10th grades in 2012, and the annual prevalence rates in 2014 were 1.1% for 8th graders and 1.3% for 10th graders. It appears that these tobacco products have not yet made significant inroads among secondary school students.

- Perhaps the largest change in the way tobacco, or more precisely, nicotine, is used in recent years has been the introduction of ***e-cigarettes***. E-cigarette use was assessed by MTF for the first time in 2014 with questions about use in the past 30 days. E-cigarettes now have the highest 30-day prevalence of all tobacco products, including regular cigarettes, in all three grades. In 2014 prevalence levels for e-cigarette use were 8.7%, 16.2%, and 17.1% in 8th, 10th, and 12th grades, respectively. The corresponding prevalence levels for regular cigarette use were 4.0%, 7.2%, and 13.6%. Note that in 8th and 10th grades e-cigarette prevalence levels are more than twice those of regular cigarettes. Because of these high levels of use, more detailed questions about e-cigarettes, including reasons for use and age of first use, have been added to the 2015 questionnaires.

- Questions about ***anabolic steroids*** were added in 1989. Like some other drugs covered by MTF, their distribution and sale are legally controlled, and they often find their way into an illicit market. They also carry a particular danger for the transmission of HIV and other bloodborne diseases when taken by injection. However, in contrast to most drugs, they are

usually taken not for their direct psychoactive effects (although they may have some), but rather for muscle building and physical performance enhancement. Clearly, potential unintended consequences, including the transmission of HIV, make illicit use of anabolic steroids a public health concern.[5]

The overall levels of use for anabolic steroids are modest relative to many other drugs. For 8th, 10th, and 12th graders, respectively, *lifetime* prevalence levels in 2014 were 1.0%, 1.4%, and 1.9%; *annual* prevalence levels were 0.6%, 0.8%, and 1.5%; and past *30-day* prevalence levels were 0.2%, 0.4%, and 0.9%. However, the prevalence levels for males are distinctly higher, with annual prevalence at 0.6%, 1.1%, and 2.0% for the three grades respectively, compared to 0.5%, 0.5%, and 0.7% for females.

- ***Androstenedione***, a precursor to anabolic steroids, which is also used to enhance strength and physique, was legal to purchase over the counter until 2005, when it was scheduled as a controlled substance by the Drug Enforcement Administration. Concern grew about adolescents' use of androstenedione when their reported use of anabolic steroids increased sharply in 1999, a year marked by press reports of androstenedione use by the prominent professional baseball player Mark McGwire. A single tripwire question was added in 2001 to determine how widespread use was, partly to ascertain whether some of the increase in reported steroid use was actually due to androstenedione use. The 2014 annual prevalence levels for androstenedione were 0.4%, 0.9%, and 1.1% in 8th, 10th, and 12th grades, respectively. As with steroids, prevalence tends to be higher among males; in this case, annual prevalence levels are 0.4%, 1.1%, and 2.0% for males versus 0.4%, 0.7%, and 0.3% for females in 8th, 10th, and 12th grades, respectively. In the questionnaire forms containing both drugs, we find that appreciable proportions of students who reported anabolic steroid use in 2014 also reported using androstenedione: 15%, 36%, and 35% of the steroid users in grades 8, 10, and 12, respectively. Therefore, it is possible that some of the reported steroid use is, in fact, androstenedione use and that some of the increase in reported steroid use in the late 1990s was indeed due to increasing use of androstenedione.[6]

- In Chapter 10, Tables 10-17a through 10-17c help deal with the issue of double-counting by showing the total proportion of students using *either* ***steroids*** *or* ***androstenedione***. Our estimate of the proportion of males using *either* of these drugs in the prior 12 months is 0.9% in 8th grade, 1.8% in 10th grade, and 3.2% in 12th grade, meaning that one in 31 twelfth-grade males has used one of these drugs in just the prior year.

- Another physique-enhancing substance is ***creatine***, though it is not usually considered a drug at all but rather a type of over-the-counter protein supplement believed to help build muscle mass. Because we thought that a number of males were probably using this substance along with steroids and/or androstenedione, we added a tripwire question about

[5] In 2006, the question about steroid use was changed in one of the three 12th-grade forms in which it occurred, and in two of the four 8th- and 10th-grade forms. The change was intended to assure that respondents were including only anabolic steroids and not corticosteroids in their answers. The phrase ". . . that are sometimes prescribed by doctors to promote healing from certain types of injuries" was replaced with the phrase ". . . are prescription drugs sometimes prescribed by doctors to treat certain conditions." A comparison of the prevalence rates generated by the two question wordings revealed no evidence of any effect of the change. In 2007 the remaining forms were changed in the same manner.

[6] Viewed the opposite way, the proportion of those reporting any androstenedione use in the prior 12 months who *also* reported any steroid use in the same interval is 22%, 30%, and 54% for 8th, 10th, and 12th graders, respectively. In other words, from one tenth to one half of androstenedione users are also reporting steroid use, which sets outer limits on the degree to which these two questions are double-counting the same behaviors.

its use in 2001. Use was even more widespread than we expected, which is troublesome given the limited knowledge about its long-term effects. In 2014, the proportion of males reporting use of creatine in the prior 12 months was 2.9%, 11.0%, and 18.5% in grades 8, 10, and 12, respectively. Again, many fewer females reported use—0.5%, 1.3%, and 2.0%, respectively.

Frequency of Lifetime, Annual, and 30-Day Use

While this volume focuses largely on *prevalence* of use for different time periods, more detailed information about the *frequency* with which various drugs have been used is important for understanding severity of substance use. Table 4-4a provides data on frequency of use of various drugs for lifetime, 12-month, and 30-day periods. Tables 4-4b and 4-4c provide additional frequency-of-use estimates for occasions of heavy drinking, cigarettes, and smokeless tobacco. As shown in these tables, a good proportion of lifetime users of many drugs could best be characterized as experimental users, reporting use on only one or two occasions.

- At the other extreme, certain drugs stand out for having had relatively high proportions reporting use on 20 or more occasions in their lifetime. For example, 4%, 11%, and 24% of all 8th, 10th, and 12th graders, respectively, have consumed ***alcohol*** on 20 or more occasions in their lifetimes.

- Another measure of heavy drinking asks respondents to report how many occasions during the previous *two-week* period they had consumed ***five or more drinks in a row***. in 2014 prevalence levels for this behavior, which is also referred to as binge drinking or episodic heavy drinking, were 4%, 13%, and 19% in the 8th, 10th, and 12th grades, respectively.

- ***Extreme binge drinking*** is a term that we have coined that refers to the consumption of 10 or more drinks in a row or 15 or more drinks in a row on a single occasion. One of the most concerning findings from the alcohol frequency results relate to this measure. Twelfth graders are asked on how many occasions (if any) they have had 10 or more drinks in a row in the two weeks prior to their taking the survey. They are also asked on how many occasions (if any) they have had 15 or more drinks in a row in the past two weeks. Table 4-4b shows that having 5 or more drinks in a row in the prior two weeks—our standard measure of "binge drinking"—is 19% for 12th graders in 2014, but 7% said that they had 10 or more drinks in a row, and 4% had 15 or more drinks in a row. (These latter two questions are not asked of 8th and 10th graders.)

- ***Cigarette*** use is measured on a different frequency scale (see Table 4-4c for those measures and their results), which makes direct comparison with other drugs difficult, but there can be little doubt that cigarettes rank first in frequent use.

- Among illicit drugs, ***marijuana*** shows the highest proportions reporting frequent use, with 4%, 12%, and 19% of 8th, 10th, and 12th graders, respectively, reporting use on 20 or more occasions in their lifetime.

Most other illicit drugs have far lower frequencies of using on 20 or more occasions. However, young people may tend to underestimate the frequency with which they have engaged in these

behaviors in their lifetime or over a 12-month period, so the extent of frequent use may be somewhat underestimated.[7]

Prevalence of Current Daily Use

Frequent use of illicit or licit drugs is a great concern for the health and safety of adolescents. Table 4-2, Table 5-4 in Chapter 5, and Figure 4-2 show the prevalence of current daily or near-daily use of the various classes of illicit drugs for 12th graders. Table 4-2 also provides prevalence of selected drugs for which meaningful estimates could be made for 8th and 10th graders. For all drugs except cigarettes and smokeless tobacco, respondents are considered current daily users if they report use on 20 or more occasions in the preceding 30 days. Respondents are considered daily users of cigarettes if they explicitly state the use of one or more cigarettes per day in the past 30 days, and daily users of smokeless tobacco if they state using "about once a day" or more often in the past 30 days.

- ***Cigarettes*** have some of the highest levels of daily use among all of the drugs used by adolescents. The percentages who reported using one or more cigarettes per day in the last 30 days were 1.4%, 3.2%, and 6.7% in grades 8, 10, and 12, respectively. Many of these daily smokers say that they currently smoke a half pack or more per day (0.5%, 1.2%, and 2.6% of all respondents in grades 8, 10, and 12, respectively).

- In 2014 daily use of ***marijuana*** began to approach the levels of daily cigarette smoking. Daily or near-daily usage levels were 1.0%, 3.4% and 5.8% across 8th, 10th, and 12th grades, respectively. Note that in 10th grade, daily prevalence for marijuana use is slightly higher than it is for cigarettes. (See Chapter 10 for specific information on levels of past daily use and cumulative daily use of marijuana over the lifetime).

- Daily use of ***smokeless tobacco*** is considerably lower than daily use of cigarettes, at 0.5%, 1.8%, and 3.4% for 8th, 10th, and 12th grades, respectively. The rates among males are quite a bit higher, however, as discussed later in this chapter.

- Proportions using ***tobacco daily*** in either or both forms (i.e., cigarettes and/or smokeless tobacco) are slightly higher than the proportions that use cigarettes alone (for 8th, 10th, and 12th graders, respectively 1.7%, 4.4%, and 9.6% for tobacco daily vs. 1.4%, 3.2%, and 6.7% for cigarettes alone).

- For many years, ***alcohol*** was the next most frequently used drug on a daily basis at all three grade levels, but because daily marijuana use rose substantially in the 1990s, it now exceeds daily alcohol use. The daily prevalence rates for alcohol in 2014 were 0.3%, 0.8%, and 1.9% in grades 8, 10, and 12, respectively.

- Daily use of ***all other illicit drugs*** is reported by 0.4% or less of 12th-grade respondents (see Table 4-2). While low, these figures are not inconsequential, because 1% of the high school class of 2014, for example, represents in excess of 30,000 individuals nationwide.

[7] Bachman, J. G., & O'Malley, P. M. (1981). When four months equal a year: Inconsistencies in student reports of drug use. *Public Opinion Quarterly, 45*, 536–548. Reprinted in E. Singer & S. Presser (Eds.), 1989, *Survey research methods.*Chicago: University of Chicago Press.

NONCONTINUATION RATES

- One indication of the proportion of people who try a drug but do not continue to use it can be derived from calculating the percentage of those who ever used a drug (once or more) but did *not* use it in the 12 months preceding the survey.[8] We use the word "noncontinuation" rather than "discontinuation" because the latter might imply discontinuing an established pattern of use, whereas our current operational definition includes noncontinuation by experimental users as well as established users. Figure 4-3 provides these noncontinuation rates for most drug classes and all three grades in 2014; drugs are ordered from highest to lowest rates among 12th graders. This figure shows that noncontinuation rates vary widely. Among 12th graders, the highest noncontinuation rate is observed for ***inhalants*** (70%), followed by ***methamphetamine (***51%). Many inhalants are used primarily at a younger age, and use is often not continued into 12th grade. The rank ordering for noncontinuation of other drugs is as follows: ***cocaine powder***, ***crystal methamphetamine*** (***ice***), and ***heroin in general*** (all between 39% and 42%); and ***cocaine in general, sedatives (barbiturates), crack, hallucinogens, tranquilizers, narcotics other than heroin, ecstasy (MDMA), LSD, and amphetamines*** (all between 33% and 38%).

- The drugs least likely to have been discontinued include ***steroids*** (24%), ***cigarettes*** (23%), ***marijuana*** (21%), using alcohol to the point of ***being drunk*** (17%), ***alcohol*** use (9%), and ***smokeless tobacco*** (8%). Note that several psychotherapeutic drugs are among those least likely to have their use discontinued. It is important to recognize, however, that substantial proportions of students who try the various illicit drugs do not continue use, even into later adolescence. (Note: Use of ***heroin with a needle*** and ***PCP*** are not included due to the very low case counts.)

- Because a relatively high proportion of marijuana users continue to use ***marijuana*** at some level over an extended period (as is documented further in Chapter 10), it has consistently had one of the lowest noncontinuation rates in the senior year of any of the illicit drugs (21% in 2014).

- It is noteworthy that, of all the 12th graders who have ever used ***crack*** (1.8%), only about one third (0.7%) report current use and 0.3% of the total sample report current daily use. While there is no question that crack is highly addictive, evidence from MTF has suggested consistently that it is not addictive on the first use, as was often alleged.

- In contrast to illicit drugs, noncontinuation rates for the two licit drugs are extremely low. Among 12th grade students ***alcohol*** has a lifetime prevalence of 66% and an annual prevalence of 60%, yielding a noncontinuation rate of only 9%.

- Noncontinuation had to be defined differently for ***cigarettes*** because respondents are not asked to report on their cigarette use in the past year. The noncontinuation rate is thus defined as the percentage of those who say they ever smoked "regularly" and who also

[8] This operationalization of noncontinuation has an inherent problem in that users of a given drug who initiated use during the past year by definition cannot be noncontinuers. Thus, the definition tends to understate the noncontinuation rate, particularly for drug use initiated late in high school rather than in earlier years or for newly popular drugs.

reported no smoking at all during the past 30 days. Of the 12th graders who said they were ever regular smokers, only 23% have ceased active use.

- Noncontinuation is defined for ***smokeless tobacco*** much the same way as for cigarettes. It also has a relatively low rate of noncontinuation by senior year—only 8% of lifetime regular users did not use in the past 30 days.

- In addition to providing 12th-grade data, Figure 4-3 presents comparable data on noncontinuation rates based on responses of 8th and 10th graders. The drugs have been left in the same order as the rank-ordered drugs in 12th grade to facilitate comparison across grades. Note that students in the lower grades are more likely than 12th graders to have quit the use of ***crack*** and ***steroids***, in particular, but less likely to have stopped using ***smokeless tobacco***.

PREVALENCE COMPARISONS FOR IMPORTANT SUBGROUPS

MTF examines differences in prevalence of drug use associated with gender, college plans, region of the country, population density, parents' education level, and racial/ethnic identification. Tables 4-5 through 4-8 provide statistics on usage rates for these various subgroups for all three grades.

Gender Differences

In general, higher proportions of males than females are involved in illicit drug use, especially heavy use; however, below we note important qualifications to this generalization.

- For 10th and 12th graders, annual ***marijuana*** use is higher among males than among females, and ***daily marijuana use*** is roughly two to three times as high among males. For 8th graders annual and daily use is slightly higher for males than for females.

- Males have considerably higher prevalence than females on most other illicit drugs—at least by 12th grade. The annual prevalence for 12th-grade males, compared to 12th-grade females, is more than twice as high for ***hallucinogens, LSD, salvia, cocaine, crack, cocaine powder***, ***heroin, heroin with a needle, heroin without a needle, bath salts, Rohypnol, GHB***, and ***steroids***. Annual prevalence also tends to be one and a half to two times as high among 12th-grade males as among females for ***hallucinogens other than LSD, ecstasy (MDMA), OxyContin***, and ***methamphetamine***. Further, males account for an even greater share of the frequent or heavy users of many of these drugs.

- For many drugs, however, there is less gender difference in use in the lower grades, especially in 8th grade; this includes ***marijuana***. For some drugs, females actually have higher levels of annual use in 8th grade (though in most cases, not statistically significantly higher), including ***any illicit drug other than marijuana***, ***synthetic marijuana***, ***inhalants***, ***cocaine***, ***crack,*** ***OxyContin,*** ***Vicodin***, ***amphetamines***, ***Ritalin***, ***Adderall***, ***methamphetamine***, ***tranquilizers***, and ***over-the-counter cough and cold medicines, and Rohypnol***. Thus, the gender differences observed in 12th grade, with males more likely to use most drugs, seem to emerge over the course of middle to late adolescence. The gender differences in the early grades may result, in part, from females tending to mature earlier

and associating with older males (this gender difference may then dissipate as same-age males catch up in physical maturity and substance use opportunities).

- Annual prevalence for ***amphetamine*** use is higher among females than among males in grade 8, but it becomes higher for males at the older grades. Indeed, it is due in part to their higher use of amphetamines in 8th grade—some of which may be for the purpose of weight loss—that females show higher levels of using some ***illicit drug other than marijuana*** in 8th grade. (Eighth-grade females are also significantly higher than males in annual tranquilizer use.)

- Among 12th graders, males are somewhat more likely to report using some ***illicit drug other than marijuana*** during the last year (17% for males versus 14% for females). In the younger grades, this difference is reversed, with females having higher prevalence than males; in 10th grade levels of use are 12% for females and 10% for males, and in 8th grade the respective percentages are 7.1% versus 5.3% (see Table 4-6 and Figure 5-7 in Chapter 5). If going beyond marijuana is an important threshold point in the sequence of illicit drug use, then fairly similar proportions of both genders were willing to cross that threshold at least once during the year. However, on average, female users take fewer types of drugs and tend to use them with less frequency than their male counterparts.

- Frequent ***alcohol*** use tends to be disproportionately concentrated among males. ***Daily alcohol*** use, for example, is reported by 2.8% of 12th-grade males versus 1.0% of 12th-grade females. Males are also more likely to drink large quantities of alcohol in a single sitting: 22% of 12th-grade males reported drinking ***five or more drinks in a row*** in the prior two weeks versus 17% of 12th-grade females.[9] These gender differences have generally been observable at all three grade levels, but they become considerably larger in the upper grades. In 2014 12th-grade males reported a slightly higher prevalence than females of ***being drunk*** in the prior 30 days (25% versus 22%). Prevalence levels in 10th and 8th grades were similar: 11% and 12% for males and females, respectively, in 10th grade, and 3% for both genders in 8th grade. This developmental difference is consistent with the pattern for illicit drugs.

- ***Cigarette*** smoking prevalence (30-day, daily, and half-pack or more per day) is currently higher among males than among females in 10th and 12th grades; the gender differences are largest at 12th grade and for half-pack-a-day smoking. Thirty-day and daily prevalence is slightly higher among females in 8th grade (4.2% versus 3.5% for 30-day use and 1.3% versus 1.2% for daily use).

- As with cigarettes, males use ***e-cigarettes*** more than females. Prevalence of 30-day e-cigarette use for males and females in 2014 was, respectively, 9.8% and 7.1% among 8th graders, 19% and 13% among 10th graders, and 20% and 14% among 12th graders.

- Use of ***smokeless tobacco*** (also known as "spit" tobacco) is almost exclusively a male behavior. Although 14% of 12th-grade males in 2014 reported some use in the prior month,

[9] Because females tend to weigh less than males and may metabolize alcohol somewhat differently, a given quantity of ingested alcohol would, on average, lead to higher blood alcohol concentrations for females. Therefore, the difference in terms of a fixed number of drinks, such as five or more drinks, may not reflect a difference in intoxication rates.

only 2.1% of females did. Prevalence of daily use by males is 0.9%, 3.4%, and 6.5% among 8th, 10th, and 12th graders, respectively. The comparable statistics for females are only 0.3%, 0.4%, and 0.1%, respectively.

- The use of other tobacco products like ***large cigars, regular and flavored little cigars***, ***dissolvable tobacco***, and ***snus*** also tends to be concentrated among males (Tables 4-6 and 4-7).

- Similarly, the use of ***anabolic steroids*** is heavily concentrated among males; for example, 12th-grade males have an annual prevalence of 2.0% compared to only 0.7% for females. The same is true in 12th grade for ***androstenedione***, a precursor of anabolic steroids, which in 2014 had an annual prevalence of 2.0% for males versus 0.3% for females (see Chapter 10, Table 10-15c).

Differences Related to College Plans

Overall, students who say they probably or definitely will complete four years of college (referred to here as the "college-bound") have lower rates of illicit drug use in secondary school than those who say they probably or definitely will not ("noncollege-bound"). (See Tables 4-5 through 4-8 and Figures 5-8 and 5-9 in Chapter 5.)

While today the great majority of students at all three grade levels expect to complete college, the proportion indicating college plans is higher at the lower grade levels, even though future high school dropouts (9–15% of each cohort) are still contained in these samples. Cohort shifts in college attendance that have taken place since MTF began may partially explain this apparent anomaly, but there is probably a considerable age effect as well, wherein early aspirations become reality-tested (and adjusted) as secondary school experience cumulates.

For any given drug, the differences between these two self-identified groups of college- or non-college-bound students tend to be greatest in 8th grade, perhaps due to the inclusion of future dropouts, or the tendency of non-college-bound students to have an earlier age of initiation of use, or both.

- Annual ***marijuana*** use, for example, was reported in 2014 by 33% of college-bound 12th graders versus 41% of the non-college-bound; but among 8th graders it is reported by only 11% of the college-bound versus 24% of the noncollege-bound.

- Among 12th graders in 2014, 15% of the college-bound report using ***any illicit drug other than marijuana*** in the prior year versus 20% of the noncollege-bound.

- Frequent use of many illicit drugs shows larger contrasts related to college plans (see Table 4-8). ***Daily marijuana*** use, for example, is about four times as likely among the non-college-bound as it is among the college-bound in 8th grade, three times as likely in 10th grade, and twice as likely in 12th grade.

- An examination of Table 4-6 will show that quite large ratio differences may be found between the college-bound and the non-college-bound for annual prevalence of use on

virtually ***all illicit drugs other than marijuana***; ratios tend to be highest in the earlier grades. In nearly all cases, the non-college-bound have higher annual prevalence.

- Levels of frequent ***alcohol*** use are also considerably higher among the non-college-bound. For example, ***daily drinking*** is reported by 3.7% of the non-college-bound 12th graders versus 1.4% of the college-bound. ***Binge drinking*** (five or more drinks in a row at least once during the preceding two weeks) has less of a relative difference; it is reported by 24% of the non-college-bound 12th graders versus 18% of the college-bound. There are also modest differences between the noncollege-bound and college-bound 12th graders in lifetime (69% vs. 65%), annual (63% vs. 60%), and 30-day (40% vs. 37%) prevalence of alcohol use. In the lower grades, there are even larger differences in the various drinking measures between those who expect to go to college and those who do not (see Tables 4-5 through 4-8). As shown in earlier editions of *Volume II*[10] in this monograph series, the college-bound eventually increase their binge drinking to a level exceeding that of the noncollege-bound—an important reversal with age.

- At all three grade levels, more noncollege-bound students use ***steroids*** compared to college-bound students.

- By far, the largest and most dramatic difference in substance use between the college- and noncollege-bound involves ***cigarette*** smoking—1.7% of college-bound 12th graders report smoking a ***half-pack or more daily*** compared to 6.2% of the noncollege-bound. Proportional differences are even larger in the lower grades: 0.3% of college-bound versus 1.8% of noncollege-bound students in 8th grade and 0.8% versus 4.9%, respectively, in 10th grade. (The absence of dropouts by 12th grade undoubtedly reduces the ratio, because dropouts have very high rates of smoking.)

- ***E-cigarette*** use in the past 30 days is also more prevalent among the noncollege-bound, although the concentration is not acute as it is for regular cigarette smoking. Prevalence levels for the noncollege-bound as compared to the college-bound are 17% versus 8% in 8th grade, 26% versuss 15% in 10th grade, and 23% versus 15% in 12th grade.

- Smoking tobacco with a ***hookah,*** on the other hand, does not differ much by college plans among 12th graders (the only ones asked the question), with 24% of the college-bound and 23% of the noncollege-bound reporting doing so in the past 12 months.

- As with cigarette use, ***smokeless tobacco*** use, including the use of ***snus***, is substantially higher among the noncollege-bound than among the college-bound at all three grades. Use of ***dissolvable tobacco*** products is also higher among the noncollege-bound for all three grades.

[10] Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Miech, R. A. (2014). *Monitoring the Future national survey results on drug use, 1975-2013: Volume II, college students and adults ages 19-55*. Ann Arbor: Institute for Social Research, The University of Michigan, 424 pp. Available at http://monitoringthefuture.org/pubs/monographs/mtf-vol2_2013.pdf

- Thirty-day use of ***large cigars*** and ***flavored and regular little cigars*** is also distinctly higher among the noncollege-bound (Table 4-7).

Regional Differences

Figure 4-4 provides a map showing the states included in the four regions of the country as defined by the United States Census Bureau—the Northeast, Midwest, South, and West (see Appendix B for detailed descriptions). The MTF study design is intended to permit such regional comparisons, but is not designed to permit state-level estimates, which would require far larger samples. Regional differences in drug use rates for the current year are provided in Tables 4-5 through 4-8 for grades 8, 10, and 12; Figures 5-10a through 5-10c provide graphical displays over time for selected drugs for 12th graders.

- In the 2014 data, the overall prevalence levels of ***any illicit drug*** use in the last 12 months differs some among the regions, but the differences are not consistent across grades. For example, among 12th graders, the Northeast is higher than the other three regions, while among 8th graders, the Northeast is lowest, and among 10th graders, the Midwest is lowest. These comparisons do not always replicate across years.

- ***Marijuana*** use shows a regional pattern very similar to that for any illicit drug, not surprising given that marijuana (the most prevalent illicit drug) tends to drive the index.

- Regional variation in use in the past 12 months of any ***illicit drug other than marijuana*** is relatively small, with rates ranging from 4% to 8% among 8th graders, 10% to 12% among 10th graders, and 14% to 17% among 12th graders.

- In the past, there were large, consistent regional differences in past-year ***crystal methamphetamine*** use, with the West tending to have the highest prevalence. In 2014 the West continues to have the highest prevalence, although regional differences in absolute terms have diminished as overall prevalence has declined. In 2014, the percentages of 12th-grade students who had used crystal methamphetamine in the past year were 1.1% in the West, 0.9% in the Midwest, 0.8% in the South, and 0.3% in the Northeast.

- The largest observed regional differences were previously in ***cocaine*** use, with the West tending to have the highest level of use. Recent regional differences in annual prevalence of use are much smaller, ranging from 0.5% to 1.3% in 8th grade, from 1.2% to 1.7% in 10th grade, and from 2.3% to 2.7% in 12th grade.

- In all grades, the Northeast has the lowest levels of ***tranquilizer*** use in the last 12 months.

- The South generally has had the highest rate of past-year ***sedative*** (***barbiturate***) use (which is reported only for 12th grade). This remains true in 2014; however, annual prevalence does not vary greatly by region (all between 3.0% and 5.1%).

- ***Rohypnol***—which, like tranquilizers and sedatives (barbiturates), is a central nervous system depressant—does not show consistent regional differences across grades.

- Use of ***ecstasy*** in the last 12 months does not vary significantly by region in 2014.

- For many years, the 30-day prevalence of ***alcohol*** use among 12th graders has been somewhat lower in the South and West than in the Northeast and Midwest regions, though there has been less regional difference in the lower grades. In 2014, regional differences were more modest, though among 12th graders the Northeast still had a higher 30-day prevalence (42%) than the other regions (35%–40%).

- ***Daily smoking*** at all three grade levels shows lower levels in the West than the other regions except for 8th grade, in which it is lowest in the Midwest (Table 4-8).

- Among 12th graders in 2014, smoking tobacco with a ***hookah*** does not vary significantly by region (it ranges from 20%–26%).

- In 2014 use of ***smokeless tobacco*** in the past 30 days among 12th graders was highest in the Midwest (12%), followed by the Northeast (10%), West (8%), and then the South (6%). For 8th- and 10th-grade students, prevalence is highest in the South. The use of ***snus*** in the past 12 months is highest in the Midwest, except for 8th grade, where it is highest in the South.

Differences Related to Population Density

Three levels of population density (or urbanicity) have been distinguished for analytical purposes: (a) large Metropolitan Statistical Areas (large MSAs), (b) other metropolitan statistical areas (other MSAs), and (c) non-MSAs. (See Appendix B for exact definitions.)

Differences in drug use across these various-sized communities (and across the four regions) are generally small, reflecting how widely drug use has diffused through the population (see Tables 4-5 through 4-8). There are a few minor exceptions:

- In 12th grade, annual ***marijuana*** use is higher in large MSAs (36%) and other MSAs (37%) than in the non-MSAs (30%). The differences at 8th and 10th grades are not large.

- Use of an ***e-cigarette*** in the past 30 days is highest in "other" MSAs, and lowest in non-MSAs for all three grades.

- ***Cigarette*** use in the past 30 days generally has been inversely related to community size at all three grade levels (see Table 4-7 showing 30-day prevalence). In 8th and 10th grade cigarette prevalence in non-MSAs is more than double the prevalence in large MSAs.

- ***Smokeless tobacco*** use is similar to cigarette use in that it tends to be highest in non-MSAs at all three grade levels. For example, among 12th graders, 30-day prevalence is 3.8% in large MSAs, 9.8% in other MSAs, and 11% in non-MSAs. Daily use of smokeless tobacco also is concentrated in more rural areas (see Table 4-8). Similarly, use of ***snus*** is highest in non-MSAs in all three grades.

- ***Hookah*** smoking, on the other hand, tends to occur more in the urban areas with annual prevalence at 19% in non-MSAs, 24% in other MSAs, and 25% in large MSAs in 2014.

In the past, inhalant use and binge drinking showed differences across population densities, though these differences have now largely disappeared. Inhalant use was generally highest in the non-MSAs. The recent ranges for inhalant use are 4.9%–6.3% in 8th grade, 3.1%–4.2% in 10th grade, and 1.7%–2.1% in 12th grade. Prevalence of binge drinking does not differ much by population density at present, with fairly comparable levels across all population densities in 2014 in all three grades.

Differences Related to Parental Education

The best indicator of family socioeconomic status (SES) available in the MTF study is an index of parental education, which is based on the average of the educational levels reported for both parents by the respondent (or on the data for one parent, if data for both are not available). The respondent is instructed to indicate on the following scale the highest level of education each parent attained: (1) completed grade school or less, (2) some high school, (3) completed high school, (4) some college, (5) completed college, and (6) graduate or professional school after college. (It should be noted that the average educational level obtained by students' parents has risen over the years, as discussed in Chapter 5.) Tables 4-5 through 4-8 give the distributions for the prevalence of use at each grade level.

By 12th grade there is little association between family SES and most drug use. This again speaks to the extent to which illicit drug use has permeated all social strata in American society.

However, an examination of Table 4-6 shows that in 8th grade, there tends to be a negative, largely ordinal relationship between socioeconomic level and annual prevalence of use of a number of drugs. The relationships are not always entirely ordinal because of racial and ethnic differences in SES, which will be discussed in the final section of this chapter.

- Many of the SES differences seen in 8th grade have disappeared by 10th or 12th grade. This is true for ***inhalants***, ***hallucinogens***, ***LSD***, ***hallucinogens other than LSD***, ***ecstasy (MDMA)***, ***amphetamines***, ***e-cigarettes***, and ***tranquilizers***; but *not* for ***marijuana***, ***synthetic marijuana***, and ***heroin***. For these latter drugs, the lower strata (or lowest SES stratum in some cases) generally continue to have the highest proportion of users, even at the upper grade levels. The diminished SES differences by 12th grade could be explained by the higher SES teenagers "catching up" with their more precocious peers from lower SES backgrounds, or by differential rates of dropping out among the strata, or both.

- In 2014 the annual prevalence of ***marijuana*** use, for example, is more than twice as high in the lowest SES stratum as in the highest one among 8th graders (19% versus 8%, respectively), nearly half again higher among 10th graders (32% versus 22%), but only slightly higher among 12th graders (37% versus 33%).

- Thirty-day prevalence of ***alcohol*** use is also negatively associated with SES in 8th grade, but that association declines in upper grades and shows little difference by 12th grade. The

prevalence of getting ***drunk*** in the prior 30 days is also negatively associated with SES in 8th grade, but it becomes positively correlated with SES by 12th grade.

- ***Daily cigarette smoking*** tends to bear a strong inverse relationship with parental education in all three grades (see Table 4-8).

- ***Smokeless tobacco*** use in the past 30-days is also negatively related to SES at 8th grade in 2014, but that association largely disappears in 10th and 12th grades.

- Annual prevalence of tobacco use in certain other forms is more positively asssociated with SES—in particular the use of ***small cigars*** and using a ***hookah*** among 12th graders (the only ones for whom we have relevant data).

Racial/Ethnic Differences

Racial/ethnic comparisons are made here for African Americans, Hispanics, and Whites.[11] Although the MTF design did not include an oversampling of any racial/ethnic minority groups, the large overall sample sizes at each grade level do produce fair numbers of African-American and Hispanic respondents each year. Additionally, in the findings presented in this volume, we routinely present combined data from two adjacent years to augment the sample sizes on which estimates for these two minority groups (as well as Whites) are based and, thus, increase the reliability of the estimates. Otherwise, misleading findings about the size of racial/ethnic differences may emerge, as well as (and perhaps more importantly) misleading findings about their trends. We caution the reader that the sampling error of differences among groups is likely to be larger than would be true for other demographic and background variables such as gender or college plans because African Americans and Hispanics are more likely to be clustered by neighborhood, and therefore by school.

The MTF question on race/ethnicity was changed beginning in 2005, as described in Appendix B, in order to more accurately describe racial/ethnic composition of young people and to be more consistent with the guidelines of the Office of Management and Budget. In the original race/ethnicity question, respondents were asked "How do you describe yourself?" and were instructed to select *one* race/ethnicity category. In 2005, in half of the questionnaire forms, respondents were instructed to select one *or more* categories. About 6% selected more than one racial/ethnic group. The following method was used to combine data from the original question and the revised question: For the original question, respondents were assigned to the racial/ethnic group specified in their response. For the revised question, those checking only White and no other racial/ethnic group were categorized as White; those checking only Black or African American and no other racial/ethnic group were categorized as African American; and those checking one or

[11] We recognize that these categories are broad. The Hispanic category encompasses people with various Latin American, Caribbean, and European origins, but for the purposes of this monograph the sample sizes are unfortunately too small to differentiate among them in any one year. For more complete treatments of racial/ethnic differences, in some of which additional subgroups are distinguished and males and females are examined separately within each racial/ethnic category, see Bachman, J. G., Wallace, J. M., Jr., O'Malley, P. M., Johnston, L. D., Kurth, C. L., & Neighbors, H. W. (1991). Racial/ethnic differences in smoking, drinking, and illicit drug use among American high school seniors, 1976–1989. *American Journal of Public Health, 81*, 372–377; Wallace, J. M., Jr., Bachman J. G., O'Malley, P. M., Johnston, L. D., Schulenberg, J. E., & Cooper, S. M. (2002). Tobacco, alcohol, and illicit drug use: Racial and ethnic differences among U.S. high school seniors, 1976–2000. *Public Health Reports, 117 (Supplement 1),* S67–S75; Delva, J., Wallace, J. M., Jr., O'Malley, P. M., Bachman, J. G., Johnston, L. D., & Schulenberg, J. E. (2005). The epidemiology of alcohol, marijuana, and cocaine use among Mexican American, Puerto Rican, Cuban American, and other Latin American 8th-grade students in the United States: 1991–2002. *American Journal of Public Health, 95,* 696–702; and Wallace, J. M., Jr., Vaughn, M. G., Bachman, J. G., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (2009). Race/ethnicity, socioeconomic factors, and smoking among early adolescent girls in the United States. Drug and Alcohol Dependence, 104(Suppl. 1), S42–S49.

more of the four Hispanic categories but no other racial/ethnic group were categorized as Hispanic. Respondents who checked more than one group (White, African American, or Hispanic), and respondents who checked any of the other racial/ethnic groups, have been excluded from analyses reporting racial/ethnic differences due to the small numbers of cases. In 2006, the race/ethnicity question was changed to the new "select one or more responses" version in the remaining forms.

Tables 4-5 to 4-8 give the *combined* 2013–2014 prevalence estimates for lifetime, annual, 30-day, and selected daily use for the three racial/ethnic groups at all three grade levels, along with the numbers of cases upon which the estimates are based.

- For a number of years, 12th-grade African-American students reported lifetime, annual, 30-day, and daily prevalence rates for nearly all drugs that were lower—sometimes dramatically so—than those for White or Hispanic 12th graders. That is less true today, with rates of drug use among African Americans more similar to the other groups. Also, use rates for most drugs were generally lower for African-American students than for White and Hispanic students in 8th and 10th grades, as well; therefore, their relatively low usage rates in 12th grade were almost certainly not due primarily to differential dropout rates. These differences were also less observable in 2014.

- The association between annual ***marijuana*** use varies by grade level. In all three grades prevalence is highest among Hispanic students, followed by African Americans, and then Whites. Differences in prevalence across the groups are proportionately largest in 8th grade (16% for Hispanics and 9% for Whites), somewhat smaller in 10th grade (33% for Hispanics compared to 27% for Whites), and negligible in 12th grade (37% for Hispanics and 35% for Whites).

- A number of drugs have consistently been much less popular among African-American teens than among White teens. These include ***hallucinogens***, ***amphetamines***, ***sedatives*** (***barbiturates***), ***tranquilizers***, and ***narcotics other than heroin***. Several additional drugs have historically been less popular among African-American teens but did not show much difference in 2014 among 8th graders, though they still are less popular in the upper grades. These include ***LSD***, ***ecstasy***, ***cocaine*** (in recent years), ***powder cocaine***, and ***Vicodin***.

- By 12th grade, White students have the highest lifetime and annual prevalence rates among the three major racial/ethnic groups for many substances, including ***LSD***, ***hallucinogens other than LSD***, ***narcotics other than heroin***, ***amphetamines***, ***sedatives*** (***barbiturates***), ***tranquilizers***, ***been drunk***, ***cigarettes***, and ***smokeless tobacco***. The differentials for ***LSD*** have narrowed considerably in recent years as overall prevalence has declined substantially for this drug. Not all of these findings are replicated at lower grade levels, however. See Tables 4-5 and 4-6 for specifics.

- Hispanics now have the highest annual prevalence for ***crack*** and ***cocaine*** at all three grade levels. The prevalence of ***cocaine*** for Hispanic students has tended to be high compared to the other two racial/ethnic groups, particularly in the lower grades. It bears repeating that Hispanics have a considerably higher dropout rate than Whites or African Americans, based on Census Bureau statistics, which would tend to diminish any such differences by 12th grade.

- An examination of racial/ethnic comparisons at lower grade levels shows Hispanics having higher levels of use of many of the substances on which they have the highest levels of use in 12th grade, as well as for several other drugs. For example, in 2014, ***other cocaine*** (i.e., powder cocaine) had a lifetime prevalence in 8th grade for Hispanics, Whites, and African Americans of 2.2%, 1.0%, and 0.7%, respectively. In fact, in 8th grade—before most dropping out occurs—Hispanics had the highest levels of use of almost all substances, whereas by 12th-grade Whites have the highest levels of use of most. Certainly the considerably higher dropout rate among Hispanics could explain this shift, and it may be the most plausible explanation. Another explanation worth consideration is that Hispanics may tend to start using drugs at a younger age, but Whites overtake them at older ages. These explanations are not mutually exclusive, of course, and to some degree both explanations may hold true.[12]

- Table 4-8 shows that White students have by far the highest prevalence of ***daily cigarette smoking*** while African American and Hispanic students are now fairly close to each other among 12th graders. Whites have a 9.3% daily smoking prevalence, Hispanics, 4.1%, and African Americans, 5.1%.

- Thirty-day prevalence of ***smokeless tobacco*** use is highest among Whites in all three grades and lowest among African Americans.

- African-American students also have the lowest 30-day prevalence for ***alcohol*** use in all three grades. They also have the lowest prevalence for self-reports of having ***been drunk*** during the prior 30 days. The differences are impressive at 12th grade, with 29% of Whites reporting having been drunk, 20% of Hispanics, and 15% of African Americans.

- Recent ***occasions of heavy drinking*** (having five or more drinks in a row during the prior two weeks) is also lowest among African Americans in 10th and 12th grades; in 12th grade, their level of use is 11% versus 24% for Whites and 20% for Hispanics. In 8th grade, Hispanics have the highest prevalence at 5.7% compared to 4.2% for Whites and 4.4% for African Americans.

Interactions between Race/Ethnicity and Parental Education

Substantial differences in racial/ethnic composition across levels of parental education complicate the subgroup comparisons in the previous two sections. How parental education relates to smoking, heavy drinking, and marijuana use when African-American, Hispanic, and White students are examined separately is shown in an Occasional Paper[13] available on the MTF website and in a

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[12] A more extensive discussion of possible explanations (including the possibility of differential validity of reporting) can be found in Wallace, J. M., Jr., Bachman, J. G., O'Malley, P. M., & Johnston, L. D. (1995). Racial/ethnic differences in adolescent drug use: Exploring possible explanations. In G. Botvin, S. Schinke, & M. Orlandi (Eds.), *Drug abuse prevention with multi-ethnic youth* (pp. 59–80). Thousand Oaks, CA: Sage.

[13] Bachman, J. G., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (2010). *Impacts of parental education on substance use: Differences among White, African-American, and Hispanic students in 8th, 10th, and 12th grades (1999–2008)* (Monitoring the Future Occasional Paper No. 70). Ann Arbor, MI: Institute for Social Research.Available online at http://www.monitoringthefuture.org/pubs/occpapers/occ70.pdf.

journal article, the abstract of which is also available on the MTF website.[14] The key findings are outlined below:

- There are high proportions of Hispanic students in the bottom category of parental education, and the generally lower-average levels of substance use among Hispanics in this one stratum contributes heavily to the departures from ordinal relationships noted in the section above on parental education.

- Patterns for the three racial/ethnic subgroups show distinct differences: Among African-American and Hispanic students, the links between parental education and substance use are very weak, whereas among White students, the links are somewhat stronger than those for the total samples (with all subgroups combined).

[14] Bachman, J. G., O'Malley, P. M., Johnston, L. D., Schulenberg, J. E., & Wallace, J. M., Jr. (2011). Racial/ethnic differences in the relationship between parental education and substance use among U.S. 8th-, 10th-, and 12th-grade students: Findings from the Monitoring the Future project. *Journal of Studies on Alcohol and Drugs, 72*(2), 279-285.

TABLE 4-1a
Ninety-Five Percent Confidence Limits: Lifetime Prevalence of Use for 8th, 10th, and 12th Graders, 2014

(Approximate weighted Ns: 8th grade = 14,600, 10th grade = 13,000, 12th grade = 12,400)

	8th Grade			10th Grade			12th Grade		
	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit
Any Illicit Drug [a]	18.7	20.3	21.9	35.2	37.4	39.7	46.2	49.1	51.9
Any Illicit Drug other than Marijuana [a]	8.9	10.0	11.2	14.4	15.9	17.5	20.7	22.6	24.7
Any Illicit Drug including Inhalants [a,b]	23.2	25.2	27.4	37.6	40.4	43.3	45.9	49.9	54.0
Marijuana/Hashish	14.2	15.6	17.1	31.5	33.7	35.9	41.5	44.4	47.2
Inhalants [b]	9.5	10.8	12.2	7.5	8.7	10.1	5.3	6.5	8.0
Hallucinogens [l]	1.5	2.0	2.6	4.1	5.0	6.0	5.3	6.3	7.6
LSD [l]	0.8	1.1	1.6	2.0	2.6	3.4	2.9	3.7	4.7
Hallucinogens other than LSD [l]	1.2	1.5	1.9	3.5	4.1	4.7	4.4	5.1	5.9
Ecstasy (MDMA) [e,f]	1.0	1.4	2.0	3.0	3.7	4.6	4.6	5.6	7.0
Cocaine	1.3	1.8	2.4	2.0	2.6	3.3	3.7	4.6	5.6
Crack	1.0	1.2	1.5	0.8	1.0	1.3	1.5	1.8	2.1
Other Cocaine [g]	1.0	1.4	1.9	1.7	2.2	3.0	3.2	4.1	5.4
Heroin	0.7	0.9	1.2	0.7	0.9	1.1	0.8	1.0	1.3
With a Needle [b]	0.6	0.8	1.0	0.4	0.6	0.8	0.6	0.8	1.2
Without a Needle [b]	0.3	0.4	0.6	0.4	0.5	0.8	0.5	0.7	1.1
Narcotics other than Heroin [h]	—	—	—	—	—	—	8.6	9.5	10.4
Amphetamines [e,f,h]	5.9	6.7	7.7	9.5	10.6	11.8	10.9	12.1	13.4
Methamphetamine [f,i]	0.7	1.0	1.5	1.0	1.4	2.0	1.4	1.9	2.6
Crystal Methamphetamine (Ice) [f]	—	—	—	—	—	—	0.9	1.3	1.9
Sedatives (Barbiturates) [h]	—	—	—	—	—	—	6.1	6.8	7.6
Tranquilizers [h]	2.4	2.9	3.4	5.1	5.8	6.5	6.6	7.4	8.2
Rohypnol [d,j]	0.3	0.6	1.2	0.6	1.0	1.8	—	—	—
Alcohol	25.2	26.8	28.5	47.3	49.3	51.3	64.1	66.0	67.9
Been Drunk [f]	9.7	10.8	12.0	28.4	30.2	32.0	46.4	49.8	53.3
Flavored Alcoholic Beverages [d,i]	17.4	19.2	21.2	39.8	42.3	44.8	53.9	57.5	61.1
Cigarettes	12.2	13.5	14.8	20.9	22.6	24.3	32.5	34.4	36.4
Smokeless Tobacco [d,e]	6.7	8.0	9.6	11.7	13.6	15.6	11.9	15.1	19.0
Steroids [b,h]	0.8	1.0	1.3	1.1	1.4	1.7	1.5	1.9	2.4

Source. The Monitoring the Future study, the University of Michigan.

See footnotes following Table 4-1d.

TABLE 4-1b
Ninety-Five Percent Confidence Limits: Annual Prevalence of Use for 8th, 10th, and 12th Graders, 2014

(Approximate weighted Ns: 8th grade = 14,600, 10th grade = 13,000, 12th grade = 12,400)

	8th Grade			10th Grade			12th Grade		
	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit
Any Illicit Drug [a]	13.4	14.6	15.9	28.0	29.9	31.9	36.0	38.7	41.4
Any Illicit Drug other than Marijuana [a]	5.6	6.4	7.3	10.1	11.2	12.5	14.3	15.9	17.6
Any Illicit Drug including Inhalants [a,b]	15.3	16.8	18.5	28.6	31.0	33.5	35.4	39.2	43.1
Marijuana/Hashish	10.6	11.7	12.9	25.4	27.3	29.2	32.5	35.1	37.8
Synthetic Marijuana [f,i]	2.6	3.3	4.2	4.4	5.4	6.6	4.8	5.8	7.1
Inhalants [b]	4.4	5.3	6.2	2.7	3.3	4.2	1.4	1.9	2.8
Hallucinogens [l]	0.9	1.3	1.7	2.7	3.3	4.1	3.2	4.0	4.9
Hallucinogens, Adjusted [c]	—	—	—	—	—	—	—	—	—
LSD [l]	0.5	0.7	1.1	1.4	1.9	2.5	1.9	2.5	3.2
Hallucinogens other than LSD [l]	0.7	1.0	1.2	2.2	2.6	3.0	2.6	3.0	3.6
PCP [d]	—	—	—	—	—	—	0.5	0.8	1.5
Ecstasy (MDMA) [e,f]	0.6	0.9	1.3	1.8	2.3	3.0	2.8	3.6	4.7
Salvia [f,i]	0.4	0.6	0.9	1.4	1.8	2.4	1.4	1.8	2.4
Cocaine	0.7	1.0	1.5	1.1	1.5	2.0	2.0	2.6	3.3
Crack	0.5	0.7	0.9	0.4	0.5	0.7	0.9	1.1	1.3
Other Cocaine [g]	0.5	0.8	1.2	1.0	1.3	1.8	1.8	2.4	3.2
Heroin	0.4	0.5	0.7	0.4	0.5	0.7	0.5	0.6	0.8
With a Needle [b]	0.3	0.4	0.6	0.3	0.4	0.6	0.3	0.5	0.8
Without a Needle [b]	0.1	0.2	0.3	0.2	0.3	0.5	0.3	0.5	0.7
Narcotics other than Heroin [h]	—	—	—	—	—	—	5.4	6.1	6.8
OxyContin [b,h,i]	0.7	1.0	1.6	2.2	3.0	3.9	2.7	3.3	4.1
Vicodin [b,h,i]	0.6	1.0	1.8	2.5	3.4	4.7	3.8	4.8	6.0
Amphetamines [e,f,h]	3.6	4.3	5.0	6.8	7.6	8.6	7.2	8.1	9.1
Ritalin [f,h,i]	0.6	0.9	1.5	1.3	1.8	2.6	1.2	1.8	2.5
Adderall [f,h,i]	0.8	1.3	1.9	3.7	4.6	5.8	5.6	6.8	8.1
Methamphetamine [f,i]	0.4	0.6	1.0	0.5	0.8	1.2	0.7	1.0	1.4
Crystal Methamphetamine (Ice) [f]	—	—	—	—	—	—	0.5	0.8	1.2
Bath Salts (Synthetic Stimulants) [f,i]	0.3	0.5	0.8	0.6	0.9	1.3	0.6	0.9	1.3
Sedatives (Barbiturates) [h]	—	—	—	—	—	—	3.7	4.3	4.9
Tranquilizers [h]	1.4	1.7	2.1	3.4	3.9	4.5	4.2	4.7	5.4
OTC Cough/Cold Medicines [f,i]	1.6	2.0	2.5	3.0	3.7	4.4	3.5	4.1	4.9
Rohypnol [d,j]	0.1	0.3	0.7	0.3	0.5	1.1	0.4	0.7	1.3
GHB [d]	—	—	—	—	—	—	0.6	1.0	1.6
Ketamine [f]	—	—	—	—	—	—	1.1	1.5	2.0
Alcohol	19.3	20.8	22.3	42.1	44.0	45.9	58.2	60.2	62.1
Been Drunk [f]	6.4	7.3	8.3	23.0	24.6	26.4	38.1	41.4	44.9
Flavored Alcoholic Beverages [d,i]	12.0	13.4	15.1	31.0	33.2	35.5	40.2	43.6	47.1
Alcoholic Beverages containing Caffeine [f,i]	8.2	9.5	10.9	12.7	14.3	16.0	18.1	20.0	22.0
Cigarettes	—	—	—	—	—	—	—	—	—
Kreteks [d]	—	—	—	—	—	—	0.9	1.6	2.7
Tobacco using a Hookah [d]	—	—	—	—	—	—	20.8	22.9	25.2
Small cigars [d]	—	—	—	—	—	—	16.9	18.9	21.0
Smokeless Tobacco [d,e]	—	—	—	—	—	—	—	—	—
Snus [d,i]	1.6	2.2	2.9	3.6	4.5	5.7	4.4	5.8	7.7
Dissolvable Tobacco Products [d,i]	0.8	1.1	1.5	1.0	1.3	1.8	0.7	1.1	1.8
Steroids [b,h]	0.4	0.6	0.7	0.6	0.8	1.0	1.1	1.5	1.9
Androstenedione [f,i]	0.2	0.4	0.8	0.5	0.9	1.5	0.7	1.1	1.7
Creatine [f,i]	1.1	1.6	2.3	4.9	6.0	7.2	8.6	10.0	11.6

Source. The Monitoring the Future study, the University of Michigan.

See footnotes following Table 4-1d.

TABLE 4-1c
Ninety-Five Percent Confidence Limits: 30-Day Prevalence of Use for 8th, 10th, and 12th Graders, 2014

(Approximate weighted Ns: 8th grade = 14,600, 10th grade = 13,000, 12th grade = 12,400)

	8th Grade			10th Grade			12th Grade		
	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit
Any Illicit Drug [a]	7.4	8.3	9.2	17.1	18.5	20.0	21.7	23.7	25.9
Any Illicit Drug other than Marijuana [a]	2.8	3.3	3.9	4.9	5.6	6.4	6.7	7.7	8.8
Any Illicit Drug including Inhalants [a,b]	8.4	9.5	10.8	17.4	19.1	21.0	21.4	24.3	27.5
Marijuana/Hashish	5.7	6.5	7.4	15.2	16.6	18.0	19.2	21.2	23.3
Inhalants [b]	1.8	2.2	2.7	0.8	1.1	1.5	0.5	0.7	1.1
Hallucinogens [l]	0.3	0.5	0.7	0.9	1.2	1.5	1.1	1.5	2.0
LSD [l]	0.2	0.3	0.5	0.4	0.6	0.9	0.7	1.0	1.5
Hallucinogens other than LSD [l]	0.2	0.4	0.5	0.7	0.8	1.1	0.8	1.0	1.3
Ecstasy (MDMA) [e,f]	0.2	0.4	0.6	0.5	0.8	1.1	1.0	1.4	1.9
Cocaine	0.3	0.5	0.7	0.4	0.6	0.9	0.7	1.0	1.4
Crack	0.2	0.3	0.4	0.2	0.3	0.4	0.5	0.7	0.9
Other Cocaine [g]	0.2	0.4	0.6	0.3	0.5	0.7	0.6	0.9	1.3
Heroin	0.2	0.3	0.4	0.3	0.4	0.5	0.3	0.4	0.6
With a Needle [b]	0.1	0.2	0.3	0.2	0.3	0.4	0.2	0.3	0.5
Without a Needle [b]	0.1	0.1	0.2	0.1	0.2	0.3	0.2	0.4	0.6
Narcotics other than Heroin [h]	—	—	—	—	—	—	1.8	2.2	2.5
Amphetamines [e,f,h]	1.7	2.1	2.5	3.2	3.7	4.2	3.3	3.8	4.4
Methamphetamine [f,i]	0.1	0.2	0.4	0.2	0.3	0.6	0.3	0.5	0.8
Crystal Methamphetamine (Ice) [f]	—	—	—	—	—	—	0.3	0.4	0.8
Sedatives (Barbiturates) [h]	—	—	—	—	—	—	1.7	2.0	2.3
Tranquilizers [h]	0.7	0.8	1.1	1.3	1.6	1.9	1.8	2.1	2.4
Rohypnol [d,j]	0.1	0.2	0.6	0.2	0.4	0.9	—	—	—
Alcohol	8.0	9.0	10.1	21.9	23.5	25.2	35.5	37.4	39.4
Been Drunk [f]	2.2	2.7	3.4	10.1	11.2	12.5	20.7	23.5	26.6
Flavored Alcoholic Beverages [d,i]	4.9	5.7	6.6	12.7	14.0	15.4	17.7	19.9	22.2
Cigarettes	3.3	4.0	4.8	6.2	7.2	8.3	12.2	13.6	15.0
Smokeless Tobacco [d,e]	2.2	3.0	4.0	4.1	5.3	6.7	6.0	8.4	11.6
Steroids [b,h]	0.2	0.2	0.3	0.3	0.4	0.6	0.6	0.9	1.2

Source. The Monitoring the Future study, the University of Michigan.

See footnotes following Table 4-1d.

TABLE 4-1d
Ninety-Five Percent Confidence Limits: Daily Prevalence of Use for 8th, 10th, and 12th Graders, 2014

(Approximate weighted Ns: 8th grade = 14,600, 10th grade = 13,000, 12th grade = 12,400)

	8th Grade			10th Grade			12th Grade		
	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit	Lower limit	Observed estimate	Upper limit
Marijuana/Hashish [k]	0.8	1.0	1.2	3.0	3.4	3.9	5.1	5.8	6.7
Alcohol									
Daily [k]	0.2	0.3	0.4	0.7	0.8	1.0	1.6	1.9	2.2
Been Drunk [f]	0.1	0.1	0.2	0.2	0.3	0.4	0.8	1.1	1.5
5+ Drinks in a Row in Last 2 Weeks	3.5	4.1	4.9	11.4	12.6	14.0	17.9	19.4	21.1
Cigarettes									
Daily	1.0	1.4	1.9	2.5	3.2	4.0	5.8	6.7	7.8
1/2 Pack+/Day	0.3	0.5	0.8	0.9	1.2	1.7	2.1	2.6	3.2
Smokeless Tobacco [d,e]	0.3	0.5	1.1	1.2	1.8	2.7	2.0	3.4	5.7

Source. The Monitoring the Future study, the University of Michigan.

See footnotes on the following page.

Footnotes for Tables 4-1a through 4-1d

Notes. ' — ' indicates data not available.

[a]For 12th graders only: Use of any illicit drug includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin; or any use of narcotics other than heroin, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders. For 8th and 10th graders only: The use of narcotics other than heroin and sedatives (barbiturates) has been excluded because these younger respondents appear to overreport use (perhaps because they include the use of nonprescription drugs in their answers).

[b]For 12th graders only: Data based on three of six forms; *N* is three sixths of *N* indicated. For 8th and 10th graders only: Data based on three of four forms; N is four sixths of N indicated.

[c]For 12th graders only: Adjusted for underreporting of certain drugs. See text for details.

[d]For 12th graders only: Data based on one of six forms; *N* is one sixth of *N* indicated.

[e]For 8th and 10th graders only: Data based on two of four forms; *N* is one half of *N* indicated.

[f]For 12th graders only: Data based on two of six forms; *N* is two sixths of *N* indicated.

[g]For 12th graders only: Data based on four of six forms; *N* is four sixths of *N* indicated.

[h]Only drug use not under a doctor's orders is included here.

[i]For 8th and 10th graders only: Data based on one of four forms; *N* is one third of *N* indicated.

[j]For 8th and 10th graders only: Data based on one of four forms; *N* is one sixth of *N* indicated.

[k]Daily use of marijuana and alcohol is defined as use on 20 or more occasions in the past 30 days.

[l]For 12th graders only: Data based on five of six forms; *N* is five sixths of *N* indicated.

TABLE 4-2
Prevalence of Use of Various Drugs for 8th, 10th, and 12th Graders, 2014

	Lifetime			Annual			30-Day			Daily		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Approximate weighted N =	*14,600*	*13,000*	*12,400*	*14,600*	*13,000*	*12,400*	*14,600*	*13,000*	*12,400*	*14,600*	*13,000*	*12,400*
Any Illicit Drug [a]	20.3	37.4	49.1	14.6	29.9	38.7	8.3	18.5	23.7	—	—	—
Any Illicit Drug other than Marijuana [a]	10.0	15.9	22.6	6.4	11.2	15.9	3.3	5.6	7.7	—	—	—
Any Illicit Drug including Inhalants [a,b]	25.2	40.4	49.9	16.8	31.0	39.2	9.5	19.1	24.3	—	—	—
Marijuana/Hashish	15.6	33.7	44.4	11.7	27.3	35.1	6.5	16.6	21.2	1.0	3.4	5.8
Synthetic Marijuana [c,d]	—	—	—	3.3	5.4	5.8	4.4	6.8	2.7	—	—	—
Inhalants [b]	10.8	8.7	6.5	5.3	3.3	1.9	2.2	1.1	0.7	—	—	0.1
Hallucinogens [m]	2.0	5.0	6.3	1.3	3.3	4.0	0.5	1.2	1.5	—	—	0.2
LSD [m]	1.1	2.6	3.7	0.7	1.9	2.5	0.3	0.6	1.0	—	—	0.1
Hallucinogens other than LSD [m]	1.5	4.1	5.1	1.0	2.6	3.0	0.4	0.8	1.0	—	—	0.1
PCP [f]	—	—	—	—	—	0.8	—	—	—	—	—	—
Ecstasy (MDMA) [c,g]	1.4	3.7	5.6	0.9	2.3	3.6	0.4	0.8	1.4	—	—	0.1
Salvia [c,d]	—	—	—	0.6	1.8	1.8	—	—	—	—	—	—
Cocaine	1.8	2.6	4.6	1.0	1.5	2.6	0.5	0.6	1.0	—	—	0.2
Crack	1.2	1.0	1.8	0.7	0.5	1.1	0.3	0.3	0.7	—	—	0.3
Other Cocaine [h]	1.4	2.2	4.1	0.8	1.3	2.4	0.4	0.5	0.9	—	—	0.1
Heroin												
Any Use	0.9	0.9	1.0	0.5	0.5	0.6	0.3	0.4	0.4	—	—	0.1
With a Needle [b]	0.8	0.6	0.8	0.4	0.4	0.5	0.2	0.3	0.3	—	—	*
Without a Needle [b]	0.4	0.5	0.7	0.2	0.3	0.5	0.1	0.2	0.4	—	—	*
Narcotics other than Heroin [i]	—	—	9.5	—	—	6.1	—	—	2.2	—	—	0.1
OxyContin [b,d,i]	—	—	—	1.0	3.0	3.3	—	—	—	—	—	—
Vicodin [b,d,i]	—	—	—	1.0	3.4	4.8	—	—	—	—	—	—
Amphetamines [i]	6.7	10.6	12.1	4.3	7.6	8.1	2.1	3.7	3.8	—	—	0.4
Ritalin [c,d,i]	—	—	—	0.9	1.8	1.8	—	—	—	—	—	—
Adderall [c,d,i]	—	—	—	1.3	4.6	6.8	—	—	—	—	—	—
Methamphetamine [c,d]	1.0	1.4	1.9	0.6	0.8	1.0	0.2	0.3	0.5	—	—	*
Crystal Methamphetamine (Ice) [c]	—	—	1.3	—	—	0.8	—	—	0.4	—	—	0.1
Bath salts (Synthetic Stimulants) [c,d]	—	—	—	0.5	0.9	0.9	—	—	—	—	—	—
Sedatives (Barbiturates) [i]	—	—	6.8	—	—	4.3	—	—	2.0	—	—	0.1
Tranquilizers [i]	2.9	5.8	7.4	1.7	3.9	4.7	0.8	1.6	2.1	—	—	0.2
Any Prescription Drug [j]	—	—	19.9	—	—	13.9	—	—	6.4	—	—	—
Over-the-Counter Cough/Cold Medication [c,d]	—	—	—	2.0	3.7	4.1	—	—	—	—	—	—
Rohypnol [f,k]	0.6	1.0	—	0.3	0.5	0.7	0.2	0.4	—	—	—	—
GHB [f]	—	—	—	—	—	1.0	—	—	—	—	—	—
Ketamine [c]	—	—	—	—	—	1.5	—	—	—	—	—	—
Alcohol												
Any Use	26.8	49.3	66.0	20.8	44.0	60.2	9.0	23.5	37.4	0.3	0.8	1.9
Been Drunk [c]	10.8	30.2	49.8	7.3	24.6	41.4	2.7	11.2	23.5	0.1	0.3	1.1
Flavored Alcoholic Beverages [d,f]	19.2	42.3	57.5	13.4	33.2	43.6	5.7	14.0	19.9	—	—	0.8
Alcoholic Beverages containing Caffeine [c,d]	—	—	—	9.5	14.3	20.0	—	—	—	—	—	—
5+ Drinks in a Row in Last 2 Weeks	—	—	—	—	—	—	—	—	—	4.1	12.6	19.4

(Table continued on next page.)

TABLE 4-2 (cont.)
Prevalence of Use of Various Drugs
for 8th, 10th, and 12th Graders, 2014

	Lifetime			Annual			30-Day			Daily		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Approximate weighted N =	*14,600*	*13,000*	*12,400*	*14,600*	*13,000*	*12,400*	*14,600*	*13,000*	*12,400*	*14,600*	*13,000*	*12,400*
Cigarettes												
Any Use	13.5	22.6	34.4	—	—	—	4.0	7.2	13.6	1.4	3.2	6.7
1/2 Pack+/Day	—	—	—	—	—	—	—	—	—	0.5	1.2	2.6
Kreteks [f]	—	—	—	—	—	1.6	—	—	—	—	—	—
Tobacco using a Hookah [f]	—	—	—	—	—	22.9	—	—	—	—	—	—
Small cigars [f]	—	—	—	—	—	18.9	—	—	—	—	—	—
Dissolvable Tobacco Products [d,f]	—	—	—	1.1	1.3	1.1	—	—	—	—	—	—
Snus [d,f]	—	—	—	2.2	4.5	5.8	—	—	—	—	—	—
Smokeless Tobacco [f,g]	8.0	13.6	15.1	—	—	—	3.0	5.3	8.4	0.5	1.8	3.4
E-cigarettes [h,l]	—	—	—	—	—	—	8.7	16.2	17.1	—	—	—
Large Cigars [c,l]	—	—	—	—	—	—	1.9	3.9	6.4	—	—	—
Flavored Little Cigars [c,l]	—	—	—	—	—	—	4.1	6.9	11.9	—	—	—
Regular Little Cigars [c,l]	—	—	—	—	—	—	2.5	4.4	7.0	—	—	—
Steroids [b]	1.0	1.4	1.9	0.6	0.8	1.5	0.2	0.4	0.9	—	—	0.3

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' — ' indicates data not available. ' * ' indicates less than 0.05% but greater than 0%.

[a]For 12th graders only: Use of any illicit drug includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin; or any use of narcotics other than heroin, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders. For 8th and 10th graders only: The use of narcotics other than heroin and sedatives (barbiturates) has been excluded, because these younger respondents appear to overreport use (perhaps because they include the use of nonprescription drugs in their answers).

[b]For 12th graders only: Data based on three of six forms; *N* is three sixths of *N* indicated.

[c]For 12th graders only: Data based on two of six forms; *N* is two sixths of *N* indicated.

[d]For 8th and 10th graders only: Data based on one of four forms; *N* is one third of *N* indicated.

[e]Adjusted for underreporting of PCP. See text for details. Data for the daily prevalence of use are no longer presented due to low rates of hallucinogen use and fairly stable rates of PCP use.

[f]For 12th graders only: Data based on one of six forms; *N* is one sixth of *N* indicated.

[g]For 8th and 10th graders only: Data based on two of four forms; *N* is one half of *N* indicated.

[h]For 12th graders only: Data based on four of six forms; *N* is four sixths of *N* indicated.

[i]Only drug use not under a doctor's orders is included here.

[j]The use of any prescription drug includes use of any of the following: amphetamines, sedatives (barbiturates), narcotics other than heroin, or tranquilizers … without a doctor telling you to use them.

[k]For 8th and 10th graders only: Data based on one of four forms; *N* is one sixth of *N* indicated due to changes in the questionnaire forms.

[l]For 8th and 10th graders only: Data based on two of four forms; *N* is one third of *N* indicated.

[m]For 12th graders only: Data based on five of six forms; *N* is five sixths of *N* indicated.

TABLE 4-3
Prevalence of Use of Heroin *with* and *without* a Needle for 8th, 10th, and 12th Graders, 2014

(Entries are percentages of all respondents.)

	Lifetime	Last 12 Months	Last 30 Days
8th Graders			
Used heroin only *with* a needle	0.5	0.3	0.1
Used heroin only *without* a needle	0.2	0.1	*
Used heroin both ways	0.2	0.1	0.1
Used heroin at all	0.9	0.5	0.3
Approximate weighted N =	*14,500*	*14,500*	*14,500*
10th Graders			
Used heroin only *with* a needle	0.3	0.2	0.2
Used heroin only *without* a needle	0.2	0.1	0.1
Used heroin both ways	0.3	0.2	0.2
Used heroin at all	0.9	0.5	0.4
Approximate weighted N =	*13,000*	*13,000*	*13,000*
12th Graders			
Used heroin only *with* a needle	0.3	0.1	0.1
Used heroin only *without* a needle	0.2	0.1	0.1
Used heroin both ways	0.5	0.4	0.2
Used heroin at all	1.0	0.6	0.4
Approximate weighted N =	*6,300*	*6,300*	*6,300*

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' * ' indicates less than 0.05% but greater than 0%. Any apparent inconsistency between the total who used heroin at all and the sum of those who used with a needle, those who used without a needle, and those who used both ways is due to rounding. For 12th graders only: Data based on three of six forms except for used heroin at all, which is based on all six forms. The six-form *N* is approximately 12,600.

TABLE 4-4a
Frequency of Use of Various Drugs: Lifetime, Annual, and 30-Day for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Marijuana			Synthetic Marijuana [a,b]			Inhalants [c]			Hallucinogens [d,j]			LSD [j]			Hallucinogens other than LSD [j]			PCP [e]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Approximate weighted N =	*14,600*	*13,000*	*12,400*	*4,900*	*4,300*	*4,100*	*14,600*	*13,000*	*6,200*	*14,600*	*13,000*	*12,400*	*14,600*	*13,000*	*12,400*	*14,600*	*13,000*	*12,400*	—	—	*2,100*
Lifetime Frequency																					
No occasions	84.4	66.3	55.6	—	—	—	89.2	91.3	93.5	98.0	95.0	93.7	98.9	97.4	96.3	98.5	95.9	94.9	—	—	—
1–2 occasions	5.6	8.9	9.5	—	—	—	6.5	5.5	3.7	1.0	2.5	3.0	0.7	1.6	2.2	1.0	2.7	3.3	—	—	—
3–5 occasions	2.4	5.0	6.1	—	—	—	1.7	1.7	1.4	0.5	1.4	1.8	0.1	0.4	0.6	0.3	0.7	0.8	—	—	—
6–9 occasions	1.7	3.6	4.3	—	—	—	0.8	0.6	0.5	0.2	0.2	0.5	0.1	0.2	0.3	0.1	0.2	0.4	—	—	—
10–19 occasions	1.7	3.8	5.0	—	—	—	0.8	0.4	0.4	0.1	0.4	0.5	0.1	0.1	0.2	0.1	0.2	0.2	—	—	—
20–39 occasions	1.2	3.0	4.6	—	—	—	0.3	0.2	0.1	0.1	0.1	0.1	*	0.1	0.1	*	0.1	0.1	—	—	—
40 or more	3.0	9.4	14.8	—	—	—	0.7	0.4	0.4	0.1	0.3	0.5	0.1	0.1	0.3	0.1	0.2	0.3	—	—	—
Annual Frequency																					
No occasions	88.3	72.7	64.9	96.0	92.6	92.1	94.7	96.7	98.1	98.7	96.7	96.0	99.3	98.1	97.5	99.0	97.4	97.0	—	—	99.2
1–2 occasions	4.4	8.5	9.3	2.0	3.9	4.1	3.3	2.2	1.2	0.7	1.8	2.0	0.5	1.3	1.6	0.6	1.8	2.1	—	—	0.4
3–5 occasions	2.3	4.4	5.8	0.7	1.2	1.5	0.7	0.6	0.3	0.4	1.0	1.3	0.1	0.2	0.4	0.2	0.4	0.4	—	—	0.1
6–9 occasions	1.3	3.1	4.3	0.3	0.8	0.7	0.6	0.2	0.1	0.0	0.2	0.2	0.0	0.2	0.1	*	0.2	0.2	—	—	0.2
10–19 occasions	1.3	3.2	4.1	0.4	0.7	0.6	0.3	0.1	0.2	0.1	0.3	0.3	0.0	0.1	0.1	0.1	0.1	0.1	—	—	0.1
20–39 occasions	1.0	2.7	2.8	0.2	0.3	0.5	0.1	0.1	*	*	*	0.1	*	*	0.1	*	*	0.1	—	—	0.0
40 or more	1.5	5.4	8.8	0.4	0.6	0.6	0.2	0.1	0.1	*	0.1	0.2	*	*	0.1	*	0.1	0.1	—	—	*
30-Day Frequency																					
No occasions	93.5	83.4	78.8	—	—	—	97.8	98.9	99.3	99.5	98.8	98.5	99.7	99.4	99.0	99.6	99.2	99.0	—	—	—
1–2 occasions	2.7	6.3	7.2	—	—	—	1.2	0.7	0.4	0.3	0.6	0.8	0.2	0.4	0.7	0.2	0.6	0.7	—	—	—
3–5 occasions	1.4	3.2	3.6	—	—	—	0.6	0.2	0.1	0.1	0.3	0.4	*	0.1	0.1	0.1	0.1	0.1	—	—	—
6–9 occasions	0.8	1.6	2.2	—	—	—	0.1	0.1	0.1	0.0	0.1	*	*	*	*	*	0.1	*	—	—	—
10–19 occasions	0.6	2.0	2.3	—	—	—	0.1	0.1	*	*	0.1	0.1	*	*	*	*	*	*	—	—	—
20–39 occasions	0.4	1.4	2.2	—	—	—	0.1	0.0	*	*	*	*	*	*	*	0.0	*	*	—	—	—
40 or more	0.6	2.0	3.6	—	—	—	0.2	0.1	*	*	0.1	0.1	*	*	0.1	*	*	0.1	—	—	—

(Table continued on next page.)

TABLE 4-4a (cont.)
Frequency of Use of Various Drugs: Lifetime, Annual, and 30-Day for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Ecstasy (MDMA) [b,f]			Salvia [a,b]			Cocaine			Crack			Other Cocaine [g]			Heroin			Heroin with a Needle [c]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Approximate weighted N =	*7,300*	*6,500*	*4,100*	4,900	4,300	*4,100*	*14,600*	*13,000*	*12,400*	*14,600*	*13,000*	*12,400*	*14,600*	*13,000*	*8,300*	*14,600*	*13,000*	*12,400*	*14,600*	*13,000*	*6,200*
Lifetime Frequency																					
No occasions	98.6	96.3	94.4	—	—	—	98.2	97.4	95.4	98.8	99.0	98.2	98.6	97.8	95.9	99.1	99.1	99.0	99.2	99.4	99.2
1–2 occasions	0.8	2.5	2.9	—	—	—	0.7	1.3	2.4	0.8	0.7	0.8	0.9	1.4	2.5	0.5	0.4	0.3	*	0.3	0.3
3–5 occasions	0.2	0.6	1.1	—	—	—	0.6	0.6	0.8	0.2	0.1	0.2	0.2	0.3	0.6	0.2	0.1	0.2	0.1	0.1	0.1
6–9 occasions	0.1	0.3	0.7	—	—	—	0.1	0.2	0.4	0.1	0.1	0.2	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.2
10–19 occasions	0.1	0.2	0.4	—	—	—	0.1	0.2	0.3	0.1	*	0.1	*	0.1	0.2	*	0.1	0.1	*	0.1	0.1
20–39 occasions	0.1	0.1	0.2	—	—	—	0.1	0.1	0.2	*	*	0.1	0.1	0.1	0.3	*	*	*	*	*	*
40 or more	*	0.1	0.4	—	—	—	0.2	0.2	0.4	0.1	0.1	0.3	0.1	0.1	0.3	0.1	0.1	0.2	0.1	0.1	0.1
Annual Frequency																					
No occasions	99.1	97.7	96.4	99.4	98.2	98.2	99.0	98.5	97.4	99.3	99.5	98.9	99.2	98.7	97.6	99.5	99.5	99.4	99.6	99.6	99.5
1–2 occasions	0.5	1.6	2.0	0.3	1.0	1.1	0.4	0.6	1.3	0.4	0.3	0.4	0.5	0.8	1.5	0.2	0.2	0.1	0.3	0.2	0.2
3–5 occasions	0.2	0.4	0.8	0.1	0.3	0.3	0.3	0.3	0.3	0.1	0.1	0.1	0.1	0.2	0.3	0.1	0.1	0.1	*	0.1	0.1
6–9 occasions	0.1	0.2	0.6	*	0.3	0.1	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	*	0.1	0.1	0.1
10–19 occasions	0.1	0.1	0.1	0.0	*	0.2	0.1	0.1	0.3	0.0	*	0.1	*	0.1	0.2	*	0.1	0.1	*	*	0.1
20–39 occasions	0.0	*	*	*	0.1	*	*	*	0.1	*	*	0.1	*	*	0.1	*	*	*	*	*	*
40 or more	*	*	0.1	0.1	0.2	0.2	0.1	0.1	0.2	*	0.1	0.2	*	0.1	0.2	*	0.1	0.1	*	*	*
30-Day Frequency																					
No occasions	99.6	99.2	98.6	—	—	—	99.5	99.4	99.0	99.7	99.7	99.3	99.6	99.5	99.1	99.8	99.6	99.6	99.8	99.7	99.7
1–2 occasions	0.2	0.5	0.8	—	—	—	0.2	0.3	0.4	0.2	0.1	0.2	0.2	0.3	0.4	0.1	0.1	0.1	0.1	0.1	0.1
3–5 occasions	0.1	0.2	0.4	—	—	—	0.1	0.2	0.2	0.1	0.1	*	*	0.1	0.1	0.1	0.1	0.1	0.1	*	0.1
6–9 occasions	0.1	*	*	—	—	—	0.1	*	0.1	*	*	0.1	*	*	0.2	0.0	0.1	*	*	0.1	0.1
10–19 occasions	*	*	*	—	—	—	*	0.1	0.1	*	*	*	*	*	0.1	*	*	0.1	*	*	0.1
20–39 occasions	0.0	0.0	0.0	—	—	—	*	*	*	0.0	*	*	*	0.0	*	0.0	0.0	*	0.0	*	0.0
40 or more	*	*	0.1	—	—	—	0.1	*	0.1	*	*	0.2	*	*	0.1	*	*	0.1	*	*	*

(Table continued on next page.)

TABLE 4-4a (cont.)
Frequency of Use of Various Drugs: Lifetime, Annual, and 30-Day for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Heroin without a Needle [c]			Narcotics other than Heroin [h]			OxyContin [a,c,h]			Vicodin [a,c,h]			Amphetamines [h,i]			Ritalin [a,b,h]			Adderall [a,b,h]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Approximate weighted N =	*14,600*	*13,000*	*6,200*	—	—	*12,400*	*4,900*	*4,300*	*6,200*	*4,900*	*4,300*	*6,200*	*7,300*	*6,500*	*4,100*	*4,900*	*4,300*	*4,100*	*4,900*	*4,300*	*4,100*
Lifetime Frequency																					
No occasions	99.6	99.5	99.3	—	—	90.5	—	—	—	—	—	—	95.8	91.9	87.6	—	—	—	—	—	—
1–2 occasions	0.2	0.3	0.3	—	—	3.9	—	—	—	—	—	—	2.5	3.4	4.7	—	—	—	—	—	—
3–5 occasions	0.1	0.1	*	—	—	2.0	—	—	—	—	—	—	0.7	1.6	2.6	—	—	—	—	—	—
6–9 occasions	*	0.1	0.1	—	—	1.1	—	—	—	—	—	—	0.3	1.0	1.4	—	—	—	—	—	—
10–19 occasions	*	*	0.1	—	—	1.2	—	—	—	—	—	—	0.2	0.9	1.2	—	—	—	—	—	—
20–39 occasions	*	*	0.1	—	—	0.6	—	—	—	—	—	—	0.2	0.4	0.9	—	—	—	—	—	—
40 or more	*	0.1	0.2	—	—	0.7	—	—	—	—	—	—	0.4	0.8	1.6	—	—	—	—	—	—
Annual Frequency																					
No occasions	99.8	99.7	99.5	—	—	93.9	99.0	97.0	96.7	99.0	96.6	95.2	97.4	94.1	91.3	99.1	98.2	98.2	98.7	95.4	93.2
1–2 occasions	0.1	0.1	0.1	—	—	2.8	0.7	1.5	1.8	0.5	1.8	2.7	1.4	2.7	4.1	0.6	0.8	0.8	0.7	2.3	3.3
3–5 occasions	*	0.1	0.1	—	—	1.5	0.2	0.7	0.6	0.3	0.8	0.9	0.5	1.2	1.6	0.1	0.5	0.5	0.3	1.1	1.6
6–9 occasions	*	*	*	—	—	0.8	0.1	0.3	0.4	0.1	0.4	0.5	0.2	0.7	0.7	0.1	0.1	0.2	0.2	0.7	0.6
10–19 occasions	*	*	0.1	—	—	0.5	0.1	0.1	0.2	*	0.1	0.2	0.2	0.7	0.8	*	0.1	0.1	*	0.2	0.8
20–39 occasions	*	*	*	—	—	0.2	*	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.6	*	0.1	0.1	*	0.1	0.1
40 or more	*	*	0.1	—	—	0.3	*	0.2	0.2	*	0.2	0.3	0.2	0.4	0.9	*	0.2	0.1	*	0.3	0.4
30-Day Frequency																					
No occasions	99.9	99.8	99.6	—	—	97.8	—	—	—	—	—	—	98.6	97.2	95.9	—	—	—	—	—	—
1–2 occasions	0.1	0.1	0.2	—	—	1.2	—	—	—	—	—	—	0.8	1.8	2.3	—	—	—	—	—	—
3–5 occasions	*	0.1	0.0	—	—	0.4	—	—	—	—	—	—	0.2	0.5	0.6	—	—	—	—	—	—
6–9 occasions	*	*	0.1	—	—	0.2	—	—	—	—	—	—	0.2	0.2	0.3	—	—	—	—	—	—
10–19 occasions	*	0.0	0.1	—	—	0.2	—	—	—	—	—	—	0.1	0.1	0.2	—	—	—	—	—	—
20–39 occasions	0.0	0.0	0.0	—	—	0.1	—	—	—	—	—	—	*	0.1	0.2	—	—	—	—	—	—
40 or more	*	*	*	—	—	0.1	—	—	—	—	—	—	0.1	0.1	0.4	—	—	—	—	—	—

(Table continued on next page.)

TABLE 4-4a (cont.)
Frequency of Use of Various Drugs: Lifetime, Annual, and 30-Day for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Methamphetamine [a,b]			Crystal Methamphetamine (Ice) [b]			Bath Salts (Synthetic Stimulants) [a,b]			Sedatives (Barbiturates) [h]			Tranquilizers [h]			Over-the-Counter Cough/Cold Medicine [a,b]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Approximate weighted N =	*4,900*	*4,300*	*4,100*	—	—	*4,100*	*4,900*	*4,300*	*4,100*	—	—	*12,400*	*14,600*	*13,000*	*12,400*	*4,900*	*4,300*	*4,100*
Lifetime Frequency																		
No occasions	99.0	98.6	98.1	—	—	98.7	—	—	—	—	—	93.2	97.1	94.2	92.6	—	—	—
1–2 occasions	0.5	0.7	0.9	—	—	0.6	—	—	—	—	—	3.3	1.7	3.1	3.2	—	—	—
3–5 occasions	0.2	0.2	0.2	—	—	0.2	—	—	—	—	—	1.4	0.5	1.3	1.6	—	—	—
6–9 occasions	0.1	0.3	0.1	—	—	0.1	—	—	—	—	—	0.8	0.2	0.6	1.0	—	—	—
10–19 occasions	*	*	0.2	—	—	0.1	—	—	—	—	—	0.6	0.2	0.3	0.7	—	—	—
20–39 occasions	*	*	0.0	—	—	*	—	—	—	—	—	0.3	0.1	0.2	0.3	—	—	—
40 or more	0.1	0.1	0.3	—	—	0.3	—	—	—	—	—	0.5	0.2	0.3	0.6	—	—	—
Annual Frequency																		
No occasions	99.4	99.2	99.0	—	—	99.2	99.0	99.1	99.1	—	—	95.7	98.3	96.1	95.3	98.0	96.3	95.9
1–2 occasions	0.4	0.4	0.3	—	—	0.2	0.4	0.4	0.3	—	—	2.2	1.0	2.3	2.4	1.1	1.5	1.8
3–5 occasions	0.2	0.2	0.3	—	—	0.2	0.2	0.1	0.2	—	—	0.8	0.4	0.9	1.0	0.5	1.1	1.1
6–9 occasions	*	0.1	0.1	—	—	0.1	0.2	0.2	*	—	—	0.6	0.1	0.3	0.6	0.2	0.4	0.5
10–19 occasions	0.0	*	*	—	—	0.1	0.1	0.1	0.1	—	—	0.3	0.1	0.2	0.4	0.1	0.4	0.3
20–39 occasions	*	0.0	0.2	—	—	0.1	*	*	0.1	—	—	0.1	0.1	0.1	0.2	*	0.2	0.2
40 or more	*	0.1	0.1	—	—	0.1	0.2	0.2	0.2	—	—	0.2	0.1	0.1	0.2	0.1	0.2	0.2
30-Day Frequency																		
No occasions	99.8	99.7	99.6	—	—	99.6	—	—	—	—	—	98.0	99.2	98.4	97.9	—	—	—
1–2 occasions	0.1	0.1	0.1	—	—	0.1	—	—	—	—	—	1.1	0.6	1.0	1.1	—	—	—
3–5 occasions	0.1	0.2	0.1	—	—	0.1	—	—	—	—	—	0.4	0.1	0.3	0.5	—	—	—
6–9 occasions	0.0	0.1	0.1	—	—	*	—	—	—	—	—	0.2	*	0.2	0.2	—	—	—
10–19 occasions	0.0	0.0	*	—	—	0.1	—	—	—	—	—	0.2	0.1	0.1	0.1	—	—	—
20–39 occasions	*	*	0.1	—	—	*	—	—	—	—	—	0.1	*	*	0.1	—	—	—
40 or more	*	*	0.0	—	—	0.1	—	—	—	—	—	*	0.1	*	0.1	—	—	—

(Table continued on next page.)

TABLE 4-4a (cont.)
Frequency of Use of Various Drugs: Lifetime, Annual, and 30-Day for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Rohypnol [a,e]			GHB [e]			Ketamine [b]			Alcohol			Been Drunk [b]			Flavored Alcoholic Beverages [a,e]			Alcoholic Beverages containing Caffeine [a,b]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Approximate weighted N =	*2,400*	*2,200*	*2,100*	—	—	*2,100*	—	—	*4,100*	*14,600*	*13,000*	*12,400*	*14,600*	*13,000*	*4,100*	*4,900*	*4,300*	*2,100*	*4,900*	*4,300*	*4,100*
Lifetime Frequency																					
No occasions	99.4	99.0	—	—	—	—	—	—	—	73.2	50.7	34.0	89.2	69.8	50.2	80.8	57.7	42.5	—	—	—
1–2 occasions	0.4	0.5	—	—	—	—	—	—	—	8.9	10.4	9.3	6.1	12.9	14.3	7.6	15.0	17.0	—	—	—
3–5 occasions	*	0.3	—	—	—	—	—	—	—	7.3	11.5	11.9	2.2	6.7	8.3	5.0	10.3	11.0	—	—	—
6–9 occasions	*	*	—	—	—	—	—	—	—	3.9	8.3	9.6	0.9	3.9	6.3	2.4	5.8	9.5	—	—	—
10–19 occasions	*	*	—	—	—	—	—	—	—	3.1	8.2	11.2	0.6	2.9	7.3	2.1	5.1	9.3	—	—	—
20–39 occasions	0.0	0.0	—	—	—	—	—	—	—	1.6	4.7	8.9	0.5	1.9	5.2	1.1	2.8	4.2	—	—	—
40 or more	0.1	0.1	—	—	—	—	—	—	—	2.0	6.3	15.0	0.5	1.9	8.5	1.0	3.2	6.5	—	—	—
Annual Frequency																					
No occasions	99.7	99.5	99.3	—	—	99.0	—	—	98.5	79.2	56.0	39.8	92.7	75.4	58.6	86.6	66.8	56.4	90.5	85.7	80.0
1–2 occasions	0.1	0.3	0.3	—	—	0.3	—	—	0.7	11.1	16.8	17.3	4.9	13.4	16.0	7.3	16.0	17.7	5.2	7.2	9.2
3–5 occasions	0.1	0.1	0.1	—	—	0.2	—	—	0.3	4.8	10.8	13.2	1.2	5.1	7.4	2.7	7.9	11.2	2.1	3.2	4.9
6–9 occasions	*	0.1	*	—	—	0.2	—	—	0.3	2.5	6.6	9.5	0.7	2.6	6.4	1.6	4.0	6.2	1.2	1.6	2.2
10–19 occasions	*	0.0	*	—	—	0.0	—	—	*	1.3	5.1	9.3	0.3	1.8	5.3	1.1	2.4	4.9	0.3	0.9	1.9
20–39 occasions	0.0	0.0	*	—	—	0.0	—	—	*	0.6	2.4	5.3	0.1	1.0	3.1	0.3	1.6	1.9	0.2	0.5	0.8
40 or more	0.1	*	0.3	—	—	0.2	—	—	0.1	0.5	2.3	5.5	0.2	0.8	3.2	0.5	1.3	1.7	0.3	0.9	0.9
30-Day Frequency																					
No occasions	99.8	99.6	—	—	—	—	—	—	—	91.0	76.5	62.6	97.3	88.8	76.5	94.3	86.0	80.1	—	—	—
1–2 occasions	0.1	0.3	—	—	—	—	—	—	—	6.0	14.0	20.2	2.0	7.8	13.4	3.5	8.5	12.2	—	—	—
3–5 occasions	*	0.1	—	—	—	—	—	—	—	1.7	5.0	9.0	0.4	2.0	5.3	1.1	3.0	3.9	—	—	—
6–9 occasions	0.0	0.0	—	—	—	—	—	—	—	0.6	2.4	4.3	0.1	0.8	2.7	0.7	1.0	2.3	—	—	—
10–19 occasions	0.0	0.0	—	—	—	—	—	—	—	0.3	1.2	2.1	0.1	0.4	1.0	0.1	0.6	0.8	—	—	—
20–39 occasions	0.0	0.0	—	—	—	—	—	—	—	0.1	0.4	0.8	*	0.2	0.4	0.1	0.4	0.3	—	—	—
40 or more	0.0	*	—	—	—	—	—	—	—	0.2	0.4	1.1	0.1	0.1	0.7	0.3	0.4	0.5	—	—	—

(Table continued on next page.)

TABLE 4-4a (cont.)
Frequency of Use of Various Drugs: Lifetime, Annual, and 30-Day for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Kreteks [e]			Tobacco using a Hookah [e]			Small Cigars [e]			Dissolvable Tobacco Products [a,e]			Snus [a,e]			Steroids [c]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Approximate weighted. N =	—	—	*2,100*	—	—	*2,100*	—	—	*2,100*	*4,900*	*4,300*	*2,100*	*4,900*	*4,300*	*2,100*	*14,600*	*13,000*	*6,200*
Lifetime Frequency																		
No occasions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	99.0	98.6	98.1
1–2 occasions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.6	0.8	0.5
3–5 occasions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.2	0.2	0.4
6–9 occasions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	0.2	0.2
10–19 occasions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	0.1	0.2
20–39 occasions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	0.1	*
40 or more	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	0.1	0.5
Annual Frequency																		
No occasions	—	—	98.4	—	—	77.1	—	—	81.1	98.9	98.8	98.9	98.0	94.8	94.2	99.4	99.2	98.5
1–2 occasions	—	—	0.7	—	—	7.4	—	—	8.1	0.6	0.4	0.2	0.9	2.3	1.4	0.4	0.4	0.5
3–5 occasions	—	—	0.4	—	—	6.3	—	—	4.7	0.3	0.1	*	0.4	0.6	1.1	0.1	0.1	0.2
6–9 occasions	—	—	0.2	—	—	3.3	—	—	2.7	*	0.1	0.4	0.1	0.6	0.9	*	0.1	0.3
10–19 occasions	—	—	0.0	—	—	2.1	—	—	1.4	*	0.1	0.1	0.2	0.3	0.8	*	*	*
20–39 occasions	—	—	0.0	—	—	2.1	—	—	1.0	0.0	0.1	*	0.1	0.2	0.4	*	*	0.1
40 or more	—	—	0.2	—	—	1.8	—	—	0.9	0.1	0.3	0.3	0.3	1.1	1.1	*	0.1	0.3
30-Day Frequency																		
No occasions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	99.8	99.6	99.1
1–2 occasions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	0.2	0.3
3–5 occasions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	0.1
6–9 occasions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	*	0.1
10–19 occasions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	0.1	*
20–39 occasions	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.0	*	*
40 or more	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	0.1	0.3

(Table continued on next page.)

TABLE 4-4a (cont.)
Frequency of Use of Various Drugs: Lifetime, Annual, and 30-Day
8th, 10th, and 12th Graders, 2013

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' — ' indicates data not available. ' * ' indicates less than 0.05% but greater than 0%.

[a]8th and 10th grades only: Data based on one of four forms.

[b]12th grade only: Data based on two of six forms.

[c]12th grade only: Data based on three of six forms.

[d]Unadjusted for known underreporting of PCP. See text for details.

[e]12th grade only: Data based on one of six forms.

[f]8th and 10th grades only: Data based on two of four forms.

[g]12th grade only: Data based on four of six forms.

[h]Only drug use not under a doctor's orders is included here.

[i]Based on data from the revised question, which attempts to exclude the inappropriate reporting of nonprescription stimulants.

[j]12th grade only: Data based on five of six forms.

TABLE 4-4b
Frequency of Occasions of Heavy Drinking, for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	8th Grade	10th Grade	12th Grade
Think back over the LAST TWO WEEKS. How many times have you had five or more drinks in a row?			
None	95.9	87.4	80.6
Once	1.9	5.7	8.7
Twice	1.2	3.6	5.3
3 to 5 times	0.6	2.3	3.8
6 to 9 times	0.2	0.5	1.0
10 or more times	0.2	0.5	0.7
Approximate weighted N =	*14,600*	*13,000*	*12,400*
During the last two weeks, how many times (if any) have you had 10 or more drinks in a row?			
None	—	—	92.9
Once	—	—	4.1
Twice	—	—	1.4
3 to 5 times	—	—	0.7
6 to 9 times	—	—	0.5
10 or more times	—	—	0.5
Approximate weighted N =	—	—	*2,100*
During the last two weeks, how many times (if any) have you had 15 or more drinks in a row?			
None	—	—	95.9
Once	—	—	2.0
Twice	—	—	0.5
3 to 5 times	—	—	0.9
6 to 9 times	—	—	0.3
10 or more times	—	—	0.4
Approximate weighted N =	—	—	*2,100*

Source. The Monitoring the Future study, the University of Michigan.

TABLE 4-4c
Frequency of Occasions of Cigarette Smoking, and Smokeless Tobacco Use for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	8th Grade	10th Grade	12th Grade
Have you ever smoked cigarettes?			
Never	86.5	77.4	65.6
Once or twice	9.1	13.1	17.1
Occasionally but not regularly	2.4	4.9	8.8
Regularly in the past	1.1	2.4	3.6
Regularly now	0.9	2.2	5.0
Approximate weighted N =	*14,600*	*13,000*	*12,400*
How frequently have you smoked cigarettes during the past 30 days?			
Not at all (includes "never" category from question above)	96.0	92.8	86.4
Less than one cigarette per day	2.6	4.0	6.8
One to five cigarettes per day	0.9	2.0	4.1
About one-half pack per day	0.2	0.7	1.5
About one pack per day	0.1	0.2	0.7
About one and one-half packs per day	0.1	0.2	0.2
Two packs or more per day	0.1	0.2	0.3
Approximate weighted N =	*14,600*	*13,000*	*12,400*
Have you ever taken or used smokeless tobacco (snuff, plug, dipping tobacco, chewing tobacco)?			
Never	92.0	86.4	84.9
Once or twice	5.4	7.3	6.2
Occasionally but not regularly	1.4	3.1	4.1
Regularly in the past	0.5	1.4	0.9
Regularly now	0.7	1.8	3.9
Approximate weighted N =	*7,300*	*6,500*	*2,100*
How frequently have you taken smokeless tobacco during the past 30 days?			
Not at all (includes "never" category from question above)	97.0	94.7	91.6
Once or twice	1.8	1.9	3.0
Once or twice per week	0.4	0.9	1.1
Three to five times per week	0.2	0.7	0.9
About once a day	0.1	0.5	0.6
More than once a day	0.4	1.3	2.8
Approximate weighted N =	*7,300*	*6,500*	*2,100*

Source. The Monitoring the Future study, the University of Michigan.

TABLE 4-5
Lifetime Prevalence of Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Approximate Weighted N [a]			Any Illicit Drug [b]			Any Illicit Drug other than Marijuana [b]			Marijuana			Inhalants [c]			Hallucinogens [d,p]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	*14,600*	*13,000*	*12,400*	20.3	37.4	49.1	10.0	15.9	22.6	15.6	33.7	44.4	10.8	8.7	6.5	2.0	5.0	6.3
Gender																		
Male	*6,800*	*6,200*	*5,700*	19.4	38.2	50.2	8.3	14.8	23.5	15.8	35.2	46.2	8.6	7.9	5.8	2.1	5.1	8.2
Female	*7,200*	*6,400*	*6,100*	20.3	36.4	47.3	11.1	16.8	21.0	14.7	31.9	42.3	12.5	9.6	7.2	1.8	4.8	4.7
College Plans																		
None or under 4 years	*1,000*	*1,200*	*2,000*	35.8	53.7	56.8	19.6	28.5	28.5	29.2	50.5	52.0	17.2	14.4	8.4	5.8	12.3	9.1
Complete 4 years	*13,000*	*11,500*	*9,600*	18.8	35.7	46.7	9.0	14.5	20.7	14.4	31.8	42.0	10.2	8.1	6.0	1.6	4.2	5.6
Region																		
Northeast	*2,400*	*2,500*	*2,400*	16.9	35.3	51.0	6.6	13.2	18.8	12.8	31.8	46.7	8.2	7.2	5.5	1.1	4.5	6.3
Midwest	*3,200*	*3,000*	*2,500*	19.2	32.8	48.4	9.4	15.9	24.2	14.5	30.0	43.5	10.7	8.2	6.9	2.0	5.0	6.4
South	*5,600*	*4,400*	*4,700*	20.9	39.2	48.4	10.8	16.9	23.6	15.8	34.6	43.2	11.5	9.8	6.7	1.8	4.9	6.4
West	*3,400*	*3,100*	*2,800*	22.7	41.1	49.1	11.6	16.6	22.8	18.1	37.4	45.1	11.4	9.0	6.5	2.9	5.4	6.2
Population Density																		
Large MSA	*4,700*	*4,500*	*3,500*	21.6	37.3	48.4	9.2	14.9	20.3	17.6	33.3	44.1	10.7	7.9	5.4	1.7	4.3	5.9
Other MSA	*6,800*	*6,000*	*6,300*	19.9	37.7	51.9	10.5	15.7	24.9	14.7	34.4	46.6	10.6	9.1	7.0	2.1	5.3	6.9
Non-MSA	*3,100*	*2,500*	*2,600*	19.1	37.0	42.9	10.0	18.1	20.3	14.3	32.5	39.2	11.3	9.3	6.7	2.3	5.4	5.6
Parental Education [e]																		
1.0–2.0 (Low)	*1,300*	*1,100*	*1,200*	30.3	46.3	52.8	14.9	22.2	22.8	25.2	40.9	48.4	15.4	11.1	8.6	3.2	5.5	5.8
2.5–3.0	*2,400*	*2,300*	*2,400*	26.5	45.1	53.9	11.6	18.3	23.5	21.8	41.2	48.9	12.9	11.4	7.6	2.4	5.6	6.8
3.5–4.0	*3,100*	*3,100*	*3,400*	22.7	42.2	49.5	10.5	18.3	22.6	18.0	38.0	45.5	12.5	9.1	6.0	2.5	6.2	6.8
4.5–5.0	*3,600*	*3,600*	*3,200*	14.6	31.1	46.5	7.7	12.4	21.8	10.4	27.9	41.3	8.7	7.2	5.7	1.1	3.8	6.2
5.5–6.0 (High)	*2,300*	*2,100*	*1,300*	15.0	29.1	43.9	8.5	12.2	22.5	10.0	25.4	39.0	8.3	6.5	6.9	1.8	3.7	5.2
Race/Ethnicity (2-year average) [f]																		
White	*13,100*	*13,900*	*14,100*	15.5	34.7	48.4	8.3	15.2	24.2	11.4	31.6	43.7	8.9	7.6	6.5	2.0	5.1	7.4
African American	*4,100*	*2,900*	*2,800*	22.4	41.3	48.6	7.5	10.8	17.5	18.8	38.3	43.7	10.1	8.7	5.6	1.2	2.4	3.3
Hispanic	*5,700*	*4,300*	*4,000*	25.9	46.1	53.4	12.1	18.7	23.8	21.2	42.1	48.7	13.5	11.5	9.1	2.8	5.4	6.7

(Table continued on next page.)

TABLE 4-5 (cont.)
Lifetime Prevalence of Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	LSD [p]			Hallucinogens other than LSD [p]			Ecstasy (MDMA) [g,h]			Cocaine			Crack			Other Cocaine [i]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	1.1	2.6	3.7	1.5	4.1	5.1	1.4	3.7	5.6	1.8	2.6	4.6	1.2	1.0	1.8	1.4	2.2	4.1
Gender																		
Male	1.1	2.8	4.9	1.7	4.0	6.4	1.5	3.8	6.8	1.6	3.1	5.1	1.0	1.2	2.1	1.3	2.7	5.6
Female	1.0	2.4	2.5	1.3	4.1	3.9	1.3	3.8	4.9	1.8	2.0	3.3	1.3	0.9	1.3	1.3	1.7	2.7
College Plans																		
None or under 4 years	3.3	7.5	5.8	4.8	9.7	7.0	4.9	8.4	7.8	5.0	8.3	6.6	3.3	3.5	3.0	4.5	7.4	6.4
Complete 4 years	0.9	2.1	3.1	1.3	3.5	4.6	1.1	3.2	5.4	1.4	1.9	3.5	1.0	0.8	1.4	1.1	1.6	3.4
Region																		
Northeast	0.6	2.2	3.3	0.8	3.9	5.4	0.8	2.7	5.7	1.0	1.7	3.4	0.6	0.8	1.3	0.8	1.3	3.4
Midwest	1.0	2.8	3.4	1.5	4.1	5.0	0.9	2.8	4.7	1.3	2.3	3.5	1.0	1.1	1.4	1.1	1.8	3.2
South	1.1	3.0	4.6	1.3	3.8	4.8	1.7	4.2	5.5	2.0	2.6	4.5	1.5	0.9	1.7	1.4	2.5	4.7
West	1.5	2.2	2.9	2.5	4.6	5.6	1.9	4.8	6.7	2.4	3.5	4.7	1.5	1.3	2.5	2.0	3.0	4.7
Population Density																		
Large MSA	1.0	2.7	3.7	1.4	3.4	4.8	1.4	3.0	5.6	2.0	2.3	3.7	1.3	1.0	1.5	1.7	2.0	3.5
Other MSA	1.2	2.8	4.0	1.6	4.3	5.6	1.6	4.5	6.4	1.7	2.3	4.8	1.3	0.8	2.1	1.3	2.1	4.8
Non-MSA	1.1	2.2	3.2	1.7	4.6	4.2	1.2	3.1	3.8	1.6	3.6	3.1	1.1	1.4	1.2	1.2	3.0	3.4
Parental Education [e]																		
1.0–2.0 (Low)	1.9	2.7	3.3	2.3	4.9	4.8	2.7	4.9	4.8	3.4	4.9	6.3	2.0	1.3	3.3	3.0	4.5	4.9
2.5–3.0	1.2	2.8	4.0	1.9	4.5	5.3	2.0	4.7	5.4	2.0	2.7	5.0	1.4	1.1	2.0	1.4	2.3	5.6
3.5–4.0	1.3	3.0	3.9	1.9	5.1	5.4	1.1	3.9	6.3	1.9	3.1	4.0	1.2	1.4	1.2	1.4	2.6	4.0
4.5–5.0	0.7	2.2	3.3	0.9	3.2	5.2	1.1	3.4	6.3	1.3	1.6	3.0	0.9	0.7	1.2	1.1	1.4	3.0
5.5–6.0 (High)	1.1	2.2	3.5	1.4	2.8	4.0	1.6	2.9	4.2	0.9	1.5	3.3	0.8	0.6	1.6	0.6	1.2	3.2
Race/Ethnicity (2-year average) [f]																		
White	1.0	2.7	3.9	1.7	4.2	6.2	1.2	4.2	6.2	1.2	2.4	3.9	0.8	1.0	1.2	1.0	2.0	3.6
African American	0.8	1.7	2.0	0.6	1.6	2.3	1.1	2.1	3.1	1.1	1.5	1.9	0.9	1.1	1.6	0.7	1.1	2.0
Hispanic	1.8	2.8	3.5	2.1	4.4	5.4	2.5	6.6	7.7	2.8	5.3	6.9	1.9	2.0	3.2	2.2	4.9	6.6

(Table continued on next page.)

TABLE 4-5 (cont.)
Lifetime Prevalence of Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Heroin, Any Use			Heroin with a Needle [c]			Heroin without a Needle [c]			Narcotics other than Heroin [j]			Amphetamines [j]			Methamphetamine [h,k]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	0.9	0.9	1.0	0.8	0.6	0.8	0.4	0.5	0.7	—	—	9.5	6.7	10.6	12.1	1.0	1.4	1.9
Gender																		
Male	0.8	0.8	1.3	0.7	0.6	1.2	0.4	0.4	1.1	—	—	10.6	5.4	9.5	12.6	1.0	1.4	2.3
Female	0.9	0.9	0.6	0.8	0.6	0.4	0.4	0.6	0.4	—	—	8.4	7.7	11.7	11.4	1.0	1.3	1.6
College Plans																		
None or under 4 years	3.1	3.0	2.0	2.9	2.2	1.6	1.1	2.0	1.3	—	—	11.2	14.3	19.4	14.8	4.8	5.3	3.2
Complete 4 years	0.7	0.6	0.6	0.5	0.4	0.5	0.3	0.4	0.5	—	—	9.0	6.0	9.7	11.3	0.6	1.0	1.6
Region																		
Northeast	0.5	0.7	1.1	0.3	0.4	0.9	0.3	0.4	1.3	—	—	6.4	4.8	8.5	9.6	0.7	0.2	1.4
Midwest	0.7	0.6	0.9	0.7	0.5	0.9	0.2	0.3	0.6	—	—	10.2	6.7	11.5	14.2	1.2	1.4	1.6
South	1.0	1.1	1.0	0.8	0.7	0.7	0.4	0.8	0.7	—	—	10.0	6.9	11.2	12.6	0.7	1.7	2.6
West	1.4	0.8	1.0	1.2	0.7	0.8	0.6	0.5	0.6	—	—	10.6	7.7	10.6	11.4	1.6	1.8	1.6
Population Density																		
Large MSA	1.1	0.7	0.7	0.9	0.4	0.7	0.6	0.5	0.8	—	—	7.6	5.6	10.3	10.1	1.1	1.2	2.0
Other MSA	0.9	0.7	1.2	0.8	0.5	0.9	0.3	0.4	0.8	—	—	10.9	7.2	10.1	13.7	0.9	1.2	1.9
Non-MSA	0.7	1.4	0.8	0.6	1.2	0.6	0.3	0.9	0.5	—	—	8.6	7.2	12.2	10.6	1.0	2.1	1.8
Parental Education [e]																		
1.0–2.0 (Low)	2.1	1.2	1.8	1.7	0.9	1.9	1.2	0.7	1.8	—	—	9.1	9.0	13.6	10.7	0.8	2.4	3.8
2.5–3.0	1.0	1.3	1.2	0.7	0.9	0.9	0.5	1.0	0.6	—	—	9.9	8.1	12.4	12.6	1.3	1.7	2.8
3.5–4.0	0.7	0.8	0.7	0.6	0.6	0.6	0.3	0.4	0.4	—	—	9.7	7.4	12.3	12.0	1.0	1.7	1.2
4.5–5.0	0.6	0.6	0.8	0.6	0.4	0.6	0.2	0.4	0.8	—	—	9.7	5.2	8.8	12.6	0.7	0.4	1.4
5.5–6.0 (High)	0.9	0.7	0.6	0.7	0.5	0.1	0.4	0.5	0.5	—	—	9.4	5.6	8.2	12.6	0.3	0.7	1.6
Race/Ethnicity (2-year average) [f]																		
White	0.7	0.9	0.8	0.5	0.6	0.4	0.4	0.6	0.6	—	—	11.1	6.3	11.2	14.4	1.0	1.4	1.3
African American	0.8	0.8	1.5	0.7	0.6	1.5	0.3	0.5	1.4	—	—	6.6	5.4	7.7	7.9	0.5	0.9	1.6
Hispanic	1.3	1.3	1.0	0.8	1.0	1.1	0.7	0.7	1.0	—	—	9.0	7.5	11.4	10.5	1.8	2.4	2.5

(Table continued on next page.)

TABLE 4-5 (cont.)
Lifetime Prevalence of Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Crystal Methamphetamine (Ice) [h]			Sedatives (Barbiturates) [j]			Tranquilizers [j]			Any Prescription Drug [l]			Rohypnol [m]			Alcohol		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	—	—	1.3	—	—	6.8	2.9	5.8	7.4	—	—	19.9	0.6	1.0	—	26.8	49.3	66.0
Gender																		
Male	—	—	1.3	—	—	7.1	2.2	4.8	7.5	—	—	20.0	0.6	1.1	—	25.4	47.9	64.2
Female	—	—	1.3	—	—	6.6	3.4	6.8	7.2	—	—	19.4	0.6	0.9	—	27.8	50.6	67.8
College Plans																		
None or under 4 years	—	—	2.7	—	—	9.2	6.1	11.8	8.8	—	—	24.1	1.2	2.8	—	42.7	63.7	68.9
Complete 4 years	—	—	1.0	—	—	6.3	2.6	5.2	6.9	—	—	18.6	0.6	0.8	—	25.5	47.8	65.3
Region																		
Northeast	—	—	0.4	—	—	4.8	1.9	4.6	5.3	—	—	16.2	0.3	0.4	—	23.6	50.7	68.7
Midwest	—	—	1.0	—	—	6.8	2.0	6.7	7.0	—	—	21.6	0.5	1.0	—	26.3	46.4	68.8
South	—	—	1.6	—	—	7.8	3.3	6.5	8.4	—	—	21.1	0.7	1.1	—	28.0	51.5	65.1
West	—	—	1.9	—	—	7.0	3.6	4.8	7.9	—	—	19.8	0.9	1.3	—	27.5	47.9	62.6
Population Density																		
Large MSA	—	—	1.7	—	—	5.6	2.8	5.3	5.7	—	—	17.3	0.3	0.6	—	25.9	47.6	65.0
Other MSA	—	—	1.1	—	—	7.8	3.1	5.8	8.7	—	—	22.2	0.7	0.9	—	26.7	50.3	67.1
Non-MSA	—	—	1.4	—	—	6.1	2.6	6.7	6.6	—	—	18.1	0.8	1.9	—	28.4	49.9	64.6
Parental Education [e]																		
1.0–2.0 (Low)	—	—	4.5	—	—	6.6	5.1	8.6	6.7	—	—	18.7	2.0	1.1	—	34.8	58.5	64.5
2.5–3.0	—	—	1.6	—	—	7.6	3.3	6.8	8.2	—	—	20.3	0.7	1.8	—	32.9	53.9	70.7
3.5–4.0	—	—	0.8	—	—	6.6	2.8	7.0	7.7	—	—	19.8	0.3	1.2	—	30.2	52.0	66.1
4.5–5.0	—	—	0.8	—	—	7.3	2.4	4.7	7.3	—	—	20.4	0.4	0.5	—	22.5	46.2	66.2
5.5–6.0 (High)	—	—	0.4	—	—	6.1	2.4	4.0	6.6	—	—	20.6	0.6	0.5	—	21.4	45.4	64.3
Race/Ethnicity (2-year average) [f]																		
White	—	—	1.0	—	—	7.7	2.5	5.8	8.3	—	—	22.0	0.4	1.1	—	25.1	51.4	70.2
African American	—	—	1.9	—	—	4.5	2.0	3.3	3.8	—	—	15.0	0.6	0.5	—	25.1	44.2	56.1
Hispanic	—	—	3.7	—	—	7.0	4.1	6.6	7.4	—	—	19.1	0.7	1.5	—	33.3	56.4	67.4

(Table continued on next page.)

TABLE 4-5 (cont.)
Lifetime Prevalence of Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Been Drunk [h]			Flavored Alcoholic Beverages [k,n]			Cigarettes			Smokeless Tobacco [g,n]			Steroids [c]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	10.8	30.2	49.8	19.2	42.3	57.5	13.5	22.6	34.4	8.0	13.6	15.1	1.0	1.4	1.9
Gender															
Male	10.1	29.1	49.7	16.1	37.5	52.6	12.9	24.1	36.5	10.3	19.9	24.5	1.2	1.8	2.5
Female	11.3	31.2	50.7	21.6	46.7	62.1	13.3	20.9	31.6	5.9	7.6	5.3	0.8	1.0	1.2
College Plans															
None or under 4 years	22.2	44.4	51.6	31.0	56.3	62.3	30.0	43.9	49.9	22.5	33.3	23.3	2.2	3.3	2.2
Complete 4 years	9.9	28.8	48.9	18.3	40.7	56.9	11.9	20.2	30.6	6.8	11.5	12.7	0.9	1.2	1.7
Region															
Northeast	9.5	31.5	56.4	14.3	44.1	58.4	11.6	19.5	31.0	5.3	10.6	17.9	0.7	0.9	2.0
Midwest	10.7	28.9	53.7	21.1	41.2	60.4	13.4	23.2	36.0	8.8	15.9	18.9	1.1	1.2	1.2
South	11.0	30.9	44.4	19.0	43.1	56.9	14.7	24.5	36.5	8.6	14.5	13.4	1.2	2.1	2.1
West	11.4	29.3	50.2	21.0	40.8	55.2	12.9	21.7	32.2	8.0	12.3	12.2	1.0	1.1	2.2
Population Density															
Large MSA	10.2	28.8	49.1	16.0	36.6	55.9	10.8	19.6	31.1	5.5	9.8	8.6	0.9	1.4	1.1
Other MSA	10.5	30.8	51.2	19.9	45.7	58.8	12.8	21.1	34.7	6.7	12.2	16.6	1.0	1.1	2.5
Non-MSA	12.2	31.0	47.4	22.1	43.8	56.5	18.9	31.2	38.3	14.4	23.4	20.2	1.2	2.2	1.4
Parental Education [e]															
1.0–2.0 (Low)	17.1	35.2	49.8	29.3	51.1	53.3	20.0	30.1	38.0	11.0	12.6	10.6	1.0	1.0	2.6
2.5–3.0	13.6	33.7	53.1	27.9	47.0	62.2	18.7	28.2	39.3	10.6	16.1	16.3	1.2	1.1	1.6
3.5–4.0	12.4	33.3	47.9	22.3	45.1	61.2	16.7	26.1	35.7	10.3	17.0	15.5	1.2	1.4	1.9
4.5–5.0	8.4	27.6	50.4	11.9	40.1	57.2	9.5	17.9	30.3	5.6	12.3	16.8	0.9	1.5	1.5
5.5–6.0 (High)	7.1	26.9	52.6	17.0	35.7	50.5	6.8	14.7	28.1	4.3	8.9	15.1	1.1	1.7	1.6
Race/Ethnicity (2-year average) [f]															
White	10.7	33.8	55.4	19.4	45.1	61.7	13.4	25.1	38.5	8.9	17.1	21.5	0.9	1.3	1.5
African American	9.5	21.5	35.0	17.1	33.7	41.2	11.9	18.1	26.0	5.1	6.3	7.1	1.2	1.5	3.5
Hispanic	13.8	35.3	49.9	25.7	48.4	56.9	14.1	25.5	36.5	7.3	9.1	8.3	0.9	0.9	2.1

Source. The Monitoring the Future study, the University of Michigan.

See footnotes following table 4-8.

TABLE 4-6
Annual Prevalence of Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Approximate Weighted N [a]			Any Illicit Drug [b]			Any Illicit Drug other than Marijuana [b]			Marijuana			Synthetic Marijuana [h,k]			Inhalants [c]			Hallucinogens [d,p]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	*14,600*	*13,000*	*12,400*	14.6	29.9	38.7	6.4	11.2	15.9	11.7	27.3	35.1	3.3	5.4	5.8	5.3	3.3	1.9	1.3	3.3	4.0
Gender																					
Male	*6,800*	*6,200*	*5,700*	14.1	30.3	39.8	5.3	10.4	16.9	11.9	28.3	37.0	2.9	5.1	6.2	4.0	2.8	2.1	1.5	3.3	5.5
Female	*7,200*	*6,400*	*6,100*	14.5	29.4	36.9	7.1	11.8	14.2	11.0	26.0	33.0	3.6	5.6	5.3	6.2	3.8	1.8	1.0	3.4	2.6
College Plans																					
None or under 4 years	*1,000*	*1,200*	*2,000*	29.0	44.4	44.5	14.7	21.9	19.8	24.1	41.4	40.8	11.6	12.9	5.8	10.7	6.5	3.1	4.1	8.3	5.8
Complete 4 years	*13,000*	*11,500*	*9,600*	13.3	28.4	36.7	5.7	10.1	14.5	10.6	25.7	33.1	2.6	4.5	5.8	4.8	3.0	1.7	1.0	2.8	3.5
Region																					
Northeast	*2,400*	*2,500*	*2,400*	12.9	29.5	43.0	4.3	9.8	13.9	10.3	27.4	39.6	3.5	3.8	5.1	4.1	2.5	1.9	0.6	3.4	4.4
Midwest	*3,200*	*3,000*	*2,500*	13.4	26.6	38.3	5.6	11.8	16.2	10.7	24.5	34.6	2.6	5.8	6.6	4.9	3.6	2.4	1.0	3.2	4.0
South	*5,600*	*4,400*	*4,700*	14.7	31.1	37.7	7.1	11.9	17.2	11.5	27.6	33.6	2.6	5.6	6.2	5.6	3.8	1.8	1.3	3.3	4.0
West	*3,400*	*3,100*	*2,800*	16.7	31.8	37.0	7.5	10.9	15.1	14.0	29.4	34.3	5.1	6.1	5.0	5.9	3.2	1.7	1.9	3.3	3.6
Population Density																					
Large MSA	*4,700*	*4,500*	*3,500*	16.0	30.0	38.8	5.7	10.2	14.6	13.6	27.5	35.8	3.5	5.6	5.9	5.1	3.2	1.7	1.1	2.8	4.2
Other MSA	*6,800*	*6,000*	*6,300*	14.1	30.5	41.2	6.9	11.3	17.7	10.8	28.0	36.9	2.6	4.9	6.3	4.9	3.1	2.0	1.4	3.7	4.1
Non-MSA	*3,100*	*2,500*	*2,600*	13.7	28.5	32.3	6.4	12.7	13.0	10.9	25.1	29.7	4.3	6.4	4.6	6.3	4.2	2.1	1.4	3.4	3.3
Parental Education [e]																					
1.0–2.0 (Low)	*1,300*	*1,100*	*1,200*	22.9	35.0	40.7	9.4	14.1	14.7	19.3	31.5	37.3	6.9	6.6	7.5	7.2	4.6	2.6	2.1	3.0	3.0
2.5–3.0	*2,400*	*2,300*	*2,400*	19.6	34.8	41.4	7.6	12.4	16.8	16.7	32.0	37.5	4.3	7.5	7.0	6.7	4.7	1.5	1.4	3.5	4.1
3.5–4.0	*3,100*	*3,100*	*3,400*	16.4	33.6	39.1	7.0	13.2	15.7	12.9	30.6	35.9	2.9	6.9	5.6	5.9	3.3	1.8	1.5	4.3	4.4
4.5–5.0	*3,600*	*3,600*	*3,200*	10.4	25.5	36.5	4.9	9.2	15.1	8.0	23.3	32.9	2.4	3.3	5.2	4.2	2.7	2.1	0.7	2.7	3.8
5.5–6.0 (High)	*2,300*	*2,100*	*1,300*	10.5	24.3	37.1	5.4	9.0	16.8	7.9	21.6	32.9	2.7	3.4	4.2	4.1	2.3	2.1	1.3	2.7	4.1
Race/Ethnicity (2-year average) [f]																					
White	*13,100*	*13,900*	*14,100*	11.3	28.9	38.8	5.3	11.4	17.3	8.9	26.7	35.1	3.1	8.4	6.9	4.4	3.2	2.3	1.2	3.5	4.6
African American	*4,100*	*2,900*	*2,800*	15.4	32.9	39.6	4.6	7.2	11.7	13.2	30.6	35.9	2.8	3.6	5.8	4.7	3.1	2.1	0.9	1.5	1.9
Hispanic	*5,700*	*4,300*	*4,000*	18.5	35.2	40.3	7.4	11.4	15.1	16.0	32.6	37.1	7.6	8.8	7.6	6.5	4.2	2.8	1.8	3.1	3.5

(Table continued on next page.)

TABLE 4-6 (cont.)
Annual Prevalence of Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	LSD [p]			Hallucinogens other than LSD [p]			Ecstasy (MDMA) [g,h]			Salvia [h,k]			Cocaine			Crack			Other Cocaine [i]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	0.7	1.9	2.5	1.0	2.6	3.0	0.9	2.3	3.6	0.6	1.8	1.8	1.0	1.5	2.6	0.7	0.5	1.1	0.8	1.3	2.4
Gender																					
Male	0.8	2.1	3.4	1.2	2.5	4.1	1.0	2.3	5.0	0.6	2.2	2.3	0.9	1.8	3.5	0.6	0.6	1.4	0.8	1.7	3.6
Female	0.6	1.8	1.5	0.7	2.7	2.1	0.8	2.4	2.7	0.6	1.4	1.0	1.1	1.0	1.6	0.8	0.5	0.6	0.7	0.9	1.3
College Plans																					
None or under 4 years	2.5	5.2	3.7	3.2	6.3	4.1	3.0	5.1	3.8	2.7	5.7	3.4	3.0	4.8	3.9	2.2	1.8	1.8	2.6	4.5	3.3
Complete 4 years	0.6	1.5	2.2	0.8	2.1	2.7	0.7	2.1	3.7	0.4	1.3	1.4	0.8	1.1	2.2	0.6	0.4	0.9	0.6	0.9	2.1
Region																					
Northeast	0.3	1.7	2.6	0.5	2.9	3.4	0.6	2.0	4.2	0.8	1.4	2.9	0.5	1.2	2.5	0.3	0.5	0.8	0.4	1.0	2.2
Midwest	0.6	2.0	2.3	0.8	2.4	3.2	0.7	1.7	3.1	0.2	1.3	1.5	0.8	1.3	2.3	0.6	0.6	0.9	0.6	1.1	2.0
South	0.8	2.2	3.1	0.9	2.2	2.6	1.0	2.9	3.9	0.8	1.9	1.7	1.3	1.5	2.7	0.9	0.5	1.0	0.9	1.5	2.5
West	1.0	1.5	1.6	1.5	2.8	3.4	1.1	2.4	3.2	0.5	2.6	1.5	1.3	1.7	2.7	0.6	0.5	1.6	1.1	1.6	2.7
Population Density																					
Large MSA	0.7	1.7	2.6	0.8	2.2	3.1	1.1	1.7	3.8	0.5	2.1	2.3	1.2	1.2	2.3	0.7	0.5	0.7	1.1	1.0	2.0
Other MSA	0.7	2.1	2.6	1.0	2.8	3.3	0.8	3.0	4.4	0.8	1.4	1.9	1.0	1.3	3.1	0.7	0.4	1.5	0.7	1.3	2.9
Non-MSA	0.7	1.6	2.1	1.1	2.5	2.3	0.9	1.8	1.6	0.3	2.4	1.0	1.0	2.2	1.7	0.7	0.8	0.6	0.7	1.9	1.9
Parental Education [e]																					
1.0–2.0 (Low)	1.4	1.7	2.0	1.6	2.5	2.2	1.4	2.4	2.3	1.0	1.6	1.9	1.8	2.7	3.0	1.2	0.4	1.8	1.4	2.6	1.7
2.5–3.0	0.8	1.8	2.5	1.1	2.6	3.2	1.0	2.9	3.2	0.4	1.8	1.9	1.1	1.5	3.1	0.9	0.6	1.2	0.7	1.3	3.1
3.5–4.0	1.0	2.3	2.7	1.0	3.1	3.3	0.8	2.3	3.9	0.3	2.3	1.6	1.1	1.8	2.4	0.6	0.8	0.7	0.8	1.5	2.3
4.5–5.0	0.4	1.6	2.1	0.6	2.2	3.1	0.8	2.1	4.7	0.8	1.6	1.7	0.9	0.8	2.2	0.5	0.3	0.8	0.8	0.8	2.2
5.5–6.0 (High)	0.6	1.6	2.8	1.0	2.1	2.8	1.0	2.8	3.3	0.7	1.3	1.9	0.6	1.1	2.6	0.5	0.4	1.4	0.4	0.9	2.6
Race/Ethnicity (2-year average) [f]																					
White	0.7	2.0	2.4	1.0	2.7	3.8	0.8	2.8	3.9	0.6	2.1	2.5	0.7	1.5	2.3	0.4	0.6	0.8	0.5	1.3	2.0
African American	0.6	1.1	1.1	0.4	0.9	1.4	0.8	1.1	1.7	0.8	1.3	1.7	0.8	0.9	1.6	0.6	0.7	1.3	0.6	0.7	1.5
Hispanic	1.2	1.4	2.0	1.3	2.4	2.7	1.6	3.7	3.9	1.6	1.6	2.0	1.4	2.8	3.6	0.9	1.0	1.7	1.1	2.6	3.4

(Table continued on next page.)

TABLE 4-6 (cont.)
Annual Prevalence of Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Heroin, Any Use			Heroin with a Needle [c]			Heroin without a Needle [c]			Narcotics other than Heroin [j]			OxyContin [c,j,k]			Vicodin [c,j,k]			Amphetamines [j]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	0.5	0.5	0.6	0.4	0.4	0.5	0.2	0.3	0.5	—	—	6.1	1.0	3.0	3.3	1.0	3.4	4.8	4.3	7.6	8.1
Gender																					
Male	0.6	0.5	0.9	0.5	0.4	0.8	0.2	0.3	0.8	—	—	7.2	0.9	2.8	4.3	0.9	2.9	5.5	3.4	6.9	8.8
Female	0.4	0.5	0.2	0.3	0.4	0.1	0.2	0.4	0.2	—	—	5.0	1.2	2.8	2.2	1.1	3.9	3.8	4.8	8.3	7.3
College Plans																					
None or under 4 years	2.2	1.9	1.1	2.2	1.7	0.9	0.5	1.3	0.7	—	—	7.3	3.8	6.9	4.5	1.9	7.1	5.7	10.4	14.7	9.5
Complete 4 years	0.3	0.4	0.5	0.2	0.3	0.4	0.2	0.2	0.3	—	—	5.8	0.8	2.5	2.9	0.9	3.0	4.4	3.7	6.9	7.6
Region																					
Northeast	0.3	0.2	0.8	0.2	0.2	0.7	0.1	0.2	0.9	—	—	4.0	0.8	1.0	3.1	0.3	2.4	3.2	3.3	6.6	7.1
Midwest	0.5	0.4	0.6	0.4	0.4	0.7	0.1	0.2	0.5	—	—	6.3	0.6	2.3	3.4	1.4	4.4	7.4	3.8	8.7	8.9
South	0.4	0.8	0.5	0.3	0.5	0.3	0.2	0.5	0.3	—	—	6.4	1.1	3.6	4.4	0.6	2.7	3.6	4.4	7.9	8.9
West	0.8	0.5	0.5	0.7	0.5	0.5	0.4	0.3	0.4	—	—	7.1	1.5	4.2	1.6	1.8	4.4	5.7	5.2	7.0	7.0
Population Density																					
Large MSA	0.6	0.4	0.4	0.5	0.3	0.4	0.2	0.3	0.4	—	—	4.6	0.8	2.6	3.6	0.8	3.9	4.2	3.3	7.3	7.5
Other MSA	0.4	0.4	0.7	0.4	0.3	0.6	0.2	0.2	0.6	—	—	7.4	1.2	2.5	3.4	1.2	3.0	5.3	4.7	7.3	9.0
Non-MSA	0.5	1.1	0.5	0.4	1.0	0.4	0.2	0.6	0.2	—	—	4.8	0.9	4.7	2.7	1.0	3.9	4.3	4.8	8.9	7.0
Parental Education [e]																					
1.0–2.0 (Low)	1.1	0.5	1.3	0.9	0.5	1.5	0.5	0.3	0.9	—	—	5.8	1.6	2.5	3.6	1.5	3.0	4.9	5.3	9.5	6.8
2.5–3.0	0.4	0.7	0.6	0.3	0.5	0.4	0.2	0.4	0.3	—	—	6.8	1.3	3.1	3.0	0.9	3.5	5.0	5.3	8.7	8.9
3.5–4.0	0.4	0.6	0.3	0.3	0.5	0.3	0.2	0.3	0.2	—	—	6.1	1.0	3.8	3.4	1.5	5.1	4.1	4.8	8.7	7.8
4.5–5.0	0.3	0.4	0.7	0.3	0.3	0.6	0.1	0.3	0.7	—	—	5.8	1.0	2.4	2.8	0.8	2.4	5.1	3.2	6.5	8.5
5.5–6.0 (High)	0.5	0.5	0.5	0.4	0.3	0.1	0.2	0.4	0.5	—	—	6.3	0.5	2.1	4.1	0.8	2.7	4.8	3.6	6.2	8.6
Race/Ethnicity (2-year average) [f]																					
White	0.4	0.6	0.4	0.2	0.4	0.2	0.2	0.3	0.3	—	—	7.0	1.2	3.6	3.3	0.9	4.8	5.0	3.9	8.5	9.8
African American	0.4	0.6	0.9	0.4	0.5	0.8	0.2	0.4	0.7	—	—	4.7	1.0	2.1	4.0	0.9	2.4	2.7	3.2	5.3	5.9
Hispanic	0.6	0.7	0.6	0.4	0.5	0.6	0.5	0.3	0.6	—	—	5.4	1.9	1.9	2.7	1.8	3.3	4.7	4.5	7.4	6.9

(Table continued on next page.)

TABLE 4-6 (cont.)
Annual Prevalence of Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Ritalin [h,j,k]			Adderall [h,j,k]			Methamphetamine [h,k]			Crystal Methamphetamine (Ice) [h]			Bath Salts (Synthetic Stimulants) [h,k]			Sedatives (Barbiturates) [j]			Tranquilizers [j]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	0.9	1.8	1.8	1.3	4.6	6.8	0.6	0.8	1.0	—	—	0.8	1.0	0.9	0.9	—	—	4.3	1.7	3.9	4.7
Gender																					
Male	0.8	2.2	1.9	1.0	4.7	7.7	0.5	0.7	1.3	—	—	0.8	1.1	1.0	1.1	—	—	4.4	1.3	3.2	4.9
Female	1.0	1.5	1.5	1.4	4.4	6.0	0.6	0.8	0.7	—	—	0.7	0.9	0.7	0.5	—	—	4.2	2.1	4.6	4.4
College Plans																					
None or under 4 years	4.6	6.0	1.4	4.9	10.4	5.4	3.0	3.6	1.3	—	—	1.7	3.1	3.6	1.5	—	—	5.9	4.8	7.9	5.5
Complete 4 years	0.6	1.4	1.6	1.0	4.0	7.0	0.4	0.5	0.9	—	—	0.5	0.8	0.5	0.6	—	—	3.9	1.5	3.5	4.4
Region																					
Northeast	1.3	1.6	1.6	1.0	3.9	7.2	0.5	0.1	0.9	—	—	0.3	0.7	0.6	1.4	—	—	3.0	1.5	3.0	3.3
Midwest	0.2	2.2	2.1	0.9	6.1	9.2	0.8	0.9	0.7	—	—	0.9	0.6	0.7	0.7	—	—	4.1	1.5	4.7	4.4
South	0.9	1.7	2.5	1.6	4.9	7.0	0.4	1.2	1.2	—	—	0.8	1.0	1.0	1.2	—	—	5.1	2.0	4.3	5.0
West	1.4	1.9	0.4	1.3	3.4	3.9	0.9	0.6	0.7	—	—	1.1	1.5	1.1	0.2	—	—	4.1	1.8	3.2	5.8
Population Density																					
Large MSA	1.0	1.7	2.1	1.3	5.4	7.8	0.7	0.7	0.9	—	—	1.2	0.8	1.0	1.0	—	—	3.6	1.8	3.6	3.7
Other MSA	1.0	1.7	1.8	1.3	4.3	7.2	0.6	0.5	1.0	—	—	0.7	0.4	0.6	1.0	—	—	5.0	1.8	3.9	5.6
Non-MSA	0.8	2.3	1.2	1.2	4.2	4.3	0.5	1.6	0.8	—	—	0.6	0.3	1.4	0.5	—	—	3.5	1.6	4.5	4.0
Parental Education [e]																					
1.0–2.0 (Low)	2.0	1.2	1.9	1.9	4.4	2.7	0.2	1.2	1.6	—	—	3.0	1.0	0.9	2.0	—	—	4.3	3.0	5.4	4.4
2.5–3.0	0.7	1.3	2.0	1.3	4.8	7.3	0.8	0.4	1.1	—	—	0.8	0.4	0.6	1.5	—	—	4.8	2.3	4.0	5.1
3.5–4.0	1.0	2.5	1.1	1.3	5.8	6.6	0.6	1.2	0.7	—	—	0.6	0.2	1.5	0.3	—	—	4.0	1.9	4.9	4.7
4.5–5.0	1.0	1.5	1.2	1.0	3.9	7.7	0.6	0.4	0.9	—	—	0.3	0.7	0.4	0.5	—	—	4.6	1.5	3.3	4.8
5.5–6.0 (High)	0.4	1.7	3.3	1.0	4.2	8.8	0.2	0.6	0.9	—	—	0.2	0.6	0.9	0.2	—	—	3.7	1.1	2.8	4.4
Race/Ethnicity (2-year average) [f]																					
White	0.8	2.1	1.9	1.3	5.9	8.1	0.6	0.9	0.7	—	—	0.6	0.5	0.8	0.5	—	—	5.0	1.7	4.0	5.1
African American	1.2	1.3	2.2	1.3	3.0	4.6	0.3	0.6	1.1	—	—	1.3	1.3	1.4	2.2	—	—	3.1	1.1	2.1	2.5
Hispanic	1.3	1.5	1.6	1.8	2.0	4.9	1.1	1.2	1.5	—	—	2.0	1.7	0.6	0.8	—	—	3.8	2.2	3.8	4.2

(Table continued on next page.)

TABLE 4-6 (cont.)
Annual Prevalence of Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Any Prescription Drug [l]			Over-the-Counter Cough/Cold Medicines [h,k]			Rohypnol [m,n]			GHB [n]			Ketamine [h]			Alcohol			Been Drunk [h]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	—	—	13.9	2.0	3.7	4.1	0.3	0.5	0.7	—	—	1.0	—	—	1.5	20.8	44.0	60.2	7.3	24.6	41.4
Gender																					
Male	—	—	14.2	1.4	3.8	4.8	0.3	0.7	0.9	—	—	1.6	—	—	1.7	19.1	42.5	58.7	6.8	23.7	41.6
Female	—	—	13.0	2.5	3.3	3.3	0.4	0.4	0.4	—	—	0.3	—	—	1.0	22.0	45.4	61.7	7.6	25.6	41.9
College Plans																					
None or under 4 years	—	—	16.4	5.2	9.2	4.3	0.9	1.8	0.6	—	—	1.8	—	—	3.3	33.8	58.5	62.8	17.1	37.6	44.7
Complete 4 years	—	—	13.0	1.8	3.0	3.9	0.3	0.4	0.7	—	—	0.7	—	—	0.9	19.8	42.5	59.7	6.6	23.4	40.3
Region																					
Northeast	—	—	11.7	1.8	3.1	3.8	0.2	0.1	1.3	—	—	1.7	—	—	2.2	18.8	46.9	64.1	6.4	27.8	48.2
Midwest	—	—	14.3	1.6	3.3	4.3	0.5	0.5	0.5	—	—	0.3	—	—	1.4	21.2	41.5	63.7	7.3	23.2	44.4
South	—	—	15.1	2.2	4.4	4.6	0.2	0.8	0.7	—	—	1.4	—	—	1.5	21.3	45.5	58.0	7.1	24.6	36.6
West	—	—	13.3	2.3	3.5	3.5	0.4	0.7	0.3	—	—	0.2	—	—	1.0	20.9	41.9	57.4	8.1	23.4	41.3
Population Density																					
Large MSA	—	—	12.3	1.6	3.8	2.8	0.2	0.3	0.7	—	—	1.6	—	—	2.0	20.4	42.9	60.0	7.0	24.2	40.0
Other MSA	—	—	15.9	2.2	3.3	4.8	0.3	0.4	0.8	—	—	0.9	—	—	1.6	20.6	45.2	61.4	7.0	25.2	43.5
Non-MSA	—	—	11.2	2.2	4.3	4.3	0.4	1.3	0.4	—	—	0.1	—	—	0.7	21.8	42.9	57.3	8.3	24.1	38.3
Parental Education [e]																					
1.0–2.0 (Low)	—	—	12.1	2.8	3.5	3.6	0.7	0.6	3.2	—	—	2.6	—	—	2.6	25.8	50.6	57.4	11.0	26.0	40.0
2.5–3.0	—	—	14.7	1.0	2.9	5.6	0.4	1.3	0.5	—	—	1.8	—	—	1.8	26.3	46.8	63.6	9.3	27.0	43.1
3.5–4.0	—	—	13.7	2.7	4.7	2.8	0.2	0.8	0.3	—	—	0.3	—	—	1.4	23.9	47.1	60.4	8.7	27.9	40.4
4.5–5.0	—	—	13.9	1.7	2.9	4.5	0.1	0.1	0.5	—	—	0.5	—	—	0.7	18.3	41.8	61.2	5.6	22.8	42.2
5.5–6.0 (High)	—	—	14.8	2.5	3.6	4.1	0.4	0.0	0.0	—	—	0.0	—	—	1.0	16.0	41.5	60.4	4.8	23.0	44.7
Race/Ethnicity (2-year average) [f]																					
White	—	—	15.4	2.6	4.2	4.5	0.3	0.7	0.4	—	—	0.5	—	—	0.9	20.7	47.6	65.0	7.7	28.8	47.5
African American	—	—	10.2	2.1	3.6	4.5	0.6	0.5	1.9	—	—	1.2	—	—	2.2	17.8	37.3	47.9	5.3	15.1	27.2
Hispanic	—	—	12.4	2.8	3.5	3.8	0.4	0.7	0.8	—	—	2.0	—	—	2.0	25.4	49.6	60.1	9.4	27.0	38.8

(Table continued on next page.)

TABLE 4-6 (cont.)
Annual Prevalence of Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Flavored Alcoholic Beverages [k,n]			Alcoholic Beverages containing Caffeine [h,k]			Tobacco using a Hookah [n]			Small Cigars [n]			Dissolvable Tobacco Products [k,n]			Snus [k,n]			Steroids [c]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	13.4	33.2	43.6	9.5	14.3	20.0	—	—	22.9	—	—	18.9	1.1	1.3	1.1	2.2	4.5	5.8	0.6	0.8	1.5
Gender																					
Male	11.8	28.5	39.5	9.2	13.8	21.7	—	—	24.9	—	—	26.4	1.3	1.9	1.1	3.1	7.5	9.9	0.6	1.1	2.0
Female	14.6	37.6	47.0	9.6	14.7	18.5	—	—	21.4	—	—	11.8	1.0	0.7	0.7	1.5	1.7	1.5	0.5	0.5	0.7
College Plans																					
None or under 4 years	24.2	44.5	44.9	22.9	23.9	23.7	—	—	23.7	—	—	22.9	6.1	5.9	4.6	8.9	15.1	16.0	1.4	2.5	1.8
Complete 4 years	12.6	32.0	44.0	8.4	13.2	19.1	—	—	22.8	—	—	18.0	0.7	0.8	0.3	1.6	3.4	3.5	0.5	0.6	1.3
Region																					
Northeast	10.7	35.4	48.2	6.7	12.2	22.5	—	—	21.6	—	—	21.2	1.4	1.1	0.3	1.4	3.3	6.0	0.6	0.5	2.1
Midwest	15.4	32.5	46.7	10.3	13.4	23.0	—	—	26.2	—	—	23.6	0.5	0.9	0.8	2.2	5.7	7.1	0.6	0.7	0.9
South	12.2	32.8	42.1	9.0	14.9	17.9	—	—	20.1	—	—	18.2	1.2	1.3	1.5	2.4	5.2	5.0	0.6	1.2	1.4
West	15.3	32.8	39.9	11.3	16.0	18.7	—	—	25.9	—	—	14.2	1.4	1.9	1.3	2.2	3.5	5.9	0.4	0.6	1.5
Population Density																					
Large MSA	10.9	29.0	40.6	7.8	13.8	20.3	—	—	24.6	—	—	16.0	1.2	1.1	1.9	1.1	3.4	3.7	0.3	0.8	0.8
Other MSA	13.7	36.2	45.8	9.6	13.4	20.8	—	—	23.5	—	—	20.3	0.8	1.0	0.8	1.7	3.9	5.2	0.6	0.6	1.9
Non-MSA	16.2	33.4	42.4	11.4	17.3	17.6	—	—	19.3	—	—	19.4	1.7	2.6	0.7	4.6	8.1	9.6	0.7	1.2	1.1
Parental Education [e]																					
1.0–2.0 (Low)	18.9	38.2	39.9	13.8	16.8	21.5	—	—	17.9	—	—	9.5	2.4	0.5	2.5	3.1	3.4	4.5	0.8	0.6	1.9
2.5–3.0	20.7	36.2	45.3	12.6	18.2	19.5	—	—	20.2	—	—	17.6	1.9	1.2	1.9	3.5	4.3	7.5	0.5	0.6	1.4
3.5–4.0	16.6	34.9	46.6	10.9	16.2	20.2	—	—	22.9	—	—	20.6	0.8	2.2	1.0	2.2	5.2	5.5	0.7	1.0	1.1
4.5–5.0	8.8	31.6	43.8	7.1	12.8	20.5	—	—	29.0	—	—	20.8	0.8	0.9	0.1	1.4	4.7	6.3	0.5	0.7	1.2
5.5–6.0 (High)	10.4	31.3	40.0	6.5	9.8	20.1	—	—	22.0	—	—	21.5	0.8	0.7	0.1	1.2	4.4	2.5	0.6	0.8	1.4
Race/Ethnicity (2-year average) [f]																					
White	14.0	36.8	48.6	9.6	17.3	24.6	—	—	24.4	—	—	24.2	0.8	1.4	1.5	2.7	8.1	9.9	0.5	0.8	1.1
African American	10.5	24.5	28.0	5.9	7.6	11.6	—	—	10.3	—	—	10.5	1.2	0.8	1.9	0.9	1.6	3.3	0.7	1.0	2.7
Hispanic	17.3	36.0	37.8	11.5	16.6	18.9	—	—	23.7	—	—	13.7	1.7	1.4	1.1	1.8	2.6	4.6	0.6	0.5	1.4

Source. The Monitoring the Future study, the University of Michigan.

See footnotes following Table 4-8.

TABLE 4-7
Thirty-Day Prevalence of Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Approximate Weighted N [a]			Any Illicit Drug [b]			Any Illicit Drug other than Marijuana [b]			Marijuana			Synthetic Marijuana [h,q]			Inhalants [c]			Hallucinogens [d,p]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	*14,600*	*13,000*	*12,400*	8.3	18.5	23.7	3.3	5.6	7.7	6.5	16.6	21.2	4.4	6.8	2.7	2.2	1.1	0.7	0.5	1.2	1.5
Gender																					
Male	*6,800*	*6,200*	*5,700*	8.2	18.9	26.6	2.9	5.1	8.6	6.9	17.4	24.3	4.5	6.0	3.3	1.6	0.9	1.0	0.6	1.2	2.2
Female	*7,200*	*6,400*	*6,100*	8.0	18.1	20.5	3.5	6.0	6.4	5.9	15.7	17.9	4.4	7.6	2.1	2.6	1.2	0.5	0.4	1.1	0.8
College Plans																					
None or under 4 years	*1,000*	*1,200*	*2,000*	21.3	32.0	29.8	9.0	12.5	10.0	17.6	29.3	26.8	11.9	12.7	6.5	4.8	1.7	1.2	1.6	4.0	2.4
Complete 4 years	*13,000*	*11,500*	*9,600*	7.1	17.1	21.8	2.8	4.8	6.7	5.6	15.1	19.5	3.8	6.4	1.8	1.9	1.0	0.6	0.4	0.9	1.2
Region																					
Northeast	*2,400*	*2,500*	*2,400*	7.6	18.9	28.1	2.3	4.9	6.8	6.2	17.5	25.6	3.3	6.9	1.2	2.0	0.7	0.9	0.2	1.3	1.4
Midwest	*3,200*	*3,000*	*2,500*	7.4	16.3	23.2	2.8	5.3	7.5	6.0	14.4	21.0	3.6	6.4	3.2	1.8	0.9	0.9	0.4	1.0	1.8
South	*5,600*	*4,400*	*4,700*	8.3	19.5	23.0	3.8	6.3	8.8	6.1	17.0	19.8	4.3	5.9	3.4	2.5	1.5	0.6	0.6	1.2	1.5
West	*3,400*	*3,100*	*2,800*	9.6	19.1	21.8	3.7	5.5	6.8	7.7	17.3	20.0	6.1	8.6	2.3	2.1	1.0	0.5	0.5	1.3	1.3
Population Density																					
Large MSA	*4,700*	*4,500*	*3,500*	8.9	18.7	23.4	3.0	5.4	6.8	7.5	16.7	22.0	5.8	6.1	2.4	2.2	1.2	0.7	0.4	1.0	1.4
Other MSA	*6,800*	*6,000*	*6,300*	8.0	18.8	25.7	3.4	5.2	8.9	6.0	17.1	22.4	3.9	6.6	2.8	1.9	0.9	0.8	0.4	1.2	1.9
Non-MSA	*3,100*	*2,500*	*2,600*	8.0	17.7	19.4	3.6	7.1	5.9	6.1	14.9	17.1	3.6	8.5	3.0	2.7	1.4	0.5	0.7	1.4	0.8
Parental Education [e]																					
1.0–2.0 (Low)	*1,300*	*1,100*	*1,200*	15.3	22.4	25.7	5.7	8.4	7.6	12.4	18.6	23.0	10.3	9.7	7.6	3.3	1.8	0.8	1.2	1.2	1.4
2.5–3.0	*2,400*	*2,300*	*2,400*	10.9	21.7	26.3	4.0	5.9	8.7	8.8	19.9	23.0	5.1	10.5	2.9	2.9	1.6	0.4	0.5	1.3	1.5
3.5–4.0	*3,100*	*3,100*	*3,400*	9.1	20.8	23.5	3.6	6.5	6.9	7.1	18.5	21.4	5.3	7.4	2.3	2.3	1.0	0.9	0.6	1.5	1.4
4.5–5.0	*3,600*	*3,600*	*3,200*	5.6	15.3	21.8	2.5	4.5	7.2	4.1	13.4	19.7	2.9	3.9	1.2	1.8	0.6	0.7	0.2	0.8	1.5
5.5–6.0 (High)	*2,300*	*2,100*	*1,300*	5.4	15.2	22.9	2.4	4.1	7.9	4.1	13.7	19.8	3.3	6.3	2.0	1.2	0.7	0.4	0.4	0.8	1.2
Race/Ethnicity (2-year average) [f]																					
White	*13,100*	*13,900*	*14,100*	6.2	17.8	23.9	2.6	5.3	8.1	4.7	16.2	21.3	—	—	—	1.7	1.0	0.6	0.5	1.1	1.4
African American	*4,100*	*2,900*	*2,800*	9.1	20.6	25.8	3.0	4.6	6.9	7.7	19.0	23.0	—	—	—	2.4	1.7	1.4	0.5	0.9	0.9
Hispanic	*5,700*	*4,300*	*4,000*	10.5	21.4	24.9	3.7	5.6	6.9	8.9	19.4	22.6	—	—	—	2.6	1.9	1.2	0.7	1.1	1.2

(Table continued on next page.)

TABLE 4-7 (cont.)
Thirty-Day Prevalence of Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	LSD [p]			Hallucinogens other than LSD [p]			Ecstasy (MDMA) [g,h]			Cocaine			Crack			Other Cocaine [i]			Heroin, Any Use		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	0.3	0.6	1.0	0.4	0.8	1.0	0.4	0.8	1.4	0.5	0.6	1.0	0.3	0.3	0.7	0.4	0.5	0.9	0.3	0.4	0.4
Gender																					
Male	0.3	0.8	1.5	0.4	0.8	1.4	0.4	0.9	2.1	0.5	0.8	1.5	0.3	0.3	0.8	0.4	0.6	1.4	0.3	0.4	0.7
Female	0.2	0.5	0.5	0.3	0.9	0.5	0.3	0.7	0.8	0.4	0.4	0.5	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.2
College Plans																					
None or under 4 years	1.1	2.7	2.0	1.3	2.7	1.1	1.5	1.8	1.5	1.7	2.2	1.4	1.3	1.0	1.0	1.3	1.9	1.0	1.0	1.6	0.6
Complete 4 years	0.2	0.4	0.7	0.2	0.6	0.8	0.3	0.7	1.4	0.3	0.5	0.9	0.2	0.2	0.6	0.3	0.3	0.8	0.2	0.2	0.3
Region																					
Northeast	0.1	0.6	0.8	0.2	1.1	1.0	0.2	0.6	1.3	0.2	0.6	1.0	0.2	0.4	0.5	0.1	0.3	1.0	0.0	0.2	0.5
Midwest	0.2	0.5	1.0	0.3	0.7	1.2	0.2	0.9	1.6	0.4	0.6	0.8	0.3	0.4	0.5	0.2	0.2	0.5	0.3	0.3	0.4
South	0.3	0.8	1.3	0.5	0.7	0.8	0.4	0.9	1.3	0.6	0.6	1.1	0.4	0.2	0.6	0.4	0.6	1.0	0.3	0.4	0.4
West	0.3	0.6	0.9	0.3	0.8	1.1	0.4	0.6	1.4	0.5	0.9	1.0	0.2	0.3	1.0	0.5	0.8	1.0	0.4	0.4	0.5
Population Density																					
Large MSA	0.3	0.6	1.0	0.3	0.7	0.9	0.5	0.5	0.6	0.6	0.6	0.9	0.3	0.2	0.3	0.5	0.5	0.8	0.4	0.3	0.3
Other MSA	0.2	0.6	1.3	0.3	0.9	1.2	0.4	1.0	2.2	0.4	0.5	1.2	0.3	0.3	1.0	0.3	0.3	1.0	0.2	0.2	0.6
Non-MSA	0.3	0.8	0.6	0.5	0.8	0.5	0.2	0.7	0.6	0.4	1.0	0.7	0.4	0.5	0.3	0.2	0.8	0.7	*	0.9	0.2
Parental Education [e]																					
1.0–2.0 (Low)	0.6	0.9	1.2	1.1	0.9	0.7	0.9	1.3	0.9	1.0	1.3	1.5	0.8	0.4	1.1	0.8	1.1	0.5	0.7	0.5	0.9
2.5–3.0	0.2	0.6	1.1	0.5	1.0	0.9	0.2	0.8	1.0	0.6	0.9	1.3	0.4	0.4	0.8	0.4	0.6	1.5	0.1	0.4	0.4
3.5–4.0	0.5	0.8	1.1	0.2	0.9	0.8	0.3	0.7	1.4	0.4	0.6	0.7	0.4	0.4	0.4	0.3	0.4	0.7	0.2	0.4	0.1
4.5–5.0	0.1	0.4	0.8	0.1	0.7	1.2	0.2	0.8	1.9	0.4	0.4	0.9	0.2	0.1	0.5	0.3	0.3	0.8	0.2	0.3	0.5
5.5–6.0 (High)	0.1	0.5	0.8	0.3	0.7	0.7	0.5	0.9	1.4	0.3	0.5	0.9	0.2	0.3	0.8	0.3	0.3	0.8	0.2	0.3	0.4
Race/Ethnicity (2-year average) [f]																					
White	0.3	0.6	0.8	0.4	0.8	1.0	0.3	0.8	1.4	0.3	0.6	0.8	0.2	0.3	0.4	0.2	0.4	0.6	0.2	0.3	0.2
African American	0.3	0.6	0.7	0.3	0.5	0.7	0.5	0.6	1.1	0.4	0.7	1.0	0.3	0.6	1.1	0.4	0.4	1.1	0.3	0.5	0.8
Hispanic	0.6	0.6	0.7	0.5	0.8	0.9	0.7	1.3	1.2	0.7	1.2	1.5	0.4	0.4	1.0	0.5	1.1	1.4	0.3	0.3	0.4

(Table continued on next page.)

TABLE 4-7 (cont.)
Thirty-Day Prevalence of Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Heroin with a Needle [c]			Heroin without a Needle [c]			Narcotics other than Heroin [j]			Amphetamines [j]			Methamphetamine [h,k]			Crystal Methamphetamine (Ice) [h]			Sedatives (Barbiturates) [j]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	0.2	0.3	0.3	0.1	0.2	0.4	—	—	2.2	2.1	3.7	3.8	0.2	0.3	0.5	—	—	0.4	—	—	2.0
Gender																					
Male	0.3	0.3	0.5	0.1	0.2	0.6	—	—	2.7	1.7	3.2	4.2	0.2	0.5	0.5	—	—	0.6	—	—	2.1
Female	0.2	0.3	0.2	0.1	0.2	0.2	—	—	1.5	2.3	4.1	3.4	0.2	0.2	0.4	—	—	0.2	—	—	1.9
College Plans																					
None or under 4 years	1.0	1.5	0.5	0.5	1.2	0.5	—	—	2.7	5.7	7.3	4.0	0.7	2.0	0.6	—	—	0.9	—	—	2.8
Complete 4 years	0.2	0.2	0.2	0.1	0.1	0.3	—	—	2.0	1.7	3.3	3.6	0.1	0.2	0.4	—	—	0.2	—	—	1.7
Region																					
Northeast	0.0	0.2	0.7	0.0	0.1	0.7	—	—	1.5	1.7	3.3	3.2	0.0	0.0	0.7	—	—	0.3	—	—	1.4
Midwest	0.3	0.3	0.3	0.0	0.1	0.4	—	—	2.0	1.6	3.6	4.3	0.2	0.3	0.3	—	—	0.8	—	—	1.7
South	0.2	0.3	0.2	0.1	0.3	0.2	—	—	2.5	2.3	4.1	4.1	0.1	0.5	0.4	—	—	0.4	—	—	2.6
West	0.3	0.4	0.1	0.2	0.3	0.4	—	—	2.3	2.4	3.4	3.5	0.4	0.4	0.5	—	—	0.4	—	—	1.7
Population Density																					
Large MSA	0.3	0.2	0.1	0.1	0.2	0.3	—	—	1.5	1.6	3.9	3.0	0.3	0.4	0.0	—	—	0.6	—	—	1.4
Other MSA	0.2	0.2	0.4	0.1	0.1	0.5	—	—	2.7	2.2	3.2	4.6	0.1	0.2	0.7	—	—	0.4	—	—	2.4
Non-MSA	*	0.8	0.2	*	0.5	0.2	—	—	1.7	2.5	4.6	3.1	0.1	0.6	0.4	—	—	0.3	—	—	1.7
Parental Education [e]																					
1.0–2.0 (Low)	0.6	0.5	1.1	0.3	0.4	0.9	—	—	2.9	3.4	5.5	3.1	0.0	0.7	0.6	—	—	2.7	—	—	2.4
2.5–3.0	0.0	0.4	0.4	0.1	0.2	0.3	—	—	2.5	2.5	4.0	4.6	0.1	0.1	0.6	—	—	0.2	—	—	2.2
3.5–4.0	0.2	0.3	0.2	0.1	0.3	0.2	—	—	2.0	2.3	4.2	3.7	0.3	0.6	0.5	—	—	0.3	—	—	1.7
4.5–5.0	0.2	0.3	0.2	0.1	0.1	0.6	—	—	1.9	1.5	3.0	3.8	0.2	0.2	0.2	—	—	0.1	—	—	2.0
5.5–6.0 (High)	0.2	0.3	0.0	0.0	0.3	0.2	—	—	2.1	1.4	2.9	3.3	0.0	0.4	0.6	—	—	0.1	—	—	1.9
Race/Ethnicity (2-year average) [f]																					
White	0.1	0.3	0.1	0.1	0.2	0.2	—	—	2.4	1.9	3.7	4.3	0.2	0.3	0.3	—	—	0.3	—	—	2.2
African American	0.3	0.4	0.5	0.1	0.4	0.8	—	—	2.3	1.8	3.5	3.2	0.3	0.5	0.7	—	—	1.2	—	—	2.0
Hispanic	0.2	0.3	0.6	0.3	0.1	0.4	—	—	2.1	2.2	3.0	3.3	0.5	0.4	0.7	—	—	0.9	—	—	1.8

(Table continued on next page.)

TABLE 4-7 (cont.)
Thirty-Day Prevalence of Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Tranquilizers [j]			Any Prescription Drug [l]			Rohypnol [m]			Alcohol			Been Drunk [h]			Flavored Alcoholic Beverages [k,n]			Cigarettes		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	0.8	1.6	2.1	—	—	6.4	0.2	0.4	—	9.0	23.5	37.4	2.7	11.2	23.5	5.7	14.0	19.9	4.0	7.2	13.6
Gender																					
Male	0.6	1.3	2.2	—	—	6.9	0.4	0.5	—	8.2	23.0	37.4	2.7	11.1	24.9	5.1	12.4	16.8	3.5	7.7	15.2
Female	1.0	1.8	2.0	—	—	5.8	0.1	0.3	—	9.5	23.9	37.1	2.7	11.5	22.4	5.9	15.7	21.9	4.2	6.6	11.6
College Plans																					
None or under 4 years	3.1	3.3	2.6	—	—	8.0	0.9	1.3	—	17.0	37.0	40.2	6.7	20.9	25.3	13.8	20.5	22.8	13.1	19.4	25.3
Complete 4 years	0.7	1.4	1.9	—	—	5.8	0.2	0.3	—	8.3	22.1	36.6	2.4	10.3	22.6	5.1	13.3	19.3	3.1	5.8	10.8
Region																					
Northeast	0.7	1.2	1.3	—	—	5.3	0.0	0.1	—	7.6	27.0	41.6	2.0	13.3	28.6	4.9	14.4	22.6	3.4	6.7	11.7
Midwest	0.8	1.6	1.7	—	—	6.3	0.5	0.4	—	8.9	20.4	40.2	2.3	9.7	25.9	5.6	12.3	24.3	3.5	8.0	13.8
South	1.0	1.7	2.3	—	—	7.3	0.1	0.5	—	9.8	24.3	34.6	2.8	11.6	21.0	4.7	14.5	17.6	4.6	7.7	15.4
West	0.7	1.5	2.6	—	—	5.9	0.3	0.6	—	8.6	22.6	36.1	3.4	10.7	21.4	7.8	14.8	17.6	3.9	5.8	11.9
Population Density																					
Large MSA	0.8	1.7	1.4	—	—	5.1	0.4	0.0	—	8.8	23.3	37.7	2.5	11.3	22.5	4.9	13.7	18.7	2.8	5.9	11.7
Other MSA	0.9	1.3	2.7	—	—	7.6	0.1	0.3	—	9.0	24.0	38.7	2.8	10.8	25.2	5.3	14.5	19.9	3.7	6.0	12.9
Non-MSA	0.8	1.9	1.5	—	—	5.2	0.3	1.3	—	9.2	22.6	33.7	3.0	12.3	20.7	7.4	13.2	21.2	6.6	12.3	17.8
Parental Education [e]																					
1.0–2.0 (Low)	1.5	3.2	2.0	—	—	6.2	0.7	0.6	—	11.3	26.3	32.5	3.8	12.0	18.7	9.5	14.6	21.0	5.8	9.7	14.8
2.5–3.0	1.0	1.3	2.3	—	—	7.5	0.4	0.7	—	11.5	25.0	38.2	3.4	11.5	25.2	8.4	16.6	21.5	6.2	9.1	16.1
3.5–4.0	0.9	1.8	1.9	—	—	5.9	0.1	0.8	—	10.7	26.2	37.9	2.9	12.9	21.7	7.0	16.2	22.0	4.8	8.4	14.2
4.5–5.0	0.7	1.3	2.1	—	—	6.2	0.2	0.1	—	7.6	21.3	38.7	2.4	10.4	25.9	3.3	11.5	16.1	2.6	5.2	12.0
5.5–6.0 (High)	0.6	1.1	2.0	—	—	6.7	0.1	0.0	—	6.5	22.1	40.6	2.2	11.3	25.8	4.1	13.3	19.9	1.7	4.9	9.4
Race/Ethnicity (2-year average) [f]																					
White	0.8	1.5	2.0	—	—	7.1	0.1	0.3	—	9.0	26.4	42.5	2.9	14.1	29.0	5.5	15.8	22.1	4.4	9.5	17.5
African American	0.7	1.2	1.8	—	—	5.7	0.3	0.1	—	8.8	16.6	25.9	2.4	5.5	15.1	4.2	8.1	16.1	2.6	4.2	9.0
Hispanic	1.0	1.9	1.8	—	—	5.6	0.2	0.5	—	11.2	27.1	37.0	3.6	11.6	19.5	7.5	16.1	16.3	3.5	6.8	11.4

(Table continued on next page.)

TABLE 4-7 (cont.)
Thirty-Day Prevalence of Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Smokeless Tobacco [g,n]			E-Cigarettes [i,q]			Large Cigars [h,q]			Flavored Little Cigars [h,q]			Regular Little Cigars [h,q]			Steroids [c]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	3.0	5.3	8.4	8.7	16.2	17.1	1.9	4.0	6.4	4.1	7.0	11.9	2.5	4.4	7.0	0.2	0.4	0.9
Gender																		
Male	3.8	8.9	14.3	9.8	19.2	20.1	2.8	5.8	10.8	4.8	8.2	16.1	2.9	5.9	9.6	0.3	0.6	1.3
Female	2.2	1.9	2.1	7.1	13.1	13.7	1.1	2.2	2.4	3.4	5.8	8.2	2.0	2.9	4.6	0.2	0.3	0.3
College Plans																		
None or under 4 years	9.6	17.9	15.0	16.8	26.3	23.0	6.2	7.2	11.9	10.0	12.9	19.6	8.5	9.9	13.6	0.7	1.3	1.1
Complete 4 years	2.4	4.1	6.5	7.9	15.3	15.4	1.6	3.7	5.0	3.6	6.5	9.9	2.0	4.0	5.4	0.2	0.3	0.8
Region																		
Northeast	1.3	4.1	9.6	7.2	17.3	15.7	1.8	6.1	8.7	2.3	7.3	15.5	1.7	4.7	9.0	0.3	0.3	1.3
Midwest	2.7	5.7	11.8	6.7	15.1	19.7	0.8	3.8	7.4	3.3	7.2	14.5	1.5	3.9	8.7	0.2	0.4	0.3
South	3.7	6.8	5.9	8.7	16.5	15.6	2.7	4.1	5.9	4.8	7.7	10.7	3.8	6.0	6.8	0.3	0.6	0.8
West	3.2	3.6	8.4	11.7	16.0	18.6	1.6	2.1	4.4	4.7	5.3	9.0	2.0	2.5	4.1	0.2	0.3	1.2
Population Density																		
Large MSA	1.8	4.1	3.8	9.7	15.3	15.8	2.2	4.4	4.4	4.2	7.0	7.9	2.2	4.1	4.9	0.1	0.5	0.5
Other MSA	2.7	4.4	9.8	9.7	17.5	19.8	1.9	3.0	6.4	4.4	6.3	12.6	2.7	3.6	7.0	0.2	0.3	1.2
Non-MSA	5.2	9.5	11.1	5.1	14.8	12.3	1.3	5.5	8.7	3.2	8.5	15.4	2.5	7.1	9.5	0.3	0.6	0.6
Parental Education [e]																		
1.0–2.0 (Low)	5.6	4.7	6.3	11.4	20.3	14.6	4.1	4.2	4.8	9.1	10.5	10.8	5.4	7.4	8.4	0.0	0.4	1.3
2.5–3.0	4.4	6.7	9.3	12.1	16.3	19.1	2.9	4.6	6.1	6.0	7.2	14.8	3.3	3.8	7.9	0.3	0.5	0.9
3.5–4.0	3.0	5.8	8.1	10.2	20.2	18.3	1.5	4.9	6.4	3.9	10.8	12.4	1.9	6.6	7.5	0.2	0.4	0.5
4.5–5.0	1.9	4.3	9.5	6.4	14.9	14.7	1.2	3.3	7.0	2.2	5.1	10.4	1.9	3.6	5.3	0.2	0.5	0.7
5.5–6.0 (High)	1.9	4.6	7.9	5.3	13.1	18.6	1.2	3.8	6.1	2.1	3.7	9.6	1.8	2.8	5.8	0.3	0.5	1.1
Race/Ethnicity (2-year average) [f]																		
White	3.4	7.7	11.4	—	—	—	—	—	—	—	—	—	—	—	—	0.2	0.4	0.6
African American	2.0	2.5	2.6	—	—	—	—	—	—	—	—	—	—	—	—	0.3	0.6	2.0
Hispanic	2.6	3.0	3.4	—	—	—	—	—	—	—	—	—	—	—	—	0.3	0.3	1.0

Source. The Monitoring the Future study, the University of Michigan.

See footnotes following Table 4-8.

TABLE 4-8
Thirty-Day Prevalence of Daily Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

				Marijuana			Alcohol								
	Approximate Weighted N [a]			Daily			Daily			5+ Drinks [o]			Been Drunk [h]		
	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	*14,600*	*13,000*	*12,400*	1.0	3.4	5.8	0.3	0.8	1.9	4.1	12.6	19.4	0.1	0.3	1.1
Gender															
Male	*6,800*	*6,200*	*5,700*	1.2	4.3	8.5	0.3	1.1	2.8	3.5	13.1	22.3	0.2	0.4	1.8
Female	*7,200*	*6,400*	*6,100*	0.7	2.4	3.3	0.3	0.6	1.0	4.6	12.2	16.6	0.1	0.1	0.6
College Plans															
None or under 4 years	*1,000*	*1,200*	*2,000*	2.9	8.8	9.8	1.3	2.7	3.7	9.9	24.3	24.0	0.9	1.1	2.0
Complete 4 years	*13,000*	*11,500*	*9,600*	0.8	2.8	4.6	0.2	0.6	1.4	3.7	11.4	18.3	*	0.2	0.9
Region															
Northeast	*2,400*	*2,500*	*2,400*	0.9	3.4	7.0	*	0.5	1.3	3.3	13.8	22.3	0.2	0.2	1.4
Midwest	*3,200*	*3,000*	*2,500*	1.3	3.2	6.2	0.2	0.6	2.1	3.4	11.4	20.4	*	0.1	1.4
South	*5,600*	*4,400*	*4,700*	0.8	3.7	5.3	0.4	1.2	1.9	4.7	13.3	17.9	0.1	0.3	1.1
West	*3,400*	*3,100*	*2,800*	1.1	3.3	5.4	0.4	0.7	1.9	4.5	11.9	18.8	0.2	0.4	0.5
Population Density															
Large MSA	*4,700*	*4,500*	*3,500*	1.3	3.3	5.2	0.2	0.6	1.6	4.0	12.3	19.4	*	0.2	0.8
Other MSA	*6,800*	*6,000*	*6,300*	0.8	3.6	6.6	0.3	0.7	2.0	4.0	12.4	20.1	0.1	0.2	1.4
Non-MSA	*3,100*	*2,500*	*2,600*	0.9	3.2	4.8	0.5	1.4	1.9	4.5	13.8	17.9	0.2	0.6	0.8
Parental Education [e]															
1.0–2.0 (Low)	*1,300*	*1,100*	*1,200*	2.0	4.3	5.8	0.8	1.8	2.6	5.7	15.4	19.0	0.5	0.4	1.7
2.5–3.0	*2,400*	*2,300*	*2,400*	0.9	4.4	6.5	0.2	0.9	1.5	5.4	14.0	20.1	0.0	0.4	0.7
3.5–4.0	*3,100*	*3,100*	*3,400*	1.1	4.6	6.4	0.3	0.9	1.5	4.9	13.7	19.2	0.1	0.3	0.7
4.5–5.0	*3,600*	*3,600*	*3,200*	0.6	2.0	4.6	0.4	0.4	2.2	3.4	10.7	20.7	*	0.1	1.2
5.5–6.0 (High)	*2,300*	*2,100*	*1,300*	0.7	1.4	4.5	0.2	0.7	1.8	3.0	11.6	19.0	0.0	0.2	1.3
Race/Ethnicity (2-year average) [f]															
White	*13,100*	*13,900*	*14,100*	0.7	3.5	6.2	0.2	0.9	2.0	4.2	14.4	23.8	0.1	0.2	1.3
African American	*4,100*	*2,900*	*2,800*	1.1	4.4	6.1	0.2	0.3	1.4	4.4	7.5	11.3	0.1	0.2	1.0
Hispanic	*5,700*	*4,300*	*4,000*	1.4	3.7	5.7	0.3	1.0	2.3	5.7	15.0	20.4	0.1	0.3	1.3

(Table continued on next page.)

TABLE 4-8

Thirty-Day Prevalence of Daily Use of Various Drugs by Subgroups for 8th, 10th, and 12th Graders, 2014

(Entries are percentages.)

	Cigarettes						Smokeless Tobacco [g,n]		
	One or More Daily			Half Pack or More Daily			Daily		
	8th	10th	12th	8th	10th	12th	8th	10th	12th
Total	1.4	3.2	6.7	0.5	1.2	2.6	0.5	1.8	3.4
Gender									
Male	1.2	3.5	7.9	0.5	1.5	3.4	0.9	3.4	6.5
Female	1.3	2.8	5.4	0.4	0.9	1.8	0.3	0.4	0.1
College Plans									
None or under 4 years	4.7	10.5	14.0	1.8	4.9	6.2	3.1	7.7	8.8
Complete 4 years	1.0	2.3	5.0	0.3	0.8	1.7	0.3	1.2	1.9
Region									
Northeast	1.2	2.8	6.8	0.4	0.9	2.5	0.1	0.9	3.9
Midwest	0.9	3.9	6.6	0.3	1.7	2.5	0.3	1.9	5.6
South	1.9	3.4	8.2	0.8	1.3	3.3	0.8	3.1	2.5
West	1.1	2.4	4.5	0.3	0.8	1.6	0.8	0.5	2.3
Population Density									
Large MSA	1.1	2.5	5.4	0.3	0.7	1.9	0.2	0.9	0.9
Other MSA	1.3	2.6	6.3	0.5	0.8	2.4	0.2	1.3	3.5
Non-MSA	2.1	5.7	9.6	0.9	3.0	4.1	1.8	4.7	6.4
Parental Education [e]									
1.0–2.0 (Low)	2.6	4.6	6.9	1.2	1.9	2.7	1.5	2.2	0.6
2.5–3.0	1.9	4.7	8.9	0.6	1.9	3.1	1.3	2.9	3.8
3.5–4.0	1.6	3.9	6.7	0.6	1.5	2.8	0.2	2.3	3.8
4.5–5.0	0.8	1.8	5.8	0.2	0.5	2.1	0.0	1.2	4.4
5.5–6.0 (High)	0.5	1.6	4.7	0.1	0.4	1.6	0.6	0.9	2.4
Race/Ethnicity (2-year average) [r]									
White	1.7	4.8	9.3	0.6	1.8	3.9	0.8	2.6	4.6
African American	1.2	2.3	5.1	0.6	1.0	2.0	0.2	0.8	1.3
Hispanic	1.3	2.3	4.1	0.5	0.5	1.2	0.1	0.4	0.5

Source. The Monitoring the Future study, the University of Michigan.

See footnotes on the following page.

Footnotes for Tables 4-5 through 4-8

Notes. ' — ' indicates data not available. ' * ' indicates less than 0.05% but greater than 0%.

[a]Subgroup *N*s may vary depending on the number of forms in which the use of each drug was asked about.

[b]Use of any illicit drug includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin; or any use of narcotics other than heroin, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders. For 8th and 10th graders, the use of narcotics other than heroin and sedatives (barbiturates) has been excluded because these younger respondents appear to overreport use (perhaps because they include the use of nonprescription drugs in their answers).

[c]12th grade only: Data based on three of six forms; *N* is three sixths of *N* indicated.

[d]Unadjusted for known underreporting of certain drugs. See text for details.

[e]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables.

[f]To derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates. See appendix B for details on how race/ethnicity is defined.

[g]8th and 10th grades only: Data based on two of four forms; *N* is one half of *N* indicated.

[h]12th grade only: Data based on two of six forms; *N* is two sixths of *N* indicated.

[i]12th grade only: Data based on four of six forms; *N* is four sixths of *N* indicated.

[j]Only drug use not under a doctor's orders is included here.

[k]8th and 10th grades only: Data based on one of four forms; *N* is one third of *N* indicated.

[l]The use of any prescription drug includes use of any of the following: amphetamines, sedatives (barbiturates), narcotics other than heroin, or tranquilizers …without a doctor telling you to use them.

[m]8th and 10th grades only: Data based on one of four forms; *N* is one sixth of *N* indicated.

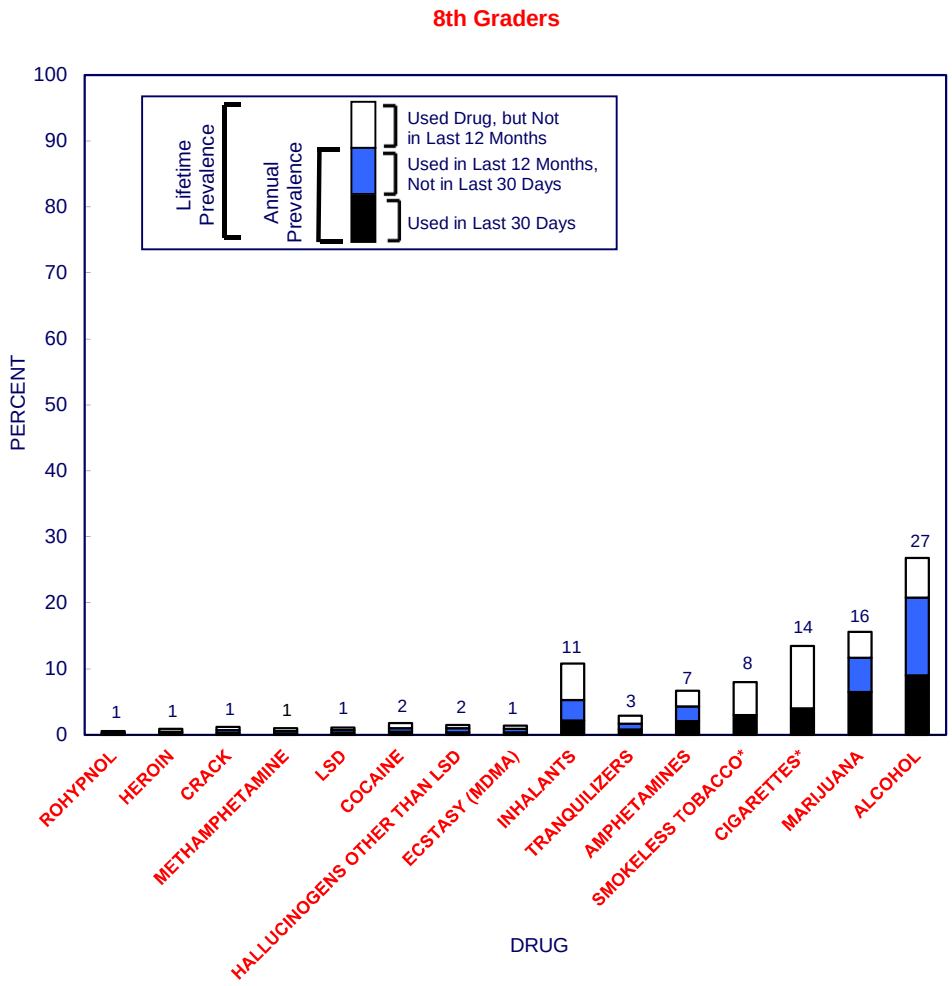
[n]12th grade only: Data based on one of six forms; *N* is one sixth of *N* indicated.

[o]This measure refers to having five or more drinks in a row in the last two weeks.

[p]12th grade only: Data based on five of six forms; *N* is five sixths of *N* indicated.

[q]8th and 10th grades only: Data based on two of four forms; *N* is one third of *N* indicated.

FIGURE 4-1
Prevalence and Recency of Use of Various Types of Drugs in Grades 8, 10, and 12
2014

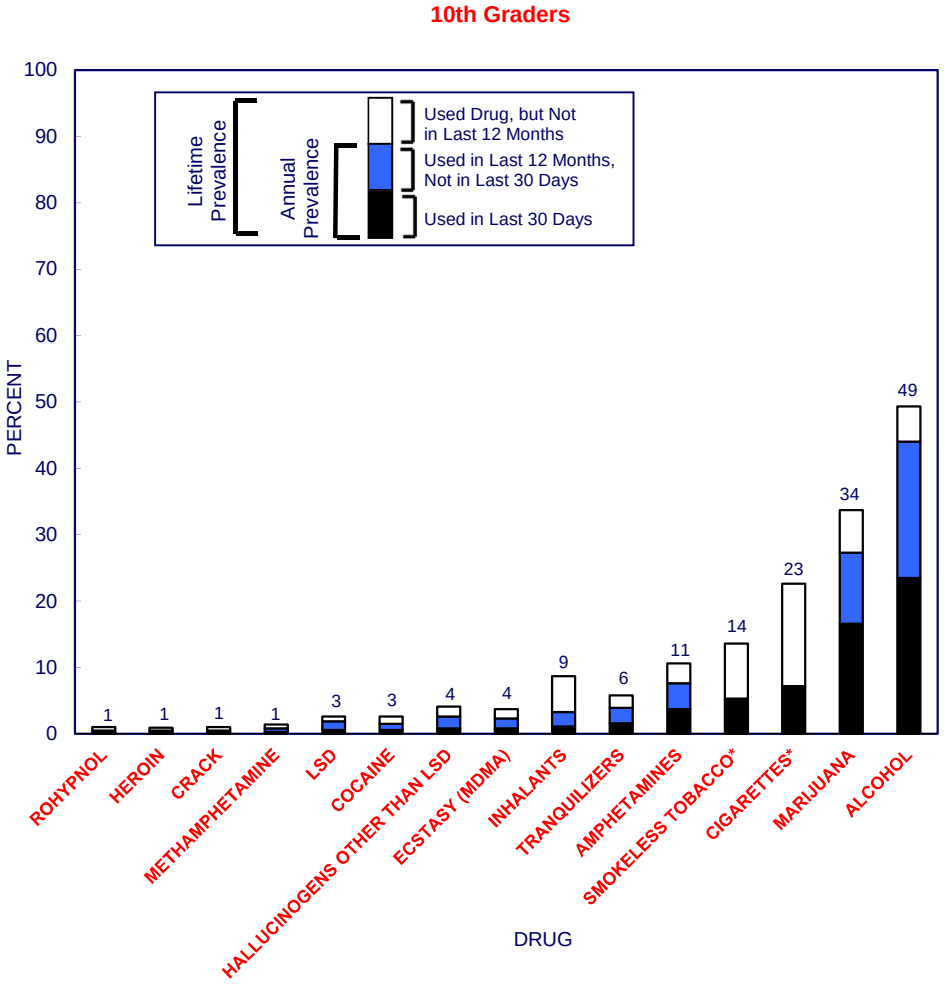


Source. The Monitoring the Future study, the University of Michigan.

*Annual use not measured for cigarettes and smokeless tobacco.

(Figure continued on next page.)

FIGURE 4-1 (cont.)
Prevalence and Recency of Use of Various Types of Drugs in Grades 8, 10, and 12
2014

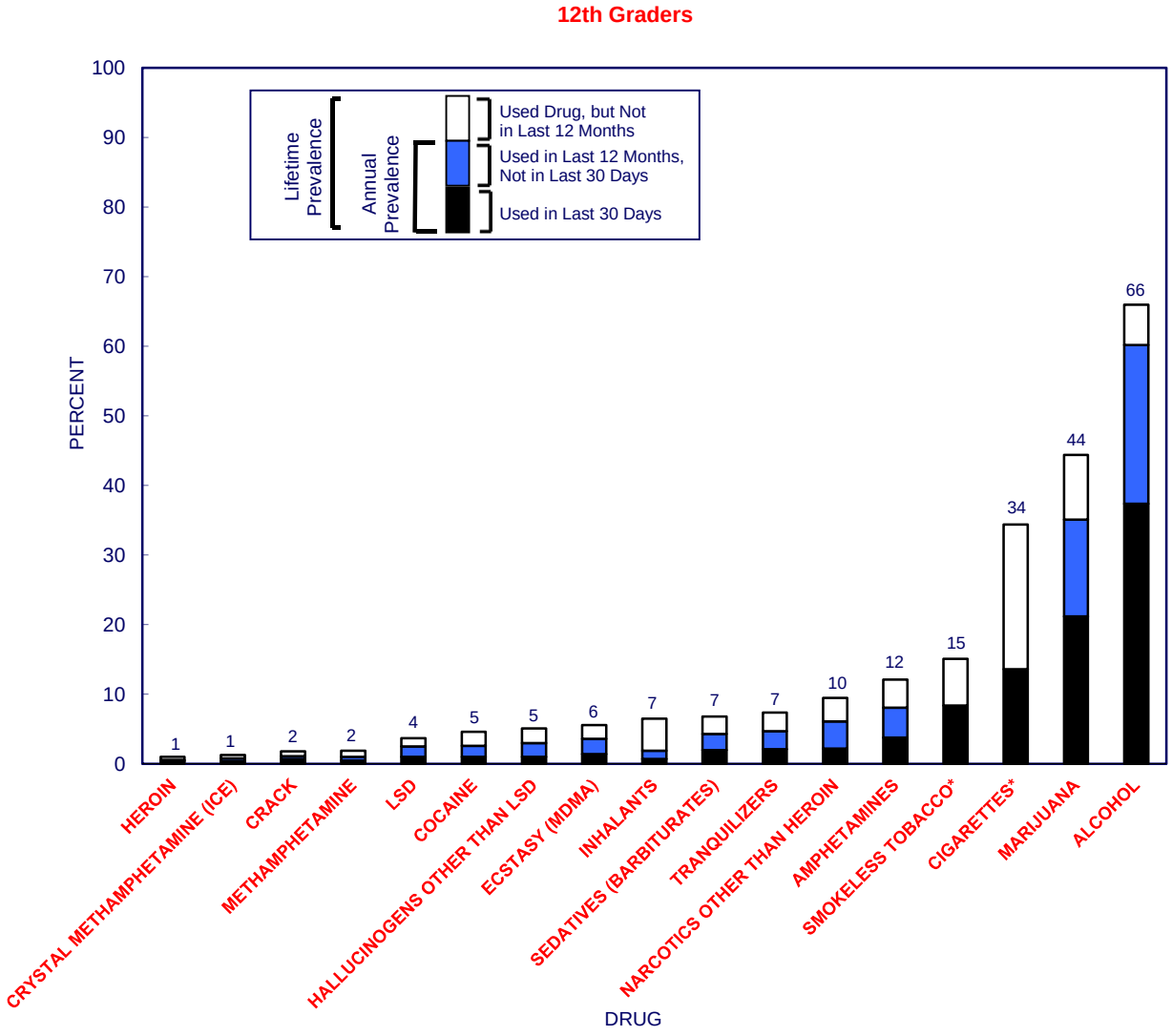


Source. The Monitoring the Future study, the University of Michigan.

*Annual use not measured for cigarettes and smokeless tobacco.

(Figure continued on next page.)

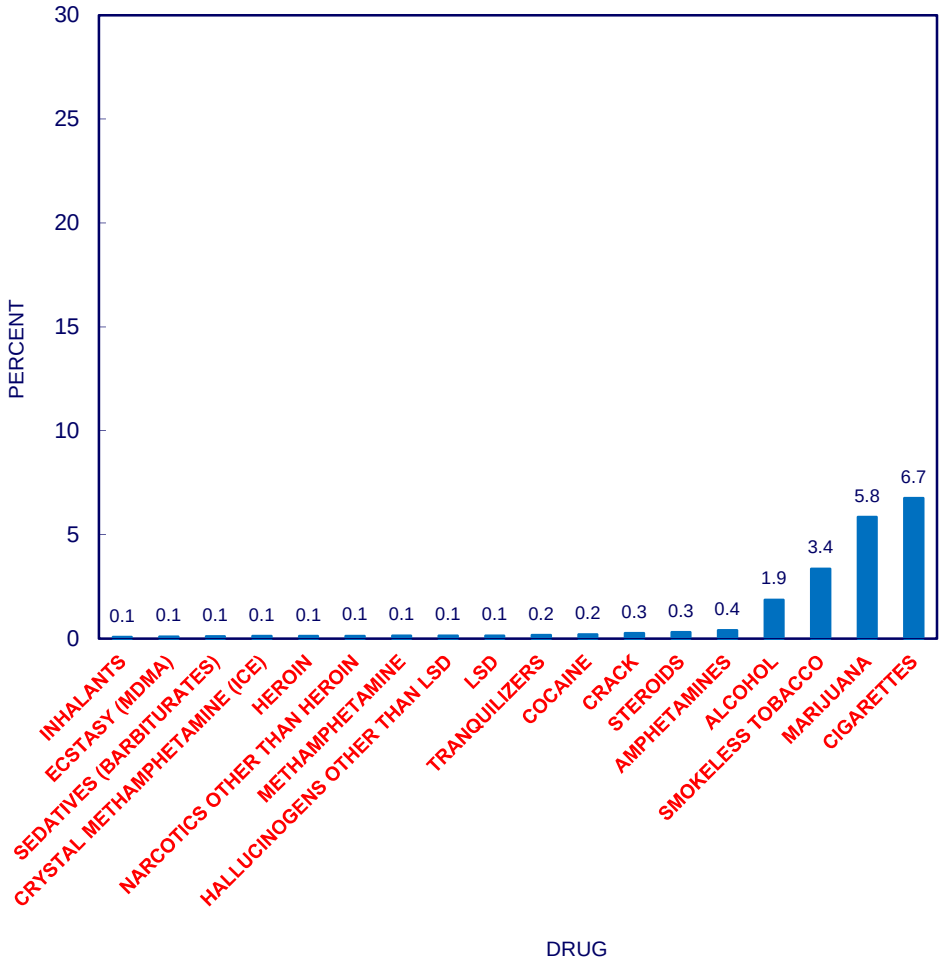
FIGURE 4-1 (cont.)
Prevalence and Recency of Use of Various Types of Drugs in Grades 8, 10, and 12
2014



Source. The Monitoring the Future study, the University of Michigan.

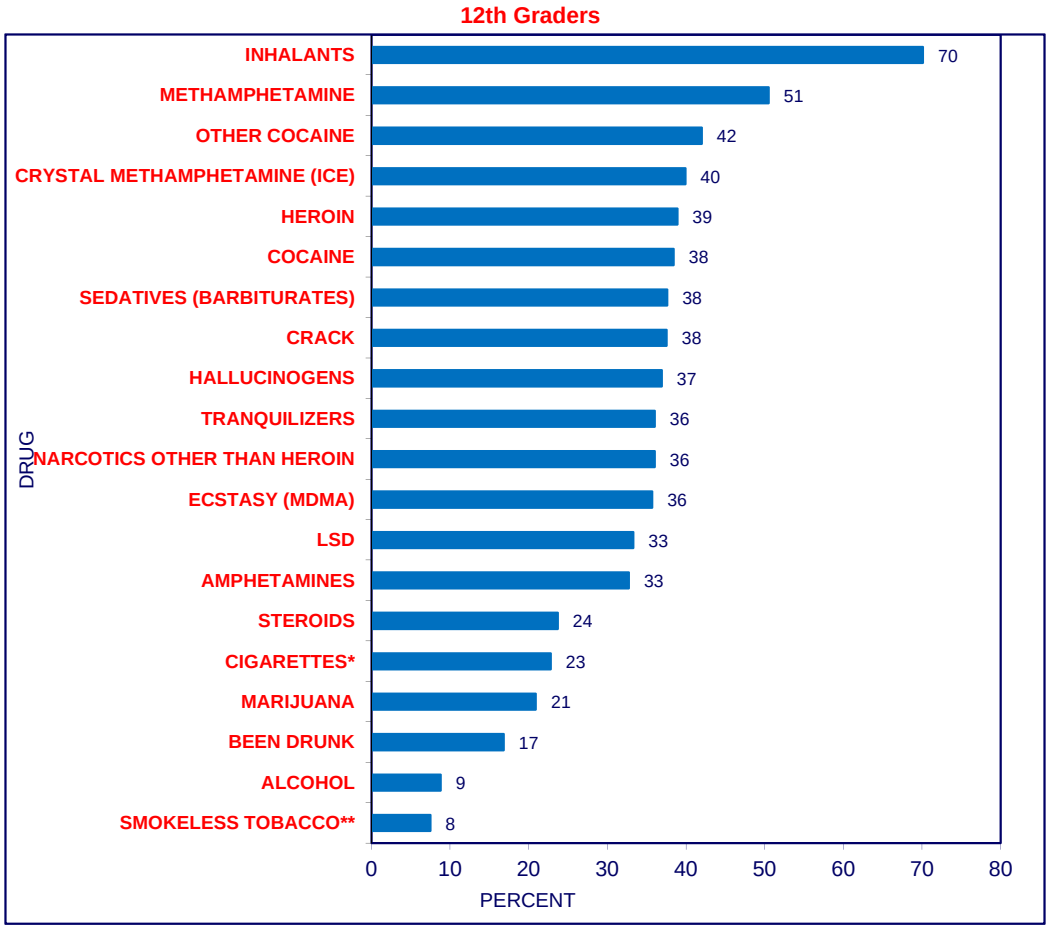
*Annual use not measured for cigarettes and smokeless tobacco.

FIGURE 4-2
Thirty-Day Prevalence of Daily Use of Various Types of Drugs in Grade 12
2014



Source. The Monitoring the Future study, the University of Michigan.

FIGURE 4-3
Noncontinuation Rates: Percentage of Lifetime Users Who Did Not Use in Last 12 Months in Grades 8, 10, and 12 2014



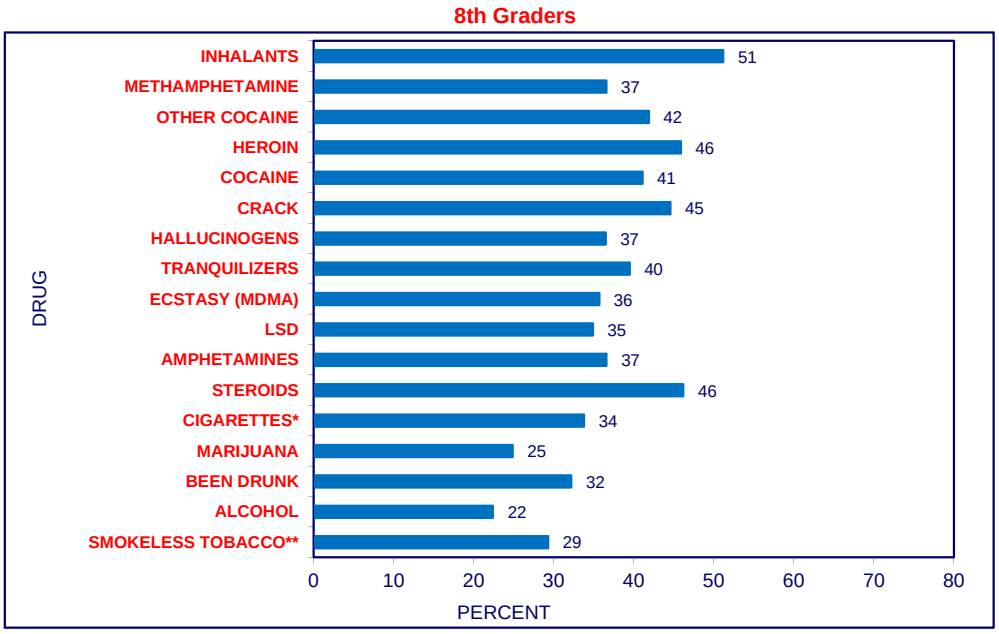
Source. The Monitoring the Future study, the University of Michigan.

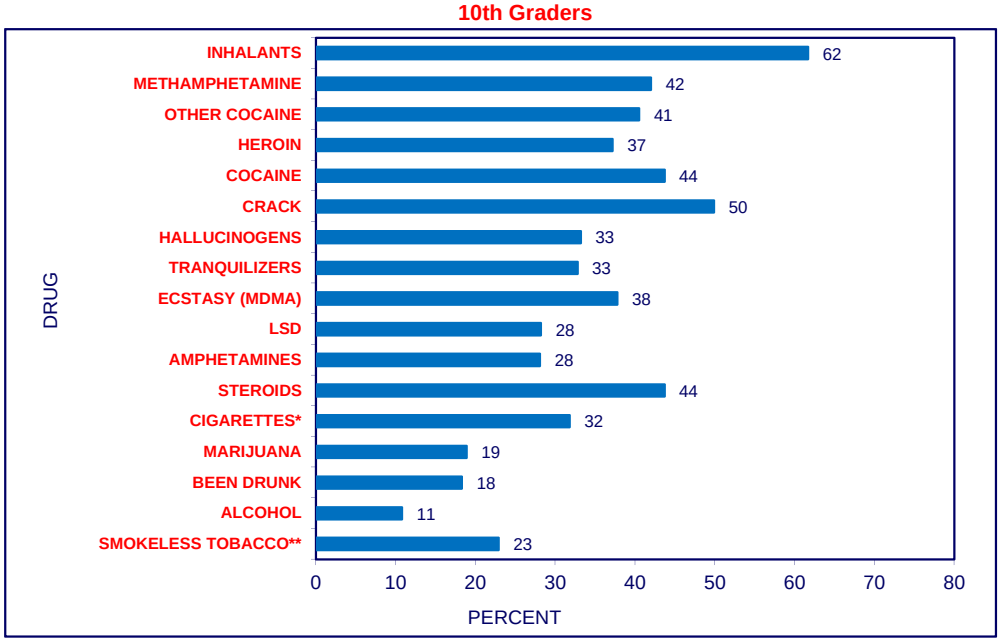
*Percent of regular smokers (ever) who did not smoke at all in the last 30 days.

**Percent of regular smokeless tobacco users (ever) who did not use smokeless tobacco in the last 30 days.

(Figure continued on next page.)

FIGURE 4-3 (cont.)
Noncontinuation Rates: Percentage of Lifetime Users Who Did Not Use in Last 12 Months in Grades 8, 10, and 12
2014



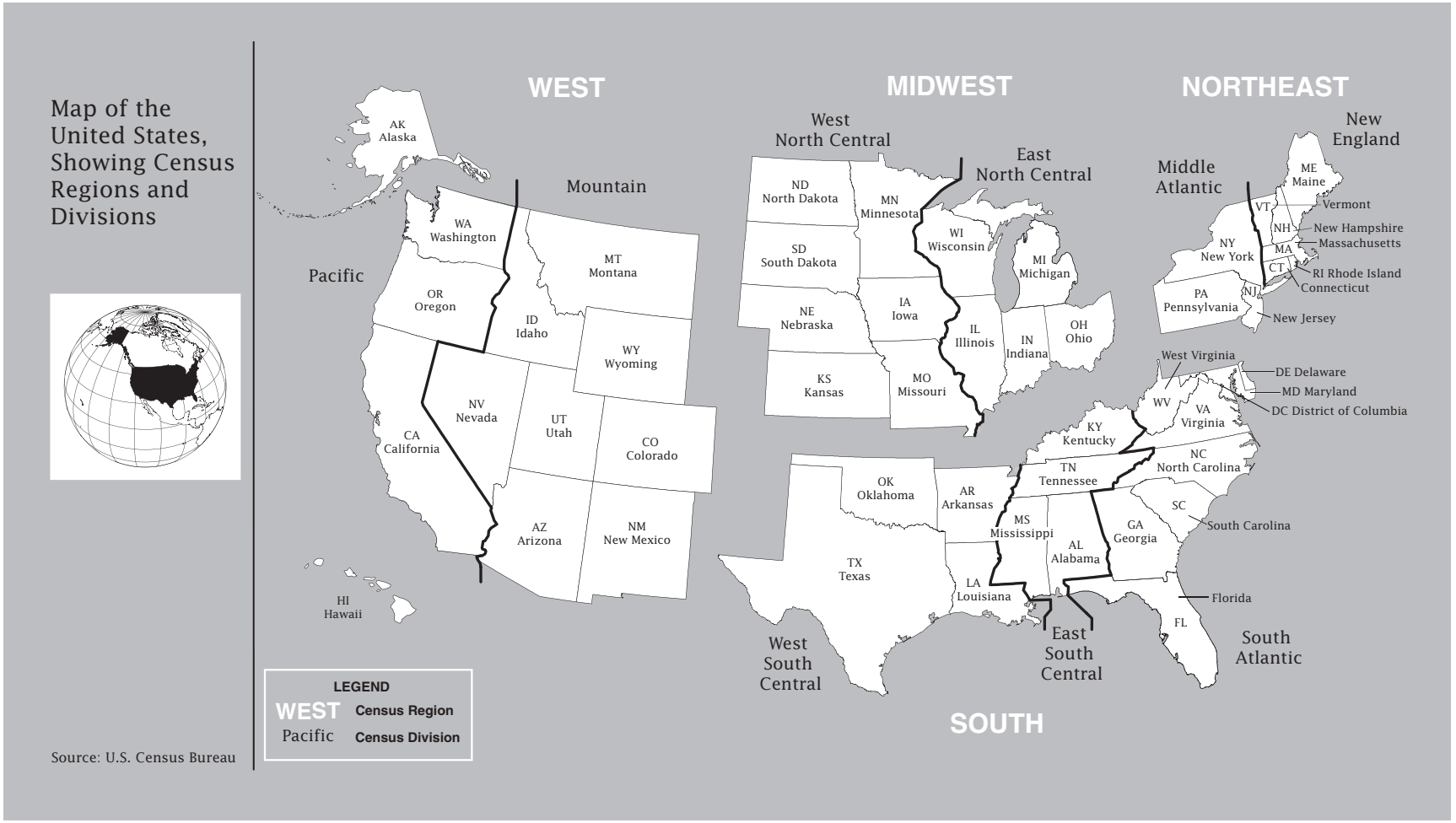


Source. The Monitoring the Future study, the University of Michigan.

*Percent of regular smokers (ever) who did not smoke at all in the last 30 days.

**Percent of regular smokeless tobacco users (ever) who did not use smokeless tobacco in the last 30 days.

FIGURE 4-4
States included in the 4 Regions of the Country



Chapter 5

TRENDS IN DRUG USE

The measurement of change over the past four decades has been one of the most important contributions of Monitoring the Future to the worlds of substance use research, policy, and prevention. This includes measurements of change in the levels of drug use, in the types and methods of drugs being used, in the ages and types of people using them, in related attitudes and beliefs about drug use, and in conditions surrounding use. Such information has significant implications for public policy—for needs assessment, agenda setting, policy formulation, and policy evaluation. More generally, it has implications for the current and future health of the nation. In this chapter, we review the many changes that have taken place over the past 39 years in the use of drugs, both licit and illicit, and we distinguish trends for various sectors of the population.

Trend data are presented and discussed for students in 12th, 10th, and 8th grade. Data for 12th graders come from 40 national surveys conducted between 1975 and 2014, while data for the lower grades come from 24 national surveys conducted between 1991 and 2014. For a variety of substances, the use measures discussed include lifetime use, use during the past 12 months, use during the past 30 days, and daily or near-daily use during the past 30 days. Trends in noncontinuation rates among 12th graders are also examined in this chapter, with findings that have important implications for prevention strategy. Finally, we discuss the extent to which trends in use have differed among key demographic subgroups defined on the dimensions of gender, college plans, region of the country, population density, socioeconomic status (parental education), and race/ethnicity. A separate occasional paper[1] available on the MTF website provides greater detail on subgroup trends and illustrates them graphically.

TWO THEMES IN DRUG TRENDS FROM 1975–2014

Two general themes are apparent in the 40-year trends in use of a majority of drugs, and we elaborate on these themes in what follows. The first theme is an overall pattern that applied to a number of substances: a general decline in use through most of the 1980s, reaching a historical nadir in the very early 1990s, then the "1990s drug relapse," a period during the 1990s when the use of many substances accelerated rapidly and then declined for some substances and plateaued for others. The prevalence of many drugs today lies between the nadir observed at the start of the 1990s and the peak of 1990s drug relapse. Drugs that do not follow this overall pattern, such as some forms of alcohol use, are important exceptions that we note and discuss below.

A second theme is cohort effects. We use the term cohort here to refer to youth born at roughly the same time who are grouped by grade level and experience history together as they age. A cohort effect is a drug trend that follows a cohort as it grows older. For example, an upsurge in cigarette smoking observed in a cohort that is in 8th grade is likely to be observed two years later when the cohort is in 10th grade, and then again two years later when the cohort is in 12th grade.

[1] Johnston, L. D., O'Malley, P. M., Miech, R.A., Bachman, J. G., & Schulenberg, J. E. (2015). *Demographic subgroup trends among adolescents in the use of various licit and illicit drugs, 1975–2014* (Occasional Paper No. 83). Ann Arbor, MI: Institute for Social Research. Available at http://monitoringthefuture.org/pubs/occpapers/mtf-occ83.pdf

A cohort-specific pattern of drug use can stem from factors such as cohort-specific attitudes towards perceived risk of drug use, changing norms about the acceptability of drug use, and the addictiveness of the drugs that youth use. We have found that cohort effects are often present, and trends among the lower grades can foretell future changes in the higher grades.

TRENDS IN PREVALENCE OF USE, 1975–2014

Long-term trends in lifetime, annual, 30-day, and current daily prevalence of use for all drugs are shown in Tables 5-1 through 5-4 for 12th grade students from 1975 to 2014. Surveys of 8th and 10th grade students commenced in 1991, and long-term trends for these grades appear in Tables 5-5a through 5-5d. To facilitate comparison, trends in 12th grade are repeated in the tables and figures for 8th and 10th grade students. Figures 5-1 through 5-4s provide graphic depictions of selected trends for 8th, 10th, and 12th grade students.

Trends in Indices of Overall, Illicit Drug Use

- ***Any illicit drug use*** is a measure of the percentage of youth who are willing to cross the substantial normative barriers to engage in illicit drug use. Table 5-5a and Figure 5-1 show that in 2014 the proportion of youth who had ever used any illicit drugs in their life declined to 49% for 12th graders, 37% for 10th graders, and 20% for 8th graders. This decrease continues a gradual but bumpy decline for all grades since the peak of the 1990s drug relapse around 1996-99. This decline was interrupted by slight increases in all three grades between 2007 and 2010, but appears to have resumed in recent years.

- Considered broadly, the trends in use of ***any illicit drug*** in 8th, 10th, and12th grade have moved largely, though not completely, in parallel. It is worth noting that 8th-grade students were the first to show an increase in the use of many drugs in the early 1990s, and they were also the first to show a decline for many drugs in the late 1990s. We believe that this pattern of younger teens first exhibiting many of the turnarounds in use indicates that they may be the most sensitive to new social forces. Because they are considerably less likely to have established usage patterns and attitudes, their behavior and related attitudes may simply be more malleable. They then carry those changes in their use, attitudes, and beliefs into later grades as they age; in this volume we discuss a number of such cohort effects, not only in behaviors but in attitudes as well.

  Prior to the 1990s, when Monitoring the Future surveys were limited to 12th-grade students, the prevalence of lifetime use of any illicit drug peaked at 66% in 1981, the highest level ever recorded by the survey. From that year on, it declined steadily to a prevalence of 41% in 1992, the lowest level ever recorded.

- ***Any illicit drug use in the past year*** and ***any illicit drug use in the past 30 days*** follow trends similar to those observed for lifetime illicit drug use (Figures 5-2 and 5-3). In 2014 these outcomes moved in a downward direction in all three grades and are currently at lower levels than the high set at the end of the 1990s relapse. Prevalence of both of these indices was higher in all grades than lifetime use of any particular illicit drug, as it logically should be.

In 2014 the percentage of youth who used any illicit drug in the past year in 12th, 10th, and 8th grade was 39%, 30%, and 15%, respectively. In 2014 the respective percentages of youth who used any illicit drugs in the 30 days before the survey was 24%, 19%, and 9%, respectively. As with the lifetime measure, among students in 12th grade, both of these measures reached historic highs around 1980 and historic lows at the start of the 1990s.

- In sum, historical trends in ***any illicit drug use*** show that the overall level of illicit drug use today is at neither a floor nor a ceiling. It is possible for levels of illicit drug use in every grade to be lower than they are today, as evidenced by the lower levels observed at the start of the 1990s. At the same time, the historical record also provides examples of how the proportion of youth who use illicit drugs can rise much higher than current levels if the factors that promote illicit drug use are left unchecked.

- Trends in use of ***any illicit drug other than marijuana*** in the past year are provided in Table 5-5b and follow closely the trends in any illicit drug use, though there has been a smaller degree of change between the fluctuations. In 2014 the level of use for any illicit drug other than marijuana continued a long term decline since the peak of the 1990s relapse, and the prevalence for students in 12th, 10th, and 8th grade is now 16%, 11%, and 6.4%, respectively. Among 12th graders, the prevalence of this outcome reached a record high in 1980 and a record low at the start of the 1990s.

  Most of the earlier rise in 12th graders' reported use of ***any illicit drug other than marijuana*** apparently resulted from the increasing popularity of cocaine between 1976 and 1979 and, then, to the increasing use of amphetamines between 1979 and 1981. As stated elsewhere in this volume, we believe that the upward shift in amphetamine use at that time was exaggerated because some respondents included use of over-the-counter stimulants in their reports of amphetamine use.

- Although the overall proportion of 12th graders using illicit drugs other than marijuana has changed gradually and steadily over the years, much greater fluctuations have occurred for specific drugs within this general class. (See Tables 5-1 through 5-3 for the long-term trends in 12th graders' lifetime, annual, and 30-day prevalence for each class of drugs. Figures 5-4a through 5-4s graph these trends, along with the trends for 8th and 10th graders.) These fluctuations for some drugs within overall use trends are important to recognize because they show that, while the proportion willing to try any illicit drug may put outer limits on the amplitude of fluctuations for any single drug, the various subclasses of drugs must have important determinants specific to them. In particular, they include variables such as perceived risk, disapproval, peer behaviors and normative attitudes, assumed benefits, and availability, as well as novelty. (Many of these variables are discussed in chapters 8 and 9.) Next we describe the trends in these specific classes of drugs.

Trends in Use of Specific Drugs

- Figure 5-4a and Table 5-5b provide the trends in ***annual marijuana*** use. They parallel the trends for any illicit drug use, with the exception that levels of annual marijuana use today are about the same as they were a decade and a half earlier at the end of the 1990s drug relapse. Marijuana use declined in the early 2000s, but subsequently rebounded before leveling in the past couple of years. In 2014 the percentage of youth who used marijuana in the past year among students in 12th, 10th, and 8th grade was 35.1%, 27.3%, and 11.7%, respectively.

  It is important to note that 8th grade students were the first to show the two major shifts in marijuana prevalence—an increase at the start of the 1990s and a decrease by the end of the 1990s. As mentioned above, this suggests that 8th graders may be the most immediately responsive to changing influences in the larger social environment. The lag in the decline in the later grades likely reflects some cohort effects (i.e., lingering effects of changes in use that occurred when the students were in lower grades).

  Levels of annual marijuana use today are considerably lower than the historic highs observed in the late 1970s, when more than half of U.S. 12th graders had used marijuana in the past year. This high point marked the pinnacle of a rise in marijuana use from relatively negligible levels before the 1960s.[2]

  Important changes in young people's attitudes and beliefs about marijuana use have occurred over the study period, and these changes can account for much of the long-term decline in use, as well as the increase in use during the 1990s drug relapse. Chapter 8 contains a more thorough discussion of this issue.

- Figure 5-4a and Table 5-5d provide trends in ***daily marijuana*** use. These trends depart somewhat from the typical pattern seen for drug use because, among 12th graders, today's level of use is actually higher than it was at the end of the 1990s relapse period. Although daily use of marijuana declined somewhat in 2014 as compared to the previous year, the average level since 2010 (i.e., 2011–2014 combined) is the highest recorded in the past two decades. (See Chapter 10 for additional information on the *cumulative* amount of daily marijuana use among 12th graders. It shows that the proportion using marijuana daily for a month or more at any time in the past is considerably higher than the proportion reporting daily marijuana use during just the past month.) The overall trends follow a similar pattern in 12th, 10th, and 8th grade, and in 2014 prevalence levels of daily marijuana use were 5.8%, 3.4%, and 1.0%, respectively. About one in every 17 twelfth-grade high school students in 2014 was a daily or near-daily marijuana user.

  Still, the percentage of youth using marijuana on a daily basis today is substantially lower than its peak in the late 1970s, when it reached a high of 10.7% among 12th grade students. As we will discuss in Chapter 8, we think much of the decline from this peak is attributable

[2] National Commission on Marihuana and Drug Abuse. (1973). *Drug use in America: Problem in perspective*. Washington DC: U.S. Government Printing Office. See also Johnston, L. D. (1973). *Drugs and American youth.* Ann Arbor, MI: Institute for Social Research.

to a very substantial increase in teens' concerns about possible adverse effects from regular use and to a growing perception that peers disapproved of marijuana use, particularly regular use. The recent surge in daily marijuana use since 2009 among 12th-grade students tracks with concurrent, decreasing levels of perceived harmfulness and disapproval of regular marijuana use.

- In 2014 ***marijuana*** use showed a one-year, slight decline in lifetime, annual, thirty-day, and daily use in all three grades. This finding is unexpected in light of the positive publicity marijuana has received in recent years prior to the data collection in 2014, with several states allowing medical marijuana use and two states (Colorado and Washington) legalizing recreational use for adults. Further, perceived risk of marijuana use among adolescents has declined in recent years (discussed in more detail in Chapter 8), which also supports an expectation for an increase in marijuana use this year. The study results point to the need for further qualitative and quantitative research to analyze why marijuana use has not increased in the last two or three years as expected.

- ***Synthetic marijuana*** use during the past year has decreased dramatically since it was first tracked by Monitoring the Future in 2011 for 12th graders and 2012 for 8th and 10th graders (Table 5-5b and Figure 5-4b). For 8th and 10th graders, annual prevalence of synthetic marijuana declined from 4.4% and 8.8% in 2011 to 3.3% and 5.4% in 2014, respectively. For 12th graders, annual prevalence declined from 11.4% in 2011 to 5.8% in 2014, a drop of about half.

  Very likely part of the reason for these steep declines and current low levels of use is that the Drug Enforcement Agency (DEA) scheduled various forms of synthetic marijuana in March 2011, thereby substantially reducing their availability by making over-the-counter sales illegal.

  While these declines are encouraging, they may not continue at such a steep pace in future years, especially among younger adolescents. In 2014 youth attitudes moved towards greater acceptance of synthetic marijuana in 8th and 10th grades. Perceived risk of great harm from occasional use of synthetic marijuana decreased by 3.8 percentage points (s) to 32.4% among 8th graders and by 2.1 percentage points (ns) to 30.7% among 10th graders. Declines in perceived risk are often a strong predictor of increases in prevalence. On the other hand, perhaps this decline in perceived risk of synthetic marijuana is associated with the decline in perceived risk of marijuana in general, which does not now seem related to increases in prevalence of marijuana use.

- Past-year ***inhalant*** use was at the lowest levels recorded in the history of Monitoring the Future in 2014 (see Figure 5-4c, Table 5-2, and Table 5-5b). In all grades its prevalence follows the typical pattern of an increase at the start of the 1990s, a peak in the late 1990s, and a subsequent decline. This decline has continued to historic lows in recent years; in 2014 the prevalence stands at 1.9% for 12th graders, 3.3% for 10th graders, and 5.3% for 8th graders. These levels are a half to two thirds of the peak levels in the late 1990s.

The increase in prevalence of inhalants at the start of the 1990s was a continuation of a trend that started far earlier among 12th grade students (Figure 5-4c). The same was likely true among 8th and 10th graders, although our data on them cover only 1991 forward. The anti-inhalant campaign launched by the Partnership for a Drug-Free America in 1995 (partly in response to MTF results showing the increasing use) may have played an important role in reversing this troublesome, long-term trend. (The perceived risk of inhalant use increased sharply between the 1995 and 1996 surveys, as discussed in Chapter 8.) The declines in inhalant use continued into 2002 in all grades. However, in 2002, eighth graders' perceived risk of trying inhalants decreased significantly, which was followed by a significant increase in their use the next year; 10th graders' perceived risk of regular use also decreased significantly. Both grades have generally continued to show a decline or leveling in perceived risk since then, clearly illustrating that generational forgetting of the dangers of inhalant use has been occurring once again and may continue if the issue is not addressed. Another anti-inhalant campaign may be called for.

Inhalants are unusual because their prevalence is higher in the lower grades, a pattern not observed for any other drug in 2014. The use of inhalants at an early age may reflect the fact that many inhalants are cheap, readily available (often in the home), and legal to buy and possess. The decline in use with age likely reflects their coming to be seen as "kids' drugs," in addition to the fact that a number of other, more desirable drugs become more accessible to older adolescents, who are more able to afford them.

Prior to 2000, trends in inhalants were confounded by the use of amyl and butyl nitrites, and past versions of this Volume presented an additional 12th-grade inhalant trend for measures without nitrites (e.g. see the version of this report published in 2014 for a detailed description). Since that time youth use of nitrites has fallen to very low levels and is no longer tracked by Monitoring the Future.

- Past-year ***hallucinogen*** use is at the lowest level ever recorded by the survey in each grade (see Figure 5-4d and Table 5-5b). In 2014 the percentages reporting use in the past year among 12th, 10th, and 8th grade students were 4.0%, 3.3%, and 1.3%, respectively. This outcome follows the typical pattern of an increase during the 1990s relapse, followed by a gradual but bumpy decline in the following years. Annual hallucinogen use peaked in 1996, which is a few years earlier than the peak for most other drugs. Current levels of annual hallucinogen use are less than half their peak in the 1990s. The two components of the hallucinogens class, LSD and hallucinogens other than LSD, generally followed the same pattern until a sharp decline in LSD use emerged after 1999, discussed next.

- Past-year use of ***LSD***, one of the major drugs in the hallucinogen class, has been hovering for about a decade at its lowest levels recorded by the study (Figure 5-4e). In 2014 the levels of use for students in 12th, 10th, and 8th grade were 2.5%, 1.9%, and 0.7%. Consistent with most other drugs, use increased during the 1990s relapse and peaked in the mid-1990s. It then subsequently declined to its lowest levels ever in the early 2000s, where it has since plateaued.

LSD was one of the first drugs to decline at the start of the 1980s, almost surely due to increased information about its potential dangers. The subsequent increase in its use during the mid-1980s may reflect the effects of what we have labeled "generational forgetting"—that is, replacement cohorts know less than their predecessors about the potential dangers of LSD because they have had less exposure to the negative consequences of using the drug.[3]

We believe that the decline prior to 2002 might have resulted in part from a displacement of LSD by sharply rising ecstasy use. After 2001, when ecstasy use itself began to decline, the sharp further decline in LSD use likely resulted from the sharp drop in the availability of LSD, because attitudes generally have not moved in a way that could explain the fall in use, while perceived availability has.

- Past-year use of ***hallucinogens other than LSD*** declined in 2014, continuing a decline in progress since the early 2000s (see Figure 5-4e).

- The prevalence of past-year ***PCP*** is reported only for 12th-grade students and, in 2014 it was less than 1%, where it has hovered for about a decade (see Figure 5-4d). It was first included in the survey in 1979, and its prevalence dropped rapidly thereafter, suggesting that it achieved a reputation as a dangerous drug very quickly. Its use increased during the 1990s drug relapse, but its annual prevalence increased to a high of only 2.6%. Since 2002, its use has remained very low.

- In 2014 past-year use of ***Ecstasy (MDMA***) was at the lowest levels ever recorded by Monitoring the Future (see Figure 5-4f). Its current prevalence among 12th-, 10th-, and 8th-grade students is 3.6%, 2.3%, and 0.9%, respectively. The historical trend for ecstasy follows a somewhat different pattern than most of the other drugs in that the increase did not occur until the late 1990s and it peaked later than many drugs—in 2001. Obviously there were some special forces at work on the use of this drug, including its popularity at raves followed by public concern about the dangers of use. Since that time its prevalence has gradually declined, although a short-lived upsurge took place in all grades around 2009–2010.

  In 2014 some forms of the survey included "Molly" as an example nickname for ecstasy, and the inclusion of this example appeared to make relatively little difference in the overall prevalence of ecstasy. In order to retain comparability with previous surveys, the data reported here are based on questionnaire forms not containing the Molly example.

  Chapter 8 shows that 12 graders' perceived risk for ecstasy jumped substantially in 2001 (from 38% in 2000 to 46% in 2001), likely helping to explain the decelerating rise in use that year. However, we know from other analyses that ecstasy was still diffusing to more communities in 2001, partially explaining the continued rise in use despite the increase in

[3] See Johnston, L. D. (1991). Toward a theory of drug epidemics. In R. L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp. 93–132). Hillsdale, NJ: Lawrence Erlbaum Associates. Available at http://monitoringthefuture.org/pubs/chapters/ldj1991theory.pdf

perceived risk. (As *Volume II*[4] shows, this dramatic increase in use through 2001 was not confined to teenagers.) The 2001 increases in perceived risk led us to predict the downturn in use that did in fact begin to occur in 2002—once again demonstrating the importance of these beliefs, both in restraining drug use *and* in allowing us to predict forthcoming changes in drug use. Perceived risk increased sharply again in 2002 and 2003 as use plummeted; but after 2003 the increase in risk was more gradual, reaching 60% by 2005 among 12th graders, compared to 34% when it was first measured in 1997. Perceived risk has been dropping in recent years (to 48% by 2014 among 12th-grade students, including a significant 3.7-percentage-point drop in 2009). The reported availability of ecstasy, which had risen substantially in the 1990s, probably played a role in its sudden resurgence. Perceived availability dropped modestly from 2001 to 2003, then took a large drop of almost 10 percentage points in 2004, another large eight-percentage-point drop in 2005, and a seven-percentage-point drop in 2009 (see Chapter 9). There has been little change since. Part of this decline in availability is probably due to there being so many fewer users from whom to get the drug. Availability did not begin to drop until use did, and it dropped more gradually than use. Because ecstasy was particularly popular at raves and dance clubs during its ascent in popularity, it is considered one of the "club drugs." Based on mass media reports, it appears that the rave phenomenon diminished and/or changed considerably after 2001.

Trends in ecstasy use are unique because the upswing in use in 1999 occurred first in the older graders. The 8th graders did not show this resurgence until a year later, in 2000. A different dynamic seemed to be at work for ecstasy than for most other drugs during this historical period, because it appears that the increase in use rippled down the age scale rather than the reverse; this may be because raves (which older teens would be more likely to attend) played an important role in its dispersion.

- Table E-1 in Appendix E shows trends for a number of ***specific hallucinogenic drugs*** among 12th-grade students. In the early years of MTF, ***mescaline***, ***concentrated THC***, ***peyote***, and ***PCP*** were used far more widely than they are today. As is explained in Appendix E, prevalence when estimated using a branching question tends to be lower than when the question is stand-alone. However, we believe that the trending results accurately reflect the nature of changes taking place. Of the several hallucinogenic drugs discussed next, only salvia use has been assessed using a standalone question.

- ***Concentrated THC*** past-year prevalence stood at 1.3% in 2014 for 12th-grade students. It was at a peak annual prevalence of 5.7% in 1977, but fell to about 1% by 1984; it has varied relatively little since then, although there was a slight upward surge in the mid-1990s.

- Annual prevalence of ***mescaline*** was 0.2% in 2014 for 12th-grade students. It was at a 5% peak from 1976 through 1978 (and possibly earlier), but its prevalence fell below 1% by 1988 and has varied rather little since.

[4] Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Miech, R. A. (2014). Monitoring the Future national survey results on drug use, 1975-2013: Volume II, college students and adults ages 19-55. Ann Arbor: Institute for Social Research, The University of Michigan. Available at http://monitoringthefuture.org/pubs/monographs/mtf-vol2_2013.pdf

- ***Peyote*** use in the past year was 0.2% in 2014 for 12th-grade students. It had a 1.8% annual prevalence at the first measurement in 1976 and by 1982 had fallen to 0.6%. Its use increased during the 1990s drug relapse but has since fallen to today's low level.

- ***Psilocybin***, derived from mushrooms, had a past-year prevalence of 2.6% in 2014 for 12th-grade students. It is clear from the 2001 modification of the psilocybin question stem to include the popular term "shrooms" that many users no longer know the drug by the name "psilocybin." Self-reports of use more than tripled between 2000 and 2001, jumping from 1.4% to 4.9%, even though use levels were stable immediately before and after the wording change. We believe that all of this increase was an artifact of the revision of the question, which clarified the meaning of psilocybin and led users to answer more accurately (for both the psilocybin question and the question about their use of hallucinogens other than LSD). Use reached a peak of 5.7% in 2004, then declined some and was at about 4% for five years before declining to 2.6% in 2014. Psilocybin has been the most widely reported drug in the general class of hallucinogens other than LSD after the question on use of the class was revised in 2001, and by a considerable margin.

- ***Salvia*** use in the past year currently stands at less than 2% in all grades. Use of this drug has been declining rapidly since it was first measured by the survey in 2009, when prevalence among 12th-grade students was 5.7%. Use of this drug is on track to fall to negligible levels among adolescents if it continues its rapid decline.

- Past-year use of ***cocaine*** was currently at the lowest levels ever recorded by Monitoring the Future (Figure 5-4g). The percentage of students reporting use in the past year in 12th, 10th, and 8th grades in 2014 was 2.6%, 1.5%, and 1.0%, respectively. This drug followed the common pattern of an increase during the 1990s relapse. The increase leveled out about three years earlier for 8th graders (in 1996) than for 12th graders (in 1999), evidencing a cohort effect.

  The reduction of adolescent cocaine use to today's low levels is a success story given its considerable popularity in the 1980s, when past-year prevalence among 12th graders reached 13.1% (in 1985). Reasons for this steep decline in cocaine use—in particular the role of perceived risk—are discussed in Chapter 8.

- In 2014 past-year use of ***crack cocaine*** was at or near historic lows (see Figure 5-4g). Prevalence levels among 12th, 10th, and 8th grade students in 2014 were 1.1%, 0.5%, and 0.7%, respectively. Consistent with other illicit drugs, its prevalence increased during the 1990s drug relapse, peaked in the late 1990s, and has since been on a long and gradual decline in all grades.

  Questions on ***crack cocaine*** were first introduced into the survey in 1986, when information gathered routinely in MTF showed some indirect evidence of the rapid spread of crack cocaine. For example, we found that the proportion of all 12th graders reporting that they had ever smoked cocaine (as well as used it in the past year) more than doubled between 1983 and 1986, from 2.4% to 5.7%. In the same period, the proportion of those who said that

they had both used cocaine during the prior year, and at some time had been unable to stop using it when they tried doubled (from 0.4% to 0.8%). In addition, between 1984 and 1986, the proportion of 12th graders reporting active *daily* use of cocaine also doubled (from 0.2% to 0.4%). We think it likely that the rapid advent of crack use during this period was reflected in all of these changes, though we did not yet have a direct measure of its use.

Use of crack cocaine was first measured in 1986 by a single question contained in one questionnaire form, and it was asked only of respondents who had reported any use of cocaine in the past 12 months. It simply asked if crack was one of the forms of cocaine they had used. It was thus an estimate of the annual prevalence of crack use. In 1987, stand-alone questions about crack use were introduced into two questionnaire forms, using our standard set of three questions that ask separately about frequency of use in lifetime, past 12 months, and past 30 days. These were subsequently added to all questionnaire forms beginning in 1990.

- Past-year use of ***heroin*** has always been low, with annual prevalence never higher than 2% at any time in the survey for any grade (see Figure 5-4h). In 2014 its level of use among 12th-, 10th-, and 8th-grade students was 0.6%, 0.5%, and 0.5%, respectively. Its prevalence is now at or near all-time lows, after a long decline from a peak established at the end of the 1990s drug relapse period. One unusual pattern specific to heroin is that the late 1990s mark the highest levels of use ever recorded in the study, whereas for most other drugs the all-time highs were set near the beginning of the 1980s. This trend was due in part to heroin use without a needle, discussed next.

- ***Heroin use without a needle*** played a significant role in raising heroin prevalence to it all-time peak in the mid-1990s. The advent of new, very pure, non-injectable heroin that can be sniffed is documented in Tables 5-6a through 5-6c, which show for each grade the proportion of students (based on several prevalence periods) who used heroin either ***with or without a needle***, or both. For the period from 1995 to 1999, among 12th graders, about one fourth of the users have used heroin both ways, but of the remainder, in general about two to five times as many have used heroin without a needle. Among 10th graders over the same time interval, somewhat more used heroin without than with a needle, and among 8th graders the tables show a rough equivalence between the two methods of administration. But in 2001 all three grade levels showed significant declines in the proportion of students using heroin without a needle. Annual prevalence of heroin use without a needle has declined somewhat in all three grades since 2000; annual prevalence of using heroin both with and without a needle has declined some in the two lower grades since 1999. Most of the decline in heroin use since 2001 has been due to the decline in use without a needle.

  The increase in heroin use that occurred around 1995 was recognized fairly quickly and gave rise to some ameliorative actions, including an anti-heroin campaign by the Partnership for a Drug-Free America. This response may well explain the unusually quick leveling in use after a sharp, one-year increase.

- Past-year use of ***narcotics other than heroin*** is reported only for 12th grade students and in 2014 continued a decline that began in 2010 (Figure 5-4i). In 2014 past-year prevalence was 6.1%, down from a high of 9.5% in 2003. Two patterns make trends in use of these drugs unique. First, peak use came during the 1990s relapse—and not during the 1980s as it did for so many other drugs—suggesting that its rise during the 1990s was more than just a return to drug use patterns of the past and instead represented the development of a new appeal to adolescents. Second, the peak established after the 1990s drug relapse stayed at stubbornly high level for much longer than other drugs. High levels of use during the 2000s raised concern that use of these types of prescription drugs had become endemic. The recent decline in prevalence since 2010 provides some encouragement that efforts to reduce use are having some effect.

  Because the question text on half of the questionnaire forms was updated in 2002 with the inclusion of additional examples of narcotics other than heroin (i.e., OxyContin, Vicodin, and Percocet), we obtained a higher reported rate of use of other narcotics that year than with the previous version of the question (9.4% versus 7.0%). (When we make a significant change in the wording of a question, we often use this type of spliced design in which some respondents get the new version and others get the old version so that we can assess the impact of the wording change.) All questionnaire forms contained the new version of the question in 2003 and thereafter.

- Table E-4 in Appendix E shows the trends for many of the ***specific narcotic drugs*** that make up the class of "narcotics other than heroin" among 12th-grade students. It shows some of the drugs responsible for the considerable rise in the overall class during the 1990s: ***codeine***, the annual prevalence of which rose from a low point of 1.0% in 1995 to 4.6% by 2004; ***opium***, which rose from a low of 0.4% in 1993 to 2.4% in 2003; and ***morphine***, which rose from a low of 0.2% in 1993 to 2.1% in 2004. The use of ***methadone*** and ***Demerol*** also rose during the 1990s, though their annual prevalence rates generally remained lower than the other three drugs.

  Some additional drugs were added to this list in the 2002 questionnaire, including OxyContin, Vicodin, Percocet, Percodan, and Dilaudid. In the 2002 questionnaire form that asks about the larger set of specific narcotics as part of a branching question, ***Vicodin*** had a prevalence level (4.1%) similar to codeine (4.4%), while the levels of the other new drugs on the list were lower—***OxyContin***, 1.6%; ***Percocet***, 1.9%; ***Percodan***, 0.6%; and ***Dilaudid***, 0.1%. Since then, Vicodin use rose some and was at 4.3% in 2012, prior to declining to 1.9% in 2014. OxyContin use rose more and was at 3.0% in 2012 before falling to 2.2% by 2014; Percocet rose to 2.7% in 2012, but then fell to 1.6% by 2014. Percodan use was at near-zero prevalence in 2014; and Dilaudid use remained at negligible rates until it was dropped from the questionnaires in 2007 (see Table E-4).

  Although the statistics in Table E-4 may be useful in terms of tracking trends and telling us something about the *relative* popularity of these various drugs, our experiences with several drugs have taught us that students' answers on the *absolute* prevalence rates are likely to be higher if the question is not embedded in a branching question structure (as these questions

have been). Because two of these drugs were also included as separate "tripwire" questions (i.e., asking directly about the frequency of annual use), we can use responses to these questions to make a better estimate of the absolute prevalence rates. In 2014 ***OxyContin*** use based on the tripwire question was higher (at 3.3% annual prevalence) than it was for the embedded question (2.2%), though the trend line has been somewhat erratic. ***Vicodin*** showed little evidence of change in the free-standing question after 2002 (9.6% annual prevalence in 2002 and 9.7% in 2009) until 2010, when we observed a significant decline to 8.0%. It was at 8.1% in 2011 and 4.8% in 2014 while the prevalence rate from the embedded question was 1.9% in 2014. These prevalence rates are disturbingly high given the addictive potential of these two drugs; they are also appreciably higher than the rates derived from the branching questions.

- ***Amphetamine*** use among adolescents shows different trend patterns by grade level (Figure 5-4j). Among 8th and 10th grade students amphetamine use is near historic low levels (after taking into account a small prevalence increase in 2013 that resulted from an expansion of the amphetamine examples in the questionnaire). For youth in 8th and 10th grade, levels of use were lower than they were at the start of the 1990s drug relapse and stand at 4.3% and 7.6%, respectively.

  Among adolescents in 12th grade, amphetamine use levels have been on an upswing in the last five years, although today's levels are lower than they were at the height of the 1990s drug relapse and much lower than they were at the beginning of the 1980s. Among 12th graders, amphetamine use has increased near-continuously since 2007, although 2014 is an exception and use dropped slightly in this one year for this grade.

  We believe prevalence increases among 12th-grade students were somewhat exaggerated, particularly in the 1980 and 1981 surveys, by respondents who included non-amphetamine over-the-counter diet and stay-awake pills, as well as "look-alike" and "sound-alike" stimulants, in their answers. (See Chapter 10 for data on the use of these nonprescription stimulants.) In 1982, we added new versions of the amphetamine use questions that were more explicit in instructing respondents not to include such nonprescription pills.[5] Between 1981 and 1982, prevalence rates dropped slightly as a result of this methodological change. In all tables and figures, data for 1975 through 1981 are based on the unchanged questions, providing comparable data across time for longer term trend estimates; data since 1982 are based on the revised questions, providing our best assessments of current prevalence and more recent trends in true amphetamine use.[6]

  In 1982 and 1983, the two years for which both adjusted and unadjusted statistics are available, the unadjusted data showed a modest amount of over-reporting (see Figure 5-4i). Both statistics suggest that a downturn in 12th graders' use of amphetamines began in 1982 and continued for a decade. For example, between 1982 and 1992 the annual prevalence for amphetamines (revised) fell by nearly two thirds, from 20% to 7%, while 30-day use and

[5] These were added to only three of the five forms of the questionnaire being used at the time; the amphetamine questions were left unchanged in the other two forms until 1984.

[6] The unadjusted estimates for the earliest years of MTF were probably little affected by the improper inclusion of nonprescription amphetamines, since sales of the latter did not burgeon until after the 1979 data collection.

current daily use both fell by more than two thirds. As with a number of other drugs, the trend lines veered upwards after 1992.

- Table E-2 in Appendix E gives trends for many of the ***specific amphetamines***. These more detailed questions about specific drugs within a class are asked only of 12th-grade students. They are contained in a single questionnaire form and are asked in a branching format, wherein a respondent must first indicate that he or she used the general class of drugs (e.g., amphetamines) in the prior year before being branched to the more detailed questions about which specific drugs were used. The three most widely used amphetamine-type stimulants at the beginning of the study were ***Benzedrine***, ***Methedrine***, and ***Dexedrine***, which had annual prevalence rates in 1976 (based on these branching questions) of 3.5%, 3.4%, and 2.9%, respectively. Benzedrine use peaked in 1977 at 4.1%, Methedrine in 1981 at 5.6%, and Dexedrine in 1981 at 5.1%. (1981 was the peak year for overall amphetamine use.) The use of all three drugs dropped to much lower rates of use by 1987 and to negligible rates by 1991, with relatively little change since. In fact, Benzedrine and Methedrine were at such low levels of use that they were dropped from the MTF questionnaires in 2011. It has always been the case that a significant portion of the respondents reporting amphetamine use indicate that they do not know the names of the ones that they used, or answer "other" on the predefined list (see Table E-2).

  In recent years ***Ritalin***, ***Adderall, Concerta*** (the latter two added in 2007), and ***methamphetamine*** have been the amphetamines most widely used by 12th graders. ***Vyvanse*** was added in 2013, and it is now among the most widely used. Based on the original question that asked about ***Ritalin*** use if a respondent first said that they used an amphetamine, nonmedical use of Ritalin grew from an annual prevalence of 0.1% in 1992 to 2.8% by 1997 and 1998. It remained at 2.2% to 2.6% for the next five years, before rising significantly in 2004 to 3.9%; it then decreased significantly to 1.3% by 2014. A newer question added in 2001 asks about Ritalin use without using a branching question format; that new question yielded somewhat higher annual prevalence rates for this drug of 5.1% in 2001, 4.0% in 2002 and 2003, and 5.1% again in 2004 among 12th-grade students (see Table 5-2). It also showed some decline since, reaching 2.1% in 2009, a decline that continued in 2014 to 1.8%. While it is clear that the non-branching question yielded a higher absolute prevalence level, which we believe is more accurate, we consider it likely that the *trend patterns* generated by the branching question over the years have provided a relatively accurate picture of the trends.

- Past-year use of ***methamphetamine*** (as opposed to crystal methamphetamine) has been declining steadily since it was first added to the survey in 1999 (Figure 5-4k). It use among adolescents was at or near historic low levels and among 12th-, 10th-, and 8th-grade students the proportion reporting use in the past year was 1.0%, 0.8%, and 0.6%, respectively. Since its peak prevalence in 1999, it has declined more than 75% in all grades—quite an important development.

- Past-year use of ***crystal methamphetamine*** (***ice***)—which can be smoked, much like crack—was at historic lows (Figure 5-4k). Questions on this specific drug are asked only of 12th-grade students, and in 2014 its prevalence was 0.8%. The survey began monitoring crystal

methamphetamine in 1990 because of growing concern about the development of an epidemic in it use (see Tables 5-1 through 5-4). Despite this concern, crystal methamphetamine did not make much of an inroad into the national population of 12th graders, quite possibly because the dangerous reputation of crack, with which it has so many similarities, "rubbed off" on it. Annual prevalence of use held at about 1.3% from 1990, the first measurement point, through 1992, and then use began to rise gradually during the incline phase in general illicit drug use, reaching 2.8% by 1996. This more than twofold increase gave crystal methamphetamine a slightly higher prevalence rate than crack had that year (2.1%). From 1996 through 2002, crystal methamphetamine use changed rather little and stood at 3.0% in 2002. In 2003, however, a significant decline took place that has continued today. So, by including this drug in the MTF study starting in 1990, we have been able to show that the great sense of alarm has not been justified, at least not for secondary school students.

- Questions on ***bath salts*** were added to the survey in 2012 out of concern that these particularly toxic drugs would gain popularity among adolescents (Table 5-5b). Prevalence has been low and never higher than 1.5% in any grade. In 2014 prevalence was less than 1% in all grades.

- Levels of past-year ***sedative*** use (Figure 5-4l) have declined since the highs of the 1990s drug relapse but remain substantially higher than they were before the relapse began. Sedative use trends are reported only for 12th-grade students and in 2014 annual prevalence was 4.3%. As with many other substances prevalence increased during the 1990s drug relapse, but a long-term decline did not start until 2005, which is about a decade later than the decline seen for most other drugs. This pattern of sustained, high levels past the 1990s is found for abuse of many prescription drugs, and was seen for the class "narcotics other than heroin." Trends over the past ten years indicate that a long-term decline has taken place, although in the past four years this decline seems to have plateaued.

- The specific sedative ***methaqualone*** (brand name Quaalude) played a substantial role in the increases of sedative prevalence during the 1970s. Since that time the prevalence of methaqualone has declined to such low levels that it was dropped from the survey in 2013. Methaqualone is one of the very few illicit drugs to decline in prevalence to negligible levels during the life of MTF. The corresponding previous version of this monograph (reporting on data through 2013) includes a detailed consideration of the use of methaqualone and its impact on overall sedative prevalence up to 2012.

- Past-year use of ***tranquilizers*** has declined since a peak during the 1990s drug relapse (Figure 5-4m). Nevertheless, its prevalence today remains substantially above the levels when the relapse began in the early 1990s, at least for 10th-and 12th-grade students. Specifically, prevalence in 2014 for 12th-, 10th-, and 8th-grade students was 4.7%, 3.9%, and 1.7%, respectively. Among 12th-grade students the increase in tranquilizer use continued well after the 1990s and into the 2000s, which is a trend typical for the general category of prescription medication abuse. The halt of the 1990s relapse appeared first in the lower grades and then later in the higher grades, suggesting a cohort effect.

- ***Rohypnol***, a "club drug," was added to MTF in 1996, in part because of the extensive publicity it received as a "date rape" drug (Figure 5-4n). Past-year levels of use have never exceeded 2% in any grade, and in 2014 were less than 1% in all grades.

  As a questionnaire space economy measure, in 2002 the standard triplet question (asking about lifetime, past-year, and past-month use of Rohypnol) was replaced with a tripwire question asking only about use in the past year. As a result of this change in the structure and location of the question, the 2002 annual prevalence (1.6%) is not necessarily comparable to the 2001 annual prevalence estimate (0.9%).

- In 2014 prevalence of past-year ***Ketamine and GHB*** use among 12th-grade students was low and stood at 1.5% and 1.0%, respectively. These "club drugs" were added to the survey in 2000. Both showed little change in their relatively low usage levels through 2003. Since then use has declined in all grades. Because of the very low rates of use of these drugs by 2011, questions about their use were dropped from the questionnaires administered to 8th and 10th graders.

- ***Alcohol*** use in 2014 was at the lowest levels ever recorded by Monitoring the Future in all grades (Figure 5-4o). Unlike most other drugs, alcohol use showed little increase during the 1990s relapse, and instead exhibited more of a pause in its long-term decline. This decline then resumed at the close of the 1990s, and in 2014 the percentages reporting use in the past year among 12th-, 10th-, and 8th-grade students were 60.2%, 44.0%, and 20.8%, respectively. The corresponding levels of use for past month prevalence stood at 37.4%, 23.5%, and 9.0% in 2014.

- ***Daily drinking*** (use on 20 or more occasions in the past 30 days) was at or near record lows over the life of the study. In 2014 levels of use were 1.9% among 12th-grade students, 0.8% among 10th-grade students, and 0.3% among 8th-grade students.

- In 2014 levels of having ***been drunk*** were at the lowest ever recorded since the survey began tracking this behavior in 1991 (Figure 5-4o). Among 12th-, 10th-, and 8th-grade students, the percentages reporting being drunk in the past year were 41%, 25%, and 7.3%, respectively—still substantial levels for this behavior.

- ***Occasions of heavy drinking*** (having five or more drinks in a row one or more times in the prior two weeks, also referred to as "binge drinking") followed a trend similar to the other alcohol measures. In each grade the percentages reporting binge drinking are at the lowest levels ever recorded by the survey: 4.1%, 12.6%, and 19.4% among 8th, 10th, and12th, graders, respectively (Figure 5-4p). Obviously some important and substantial reductions in teenage binge drinking occurred in the 1980s along with some further declines after 1998. We discuss some of the likely reasons for these important changes in Chapter 8.

- ***Extreme binge drinking*** is defined here at two levels: (a) having 10 or more drinks in a row as well as (b) 15 or more drinks in a row one or more times in the prior two weeks. Both of

these measures follow trends similar to those of the other alcohol measures and have been declining in recent years (Table 5-5e). Nevertheless, an alarmingly high percentage of 12th graders report drinking episodes at such high levels. In 2014, 7.1% of all 12th graders indicated having 10 or more drinks in a row at least once in just the past two weeks, while 4.1% indicated having 15 or more drinks in a row at least once in that interval. As may be seen in the table, the trends appear a little uneven due to the limited numbers of cases in a single questionnaire form (and resulting larger sampling errors), but they seem to be gradually shifting down. The data about binge drinking at the five or more drinks level are based on all six questionnaire forms, and those estimates are thus somewhat more stable. (Eighth and 10th graders are not asked the extreme binge drinking questions.)

- Past-year use of ***flavored alcoholic beverages*** has been in decline in recent years, although use levels remain high. These beverages are also known as "alcopops" or "malternatives" (because their alcohol content often derives from malt). The percentages reporting use in the past year in 2014 among 12th-, 10th-, and 8th-grade students were 43.6%, 33.2%, and 13.4%, respectively. Clearly this class of alcoholic beverage has made substantial inroads into the youth market.

  A single tripwire question, asking about the frequency of flavored alcoholic beverage use in the past 12 months, was introduced in 2003 to determine how widespread the use of these beverages was. (The question text was: "During the last 12 months, on how many occasions [if any] have you drunk flavored alcoholic beverages, sometimes called 'alcopops' [like Mike's Hard Lemonade, Skyy Blue, Smirnoff Ice, Zima]? Do not include regular liquor, beer, wine, or wine coolers.") In 2003 the annual prevalence was 55% among 12th graders. Because of this high level of use, we introduced more extensive measurement of use (i.e., the standard questions about use in lifetime, past 12 months and past 30 days) of these beverages into the 2004 questionnaires. (The question text was revised: "On how many occasions, if any, have you had flavored alcoholic beverages like Mike's Hard Lemonade, Skyy Blue, Smirnoff Ice, Zima, Bacardi Silver, wine coolers, etc. to drink—more than just a few sips. Do not include regular liquor, beer, or wine.") The annual prevalence of use was about the same in 2004 (56%) and it rose slightly in 2005 (58%), after which it declined to 53% by 2009 and then to 44% by 2014 (see Table 5-5b). Thirty-day prevalence among 12th-grade students had fallen to 20% by 2014, while lifetime prevalence was 58%. It should be noted that females are somewhat more likely than males to drink these beverages, though significant numbers of both genders drink them.

- Use levels of the various other specific classes of alcoholic beverages—***beer***, ***wine***, ***wine coolers***, and ***liquor***, are reported in Occasional Paper 83[7] (see Tables 96 through 109). Tables 96-98 show that there has been quite a substantial drop in the current prevalence of ***beer*** consumption over the past decade in all grades. In 2014 levels of use among 12th-, 10th-, and 8th-grade students were the lowest ever recorded and 30-day prevalence stood at 29%, 17.3%, and 6.3%, respectively. Among 12th-grade students a slight reversal of the long-term decline

[7] Johnston, L. D., O'Malley, P. M., Miech, R.A., Bachman, J. G., & Schulenberg, J. E. (2015). *Demographic subgroup trends among adolescents in the use of various licit and illicit drugs, 1975–2014* (Occasional Paper No. 83). Ann Arbor, MI: Institute for Social Research. Available at http://monitoringthefuture.org/pubs/occpapers/mtf-occ83.pdf

took place in 2012, but decreases in both 2013 and 2014 suggest this increase was short-term. ***Occasions of heavy beer drinking*** (having five or more cans or bottles of beer in a row at least once in the prior two weeks, Tables 99–101 in Occasional Paper 83) are also at the lowest levels ever recorded. In 2014 they were 17%, 8%, and 3% for 12th-, 10th-, and 8th-grade students, respectively.

- Consumption of ***hard liquor*** (reported only for 12th-grade students, Table 102 in Occasional Paper 83) in 2014 is at the lowest levels recorded by the survey. In 2014 thirty-day prevalence was 28%, which is a decline of more than four tenths from the peak of 48% in 1980 and ties the previous nadir of 28% that was recorded in 1992, before the start of the 1990s drug relapse. The proportion reporting ***occasions of heavy liquor consumption*** (five or more drinks in a row in the prior two weeks, Table 103 in Occasional Paper 83) has fluctuated around 20% since first measured in 1976, and in 2014 it was at 18%. While seniors in the 1970s and 1980s were much more likely to report occasions of heavy beer drinking than heavy liquor drinking, seniors in the class of 2014 had slightly higher levels reporting heavy liquor drinking (18%) than heavy beer drinking (17%).

- The trend results for ***wine*** (Table 104 in Occasional Paper 83) are less clear because in 1988 a new question about wine coolers was introduced, which had the effect of sharply reducing self-reported wine use. (No doubt, up to that point many users of wine coolers reported such use under wine.) Since 1988, prevalence of wine use has been on an overall decline, although use rose during the 1990s drug relapse. In 2014 30-day prevalence among 12th-grade students was 12%, which is about half of its peak measured in 1988. Lower proportions of 12th graders engage in ***occasions of heavy wine consumption*** than heavy beer or liquor consumption (Table 105 in Occasional Paper 83). In 2014 the prevalence of occasions of heavy wine consumption in the past two weeks was 5%, which is a strong uptick from the previous year and marks a departure from a general decline since 2007.

- ***Wine coolers*** have lost much of their appeal among the adolescent population since the survey began tracking their use in the 1980s (Table 108 in Occasional Paper 83). Among 12th-grade students in 2014 thirty-day prevalence was 11%, which is more than two thirds lower than the peak of 37% when wine cooler use was first measured in 1988. Prevalence in 2014 was near the lowest level recorded by the survey. As with wine, ***heavy wine cooler consumption*** in the past two weeks is not as common as heavy consumption of beer or liquor (Table 109 in Occasional Paper 83). The high prevalence of 14% was observed in 1988, while the low was in 2011 at 4.9%, reflecting a decline of about two thirds. It stood at 5.8% in 2014.

- ***Alcohol*** and ***marijuana*** are the two most commonly used substances by teenagers to get high, and a question that is often asked is to what extent does change in one lead to a change in the other. If the substances co-vary negatively (an increase in one is accompanied by a decrease in the other) they are said to be substitutes; if they co-vary positively, they are said to be complements. Note that there is no evidence that the 13-year decline in marijuana use observed between 1979 and 1992 led to any accompanying increase in alcohol use; in fact, through 1992 there was some parallel decline in annual, monthly, and daily alcohol use, as

well as in occasions of heavy drinking among 12th graders, suggesting that the two substances are complements. Earlier, when marijuana use increased in the late 1970s, alcohol use also increased. As marijuana use increased again in the 1990s, alcohol use again increased with it, although not as sharply. In sum, there has been little evidence from MTF over the years that supports what we have termed "the displacement hypothesis," which asserts that an increase in marijuana use will somehow lead to a decline in alcohol use, or vice versa.[8] Instead, both substances appear to move more in harmony, perhaps both reflecting changes in a more general construct, such as the tendency to use psychoactive substances, whether licit or illicit, or in the frequency with which teens party. However, with alcohol use decreasing and marijuana use increasing over the past few years, it is possible that the displacement hypothesis is gaining some support. As a number of states are changing their policies regarding marijuana, our continued monitoring will provide the needed evidence concerning whether alcohol and marijuana are substitutes or complements.

- ***Nicotine*** used in the form of ***cigarettes*** is currently at historic lows (Figure 5-4q). In 2014 thirty-day prevalence rates of cigarette use by 12th-, 10th-, and 8th-grade students were 13.6%, 7.2%, and 4.0%, respectively. Prevalence has declined steadily since 1997, when it reached a peak during the 1990s relapse. A parallel trend is apparent for ***daily cigarette*** use (also in Figure 5-4q; annual prevalence of cigarette use is not asked).

  The intense public debate in the late 1990s over cigarette policies likely played an important role in bringing about the very significant downturn in adolescent smoking over the past two decades. MTF helped to give rise to that debate as it publicly reported in the first half of the 1990s that the rate of smoking among U.S. adolescents was rising sharply—results that were widely covered in the national media. Other developments likely have contributed, including (a) increases in cigarette prices, brought about in part by the tobacco industry settlement with the states and also by state-level taxing decisions; (b) substantially increased prevention activities, including antismoking ad campaigns in a number of states; (c) the removal of certain types of advertising (including billboards) as well as the Joe Camel campaign nationwide; (d) the initiation of a national antismoking ad campaign by the American Legacy Foundation, which was created under the conditions of the tobacco Master Settlement Agreement of 1998; and (e) efforts by the Food and Drug Administration (FDA), in cooperation with the states, to reduce youth access to cigarettes. (The FDA effort was eventually brought to an end by a ruling of the Supreme Court, but it appears that the effort has continued at the state and local levels, judging by the decline in reported cigarette availability by 8th and 10th graders.)

  In earlier years, efforts to reduce adolescent smoking did not meet with as much success. Between 1984 and 1992 smoking prevalence was little changed among 12th-grade students despite increasingly restrictive legislation with regard to smoking debated and enacted at state and local levels, as well as prevention efforts made in many school systems. These results suggest that the successful reduction of adolescent smoking, as we have seen in recent decades, requires a concerted, national, multi-pronged effort.

[8] DiNardo, J. & Lemieux, T. (2001). Alcohol, marijuana, and American youth: the unintended consequences of government regulation. *Journal of Health Economics, 20*, 991–1010.

- Trends in cigarette smoking have generally moved in concert across 8th, 10th, and 12th grade, and not in the usual, staggered pattern indicative of a cohort effect. The prevalence of current smoking began to rise among 8th and 10th graders after 1991 and among 12th graders after 1992, and until 1996 moved steadily upward in all three grades. In 1996, current smoking peaked in grades 8 and 10, and then peaked a year later among 12th graders.

  Because of this general parallel movement, which is more characteristic of a secular trend, we are inclined to look for some contemporaneous historical correlates to explain the changes in this period. One possible explanation is that use rose because cigarette prices dropped on average due to increased price competition among brands. Another is that cigarette advertising and promotion had grown and/or become more effective at reaching youth. Still a third possibility is that the portrayal of smoking had increased appreciably in the entertainment media, particularly in movies. Some evidence points to all three of these changes in the social environment as possible influences; but whatever the specific causes, they seemed to have reached young people across the spectrum. Therefore, we infer that the changes observed in cigarette use were part of a secular trend. It is interesting that cigarettes, which normally reflect cohort differences, began to exhibit a secular trend in the same historical period that illicit drugs, which normally exhibit secular trends, began to show cohort effects.

- Despite the substantial recent declines, however, a considerable proportion of students continue to smoke. In recent years the decline in smoking decelerated considerably in all three grades. In fact, in 2010 the two lower grades actually showed a nonsignificant increase in prevalence, and only the 12th grade showed any further decline (also nonsignificant). At this time, we warned of a possible turnaround in adolescent smoking rates. Fortunately, further decline occurred in 2011-2014 in all three grades, possibly in part as a result of an increase in the federal tobacco tax that was enacted in 2009.

- Trends in ***smokeless tobacco*** use vary by grade (Figure 5-4r). Among 10th and 12th graders, prevalence has seen an overall increase, with some bumps along the way, since 2008. In 2014 levels of past 30-day prevalence in 12th and 10th grade were 8.4% and 5.3%, while levels of daily use were 3.4% and 1.8%, respectively. The introduction and promotion of new smokeless products, including snus, may well be contributing to this increase. In 8th grade, prevalence declined over the same period and is currently at 3.0% for past 30-day use and 0.5% for daily use.

  Trends in smokeless tobacco stand out as very different from trends for adolescent use of other drugs. Unlike almost all other substances, use of smokeless tobacco did not increase during the 1990s relapse but actually declined for nearly 10 years, beginning around 1994. Further, smokeless tobacco is one of few outcomes for which prevalence has been increasing since 2007, at least among 10th-and 12th-grade students. Finally, the trends show little potential influence for cohort effects, given that 8th grade use has been declining while use in the higher grades has been increasing. These results suggest that the factors leading to use of smokeless tobacco are much different from the drivers of use of other drugs.

Questions about the use of smokeless tobacco were first introduced in 1986, omitted in 1990 and 1991, and then reintroduced in 1992. Through 2010, the examples of smokeless tobacco provided were snuff, plug, dipping tobacco, and chewing tobacco; because of new forms of smokeless tobacco entering the market, snus and dissolvable tobacco were added to the examples in 2011.

- Past-year use of ***steroids***, specifically anabolic steroids, has always been below 3% since it was first monitored by the survey, and has been in a general decline since peaks established in the early 2000s (Figure 5-4s). In 2014, respective levels of use for 12th-, 10th-, and 8th-grade students were 1.5%, 0.8%, and 0.6%. A surge in use among 12th graders in 2001 was preceded by an earlier surge in use among 10th-grade students, likely representing a cohort effect. (See Chapter 10 for information on two other substances used for physical enhancement—***androstenedione*** and ***creatine***.) As described in the later section in this chapter, "Trend Differences by Gender," this increase occurred almost entirely among boys.

  Until 2009, the question on steroid use was preceded by an introduction that stated, "Steroids, or anabolic steroids, are sometimes prescribed by doctors to promote healing from certain types of injuries. Some athletes, and others, have used them to try to increase muscle development." Since 2009, the slightly revised introduction has been, "Anabolic steroids are prescription drugs sometimes prescribed by doctors to treat certain conditions. Some athletes, and others, have used them to try to increase muscle development." The question then asks, "On how many occasions have you taken steroids on your own—that is, without a doctor telling you to take them?" Because the earlier version did not explicitly state that they must be prescription-controlled substances, we believe it likely that some respondents included what had been over-the-counter compounds like androstenedione in their answers. However, some special analyses presented in Chapter 4 indicate that it has tended to be a limited number of self-reported steroid users who also reported using androstenedione in the same year 22%, 31%, and 54% of steroid users in grades 8, 10, and 12 in 2014, respectively.

- ***Androstenedione*** and ***creatine***—two other substances used for enhancing athletic performance and appearance—are discussed at greater length in Chapter 10 (see Tables 10-16a through 10-17c). They were first measured in 2001. By 2014 the use of androstenedione in all three grades was well below recent peak levels. The annual prevalence for using ***steroids*** and/or ***androstenedione*** was also down by half among 8th graders and by two thirds among 10th and 12th graders since 2001 when estimates were first available. In 2014 there were no significant changes in any of the grade levels. Among 12th-grade boys, the proportion using either substance in the prior year reached impressively high levels (8.0% in 2001), after which it fell to 3.4% in 2006, about where it remained in 2010 before it decreased to 2.2% by 2012. In 2013 and 2014 its prevalence began creeping back up, to 2.9% and 3.2%, respectively, which may signal a renewed interest in this drug among adolescents. ***Creatine*** use turned out to be even more widespread, with annual prevalence reaching 22% of 12th-grade boys in 2001; it has declined some since then and stood at 19% among boys in 2014, leaving it still as a very widely used substance for enhancing physique.

SUMMARY

- As these varied patterns of use show, the overall proportion of adolescents using any substance in their lifetime has changed over the years, but the mix of drugs they use has changed even more. A number of drug classes showed dramatic declines (particularly in the 1980s), some showed substantial increases (particularly in the late 1970s and again in the 1990s), and some remained fairly stable. Further, the periods in which they either increased or decreased varied considerably, although between 1992 and 1996 the use of many drugs increased and by 1997 the use of most had stabilized. Since then, most have declined in use to some degree, sometimes very sharply, as was seen with LSD and ecstasy; however, this was not true of all illicitly used drugs—in particular the prescription type drugs such as narcotics other than heroin, sedatives, and tranquilizers continued to increase well into the 2000s.

TRENDS IN NONCONTINUATION RATES: TWELFTH GRADERS

Table 5-7a shows how the noncontinuation rates observed for the various classes of drugs have changed over time among 12th graders. "Noncontinuation" refers to not using a drug in the prior 12 months after having used it at some earlier time in one's life. In other words, the noncontinuation rate is the percent of lifetime users who did not report using the drug in the past 12 months. These rates and the changes in them over the years are shown in Figure 5-7a for lifetime users; in Table 5-7b the noncontinuation rates are given for 12th graders who used the drug 10 or more times in their lifetime.

- ***Marijuana*** has the lowest rate of noncontinuation of any of the illicit drugs (Table 5-7a). In 2014 the noncontinuation rate was 20.9%, where it has hovered for the past five years. Previous to 2009, the noncontinuation rate had been higher, at about 25%, for a decade. Today's lower noncontinuation rate indicates more long-term marijuana use, which is also seen in heightened daily marijuana use for the same period (reported above).

  During the 1990s marijuana noncontinuation rates fell from a high of 35% in 1992 to a low of 17% in 1995, indicating that the substantial increase in prevalence during this period represented not only an increase in youth adopting marijuana use, but also sharply lower levels of users desisting from it. Previous to 1992, noncontinuation had gradually increased since the early 1980s, and with these higher rates of noncontinuation came a decrease in marijuana prevalence during those same years.

- In 2014 the noncontinuation rate for ***cocaine*** use among 12th graders stood at 38%, marking the fourth straight year of decline since 2010 when it was 46%. Nevertheless, despite this drop in noncontinuation, overall cocaine prevalence declined during this time, because of the substantial reduction in the number of youth ever initiating cocaine use.

  Noncontinuation has played a substantial role in the changing prevalence of cocaine use over the life of the survey. The noncontinuation rate decreased from 38% in 1976 to 22% in 1979, corresponding to, as well as contributing to, a period of increase in the annual prevalence of its use. It then remained fairly stable through 1986, corresponding to a period of stability in prevalence of use. After 1986 the noncontinuation rate rose very substantially—from 25% in 1986 to 55% in 1991—as the annual prevalence of use fell dramatically. This pattern strongly suggests that the sharp increase in perceived risk, which began in 1986, influenced both the initiation rate and the noncontinuation rate. After 1991, during the relapse phase in the epidemic, the noncontinuation rate began declining fairly rapidly once again, reaching 31% by 1996. (The prevalence of cocaine use overall was increasing during that period.) After 1996, the noncontinuation rate rose again—corresponding to a period of leveling in overall use—reaching 42% by 2000. In sum, the prevalence of cocaine use over three decades demonstrates that *both* noncontinuation and initiation drive prevalence trends in drug use.

- The noncontinuation rate for ***crack cocaine*** has declined three years in a row, and in 2014, it stood at 38%. As with cocaine use, the overall prevalence of crack cocaine use did not

increase during this period. These results indicate that the declining rates of noncontinuation have been offset by declining levels of crack cocaine initiation.

Noncontinuation played a substantial role for crack cocaine use both before and during the 1990s relapse. Noncontinuation rose dramatically from 28% in 1987 to 52% in 1991, before the relapse began and as prevalence of use declined among 12th graders. The noncontinuation rate fell back to 30% by 1995 as usage rates rose. Noncontinuation then began to increase once again, reaching 43% by 1998, when overall use leveled.

- Noncontinuation of past-year ***amphetamine*** use outside of medical supervision has ranged between 29% and 39% for the past two decades, though it has been near the lower end of that range in the most recent two years. Previous to 1995, it showed considerably more variation and had greater influence on amphetamine prevalence. It rose between 1982 (27%) and 1992 (49%) as use declined. Between 1992 and 1996, when overall use was rising, noncontinuation fell from 49% to 38%, then remained fairly level, corresponding to a period of leveling in use.

- Noncontinuation of past-year ***sedative*** use outside of medical supervision has also remained stable and hovered between 30% and 40% for the past two decades. Prior to 1995 it showed more variation and exerted a substantial influence on sedative prevalence. Much of the decline in sedative use during the 1980s was accounted for by increasing rates of noncontinuation for the specific substances in this class. For example, in the case of ***barbiturates***, the noncontinuation rate rose from 36% in 1979 to 52% in 1988. It then declined in the 1990s—as use rose—to 37% by 1995, after which it leveled for several years and then declined further to 30% in 2002. The noncontinuation rate for barbiturates stood at 38% in 2014. The noncontinuation rate for ***methaqualone*** was 29% in 1979, rising dramatically to 61% by 1988 and falling off thereafter. Since 1990, use rates have been very low among 12th graders. Because of the very low numbers of cases upon which to base such estimates, methaqualone has been omitted from the tables and figures showing noncontinuation rates; in 2013 that drug was dropped from the questionnaire.

- Noncontinuation of ***tranquilizer*** use outside of medical supervision has fluctuated between 29% and 39% for the past two decades and is currently at 36%. Prior to 1995 it showed more variation and exerted a substantial influence on tranquilizer prevalence. As overall use of tranquilizers declined during the 1970s and through the 1980s, 12th-grade lifetime users also showed a steady, gradual increase in their noncontinuation rates between 1975 and 1982, from 38% to 50%. This rate changed little for a decade until, in the period of the 1990s drug relapse, noncontinuation of tranquilizers declined from 53% in 1992 to 36% in 1996 and prevalence increased. The rate has remained fairly level since then (35% in 2007 and 36% in 2014), reflecting a period of relatively high use.

- Due to a combination of low prevalence and being assessed on only two (and later three) questionnaire forms, noncontinuation rates for ***steroid*** users are quite volatile. No systematic trends are evident.

- ***Alcohol*** has always had an extremely low rate of noncontinuation and it has stayed between 8% and 9% since 1995. In previous years it increased gradually from about 1988 (when it was 7%) to 1993 (when it was 12%), perhaps reflecting the changed norms regarding its use (see Chapter 8). These norms, in turn, may have reflected both the influence of a number of states changing the legal drinking age and a greater emphasis being placed on the dangers of drunk driving.

Table 5-7b provides noncontinuation rates for 12th graders who were "experienced users," here defined as those who reported having used a drug 10 or more times during their lifetime. It shows that noncontinuation is far less likely among more experienced users than among other users of a given drug. To illustrate, in 2014, among experienced users, noncontinuation rates for all drugs fell at or below 34%. Further, while the trends in noncontinuation rates among all users have been similar to trends observed in the same drugs for experienced users, the degree of fluctuation in noncontinuation has tended to be considerably smaller among more experienced users.

The numbers of cases in each cell in Table 5-7b are considerably smaller than in most other tables, particularly when overall use is low to start with; therefore, the trend data are somewhat uneven. The following are some important trends we have seen for noncontinuation rates of experienced users:

- The noncontinuation rate for experienced ***marijuana*** users has been very low throughout the past 39 years, ranging from a low of 4% in 1975 to a high of only 12% in 1990. In 2014 it was 7%.

- Noncontinuation rates for more experienced users of ***inhalants***, who reported using 10 or more times, actually dropped in the late 1970s, perhaps as a result of the advent of nitrites, which are less often used at older ages than most of the other inhalants. However, when the use of nitrites declined among 12th graders during the 1980s, and again in the late 1990s, the noncontinuation rates for experienced users failed to increase. The noncontinuation rate for experienced users of inhalants was 32% in 2013 and 34% in 2014—the highest rates observed since the late 1970s.

- The noncontinuation rates for ***cocaine*** and ***crack*** rose in the late 1980s, even among more experienced users, peaking in 1991 before falling back as the use of these drugs became more popular. After about 1996, noncontinuation rates rose modestly, but they have changed rather little in the past few years.

IMPLICATIONS FOR PREVENTION

Whenever prevention programs are designed—whether for schools, families, communities, or the media—questions arise as to what *should* be prevented and what *can* be prevented. While it is axiomatic that the initiation of use should and can be prevented, there has been considerably less consensus as to whether the discontinuation of use is a realistic goal. We believe the results just presented here help to inform that debate.

The findings show that whatever social forces brought about the large declines in drug use during the 1980s and the substantial increases during the 1990s operated through effects on *both* initiation and noncontinuation rates. Put another way, the decreases and subsequent increases in annual and 30-day prevalence-of-use were considerably larger than could be explained by fluctuations in initiation rates alone. These findings show that noncontinuation *can* and *does* change appreciably and, therefore, that any comprehensive prevention strategy should include increasing cessation as one of its objectives—particularly cessation from early-stage use, as we discuss next.

The findings also show the importance of distinguishing among users at different levels of involvement. A comparison of the noncontinuation rates in Table 5-7a, based on all previous users, and Table 5-7b, based on only experienced users (those who reported having used a given drug 10 or more times), is highly instructive. Clearly, 12th graders in the early stages of use were appreciably more likely to discontinue their use than their counterparts who had greater involvement with the drug. This makes early intervention in terms of turning initial experimental use into non-use not only a viable goal for prevention, but also a particularly important one.

TREND COMPARISONS AMONG SUBGROUPS

This section provides trend comparisons for key population subgroups defined on the following six dimensions: gender, college plans, region of the country, population density, socioeconomic status, and race/ethnicity. In general, we will focus on selected results for 12th graders, given the shorter trend interval available for 8th and 10th graders. Earlier versions of Appendix D contained tables providing trends for these various subgroups for all three grades and on nearly all drugs; but Appendix D now refers the reader to an occasional paper (Occasional Paper 83[9]) that contains the same, detailed tables. The tables are organized by drug and, within drug, by grade level. Of particular importance, a matching set of figures are provided showing, for all three grade levels, each drug's usage trends by subgroup. The occasional paper is available on the Monitoring the Future website.We recommend use of the graphic versions to anyone who plans to spend much time examining subgroup differences. The table of contents in that document contains live links to each of the figures to facilitate look-up.

Trend Differences by Gender

As illustrated in the rest of this section and discussed in the previous chapter, for a number of licit and illicit substances, the differences between males and females in their levels of use tend to grow by 12th grade. In 8th grade there is often little or no gender difference in levels of use.

- Trends in the proportion of males and females who used ***any illicit drug*** in the past 12 months have differed some, with the extent of difference varying by grade level (Figure 5-7; see also Tables 1-3 and Figure 1 in Occasional Paper 83). Among 12th graders, males have consistently had slightly higher levels of use, with the difference between the genders greatest in the periods of highest use (i.e., in the late 1970s and the late 1990s and thereafter). Use in 10th grade has also been a bit higher for males, with differences generally

[9] Johnston, L. D., O'Malley, P. M., Miech, R.A., Bachman, J. G., & Schulenberg, J. E. (2015). *Demographic subgroup trends among adolescents in the use of various licit and illicit drugs, 1975–2014* (Occasional Paper No. 83). Ann Arbor, MI: Institute for Social Research. Available at http://monitoringthefuture.org/pubs/occpapers/mtf-occ83.pdf

smaller than among 12th graders, and in 2014 this difference is almost negligible. The differences have been very small at 8th grade.

- Gender differences in use of ***any illicit drug other than marijuana*** in the past 12 months vary by grade level. Among 12th-grade students, males consistently have had slightly higher levels of use than females since the 1990s, and in 2014 prevalence of use was 17% for males and 14% for females. Gender differences in 10th and 8th grade also have been small; 8th grade females have consistently had higher levels of use than males. In 2014 prevalence was slightly higher for females in both 8th and 10th grades. (Figure 5-7; see also Table 4 through 6 and Figure 7 in Occasional Paper 83).

Most of the gender differences in prevalence mentioned in Chapter 4 for individual classes of drugs have remained relatively unchanged throughout the study—that is, any trends in overall use have been fairly parallel for males and females. There are, however, some exceptions as noted below.

- Males have had higher levels of past-year ***marijuana*** use than females in every year of the study for 12th and 10th grade students (Tables 10-12 and Figure 19 in Occasional Paper 83). This difference narrowed somewhat before the start of the 1990s drug relapse (as overall prevalence declined), but subsequently remerged when overall prevalence increased. In 8th grade, males have had slightly higher levels of use than females until the last two years, when this difference narrowed and is now negligible. This pattern, in which a difference in absolute percentages between subgroups tends to enlarge in periods of increasing use and to diminish during declines in use, can be seen for many of other subgroup variables in addition to gender (e.g., see Figure 5-10b).

- There are larger gender differences in current ***daily marijuana use*** (Figure 5-5a; see also Table 16–18 and Figure 31 in Occasional Paper 83), with considerably higher prevalence for males; these differences exist at all three grade levels. Again, the absolute differences are greatest when overall prevalence is higher, although the *proportional* differences are fairly similar with male prevalence generally twice that of females.

- As the annual prevalence of ***synthetic marijuana*** has declined in recent years, so too have gender differences (Table 19 and Figure 37 in Occasional Paper 83). In 2014 the difference in prevalence for 12th-grade men as compared to women was 0.9% (6.2% and 5.3%, respectively), which represents a substantial decline from the difference of 6.8% (14.7% and 7.9%, respectively) in 2011, when the drug was first included in the survey. This drug follows the common pattern of declining gender differences as overall prevalence declines, although in this instance there is also a sharp decline in *proportional* difference.

- For past-year ***inhalant*** use among 8th graders, females in recent years have generally had nearly half again higher prevalence than males (Table 20 and Figure 43 in Occasional Paper 83) In 10th grade, males initially had very slightly higher prevalence, but after 2001, the male-female positions reversed. Since 2009, use has fallen for both genders, and the differences have narrowed some, leaving only small differences in the past few years. In 12th grade the gender differences in inhalant use were near zero in 2014, and the higher

level of use among males as compared to females that peaked in the early 1990s has diminished as prevalence has dropped to low levels.

- ***Hallucinogen*** use in the past 12 months (Tables 23–25 and Figure 49 in Occasional Paper 83) has been higher among males than among females at all three grade levels throughout the life of the study, with the differences growing larger at increasing grade levels (specifically: nominally small among 8th graders, moderate among 10th graders, and substantial in proportionate terms among 12th graders). In 2014 annual prevalence at 12th grade was 5.5% for males and 2.6% for females. The trends for the two genders have been closely parallel. The patterns are similar for LSD and for hallucinogens other than LSD.

- In general, past-year ***ecstasy*** use has been a bit higher among males in the upper grades, but there have been no consistent differences between the genders in 8th grade. The trends have been parallel for the most part (Tables 32-34 and Figure 67 in Occasional Paper 83).

- Males have greater levels of past-year ***cocaine*** use than females in10th 12th grade (Tables 36–38 and Figure 79 in Occasional Paper 83); this difference has been apparent in every year of the survey, with the difference greatest in the peak years of use (1979 through 1986). After 1992, the gender difference widened a bit as use increased more among males; this difference remains in recent years. In 10th grade a slightly higher level of use among males as compared to females emerged after 2007 and has persisted since then. In 8th grade no gender differences were discernible.

- The gender differences in past-year ***crack*** use (Tables 39–41 and Figure 85 in Occasional Paper 83) are very similar to those for cocaine use overall among 12th graders, with higher levels of use among males since 1986, when data were first available. Use grew a bit more among 12th-grade males after 1992, but it declined more among males than females since the turnaround after 1998. Little gender difference has been observed among 8th and 10th graders in either levels or trends.

- In 2014 no strong gender differences are apparent in past-year use of ***amphetamines*** outside of medical supervision (Tables 61–63 and Figure 133 in Occasional Paper 83). In 12th grade, the trends in amphetamine use for both genders have tracked on top of each other throughout the life of the survey. In 10th grade, females were slightly more likely than males to use amphetamines from the time they were first tracked (in 1991) to 2006, after which the gender differences have been small and inconsistent. In 8th grade, females have consistently had higher levels of use than males, but in recent years these differences have become very small (in 2014 the prevalence for females was 4.8% as compared to 3.4% for males) as overall prevalence has declined.

- At 12th grade, past-year use of ***Ritalin*** without medical direction (Tables 64–66 and Figure 139 in Occasional Paper 83) has generally been very slightly higher among males for the years on which we have data (i.e., since 2001). A sharp decline in reported use among males from 2005 to 2007 temporarily eliminated most of that difference, which then re-emerged as use by females declined. As of 2014, past-year use was only very slightly higher among males (1.9% for males and 1.5% for females). In 8th and 10th grade, levels of use

for males and females were very similar until 2009; since then, use by 10th-grade females has decreased, creating a growing (albeit still quite small) difference between the genders.

- Questions about use of ***Adderall*** were added in 2008 (Table 67 and Figure 145 in Occasional Paper 83). In 10th and 12th grades, use was slightly higher among males, but as yet there is no clear or consistent trend in differences across gender.

- Past-year use of ***crystal methamphetamine or ice*** (data available only for 12th graders) has been very low, but in most years a bit lower among females than males. Now, after a long period of decline in use, there was no appreciable difference between the genders (Table 72 and Figure 163 in Occasional Paper 83).

- ***Methamphetamine*** use has generally been very slightly higher for males at 12th grade but very slightly lower at 8th grade, with no consistent gender differences at 10th grade. The sharp declines in use since this drug was first measured in 1999 have been observable in both genders in all three grades (Tables 69-71 and Figure 157 in Occasional Paper 83).

- Among 10th and 12th graders, ***heroin*** use (with and without a needle), although quite rare, has been consistently higher among males, particularly in 12th grade. Gender differences among 8th graders have been very small and not consistent across time (Tables 45-47 and Figure 97 in Occasional Paper 83).

- Annual use of ***narcotics other than heroin*** outside of medical supervision (reported only for 12th graders) has been consistently higher for males than for females (Table 54 and Figure 115 in Occasional Paper 83). This gender difference narrowed in the early 1990s but then reemerged during the 1990s drug relapse and has persisted since.

- Use of the specific narcotic drugs ***Vicodin*** and ***OxyContin*** has always been higher among males at 12th grade, although the differences have been narrowing in recent years (Tables 55-60 and Figures 127 and 121 in Occasional Paper 83). There have not been large or consistent gender difference at the lower grades. The narrowing of the gender difference in 12th grade is consistent with the general pattern that subgroup differences narrow as use declines.

- In 2014 past-year ***tranquilizer*** use outside medical supervision for 12th graders is very slightly higher for males than females, at 4.9% and 4.4%, respectively (Tables 75-77 and Figure 181 in Occasional Paper 83). Among 12th-grade students, males and females have traded places as the users with highest prevalence many times throughout the survey; they have shown very similar trends across time. Among 8th graders, tranquilizer use has been consistently higher for females since the first survey in 1991; among 10th graders, it has tended to be about the same or higher for females.

- Past-year use of ***sedatives (barbiturates)*** outside of medical supervision (reported only for 12th grade) has not consistently differed by gender since 2004 (Table 74 and Figure 175 in Occasional Paper 83). Prior to 2005 use was slightly higher for males, a difference that

temporarily narrowed in the early 1990s when use was at the lowest levels ever recorded by the survey.

- Use of ***rohypnol*** tends to be slightly higher among males in 12th grade, but there is no consistent gender difference in the lower grades (Tables 81-83 and Figure 193 in Occasional Paper 83).

- Among 12th graders, ***alcohol*** use in the past 30 days has shown parallel declines since about 1980, with males consistently somewhat higher than females until 2014, when no gender difference was present (Tables 84-86 and Figure 199 in Occasional Paper 83). Absolute differences across gender have undergone a long and steady decline since the beginning of the survey in 1975 (proportional differences have been largely steady until recent years). Today the difference is 0.3% (37.4% for males and 37.1% for females). This absolute difference was 7 percentage points in 1987 and 13 percentage points in 1975. In 8th grade, the genders have had very similar levels of use. At 10th grade, a previous difference in which males had slightly higher levels of use diminished considerably after 2000.

- Although substantial gender differences in ***daily alcohol*** use and ***occasions of heavy drinking*** remain today among 12th graders (with males having higher levels of use), by 1993 the differences in absolute percentages, but less so in proportions, had narrowed during the long period of decline (see Figures 5-5b and 5-6a in this volume and Tables 87-92 and Figures 205 and 217 in Occasional Paper 83). For example, between 1975 and 1993 the proportion of 12th-grade males who reported having had five or more drinks in a row in the prior two weeks showed a net decrease of 14 percentage points (49% to 35%), whereas such use among females decreased by only 5 percentage points, from 26% to 21%. By 1998, prevalence for both genders had risen some, to 39% and 24%, respectively, opening the gap a little. Since 1998 the gender differences have narrowed further as overall use has declined. The trends among 10th graders look quite similar, though at a lower prevalence level. In the 8th grade, males also have shown a greater decline in heavy drinking in recent years, narrowing and slightly reversing the gender differences there.

- Self-reports of ***being drunk*** in the past 30 days may be a better indicator of heavy drinking than a fixed number of drinks (Tables 90-92 and Figure 211 in Occasional Paper 83). Even with this measure, among 12th graders, males have been substantially higher than females in 30-day prevalence of being drunk. The difference has decreased some as rates of being drunk have declined, and in 2014 the gap was relatively small. Among 10th graders, males generally have had slightly higher prevalence of being drunk, but the difference has narrowed since 2000 and in 2014 the difference was gone. Among 8th graders the prevalence of being drunk has been very similar for males and females since 1991, and in 2014 it was 2.7% for both genders.

- On one of the six questionnaire forms administered to 12th graders, respondents are asked separately about their use of ***beer***, ***wine***, ***hard liquor***, and ***wine coolers***. (Tables 96-109 and Figures 223, 229, 235, 241, 247, 253, 259, and 265 in Occasional Paper 83) The answers to these questions reveal that differences in ***beer*** consumption account for much of the large gender difference in occasions of heavy drinking: 22% of 2014 twelfth-grade males (vs.

12% of females) reported having had five or more beers in a row during the prior two weeks (although this gender difference has narrowed over the years). Males have consistently been more likely than females to report having had five or more drinks of ***hard liquor*** (21% for males vs. 16% for females in 2014, with little change over time), but there has been little or no difference in having consumed ***wine*** that heavily (4.5% for males and 5.4% for females in 2014). This pattern—a large gender difference in the heavy use of beer, a smaller difference in the heavy use of hard liquor, and a much smaller difference in the heavy use of wine—has been present throughout the study, with only modest change over time. In 1988, questions on ***wine coolers*** were added, and here the gender difference was reversed, with females reporting slightly higher prevalence of heavy drinking of wine coolers (7.2% for females vs. 4.1% for males in 2014). In 2003, a single question on annual use of ***flavored alcoholic beverages*** ("alcopops") was added, and then in 2004 the full set of three questions (lifetime, annual, and 30-day) was added (Tables 110-112 and Figure 271 in Occasional Paper 83). Here, too, females have shown a slightly higher rate of use (e.g., 30-day prevalence of 22% for female 12th graders versus 17% for males in 2014).

- Males have been slightly more likely than females to smoke ***cigarettes*** in the past 30 days since 2006 among 10th graders and since about 2001 among 12th graders (Figure 5-5c; Tables 114-122 and Figures 283 and 289 in Occasional Paper 83). This gender gap in cigarette smoking has been opening in recent years as smoking has fallen more among females than among males. In the decade previous to 2001, 12th-grade males were consistently slightly more likely than females to be 30-day smokers. Going back another decade, from 1981 to 1991, it was female 12th graders who consistently had a higher prevalence of smoking than males. This gap diminished during the Joe Camel advertising campaign from 1987 through 1997, which targeted boys and may have contributed to a greater increase in cigarette prevalence among males as compared to females.

- Extremely large gender differences in the use of ***smokeless tobacco*** during the past 30 days have been observed consistently at all grade levels, with much higher prevalence among males (Tables 126-131 and Figure 313 and 319 in Occasional Paper 83). After 1994 there was a substantial decline in overall use of smokeless tobacco among 8th-grade males (their 30-day prevalence dropped from 12.8% in 1994 to 4.7% by 2007), a considerable drop among 10th-grade males (from 19% in 1994 to 9% in 2004), and, since 1995, a similar decline for males in 12th grade (from 24% in 1995 to 11% in 2006). In 2008, there was a further significant decline in smokeless tobacco use for 10th graders, though not in 8th or 12th grades. These declines had the effect of greatly narrowing the gender differences, because use by females changed very little, remaining at fairly negligible levels. However, use among males in all three grades began rising after 2007, suggesting that the decline in smokeless tobacco use may have been over; but in 2011 a decline was observed for males in all three grades—quite possibly as a result of the increase in the federal tobacco tax in 2009. The more recent increase in use by 12th-grade males again enlarged the gender difference. Because smokeless tobacco use by females is so low and fluctuates so little, the gender differences rise and fall with the changes in the use by males. The changes since 2007 certainly appear to be secular trends, in which all three grades are simultaneously responding to environmental changes, two of which could well be the introduction and promotion of new forms of smokeless tobacco and the change in the federal tobacco tax.

- Similar to smokeless tobacco, smoking of ***small cigars*** in the past 12 months tends to be higher among males (Table 124 and Figure 307 in Occasional Paper 83). Data on 12th graders' small cigar use have been collected since 2010. In 2014 the annual prevalence of use was 26% for males vs. 12% for females. No clear time trend is yet discernable.

- Smoking tobacco using a ***hookah*** (water pipe) in the past 12 months is more popular among male than female 12th graders, although the difference is not a large one (25% vs. 21%, respectively in 2014). Both are showing an upward trend in use since 2011 when use was first measured (Table 123 and Figure 301 in Occasional Paper 83).

- Like smokeless tobacco, past-year use of ***dissolvable tobacco*** and ***snus*** is more common among males than females (Tables 132-133 and Figures 325 and 331 in Occasional Paper 83). Dissolvable tobacco had an annual prevalence of 1.1% vs. 0.7% among males and females, respectively, in 2014. Snus showed a 9.9% annual prevalence rate for males vs. 1.5% for females in 12th grade. With both dissolvable tobacco and snus, the gender gap decreased in 2014 as the total prevalence dropped, because female prevalence is consistently near zero.

- ***Steroid*** use in the past 12 months is generally at least twice as high for males in grades 10 and 12 (Tables 134-136 and Figure 343 in Occasional Paper 83). In grade 8 steroid use has generally been nearly twice as high for males as compared to females until recent years, when no difference is present. In 2014 the annual prevalence for females were 0.5%, 0.5%, and 0.7% in grades 8, 10, and 12, respectively, whereas for males they were 0.6%, 1.1%, and 2.0%, following a period of sustained decline for both genders.

Trend Differences by College Plans

In this section we compare college-bound students (those who say they "definitely will" or "probably will" graduate from a *four-year college*) with those we term noncollege-bound students (i.e., all others). It is important to realize that the proportion of young people expecting to attend college has risen dramatically over the four decades covered by MTF.[10] In the mid-1970s, only about half of 12th graders expected to complete college, compared to 82% of 2014 seniors. This means that the two groups compared here (using the convenient, if not entirely precise, terms college-bound and noncollege-bound) are changing proportions of the total population and, therefore, do not represent exactly comparable segments of the population across time.

Rather little such upward drift in college plans was seen during the 1990s at lower grade levels, but generally 78–90% of each class expected to attend college. As to whether these expectations are realistic, the reader is reminded that at these lower grades, those aspiring to complete a four-year college program constitute a much larger proportion of the whole class than those who do not (with far smaller sample sizes for the noncollege-bound); thus the trend lines for the noncollege-

[10] For a description of earlier changes in the demographic makeup of the MTF samples and a discussion of their implications for substance use, see Johnston, L. D. (2001). Changing demographic patterns of adolescent smoking over the past 23 years: National trends from the Monitoring the Future study. In National Cancer Institute, *Changing adolescent smoking prevalence: Where it is and why* (Smoking and Tobacco Control Monograph No. 14, NIH Pub. No. 02-5086, pp. 9–33). Bethesda, MD: U.S. Department of Health and Human Services, National Institutes of Health, National Cancer Institute.

bound are much less smooth (i.e., are subject to much more in the way of random sample fluctuation). Graphic presentation of all subgroup trends may be found in Occasional Paper 83.

- College-bound and noncollege-bound students have shown fairly parallel trends in past-year use of ***any illicit drug*** (Figure 5-8; also Tables 1-3 and Figure 2 in Occasional Paper 83), with the noncollege-bound consistently having much higher rates of use than the college-bound in the lower grades and somewhat higher rates of use in grade 12.

  Changes in use of drugs in other classes have also been generally parallel for the two groups since 1976, with only minor exceptions (see http://monitoringthefuture.org/pubs/occpapers/mtf-occ83.pdf for comparisons on the various drugs).

- Changes in ***marijuana*** use have been fairly parallel for the two groups at all three grade levels, maintaining large differences between them, particularly in the lower grades (Tables 7-15 and Figures 14, 20, and 26 in Occasional Paper 83). The noncollege-bound have consistently had higher levels of use, although these differences diminish by 12th grade.

- There is a very large difference between the college-bound and the noncollege-bound in their level of ***daily marijuana*** use, with the latter having the higher prevalence (Tables 16-18 and Figure 32 in Occasional Paper 83) . During the relapse in the drug epidemic in the 1990s, daily use rose much more sharply among the noncollege-bound, opening a wide gap in all three grades, which remains today. The 2014 comparisons for the college-bound versus the noncollege-bound were 0.8% vs. 2.9% in 8th grade, 2.8% vs. 8.8% in 10th grade, and 4.6% vs. 9.8% in 12th grade, respectively. Of interest, Figure 32 shows that daily marijuana use rates among the college-bound are appreciably higher among the 12th graders than the 10th graders, whereas among the noncollege-bound the two grades are quite similar (although it should be kept in mind that the 10th-grade noncollege-bound samples include most who will drop out, and their substance use rates are far above average).

- Prevalence of past-year ***synthetic marijuana*** use has changed substantially across the two groups for 12th-grade students (Table 19 and Figure 38 in Occasional Paper 83) in 2014. Among noncollege-bound students prevalence dropped by more than 50% from 2013 to 2014 and thereby eliminated what had been their much higher level of use compared to college-bound students. For both the college- and noncollege-bound students, prevalence in 12th grade stood at 5.8% in 2014. Among 10th- and 8th-grade students prevalence remained substantially higher among the noncollege-bound, as it has been since 2011 when the survey first started tracking this drug.

- Past-year use of ***inhalants*** was much higher among the noncollege-bound in 8th grade (where use is highest), considerably higher among the noncollege-bound in 10th grade, but only slightly higher in 12th grade (Tables 20-22 and Figure 44 in Occasional Paper 83). Use has been falling for some years for both groups in all three grades, which has had the effect of narrowing these absolute differences in grades 8 and 10.

- ***Cocaine*** use in the past 12 months has been considerably higher among the noncollege-bound throughout the period studied—particularly so in the two lower grades (Tables 36-38 and Figure 80 in Occasional Paper 83). The difference tends to enlarge in periods of increasing use and diminish in periods of decreasing use, as is true for a number of drugs. Because cocaine use has been declining for some time, the gap between these two groups has been narrowing (but in the lower grades only). For ***crack cocaine*** (Tables 39-41 and Figure 86 in Occasional Paper 83), the differences have been less pronounced in absolute percentages but still show two to four times higher rates among the noncollege-bound. The already-large differences in crack use grew considerably during the increases of the early to mid-1990s, and then diminished considerably during the decline phase since 1998.

- As the overall prevalence of many drugs fell through 1992 among 12th graders, there was some convergence of prevalence between the college-bound and noncollege-bound due to a greater drop in use among the noncollege-bound. This has just been illustrated for cocaine and crack, and it was also true for ***tranquilizers***, ***sedatives***, ***methaqualone***, ***amphetamines***, ***nitrite inhalants***, ***LSD***, ***hallucinogens other than LSD***, and ***narcotics other than heroin*** (Tables and Figures in Occasional Paper 83). But, as the use of several of these drugs increased after 1992, the differences grew larger for many of them at all grade levels (e.g., LSD, hallucinogens other than LSD, amphetamines, and tranquilizers). The increases were sharper, and in some cases started earlier, among the noncollege-bound. In more recent years, use of a number of these drugs has declined, and with that decline has come a narrowing of the differences once again. This has been particularly true for LSD, for example.

- For many years, at 12th grade there was only a modest absolute difference in the low annual ***heroin*** prevalence observed between the college- and noncollege-bound students (with the college-bound lower; see Tables 45-47 and Figure 98 in Occasional Paper 83). In the 1990s, however, among 12th graders the noncollege-bound grew to having about twice as high a prevalence of past-year heroin use, and this ratio has remained that high in the past few years.

  At the lower grade levels there have been larger proportional and absolute differences in heroin use between these two groups, and in both grades the noncollege-bound showed sharper rises in heroin use in the 1990s. That increase was particularly sharp among the noncollege-bound 8th graders (who now comprise only about 8% of the 8th-grade sample). In general, the noncollege-bound in all grades have had considerably higher prevalence of heroin use, including use with and without a needle (see Tables 47-53 and Figures 98, 104, and 110 in Occasional Paper 83).

- Past-year use of ***Vicodin*** and ***OxyContin*** outside of medical supervision have both shown large differences in prevalence between the college- and noncollege-bound, with the latter having considerably higher levels of use. In 2014 these differences narrowed but were still substantial among 12th-grade students. For Vicodin, past-year prevalence among noncollege- and college-bound students in 12th grade was 5.7% and 4.4%, respectively, and for OxyContin, prevalence was 4.5% and 2.9%, respectively. In past years the gaps narrowed as the noncollege-bound showed larger declines on both drugs with the exception

of 8th graders' use of OxyContin (see Tables 55-60 and Figures 122 and 128 in Occasional Paper 83). These two drugs have moved pretty much in parallel since they were first measured in 2002.

- Past-year use of ***ecstasy*** (***MDMA***) among 12th graders started out higher among the noncollege-bound in 1996, the year it was first measured, but for the next several years levels of use were not very different (Tables 32-34 and Figure 68 in Occasional Paper 83). Since 2001 the gaps have been mostly larger because use declined more among the college-bound, whereas it increased for a while after 2004 among the noncollege-bound. In the last few years, however, the differences have been small to nonexistent. In the lower grades, the differences have been considerably larger and more consistent, again with the noncollege-bound having the higher prevalence. Both groups increased in 2000 and 2001, but in the lower grades the increases were much sharper among the noncollege-bound. (These figures are based on relatively low case counts, making one-year subgroup differences in trends potentially unreliable.) After 2001, as use declined, the differences narrowed in the lower grades. After 2005 a modest turnaround occurred, with prevalence increasing more among the noncollege-bound, but in the last couple of years prevalence fell again, once more narrowing the differences.

- Past-year use of ***Ritalin*** outside of medical supervision has been much higher among noncollege-bound 8th and 10th graders, but only modestly higher among noncollege-bound 12th graders. (Use was first measured in 2001; see Tables 64-66 and Figure 140 in Occasional Paper 83). Annual prevalence has been trending down in all grades among both groups since about 2003, and the differences have narrowed. Again, the small numbers of cases have led to considerable variability in the estimates for the noncollege-bound.

- Past-year use of ***Adderall*** outside of medical supervision has been measured only since 2009 (Table 67 and Figure 146 in Occasional Paper 83). It shows large differences in the lower grades (particularly in 10th grade) linked to college plans, with the noncollege-bound having higher use. The differences have been small at 12th grade, however, quite possibly as a result of an increase in use among college bound students seeking to improve their academic performance.

- Past-year use of ***methamphetamine*** also has been much higher among the noncollege-bound in all grades since use was first measured in 1999, with the declining usage trends for the two groups initially tending to move in parallel (Tables 69-71 and Figure 158 in Occasional Paper 83). However, most overall percentage differences (but not all proportions) have narrowed as the decline continued.

- ***Crystal methamphetamine*** use in the last 12 months showed quite parallel trends for the two groups, with the noncollege 12th graders consistently higher (Table 72 and Figure 164 in Occasional Paper 83). This drug is not included in the 8th- and 10th-grade surveys.

- Past-year use of ***sedatives (***including ***barbiturates,*** reported only for 12th graders) and ***tranquilizers*** outside of medical supervision have both been higher among the noncollege-

bound, with the absolute differences generally expanding during periods of rising use and shrinking during periods of declining use (Table 74-77 and Figures 176 and 182 in Occasional Paper 83).

- For 30-day ***alcohol*** prevalence, the noncollege-bound have been consistently higher than the college-bound, though the differences have generally been much smaller at 12th grade than in the lower grades (Tables 84-86 and Figure 200 in Occasional Paper 83). In general both groups have moved in parallel, though after 1996, the gap in 12th grade widened a bit due to a greater drop in drinking among the college-bound. The proportional differential in all of the alcohol measures is greatest at 8th grade, smaller but still substantial at 10th grade, and least at 12th grade. Between 2013 and 2014 the gap between the two groups in 12th grade narrowed further as the percent of youth who used alcohol in the past 30 days significantly dropped to 40% from 45% among the noncollege-bound, while it changed little among the college-bound.

- ***Binge drinking*** prevalence in the past two weeks has always been higher for the noncollege-bound as compared to the college-bound (Tables 93-95 and Figure 218 in Occasional Paper 83). The difference between the two groups narrowed somewhat for all grades in 2014 as overall prevalence of binge drinking declined. In past years the difference between the two groups converged modestly from 1981 to about 1990 as the overall prevalence declined, though the prevalence for the college-bound still remained considerably lower. Both groups showed small increases after 1993, but as use has declined among both groups some in more recent years, that decline occurred more among the college-bound, which increased the difference again. In both 8th and 10th grades, there were very large and growing differences in binge drinking prevalence between the college-bound and the noncollege-bound during much of the 1990s because the noncollege-bound exhibited a larger increase in binge drinking.

- At all three grade levels there have been very large differences in the current prevalence of ***cigarette*** smoking between the noncollege-bound (who have much higher levels of use) and the college-bound (Tables 114-122 and Figures 284, 290, 296 in Occasional Paper 83). By 2014 these differences (in terms of absolute percentages) had narrowed as overall use declined in all grades for the outcomes of ***past 30-day smoking***, ***daily smoking***, and use of a ***half pack a day*** or more. In general, the broad contours of change have been fairly similar for the two groups at all three grade levels, except for the fact that the noncollege-bound groups showed larger percentage declines because they started (in the late 1990s) at much higher levels. Another way of considering the differences and trends is to note that smoking a half-pack a day or more was consistently about three times as prevalent among the noncollege-bound, versus the college-bound, among 8th and 10th graders, and about twice as prevalent among 12th graders.

- Past-year ***hookah*** smoking is at a very similar level for the college-bound and noncollege-bound (Table 123 and Figure 302 in Occasional Paper 83).

- Smoking of ***small cigars*** in the past 12 months has been a bit higher among the noncollege-bound, but their use has fallen considerably since it was first measured in 2011, thus reducing the difference (Table 124 and Figure 308 in Occasional Paper 83).

- The use of ***smokeless tobacco*** has also been consistently about two to three times higher among the noncollege-bound at all grade levels (see Tables 126-131 and Figures 314 and 320 in Occasional Paper 83).

- Use of ***dissolvable tobacco*** (first measured in 2012), and particularly ***snus,*** are much higher among the noncollege-bound (Tables 132-133 and Figures 326 and 332 in Occasional Paper 83).

- Large and fairly consistent differences in the prevalence of past-year ***anabolic steroid*** use have been seen for the two groups at all three grade levels, with the noncollege-bound typically about twice as likely to use steroids (Tables 134-136 and Figure 344 in Occasional Paper 83). In 2014 prevalence among the noncollege-bound diminished to 1.8% from 2.7% in 12th grade, which substantially narrowed the distance from the prevalence with the college-bound (1.3%). As with other demographic variables, between-group differences in *absolute percentages* have tended to enlarge during periods of rising use (e.g., during the late 1990s for steroid use) and diminish during period of declining use (e.g. during the early 2000s), whereas the *ratios* between the percentages have changed much less.

In sum, students who do not expect to complete four years of college have consistently been a high-risk group for drug involvement including the licit drugs (alcohol and tobacco), nearly all of the illicit drugs, and even steroids. As with other demographic variables, the between-group percentage differences generally have tended to enlarge during periods of rising use and diminish during periods of declining use.

Trend Differences by Region of the Country

Data on subgroup trends for the four regions of the country may be found in tabular and graphic forms in Occasional Paper 83 on the MTF website.

- In 2014 the proportions of 12th graders using ***any illicit drug*** during the prior 12 months was similar across all four regions of the country, although slightly higher in the Northeast (Figure 5-10a; also Table 1-3 and Figure 3 in Occasional Paper 83). In recent years no region has stood alone as the one with the highest drug use prevalence, although the Northeast has often been at or near the top of the regional prevalence levels that are within a narrow range. In general, regional differences have been more pronounced when use levels are high and smaller when use levels are low. In the late 1970s and early 1980s, the Northeast region was consistently highest; the South, the lowest; and the Midwest and West, in between. Through the 1980s and continuing through 1992, use declined overall as did regional differences. During the "relapse phase" in the drug epidemic, from 1992 to 1997, the annual use of any illicit drug increased in all four regions by roughly equivalent amounts, with use in the South remaining lowest, but not by a great deal. After that there was some decline in annual prevalence in all four regions, with 2014 annual prevalence

ranging from a low of 37% in the West, 38% in the South and Midwest, and 43% in the Northeast. Among 8th and 10th graders, the regional differences in annual prevalence of any illicit drug have generally been fairly minor, although among 8th graders, use has generally been lowest in the Northeast.

- The long-term ***marijuana*** use trends among 12th graders have generally been similar in all four regions since 1975, with the Northeast usually having the highest level and the South having the lowest level (Tables 7-15 and Figures 15, 21, and 27 in Occasional Paper 83). Marijuana use rose substantially in all four regions after 1991 for 8th graders and after 1992 for 10th and 12th graders. Peak levels of use were highest in the Northeast in the upper grades. Between 1996 and 2005, all regions showed a leveling or turnaround at all grade levels. From 1999 to 2005, marijuana use was lowest in the South among 12th graders, but not among 8th or 10th graders. (In fact among 8th graders the Northeast has generally ranked lowest.) After the late 1990s the Northeast stood out because it did not show as sharp a decline in marijuana use in 12th grade as did the other three regions, leaving it with a considerably higher rate of use by 2010. After 2009 use in the Northeast leveled and in 2014 it was the region with the highest level of use. The Midwest and South have tended to have lower prevalence, and in 2014 the West joined these low-level regions as marijuana prevalence in the past 30 days dropped significantly to 20% from 26% in the previous year.

- With regard to the ***daily marijuana use***, the four regions have generally moved synchronously with the Northeast, generally showing the greatest increase in the initial rise in use from 1975-1979 and many years holding the position as the region with the highest prevalence for 12th-grade students, including 2014 (Tables 16-18 and Figure 33 in Occasional Paper 83).

- There is currently little difference across the regions in adolescents' past-year use of ***synthetic marijuana***, measured since 2012 (Table 19 and Figure 39 in Occasional Paper 83).

- Past-year ***inhalant*** use has shown little systematic regional difference in levels and trends in use (Tables 20-22 and Figure 45 in Occasional Paper 83).

- There are few discernible differences across regions in past-year use of ***hallucinogens*** since 2001 (Table 23-25 and Figure 51 in Occasional Paper 83). In previous years the Northeast had the highest levels of use for 12th grade students, particularly in mid-1980s and the mid 1990s, but the regions have since converged.

- Past-year ***cocaine*** use in 2014 among 12th graders was essentially the same across all four regions and varied between 2.3% and 2.7% (Figure 5-10b; also Tables 36-38 and Figure 81 in Occasional Paper 83). In past years regional variation in cocaine use was the largest observed for any of the drugs. Large regional differences in cocaine use emerged when the nation's epidemic grew in the late 1970s and early 1980s. By 1981, annual use had roughly tripled in the West and Northeast and nearly doubled in the Midwest, while it increased only by about one-quarter in the South. This pattern of large regional differences held for about six years, until sharper declines in the Northeast and West reduced the differences

substantially. In recent years use has been in a fairly steady decline in all regions in all grades. For most of the years of the study, the West had the highest level of cocaine use at all three grade levels, but in recent years the differences have not been very large or entirely consistent.

- In all three grades, past-year ***crack*** use has almost always been highest in the West, although these differences are considerably smaller today than in the past (Tables 39-41 and Figure 87 in Occasional Paper 83). When crack use was first measured among 12th graders in 1986, there were large regional differences, with the West and Northeast again having far higher prevalence than the Midwest and South. Crack use dropped appreciably in all four regions over the next several years (though prevalence did not peak in the Midwest until 1987 or in the South until 1989, perhaps due to continued diffusion of the drug to areas that previously did not have access). Because the declines were large and very sharp in the West and Northeast, little regional difference remained by 1991, although the West still had the highest rate of use. After 1991 or 1992, during the relapse phase of the drug epidemic, there were increases in all regions, but particularly in the West. Again, the West showed the largest increases and the highest levels of use at all three grades, while the other three regions were fairly similar in their prevalence of use. In general, all regions showed evidence of a leveling or decline in crack use at all three grade levels in recent years, along with a diminution of regional differences.

- Past-year ***amphetamine*** use outside of medical supervision has varied little by region of the country; it now ranges between 7% and 9% among all regions (Tables 61-63 and Figure 135 in Occasional Paper 83). In earlier years (1975-1986) the South consistently had the lowest levels of amphetamine use among 12th-grade students, but that difference diminished as overall use declined from a peak established in 1981. In essence, the South was least affected by both the rise and the fall in reported amphetamine use in the 1970s and 1980s.

- Up until 2003 there has been little difference among the regions in past-year use of ***Ritalin*** outside of medical supervision, nor in trends in use (Tables 64-66 and Figure 141 in Occasional Paper 83). In 2014 use in the West significantly dropped to 0.4% from 2.8% in the previous year among 12th-grade students, making it the region with by far the lowest level of use. Past-year use of ***Adderall*** outside of medical supervision shows more regional variation, with use highest in the Midwest for the most part and lowest in the West (Table 67 and Figure 147 in Occasional Paper 83).

- Past-year use of ***crystal methamphetamine*** (***ice***), measured in 12th grade only, has fairly consistently had the highest rate of use in the West (Table 72 and Figure 165 in Occasional Paper 83), although usage levels in all regions have been very low, so none of the differences are large. On average, the South and the Midwest have had relatively low levels of use from 1990 through 1996, but the South has ranked slightly higher since then, while the Northeast has remained low. All regions have shown a considerable decline in use since around 2002.

- Past-year use of ***methamphetamine,*** which was added in 1999 for all grades, has also generally shown higher prevalence in the West in the upper grades, although regional differences have been almost eliminated as use has declined in most regions to very low levels in recent years (Tables 69-71 and Figure 159 in Occasional Paper 83). The Northeast generally had the lowest prevalence of use for this drug in earlier years, perhaps because use tends to be higher in rural areas, as is discussed in the next section.

- Regional differences in past-year use of ***hallucinogens*** are currently small, with variation ranging from 3.6% to 4.4% among 12th-grade students in 2014 (Tables 23-25 and Figure 51 in Occasional Paper 83). In past years prevalence among 12th-grade students was highest in the Northeast and lowest in the South, especially between 1975 and 1987. These differences narrowed before the start of the 1990s drug relapse, but reemerged when use of hallucinogens increased during the 1990s. Since the end of the 1990s, regional differences have narrowed as overall prevalence has declined. Hallucinogen use by 8th and 10th graders has shown only small differences among the regions.

- In 2014 past-year use of ***LSD*** among 12th graders increased significantly in the South, making it the region with the highest prevalence, at 3.1% (Tables 26-28 and Figure 57 in Occasional Paper 83). The South has held this top position for only one year and it is too soon to know if it will maintain this standing for an extended period of time. If so, it would be in contrast to past years, when the South has typically had the *lowest* prevalence of LSD use, especially before 1994. As with other drugs, regional differences are most apparent when use is high, as it was in the early 1980s and at the end of the 1990s drug relapse. Since the close of the 1990s, prevalence has been at the lowest levels recorded by the survey with no clear differences across regions until this year.

  Regional differences in LSD use among 8th and 10th graders have been negligible in recent years, as prevalence has remained under 2%.

- Past-year use of ***ecstasy*** (***MDMA***) differed little by region in 2014, and among 12th-grade students varied from 3.1% to 4.2% (Tables 32-34 and Figure 69 in Occasional Paper 83). The West showed a spike in use, which reached its height in 2011, and the fact that it appeared in all three grades (which are sampled separately) makes it more plausible even though percentage shifts are modest.

- Some classes of drugs have shown little systematic difference by region over the years in which their use has been measured. This is especially true among substances with low prevalence (e.g. 3% or lower). These include ***inhalants***, ***heroin***, ***heroin with a needle***, and ***heroin without a needle***.

- Past-year use of ***narcotics other than heroin*** declined significantly in the Northeast in 2014 among 12th-grade students and is now at 4.0% as compared to 7.1% in the previous year (Table 54 and Figure 117 in Occasional Paper 83). With this decline, the Northeast now has the lowest use of narcotics other than heroin, but regional differences are and have typically been small, with the difference between the regions with the highest as compared to lowest levels of use always less than 4%.

- Past-year use of ***Vicodin*** outside of medical supervision has tended to be highest in the West and Midwest at all three grade levels, with no clear evidence of differential trends by region (Tables 58-60 and Figure 129 in Occasional Paper 83). Past-year use of ***OxyContin*** outside of medical supervision does not appear to differ much by region and shows no systematic trends in regional differences over time (Tables 55-57 and Figure 123 in Occasional Paper 83).

- Past-year use of ***sedatives*** outside of medical supervision is reported only for 12th graders (Table 74 and Figure 177 in Occasional Paper 83). In general, regional differences have been small with no consistent ranking of regions. The one exception is that during the relapse phase in the drug epidemic of the 1990s, use in the South increased somewhat more than in the other regions. As a result, the South had above-average prevalence from 1994 through 2007. The South reclaimed the highest levels of use in 2013 and 2014.

- Past-year ***tranquilizer*** use outside of medical supervision followed a quite similar path over time among the regions, with the South serving as an exception because it had the highest use among 12th graders from 1994 through 2007 (Tables 75-77 and Figure 183 in Occasional Paper 83). In 2014 there was little difference across the regions among 12th graders. In the lower grades use was consistently highest in the South, though a decline in use in recent years has narrowed the differences.

- ***Bath salts*** have only been included in the study for three years (Table 73 and Figure 171 in Occasional Paper 83). Past-year use remains very low and is less than 1.5% in all four regions and in all grades.

- The 30-day prevalence of ***alcohol*** among 12th-grade students has typically been higher in the Northeast and the Midwest and lower in the South and the West (Table 86 and Figure 201 in Occasional Paper 83). This relative standing has remained in place as alcohol use has steadily declined over nearly all 40 years of the survey.

- ***Occasions of heavy drinking*** in the past two weeks among 12th-grade students have typically been higher in the Northeast and the Midwest and lower in the South and the West (Table 95 and Figure 219 in Occasional Paper 83). These regional differences were particularly acute from 1975 to 1985 and have diminished somewhat since then.

- At the lower grades there have been few regional differences for ***30-day prevalence of drinking*** since 1991, when these data were first collected, and trends have generally been quite similar across regions (Tables 84-85 and Figure 201 in Occasional Paper 83). Similarly, there have been few regional differences in ***occasions of heavy drinking*** in the lower grades (Tables 93-94 and Figure 213 in Occasional Paper 83).

- These trends in regional differences for alcohol use also apply to ***occasions of drunkenness*** in the prior 30 days (Tables 90-92 and Figure 213 in Occasional Paper 83). At 12th grade, the Northeast and the Midwest have fairly consistently had the highest rate of drunkenness

since this measure was first introduced in 1991. At the lower grades, there have been no consistent regional differences in levels or trends on this measure.

- In 2014 there was little variation in past 30-day ***cigarette*** smoking by region, with a high of 15.4% in the South and a low of 11.7% in the Northeast among 12th grade students (Figure 5-10c; also Tables 114-116 and Figure 285 in Occasional Paper 83). Regional differences have diminished as use of cigarettes has declined to the lowest levels ever recorded by the survey. When levels of cigarette use were higher, such as from 1975-1985 and during the 1990s drug relapse, use was typically lowest in the West in all grades. The lack of any substantial increase in the West during the 1990s may well be due to the fact that California conducted a major antismoking campaign in those years. ***Half-pack a day or more*** smoking (Figure 297 in Occasional Paper 83) has shown larger and more consistent regional differences, with rates for the West generally about half to two thirds of those in other regions.

- ***Hookah*** smoking of tobacco in the past 12 months was first measured in 2010 among 12th graders only (Table 120 and Figure 303 in Occasional Paper 83). It has always been lowest in the South, although regional differences are modest and in 2014 ranged from 20% to 26%. The region with the highest level of use had always been the West until 2014, when it shared the position with the Midwest after a significant surge in use in that region.

- Use of ***small cigars*** in the past year was also first measured in 2010 (Table 121 and Figure 309 in Occasional Paper 83). Past-year use has always been highest in the Midwest (24% in 2014). In 2014 use was lowest in the West (14%), after showing the only appreciable decline in use in the past year.

- The use of ***smokeless tobacco*** in the past 30 days has generally been highest in the South for 8th and 10th graders, followed closely by the Midwest. Among 12th graders, however, the Midwest and the South have often traded places as the region with the highest prevalence, with the Midwest holding this spot in 2014 (Tables 126-128 and Figure 315 in Occasional Paper 83). During the late 1990s, use of smokeless tobacco fell in all regions in all three grades. The decline in the Midwest was particularly steep in all grades, but at 12th grade the Midwest has generally maintained the highest prevalence of smokeless tobacco use in the years since. The regional estimates are somewhat unstable for this drug due to the limited numbers of cases.

- The use of ***dissolvable tobacco*** in the past year is currently very low at 1.5% or less in all four regions (Table 132 and Figure 327 in Occasional Paper 83).

- The use of ***snus*** in the past year varies little by region, from 5% to 7% in 2014. (Table 133 and Figure 333 in Occasional Paper 83).

- In general, the regions have shown fairly parallel movement in past-year ***anabolic steroid*** use at all three grade levels (Tables 134-136 and Figure 345 in Occasional Paper 83). In particular, the sharp increase in steroid use that occurred at grades 8 and 10 between 1998 and 1999 was observed in all regions, suggesting that a culture-wide influence was at

work—quite possibly the well-publicized use of a steroid precursor by Mark McGwire, a highly visible professional athlete who set a new home run record in 1998. (Note that the steroid trend curves for 12th grade are more uneven than for the other grades because the steroid questions are asked of a smaller sample in 12th grade.)

Trend Differences by Population Density

Occasional Paper 83 contains tabular trend data on all drugs for the three levels of community size distinguished here: (a) large MSAs, which contain most of the largest Metropolitan Statistical Areas from the most recent Census data; (b) other MSAs, which are the remaining Metropolitan Statistical Areas; and (c) non-MSAs (see Appendix B for more detailed definitions). A complete set of figures, which are far easier to read than tables, also may be found in Occasional Paper 83.

- In 2014 non-MSAs had the lowest proportions of 12th graders using ***any illicit drug*** in the past year, as they have in most years of the survey (Figure 5-11a; also Tables 1-3 and Figure 4 in Occasional Paper 83). In 2014 prevalence in the non-MSA areas was 32%, as compared to 39% in large MSAs and 41% in other MSAs. Differences by population density were smallest and virtually zero at the start of the 1990s, when overall prevalence of illicit drug use was at its lowest level recorded by the survey. Differences were largest in the decade from 1975 to 1985, when use levels were highest.

  In the lower grades there has not been much difference between the three community-size strata, which have moved in parallel for the most part. The one exception was that, during the period of ascending use in the first half of the 1990s, use rose most quickly in the "other" MSA stratum; but the two other strata caught up by 1996 at 8th grade and by 1999 at 10th grade. No such divergence occurred in 12th grade during that period.

- The overall proportion of 12th-grade students involved in the past-year use of ***any illicit drug other than marijuana*** has been similar across areas of different population density, at least in recent decades (Figure 5-11a; see also Tables 3-6 and Figure 10 in Occasional Paper 83). Since the mid-1980s the difference between the MSA with the highest versus lowest prevalence has been 6% or less. Previous to the mid-1980s use of any illicit drug other than marijuana was consistently highest in the large MSAs and lowest in the non-MSAs.

  In the lower grades the large MSAs have had the lowest prevalence in almost every year of the survey, although differences by community size are not large. In 2014 levels of use in the large, other, and non-MSAs for 10th grade students were 10%, 11%, and 13%, respectively. In 8th grade the parallel numbers were 6%, 7%, and 6%, respectively.

- During the years in which the use of various drugs generally increased, significant differences emerged across the three community types in the use of several specific classes of drugs. Figures 5-11b and 5-11c show the trends for the annual prevalence of use of ***alcohol***, ***marijuana***, and ***cocaine***. The differences among the three population density strata were greatest (with large cities at the top) in the peak years of use for each drug, but

the three strata have tended to converge, and in recent years there has been little difference between them.

- In general, the percentages of 12th-grade students using ***marijuana*** have tended to increase with greater population density (Figure 5-11b; see also Tables 7-15 and Figures 16, 22, and 28 in Occasional Paper 83). When overall prevalence of marijuana is high, these differences are most pronounced, and when prevalence is low, as it was in the early 1990s, these differences diminish and almost disappear. This trend is apparent for the outcomes of lifetime use, annual use, and use in the past 30 days. Most recently, from 2008-2013, a rise in marijuana use occurred primarily in large and "other" MSAs, widening their difference from non-MSAs.

  At the lower grades, the differences among strata have been small, and they have tended to trend in parallel. The "other" MSAs have tended to have the highest or near the highest usage level in most years. Thus, community size differences have varied across the grade levels, with greater differences observed at 12th grade than in the lower grades. In the recent four-year increase period, ending in 2013, greater differences emerged at 12th grade (the non-MSAs have shown little increase), but not much divergence appeared in the lower grades.

- Trends for ***daily marijuana*** use are similar to the patterns for annual use, described above (Tables 16-18 and Figure 34 in Occasional Paper 83). As with other marijuana measures, a rise in use among 12th-grade students from 2008-2013 occurred in the two urban strata while use in the non-MSA stratum remained essentially flat, which has generated a modest disparity by population density in recent years.

- In 2014 the percentage of adolescents in all grades who have used ***cocaine*** in the past year varies little by population density (Figure 5-11c; see also Tables 36-38 and Figure 82 in Occasional Paper 83); the absolute difference between the MSA group with the highest as compared to the lowest prevalence is less than 2% in all grades. In past years cocaine use showed some of the largest differences in population density of all drugs among 12th-grade students and was consistently twice as high in large as compared to non-MSAs during the height of the cocaine epidemic between 1979 and 1989. Since that time differences by population density have diminished as overall prevalence has fallen.

  The community-size differences in cocaine use at the 8th- and 10th-grade levels have been very small since 1991, when data for them were first available; all have trended downward since the late 1990s.

- In 2014 use of ***crack cocaine*** in the past year was at low levels, with little variation by population density (Tables 39-41 and Figure 88 in Occasional Paper 83). Use levels were at 1.5% or lower for all MSA groups in all grades in 2014. Differences by type of MSA have not shown a consistent pattern, as each of the three types of MSAs has had the highest level of crack use at least once in the past 10 years among 12th-grade students. When the drug was first tracked by the survey from 1986-88 the large MSAs had the highest levels

of use among 12th-grade students. Since that time, differences by population density have diminished as overall use declined.

- In general, ***heroin*** use in the past 12 months has been fairly equivalent across the three sizes of community—a fact that may surprise many—and has exhibited quite parallel time trends across all three grades (Tables 45-47 and Figure 100 in Occasional Paper 83). Similarly, there have not been any appreciable differences in the two subcategories of heroin use—with and without using a needle (Tables 48-53 and Figures 106 and 112 in Occasional Paper 83).

- In 2014 past-year use of ***narcotics other than heroin*** without medical supervision among 12th graders was highest among "other" MSAs (this outcome reported only for 12th grade students; see Table 54 and Figure 118 in Occasional Paper 83). Level of use stood at 7.4% in "other" MSAs, 4.6% in large MSAs, and 4.8% in non-MSAs. In 2014 the "other" MSAs stand out because they show the least amount of decline from the past year, a decline that was significant in the large MSAs (from 7.1% to 4.0%). From 2005 through 2008 the non-MSAs had the highest levels of use, but since that time use in these MSAs has fallen at a faster rate than the others.

  The large MSAs showed a sharp increase in use from 1997 to 2001. After the change in the question, which added Vicodin and OxyContin to the list of examples, levels of use more or less leveled for all three strata until use in the non-MSAs rose from 2005 through 2008.

- Past-year use of ***OxyContin*** outside of medical supervision was first included in MTF in 2002. Because of the low numbers of cases, the trend lines are uneven, but in past years they generally show at all three grades the highest levels of use in the non-MSAs and the lowest in the large MSAs (Tables 55-57 and Figure 124 in Occasional Paper 83).

- ***Vicodin*** use in the past year outside of medical supervision, which was also first included in 2002, has shown little association with population density (Tables 58-60 and Figure 130 in Occasional Paper 83). All strata show a decline in Vicodin use in recent years at all three grades.

- Past-year use of ***amphetamines*** without medical supervision has generally been lowest in the large MSAs and highest in the non-MSAs at all three grade levels, although all of these differences have been rather small (Table 61-63 and Figure 136 in Occasional Paper 83).

- The differences for past-year use of ***Ritalin*** outside of medical supervision have been modest and inconsistent (Tables 64-66 and Figure 142 in Occasional Paper 83). The differences for past-year ***Adderall*** use outside medical supervision have been minor and inconsistent over time (Table 67 and Figure 148 in Occasional Paper 83).

- ***Methamphetamine*** use in the last 12 months has tended to be lowest in the large cities at all three grade levels since the question was introduced in 1999. Use levels have declined

substantially in all three strata in all three grades, and now there remain no meaningful differences (Tables 69-71 and Figure 160 in Occasional Paper 83).

- Past-year use of ***crystal methamphetamine*** (***ice***) currently varies little by population density (reported only for 12th grade; see Table 72 and Figure 166 in Occasional Paper 83). Questions on the drug were added to the survey for 12th graders in 1990, and during the 1990s drug relapse, use rose most in the large cities, leading large MSAs to have the highest prevalence in 1996. Thereafter, however, use in the large cities declined rapidly, and since 1998 there has been little difference in use of crystal methamphetamine across the three strata.

- Past-year ***sedative*** (***barbiturate***) use outside of medical supervision is reported only for 12th graders (Table 74 and Figure 178 in Occasional Paper 83). In 2014 it varied little by population density, with the highest prevalence of 5.0% in the "other" MSAs category and the lowest prevalence of 3.5% in the non-MSAs. The finding that large MSAs do not have the lowest levels of use is a new development, as they typically did in the more than two decades spanning from 1988 through 2011.

- In 2014 past-year ***tranquilizer*** use outside of medical supervision was lowest in all grades among the large MSAs, as it typically has been since the mid-1990s (Tables 75-77 and Figure 184 in Occasional Paper 83). The absolute differences by population density in 2014 are modest and are 2 percentage points or smaller.

- Differences in use of ***alcohol*** in the past 30 days have not shown a consistent pattern by population density and have been slight over the course of the survey for all three grades (Table 86 and Figure 202 in Occasional Paper 83).

- No strong differences have emerged across the three strata for occasions of ***heavy drinking***—having five or more drinks in a row at least once in the two weeks prior to the survey—except that the non-MSAs tended to have the highest prevalence of this behavior in the 1990s at all grade levels, and particularly in the lower grades (Tables 93-95 and Figure 220 in Occasional Paper 83). This higher prevalence emerged at 8th grade due to a greater increase in heavy drinking in the non-MSAs versus the other strata during the 1990s. It already existed in 10th grade at the time of the first measurement in 1991. No such pattern is clear at 12th grade, although the prevalence of heavy drinking has tended to be slightly lower in large cities than in the other two strata until about 2005. Since 2005 the differences among strata have been small at all three grades.

- In 2014 levels of ***cigarette*** smoking in the past 30 days were highest in the non-MSAs, as they have been for the past 15 years in all grades (Tables 114-116 and Figure 286 in Occasional Paper 83). The emergence of non-MSAs as the leaders in cigarette prevalence emerged during the 1990s relapse in the drug epidemic and has persisted since. While levels of cigarette use in non-MSAs today are only about half of what they were in the late 1990s, levels of cigarette use have shown equal declines in the other two MSAs, leaving non-MSAs with the highest, relative prevalence.

Similar patterns are also observable for ***daily*** and ***half-pack-a-day smoking*** (Tables 117-122 and Figures 292 and 298 in Occasional Paper 83).

- Smoking tobacco using a ***hookah*** water pipe in the past year was added to the study in 2010, by which time it showed relatively high levels of use (reported for 12th-grade students only; Table 123 and Figure 304 in Occasional Paper 83). Levels of use have been lower in non-MSAs in every year, although in 2014 use jumped significantly in non-MSAs from 10.7% to 19.3% and substantially narrowed the gap between population density strata.

- Use of ***small cigars*** in the past year has been asked of 12th graders since 2010. Use is about the same across strata, and there is no clear evidence of any trending (Table 124 and Figure 310 in Occasional Paper 83).

- ***Smokeless tobacco*** use in the past 30 days is strongly related to community size at all three grade levels, with by far the highest levels of use in non-MSAs and generally the lowest levels in the large cities (Tables 126-131 and Figure 316 in Occasional Paper 83). The trends in 30-day use have been fairly parallel across communities of different sizes, with all strata showing a long-term decline in use through about 2002 and then a leveling, followed by the beginning of an increase through 2010. In 2011, use again declined as it fell in most subgroups at each grade, but the trends since then are unclear. Daily use of smokeless tobacco is a good deal less frequent, and trends are generally unclear; however, the overall levels of daily use in non-SMAs are generally two to three times higher than those for the SMAs (Figure 322 in Occasional Paper 83).

- Use of ***dissolvable tobacco*** in the past 30 days was added to the study in 2011. The prevalence has been very low and never higher than 2% in any strata in any grade, about the same across the community-size strata, and it shows little signs of trending (Table 128 and Figure 328 in Occasional Paper 83).

- Use of ***Snus*** in the past year was also added to the 12th-grade survey in 2011 and to the surveys of the lower grades in 2012 (Table 133 and Figure 334 in Occasional Paper 83). In every year and in every grade level, use has been highest in the non-MSAs—consistent with the findings for smokeless tobacco generally—and lowest in the large cities.

- Past-year use of ***steroids*** shows little difference in prevalence as a function of population density nor any systematic variation in trends related to population density, though the large MSAs have tended to be very slightly lower in most years in all grades (Tables 134-136 and Figure 346 in Occasional Paper 83).

Trend Differences by Socioeconomic Status

The measure of socioeconomic status (SES) used in MTF—namely, the average educational attainment level of the respondent's parents—is described in the previous chapter and in Appendix B. Five different strata are distinguished, and students are sorted into those strata each year. It should be noted that, because the average educational level of parents has risen considerably since MTF began, the five categories contain slowly changing proportions of the sample. Figures 5-12a

through 5-12f show trends for six selected measures of drug use by average level of parents' education. Trend data by subgroup for all drugs may be found in tabular form and graphic form in Occasional Paper 83 on the MTF website.

In general, there has been little change over time in the relationship between family SES, as measured by parents' education, and prevalence of use for most of the drugs.

Among 8th graders, all drugs that have an association with SES show an inverse association. That is, the highest prevalence of drug use is found among 8th graders with the lowest parental SES. This is true even among drugs that in the same time period have a positive association with SES at older ages. This pattern suggests that among younger adolescents at high SES levels, a norm against all illegal drug use is stronger and/or more effective. An alternate explanation could be that the lower-SES 8th graders are more likely both to use drugs and to drop out of school.

- ***Marijuana*** use in 12th grade inversely varies by SES, a pattern that has emerged and strengthened throughout the past decade. This association is present both for the outcome of lifetime use and annual marijuana use (Tables 9 and 12 and Figures 17 and 23 in Occasional Paper 83). In 2014 the percentages of 12th-grade students who had ever tried marijuana in their life were 48% at the highest SES strata and 39% at the lowest. For the outcome of annual marijuana use, the parallel numbers were 37% and 33%. A pattern in which the lower SES groups generally have the highest levels of marijuana use and the higher SES groups generally have lowest levels began to emerge at the end of the 1990s, after the 1990s drug relapse. Since that time the trend has grown stronger and the differences more consistent.

  At the 8th- and 10th-grade levels, there has been a rather strong and consistent ordinal, negative correlation between marijuana and parental education level—with use highest in the lowest SES stratum (Tables 7-8 and 10-11, as well as Figures 17 and 23 in Occasional Paper 83). It developed during the relapse phase in the drug epidemic and the differences among the SES strata grew much larger after 1996. Put another way, in the two lower grade levels, the decline occurring from 1996 through about 2006 was steeper for students from more highly educated families.

- The story for ***daily marijuana use*** is much the same with regard to its association with SES in the lower grades (Tables 16-18 and Figure 35 in Occasional Paper 83). There has been a fairly consistent negative association with SES since the relapse in the drug epidemic in the early 1990s in the 8th and 10th grades. However, in 12th grade, daily marijuana use does not as yet show as strong an inverse association with SES.

- ***Synthetic marijuana*** use in the past year does not show a very clear or consistent association with SES in 12th grade, but it does show some negative association at 8th and 10th grades (Table 19 and Figure 41 in Occasional Paper 83).

- ***Inhalant*** use in the past 12 months has not varied greatly by SES among 12th graders (Tables 20-22 and Figure 47 in Occasional Paper 83). Throughout most of the study, the association has been weakly positive, particularly during the early-to-mid-1990s when

inhalant use was increasing. After about 2004, the association was very slightly negative, though this association has disappeared as use has continued to fall. In both lower grades, there has been some negative association, particularly since about 1995, as the strata diverged in their use patterns with highest use in the lowest SES stratum.

- ***Hallucinogen*** use in the past 12 months has tended to be negatively related to SES in the lower two grades, though the association became clearer after 2000 at 10th grade (Tables 23-25 and Figure 53 in Occasional Paper 83). In 12th grade the reverse has been true—the annual prevalence of hallucinogen use has been positively related to SES—until recently; in the last two years little association between hallucinogen use and SES has been apparent.

- ***LSD*** use in the past 12 months and SES have not shown any consistent association among 12th-grade students in the past 15 years (Tables 26-28 and Figure 59 in Occasional Paper 83). During the 1990s drug relapse, a positive association emerged, but this association disappeared when LSD use plunged at the end of the 1990s decade. However, among 8th graders, those in the lowest SES stratum consistently have exhibited the *highest* usage rate (although the overall levels of use, and thus the differences, are very small), with hardly any differences among the other strata. Among 10th graders, the differences have been negligible.

- In 2014 ***cocaine*** use in the past 12 months shows little variation by SES among 12th-grade students (Figure 5-12b; see also Tables 36-38 and Figure 83 in Occasional Paper 83). But in past years cocaine use has shown the largest and most interesting change in its association with SES of any of the drugs. After the 1990s drug relapse cocaine use showed a strong inverse association with SES with prevalence at 9% in the lowest SES stratum and 5% in the highest stratum in 1999. This 1999 inverse association is noteworthy because it reversed the positive association two decades earlier, with prevalence at 9% in the lowest SES stratum and 16% in the highest stratum in 1980. This change in the SES distribution of cocaine use likely reflects changes in its cultural reputation, which shifted from a glamorous drug of the wealthy at the start of the 1980s to a dangerous drug of the disadvantaged by the 1990s. The change in reputation was brought about by the well-publicized, cocaine-related death of basketball star Len Bias as well as the increasingly publicized dangers of cocaine use. In recent years cocaine has shown little association with SES as use has dropped to the lowest levels in forty years.

  In 8th and 10th grades cocaine has an inverse association with SES that has been robust and substantial in all years surveyed.

- Since 1991, when 8th and 10th grades were first surveyed, trends in their use of both ***crack*** and ***other cocaine*** in the past 12 months have been similar for most strata (Tables 39-44 and Figures 89 and 95 in Occasional Paper 83). Notably, use among those in the lowest SES stratum has been considerably higher for both forms of cocaine use than use in any of the other strata. A similar difference has been evident among 12th graders for crack use only since about 1992. Put another way, crack use has been exceptionally high among those coming from the lowest socioeconomic stratum—nearly double the prevalence for the other strata in the lower two grades.

- Overall, among 12th graders, little difference has existed among the SES groups in their trends in past-year ***amphetamine*** use without medical supervision (see Figure 5-12d; Tables 61-62 and Figure 137 in Occasional Paper 83). In 8th and 10th grades, amphetamine use has generally been slightly negatively correlated with SES; while the increases in use through 1995 or 1996 occurred in all groups, they were sharpest in the lower two SES strata. More recently, 8th and 10th graders in most strata showed some decline in use, but modest differences among them remain.

- Past-year use of ***Ritalin*** outside of medical supervision has generally not varied much as a function of SES in the two upper grades (Tables 64-66 and Figure 143 in Occasional Paper 83). In 8th grade use had tended to be negatively associated with SES; in 2014 prevalence was 2.3% in the lowest stratum and 0.4% in the highest stratum.

- Non-medical use of ***Adderall*** in the past 12 months has also tended to show some weak negative associations with SES in the lower grades, and some strata are showing declining use (Table 67 and Figure 149 in Occasional Paper 83). At 12th grade there are some weak positive associations between use and SES.

- Since it was first included in the study in 1999, ***methamphetamine*** use in the last 12 months has tended to be highest in the lowest SES stratum at all three grades and lowest in the two top SES strata (Tables 69-71 and Figure 161 in Occasional Paper 83). In recent years, past-year use of ***crystal methamphetamine*** (***ice***) has followed the same pattern, and the differences among strata actually have enlarged as use fell more in the upper SES strata (Table 72 and Figure 167 in Occasional Paper 83).

- Since 1991, when the surveys of the lower grades began, ***heroin*** use, including use with and without a needle, generally has been highest in the lowest SES group for 8th and 10th graders (Table 47 and Figure 101 in Occasional Paper 83). Otherwise there has been little systematic difference across the various strata. A similar pattern emerged for heroin use among 12th graders—though not until after 1994. The differences are similar for ***heroin use with a needle*** and ***heroin use without a needle*** in the past year (Tables 48-54 and Figures 107 and 113 in Occasional Paper 83). All of these differences are very small and need to be interpreted with caution, given that virtually all percentages are lower than 3% and most are lower than 2%.

- By way of contrast, the use of ***narcotics other than heroin*** among 12th graders (the only grade for which this behavior is reported) has generally been lowest in the lowest SES stratum, with relatively little difference among the other strata; since 2011 all of these other strata have shown some decline, which has had the effect of narrowing the differences between them and the lowest SES stratum (Table 54 and Figure 119 in Occasional Paper 83).

- The use of ***OxyContin*** in the past 12 months outside of medical supervision differs little by SES in recent years, as a very slight negative association with SES in all three grades since 2002 has diminished (Tables 55-57 and Figure 125 in Occasional Paper 83). The

same was largely true for ***Vicodin*** as well (Tables 58-60 and Figure 131 in Occasional Paper 83).

- The use of ***sedatives*** (***barbiturates***) in the past 12 months without medical supervision has shown no systematic relationship to SES since the beginning of the study. (Data reported for 12th grade only; Table 74 and Figure 179 in Occasional Paper 83).

- ***Tranquilizer*** use in the past 12 months without medical supervision at 12th grade has shown little systematic association with SES; use by all strata has been falling in recent years (Tables 75-77 and Figure 185 in Occasional Paper 83). In 8th grade the lowest SES stratum has tended to have the highest prevalence while the two top SES strata have had the lowest prevalence; these differences widened after 2005 as use in the lowest SES stratum rose considerably. In 10th grade a divergence emerged after the question was revised to include Xanax in the examples; use by the two upper strata has been below the others since then.

- In almost every year since the start of the survey ***alcohol*** use in the past 30 days among 12th graders has been lowest in the lowest SES level (Tables 84-86 and Figure 203 in Occasional Paper 83).

- In 2014 ***binge drinking*** in the past two weeks among 12th-grade students did not differ across SES levels (Figure 5-12e; also Tables 93-95 and Figure 221 in Occasional Paper 83). In almost every year in the 40 years of the survey, the lowest SES strata among 12th graders had the lowest level of binge drinking, but this difference is no longer present as overall levels of binge drinking have declined to their lowest levels recorded by the survey.

  At the lower grade levels, however, the story is quite different. Alcohol use has generally been inversely correlated with SES, and the association has been strongest in 8th grade, where the differences are substantial. Trends for the various strata have generally been parallel, nonetheless, in all grades, with all strata showing a long-term decline in use. The story for binge drinking is much the same.

- In recent years ***use of cigarettes*** in the last 30 days among 12th graders showed a substantial, inverse relationship with SES (Tables 114-116 and Figure 287 in Occasional Paper 83). In 2014 prevalence of cigarette smoking was 9% in the highest stratum and 15% in the lowest. In an unusual pattern, this inverse association diminished at the height of the 1990s drug relapse—unusual because typically associations of drug use with sociodemographic characteristics became stronger with increasing drug prevalence. From 1975 through the 1980s, previous to the 1990s drug relapse, cigarette smoking was inversely related to SES, and smoking levels were substantially higher than they are today.

  It is possible that the introduction of the Joe Camel advertising campaign in 1988 helped account for the closing of the socioeconomic gap that started in the late 1980s, and that its termination in 1997 helped account for the re-emergence of that gap. We know that between 1986 and 1997, the rise in smoking was sharper among 12th-grade boys than 12th-grade girls, and the Camel brand was particularly popular among boys and those whose

parents had higher than average education.[11] The Joe Camel ad campaign appears to have been particularly effective with boys from more educated strata, raising the smoking rate of their SES strata and nearly eliminating the relationship between SES and smoking that existed before and after the years of the campaign for that brand.

In 8th and 10th grades, 30-day smoking prevalence has shown a substantial, inverse association with SES in all years since it was first measured for these grades in 1991. This inverse relationship attenuated considerably by 12th grade, very likely due to greater numbers of students from the lower SES strata dropping out of school.

- ***Daily smoking*** follows a pattern similar to 30-day prevalence (Figure 5-12f; see also Tables 117-119 and Figure 293 in Occasional Paper 83). Among 12th-grade students a substantial, inverse association with SES is present in all years except during the 1990s drug relapse (also the period of the Joe Camel campaign). Among 10th- and 8th-grade students, an inverse association of daily smoking is present in all years since first measured in 1991, even as prevalence has fallen. Differences in daily smoking appear to be diminishing among 8th-grade students as prevalence is dropping to extremely low levels and is now less than 3% in all SES levels in 2014.

- ***Hookah*** smoking in the past 12 months has shown no clear or consistent differences among the five SES strata (Table 123 and Figure 305 in Occasional Paper 83).

- Smoking ***small cigars*** in the past 12 months has been slightly, positively correlated with SES in 12th grade (the only grade from which data were gathered; Table 124 and Figure 311 in Occasional Paper 83). In 2014 this association became stronger as prevalence dropped significantly in the lowest stratum (to 9.5% from 18.3%), and at the same time increased in the highest stratum (to 21.5% from 18.1%).

- Use of ***smokeless tobacco*** is negatively correlated with SES at 8th grade and to a lesser degree at 10th grade (Tables 126-128 and Figure 317 in Occasional Paper 83). However, at 12th grade, the lowest SES stratum has had among the lowest levels of use in many years, and the other strata are not clearly differentiated.

- Strong differences in past-year use of ***dissolvable tobacco*** use have emerged in the past two years, with use higher in the lower SES strata, at least in 12th and 8th grades (Table 132 and Figure 323 in Occasional Paper 83). Among 12th-grade students, use declined significantly in 2014 in the two highest SES strata to 0.1%, while use in the lowest strata is at 2.5%. In 8th grade, prevalence at the highest SES stratum is 0.8% and steadily increased to 2.4% in the lowest SES stratum. In 10th grade no pattern by SES is apparent in 2014 or in earlier years.

[11] Johnston, L. D., O'Malley, P. M., Bachman, J. G., & Schulenberg, J. E. (1999). *Cigarette brand preferences among adolescents* (Monitoring the Future Occasional Paper No. 45). Ann Arbor, MI: Institute for Social Research. Available online at http://www.monitoringthefuture.org/pubs/occpapers/occ45.pdf

Racial/Ethnic Differences in Trends

While the three major racial/ethnic groups examined here—Whites, African Americans, and Hispanics—have tended to be quite different in their level of drug use, they have exhibited similar trends.[12] (Cigarette use is an exception, as discussed later in this section.) Data have been examined here for these three groups using two-year moving averages of prevalence to provide smoother and more reliable trend lines.[13] Even with the two-year averages, the trend lines tend to be a bit irregular for Hispanics, who are the most clustered by school, and, therefore, for whom we have the most variability in estimates. See Occasional Paper No. 83 on the MTF website for the racial/ethnic trend data on all classes of drugs, at http://monitoringthefuture.org/pubs/occpapers/mtf-occ83.pdf.

- In 2014 ***marijuana*** use in the last 12 months did not differ by race/ethnicity among 12th-grade students, with prevalence ranging only from 35% to 37% for the three racial/ethnic categories (Figure 5-13a; also Tables 10-12 and Figure 24 in Occasional Paper 83). Racial/ethnic differences have narrowed to near zero in recent years, which marks a substantial change from the previous four decades when Whites had the highest prevalence, African Americans had the lowest, and Hispanic prevalence fell in between. This ordering stayed consistent as the overall prevalence of annual marijuana use rose and fell over the years. In recent years, marijuana prevalence among White 12th graders has held steady while increases have occurred among African Americans and Hispanics. The finding that a recent resurgence in marijuana use is concentrated largely in the two minority groups is an important one.

  Prevalence has always been highest among Hispanics in 8th grade, even as prevalence increased during the 1990s drug relapse, subsequently declined, and then increased again in recent years. In the 10th grade, prevalence has also been highest among Hispanic adolescents in almost all years, and their difference from Whites has become stronger in recent years. Although the differences are modest, in 2014 Hispanics had the highest levels of annual marijuana use in all grades.

- In 2014 ***daily marijuana*** use differed little by race/ethnicity (Tables 16-18 and Figure 36 in Occasional Paper 83). While White adolescents in 12th grade had higher levels of daily marijuana use in almost all years of the survey, this difference has disappeared in the last two years as prevalence among Whites has stayed steady and prevalence among African-American and Hispanic adolescents has increased. Among 10th-grade students, African Americans had the lowest prevalence of daily marijuana use until about 2003, then crossed

[12] We have published articles examining a wider array of ethnic groups, using groupings of respondents from adjacent five-year intervals in order to obtain more reliable estimates of trends. See Bachman, J. G., Wallace, J. M., Jr., O'Malley, P. M., Johnston, L. D., Kurth, C. L., & Neighbors, H. W. (1991). Racial/ethnic differences in smoking, drinking, and illicit drug use among American high school seniors, 1976–1989. *American Journal of Public Health, 81,* 372–377. See also Wallace, J. M., Jr., Bachman, J. G., O'Malley, P. M., Johnston, L. D., Schulenberg, J. E., & Cooper, S. M. (2002). Tobacco, alcohol and illicit drug use: Racial and ethnic differences among U.S. high school seniors, 1976–2000. *Public Health Reports, 117(Supplement 1),* S67–S75; Delva, J., Wallace, J. M., Jr., O'Malley, P. M., Bachman, J. G., Johnston, L. D., & Schulenberg, J. E. (2005). The epidemiology of alcohol, marijuana, and cocaine use among Mexican American, Puerto Rican, Cuban American, and other Latin American eighth-grade students in the United States: 1991–2002. *American Journal of Public Health, 95,* 696–702; and Bachman, J. G., O'Malley, P. M., Johnston, L. D., & Schulenberg, J. E. (2010). *Impacts of parental education on substance use: Differences among White, African-American, and Hispanic students in 8th, 10th, and 12th grades (1999–2008)* (Monitoring the Future Occasional Paper No. 70). Ann Arbor, MI: Institute for Social Research. Available online at http://www.monitoringthefuture.org/pubs/occpapers/occ70.pdf.

[13] A given year's value in a two-year moving average is based on the mean of the observed values for that year and the previous year.

over Hispanics and later Whites to achieve very slightly higher prevalence by 2011 and following. At 8th grade, White and African-American students have shown almost identical trend lines, and Hispanics have tended to be slightly higher and fluctuating more. Use among Hispanic 8th graders rose some from 2007 to 2011.

- ***Synthetic marijuana*** use in the last 12 months has been tracked only since 2012 (Table 19 and Figure 42 in Occasional Paper 83). In 12th grade no strong trend is apparent. Level of use had decreased fastest among White adolescents, who had the highest prevalence in 2012 (13%) but have the lowest in 2014 (7%). In 10th and 12th grades, African-American students have lower prevalence of annual use than the other two groups. In 8th grade, Hispanics have higher use levels than either Whites or African Americans.

- Racial/ethnic differences in the use of ***inhalants*** in the past 12 months have steadily and gradually been diminishing in the last two decades and in 2014 these differences are approaching zero (Tables 20-22 and Figure 48 in Occasional Paper 83). In all grades, levels of use among White and Hispanic adolescents have been falling and approaching the low levels of use found among African Americans. White and Hispanic adolescents have often traded places over the years as the group with the highest prevalence of inhalant use. Currently Hispanics hold the top spot as prevalence has decreased at a faster rate for Whites in recent years The differences across race/ethnicity are small at present, but they were quite large in the past, primarily due to the fact that use among African Americans has consistently been low, while use by the other two groups has varied considerably over time, with Whites showing substantial declines.

- Differences across racial and ethnic groups in use of ***hallucinogens*** in the last 12 months have steadily diminished since the late 1990s for all grades (Tables 23-25 and Figure 54 in Occasional Paper 83). In 2014 these differences still remain among 12th grade students, albeit diminished, with levels of use highest among Whites (4.6%), lowest among African Americans (1.9%), and Hispanics in between (3.5%). In 10th grade the racial/ethnic groups follow the same ranking in terms of hallucinogen prevalence, although the differences are smaller and range from 3.5% (for Whites) to 1.5% (for African Americans). In 8th grade overall prevalence is less than 2%, which leaves little room for substantial differences by race/ethnicity. In the past two decades levels of use have declined among White and Hispanic 8th graders, and these levels are now reaching the low prevalence among African-Americans that has been found in all survey years.

- African Americans have shown rather little change in their very low levels of past-year ***LSD*** use, and disparities by race/ethnicity have waxed and waned as a result of changing prevalence among Whites and Hispanics (Tables 26-28 and Figure 60 in Occasional Paper 83). In 2014 levels of use among 12th-grade students were highest for Whites (2.4%), followed by Hispanics (2.0%) and then African Americans (1.1%). This same relative ranking has held throughout the 40 years of the survey.

  In 8th grade Whites and Hispanics again had higher levels of use than African Americans throughout the 1990s, but this difference has since diminished to near zero. A similar pattern is found among 10th-grade students, although slight differences by race/ethnicity

remain in 2014, with prevalence at 2.0% for Whites, 1.4% for Hispanics, and 1.1% for African Americans.

- Past-year use of ***ecstasy*** (***MDMA***), another drug used for its hallucinogenic effects, has also remained relatively unpopular among African-American students at all grade levels, though it has shown some small fluctuations over time (Tables 32-34 and Figure 72 in Occasional Paper 83). In 2014 use levels for African Americans (1.7%) in 12th grade were less than half the levels for Hispanics and Whites (3.9% each). This ranking of groups is apparent in all years of the survey, and was particularly large at the start of the 1990s. In 10th grade, Hispanics and Whites have traded positions multiple times as the group with the highest prevalence, although both groups have always been higher than African-Americans. Use in general has been very low at 8th grade, and the groups differed from one another rather little in 2014.

- Past-year use of ***cocaine*** has always been lowest for African Americans in all grades and all years (Figure 5-13a; also Tables 37-39 and Figure 84 in Occasional Paper 83). In 12th grade, Whites and Hispanics have taken turns as the group with highest prevalence. The gap between the racial/ethnic groups has narrowed somewhat in recent years and current prevalence is 2.8% among Hispanics, 1.5% among Whites, and 0.9% among African-Americans. In 10th grade, Hispanics have always had the highest prevalence, and in recent years use among Whites has declined to the low levels observed among African-Americans. These trends among 10th-grade students are paralleled among 8th grade students, but overall prevalence is lower.

- Although overall prevalence is fortunately quite low, the three racial/ethnic groups have shown substantial and generally consistent disparities in their use of both cocaine powder and crack cocaine (Tables 39-44 and Figures 90 and 96 in Occasional Paper 83). At all three grades, African Americans have the lowest prevalence of use of ***cocaine powder***. At 12th grade, Whites and Hispanics have traded positions multiple times as the group with highest level of use. In recent years use levels of cocaine powder for both groups have diminished considerably, narrowing the gap with African Americans. In 10th grade Hispanics have always had the highest levels of use since the drug was first tracked in 1991. Prevalence of use among Whites has been in between that of Hispanics and African Americans, although Whites and African Americans have converged to a similar level of use in recent years. In 8th grade prevalence was less than 1.2% in all three groups in 2014, leaving little room for differences by race/ethnicity. The differences among these three groups were greatest during the relapse in the drug epidemic in the 1990s.

  Hispanics have had the highest prevalence of ***crack*** use in all three grades since the first measurements in 1987 (for 12th graders) and 1992 (for 8th and 10th graders), and African-American students have consistently had the lowest prevalence. African Americans were the only ones whose data might suggest some increases in crack use in recent years—generally less than one percent. Nevertheless, African Americans still had lower levels of crack use at all grades than Whites or Hispanics did, though the differences among these three groups narrowed considerably as use declined long-term among both Whites and

Hispanics. In the lower grades, Whites and Hispanics generally moved in parallel, with Hispanics having consistently higher prevalence in 8th grade and in 10th grade.

- Past-year use of ***heroin*** is 0.6% or less across all grades, and varied little by race/ethnicity in 2014. (Tables 45-47 and Figure 102 in Occasional Paper 83). In the past, African Americans ranked lowest in heroin use through 2009 in the lower two grades, with very little change in their use until then. At 12th grade, both Whites and African-American students had similarly low and unchanging prevalence from 1977 through 1992, when use among Whites and Hispanics began very slight increases and continued to rise through 2000. After 2009 (2010 in the case of 10th graders), use among African Americans increased some, bringing their level of heroin use close to that of Whites, who had shown a considerable decline in use by then (since 1997 among 8th graders, 2000 among 10th graders, and 2001 among 12th graders, suggesting a cohort effect). The trends have been similar for both use of heroin with a needle and more labile for use without using a needle, although both Whites and Hispanics showed a parallel and steady decrease in use without a needle since 1996 among 8th graders, since 1998-2000 among 10th graders, and since 2001 among 12th graders (Tables 48-53 and Figures 108 and 114 in Occasional Paper 83). It thus appears that much of the change in heroin use has been attributable to changes in use without a needle.

- Use of ***narcotics other than heroin*** among 12th graders (the only grade for which data are reported) has fairly consistently been highest among White students, considerably lower among Hispanic students, and lowest among African-American students (Table 54 and Figure 120 in Occasional Paper 83). The differences enlarged due to greater-than-average increases among White students after 1993. In fact, use continued to rise rather sharply among White students through 2008, while it leveled for some time among African Americans and rose much less sharply among Hispanics (among whom use started to decline after 2004). Since 2001 there has been a steady increase in use among African Americans (though they continue to have the lowest rate among the three groups) and some increase in use among Hispanics after 2008 as use by White students has declined.

- 2014 marks the first year that Whites have not ranked highest in past-year use of ***OxyContin*** among 12th-grade students (Tables 55-57 and Figure 126 in Occasional Paper 83). When use was first measured in the early 2000s prevalence among Whites (at about 5%) was about double that among Hispanics and African Americans. This difference persisted until 2011, after which the gap narrowed; in 2014 differences across racial-ethnic groups were negligible. These differences have also become negligible among 8th-grade students. Only in 10th grade did Whites maintain the highest level of OxyContin use in comparison to the other racial/ethnic groups in 2014, with a prevalence of 3.6% for Whites, 1.9% for Hispanics, and 2.1% for African-Americans. In general, the differences between Hispanics and Whites have been inconsistent, most likely due to the greater variability in the Hispanic estimates.

- Past-year use of ***Vicodin,*** another synthetic narcotic drug, has consistently had the lowest levels of use among African Americans as compared to the other racial/ethnic groups, in all grades and all years. (Tables 58-60 and Figure 132 in Occasional Paper 83). Among

12th-grade students, prevalence of use among Whites (5.0%) and Hispanics (4.7%) is almost double that of African Americans (2.7%) in 2014. The prevalence of Whites and Hispanics have converged in recent years, as use has fallen among Whites and increased among Hispanics before falling among them, too. Among 10th-grade students. the differences between the racial/ethnic groups grew smaller in 2014, with prevalence highest among Whites (4.8%), followed by Hispanics (3.3%), and then African Americans (2.4%). Among 8th-grade students, differences between the groups have always been small and have become smaller as overall prevalence dropped to 1% in 2014.

- Past-year use of ***amphetamines*** outside of medical supervision has shown highest levels of use among Whites, followed by Hispanics, and then African Americans in every year of the study for 12th- and 10th-grade students (Tables 61-63 and Figure 138 in Occasional Paper 83). In the past decade the difference between the groups has decreased and then rebounded slightly among 12th-grade students since 2010, while among 10th graders it has steadily diminished. In 8th grade little difference is apparent across racial/ethnic groups in 2014, as prevalence among Whites and Hispanics has gradually fallen over the past two decades and is approaching the prevalence found among African-Americans, which has been low throughout the study.

- In 2014 past-year use of ***Ritalin*** outside of medical supervision differed little by racial/ethnic groups in 2014 (Tables 64-66 and Figure 144 in Occasional Paper 83). When the survey first began tracking the drug in 2001, levels of use were substantially higher for Whites and Hispanics as compared to African Americans. In the following years these differences have attenuated in all three grades among Whites and Hispanics as overall prevalence has decreased.

- The use of ***Adderall***, another stimulant drug used in the treatment of ADHD, is very low at 8th grade and not much different among the three racial/ethnic groups (Table 67 and Figure 150 in Occasional Paper 83). By 10th grade, consistent differences in use have emerged, with Whites highest, Hispanics second highest, and African-American students with the lowest prevalence. In 12th grade the rankings are the same, but the prevalence for Whites is appreciably higher than for the other two groups.

- It is noteworthy that African Americans at all three grade levels have reported extremely low levels of past-year use of ***methamphetamine*** and ***crystal methamphetamine*** (***ice***), while White and Hispanic students have maintained fairly higher and similar (and generally declining) levels of use at all grades and during all years for which data are available—i.e., since 2000 (Tables 69-72 and Figures 162 and 168 in Occasional Paper 83). Crystal methamphetamine (ice) is reported only for 12th graders. The differences have narrowed and are now very small, as use of both drugs has declined considerably among Whites and to some extent among Hispanics. In fact, in 2010 through 2014 the prevalence of crystal methamphetamine use among 12th-grade students for Whites fell slightly (albeit not significantly) below those for African Americans.

- Past-year use of ***sedatives*** (***barbiturates***) and ***tranquilizers*** outside of medical supervision among 10th- and 12th-grade students is highest among Whites and lowest among African

Americans—a difference that has been observed in every year of the study (Tables 74-77 and Figures 180 and 186 in Occasional Paper 83). These differences have narrowed in the past 10 years as use among Whites, in particular, has declined. In general, the differences have been greatest when overall prevalence was high, and smaller when overall prevalence was low (as it was in the early 1990s, as the start of the 1990s drug relapse). Among 8th-grade students, Hispanics have, in every year, had the highest prevalence of tranquilizer use, followed closely by Whites, and then by African Americans. (Sedative use is not reported for the lower grades.)These differences were small to begin with and have diminished substantially in recent years as levels of use among Hispanics and Whites have decreased and approached the levels seen among African Americans, which has been low throughout the survey.

- The 30-day prevalence of ***alcohol*** use has shown relatively consistent racial/ethnic differences over time at each grade level (Tables 84-86 and Figure 204 in Occasional Paper 83). Among 12th graders, Whites have had the highest levels of use, African Americans considerably lower ones, and Hispanics fall in between (though generally closer to Whites than African Americans). The cross-time trends have been parallel. Recently, use among Whites and Hispanics has been declining more than among African Americans, narrowing the absolute differences across racial/ethnic groups. At 10th grade, Whites and Hispanics have had quite similar prevalence and trends, nearly tracking on each other. African Americans have had levels of use that were substantially lower but moved mostly in parallel with the other two groups in grade 10, with use among all three groups declining. At 8th grade, Hispanics have consistently had somewhat higher drinking prevalence than Whites, while African Americans have had considerably lower and more stable prevalence. All three groups have been showing long-term declines in use. As drinking declined in 8th grade, the differences narrowed; and, in fact, Whites were down to the same level as African Americans in 2014.

- The trends for ***occasions of heavy drinking*** (having five or more drinks on at least one occasion in the prior two weeks) have been very similar to those just discussed for current drinking, though prevalence is lower, of course (Figure 5-13b; also Tables 93-95 and Figure 222 in Occasional Paper 83). African Americans have consistently had appreciably lower prevalence than the other two groups at all three grade levels, though at 8th grade, the differences had been narrowing for some years as prevalence has declined more steeply among Whites and Hispanics. In 8th grade, levels of binge drinking have been falling for a decade . In 2014 Hispanics had the highest levels of binge drinking in 8th grade while levels for Whites and African Americans were identical and slightly lower than those for Hispanics. In 10th grade, Whites and Hispanics had considerably higher levels of occasions of heavy drinking than African American students, and were generally about the same as each other. (All three groups are declining in 10th grade.) In 12th grade the levels of binge drinking were much higher and the three groups were more spread out, but all three have shown a pattern of long-term decline, each dropping by about one third.

- ***Cigarette*** smoking in the past 30 days is highest among Whites, followed by Hispanics, and then African Americans (Figure 5-13b; also Tables 114-116 and Figure 288 in Occasional Paper 83). These differences were largest in 12th-grade, smaller in 10th grade,

and almost negligible in 8th grade in 2014, when Whites and Hispanics have had almost the same levels of use since their use was first tracked in 1991. For the past two decades, these differences have been diminishing in each grade as overall prevalence has declined to record-low levels. Similar trends are apparent for ***daily*** smoking (Tables 117-119 and Figure 294 in Occasional Paper 83).

- The newer form of tobacco consumption for Americans, smoking with a ***hookah*** water pipe, is measured only at 12th grade and only for the past three years (Table 123 and Figure 306 in Occasional Paper 83). Past-year use is at about the same levels for Whites and Hispanics, while African Americans have a much lower level of use. Prevalence in all three groups has increased somewhat, and for Whites the 2014 increase was statistically significant.

- Smoking ***small cigars*** in the past year, which has been measured among 12th graders only and only for the past three years, shows large differences among the three groups: Whites are highest, African Americans lowest, and Hispanics in the middle (Table 124 and Figure 312 in Occasional Paper 83). Changes over time have mostly been quite small, so no systematic narrowing or widening of these differences has yet emerged.

- Whites have consistently had the highest prevalence of ***smokeless tobacco*** use in all three grades, with use in the upper grades being much lower among Hispanics and lower still among African-American students (Table 126 and Figure 318 in Occasional Paper 83). These differences shrank at the turn of the century as overall prevalence declined—especially among Whites—but use rebounded some since then and so, too, did the differences across the three groups. In 2014 use leveled in all three groups in all grades.

- Use of ***dissolvable*** tobacco products in the last 12 months is at very low levels and shows no important differences in use among the three racial/ethnic groups (Table 132 and Figure 330 in Occasional Paper 83).

- The use of ***snus*** in the last 12 months differs among the three groups, particularly in the upper grades (Table 133 and Figure 336 in Occasional Paper 83). Use by Hispanic students at each grade is very slightly higher than use by African American students, but both are lower than Whites in this behavior in grades 10 and 12.

- Past-year use of ***anabolic steroids*** does not vary appreciably across the three racial/ethnic groups in 2014 in any of the grades (Table 133 and Figure 348 in Occasional Paper 83). In all grades during the early 2000s, Whites and Hispanic had higher levels of use than African Americans, but since then use among Whites and Hispanics has declined so that recently the three groups are now similar.

SUMMARY

- African-American students have the lowest levels of use of many of the licit and illicit drugs at all three grade levels being examined here, and they have consistently shown exceptionally low levels of use for certain drugs, including in particular ***inhalants***, ***hallucinogens*** taken as a class, ***LSD***, ***other hallucinogens***, ***ecstasy*** (***MDMA***), ***meth-amphetamine***, and ***crystal methamphetamine*** (***ice***). Further, for the past decade, their ***cigarette*** smoking and ***binge drinking*** also have been exceptionally low.

- In 8th grade, Hispanic students have tended to have the highest levels of use of a number of drugs, including ***marijuana***, ***inhalants***, ***salvia***, ***crack***, ***cocaine powder***, ***heroin***, ***ecstasy*** (***MDMA***), ***methamphetamine***, ***Rohypnol***, and ***heavy drinking***. By 12th grade, the differences between Hispanic and White students narrow considerably or are reversed. In 2014, however, Hispanic 12th graders still tended to have the highest level of use for ***lifetime*** and ***annual marijuana***, ***inhalants***, ***crack***, and ***cocaine powder***. As we have said earlier, we believe that Hispanics' considerably higher rate of school dropout may do much to explain why White high school students assume the highest levels of use for some drugs (e.g., ***daily marijuana***, ***tranquilizers***, and ***alcohol***) by 12th grade.

- By 12th grade, White students have tended to have the highest level of use of ***daily marijuana***, ***any illicit drug other than marijuana***, ***hallucinogens***, ***LSD***, ***other hallucinogens***, ***narcotics other than heroin***, ***amphetamines***, ***sedatives (barbiturates)***, ***tranquilizers***, ***alcohol***, ***binge drinking***, ***cigarette smoking*** (by a large margin), and ***smokeless tobacco***.

TABLE 5-1
Long-Term Trends in Lifetime Prevalence of Use of Various Drugs in Grade 12

Percentage who ever used

(Years cont.)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Approximate weighted N =	*9,400*	*15,400*	*17,100*	*17,800*	*15,500*	*15,900*	*17,500*	*17,700*	*16,300*	*15,900*	*16,000*	*15,200*	*16,300*	*16,300*	*16,700*	*15,200*	*15,000*	*15,800*	*16,300*	*15,400*
Any Illicit Drug [a,b]	55.2	58.3	61.6	64.1	65.1	65.4	65.6	64.4	62.9	61.6	60.6	57.6	56.6	53.9	50.9	47.9	44.1	40.7	42.9	45.6
Any Illicit Drug other than Marijuana [a,b,c]	36.2	35.4	35.8	36.5	37.4	38.7	42.8	41.1	40.4	40.3	39.7	37.7	35.8	32.5	31.4	29.4	26.9	25.1	26.7	27.6
Marijuana/Hashish	47.3	52.8	56.4	59.2	60.4	60.3	59.5	58.7	57.0	54.9	54.2	50.9	50.2	47.2	43.7	40.7	36.7	32.6	35.3	38.2
Inhalants [d]	—	10.3	11.1	12.0	12.7	11.9	12.3	12.8	13.6	14.4	15.4	15.9	17.0	16.7	17.6	18.0	17.6	16.6	17.4	17.7
Inhalants, Adjusted [d,e]	—	—	—	—	18.2	17.3	17.2	17.7	18.2	18.0	18.1	20.1	18.6	17.5	18.6	18.5	18.0	17.0	17.7	18.3
Amyl/Butyl Nitrites [f,g]	—	—	—	—	11.1	11.1	10.1	9.8	8.4	8.1	7.9	8.6	4.7	3.2	3.3	2.1	1.6	1.5	1.4	1.7
Hallucinogens [c]	16.3	15.1	13.9	14.3	14.1	13.3	13.3	12.5	11.9	10.7	10.3	9.7	10.3	8.9	9.4	9.4	9.6	9.2	10.9	11.4
Hallucinogens, Adjusted [c,h]	—	—	—	—	17.7	15.6	15.3	14.3	13.6	12.3	12.1	11.9	10.6	9.2	9.9	9.7	10.0	9.4	11.3	11.7
LSD [c]	11.3	11.0	9.8	9.7	9.5	9.3	9.8	9.6	8.9	8.0	7.5	7.2	8.4	7.7	8.3	8.7	8.8	8.6	10.3	10.5
Hallucinogens other than LSD [c]	14.1	12.1	11.2	11.6	10.7	9.8	9.1	8.0	7.3	6.6	6.5	5.7	5.4	4.1	4.3	4.1	3.7	3.3	3.9	4.9
PCP [f,g]	—	—	—	—	12.8	9.6	7.8	6.0	5.6	5.0	4.9	4.8	3.0	2.9	3.9	2.8	2.9	2.4	2.9	2.8
Ecstasy (MDMA) [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocaine	9.0	9.7	10.8	12.9	15.4	15.7	16.5	16.0	16.2	16.1	17.3	16.9	15.2	12.1	10.3	9.4	7.8	6.1	6.1	5.9
Crack [i]	—	—	—	—	—	—	—	—	—	—	—	—	5.4	4.8	4.7	3.5	3.1	2.6	2.6	3.0
Other Cocaine [j]	—	—	—	—	—	—	—	—	—	—	—	—	14.0	12.1	8.5	8.6	7.0	5.3	5.4	5.2
Heroin [k]	2.2	1.8	1.8	1.6	1.1	1.1	1.1	1.2	1.2	1.3	1.2	1.1	1.2	1.1	1.3	1.3	0.9	1.2	1.1	1.2
With a needle [l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Without a needle [l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Narcotics other than Heroin [m,n]	9.0	9.6	10.3	9.9	10.1	9.8	10.1	9.6	9.4	9.7	10.2	9.0	9.2	8.6	8.3	8.3	6.6	6.1	6.4	6.6
Amphetamines [b,m]	22.3	22.6	23.0	22.9	24.2	26.4	32.2‡	27.9	26.9	27.9	26.2	23.4	21.6	19.8	19.1	17.5	15.4	13.9	15.1	15.7
Methamphetamine [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Crystal Methamphetamine (Ice) [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.7	3.3	2.9	3.1	3.4
Sedatives (Barbiturates) [m,p]	16.9	16.2	15.6	13.7	11.8	11.0	11.3	10.3	9.9	9.9	9.2	8.4	7.4	6.7	6.5	6.8	6.2	5.5	6.3	7.0
Sedatives, Adjusted [m,q]	18.2	17.7	17.4	16.0	14.6	14.9	16.0	15.2	14.4	13.3	11.8	10.4	8.7	7.8	7.4	7.5	6.7	6.1	6.4	7.3
Methaqualone [m,r]	8.1	7.8	8.5	7.9	8.3	9.5	10.6	10.7	10.1	8.3	6.7	5.2	4.0	3.3	2.7	2.3	1.3	1.6	0.8	1.4
Tranquilizers [c,m]	17.0	16.8	18.0	17.0	16.3	15.2	14.7	14.0	13.3	12.4	11.9	10.9	10.9	9.4	7.6	7.2	7.2	6.0	6.4	6.6
Rohypnol [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol [s]	90.4	91.9	92.5	93.1	93.0	93.2	92.6	92.8	92.6	92.6	92.2	91.3	92.2	92.0	90.7	89.5	88.0	87.5‡	80.0	80.4
Been Drunk [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	65.4	63.4	62.5	62.9
Cigarettes	73.6	75.4	75.7	75.3	74.0	71.0	71.0	70.1	70.6	69.7	68.8	67.6	67.2	66.4	65.7	64.4	63.1	61.8	61.9	62.0
Smokeless Tobacco [f,t]	—	—	—	—	—	—	—	—	—	—	—	31.4	32.2	30.4	29.2	—	—	32.4	31.0	30.7
Steroids [m,u]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.0	2.9	2.1	2.1	2.0	2.4

Footnotes for Tables 5-1 through 5-4 (cont.)

TABLE 5-1 (cont.)
Long-Term Trends in Lifetime Prevalence of Use of Various Drugs in Grade 12

Percentage who ever used

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Approximate weighted N =	*15,400*	*14,300*	*15,400*	*15,200*	*13,600*	*12,800*	*12,800*	*12,900*	*14,600*	*14,600*	*14,700*	*14,200*	*14,500*	*14,000*	*13,700*	*14,400*	*14,100*	*13,700*	*12,600*	*12,400*	
Any Illicit Drug [a,b]	48.4	50.8	54.3	54.1	54.7	54.0	53.9	53.0	51.1	51.1	50.4	48.2	46.8	47.4	46.7	48.2	49.9	49.1	49.8	49.1	-0.8
Any Illicit Drug other than Marijuana [a,b,c]	28.1	28.5	30.0	29.4	29.4	29.0‡	30.7	29.5	27.7	28.7	27.4	26.9	25.5	24.9	24.0	24.7	24.9	24.1	24.8	22.6	-2.2
Marijuana/Hashish	41.7	44.9	49.6	49.1	49.7	48.8	49.0	47.8	46.1	45.7	44.8	42.3	41.8	42.6	42.0	43.8	45.5	45.2	45.5	44.4	-1.1
Inhalants [d]	17.4	16.6	16.1	15.2	15.4	14.2	13.0	11.7	11.2	10.9	11.4	11.1	10.5	9.9	9.5	9.0	8.1	7.9	6.9	6.5	-0.4
Inhalants, Adjusted [d,e]	17.8	17.5	16.9	16.5	16.0	14.6	13.8	12.4	12.2	11.4	11.9	11.5	11.0	10.1	10.2	—	—	—	—	—	—
Amyl/Butyl Nitrites [f,g]	1.5	1.8	2.0	2.7	1.7	0.8	1.9	1.5	1.6	1.3	1.1	1.2	1.2	0.6	1.1	—	—	—	—	—	—
Hallucinogens [c]	12.7	14.0	15.1	14.1	13.7	13.0‡	14.7	12.0	10.6	9.7	8.8	8.3	8.4	8.7	7.4	8.6	8.3	7.5	7.6	6.3	-1.3
Hallucinogens, Adjusted [c,h]	13.1	14.5	15.4	14.4	14.2	13.6‡	15.3	12.8	10.9	9.9	9.3	8.8	8.9	9.0	8.0	9.1	8.8	7.9	8.1	—	—
LSD [c]	11.7	12.6	13.6	12.6	12.2	11.1	10.9	8.4	5.9	4.6	3.5	3.3	3.4	4.0	3.1	4.0	4.0	3.8	3.9	3.7	-0.2
Hallucinogens other than LSD [c]	5.4	6.8	7.5	7.1	6.7	6.9‡	10.4	9.2	9.0	8.7	8.1	7.8	7.7	7.8	6.8	7.7	7.3	6.6	6.4	5.1	-1.3 ss
PCP [f,g]	2.7	4.0	3.9	3.9	3.4	3.4	3.5	3.1	2.5	1.6	2.4	2.2	2.1	1.8	1.7	1.8	2.3	1.6	1.3	—	—
Ecstasy (MDMA) [f]	—	6.1	6.9	5.8	8.0	11.0	11.7	10.5	8.3	7.5	5.4	6.5	6.5	6.2	6.5	7.3	8.0	7.2	7.1	5.6	-1.5
Cocaine	6.0	7.1	8.7	9.3	9.8	8.6	8.2	7.8	7.7	8.1	8.0	8.5	7.8	7.2	6.0	5.5	5.2	4.9	4.5	4.6	0.0
Crack [i]	3.0	3.3	3.9	4.4	4.6	3.9	3.7	3.8	3.6	3.9	3.5	3.5	3.2	2.8	2.4	2.4	1.9	2.1	1.8	1.8	-0.1
Other Cocaine [j]	5.1	6.4	8.2	8.4	8.8	7.7	7.4	7.0	6.7	7.3	7.1	7.9	6.8	6.5	5.3	5.1	4.9	4.4	4.2	4.1	-0.1
Heroin [k]	1.6	1.8	2.1	2.0	2.0	2.4	1.8	1.7	1.5	1.5	1.5	1.4	1.5	1.3	1.2	1.6	1.4	1.1	1.0	1.0	-0.1
With a needle [l]	0.7	0.8	0.9	0.8	0.9	0.8	0.7	0.8	0.7	0.7	0.9	0.8	0.7	0.7	0.6	1.1	0.9	0.7	0.7	0.8	+0.1
Without a needle [l]	1.4	1.7	2.1	1.6	1.8	2.4	1.5	1.6	1.8	1.4	1.3	1.1	1.4	1.1	0.9	1.4	1.3	0.8	0.9	0.7	-0.2
Narcotics other than Heroin [m,n]	7.2	8.2	9.7	9.8	10.2	10.6	9.9‡	13.5	13.2	13.5	12.8	13.4	13.1	13.2	13.2	13.0	13.0	12.2	11.1	9.5	-1.6 ss
Amphetamines [b,m]	15.3	15.3	16.5	16.4	16.3	15.6	16.2	16.8	14.4	15.0	13.1	12.4	11.4	10.5	9.9	11.1	12.2	12.0	13.8	12.1	-1.7
Methamphetamine [o]	—	—	—	—	8.2	7.9	6.9	6.7	6.2	6.2	4.5	4.4	3.0	2.8	2.4	2.3	2.1	1.7	1.5	1.9	+0.4
Crystal Methamphetamine (Ice) [o]	3.9	4.4	4.4	5.3	4.8	4.0	4.1	4.7	3.9	4.0	4.0	3.4	3.4	2.8	2.1	1.8	2.1	1.7	2.0	1.3	-0.6
Sedatives (Barbiturates) [m,p]	7.4	7.6	8.1	8.7	8.9	9.2	8.7	9.5	8.8	9.9	10.5	10.2	9.3	8.5	8.2	7.5	7.0	6.9	7.5	6.8	-0.6
Sedatives, Adjusted [m,q]	7.6	8.2	8.7	9.2	9.5	9.3	8.9	10.2	9.1	10.1	11.0	10.6	9.6	8.9	8.4	7.6	7.2	7.2	—	—	—
Methaqualone [m,r]	1.2	2.0	1.7	1.6	1.8	0.8	1.1	1.5	1.0	1.3	1.3	1.2	1.0	0.8	0.7	0.4	0.6	0.8	—	—	—
Tranquilizers [c,m]	7.1	7.2	7.8	8.5	9.3	8.9‡	10.3	11.4	10.2	10.6	9.9	10.3	9.5	8.9	9.3	8.5	8.7	8.5	7.7	7.4	-0.3
Rohypnol [f]	—	1.2	1.8	3.0	2.0	1.5	1.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol [s]	80.7	79.2	81.7	81.4	80.0	80.3	79.7	78.4	76.6	76.8	75.1	72.7	72.2	71.9	72.3	71.0	70.0	69.4	68.2	66.0	-2.2 s
Been Drunk [o]	63.2	61.8	64.2	62.4	62.3	62.3	63.9	61.6	58.1	60.3	57.5	56.4	55.1	54.7	56.5	54.1	51.0	54.2	52.3	49.8	-2.5
Cigarettes	64.2	63.5	65.4	65.3	64.6	62.5	61.0	57.2	53.7	52.8	50.0	47.1	46.2	44.7	43.6	42.2	40.0	39.5	38.1	34.4	-3.7 ss
Smokeless Tobacco [f,t]	30.9	29.8	25.3	26.2	23.4	23.1	19.7	18.3	17.0	16.7	17.5	15.2	15.1	15.6	16.3	17.6	16.9	17.4	17.2	15.1	-2.1
Steroids [m,u]	2.3	1.9	2.4	2.7	2.9	2.5	3.7	4.0	3.5	3.4	2.6	2.7	2.2	2.2	2.2	2.0	1.8	1.8	2.1	1.9	-0.2

Source. The Monitoring the Future study, the University of Michigan.

See footnotes following Table 5-4.

TABLE 5-2
Long-Term Trends in Annual Prevalence of Use of Various Drugs in Grade 12

Percentage who used in last 12 months

(Years cont.)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Approximate weighted N =	*9,400*	*15,400*	*17,100*	*17,800*	*15,500*	*15,900*	*17,500*	*17,700*	*16,300*	*15,900*	*16,000*	*15,200*	*16,300*	*16,300*	*16,700*	*15,200*	*15,000*	*15,800*	*16,300*	*15,400*
Any Illicit Drug [a,b]	45.0	48.1	51.1	53.8	54.2	53.1	52.1	49.4	47.4	45.8	46.3	44.3	41.7	38.5	35.4	32.5	29.4	27.1	31.0	35.8
Any Illicit Drug other than Marijuana [a,b,c]	26.2	25.4	26.0	27.1	28.2	30.4	34.0	30.1	28.4	28.0	27.4	25.9	24.1	21.1	20.0	17.9	16.2	14.9	17.1	18.0
Marijuana/Hashish	40.0	44.5	47.6	50.2	50.8	48.8	46.1	44.3	42.3	40.0	40.6	38.8	36.3	33.1	29.6	27.0	23.9	21.9	26.0	30.7
Inhalants [d]	—	3.0	3.7	4.1	5.4	4.6	4.1	4.5	4.3	5.1	5.7	6.1	6.9	6.5	5.9	6.9	6.6	6.2	7.0	7.7
Inhalants, Adjusted [d,e]	—	—	—	—	8.9	7.9	6.1	6.6	6.2	7.2	7.5	8.9	8.1	7.1	6.9	7.5	6.9	6.4	7.4	8.2
Amyl/Butyl Nitrites [f,g]	—	—	—	—	6.5	5.7	3.7	3.6	3.6	4.0	4.0	4.7	2.6	1.7	1.7	1.4	0.9	0.5	0.9	1.1
Hallucinogens [c]	11.2	9.4	8.8	9.6	9.9	9.3	9.0	8.1	7.3	6.5	6.3	6.0	6.4	5.5	5.6	5.9	5.8	5.9	7.4	7.6
Hallucinogens, Adjusted [c,h]	—	—	—	—	11.8	10.4	10.1	9.0	8.3	7.3	7.6	7.6	6.7	5.8	6.2	6.0	6.1	6.2	7.8	7.8
LSD [c]	7.2	6.4	5.5	6.3	6.6	6.5	6.5	6.1	5.4	4.7	4.4	4.5	5.2	4.8	4.9	5.4	5.2	5.6	6.8	6.9
Hallucinogens other than LSD [c]	9.4	7.0	6.9	7.3	6.8	6.2	5.6	4.7	4.1	3.8	3.6	3.0	3.2	2.1	2.2	2.1	2.0	1.7	2.2	3.1
PCP [f,g]	—	—	—	—	7.0	4.4	3.2	2.2	2.6	2.3	2.9	2.4	1.3	1.2	2.4	1.2	1.4	1.4	1.4	1.6
Ecstasy (MDMA) [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Salvia [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocaine	5.6	6.0	7.2	9.0	12.0	12.3	12.4	11.5	11.4	11.6	13.1	12.7	10.3	7.9	6.5	5.3	3.5	3.1	3.3	3.6
Crack [i]	—	—	—	—	—	—	—	—	—	—	—	4.1	3.9	3.1	3.1	1.9	1.5	1.5	1.5	1.9
Other Cocaine [j]	—	—	—	—	—	—	—	—	—	—	—	—	9.8	7.4	5.2	4.6	3.2	2.6	2.9	3.0
Heroin [k]	1.0	0.8	0.8	0.8	0.5	0.5	0.5	0.6	0.6	0.5	0.6	0.5	0.5	0.5	0.6	0.5	0.4	0.6	0.5	0.6
With a needle [l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Without a needle [l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Narcotics other than Heroin [m,n]	5.7	5.7	6.4	6.0	6.2	6.3	5.9	5.3	5.1	5.2	5.9	5.2	5.3	4.6	4.4	4.5	3.5	3.3	3.6	3.8
OxyContin [m,v]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vicodin [m,v]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amphetamines [b,m]	16.2	15.8	16.3	17.1	18.3	20.8	26.0‡	20.3	17.9	17.7	15.8	13.4	12.2	10.9	10.8	9.1	8.2	7.1	8.4	9.4
Ritalin [m,o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Adderall [m,o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Provigil [m,o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methamphetamine [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Crystal Methamphetamine (Ice) [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.3	1.4	1.3	1.7	1.8
Sedatives (Barbiturates) [m,p]	10.7	9.6	9.3	8.1	7.5	6.8	6.6	5.5	5.2	4.9	4.6	4.2	3.6	3.2	3.3	3.4	3.4	2.8	3.4	4.1
Sedatives, Adjusted [m,q]	11.7	10.7	10.8	9.9	9.9	10.3	10.5	9.1	7.9	6.6	5.8	5.2	4.1	3.7	3.7	3.6	3.6	2.9	3.4	4.2
Methaqualone [m,r]	5.1	4.7	5.2	4.9	5.9	7.2	7.6	6.8	5.4	3.8	2.8	2.1	1.5	1.3	1.3	0.7	0.5	0.6	0.2	0.8
Tranquilizers [c,m]	10.6	10.3	10.8	9.9	9.6	8.7	8.0	7.0	6.9	6.1	6.1	5.8	5.5	4.8	3.8	3.5	3.6	2.8	3.5	3.7
OTC Cough/Cold Medicines [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Rohypnol [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(List of drugs continued.)

(Table continued on next page.)

TABLE 5-2 (cont.)
Long-Term Trends in Annual Prevalence of Use of Various Drugs for Grade 12

Percentage who used in last 12 months

(Years cont.)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Approximate weighted N =	*9,400*	*15,400*	*17,100*	*17,800*	*15,500*	*15,900*	*17,500*	*17,700*	*16,300*	*15,900*	*16,000*	*15,200*	*16,300*	*16,300*	*16,700*	*15,200*	*15,000*	*15,800*	*16,300*	*15,400*
GHB [w]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ketamine [x]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol [s]	84.8	85.7	87.0	87.7	88.1	87.9	87.0	86.8	87.3	86.0	85.6	84.5	85.7	85.3	82.7	80.6	77.7	76.8‡	72.7	73.0
Been Drunk [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	52.7	50.3	49.6	51.7
Cigarettes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bidis [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Kreteks [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smokeless Tobacco [f,t]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids [m,u]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.9	1.7	1.4	1.1	1.2	1.3

(Table continued on next page.)

TABLE 5-2 (cont.)
Long-Term Trends in Annual Prevalence of Use of Various Drugs in Grade 12

Percentage who used in last 12 months

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Approximate weighted N =	*15,400*	*14,300*	*15,400*	*15,200*	*13,600*	*12,800*	*12,800*	*12,900*	*14,600*	*14,600*	*14,700*	*14,200*	*14,500*	*14,000*	*13,700*	*14,400*	*14,100*	*13,700*	*12,600*	*12,400*	
Any Illicit Drug [a,b]	39.0	40.2	42.4	41.4	42.1	40.9	41.4	41.0	39.3	38.8	38.4	36.5	35.9	36.6	36.5	38.3	40.0	39.7	40.1	38.7	-1.5
Any Illicit Drug other than Marijuana [a,b,c]	19.4	19.8	20.7	20.2	20.7	20.4‡	21.6	20.9	19.8	20.5	19.7	19.2	18.5	18.3	17.0	17.3	17.6	17.0	17.8	15.9	-1.9
Marijuana/Hashish	34.7	35.8	38.5	37.5	37.8	36.5	37.0	36.2	34.9	34.3	33.6	31.5	31.7	32.4	32.8	34.8	36.4	36.4	36.4	35.1	-1.3
Inhalants [d]	8.0	7.6	6.7	6.2	5.6	5.9	4.5	4.5	3.9	4.2	5.0	4.5	3.7	3.8	3.4	3.6	3.2	2.9	2.5	1.9	-0.6
Inhalants, Adjusted [d,e]	8.4	8.5	7.3	7.1	6.0	6.2	4.9	4.9	4.5	4.6	5.4	4.7	4.1	4.0	4.1	—	—	—	—	—	—
Amyl/Butyl Nitrites [f,g]	1.1	1.6	1.2	1.4	0.9	0.6	0.6	1.1	0.9	0.8	0.6	0.5	0.8	0.6	0.9	—	—	—	—	—	—
Hallucinogens [c]	9.3	10.1	9.8	9.0	9.4	8.1‡	9.1	6.6	5.9	6.2	5.5	4.9	5.4	5.9	4.7	5.5	5.2	4.8	4.5	4.0	-0.5
Hallucinogens, Adjusted [c,h]	9.7	10.7	10.0	9.2	9.8	8.7‡	9.7	7.2	6.5	6.4	5.9	5.3	5.8	6.1	5.2	6.0	5.8	5.0	4.9	—	—
LSD [c]	8.4	8.8	8.4	7.6	8.1	6.6	6.6	3.5	1.9	2.2	1.8	1.7	2.1	2.7	1.9	2.6	2.7	2.4	2.2	2.5	+0.3
Hallucinogens other than LSD [c]	3.8	4.4	4.6	4.6	4.3	4.4‡	5.9	5.4	5.4	5.6	5.0	4.6	4.8	5.0	4.2	4.8	4.3	4.0	3.7	3.0	-0.6
PCP [f,g]	1.8	2.6	2.3	2.1	1.8	2.3	1.8	1.1	1.3	0.7	1.3	0.7	0.9	1.1	1.0	1.0	1.3	0.9	0.7	0.8	+0.1
Ecstasy (MDMA) [f]	—	4.6	4.0	3.6	5.6	8.2	9.2	7.4	4.5	4.0	3.0	4.1	4.5	4.3	4.3	4.5	5.3	3.8	4.0	3.6	-0.4
Salvia [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.7	5.5	5.9	4.4	3.4	1.8	-1.6 sss
Cocaine	4.0	4.9	5.5	5.7	6.2	5.0	4.8	5.0	4.8	5.3	5.1	5.7	5.2	4.4	3.4	2.9	2.9	2.7	2.6	2.6	-0.1
Crack [i]	2.1	2.1	2.4	2.5	2.7	2.2	2.1	2.3	2.2	2.3	1.9	2.1	1.9	1.6	1.3	1.4	1.0	1.2	1.1	1.1	0.0
Other Cocaine [j]	3.4	4.2	5.0	4.9	5.8	4.5	4.4	4.4	4.2	4.7	4.5	5.2	4.5	4.0	3.0	2.6	2.6	2.4	2.4	2.4	0.0
Heroin [k]	1.1	1.0	1.2	1.0	1.1	1.5	0.9	1.0	0.8	0.9	0.8	0.8	0.9	0.7	0.7	0.9	0.8	0.6	0.6	0.6	0.0
With a needle [l]	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.3	0.7	0.6	0.4	0.4	0.5	+0.2
Without a needle [l]	1.0	1.0	1.2	0.8	1.0	1.6	0.8	0.8	0.8	0.7	0.8	0.6	1.0	0.5	0.6	0.8	0.7	0.4	0.4	0.5	0.0
Narcotics other than Heroin [m,n]	4.7	5.4	6.2	6.3	6.7	7.0	6.7‡	9.4	9.3	9.5	9.0	9.0	9.2	9.1	9.2	8.7	8.7	7.9	7.1	6.1	-1.0 s
OxyContin [m,v]	—	—	—	—	—	—	—	4.0	4.5	5.0	5.5	4.3	5.2	4.7	4.9	5.1	4.9	4.3	3.6	3.3	-0.2
Vicodin [m,v]	—	—	—	—	—	—	—	9.6	10.5	9.3	9.5	9.7	9.6	9.7	9.7	8.0	8.1	7.5	5.3	4.8	-0.5
Amphetamines [b,m]	9.3	9.5	10.2	10.1	10.2	10.5	10.9	11.1	9.9	10.0	8.6	8.1	7.5	6.8	6.6	7.4	8.2	7.9	9.2	8.1	-1.1
Ritalin [m,o]	—	—	—	—	—	—	5.1	4.0	4.0	5.1	4.4	4.4	3.8	3.4	2.1	2.7	2.6	2.6	2.3	1.8	-0.5
Adderall [m,o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.4	6.5	6.5	7.6	7.4	6.8	-0.6
Provigil [m,o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.8	1.3	1.5	—	—	—	—
Methamphetamine [o]	—	—	—	—	4.7	4.3	3.9	3.6	3.2	3.4	2.5	2.5	1.7	1.2	1.2	1.0	1.4	1.1	0.9	1.0	0.0
Crystal Methamphetamine (Ice) [o]	2.4	2.8	2.3	3.0	1.9	2.2	2.5	3.0	2.0	2.1	2.3	1.9	1.6	1.1	0.9	0.9	1.2	0.8	1.1	0.8	-0.3
Sedatives (Barbiturates) [m,p]	4.7	4.9	5.1	5.5	5.8	6.2	5.7	6.7	6.0	6.5	7.2	6.6	6.2	5.8	5.2	4.8	4.3	4.5	4.8	4.3	-0.5
Sedatives, Adjusted [m,q]	4.9	5.3	5.4	6.0	6.3	6.3	5.9	7.0	6.2	6.6	7.6	6.8	6.4	6.1	5.4	5.0	4.4	4.5	—	—	—
Methaqualone [m,r]	0.7	1.1	1.0	1.1	1.1	0.3	0.8	0.9	0.6	0.8	0.9	0.8	0.5	0.5	0.6	0.3	0.3	0.4	—	—	—
Tranquilizers [c,m]	4.4	4.6	4.7	5.5	5.8	5.7‡	6.9	7.7	6.7	7.3	6.8	6.6	6.2	6.2	6.3	5.6	5.6	5.3	4.6	4.7	+0.1
OTC Cough/Cold Medicines [o]	—	—	—	—	—	—	—	—	—	—	—	6.9	5.8	5.5	5.9	6.6	5.3	5.6	5.0	4.1	-0.9
Rohypnol [f]	—	1.1	1.2	1.4	1.0	0.8	0.9‡	1.6	1.3	1.6	1.2	1.1	1.0	1.3	1.0	1.5	1.3	1.5	0.9	0.7	-0.2

(List of drugs continued.)

(Table continued on next page.)

TABLE 5-2 (cont.)
Long-Term Trends in Annual Prevalence of Use of Various Drugs in Grade 12

Percentage who used in last 12 months

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Approximate weighted N =	*15,400*	*14,300*	*15,400*	*15,200*	*13,600*	*12,800*	*12,800*	*12,900*	*14,600*	*14,600*	*14,700*	*14,200*	*14,500*	*14,000*	*13,700*	*14,400*	*14,100*	*13,700*	*12,600*	*12,400*	
GHB [w]	—	—	—	—	—	1.9	1.6	1.5	1.4	2.0	1.1	1.1	0.9	1.2	1.1	1.4	1.4	1.4	1.0	1.0	-0.1
Ketamine [x]	—	—	—	—	—	2.5	2.5	2.6	2.1	1.9	1.6	1.4	1.3	1.5	1.7	1.6	1.7	1.5	1.4	1.5	+0.1
Alcohol [s]	73.7	72.5	74.8	74.3	73.8	73.2	73.3	71.5	70.1	70.6	68.6	66.5	66.4	65.5	66.2	65.2	63.5	63.5	62.0	60.2	-1.8
Been Drunk [o]	52.5	51.9	53.2	52.0	53.2	51.8	53.2	50.4	48.0	51.8	47.7	47.9	46.1	45.6	47.0	44.0	42.2	45.0	43.5	41.4	-2.0
Cigarettes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Bidis [o]	—	—	—	—	—	9.2	7.0	5.9	4.0	3.6	3.3	2.3	1.7	1.9	1.5	1.4	—	—	—	—	—
Kreteks [o]	—	—	—	—	—	—	10.1	8.4	6.7	6.5	7.1	6.2	6.8	6.8	5.5	4.6	2.9	3.0	1.6	1.6	0.0
Smokeless Tobacco [f,t]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids [m,u]	1.5	1.4	1.4	1.7	1.8	1.7	2.4	2.5	2.1	2.5	1.5	1.8	1.4	1.5	1.5	1.5	1.2	1.3	1.5	1.5	0.0

Source. The Monitoring the Future study, the University of Michigan.

See footnotes following Table 5-4.

TABLE 5-3
Long-Term Trends in 30-Day Prevalence of Use of Various Drugs in Grade 12

Percentage who used in last 30 days

(Years cont.)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Approximate weighted N =	*9,400*	*15,400*	*17,100*	*17,800*	*15,500*	*15,900*	*17,500*	*17,700*	*16,300*	*15,900*	*16,000*	*15,200*	*16,300*	*16,300*	*16,700*	*15,200*	*15,000*	*15,800*	*16,300*	*15,400*
Any Illicit Drug [a,b]	30.7	34.2	37.6	38.9	38.9	37.2	36.9	32.5	30.5	29.2	29.7	27.1	24.7	21.3	19.7	17.2	16.4	14.4	18.3	21.9
Any Illicit Drug other than Marijuana [a,b,c]	15.4	13.9	15.2	15.1	16.8	18.4	21.7	17.0	15.4	15.1	14.9	13.2	11.6	10.0	9.1	8.0	7.1	6.3	7.9	8.8
Marijuana/Hashish	27.1	32.2	35.4	37.1	36.5	33.7	31.6	28.5	27.0	25.2	25.7	23.4	21.0	18.0	16.7	14.0	13.8	11.9	15.5	19.0
Inhalants [d]	—	0.9	1.3	1.5	1.7	1.4	1.5	1.5	1.7	1.9	2.2	2.5	2.8	2.6	2.3	2.7	2.4	2.3	2.5	2.7
Inhalants, Adjusted [d,e]	—	—	—	—	3.2	2.7	2.5	2.5	2.5	2.6	3.0	3.2	3.5	3.0	2.7	2.9	2.6	2.5	2.8	2.9
Amyl/Butyl Nitrites [f,g]	—	—	—	—	2.4	1.8	1.4	1.1	1.4	1.4	1.6	1.3	1.3	0.6	0.6	0.6	0.4	0.3	0.6	0.4
Hallucinogens [c]	4.7	3.4	4.1	3.9	4.0	3.7	3.7	3.4	2.8	2.6	2.5	2.5	2.5	2.2	2.2	2.2	2.2	2.1	2.7	3.1
Hallucinogens, Adjusted [c,h]	—	—	—	—	5.3	4.4	4.5	4.1	3.5	3.2	3.8	3.5	2.8	2.3	2.9	2.3	2.4	2.3	3.3	3.2
LSD [c]	2.3	1.9	2.1	2.1	2.4	2.3	2.5	2.4	1.9	1.5	1.6	1.7	1.8	1.8	1.8	1.9	1.9	2.0	2.4	2.6
Hallucinogens other than LSD [c]	3.7	2.3	3.0	2.7	2.4	2.3	2.1	1.7	1.5	1.6	1.3	1.3	1.1	0.7	0.8	0.8	0.7	0.5	0.8	1.2
PCP [f,g]	—	—	—	—	2.4	1.4	1.4	1.0	1.3	1.0	1.6	1.3	0.6	0.3	1.4	0.4	0.5	0.6	1.0	0.7
Ecstasy (MDMA) [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocaine	1.9	2.0	2.9	3.9	5.7	5.2	5.8	5.0	4.9	5.8	6.7	6.2	4.3	3.4	2.8	1.9	1.4	1.3	1.3	1.5
Crack [i]	—	—	—	—	—	—	—	—	—	—	—	—	1.3	1.6	1.4	0.7	0.7	0.6	0.7	0.8
Other Cocaine [j]	—	—	—	—	—	—	—	—	—	—	—	—	4.1	3.2	1.9	1.7	1.2	1.0	1.2	1.3
Heroin [k]	0.4	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.3
With a needle [l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Without a needle [l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Narcotics other than Heroin [m,n]	2.1	2.0	2.8	2.1	2.4	2.4	2.1	1.8	1.8	1.8	2.3	2.0	1.8	1.6	1.6	1.5	1.1	1.2	1.3	1.5
Amphetamines [b,m]	8.5	7.7	8.8	8.7	9.9	12.1	15.8‡	10.7	8.9	8.3	6.8	5.5	5.2	4.6	4.2	3.7	3.2	2.8	3.7	4.0
Methamphetamine [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Crystal Methamphetamine (Ice) [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.6	0.6	0.5	0.6	0.7
Sedatives (Barbiturates) [m,p]	4.7	3.9	4.3	3.2	3.2	2.9	2.6	2.0	2.1	1.7	2.0	1.8	1.4	1.2	1.4	1.3	1.4	1.1	1.3	1.7
Sedatives, Adjusted [m,q]	5.4	4.5	5.1	4.2	4.4	4.8	4.6	3.4	3.0	2.3	2.4	2.2	1.7	1.4	1.6	1.4	1.5	1.2	1.3	1.8
Methaqualone [m,r]	2.1	1.6	2.3	1.9	2.3	3.3	3.1	2.4	1.8	1.1	1.0	0.8	0.6	0.5	0.6	0.2	0.2	0.4	0.1	0.4
Tranquilizers [c,m]	4.1	4.0	4.6	3.4	3.7	3.1	2.7	2.4	2.5	2.1	2.1	2.1	2.0	1.5	1.3	1.2	1.4	1.0	1.2	1.4
Rohypnol [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol [s]	68.2	68.3	71.2	72.1	71.8	72.0	70.7	69.7	69.4	67.2	65.9	65.3	66.4	63.9	60.0	57.1	54.0	51.3‡	48.6	50.1
Been Drunk [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31.6	29.9	28.9	30.8
Cigarettes	36.7	38.8	38.4	36.7	34.4	30.5	29.4	30.0	30.3	29.3	30.1	29.6	29.4	28.7	28.6	29.4	28.3	27.8	29.9	31.2
Smokeless Tobacco [f,t]	—	—	—	—	—	—	—	—	—	—	—	11.5	11.3	10.3	8.4	—	—	11.4	10.7	11.1
Steroids [m,u]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	1.0	0.8	0.6	0.7	0.9

Footnotes for Tables 5-1 through 5-4 (cont.)

TABLE 5-3 (cont.)
Long-Term Trends in 30-Day Prevalence of Use of Various Drugs in Grade 12

Percentage who used in last 30 days

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Approximate weighted N =	*15,400*	*14,300*	*15,400*	*15,200*	*13,600*	*12,800*	*12,800*	*12,900*	*14,600*	*14,600*	*14,700*	*14,200*	*14,500*	*14,000*	*13,700*	*14,400*	*14,100*	*13,700*	*12,600*	*12,400*	
Any Illicit Drug [a,b]	23.8	24.6	26.2	25.6	25.9	24.9	25.7	25.4	24.1	23.4	23.1	21.5	21.9	22.3	23.3	23.8	25.2	25.2	25.2	23.7	-1.5
Any Illicit Drug other than Marijuana [a,b,c]	10.0	9.5	10.7	10.7	10.4	10.4‡	11.0	11.3	10.4	10.8	10.3	9.8	9.5	9.3	8.6	8.6	8.9	8.4	8.2	7.7	-0.5
Marijuana/Hashish	21.2	21.9	23.7	22.8	23.1	21.6	22.4	21.5	21.2	19.9	19.8	18.3	18.8	19.4	20.6	21.4	22.6	22.9	22.7	21.2	-1.6
Inhalants [d]	3.2	2.5	2.5	2.3	2.0	2.2	1.7	1.5	1.5	1.5	2.0	1.5	1.2	1.4	1.2	1.4	1.0	0.9	1.0	0.7	-0.2
Inhalants, Adjusted [d,e]	3.5	2.9	2.9	3.1	2.4	2.4	2.1	1.8	2.3	1.9	2.3	1.7	1.6	1.5	1.8	—	—	—	—	—	—
Amyl/Butyl Nitrites [f,g]	0.4	0.7	0.7	1.0	0.4	0.3	0.5	0.6	0.7	0.7	0.5	0.3	0.5	0.3	0.6	—	—	—	—	—	—
Hallucinogens [c]	4.4	3.5	3.9	3.8	3.5	2.6‡	3.3	2.3	1.8	1.9	1.9	1.5	1.7	2.2	1.6	1.9	1.6	1.6	1.4	1.5	+0.1
Hallucinogens, Adjusted [c,h]	4.6	3.8	4.1	4.1	3.9	3.0‡	3.5	2.7	2.7	2.2	2.5	1.8	2.1	2.6	1.9	2.2	2.3	1.8	1.9	—	—
LSD [c]	4.0	2.5	3.1	3.2	2.7	1.6	2.3	0.7	0.6	0.7	0.7	0.6	0.6	1.1	0.5	0.8	0.8	0.8	0.8	1.0	+0.3
Hallucinogens other than LSD [c]	1.3	1.6	1.7	1.6	1.6	1.7‡	1.9	2.0	1.5	1.7	1.6	1.3	1.4	1.6	1.4	1.5	1.2	1.3	1.0	1.0	0.0
PCP [f,g]	0.6	1.3	0.7	1.0	0.8	0.9	0.5	0.4	0.6	0.4	0.7	0.4	0.5	0.6	0.5	0.8	0.8	0.5	0.4	—	—
Ecstasy (MDMA) [f]	—	2.0	1.6	1.5	2.5	3.6	2.8	2.4	1.3	1.2	1.0	1.3	1.6	1.8	1.8	1.4	2.3	0.9	1.5	1.4	-0.1
Cocaine	1.8	2.0	2.3	2.4	2.6	2.1	2.1	2.3	2.1	2.3	2.3	2.5	2.0	1.9	1.3	1.3	1.1	1.1	1.1	1.0	-0.1
Crack [i]	1.0	1.0	0.9	1.0	1.1	1.0	1.1	1.2	0.9	1.0	1.0	0.9	0.9	0.8	0.6	0.7	0.5	0.6	0.6	0.7	0.0
Other Cocaine [j]	1.3	1.6	2.0	2.0	2.5	1.7	1.8	1.9	1.8	2.2	2.0	2.4	1.7	1.7	1.1	1.1	1.0	1.0	0.9	0.9	0.0
Heroin [k]	0.6	0.5	0.5	0.5	0.5	0.7	0.4	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	+0.1
With a needle [l]	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.1	0.4	0.4	0.3	0.2	0.3	+0.1
Without a needle [l]	0.6	0.4	0.6	0.4	0.4	0.7	0.3	0.5	0.4	0.3	0.5	0.3	0.4	0.2	0.3	0.4	0.4	0.2	0.2	0.4	+0.1
Narcotics other than Heroin [m,n]	1.8	2.0	2.3	2.4	2.6	2.9	3.0‡	4.0	4.1	4.3	3.9	3.8	3.8	3.8	4.1	3.6	3.6	3.0	2.8	2.2	-0.6 ss
Amphetamines [b,m]	4.0	4.1	4.8	4.6	4.5	5.0	5.6	5.5	5.0	4.6	3.9	3.7	3.7	2.9	3.0	3.3	3.7	3.3	4.2	3.8	-0.4
Methamphetamine [o]	—	—	—	—	1.7	1.9	1.5	1.7	1.7	1.4	0.9	0.9	0.6	0.6	0.5	0.5	0.6	0.5	0.4	0.5	+0.1
Crystal Methamphetamine (Ice) [o]	1.1	1.1	0.8	1.2	0.8	1.0	1.1	1.2	0.8	0.8	0.9	0.7	0.6	0.6	0.5	0.6	0.6	0.4	0.8	0.4	-0.3
Sedatives (Barbiturates) [m,p]	2.2	2.1	2.1	2.6	2.6	3.0	2.8	3.2	2.9	2.9	3.3	3.0	2.7	2.8	2.5	2.2	1.8	2.0	2.2	2.0	-0.2
Sedatives, Adjusted [m,q]	2.3	2.3	2.1	2.8	2.8	3.1	3.0	3.4	3.0	2.9	3.5	3.1	2.8	2.9	2.6	2.2	1.9	2.1	—	—	—
Methaqualone [m,r]	0.4	0.6	0.3	0.6	0.4	0.2	0.5	0.3	0.4	0.5	0.5	0.4	0.4	0.2	0.3	0.2	0.2	0.3	—	—	—
Tranquilizers [c,m]	1.8	2.0	1.8	2.4	2.5	2.6‡	2.9	3.3	2.8	3.1	2.9	2.7	2.6	2.6	2.7	2.5	2.3	2.1	2.0	2.1	+0.1
Rohypnol [f]	—	0.5	0.3	0.3	0.3	0.4	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol [s]	51.3	50.8	52.7	52.0	51.0	50.0	49.8	48.6	47.5	48.0	47.0	45.3	44.4	43.1	43.5	41.2	40.0	41.5	39.2	37.4	-1.8
Been Drunk [o]	33.2	31.3	34.2	32.9	32.9	32.3	32.7	30.3	30.9	32.5	30.2	30.0	28.7	27.6	27.4	26.8	25.0	28.1	26.0	23.5	-2.5
Cigarettes	33.5	34.0	36.5	35.1	34.6	31.4	29.5	26.7	24.4	25.0	23.2	21.6	21.6	20.4	20.1	19.2	18.7	17.1	16.3	13.6	-2.7 ss
Smokeless Tobacco [f,t]	12.2	9.8	9.7	8.8	8.4	7.6	7.8	6.5	6.7	6.7	7.6	6.1	6.6	6.5	8.4	8.5	8.3	7.9	8.1	8.4	+0.3
Steroids [m,u]	0.7	0.7	1.0	1.1	0.9	0.8	1.3	1.4	1.3	1.6	0.9	1.1	1.0	1.0	1.0	1.1	0.7	0.9	1.0	0.9	-0.1

Source. The Monitoring the Future study, the University of Michigan.

See footnotes following Table 5-4.

TABLE 5-4
Long-Term Trends in 30-Day Prevalence of Daily Use of Various Drugs in Grade 12

Percentage who used daily in last 30 days

(Years cont.)

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Approximate weighted N =	*9,400*	*15,400*	*17,100*	*17,800*	*15,500*	*15,900*	*17,500*	*17,700*	*16,300*	*15,900*	*16,000*	*15,200*	*16,300*	*16,300*	*16,700*	*15,200*	*15,000*	*15,800*	*16,300*	*15,400*
Marijuana/Hashish	6.0	8.2	9.1	10.7	10.3	9.1	7.0	6.3	5.5	5.0	4.9	4.0	3.3	2.7	2.9	2.2	2.0	1.9	2.4	3.6
Inhalants [d]	—	*	*	0.1	*	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.2	0.2	0.3	0.2	0.1	0.1	0.1
Inhalants, Adjusted [d,e]	—	—	—	—	0.1	0.2	0.2	0.2	0.2	0.2	0.4	0.4	0.4	0.3	0.3	0.3	0.5	0.2	0.2	—
Amyl/Butyl Nitrites [f,g]	—	—	—	—	*	0.1	0.1	0.0	0.2	0.1	0.3	0.5	0.3	0.1	0.3	0.1	0.2	0.1	0.1	0.2
Hallucinogens [c]	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1
Hallucinogens, Adjusted [c,h]	—	—	—	—	0.2	0.2	0.1	0.2	0.2	0.2	0.3	0.3	0.2	*	0.3	0.3	0.1	0.1	0.1	—
LSD [c]	*	*	*	*	*	*	0.1	*	0.1	0.1	0.1	*	0.1	*	*	0.1	0.1	0.1	0.1	0.1
Hallucinogens other than LSD [c]	—	0.1	0.1	*	*	*	0.1	*	*	0.1	*	*	*	*	*	*	*	*	*	*
PCP [f,g]	—	—	—	—	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.2	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.3
Ecstasy (MDMA) [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocaine	0.1	0.1	0.1	0.1	0.2	0.2	0.3	0.2	0.2	0.2	0.4	0.4	0.3	0.2	0.3	0.1	0.1	0.1	0.1	0.1
Crack [i]	—	—	—	—	—	—	—	—	—	—	—	—	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1
Other Cocaine [j]	—	—	—	—	—	—	—	—	—	—	—	—	0.2	0.2	0.1	0.1	0.1	*	0.1	0.1
Heroin [k]	0.1	*	*	*	*	*	*	*	0.1	*	*	*	*	*	0.1	*	*	*	*	*
With a needle [l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Without a needle [l]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Narcotics other than Heroin [m,n]	0.1	0.1	0.2	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	*	*	0.1
Amphetamines [b,m]	0.5	0.4	0.5	0.5	0.6	0.7	1.2‡	0.7	0.8	0.6	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2
Methamphetamine [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Crystal Methamphetamine (Ice) [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	0.1	0.1	0.1	*
Sedatives (Barbiturates) [m,p]	0.1	0.1	0.2	0.1	*	0.1	0.1	0.1	0.1	*	0.1	0.1	0.1	*	0.1	0.1	0.1	*	0.1	*
Sedatives, Adjusted [m,q]	0.3	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	*
Methaqualone [m,r]	*	*	*	*	*	0.1	0.1	0.1	*	*	*	*	*	0.1	*	*	*	0.1	0.0	0.1
Tranquilizers [c,m]	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.1	*	*	0.1	*	0.1	0.1	0.1	*	*	0.1
Rohypnol [f]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol [s]																				
Daily [s]	5.7	5.6	6.1	5.7	6.9	6.0	6.0	5.7	5.5	4.8	5.0	4.8	4.8	4.2	4.2	3.7	3.6	3.4‡	3.4	2.9
Been drunk daily [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.9	0.8	0.9	1.2
5+ drinks in a row in last 2 weeks	36.8	37.1	39.4	40.3	41.2	41.2	41.4	40.5	40.8	38.7	36.7	36.8	37.5	34.7	33.0	32.2	29.8	27.9	27.5	28.2
Cigarettes																				
Daily	26.9	28.8	28.8	27.5	25.4	21.3	20.3	21.1	21.2	18.7	19.5	18.7	18.7	18.1	18.9	19.1	18.5	17.2	19.0	19.4
Half pack or more per day	17.9	19.2	19.4	18.8	16.5	14.3	13.5	14.2	13.8	12.3	12.5	11.4	11.4	10.6	11.2	11.3	10.7	10.0	10.9	11.2
Smokeless Tobacco [f,t]	—	—	—	—	—	—	—	—	—	—	—	4.7	5.1	4.3	3.3	—	—	4.3	3.3	3.9
Steroids [m,u]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	0.2	0.1	0.1	0.1	0.4

(Table continued on next page.)

TABLE 5-4 (cont.)
Long-Term Trends in 30-Day Prevalence of Daily Use of Various Drugs in Grade 12

Percentage who used daily in last 30 days

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Approximate weighted N =	*15,400*	*14,300*	*15,400*	*15,200*	*13,600*	*12,800*	*12,800*	*12,900*	*14,600*	*14,600*	*14,700*	*14,200*	*14,500*	*14,000*	*13,700*	*14,400*	*14,100*	*13,700*	*12,600*	*12,400*	
Marijuana/Hashish	4.6	4.9	5.8	5.6	6.0	6.0	5.8	6.0	6.0	5.6	5.0	5.0	5.1	5.4	5.2	6.1	6.6	6.5	6.5	5.8	-0.6
Inhalants [d]	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	*	0.1	0.1	0.1	0.0
Inhalants, Adjusted [d,e]	—	0.4	0.2	0.9	0.3	0.3	0.1	0.3	0.4	0.4	0.3	—	—	—	—	—	—	—	—	—	—
Amyl/Butyl Nitrites [f,g]	0.2	0.4	0.1	0.3	0.2	*	0.1	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	—	—	—	—	—	—
Hallucinogens [c]	0.1	0.1	0.3	0.1	0.1	0.2‡	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.3	0.1	0.2	0.2	0.1	0.2	0.2	0.0
Hallucinogens, Adjusted [c,h]	—	0.4	0.4	0.8	0.2	0.2‡	0.2	0.4	0.5	0.4	0.3	—	—	—	—	—	—	—	—	—	—
LSD [c]	0.1	*	0.2	0.1	0.1	0.1	0.2	0.1	*	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Hallucinogens other than LSD [c]	0.1	0.1	0.1	0.1	*	0.1‡	0.1	*	0.1	0.1	*	0.1	0.1	0.2	*	0.1	0.1	0.1	0.1	0.1	0.0
PCP [f,g]	0.3	0.3	0.1	0.3	0.2	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.3	0.2	0.2	0.3	0.1	0.1	—	—
Ecstasy (MDMA) [f]	—	0.0	0.1	0.2	0.1	*	0.2	*	0.1	0.1	0.1	*	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.0
Cocaine	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.2	+0.1
Crack [i]	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.3	+0.1 s
Other Cocaine [j]	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	*	0.1	0.1	0.1	+0.1
Heroin [k]	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	*	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	+0.1
With a needle [l]	0.1	0.2	0.1	*	*	*	*	0.1	0.1	*	0.1	*	0.1	*	*	0.1	0.1	0.1	*	0.1	0.0
Without a needle [l]	*	0.1	0.1	0.0	0.0	*	*	0.1	0.1	*	0.1	*	*	*	0.1	0.1	0.1	0.1	*	0.1	0.0
Narcotics other than Heroin [m,n]	0.1	0.2	0.2	0.1	0.2	0.1	0.2‡	0.3	0.2	0.3	0.2	0.2	0.2	0.3	0.4	0.2	0.3	0.2	0.1	0.1	0.0
Amphetamines [b,m]	0.3	0.3	0.3	0.3	0.3	0.5	0.5	0.7	0.5	0.3	0.4	0.3	0.3	0.2	0.3	0.3	0.4	0.3		0.6	
Methamphetamine [o]	—	—	—	—	0.1	0.1	0.1	0.3	0.2	0.2	0.2	*	*	0.1	0.1	0.1	0.1	*	*	0.1	+0.1
Crystal Methamphetamine (Ice) [o]	0.1	0.1	0.1	*	*	0.1	0.2	0.2	0.1	0.1	0.1	*	0.1	0.2	*	0.1	0.1	0.2	0.1	0.1	+0.1
Sedatives (Barbiturates) [m,p]	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.0
Sedatives, Adjusted [m,q]	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.3	—	—	—
Methaqualone [m,r]	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.1	*	*	*	0.1	0.1	*	0.3	—	—	—
Tranquilizers [c,m]	*	0.2	0.1	0.1	0.1	0.1‡	0.1	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	+0.1
Rohypnol [f]	—	0.1	0.0	0.1	0.1	0.1	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol [s]																					
Daily [s]	3.5	3.7	3.9	3.9	3.4	2.9	3.6	3.5	3.2	2.8	3.1	3.0	3.1	2.8	2.5	2.7	2.1	2.5	2.2	1.9	-0.3
Been drunk daily [o]	1.3	1.6	2.0	1.5	1.9	1.7	1.4	1.2	1.6	1.8	1.5	1.6	1.3	1.4	1.1	1.6	1.3	1.5	1.3	1.1	-0.2
5+ drinks in a row in last 2 weeks	29.8	30.2	31.3	31.5	30.8	30.0	29.7	28.6	27.9	29.2	27.1	25.4	25.9	24.6	25.2	23.2	21.6	23.7	22.1	19.4	-2.7 ss
Cigarettes																					
Daily	21.6	22.2	24.6	22.4	23.1	20.6	19.0	16.9	15.8	15.6	13.6	12.2	12.3	11.4	11.2	10.7	10.3	9.3	8.5	6.7	-1.7 ss
Half pack or more per day	12.4	13.0	14.3	12.6	13.2	11.3	10.3	9.1	8.4	8.0	6.9	5.9	5.7	5.4	5.0	4.7	4.3	4.0	3.4	2.6	-0.8 s
Smokeless Tobacco [f,t]	3.6	3.3	4.4	3.2	2.9	3.2	2.8	2.0	2.2	2.8	2.5	2.2	2.8	2.7	2.9	3.1	3.1	3.2	3.0	3.4	+0.4
Steroids [m,u]	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.4	0.2	0.4	0.2	0.2	0.2	0.4	0.2	0.3	0.2	0.3	+0.1

Source. The Monitoring the Future study, the University of Michigan.

See footnotes on the following page.

Footnotes for Tables 5-1 through 5-4

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. ' * ' indicates less than 0.05% but greater than 0%. ' ‡ ' indicates some change in the question. See relevant footnote for that drug. See relevant figure to assess the impact of the wording changes. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. Daily use is defined as use on 20 or more occasions in the past 30 days except for 5+ drinks, cigarettes, and smokeless tobacco, for which actual daily use is measured.

[a]Use of any illicit drug includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin; or any use of narcotics other than heroin, amphetamines, sedatives (barbiturates), methaqualone (excluded since 1990), or tranquilizers not under a doctor's orders. Due to changes in the amphetamine questions 2013 data are based on half the forms for all grades; N is one half of N indicated except for 12th grade any illicit use including inhalants which are based on one form; N is one sixth of N indicated. See the amphetamine note for details. 2014 data based on all forms

[b]Beginning in 1982, the question about amphetamine use was revised to get respondents to exclude the inappropriate reporting of nonprescription amphetamines. The prevalence-of-use rate dropped slightly as a result of this methodological change. In 2009, the question text was changed slightly in half of the forms. An examination of the data did not show any effect from the wording change. In 2010 the remaining forms were changed in a like manner. In 2011 the question text was changed slightly in one form; bennies, Benzedrine and Methadrine were dropped from the list of examples. An examination of the data did not show any effect from the wording change. In 2013 the question wording was chanaged in three of the questionnaires. The new wording in 2013 asked "On how many occasions (if any) have you taken amphetamines or other prescription stimulant drugs…" In contrast, the old wording did not include the text highlighted in red. Results in 2013 indicated higher prevalence in questionnaires with the new as compared to the old wording; it was 21% higher in 12th grade. 2013 data are based on the changed forms only; *N* is one half of *N* indicated. In 2014 all questionnaires included the new, updated wording.

[c]In 2001 the question text was changed in half of the questionnaire forms. Other psychedelics was changed to other hallucinogens and shrooms was added to the list of examples. For the tranquilizer list of examples, Miltown was replaced with Xanax. The 2001 data presented here are based on the changed forms only; *N* is one half of *N* indicated. In 2002 the remaining forms were changed to the new wording. Data based on all forms beginning in 2002. Data for any illicit drug other than marijuana and for hallucinogens are also affected by these changes and have been handled in a parallel manner. For hallucinogens, LSD, and hallucinogens other than LSD data based on five of six forms beginning in 2014; *N* is five sixths of *N* indicated.

[d]Data based on four of five forms in 1976–1988; *N* is four fifths of *N* indicated. Data based on five of six forms in 1989–1998; *N* is five sixths of *N* indicated. Beginning in 1999, data based on three of six forms; *N* is three sixths of *N* indicated.

[e]Adjusted for underreporting of amyl and butyl nitrites. See text for details. Data for the daily prevalence of use are no longer presented due to low rates of inhalant use and fairly stable rates of nitrite use.

[f]Data based on one form; *N* is one fifth of *N* indicated in 1979–1988 and one sixth of *N* indicated beginning in 1989. Data for ecstasy (MDMA) and Rohypnol based on two of six forms beginning in 2002; *N* is two sixths of *N* indicated. Data for Rohypnol for 2001 and 2002 are not comparable due to changes in the questionnaire forms. Data for Rohypnol based on one of six forms beginning in 2010; *N* is one sixth of *N* indicated. The PCP triplet question was dropped in 2014 however the annual use question was moved to another form; *N* is one sixth of *N* indicated.

[g]Question text changed slightly in 1987.

[h]Adjusted for underreporting of PCP. See text for details. Data for the daily prevalence of use are no longer presented due to low rates of hallucinogen use and fairly stable rates of PCP use.

[i]Data based on one of five forms in 1986; *N* is one fifth of *N* indicated. Data based on two forms in 1987–1989; *N* is two fifths of *N* indicated in 1987–1988 and two sixths of *N* indicated in 1989. Data based on six forms beginning in 1990.

[j]Data based on one form in 1987–1989; *N* is one fifth of *N* indicated in 1987–1988 and one sixth of *N* indicated in 1989. Data based on four of six forms beginning in 1990; *N* is four sixths of *N* indicated.

Footnotes for Tables 5-1 through 5-4 (cont.)

[k]In 1995 the heroin question was changed in half of the questionnaire forms. Separate questions were asked for use with and without injection. Data presented here represent the combined data from all forms.

[l]Data based on three of six forms; *N* is three sixths of *N* indicated.

[m]Only drug use not under a doctor's orders is included here.

[n]In 2002 the question text was changed in half of the questionnaire forms. The list of examples of narcotics other than heroin was updated: Talwin, laudanum, and paregoric—all of which had negligible rates of use by 2001—were replaced with Vicodin, OxyContin, and Percocet. The 2002 data presented here are based on the changed forms only; *N* is one half of *N* indicated. In 2003, the remaining forms were changed to the new wording. Data based on all forms beginning in 2003. In 2013 the list of examples was changed on one form: MS Contin, Roxycodone, Hydrocodone (Lortab, Lorcet, Norco), Suboxone, Tylox, and Tramadol were added to the list. An examination of the data did not show any effect from the wording change.

[o]Data based on two of six forms; *N* is two sixths of *N* indicated. Bidis and kreteks based on one of six forms beginning in 2009; *N* is one sixth of *N* indicated.

[p]For 12th graders only: In 2004 the barbiturate question text was changed on half of the questionnaire forms. Barbiturates was changed to sedatives including barbiturates, and "have you taken barbiturates . . . " was changed to "have you taken sedatives . . . " In the list of examples downs, downers, goofballs, yellows, reds, blues, rainbows were changed to downs, or downers, and include Phenobarbital, Tuinal, Nembutal, and Seconal. An examination of the data did not show any effect from the wording change. In 2005 the remaining forms were changed in a like manner. In 2013 the question text was changed in all forms: Tuinal, Nembutal, and Seconal were replaced with Ambien, Lunesta, and Sonata. In one form the list of examples was also changed: Tuinal was dropped from the list and Dalmane, Restoril, Halcion, Intermezzo, and Zolpimist were added. An examination of the data did not show any effect from the wording change.

[q]Data based on five forms in 1975–1988, six forms in 1989, one form in 1990 (*N* is one sixth of *N* indicated in 1990), and six forms adjusted by one-form data beginning in 1991.

[r]Data based on five forms in 1975–1988, six forms in 1989, and one of six forms beginning in 1990; *N* is one sixth of *N* indicated beginning in 1990.

[s]Data based on five forms in 1975–1988 and on six forms in 1989–1992. In 1993, the question text was changed slightly in three of six forms to indicate that a drink meant more than a few sips. The 1993 data are based on the changed forms only; *N* is one half of *N* indicated. In 1994 the remaining forms were changed to the new wording. Data based on all forms beginning in 1994. In 2004, the question text was changed slightly in half of the forms. An examination of the data did not show any effect from the wording change. The remaining forms were changed in 2005.

[t]The prevalence of smokeless tobacco use was not asked of 12th graders in 1990 and 1991. Prior to 1990, the prevalence-of-use question on smokeless tobacco was located near the end of one 12th-grade questionnaire form, whereas after 1991 the question was placed earlier and in a different form. This shift could explain the discontinuities between the corresponding data.

[u]Data based on one of six forms in 1989–1990; *N* is one sixth of *N* indicated. Data based on two of six forms in 1991–2005; *N* is two sixths of *N* indicated. Data based on three of six forms beginning in 2006; *N* is three sixths of *N* indicated. In 2006, a slightly altered version of this question was added to a third form. An examination of the data did not show any effect from the wording change. In 2007 the remaining forms were changed in a like manner. In 2008, the question text was changed slightly in two of the questionnaire forms. An examination of the data did not show any effect from the wording change. In 2009 the remaining form was changed in a like manner.

[v]Data based on two of six forms in 2002–2005; *N* is two sixths of *N* indicated. Data based on three of six forms beginning in 2006; *N* is three sixths of *N* indicated.

[w]Data based on two of six forms in 2000; *N* is two sixths of *N* indicated. Data based on three of six forms in 2001; *N* is three sixths of *N* indicated. Data based on one form beginning in 2002; *N* is one sixth of *N* indicated.

[x]Data based on two of six forms in 2000; N is two sixths of N indicated. Data based on three of six forms beginning in 2001; N is three sixths of N indicated. Data based on two of six forms beginning in 2010; *N* is two sixths of *N* indicated.

TABLE 5-5a
Trends in Lifetime Prevalence of Use of Various Drugs in Grades 8, 10, and 12

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Any Illicit Drug [a]																									
8th Grade	18.7	20.6	22.5	25.7	28.5	31.2	29.4	29.0	28.3	26.8	26.8	24.5	22.8	21.5	21.4	20.9	19.0	19.6	19.9	21.4	20.1	18.5‡	21.1	20.3	-0.8
10th Grade	30.6	29.8	32.8	37.4	40.9	45.4	47.3	44.9	46.2	45.6	45.6	44.6	41.4	39.8	38.2	36.1	35.6	34.1	36.0	37.0	37.7	36.8‡	39.1	37.4	-1.7
12th Grade	44.1	40.7	42.9	45.6	48.4	50.8	54.3	54.1	54.7	54.0	53.9	53.0	51.1	51.1	50.4	48.2	46.8	47.4	46.7	48.2	49.9	49.1‡	49.8	49.1	-0.8
Any Illicit Drug other than Marijuana [a,b]																									
8th Grade	14.3	15.6	16.8	17.5	18.8	19.2	17.7	16.9	16.3	15.8‡	17.0	13.7	13.6	12.2	12.1	12.2	11.1	11.2	10.4	10.6	9.8	8.7‡	10.4	10.0	-0.5
10th Grade	19.1	19.2	20.9	21.7	24.3	25.5	25.0	23.6	24.0	23.1‡	23.6	22.1	19.7	18.8	18.0	17.5	18.2	15.9	16.7	16.8	15.6	14.9‡	16.4	15.9	-0.5
12th Grade	26.9	25.1	26.7	27.6	28.1	28.5	30.0	29.4	29.4	29.0‡	30.7	29.5	27.7	28.7	27.4	26.9	25.5	24.9	24.0	24.7	24.9	24.1‡	24.8	22.6	-2.2
Any Illicit Drug including Inhalants [a,c]																									
8th Grade	28.5	29.6	32.3	35.1	38.1	39.4	38.1	37.8	37.2	35.1	34.5	31.6	30.3	30.2	30.0	29.2	27.7	28.3	27.9	28.6	26.4	25.1‡	25.9	25.2	-0.7
10th Grade	36.1	36.2	38.7	42.7	45.9	49.8	50.9	49.3	49.9	49.3	48.8	47.7	44.9	43.1	42.1	40.1	39.8	38.7	40.0	40.6	40.8	40.0‡	41.6	40.4	-1.2
12th Grade	47.6	44.4	46.6	49.1	51.5	53.5	56.3	56.1	56.3	57.0	56.0	54.6	52.8	53.0	53.5	51.2	49.1	49.3	48.4	49.9	51.8	50.3‡	52.3	49.9	-2.4
Marijuana/Hashish																									
8th Grade	10.2	11.2	12.6	16.7	19.9	23.1	22.6	22.2	22.0	20.3	20.4	19.2	17.5	16.3	16.5	15.7	14.2	14.6	15.7	17.3	16.4	15.2	16.5	15.6	-0.9
10th Grade	23.4	21.4	24.4	30.4	34.1	39.8	42.3	39.6	40.9	40.3	40.1	38.7	36.4	35.1	34.1	31.8	31.0	29.9	32.3	33.4	34.5	33.8	35.8	33.7	-2.2
12th Grade	36.7	32.6	35.3	38.2	41.7	44.9	49.6	49.1	49.7	48.8	49.0	47.8	46.1	45.7	44.8	42.3	41.8	42.6	42.0	43.8	45.5	45.2	45.5	44.4	-1.1
Inhalants [c,d]																									
8th Grade	17.6	17.4	19.4	19.9	21.6	21.2	21.0	20.5	19.7	17.9	17.1	15.2	15.8	17.3	17.1	16.1	15.6	15.7	14.9	14.5	13.1	11.8	10.8	10.8	0.0
10th Grade	15.7	16.6	17.5	18.0	19.0	19.3	18.3	18.3	17.0	16.6	15.2	13.5	12.7	12.4	13.1	13.3	13.6	12.8	12.3	12.0	10.1	9.9	8.7	8.7	+0.1
12th Grade	17.6	16.6	17.4	17.7	17.4	16.6	16.1	15.2	15.4	14.2	13.0	11.7	11.2	10.9	11.4	11.1	10.5	9.9	9.5	9.0	8.1	7.9	6.9	6.5	-0.4
Nitrites [e]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.6	1.5	1.4	1.7	1.5	1.8	2.0	2.7	1.7	0.8	1.9	1.5	1.6	1.3	1.1	1.2	1.2	0.6	1.1	—	—	—	—	—	—
Hallucinogens [b,f]																									
8th Grade	3.2	3.8	3.9	4.3	5.2	5.9	5.4	4.9	4.8	4.6‡	5.2	4.1	4.0	3.5	3.8	3.4	3.1	3.3	3.0	3.4	3.3	2.8	2.5	2.0	-0.5
10th Grade	6.1	6.4	6.8	8.1	9.3	10.5	10.5	9.8	9.7	8.9‡	8.9	7.8	6.9	6.4	5.8	6.1	6.4	5.5	6.1	6.1	6.0	5.2	5.4	5.0	-0.4
12th Grade	9.6	9.2	10.9	11.4	12.7	14.0	15.1	14.1	13.7	13.0‡	14.7	12.0	10.6	9.7	8.8	8.3	8.4	8.7	7.4	8.6	8.3	7.5	7.6	6.3	-1.3
LSD																									
8th Grade	2.7	3.2	3.5	3.7	4.4	5.1	4.7	4.1	4.1	3.9	3.4	2.5	2.1	1.8	1.9	1.6	1.6	1.9	1.7	1.8	1.7	1.3	1.4	1.1	-0.3
10th Grade	5.6	5.8	6.2	7.2	8.4	9.4	9.5	8.5	8.5	7.6	6.3	5.0	3.5	2.8	2.5	2.7	3.0	2.6	3.0	3.0	2.8	2.6	2.7	2.6	-0.1
12th Grade	8.8	8.6	10.3	10.5	11.7	12.6	13.6	12.6	12.2	11.1	10.9	8.4	5.9	4.6	3.5	3.3	3.4	4.0	3.1	4.0	4.0	3.8	3.9	3.7	-0.2
Hallucinogens other than LSD [b]																									
8th Grade	1.4	1.7	1.7	2.2	2.5	3.0	2.6	2.5	2.4	2.3‡	3.9	3.3	3.2	3.0	3.3	2.8	2.6	2.5	2.4	2.7	2.8	2.3	1.9	1.5	-0.4
10th Grade	2.2	2.5	2.8	3.8	3.9	4.7	4.8	5.0	4.7	4.8‡	6.6	6.3	5.9	5.8	5.2	5.5	5.7	4.8	5.4	5.3	5.2	4.5	4.4	4.1	-0.4
12th Grade	3.7	3.3	3.9	4.9	5.4	6.8	7.5	7.1	6.7	6.9‡	10.4	9.2	9.0	8.7	8.1	7.8	7.7	7.8	6.8	7.7	7.3	6.6	6.4	5.1	-1.3 ss

(Table continued on next page.)

TABLE 5-5a (cont.)
Trends in Lifetime Prevalence of Use of Various Drugs in Grades 8, 10, and 12

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change	
PCP [e]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	2.9	2.4	2.9	2.8	2.7	4.0	3.9	3.9	3.4	3.4	3.5	3.1	2.5	1.6	2.4	2.2	2.1	1.8	1.7	1.8	2.3	1.6	1.3	—	—	
Ecstasy (MDMA) [g]																										
8th Grade	—	—	—	—	—	3.4	3.2	2.7	2.7	4.3	5.2	4.3	3.2	2.8	2.8	2.5	2.3	2.4	2.2	3.3	2.6	2.0	1.8	1.4	-0.3	
10th Grade	—	—	—	—	—	5.6	5.7	5.1	6.0	7.3	8.0	6.6	5.4	4.3	4.0	4.5	5.2	4.3	5.5	6.4	6.6	5.0	5.7	3.7	-1.9	sss
12th Grade	—	—	—	—	—	6.1	6.9	5.8	8.0	11.0	11.7	10.5	8.3	7.5	5.4	6.5	6.5	6.2	6.5	7.3	8.0	7.2	7.1	5.6	-1.5	
Cocaine																										
8th Grade	2.3	2.9	2.9	3.6	4.2	4.5	4.4	4.6	4.7	4.5	4.3	3.6	3.6	3.4	3.7	3.4	3.1	3.0	2.6	2.6	2.2	1.9	1.7	1.8	0.0	
10th Grade	4.1	3.3	3.6	4.3	5.0	6.5	7.1	7.2	7.7	6.9	5.7	6.1	5.1	5.4	5.2	4.8	5.3	4.5	4.6	3.7	3.3	3.3	3.3	2.6	-0.7	
12th Grade	7.8	6.1	6.1	5.9	6.0	7.1	8.7	9.3	9.8	8.6	8.2	7.8	7.7	8.1	8.0	8.5	7.8	7.2	6.0	5.5	5.2	4.9	4.5	4.6	0.0	
Crack																										
8th Grade	1.3	1.6	1.7	2.4	2.7	2.9	2.7	3.2	3.1	3.1	3.0	2.5	2.5	2.4	2.4	2.3	2.1	2.0	1.7	1.5	1.5	1.0	1.2	1.2	+0.1	
10th Grade	1.7	1.5	1.8	2.1	2.8	3.3	3.6	3.9	4.0	3.7	3.1	3.6	2.7	2.6	2.5	2.2	2.3	2.0	2.1	1.8	1.6	1.4	1.5	1.0	-0.4	s
12th Grade	3.1	2.6	2.6	3.0	3.0	3.3	3.9	4.4	4.6	3.9	3.7	3.8	3.6	3.9	3.5	3.5	3.2	2.8	2.4	2.4	1.9	2.1	1.8	1.8	-0.1	
Other Cocaine [h]																										
8th Grade	2.0	2.4	2.4	3.0	3.4	3.8	3.5	3.7	3.8	3.5	3.3	2.8	2.7	2.6	2.9	2.7	2.6	2.4	2.1	2.1	1.8	1.6	1.4	1.4	0.0	
10th Grade	3.8	3.0	3.3	3.8	4.4	5.5	6.1	6.4	6.8	6.0	5.0	5.2	4.5	4.8	4.6	4.3	4.8	4.0	4.1	3.4	3.0	3.0	2.9	2.2	-0.6	
12th Grade	7.0	5.3	5.4	5.2	5.1	6.4	8.2	8.4	8.8	7.7	7.4	7.0	6.7	7.3	7.1	7.9	6.8	6.5	5.3	5.1	4.9	4.4	4.2	4.1	-0.1	
Heroin [i]																										
8th Grade	1.2	1.4	1.4	2.0	2.3	2.4	2.1	2.3	2.3	1.9	1.7	1.6	1.6	1.6	1.5	1.4	1.3	1.4	1.3	1.3	1.2	0.8	1.0	0.9	0.0	
10th Grade	1.2	1.2	1.3	1.5	1.7	2.1	2.1	2.3	2.3	2.2	1.7	1.8	1.5	1.5	1.5	1.4	1.5	1.2	1.5	1.3	1.2	1.1	1.0	0.9	-0.2	
12th Grade	0.9	1.2	1.1	1.2	1.6	1.8	2.1	2.0	2.0	2.4	1.8	1.7	1.5	1.5	1.5	1.4	1.5	1.3	1.2	1.6	1.4	1.1	1.0	1.0	-0.1	
With a Needle [j]																										
8th Grade	—	—	—	—	1.5	1.6	1.3	1.4	1.6	1.1	1.2	1.0	1.0	1.1	1.0	1.0	0.9	0.9	0.9	0.9	0.8	0.6	0.6	0.8	+0.2	
10th Grade	—	—	—	—	1.0	1.1	1.1	1.2	1.3	1.0	0.8	1.0	0.9	0.8	0.8	0.9	0.9	0.7	0.9	0.8	0.8	0.7	0.7	0.6	-0.1	
12th Grade	—	—	—	—	0.7	0.8	0.9	0.8	0.9	0.8	0.7	0.8	0.7	0.7	0.9	0.8	0.7	0.7	0.6	1.1	0.9	0.7	0.7	0.8	+0.1	
Without a Needle [j]																										
8th Grade	—	—	—	—	1.5	1.6	1.4	1.5	1.4	1.3	1.1	1.0	1.1	1.0	0.9	0.9	0.7	0.9	0.8	0.7	0.7	0.5	0.5	0.4	-0.1	
10th Grade	—	—	—	—	1.1	1.7	1.7	1.7	1.6	1.7	1.3	1.3	1.0	1.1	1.1	1.0	1.1	0.8	1.0	0.9	0.8	0.8	0.7	0.5	-0.1	
12th Grade	—	—	—	—	1.4	1.7	2.1	1.6	1.8	2.4	1.5	1.6	1.8	1.4	1.3	1.1	1.4	1.1	0.9	1.4	1.3	0.8	0.9	0.7	-0.2	
Narcotics other than Heroin [k,l]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	6.6	6.1	6.4	6.6	7.2	8.2	9.7	9.8	10.2	10.6	9.9‡	13.5	13.2	13.5	12.8	13.4	13.1	13.2	13.2	13.0	13.0	12.2	11.1	9.5	-1.6	ss

(Table continued on next page.)

TABLE 5-5a (cont.)
Trends in Lifetime Prevalence of Use of Various Drugs in Grades 8, 10, and 12

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change	
Amphetamines [k,m]																										
8th Grade	10.5	10.8	11.8	12.3	13.1	13.5	12.3	11.3	10.7	9.9	10.2	8.7	8.4	7.5	7.4	7.3	6.5	6.8	6.0	5.7	5.2	4.5‡	6.9	6.7	-0.2	
10th Grade	13.2	13.1	14.9	15.1	17.4	17.7	17.0	16.0	15.7	15.7	16.0	14.9	13.1	11.9	11.1	11.2	11.1	9.0	10.3	10.6	9.0	8.9‡	11.2	10.6	-0.6	
12th Grade	15.4	13.9	15.1	15.7	15.3	15.3	16.5	16.4	16.3	15.6	16.2	16.8	14.4	15.0	13.1	12.4	11.4	10.5	9.9	11.1	12.2	12.0‡	13.8	12.1	-1.7	
Methamphetamine [n,o]																										
8th Grade	—	—	—	—	—	—	—	—	4.5	4.2	4.4	3.5	3.9	2.5	3.1	2.7	1.8	2.3	1.6	1.8	1.3	1.3	1.4	1.0	-0.4	
10th Grade	—	—	—	—	—	—	—	—	7.3	6.9	6.4	6.1	5.2	5.3	4.1	3.2	2.8	2.4	2.8	2.5	2.1	1.8	1.6	1.4	-0.2	
12th Grade	—	—	—	—	—	—	—	—	8.2	7.9	6.9	6.7	6.2	6.2	4.5	4.4	3.0	2.8	2.4	2.3	2.1	1.7	1.5	1.9	+0.4	
Crystal Methamphetamine (Ice) [o]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	3.3	2.9	3.1	3.4	3.9	4.4	4.4	5.3	4.8	4.0	4.1	4.7	3.9	4.0	4.0	3.4	3.4	2.8	2.1	1.8	2.1	1.7	2.0	1.3	-0.6	
Sedatives (Barbiturates) [k,p]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	6.2	5.5	6.3	7.0	7.4	7.6	8.1	8.7	8.9	9.2	8.7	9.5	8.8	9.9	10.5	10.2	9.3	8.5	8.2	7.5	7.0	6.9	7.5	6.8	-0.6	
Methaqualone [e,k]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	1.3	1.6	0.8	1.4	1.2	2.0	1.7	1.6	1.8	0.8	1.1	1.5	1.0	1.3	1.3	1.2	1.0	0.8	0.7	0.4	0.6	0.8	—	—	—	
Tranquilizers [b,k]																										
8th Grade	3.8	4.1	4.4	4.6	4.5	5.3	4.8	4.6	4.4	4.4‡	5.0	4.3	4.4	4.0	4.1	4.3	3.9	3.9	3.9	4.4	3.4	3.0	2.9	2.9	0.0	
10th Grade	5.8	5.9	5.7	5.4	6.0	7.1	7.3	7.8	7.9	8.0‡	9.2	8.8	7.8	7.3	7.1	7.2	7.4	6.8	7.0	7.3	6.8	6.3	5.5	5.8	+0.3	
12th Grade	7.2	6.0	6.4	6.6	7.1	7.2	7.8	8.5	9.3	8.9‡	10.3	11.4	10.2	10.6	9.9	10.3	9.5	8.9	9.3	8.5	8.7	8.5	7.7	7.4	-0.3	
Any Prescription Drug [q]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.0	23.9	22.2	21.5	20.9	21.6	21.7	21.2‡	22.2	19.9	-2.3	s
Rohypnol [r]																										
8th Grade	—	—	—	—	—	1.5	1.1	1.4	1.3	1.0	1.1	0.8	1.0	1.0	1.1	1.0	1.0	0.7	0.7	0.9	2.0	1.0	0.7	0.6	-0.1	
10th Grade	—	—	—	—	—	1.5	1.7	2.0	1.8	1.3	1.5	1.3	1.0	1.2	1.0	0.8	1.3	0.9	0.7	1.4	1.2	0.8	1.1	1.0	-0.1	
12th Grade	—	—	—	—	—	1.2	1.8	3.0	2.0	1.5	1.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Alcohol [s]																										
Any Use																										
8th Grade	70.1	69.3‡	55.7	55.8	54.5	55.3	53.8	52.5	52.1	51.7	50.5	47.0	45.6	43.9	41.0	40.5	38.9	38.9	36.6	35.8	33.1	29.5	27.8	26.8	-1.0	
10th Grade	83.8	82.3‡	71.6	71.1	70.5	71.8	72.0	69.8	70.6	71.4	70.1	66.9	66.0	64.2	63.2	61.5	61.7	58.3	59.1	58.2	56.0	54.0	52.1	49.3	-2.8	s
12th Grade	88.0	87.5‡	80.0	80.4	80.7	79.2	81.7	81.4	80.0	80.3	79.7	78.4	76.6	76.8	75.1	72.7	72.2	71.9	72.3	71.0	70.0	69.4	68.2	66.0	-2.2	s
Been Drunk [o]																										
8th Grade	26.7	26.8	26.4	25.9	25.3	26.8	25.2	24.8	24.8	25.1	23.4	21.3	20.3	19.9	19.5	19.5	17.9	18.0	17.4	16.3	14.8	12.8	12.2	10.8	-1.4	s
10th Grade	50.0	47.7	47.9	47.2	46.9	48.5	49.4	46.7	48.9	49.3	48.2	44.0	42.4	42.3	42.1	41.4	41.2	37.2	38.6	36.9	35.9	34.6	33.5	30.2	-3.4	ss
12th Grade	65.4	63.4	62.5	62.9	63.2	61.8	64.2	62.4	62.3	62.3	63.9	61.6	58.1	60.3	57.5	56.4	55.1	54.7	56.5	54.1	51.0	54.2	52.3	49.8	-2.5	

(Table continued on next page.)

TABLE 5-5a (cont.)
Trends in Lifetime Prevalence of Use of Various Drugs in Grades 8, 10, and 12

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change	
Flavored Alcoholic Beverages [e,n]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	37.9	35.5	35.5	34.0	32.8	29.4	30.0	27.0	23.5	21.9	19.2	-2.7	s
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	58.6	58.8	58.1	55.7	53.5	51.4	51.3	48.4	46.7	44.9	42.3	-2.6	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	71.0	73.6	69.9	68.4	65.5	67.4	62.6	62.4	60.5	58.9	57.5	-1.3	
Cigarettes																										
Any Use																										
8th Grade	44.0	45.2	45.3	46.1	46.4	49.2	47.3	45.7	44.1	40.5	36.6	31.4	28.4	27.9	25.9	24.6	22.1	20.5	20.1	20.0	18.4	15.5	14.8	13.5	-1.3	
10th Grade	55.1	53.5	56.3	56.9	57.6	61.2	60.2	57.7	57.6	55.1	52.8	47.4	43.0	40.7	38.9	36.1	34.6	31.7	32.7	33.0	30.4	27.7	25.7	22.6	-3.1	ss
12th Grade	63.1	61.8	61.9	62.0	64.2	63.5	65.4	65.3	64.6	62.5	61.0	57.2	53.7	52.8	50.0	47.1	46.2	44.7	43.6	42.2	40.0	39.5	38.1	34.4	-3.7	ss
Smokeless Tobacco [t]																										
8th Grade	22.2	20.7	18.7	19.9	20.0	20.4	16.8	15.0	14.4	12.8	11.7	11.2	11.3	11.0	10.1	10.2	9.1	9.8	9.6	9.9	9.7	8.1	7.9	8.0	+0.1	
10th Grade	28.2	26.6	28.1	29.2	27.6	27.4	26.3	22.7	20.4	19.1	19.5	16.9	14.6	13.8	14.5	15.0	15.1	12.2	15.2	16.8	15.6	15.4	14.0	13.6	-0.4	
12th Grade	—	32.4	31.0	30.7	30.9	29.8	25.3	26.2	23.4	23.1	19.7	18.3	17.0	16.7	17.5	15.2	15.1	15.6	16.3	17.6	16.9	17.4	17.2	15.1	-2.1	
Steroids [k,u]																										
8th Grade	1.9	1.7	1.6	2.0	2.0	1.8	1.8	2.3	2.7	3.0	2.8	2.5	2.5	1.9	1.7	1.6	1.5	1.4	1.3	1.1	1.2	1.2	1.1	1.0	-0.1	
10th Grade	1.8	1.7	1.7	1.8	2.0	1.8	2.0	2.0	2.7	3.5	3.5	3.5	3.0	2.4	2.0	1.8	1.8	1.4	1.3	1.6	1.4	1.3	1.3	1.4	+0.2	
12th Grade	2.1	2.1	2.0	2.4	2.3	1.9	2.4	2.7	2.9	2.5	3.7	4.0	3.5	3.4	2.6	2.7	2.2	2.2	2.2	2.0	1.8	1.8	2.1	1.9	-0.2	

Source. The Monitoring the Future study, the University of Michigan.

Note: See footnotes following Table 5-5e.

TABLE 5-5b
Trends in Annual Prevalence of Use of Various Drugs in Grades 8, 10, and 12

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change	
Any Illicit Drug [a]																										
8th Grade	11.3	12.9	15.1	18.5	21.4	23.6	22.1	21.0	20.5	19.5	19.5	17.7	16.1	15.2	15.5	14.8	13.2	14.1	14.5	16.0	14.7	13.4‡	15.2	14.6	-0.6	
10th Grade	21.4	20.4	24.7	30.0	33.3	37.5	38.5	35.0	35.9	36.4	37.2	34.8	32.0	31.1	29.8	28.7	28.1	26.9	29.4	30.2	31.1	30.1‡	32.1	29.9	-2.1	
12th Grade	29.4	27.1	31.0	35.8	39.0	40.2	42.4	41.4	42.1	40.9	41.4	41.0	39.3	38.8	38.4	36.5	35.9	36.6	36.5	38.3	40.0	39.7‡	40.1	38.7	-1.5	
Any Illicit Drug other than Marijuana [a,b]																										
8th Grade	8.4	9.3	10.4	11.3	12.6	13.1	11.8	11.0	10.5	10.2‡	10.8	8.8	8.8	7.9	8.1	7.7	7.0	7.4	7.0	7.1	6.4	5.5‡	6.3	6.4	+0.1	
10th Grade	12.2	12.3	13.9	15.2	17.5	18.4	18.2	16.6	16.7	16.7‡	17.9	15.7	13.8	13.5	12.9	12.7	13.1	11.3	12.2	12.1	11.2	10.8‡	11.2	11.2	0.0	
12th Grade	16.2	14.9	17.1	18.0	19.4	19.8	20.7	20.2	20.7	20.4‡	21.6	20.9	19.8	20.5	19.7	19.2	18.5	18.3	17.0	17.3	17.6	17.0‡	17.8	15.9	-1.9	
Any Illicit Drug including Inhalants [a,c]																										
8th Grade	16.7	18.2	21.1	24.2	27.1	28.7	27.2	26.2	25.3	24.0	23.9	21.4	20.4	20.2	20.4	19.7	18.0	19.0	18.8	20.3	18.2	17.0‡	17.6	16.8	-0.7	
10th Grade	23.9	23.5	27.4	32.5	35.6	39.6	40.3	37.1	37.7	38.0	38.7	36.1	33.5	32.9	31.7	30.7	30.2	28.8	31.2	31.8	32.5	31.5‡	33.2	31.0	-2.2	
12th Grade	31.2	28.8	32.5	37.6	40.2	41.9	43.3	42.4	42.8	42.5	42.6	42.1	40.5	39.1	40.3	38.0	37.0	37.3	37.6	39.2	41.5	40.2‡	42.3	39.2	-3.1	
Marijuana/Hashish																										
8th Grade	6.2	7.2	9.2	13.0	15.8	18.3	17.7	16.9	16.5	15.6	15.4	14.6	12.8	11.8	12.2	11.7	10.3	10.9	11.8	13.7	12.5	11.4	12.7	11.7	-1.0	
10th Grade	16.5	15.2	19.2	25.2	28.7	33.6	34.8	31.1	32.1	32.2	32.7	30.3	28.2	27.5	26.6	25.2	24.6	23.9	26.7	27.5	28.8	28.0	29.8	27.3	-2.5	s
12th Grade	23.9	21.9	26.0	30.7	34.7	35.8	38.5	37.5	37.8	36.5	37.0	36.2	34.9	34.3	33.6	31.5	31.7	32.4	32.8	34.8	36.4	36.4	36.4	35.1	-1.3	
Synthetic Marijuana [n,o]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.4	4.0	3.3	-0.7	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.8	7.4	5.4	-2.0	ss
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.4	11.3	7.9	5.8	-2.0	s
Inhalants [c,d]																										
8th Grade	9.0	9.5	11.0	11.7	12.8	12.2	11.8	11.1	10.3	9.4	9.1	7.7	8.7	9.6	9.5	9.1	8.3	8.9	8.1	8.1	7.0	6.2	5.2	5.3	+0.1	
10th Grade	7.1	7.5	8.4	9.1	9.6	9.5	8.7	8.0	7.2	7.3	6.6	5.8	5.4	5.9	6.0	6.5	6.6	5.9	6.1	5.7	4.5	4.1	3.5	3.3	-0.1	
12th Grade	6.6	6.2	7.0	7.7	8.0	7.6	6.7	6.2	5.6	5.9	4.5	4.5	3.9	4.2	5.0	4.5	3.7	3.8	3.4	3.6	3.2	2.9	2.5	1.9	-0.6	
Nitrites [e]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	0.9	0.5	0.9	1.1	1.1	1.6	1.2	1.4	0.9	0.6	0.6	1.1	0.9	0.8	0.6	0.5	0.8	0.6	0.9	—	—	—	—	—	—	
Hallucinogens [b,f]																										
8th Grade	1.9	2.5	2.6	2.7	3.6	4.1	3.7	3.4	2.9	2.8‡	3.4	2.6	2.6	2.2	2.4	2.1	1.9	2.1	1.9	2.2	2.2	1.6	1.6	1.3	-0.3	
10th Grade	4.0	4.3	4.7	5.8	7.2	7.8	7.6	6.9	6.9	6.1‡	6.2	4.7	4.1	4.1	4.0	4.1	4.4	3.9	4.1	4.2	4.1	3.5	3.4	3.3	-0.1	
12th Grade	5.8	5.9	7.4	7.6	9.3	10.1	9.8	9.0	9.4	8.1‡	9.1	6.6	5.9	6.2	5.5	4.9	5.4	5.9	4.7	5.5	5.2	4.8	4.5	4.0	-0.5	
LSD																										
8th Grade	1.7	2.1	2.3	2.4	3.2	3.5	3.2	2.8	2.4	2.4	2.2	1.5	1.3	1.1	1.2	0.9	1.1	1.3	1.1	1.2	1.1	0.8	1.0	0.7	-0.3	
10th Grade	3.7	4.0	4.2	5.2	6.5	6.9	6.7	5.9	6.0	5.1	4.1	2.6	1.7	1.6	1.5	1.7	1.9	1.8	1.9	1.9	1.8	1.7	1.7	1.9	+0.2	
12th Grade	5.2	5.6	6.8	6.9	8.4	8.8	8.4	7.6	8.1	6.6	6.6	3.5	1.9	2.2	1.8	1.7	2.1	2.7	1.9	2.6	2.7	2.4	2.2	2.5	+0.3	

(Table continued on next page.)

TABLE 5-5b (cont.)
Trends in Annual Prevalence of Use of Various Drugs in Grades 8, 10, and 12

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change	
Hallucinogens other than LSD [b]																										
8th Grade	0.7	1.1	1.0	1.3	1.7	2.0	1.8	1.6	1.5	1.4‡	2.4	2.1	2.1	1.9	2.0	1.8	1.6	1.6	1.5	1.8	1.8	1.3	1.2	1.0	-0.2	
10th Grade	1.3	1.4	1.9	2.4	2.8	3.3	3.3	3.4	3.2	3.1‡	4.3	4.0	3.6	3.7	3.5	3.7	3.8	3.3	3.5	3.5	3.5	3.0	2.7	2.6	-0.2	
12th Grade	2.0	1.7	2.2	3.1	3.8	4.4	4.6	4.6	4.3	4.4‡	5.9	5.4	5.4	5.6	5.0	4.6	4.8	5.0	4.2	4.8	4.3	4.0	3.7	3.0	-0.6	
PCP [e]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	1.4	1.4	1.4	1.6	1.8	2.6	2.3	2.1	1.8	2.3	1.8	1.1	1.3	0.7	1.3	0.7	0.9	1.1	1.0	1.0	1.3	0.9	0.7	0.8	+0.1	
Ecstasy (MDMA) [g]																										
8th Grade	—	—	—	—	—	2.3	2.3	1.8	1.7	3.1	3.5	2.9	2.1	1.7	1.7	1.4	1.5	1.7	1.3	2.4	1.7	1.1	1.1	0.9	-0.2	
10th Grade	—	—	—	—	—	4.6	3.9	3.3	4.4	5.4	6.2	4.9	3.0	2.4	2.6	2.8	3.5	2.9	3.7	4.7	4.5	3.0	3.6	2.3	-1.2	ss
12th Grade	—	—	—	—	—	4.6	4.0	3.6	5.6	8.2	9.2	7.4	4.5	4.0	3.0	4.1	4.5	4.3	4.3	4.5	5.3	3.8	4.0	3.6	-0.4	
Salvia [n,o]																										
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.7	1.6	1.4	1.2	0.6	-0.6	ss
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.7	3.9	2.5	2.3	1.8	-0.5	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.7	5.5	5.9	4.4	3.4	1.8	-1.6	sss
Cocaine																										
8th Grade	1.1	1.5	1.7	2.1	2.6	3.0	2.8	3.1	2.7	2.6	2.5	2.3	2.2	2.0	2.2	2.0	2.0	1.8	1.6	1.6	1.4	1.2	1.0	1.0	+0.1	
10th Grade	2.2	1.9	2.1	2.8	3.5	4.2	4.7	4.7	4.9	4.4	3.6	4.0	3.3	3.7	3.5	3.2	3.4	3.0	2.7	2.2	1.9	2.0	1.9	1.5	-0.4	
12th Grade	3.5	3.1	3.3	3.6	4.0	4.9	5.5	5.7	6.2	5.0	4.8	5.0	4.8	5.3	5.1	5.7	5.2	4.4	3.4	2.9	2.9	2.7	2.6	2.6	-0.1	
Crack																										
8th Grade	0.7	0.9	1.0	1.3	1.6	1.8	1.7	2.1	1.8	1.8	1.7	1.6	1.6	1.3	1.4	1.3	1.3	1.1	1.1	1.0	0.9	0.6	0.6	0.7	+0.1	
10th Grade	0.9	0.9	1.1	1.4	1.8	2.1	2.2	2.5	2.4	2.2	1.8	2.3	1.6	1.7	1.7	1.3	1.3	1.3	1.2	1.0	0.9	0.8	0.8	0.5	-0.3	ss
12th Grade	1.5	1.5	1.5	1.9	2.1	2.1	2.4	2.5	2.7	2.2	2.1	2.3	2.2	2.3	1.9	2.1	1.9	1.6	1.3	1.4	1.0	1.2	1.1	1.1	0.0	
Other Cocaine [h]																										
8th Grade	1.0	1.2	1.3	1.7	2.1	2.5	2.2	2.4	2.3	1.9	1.9	1.8	1.6	1.6	1.7	1.6	1.5	1.4	1.3	1.3	1.1	1.0	0.8	0.8	0.0	
10th Grade	2.1	1.7	1.8	2.4	3.0	3.5	4.1	4.0	4.4	3.8	3.0	3.4	2.8	3.3	3.0	2.9	3.1	2.6	2.3	1.9	1.7	1.8	1.6	1.3	-0.2	
12th Grade	3.2	2.6	2.9	3.0	3.4	4.2	5.0	4.9	5.8	4.5	4.4	4.4	4.2	4.7	4.5	5.2	4.5	4.0	3.0	2.6	2.6	2.4	2.4	2.4	0.0	
Heroin [i]																										
8th Grade	0.7	0.7	0.7	1.2	1.4	1.6	1.3	1.3	1.4	1.1	1.0	0.9	0.9	1.0	0.8	0.8	0.8	0.9	0.7	0.8	0.7	0.5	0.5	0.5	0.0	
10th Grade	0.5	0.6	0.7	0.9	1.1	1.2	1.4	1.4	1.4	1.4	0.9	1.1	0.7	0.9	0.9	0.9	0.8	0.8	0.9	0.8	0.8	0.6	0.6	0.5	-0.1	
12th Grade	0.4	0.6	0.5	0.6	1.1	1.0	1.2	1.0	1.1	1.5	0.9	1.0	0.8	0.9	0.8	0.8	0.9	0.7	0.7	0.9	0.8	0.6	0.6	0.6	0.0	
With a Needle [j]																										
8th Grade	—	—	—	—	0.9	1.0	0.8	0.8	0.9	0.6	0.7	0.6	0.6	0.7	0.6	0.5	0.6	0.5	0.5	0.6	0.5	0.4	0.3	0.4	+0.1	
10th Grade	—	—	—	—	0.6	0.7	0.7	0.8	0.6	0.5	0.4	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.4	0.5	0.4	0.0	
12th Grade	—	—	—	—	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.3	0.7	0.6	0.4	0.4	0.5	+0.2	
Without a Needle [j]																										
8th Grade	—	—	—	—	0.8	1.0	0.8	0.8	0.9	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.6	0.4	0.5	0.4	0.3	0.3	0.2	-0.1	
10th Grade	—	—	—	—	0.8	0.9	1.1	1.0	1.1	1.1	0.7	0.8	0.5	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.4	0.3	0.0	
12th Grade	—	—	—	—	1.0	1.0	1.2	0.8	1.0	1.6	0.8	0.8	0.8	0.7	0.8	0.6	1.0	0.5	0.6	0.8	0.7	0.4	0.4	0.5	0.0	

(Table continued on next page.)

TABLE 5-5b (cont.)
Trends in Annual Prevalence of Use of Various Drugs in Grades 8, 10, and 12

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Narcotics other than Heroin [k,l]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.5	3.3	3.6	3.8	4.7	5.4	6.2	6.3	6.7	7.0	6.7‡	9.4	9.3	9.5	9.0	9.0	9.2	9.1	9.2	8.7	8.7	7.9	7.1	6.1	-1.0 s
OxyContin [k,n,v]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	1.3	1.7	1.7	1.8	2.6	1.8	2.1	2.0	2.1	1.8	1.6	2.0	1.0	-0.9 s
10th Grade	—	—	—	—	—	—	—	—	—	—	—	3.0	3.6	3.5	3.2	3.8	3.9	3.6	5.1	4.6	3.9	3.0	3.4	3.0	-0.4
12th Grade	—	—	—	—	—	—	—	—	—	—	—	4.0	4.5	5.0	5.5	4.3	5.2	4.7	4.9	5.1	4.9	4.3	3.6	3.3	-0.2
Vicodin [k,n,v]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	2.5	2.8	2.5	2.6	3.0	2.7	2.9	2.5	2.7	2.1	1.3	1.4	1.0	-0.3
10th Grade	—	—	—	—	—	—	—	—	—	—	—	6.9	7.2	6.2	5.9	7.0	7.2	6.7	8.1	7.7	5.9	4.4	4.6	3.4	-1.1
12th Grade	—	—	—	—	—	—	—	—	—	—	—	9.6	10.5	9.3	9.5	9.7	9.6	9.7	9.7	8.0	8.1	7.5	5.3	4.8	-0.5
Amphetamines [k,m]																									
8th Grade	6.2	6.5	7.2	7.9	8.7	9.1	8.1	7.2	6.9	6.5	6.7	5.5	5.5	4.9	4.9	4.7	4.2	4.5	4.1	3.9	3.5	2.9‡	4.2	4.3	+0.1
10th Grade	8.2	8.2	9.6	10.2	11.9	12.4	12.1	10.7	10.4	11.1	11.7	10.7	9.0	8.5	7.8	7.9	8.0	6.4	7.1	7.6	6.6	6.5‡	7.9	7.6	-0.3
12th Grade	8.2	7.1	8.4	9.4	9.3	9.5	10.2	10.1	10.2	10.5	10.9	11.1	9.9	10.0	8.6	8.1	7.5	6.8	6.6	7.4	8.2	7.9‡	9.2	8.1	-1.1
Ritalin [k,n,o]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	2.9	2.8	2.6	2.5	2.4	2.6	2.1	1.6	1.8	1.5	1.3	0.7	1.1	0.9	-0.2
10th Grade	—	—	—	—	—	—	—	—	—	—	4.8	4.8	4.1	3.4	3.4	3.6	2.8	2.9	3.6	2.7	2.6	1.9	1.8	1.8	+0.1
12th Grade	—	—	—	—	—	—	—	—	—	—	5.1	4.0	4.0	5.1	4.4	4.4	3.8	3.4	2.1	2.7	2.6	2.6	2.3	1.8	-0.5
Adderall [k,n,o]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.0	2.3	1.7	1.7	1.8	1.3	-0.5
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.7	5.3	4.6	4.5	4.4	4.6	+0.2
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.4	6.5	6.5	7.6	7.4	6.8	-0.6
Provigil [k,o]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.8	1.3	1.5	—	—	—	—
Methamphetamine [n,o]																									
8th Grade	—	—	—	—	—	—	—	—	3.2	2.5	2.8	2.2	2.5	1.5	1.8	1.8	1.1	1.2	1.0	1.2	0.8	1.0	1.0	0.6	-0.3
10th Grade	—	—	—	—	—	—	—	—	4.6	4.0	3.7	3.9	3.3	3.0	2.9	1.8	1.6	1.5	1.6	1.6	1.4	1.0	1.0	0.8	-0.2
12th Grade	—	—	—	—	—	—	—	—	4.7	4.3	3.9	3.6	3.2	3.4	2.5	2.5	1.7	1.2	1.2	1.0	1.4	1.1	0.9	1.0	0.0
Crystal Methamphetamine (Ice) [o]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.4	1.3	1.7	1.8	2.4	2.8	2.3	3.0	1.9	2.2	2.5	3.0	2.0	2.1	2.3	1.9	1.6	1.1	0.9	0.9	1.2	0.8	1.1	0.8	-0.3
Bath salts (synthetic stimulants) [n,o]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	1.0	0.5	-0.5 s
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.6	0.9	0.9	-0.1
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.3	0.9	0.9	0.0

(Table continued on next page.)

TABLE 5-5b (cont.)
Trends in Annual Prevalence of Use of Various Drugs in Grades 8, 10, and 12

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Sedatives (Barbiturates) [k,p]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.4	2.8	3.4	4.1	4.7	4.9	5.1	5.5	5.8	6.2	5.7	6.7	6.0	6.5	7.2	6.6	6.2	5.8	5.2	4.8	4.3	4.5	4.8	4.3	-0.5
Methaqualone [e,k]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.5	0.6	0.2	0.8	0.7	1.1	1.0	1.1	1.1	0.3	0.8	0.9	0.6	0.8	0.9	0.8	0.5	0.5	0.6	0.3	0.3	0.4	—	—	—
Tranquilizers [b,k]																									
8th Grade	1.8	2.0	2.1	2.4	2.7	3.3	2.9	2.6	2.5	2.6‡	2.8	2.6	2.7	2.5	2.8	2.6	2.4	2.4	2.6	2.8	2.0	1.8	1.8	1.7	-0.1
10th Grade	3.2	3.5	3.3	3.3	4.0	4.6	4.9	5.1	5.4	5.6‡	7.3	6.3	5.3	5.1	4.8	5.2	5.3	4.6	5.0	5.1	4.5	4.3	3.7	3.9	+0.2
12th Grade	3.6	2.8	3.5	3.7	4.4	4.6	4.7	5.5	5.8	5.7‡	6.9	7.7	6.7	7.3	6.8	6.6	6.2	6.2	6.3	5.6	5.6	5.3	4.6	4.7	+0.1
Any Prescription Drug [q]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.1	16.8	15.8	15.4	14.4	15.0	15.2	14.8‡	15.9	13.9	-2.0 ss
OTC Cough/Cold Medicines [n,o]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.2	4.0	3.6	3.8	3.2	2.7	3.0	2.9	2.0	-0.9 s
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.3	5.4	5.3	6.0	5.1	5.5	4.7	4.3	3.7	-0.6
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	5.8	5.5	5.9	6.6	5.3	5.6	5.0	4.1	-0.9
Rohypnol [r]																									
8th Grade	—	—	—	—	—	1.0	0.8	0.8	0.5	0.5	0.7	0.3	0.5	0.6	0.7	0.5	0.7	0.5	0.4	0.5	0.8	0.4	0.4	0.3	-0.1
10th Grade	—	—	—	—	—	1.1	1.3	1.2	1.0	0.8	1.0	0.7	0.6	0.7	0.5	0.5	0.7	0.4	0.4	0.6	0.6	0.5	0.6	0.5	0.0
12th Grade	—	—	—	—	—	1.1	1.2	1.4	1.0	0.8	0.9‡	1.6	1.3	1.6	1.2	1.1	1.0	1.3	1.0	1.5	1.3	1.5	0.9	0.7	-0.2
GHB [n,w]																									
8th Grade	—	—	—	—	—	—	—	—	—	1.2	1.1	0.8	0.9	0.7	0.5	0.8	0.7	1.1	0.7	0.6	0.6	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	1.1	1.0	1.4	1.4	0.8	0.8	0.7	0.6	0.5	1.0	0.6	0.5	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	1.9	1.6	1.5	1.4	2.0	1.1	1.1	0.9	1.2	1.1	1.4	1.4	1.4	1.0	1.0	-0.1
Ketamine [n,x]																									
8th Grade	—	—	—	—	—	—	—	—	—	1.6	1.3	1.3	1.1	0.9	0.6	0.9	1.0	1.2	1.0	1.0	0.8	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	2.1	2.1	2.2	1.9	1.3	1.0	1.0	0.8	1.0	1.3	1.1	1.2	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	2.5	2.5	2.6	2.1	1.9	1.6	1.4	1.3	1.5	1.7	1.6	1.7	1.5	1.4	1.5	+0.1
Alcohol [s]																									
Any Use																									
8th Grade	54.0	53.7‡	45.4	46.8	45.3	46.5	45.5	43.7	43.5	43.1	41.9	38.7	37.2	36.7	33.9	33.6	31.8	32.1	30.3	29.3	26.9	23.6	22.1	20.8	-1.3
10th Grade	72.3	70.2‡	63.4	63.9	63.5	65.0	65.2	62.7	63.7	65.3	63.5	60.0	59.3	58.2	56.7	55.8	56.3	52.5	52.8	52.1	49.8	48.5	47.1	44.0	-3.1 ss
12th Grade	77.7	76.8‡	72.7	73.0	73.7	72.5	74.8	74.3	73.8	73.2	73.3	71.5	70.1	70.6	68.6	66.5	66.4	65.5	66.2	65.2	63.5	63.5	62.0	60.2	-1.8
Been Drunk [o]																									
8th Grade	17.5	18.3	18.2	18.2	18.4	19.8	18.4	17.9	18.5	18.5	16.6	15.0	14.5	14.5	14.1	13.9	12.6	12.7	12.2	11.5	10.5	8.6	8.4	7.3	-1.1
10th Grade	40.1	37.0	37.8	38.0	38.5	40.1	40.7	38.3	40.9	41.6	39.9	35.4	34.7	35.1	34.2	34.5	34.4	30.0	31.2	29.9	28.8	28.2	27.1	24.6	-2.4 s
12th Grade	52.7	50.3	49.6	51.7	52.5	51.9	53.2	52.0	53.2	51.8	53.2	50.4	48.0	51.8	47.7	47.9	46.1	45.6	47.0	44.0	42.2	45.0	43.5	41.4	-2.0

(Table continued on next page.)

TABLE 5-5b (cont.)
Trends in Annual Prevalence of Use of Various Drugs in Grades 8, 10, and 12

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Flavored Alcoholic Beverages [e,n,y]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	30.4	27.9	26.8	26.0	25.0	22.2	21.9	19.2	17.0	15.7	13.4	-2.3 s
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	49.7	48.5	48.8	45.9	43.4	41.5	41.0	38.3	37.8	35.6	33.2	-2.4
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	55.2	55.8	58.4	54.7	53.6	51.8	53.4	47.9	47.0	44.4	44.2	43.6	-0.6
Alcoholic Beverages containing Caffeine [n,o,z]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.8	10.9	10.2	9.5	-0.8
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22.5	19.7	16.9	14.3	-2.7 s
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26.4	26.4	23.5	20.0	-3.6 ss
Bidis [n,o]																									
8th Grade	—	—	—	—	—	—	—	—	—	3.9	2.7	2.7	2.0	1.7	1.6	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	6.4	4.9	3.1	2.8	2.1	1.6	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	9.2	7.0	5.9	4.0	3.6	3.3	2.3	1.7	1.9	1.5	1.4	—	—	—	—	—
Kreteks [n,o]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	2.6	2.6	2.0	1.9	1.4	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	6.0	4.9	3.8	3.7	2.8	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	10.1	8.4	6.7	6.5	7.1	6.2	6.8	6.8	5.5	4.6	2.9	3.0	1.6	1.6	0.0
Tobacco using a Hookah [e]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.1	18.5	18.3	21.4	22.9	+1.5
Small cigars [e,n]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.1	19.5	19.9	20.4	18.9	-1.5
Dissolvable Tobacco Products [e,n]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.0	1.1	1.1	0.0
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	1.2	1.3	+0.1
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.5	1.6	1.9	1.1	-0.8
Snus [e,n]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.4	2.0	2.2	+0.2
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	5.2	4.5	-0.6
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.9	7.9	7.7	5.8	-1.9
Steroids [k,u]																									
8th Grade	1.0	1.1	0.9	1.2	1.0	0.9	1.0	1.2	1.7	1.7	1.6	1.5	1.4	1.1	1.1	0.9	0.8	0.9	0.8	0.5	0.7	0.6	0.6	0.6	0.0
10th Grade	1.1	1.1	1.0	1.1	1.2	1.2	1.2	1.2	1.7	2.2	2.1	2.2	1.7	1.5	1.3	1.2	1.1	0.9	0.8	1.0	0.9	0.8	0.8	0.8	-0.1
12th Grade	1.4	1.1	1.2	1.3	1.5	1.4	1.4	1.7	1.8	1.7	2.4	2.5	2.1	2.5	1.5	1.8	1.4	1.5	1.5	1.5	1.2	1.3	1.5	1.5	0.0

Source. The Monitoring the Future study, the University of Michigan.

Note: See footnotes following Table 5-5e.

TABLE 5-5c
Trends in 30-Day Prevalence of Use of Various Drugs in Grades 8, 10, and 12

Percentage who used in last 30 days

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Any Illicit Drug [a]																									
8th Grade	5.7	6.8	8.4	10.9	12.4	14.6	12.9	12.1	12.2	11.9	11.7	10.4	9.7	8.4	8.5	8.1	7.4	7.6	8.1	9.5	8.5	7.7‡	8.7	8.3	-0.4
10th Grade	11.6	11.0	14.0	18.5	20.2	23.2	23.0	21.5	22.1	22.5	22.7	20.8	19.5	18.3	17.3	16.8	16.9	15.8	17.8	18.5	19.2	18.6‡	19.2	18.5	-0.7
12th Grade	16.4	14.4	18.3	21.9	23.8	24.6	26.2	25.6	25.9	24.9	25.7	25.4	24.1	23.4	23.1	21.5	21.9	22.3	23.3	23.8	25.2	25.2‡	25.2	23.7	-1.5
Any Illicit Drug other than Marijuana [a,b]																									
8th Grade	3.8	4.7	5.3	5.6	6.5	6.9	6.0	5.5	5.5	5.6‡	5.5	4.7	4.7	4.1	4.1	3.8	3.6	3.8	3.5	3.5	3.4	2.6‡	3.6	3.3	-0.2
10th Grade	5.5	5.7	6.5	7.1	8.9	8.9	8.8	8.6	8.6	8.5‡	8.7	8.1	6.9	6.9	6.4	6.3	6.9	5.3	5.7	5.8	5.4	5.0‡	4.9	5.6	+0.7
12th Grade	7.1	6.3	7.9	8.8	10.0	9.5	10.7	10.7	10.4	10.4‡	11.0	11.3	10.4	10.8	10.3	9.8	9.5	9.3	8.6	8.6	8.9	8.4‡	8.2	7.7	-0.5
Any Illicit Drug including Inhalants [a,c]																									
8th Grade	8.8	10.0	12.0	14.3	16.1	17.5	16.0	14.9	15.1	14.4	14.0	12.6	12.1	11.2	11.2	10.9	10.1	10.4	10.6	11.7	10.5	9.5‡	10.0	9.5	-0.4
10th Grade	13.1	12.6	15.5	20.0	21.6	24.5	24.1	22.5	23.1	23.6	23.6	21.7	20.5	19.3	18.4	17.7	18.1	16.8	18.8	19.4	20.1	19.3‡	20.0	19.1	-0.9
12th Grade	17.8	15.5	19.3	23.0	24.8	25.5	26.9	26.6	26.4	26.4	26.5	25.9	24.6	23.3	24.2	22.1	22.8	22.8	24.1	24.5	26.2	25.2‡	26.5	24.3	-2.2
Marijuana/Hashish																									
8th Grade	3.2	3.7	5.1	7.8	9.1	11.3	10.2	9.7	9.7	9.1	9.2	8.3	7.5	6.4	6.6	6.5	5.7	5.8	6.5	8.0	7.2	6.5	7.0	6.5	-0.5
10th Grade	8.7	8.1	10.9	15.8	17.2	20.4	20.5	18.7	19.4	19.7	19.8	17.8	17.0	15.9	15.2	14.2	14.2	13.8	15.9	16.7	17.6	17.0	18.0	16.6	-1.4
12th Grade	13.8	11.9	15.5	19.0	21.2	21.9	23.7	22.8	23.1	21.6	22.4	21.5	21.2	19.9	19.8	18.3	18.8	19.4	20.6	21.4	22.6	22.9	22.7	21.2	-1.6
Synthetic Marijuana [n,o]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.4	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.8	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.7	—
Inhalants [c,d]																									
8th Grade	4.4	4.7	5.4	5.6	6.1	5.8	5.6	4.8	5.0	4.5	4.0	3.8	4.1	4.5	4.2	4.1	3.9	4.1	3.8	3.6	3.2	2.7	2.3	2.2	-0.1
10th Grade	2.7	2.7	3.3	3.6	3.5	3.3	3.0	2.9	2.6	2.6	2.4	2.4	2.2	2.4	2.2	2.3	2.5	2.1	2.2	2.0	1.7	1.4	1.3	1.1	-0.3
12th Grade	2.4	2.3	2.5	2.7	3.2	2.5	2.5	2.3	2.0	2.2	1.7	1.5	1.5	1.5	2.0	1.5	1.2	1.4	1.2	1.4	1.0	0.9	1.0	0.7	-0.2
Nitrites [e]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.4	0.3	0.6	0.4	0.4	0.7	0.7	1.0	0.4	0.3	0.5	0.6	0.7	0.7	0.5	0.3	0.5	0.3	0.6	—	—	—	—	—	—
Hallucinogens [b,f]																									
8th Grade	0.8	1.1	1.2	1.3	1.7	1.9	1.8	1.4	1.3	1.2‡	1.6	1.2	1.2	1.0	1.1	0.9	1.0	0.9	0.9	1.0	1.0	0.6	0.8	0.5	-0.3
10th Grade	1.6	1.8	1.9	2.4	3.3	2.8	3.3	3.2	2.9	2.3‡	2.1	1.6	1.5	1.6	1.5	1.5	1.7	1.3	1.4	1.6	1.4	1.2	1.1	1.2	0.0
12th Grade	2.2	2.1	2.7	3.1	4.4	3.5	3.9	3.8	3.5	2.6‡	3.3	2.3	1.8	1.9	1.9	1.5	1.7	2.2	1.6	1.9	1.6	1.6	1.4	1.5	+0.1
LSD																									
8th Grade	0.6	0.9	1.0	1.1	1.4	1.5	1.5	1.1	1.1	1.0	1.0	0.7	0.6	0.5	0.5	0.4	0.5	0.5	0.5	0.6	0.5	0.3	0.5	0.3	-0.2
10th Grade	1.5	1.6	1.6	2.0	3.0	2.4	2.8	2.7	2.3	1.6	1.5	0.7	0.6	0.6	0.6	0.7	0.7	0.7	0.5	0.7	0.7	0.5	0.6	0.6	+0.1
12th Grade	1.9	2.0	2.4	2.6	4.0	2.5	3.1	3.2	2.7	1.6	2.3	0.7	0.6	0.7	0.7	0.6	0.6	1.1	0.5	0.8	0.8	0.8	0.8	1.0	+0.3
Hallucinogens other than LSD [b]																									
8th Grade	0.3	0.4	0.5	0.7	0.8	0.9	0.7	0.7	0.6	0.6‡	1.1	1.0	1.0	0.8	0.9	0.7	0.7	0.7	0.7	0.8	0.7	0.5	0.5	0.4	-0.1
10th Grade	0.4	0.5	0.7	1.0	1.0	1.0	1.2	1.4	1.2	1.2‡	1.4	1.4	1.2	1.4	1.3	1.3	1.4	1.0	1.1	1.2	1.1	0.9	0.8	0.8	0.0
12th Grade	0.7	0.5	0.8	1.2	1.3	1.6	1.7	1.6	1.6	1.7‡	1.9	2.0	1.5	1.7	1.6	1.3	1.4	1.6	1.4	1.5	1.2	1.3	1.0	1.0	-0.0

(Table continued on next page.)

TABLE 5-5c (cont.)
Trends in 30-Day Prevalence of Use of Various Drugs in Grades 8, 10, and 12

	Percentage who used in last 30 days																								2013–2014 change
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
PCP [e]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.5	0.6	1.0	0.7	0.6	1.3	0.7	1.0	0.8	0.9	0.5	0.4	0.6	0.4	0.7	0.4	0.5	0.6	0.5	0.8	0.8	0.5	0.4	—	—
Ecstasy (MDMA) [g]																									
8th Grade	—	—	—	—	—	1.0	1.0	0.9	0.8	1.4	1.8	1.4	0.7	0.8	0.6	0.7	0.6	0.8	0.6	1.1	0.6	0.5	0.5	0.4	-0.1
10th Grade	—	—	—	—	—	1.8	1.3	1.3	1.8	2.6	2.6	1.8	1.1	0.8	1.0	1.2	1.2	1.1	1.3	1.9	1.6	1.0	1.2	0.8	-0.5 s
12th Grade	—	—	—	—	—	2.0	1.6	1.5	2.5	3.6	2.8	2.4	1.3	1.2	1.0	1.3	1.6	1.8	1.8	1.4	2.3	0.9	1.5	1.4	-0.1
Cocaine																									
8th Grade	0.5	0.7	0.7	1.0	1.2	1.3	1.1	1.4	1.3	1.2	1.2	1.1	0.9	0.9	1.0	1.0	0.9	0.8	0.8	0.6	0.8	0.5	0.5	0.5	0.0
10th Grade	0.7	0.7	0.9	1.2	1.7	1.7	2.0	2.1	1.8	1.8	1.3	1.6	1.3	1.7	1.5	1.5	1.3	1.2	0.9	0.9	0.7	0.8	0.8	0.6	-0.2
12th Grade	1.4	1.3	1.3	1.5	1.8	2.0	2.3	2.4	2.6	2.1	2.1	2.3	2.1	2.3	2.3	2.5	2.0	1.9	1.3	1.3	1.1	1.1	1.1	1.0	-0.1
Crack																									
8th Grade	0.3	0.5	0.4	0.7	0.7	0.8	0.7	0.9	0.8	0.8	0.8	0.8	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.4	0.5	0.3	0.3	0.3	0.0
10th Grade	0.3	0.4	0.5	0.6	0.9	0.8	0.9	1.1	0.8	0.9	0.7	1.0	0.7	0.8	0.7	0.7	0.5	0.5	0.4	0.5	0.4	0.4	0.4	0.3	-0.1
12th Grade	0.7	0.6	0.7	0.8	1.0	1.0	0.9	1.0	1.1	1.0	1.1	1.2	0.9	1.0	1.0	0.9	0.9	0.8	0.6	0.7	0.5	0.6	0.6	0.7	0.0
Other Cocaine [h]																									
8th Grade	0.5	0.5	0.6	0.9	1.0	1.0	0.8	1.0	1.1	0.9	0.9	0.8	0.7	0.7	0.7	0.7	0.6	0.6	0.7	0.5	0.6	0.3	0.3	0.4	0.0
10th Grade	0.6	0.6	0.7	1.0	1.4	1.3	1.6	1.8	1.6	1.6	1.2	1.3	1.1	1.5	1.3	1.3	1.1	1.0	0.8	0.7	0.6	0.7	0.7	0.5	-0.2
12th Grade	1.2	1.0	1.2	1.3	1.3	1.6	2.0	2.0	2.5	1.7	1.8	1.9	1.8	2.2	2.0	2.4	1.7	1.7	1.1	1.1	1.0	1.0	0.9	0.9	0.0
Heroin [i]																									
8th Grade	0.3	0.4	0.4	0.6	0.6	0.7	0.6	0.6	0.6	0.5	0.6	0.5	0.4	0.5	0.5	0.3	0.4	0.4	0.4	0.4	0.4	0.2	0.3	0.3	0.0
10th Grade	0.2	0.2	0.3	0.4	0.6	0.5	0.6	0.7	0.7	0.5	0.3	0.5	0.3	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	+0.1
12th Grade	0.2	0.3	0.2	0.3	0.6	0.5	0.5	0.5	0.5	0.7	0.4	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	+0.1
With a Needle [j]																									
8th Grade	—	—	—	—	0.4	0.5	0.4	0.5	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.0
10th Grade	—	—	—	—	0.3	0.3	0.3	0.4	0.3	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.3	+0.1
12th Grade	—	—	—	—	0.3	0.4	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.1	0.4	0.4	0.3	0.2	0.3	+0.1
Without a Needle [j]																									
8th Grade	—	—	—	—	0.3	0.4	0.4	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	-0.1
10th Grade	—	—	—	—	0.3	0.3	0.4	0.5	0.5	0.4	0.2	0.4	0.2	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.0
12th Grade	—	—	—	—	0.6	0.4	0.6	0.4	0.4	0.7	0.3	0.5	0.4	0.3	0.5	0.3	0.4	0.2	0.3	0.4	0.4	0.2	0.2	0.4	+0.1
Narcotics other than Heroin [k,l]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.1	1.2	1.3	1.5	1.8	2.0	2.3	2.4	2.6	2.9	3.0‡	4.0	4.1	4.3	3.9	3.8	3.8	3.8	4.1	3.6	3.6	3.0	2.8	2.2	-0.6 ss
Amphetamines [k,m]																									
8th Grade	2.6	3.3	3.6	3.6	4.2	4.6	3.8	3.3	3.4	3.4	3.2	2.8	2.7	2.3	2.3	2.1	2.0	2.2	1.9	1.8	1.8	1.3‡	2.3	2.1	-0.2
10th Grade	3.3	3.6	4.3	4.5	5.3	5.5	5.1	5.1	5.0	5.4	5.6	5.2	4.3	4.0	3.7	3.5	4.0	2.8	3.3	3.3	3.1	2.8‡	3.3	3.7	+0.4
12th Grade	3.2	2.8	3.7	4.0	4.0	4.1	4.8	4.6	4.5	5.0	5.6	5.5	5.0	4.6	3.9	3.7	3.7	2.9	3.0	3.3	3.7	3.3‡	4.2	3.8	-0.4

(Table continued on next page.)

TABLE 5-5c (cont.)
Trends in 30-Day Prevalence of Use of Various Drugs in Grades 8, 10, and 12

Percentage who used in last 30 days

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Methamphetamine [n,o]																									
8th Grade	—	—	—	—	—	—	—	—	1.1	0.8	1.3	1.1	1.2	0.6	0.7	0.6	0.6	0.7	0.5	0.7	0.4	0.5	0.4	0.2	-0.2
10th Grade	—	—	—	—	—	—	—	—	1.8	2.0	1.5	1.8	1.4	1.3	1.1	0.7	0.4	0.7	0.6	0.7	0.5	0.6	0.4	0.3	0.0
12th Grade	—	—	—	—	—	—	—	—	1.7	1.9	1.5	1.7	1.7	1.4	0.9	0.9	0.6	0.6	0.5	0.5	0.6	0.5	0.4	0.5	+0.1
Crystal Methamphetamine (Ice) [o]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.6	0.5	0.6	0.7	1.1	1.1	0.8	1.2	0.8	1.0	1.1	1.2	0.8	0.8	0.9	0.7	0.6	0.6	0.5	0.6	0.6	0.4	0.8	0.4	-0.3
Sedatives (Barbiturates) [k,p]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	1.4	1.1	1.3	1.7	2.2	2.1	2.1	2.6	2.6	3.0	2.8	3.2	2.9‡	2.9	3.3	3.0	2.7	2.8	2.5	2.2	1.8	2.0	2.2	2.0	-0.2
Methaqualone [e,k]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	0.2	0.4	0.1	0.4	0.4	0.6	0.3	0.6	0.4	0.2	0.5	0.3	0.4	0.5	0.5	0.4	0.4	0.2	0.3	0.2	0.2	0.3	—	—	—
Tranquilizers [b,k]																									
8th Grade	0.8	0.8	0.9	1.1	1.2	1.5	1.2	1.2	1.1	1.4‡	1.2	1.2	1.4	1.2	1.3	1.3	1.1	1.2	1.2	1.2	1.0	0.8	0.9	0.8	-0.1
10th Grade	1.2	1.5	1.1	1.5	1.7	1.7	2.2	2.2	2.2	2.5‡	2.9	2.9	2.4	2.3	2.3	2.4	2.6	1.9	2.0	2.2	1.9	1.7	1.6	1.6	0.0
12th Grade	1.4	1.0	1.2	1.4	1.8	2.0	1.8	2.4	2.5	2.6‡	2.9	3.3	2.8	3.1	2.9	2.7	2.6	2.6	2.7	2.5	2.3	2.1	2.0	2.1	+0.1
Any Prescription Drug [q]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.6	8.1	7.8	7.2	7.3	6.9	7.2	7.0‡	7.1	6.4	-0.7
Rohypnol [r]																									
8th Grade	—	—	—	—	—	0.5	0.3	0.4	0.3	0.3	0.4	0.2	0.1	0.2	0.2	0.4	0.3	0.1	0.2	0.2	0.6	0.1	0.1	0.2	+0.1
10th Grade	—	—	—	—	—	0.5	0.5	0.4	0.5	0.4	0.2	0.4	0.2	0.3	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.2	0.1	0.4	+0.3
12th Grade	—	—	—	—	—	0.5	0.3	0.3	0.3	0.4	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol [s]																									
Any Use																									
8th Grade	25.1	26.1‡	24.3	25.5	24.6	26.2	24.5	23.0	24.0	22.4	21.5	19.6	19.7	18.6	17.1	17.2	15.9	15.9	14.9	13.8	12.7	11.0	10.2	9.0	-1.3
10th Grade	42.8	39.9‡	38.2	39.2	38.8	40.4	40.1	38.8	40.0	41.0	39.0	35.4	35.4	35.2	33.2	33.8	33.4	28.8	30.4	28.9	27.2	27.6	25.7	23.5	-2.2 s
12th Grade	54.0	51.3‡	48.6	50.1	51.3	50.8	52.7	52.0	51.0	50.0	49.8	48.6	47.5	48.0	47.0	45.3	44.4	43.1	43.5	41.2	40.0	41.5	39.2	37.4	-1.8
Been Drunk [o]																									
8th Grade	7.6	7.5	7.8	8.7	8.3	9.6	8.2	8.4	9.4	8.3	7.7	6.7	6.7	6.2	6.0	6.2	5.5	5.4	5.4	5.0	4.4	3.6	3.5	2.7	-0.8
10th Grade	20.5	18.1	19.8	20.3	20.8	21.3	22.4	21.1	22.5	23.5	21.9	18.3	18.2	18.5	17.6	18.8	18.1	14.4	15.5	14.7	13.7	14.5	12.8	11.2	-1.6 s
12th Grade	31.6	29.9	28.9	30.8	33.2	31.3	34.2	32.9	32.9	32.3	32.7	30.3	30.9	32.5	30.2	30.0	28.7	27.6	27.4	26.8	25.0	28.1	26.0	23.5	-2.5
Flavored Alcoholic Beverages [e,n]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	14.6	12.9	13.1	12.2	10.2	9.5	9.4	8.6	7.6	6.3	5.7	-0.7
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	25.1	23.1	24.7	21.8	20.2	19.0	19.4	15.8	16.3	15.5	14.0	-1.5
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	31.1	30.5	29.3	29.1	27.4	27.4	24.1	23.1	21.8	21.0	19.9	-1.1

(Table continued on next page.)

TABLE 5-5c (cont.)
Trends in 30-Day Prevalence of Use of Various Drugs in Grades 8, 10, and 12

	Percentage who used in last 30 days																							2013–2014 change
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Cigarettes																									
Any Use																									
8th Grade	14.3	15.5	16.7	18.6	19.1	21.0	19.4	19.1	17.5	14.6	12.2	10.7	10.2	9.2	9.3	8.7	7.1	6.8	6.5	7.1	6.1	4.9	4.5	4.0	-0.5
10th Grade	20.8	21.5	24.7	25.4	27.9	30.4	29.8	27.6	25.7	23.9	21.3	17.7	16.7	16.0	14.9	14.5	14.0	12.3	13.1	13.6	11.8	10.8	9.1	7.2	-1.9 ss
12th Grade	28.3	27.8	29.9	31.2	33.5	34.0	36.5	35.1	34.6	31.4	29.5	26.7	24.4	25.0	23.2	21.6	21.6	20.4	20.1	19.2	18.7	17.1	16.3	13.6	-2.7 ss
Smokeless Tobacco [t]																									
8th Grade	6.9	7.0	6.6	7.7	7.1	7.1	5.5	4.8	4.5	4.2	4.0	3.3	4.1	4.1	3.3	3.7	3.2	3.5	3.7	4.1	3.5	2.8	2.8	3.0	+0.1
10th Grade	10.0	9.6	10.4	10.5	9.7	8.6	8.9	7.5	6.5	6.1	6.9	6.1	5.3	4.9	5.6	5.7	6.1	5.0	6.5	7.5	6.6	6.4	6.4	5.3	-1.2
12th Grade	—	11.4	10.7	11.1	12.2	9.8	9.7	8.8	8.4	7.6	7.8	6.5	6.7	6.7	7.6	6.1	6.6	6.5	8.4	8.5	8.3	7.9	8.1	8.4	+0.3
E-cigarettes [bb]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.7	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.2	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.1	—
Large Cigars [cc]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.9	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.9	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.4	—
Flavored Little Cigars [cc]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.1	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.9	—
Regular Little Cigars [cc]																									
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.5	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.4	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.0	—
Steroids [k,u]																									
8th Grade	0.4	0.5	0.5	0.5	0.6	0.4	0.5	0.5	0.7	0.8	0.7	0.8	0.7	0.5	0.5	0.5	0.4	0.5	0.4	0.3	0.4	0.3	0.3	0.2	-0.1
10th Grade	0.6	0.6	0.5	0.6	0.6	0.5	0.7	0.6	0.9	1.0	0.9	1.0	0.8	0.8	0.6	0.6	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.0
12th Grade	0.8	0.6	0.7	0.9	0.7	0.7	1.0	1.1	0.9	0.8	1.3	1.4	1.3	1.6	0.9	1.1	1.0	1.0	1.0	1.1	0.7	0.9	1.0	0.9	-0.1

Source. The Monitoring the Future study, the University of Michigan.

See footnotes following Table 4.

TABLE 5-5d
Trends in 30-Day Prevalence of Daily Use of Various Drugs in Grades 8, 10, and 12

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change	
Marijuana/Hashish																										
Daily [aa]																										
8th Grade	0.2	0.2	0.4	0.7	0.8	1.5	1.1	1.1	1.4	1.3	1.3	1.2	1.0	0.8	1.0	1.0	0.8	0.9	1.0	1.2	1.3	1.1	1.1	1.0	-0.1	
10th Grade	0.8	0.8	1.0	2.2	2.8	3.5	3.7	3.6	3.8	3.8	4.5	3.9	3.6	3.2	3.1	2.8	2.8	2.7	2.8	3.3	3.6	3.5	4.0	3.4	-0.6	s
12th Grade	2.0	1.9	2.4	3.6	4.6	4.9	5.8	5.6	6.0	6.0	5.8	6.0	6.0	5.6	5.0	5.0	5.1	5.4	5.2	6.1	6.6	6.5	6.5	5.8	-0.6	
Alcohol [s,aa]																										
Any Daily Use																										
8th Grade	0.5	0.6‡	1.0	1.0	0.7	1.0	0.8	0.9	1.0	0.8	0.9	0.7	0.8	0.6	0.5	0.5	0.6	0.7	0.5	0.5	0.4	0.3	0.3	0.3	0.0	
10th Grade	1.3	1.2‡	1.8	1.7	1.7	1.6	1.7	1.9	1.9	1.8	1.9	1.8	1.5	1.3	1.3	1.4	1.4	1.0	1.1	1.1	0.8	1.0	0.9	0.8	-0.1	
12th Grade	3.6	3.4‡	3.4	2.9	3.5	3.7	3.9	3.9	3.4	2.9	3.6	3.5	3.2	2.8	3.1	3.0	3.1	2.8	2.5	2.7	2.1	2.5	2.2	1.9	-0.3	
Been Drunk																										
Daily [o,aa]																										
8th Grade	0.1	0.1	0.2	0.3	0.2	0.2	0.2	0.3	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	
10th Grade	0.2	0.3	0.4	0.4	0.6	0.4	0.6	0.6	0.7	0.5	0.6	0.5	0.5	0.4	0.4	0.5	0.5	0.3	0.4	0.3	0.2	0.4	0.3	0.3	0.0	
12th Grade	0.9	0.8	0.9	1.2	1.3	1.6	2.0	1.5	1.9	1.7	1.4	1.2	1.6	1.8	1.5	1.6	1.3	1.4	1.1	1.6	1.3	1.5	1.3	1.1	-0.2	
5+ Drinks in a Row																										
in Last 2 Weeks																										
8th Grade	10.9	11.3	11.3	12.1	12.3	13.3	12.3	11.5	13.1	11.7	11.0	10.3	9.8	9.4	8.4	8.7	8.3	8.1	7.8	7.2	6.4	5.1	5.1	4.1	-1.0	s
10th Grade	21.0	19.1	21.0	21.9	22.0	22.8	23.1	22.4	23.5	24.1	22.8	20.3	20.0	19.9	19.0	19.9	19.6	16.0	17.5	16.3	14.7	15.6	13.7	12.6	-1.1	
12th Grade	29.8	27.9	27.5	28.2	29.8	30.2	31.3	31.5	30.8	30.0	29.7	28.6	27.9	29.2	27.1	25.4	25.9	24.6	25.2	23.2	21.6	23.7	22.1	19.4	-2.7	ss
Cigarettes																										
Any Daily Use																										
8th Grade	7.2	7.0	8.3	8.8	9.3	10.4	9.0	8.8	8.1	7.4	5.5	5.1	4.5	4.4	4.0	4.0	3.0	3.1	2.7	2.9	2.4	1.9	1.8	1.4	-0.4	
10th Grade	12.6	12.3	14.2	14.6	16.3	18.3	18.0	15.8	15.9	14.0	12.2	10.1	8.9	8.3	7.5	7.6	7.2	5.9	6.3	6.6	5.5	5.0	4.4	3.2	-1.3	ss
12th Grade	18.5	17.2	19.0	19.4	21.6	22.2	24.6	22.4	23.1	20.6	19.0	16.9	15.8	15.6	13.6	12.2	12.3	11.4	11.2	10.7	10.3	9.3	8.5	6.7	-1.7	ss
1/2 Pack+/Day																										
8th Grade	3.1	2.9	3.5	3.6	3.4	4.3	3.5	3.6	3.3	2.8	2.3	2.1	1.8	1.7	1.7	1.5	1.1	1.2	1.0	0.9	0.7	0.6	0.7	0.5	-0.2	
10th Grade	6.5	6.0	7.0	7.6	8.3	9.4	8.6	7.9	7.6	6.2	5.5	4.4	4.1	3.3	3.1	3.3	2.7	2.0	2.4	2.4	1.9	1.5	1.5	1.2	-0.3	
12th Grade	10.7	10.0	10.9	11.2	12.4	13.0	14.3	12.6	13.2	11.3	10.3	9.1	8.4	8.0	6.9	5.9	5.7	5.4	5.0	4.7	4.3	4.0	3.4	2.6	-0.8	s
Smokeless Tobacco																										
Daily [t]																										
8th Grade	1.6	1.8	1.5	1.9	1.2	1.5	1.0	1.0	0.9	0.9	1.2	0.8	0.8	1.0	0.7	0.7	0.8	0.8	0.8	0.9	0.8	0.5	0.5	0.5	0.0	
10th Grade	3.3	3.0	3.3	3.0	2.7	2.2	2.2	2.2	1.5	1.9	2.2	1.7	1.8	1.6	1.9	1.7	1.6	1.4	1.9	2.5	1.7	2.0	1.9	1.8	0.0	
12th Grade	—	4.3	3.3	3.9	3.6	3.3	4.4	3.2	2.9	3.2	2.8	2.0	2.2	2.8	2.5	2.2	2.8	2.7	2.9	3.1	3.1	3.2	3.0	3.4	+0.4	

Source. The Monitoring the Future study, the University of Michigan.

Note. See footnotes on the following Table 5-5e.

TABLE 5-5e
Trends in Two Week Prevalence of Extreme Binge Drinking in Grade 12

	Percentage who used in last two weeks											
	1975-2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Approximate weighted N =	—	*14,700*	*14,200*	*14,500*	*14,000*	*13,700*	*14,400*	*14,100*	*13,700*	*12,600*	*12,400*	
5+ drinks in a row in last 2 weeks	—	27.1	25.4	25.9	24.6	25.2	23.2	21.6	23.7	22.1	19.4	-2.7 ss
10+ drinks in a row in last 2 weeks	—	10.6	12.9	11.1	10.4	10.6	9.9	9.8	10.4	8.1	7.1	-1.1
15+ drinks in a row in last 2 weeks	—	5.7	7.2	5.6	5.6	6.0	6.3	4.6	5.5	4.4	4.1	-0.3

Source. The Monitoring the Future study, the University of Michigan.

Notes. 5+ drinks in a row data are based on all forms. 10+ and 15+ drinks in a row are based on one of six forms; *N* is one sixth of *N* indicated.

Footnotes for Tables 5-5a through 5-5e

Approximate Weighted *N*s	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
8th Graders	17,500	18,600	18,300	17,300	17,500	17,800	18,600	18,100	16,700	16,700	16,200	15,100
10th Graders	14,800	14,800	15,300	15,800	17,000	15,600	15,500	15,000	13,600	14,300	14,000	14,300
12th Graders	15,000	15,800	16,300	15,400	15,400	14,300	15,400	15,200	13,600	12,800	12,800	12,900

Approximate Weighted *N*s	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
8th Graders	16,500	17,000	16,800	16,500	16,100	15,700	15,000	15,300	16,000	15,100	14,600	14,600
10th Graders	15,800	16,400	16,200	16,200	16,100	15,100	15,900	15,200	14,900	15,000	12,900	13,000
12th Graders	14,600	14,600	14,700	14,200	14,500	14,000	13,700	14,400	14,100	13,700	12,600	12,400

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. ' ‡ ' indicates some change in the question. See relevant footnote for that drug. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]For 12th graders only: Use of any illicit drug includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin; or any use of narcotics other than heroin, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders. For 8th and 10th graders only: The use of narcotics other than heroin and sedatives (barbiturates) has been excluded because these younger respondents appear to overreport use (perhaps because they include the use of nonprescription drugs in their answers). Due to changes in the amphetamines questions 2013 data for all grades for any illicit drug use, any illicit drug use other than marijuana and 8th and 10th grac any illicit drug use including inhalants are based on one half of the *N* indicated. 12th grade any illicit drug use including inhalants data are based on one form; *N* is one sixth of *N* indicated. 2014 data are based on all forms. See the amphetamine note for details.

[b]In 2001 the question text was changed on half of the questionnaire forms for each age group. Other psychedelics was changed to other hallucinogens and shrooms was added to the list of examples. For the tranquilizer list of examples, Miltown was replaced with Xanax. For 8th, 10th, and 12th graders: The 2001 data presented here are based on the changed forms only; *N* is one half of *N* indicated. In 2002 the remaining forms were changed to the new wording. The data are based on all forms beginning in 2002. Data for any illicit drug other than marijuana and data for hallucinogens are also affected by these changes and have been handled in a parallel manner. Hallucinogens, LSD, and hallucinogens other than LSD are based on five of six forms beginning in 2014; *N* is five sixths of *N* indicated.

[c]For 12th graders only: Data based on five of six forms in 1991–1998; *N* is five sixths of *N* indicated. Data based on three of six forms beginning in 1999; *N* is three sixths of *N* indicated. For 8th and 10th graders, beginning in 2014 data based on two thirds of *N* indicated.

[d]Inhalants are unadjusted for underreporting of amyl and butyl nitrites.

[e]For 12th graders only: Data based on one of six forms; *N* is one sixth of *N* indicated. In 2011 for flavored alcoholic beverages Skyy Blue and Zima were dropped from the list of examples. An examination of the data did not show any effect from the wording change. In 2014 the PCP use questions were dropped; annual PCP use was moved to another form.

[f]Hallucinogens are unadjusted for underreporting of PCP.

[g]For 8th and 10th graders only: Data based on one of two forms in 1996; *N* is one half of *N* indicated. Data based on one third of *N* indicated in 1997–2001 due to changes in the questionnaire forms. Data based on two of four forms beginning in 2002; *N* is one half of *N* indicated. For 12th graders only: Data based on one of six forms in 1996–2001; *N* is one sixth of *N* indicated. Data based on two of six forms beginning in 2002; *N* is two sixths of *N* indicated.

[h]For 12th graders only: Data based on four of six forms; *N* is four sixths of *N* indicated.

[i]In 1995 the heroin question was changed in one of two forms for 8th and 10th graders and in three of six forms for 12th graders. Separate questions were asked for use with and without injection. In 1996, the heroin question was changed in the remaining 8th- and 10th-grade forms. Data presented here represent the combined data from all forms.

[j]For 8th and 10th graders only: Data based on one of two forms in 1995; *N* is one half of *N* indicated. Data based on all forms beginning in 1996. For 12th graders only: Data based on three of six forms; *N* is three sixths of *N* indicated.

[k]Only drug use not under a doctor's orders is included here.

(Footnote continued on next page.)

Footnotes for Tables 5-5a through 5-5e (cont.)

[l]In 2002 the question text was changed in half of the questionnaire forms. The list of examples of narcotics other than heroin was updated: Talwin, laudanum, and paregoric—all of which had negligible rates of use by 2001—were replaced with Vicodin, OxyContin, and Percocet. The 2002 data presented here are based on the changed forms only; *N* is one half of *N* indicated. In 2003, the remaining forms were changed to the new wording. The data are based on all forms beginning in 2003. In 2013 the list of examples was changed on one form: MS Contin, Roxycodone, Hydrocodone (Lortab, Lorcet, Norco), Suboxone, Tylox, and Tramadol were added to the list. An examination of the data did not show any effect from the wording change.

[m]For 8th, 10th, and 12th graders: In 2009, the question text was changed slightly in half of the forms. An examination of the data did not show any effect from the wording change. In 2010 the remaining forms were changed in a like manner. In 2011 the question text was changed slightly in one form; bennies, Benzedrine and Methadrine were dropped from the list of examples. An examination of the data did not show any effect from the wording change. In 2013 the question wording was changed slightly in two of the 8th and 10th grade questionnaires and in three of the 12th grade questionnaires. The new wording in 2013 asked "On how many occasions (if any) have taken amphetamines or other prescription stimulant drugs…" In contrast, the old wording did not include the text highlighted in red. Results in 2013 indicated higher prevalence in questionnaires with the new wording as compared to the old wording; it was proportionally 61% higher in 8th grade, 34% higher in 10th grade, and 21% higher in 12th grade. 2013 data are based on the changed forms only; for 8th, 10th, and 12th graders N is one half of N indicated. In 2014 all questionnaires included the new, updated wording.

[n]For 8th and 10th graders only: Data based on one of four forms; *N* is one third of *N* indicated. See text for detailed explanation. In 2011 for flavored alcoholic beverages: Skyy Blue and Zima were dropped from the list of examples. An examination of the data did not show any effect from the wording change. Annual synthetic marijuana use questions asked of one third of *N* indicated, 30-day use asked on separate forms in 2014, N is one third of N indicated.

[o]For 12th graders only: Data based on two of six forms; N is two sixths of N indicated. Bidis and kreteks based on one of six forms beginning in 2009; *N* is one sixth *N* indicated. 30-day and annual synthetic marijuana use questions are asked on separate forms in 2014.

[p]For 12th graders only: In 2004 the barbiturate question text was changed on half of the questionnaire forms. Barbiturates was changed to sedatives including barbiturates, and “have you taken barbiturates . . . ” was changed to “have you taken sedatives . . . ” In the list of examples downs, downers, goofballs, yellow, reds, blues, rainbows were changed to downs, or downers, and include Phenobarbital, Tuinal, Nembutal, and Seconal. An examination of the data did not show any effect from the wording change. In 2005 the remaining forms were changed in a like manner. In 2013 the question text was changed in all forms: Tuinal, Nembutal, and Seconal were replaced with Ambien, Lunesta, and Sonata. In one form the list of examples was also changed: Tuinal was dropped from the list and Dalmane, Restoril, Halcion, Intermezzo, and Zolpimist were added. An examination of the data did not show any effect from the wording change.

[q]The use of any prescription drug includes use of any of the following: amphetamines, sedatives (barbiturates), narcotics other than heroin, or tranquilizers “…without a doctor telling you to use them.”

[r]For 8th and 10th graders only: Data based on one of two forms in 1996; *N* is one half of *N* indicated. Data based on three of four forms in 1997–1998; *N* is two thirds of *N* indicated. Data based on two of four forms in 1999–2001; *N* is one third of *N* indicated. Data based on one of four forms beginning in 2002; *N* is one sixth of *N* indicated. See text for detailed explanation. For 12th graders only: Data based on one of six forms in 1996–2001; *N* is one sixth of *N* indicated. Data based on two of six forms in 2002–2009; *N* is two sixths of *N* indicated. Data for 2001 and 2002 are not comparable due to changes in the questionnaire forms. Data based on one of six forms beginning in 2010; N is one sixth of N indicated.

[s]For 8th, 10th, and 12th graders: In 1993, the question text was changed slightly in half of the forms to indicate that a drink meant more than just a few sips. The 1993 data are based on the changed forms only; *N* is one half of *N* indicated for these groups. In 1994 the remaining forms were changed to the new wording. The data are based on all forms beginning in 1994. In 2004, the question text was changed slightly in half of the forms. An examination of the data did not show any effect from the wording change. The remaining forms were changed in 2005.

[t]For 8th and 10th graders only: Data based on one of two forms for 1991–1996 and on two of four forms beginning in 1997; *N* is one half of *N* indicated. For 12th graders only: Data based on one of six forms; *N* is one sixth of *N* indicated. For all grades in 2011: snus and dissolvable tobacco were added to the list of examples. An examination of the data did not show any effect from the wording change.

(Footnote continued on next page.)

Footnotes for Tables 5-5a through 5-5e (cont.)

[u]For 8th and 10th graders only: In 2006, the question text was changed slightly in half of the questionnaire forms. An examination of the data did not show any effect from the wording change. In 2007 the remaining forms were changed in a like manner. In 2008 the question text was changed slightly in half of the questionnaire forms. An examination of the data did not show any effect from the wording change. In 2009 the remaining forms were changed in a like manner. For 12th graders only: Data based on two of six forms in 1991–2005; N is two sixths of *N* indicated. Data based on three of six forms beginning in 2006; *N* is three sixths of *N* indicated. In 2006 a slightly altered version of the question was added to a third form. An examination of the data did not show any effect from the wording change. In 2007 the remaining forms were changed in a like manner. In 2008 the question text was changed slightly in two of the questionnaire forms. An examination of the data did not show any effect from the wording change. In 2009 the remaining form was changed in a like manner.

[v]For 12th graders only: Data based on two of six forms in 2002–2005; *N* is two sixths of *N* indicated. Data based on three of six forms beginning in 2006; *N* is three sixths of *N* indicated.

[w]For 12th graders only: Data based on two of six forms in 2000; *N* is two sixths of *N* indicated. Data based on three of six forms in 2001; *N* is three sixths of *N* indicated. Data based on one of six forms beginning in 2002; *N* is one sixth of *N* indicated.

[x]For 12th graders only: Data based on two of six forms in 2000; *N* is two sixths of *N* indicated. Data based on three of six forms in 2001–2009; *N* is three sixths of *N* indicated. Data based on two of six forms beginning in 2010; *N* is two sixths of *N* indicated.

[y]The 2003 flavored alcoholic beverage data were created by adjusting the 2004 data to reflect the change in the 2003 and 2004 alcopops data.

[z]For 8th and 10th graders only: Data based on one of four forms; *N* is one third of *N* indicated. See text for detailed explanation. For 12th graders only: Data based on two of six forms; *N* is two sixths of *N* indicated. For all grades: In 2011 the question text was "…had an alcoholic beverage containing caffeine (like Four Loko or Joose)." In 2012 the question text was changed to "…had an alcoholic beverage mixed with an energy drink (like Red Bull)." An examination of the data did not show any effect from the wording changes.

[aa]Daily use is defined as use on 20 or more occasions in the past 30 days except for cigarettes and smokeless tobacco, for which actual daily use is measured, and for 5+ drinks, for which the prevalence of having five or more drinks in a row in the last two weeks is measured.

[bb]8th and 10th grade data based on one thrid of N indicated. 12th grade data based on four of six forms; N is two thirds of N indicated.

[cc]8th and 10th grade data based on one thrid of N indicated. 12th grade data based on two of six forms; N is one third of N indicated.

TABLE 5-6a
Trends in Lifetime Prevalence of Use of Heroin *with* and *without* a Needle in Grades 8, 10, and 12

	Percentage who used in lifetime																				2013–2014 change
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
8th Graders																					
Used heroin:																					
Only *with* a needle	0.7	0.8	0.7	0.8	0.9	0.6	0.6	0.6	0.5	0.6	0.6	0.5	0.6	0.4	0.5	0.5	0.5	0.4	0.4	0.5	+0.1
Only *without* a needle	0.7	0.9	0.8	0.9	0.7	0.8	0.6	0.6	0.7	0.5	0.4	0.5	0.4	0.5	0.4	0.4	0.4	0.2	0.4	0.2	-0.2 s
Both ways	0.8	0.7	0.6	0.6	0.7	0.5	0.5	0.5	0.5	0.5	0.4	0.4	0.3	0.5	0.4	0.4	0.3	0.2	0.2	0.2	+0.1
Used heroin at all	2.3	2.4	2.1	2.3	2.3	1.9	1.7	1.6	1.6	1.6	1.5	1.4	1.3	1.4	1.3	1.3	1.2	0.8	1.0	0.9	-0.1
Approx. weighted N =	*8,800*	*17,800*	*18,600*	*18,100*	*16,700*	*16,700*	*16,200*	*15,100*	*16,500*	*17,000*	*16,800*	*16,500*	*16,100*	*15,700*	*15,000*	*15,300*	*16,000*	*15,100*	*14,600*	*14,500*	
10th Graders																					
Used heroin:																					
Only *with* a needle	0.6	0.5	0.4	0.6	0.7	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.5	0.3	0.5	0.4	0.4	0.3	0.4	0.3	-0.1
Only *without* a needle	0.7	1.1	1.0	1.2	1.1	1.2	0.8	0.9	0.6	0.7	0.7	0.6	0.7	0.5	0.6	0.5	0.4	0.4	0.3	0.2	-0.1
Both ways	0.4	0.6	0.6	0.6	0.6	0.5	0.4	0.5	0.4	0.4	0.4	0.5	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.3	0.0
Used heroin at all	1.7	2.1	2.1	2.3	2.3	2.2	1.7	1.8	1.5	1.5	1.5	1.4	1.5	1.2	1.5	1.3	1.2	1.1	1.0	0.9	-0.1
Approx. weighted N =	*8,500*	*15,600*	*15,500*	*15,000*	*13,600*	*14,300*	*14,000*	*14,300*	*15,800*	*16,400*	*16,200*	*16,200*	*16,100*	*15,100*	*15,900*	*15,200*	*14,900*	*15,000*	*12,900*	*13,000*	
12th Graders																					
Used heroin:																					
Only *with* a needle	0.3	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.1	0.2	0.4	0.3	0.3	0.3	0.3	0.4	0.3	0.4	0.2	0.3	+0.1
Only *without* a needle	0.9	1.1	1.3	1.2	1.2	1.8	1.2	1.0	1.0	0.9	0.7	0.7	0.9	0.6	0.6	0.6	0.6	0.4	0.4	0.2	-0.2
Both ways	0.4	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.6	0.6	0.3	0.4	0.5	+0.2
Used heroin at all	1.6	1.8	2.1	2.0	2.0	2.4	1.8	1.7	1.5	1.5	1.5	1.4	1.5	1.3	1.2	1.6	1.4	1.1	1.0	1.0	-0.1
Approx. weighted N =	*7,700*	*7,200*	*7,700*	*7,600*	*6,800*	*6,400*	*6,400*	*6,500*	*7,300*	*7,300*	*7,400*	*7,100*	*7,300*	*7,000*	*6,900*	*7,200*	*7,100*	*6,900*	*6,300*	*6,400*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the total who used heroin at all and the sum of those who used with a needle, those who used without a needle, and those who used both ways is due to rounding. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. For 8th and 10th graders only: Data based on one of two forms in 1995 and on all forms after 1995. For 12th graders only: Data based on three of six forms except for used heroin at all, which is based on all six forms. The six-form *N* is approximately 12,800.

TABLE 5-6b
Trends in Annual Prevalence of Use of Heroin *with* and *without* a Needle in Grades 8, 10, and 12

	Percentage who used in lifetime																				2013–2014 change
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
8th Graders																					
Used heroin:																					
Only *with* a needle	0.5	0.6	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.4	0.3	0.2	0.4	0.3	0.4	0.3	0.3	0.3	0.2	0.3	+0.1
Only *without* a needle	0.5	0.5	0.5	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.1	-0.1
Both ways	0.4	0.4	0.3	0.4	0.4	0.2	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	0.1	0.2	0.1	0.0
Used heroin at all	1.4	1.6	1.3	1.3	1.4	1.1	1.0	0.9	0.9	1.0	0.8	0.8	0.8	0.9	0.7	0.8	0.7	0.5	0.5	0.5	0.0
Approx. weighted N =	*8,800*	*17,800*	*18,600*	*18,100*	*16,700*	*16,700*	*16,200*	*15,100*	*16,500*	*17,000*	*16,800*	*16,500*	*16,100*	*15,700*	*15,000*	*15,300*	*16,000*	*15,100*	*14,600*	*14,500*	
10th Graders																					
Used heroin:																					
Only *with* a needle	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.3	0.2	0.3	0.2	0.3	0.2	-0.1
Only *without* a needle	0.5	0.6	0.7	0.6	0.8	0.8	0.5	0.5	0.3	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.1	-0.1
Both ways	0.3	0.3	0.4	0.4	0.3	0.2	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.0
Used heroin at all	1.1	1.2	1.4	1.4	1.4	1.4	0.9	1.1	0.7	0.9	0.9	0.9	0.8	0.8	0.9	0.8	0.8	0.6	0.6	0.5	-0.1
Approx. weighted N =	*8,500*	*15,600*	*15,500*	*15,000*	*13,600*	*14,300*	*14,000*	*14,300*	*15,800*	*16,400*	*16,200*	*16,200*	*16,100*	*15,100*	*15,900*	*15,200*	*14,900*	*15,000*	*12,900*	*13,000*	
12th Graders																					
Used heroin:																					
Only *with* a needle	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.2	0.2	0.2	0.2	-0.1
Only *without* a needle	0.6	0.6	0.7	0.6	0.8	1.1	0.6	0.6	0.4	0.5	0.4	0.3	0.6	0.3	0.4	0.3	0.3	0.2	0.2	0.1	-0.1
Both ways	0.3	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.3	0.3	0.2	0.2	0.4	+0.2
Used heroin at all	1.1	1.0	1.2	1.0	1.1	1.5	0.9	1.0	0.8	0.9	0.8	0.8	0.9	0.7	0.7	0.9	0.8	0.6	0.6	0.6	0.0
Approx. weighted N =	*7,700*	*7,200*	*7,700*	*7,600*	*6,800*	*6,400*	*6,400*	*6,500*	*7,300*	*7,300*	*7,400*	*7,100*	*7,300*	*7,000*	*6,900*	*7,200*	*7,100*	*6,900*	*6,300*	*6,300*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the total who used heroin at all and the sum of those who used with a needle, those who used without a needle, and those who used both ways is due to rounding. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. For 8th and 10th graders only: Data based on one of two forms in 1995 and on all forms after 1995. For 12th graders only: Data based on three of six forms except for used heroin at all, which is based on all six forms. The six-form *N* is approximately 12,600.

TABLE 5-6c
Trends in 30-Day Prevalence of Use of Heroin *with* and *without* a Needle in Grades 8, 10, and 12

	Percentage who used in lifetime																				2013–2014 change
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
8th Graders																					
Used heroin:																					
Only *with* a needle	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.0
Only *without* a needle	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	*	-0.1 s
Both ways	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	*	0.1	0.1	0.0
Used heroin at all	0.6	0.7	0.6	0.6	0.6	0.5	0.6	0.5	0.4	0.5	0.5	0.3	0.4	0.4	0.4	0.4	0.4	0.2	0.3	0.3	0.0
Approx. weighted N =	*8,800*	*17,800*	*18,600*	*18,100*	*16,700*	*16,700*	*16,200*	*15,100*	*16,500*	*17,000*	*16,800*	*16,500*	*16,100*	*15,700*	*15,000*	*15,300*	*16,000*	*15,100*	*14,600*	*14,600*	
10th Graders																					
Used heroin:																					
Only *with* a needle	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.0
Only *without* a needle	0.2	0.2	0.3	0.3	0.4	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	*	0.1	+0.1
Both ways	0.1	0.1	0.2	0.2	0.2	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.0
Used heroin at all	0.6	0.5	0.6	0.7	0.7	0.5	0.3	0.5	0.3	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	+0.1
Approx. weighted N =	*8,500*	*15,600*	*15,500*	*15,000*	*13,600*	*14,300*	*14,000*	*14,300*	*15,800*	*16,400*	*16,200*	*16,200*	*16,100*	*15,100*	*15,900*	*15,200*	*14,900*	*15,000*	*12,900*	*12,900*	
12th Graders																					
Used heroin:																					
Only *with* a needle	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1	0.0
Only *without* a needle	0.3	0.1	0.3	0.3	0.3	0.5	0.2	0.3	0.2	0.2	0.2	0.1	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	+0.1
Both ways	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1	0.0
Used heroin at all	0.6	0.5	0.5	0.5	0.5	0.7	0.4	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.4	+0.1
Approx. weighted N =	*7,700*	*7,200*	*7,700*	*7,600*	*6,800*	*6,400*	*6,400*	*6,500*	*7,300*	*7,300*	*7,400*	*7,100*	*7,300*	*7,000*	*6,900*	*7,200*	*7,100*	*6,900*	*6,300*	*6,300*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' * ' indicates less than 0.05% but greater than 0%. Any apparent inconsistency between the total who used heroin at all and the sum of those who used with a needle, those who used without a needle, and those who used both ways is due to rounding. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. For 8th and 10th graders only: Data based on one of two forms in 1995 and on all forms after 1995. For 12th graders only: Data based on three of six forms except for used heroin at all, which is based on all six forms. The six-form *N* is approximately 12,600.

TABLE 5-7a
Trends in Noncontinuation Rates among 12th Graders
Who Ever Used Drug in Lifetime

Percentage who did not use in last 12 months

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Marijuana/Hashish	15.4	15.7	15.6	15.2	15.9	19.1	22.5	24.5	25.8	27.1	25.1	23.8	27.7	29.9	32.3	33.7	34.9	32.8	26.3	19.6
Inhalants	—	70.9	66.7	65.8	57.5	61.3	66.7	64.8	68.4	64.6	63.0	61.6	59.4	61.1	66.5	61.7	62.5	62.7	59.8	56.5
Inhalants, Adjusted	—	—	—	—	50.8	55.7	65.5	63.3	64.4	58.4	59.8	55.7	56.5	59.4	62.9	59.5	61.7	62.4	58.2	55.2
Amyl/Butyl Nitrites	—	—	—	—	41.4	48.6	63.4	63.3	57.1	50.6	49.4	45.3	44.7	46.9	48.5	33.3	†	†	†	†
Hallucinogens [a]	31.3	37.7	36.7	32.9	29.8	30.1	32.3	35.2	38.7	39.3	38.8	38.1	37.9	38.2	40.4	37.2	39.6	35.9	32.1	33.3
Hallucinogens, Adjusted [a]	—	—	—	—	31.2	32.5	35.7	38.0	36.7	40.6	36.9	36.1	36.8	37.0	37.4	38.1	39.0	34.0	31.0	33.3
LSD	36.3	41.8	43.9	35.1	30.5	30.1	33.7	36.5	39.3	41.3	41.3	37.5	38.1	37.7	41.0	37.9	40.9	34.9	34.0	34.3
Hallucinogens other than LSD [a]	33.3	42.1	38.4	37.1	36.4	36.7	38.5	41.3	43.8	42.4	44.6	47.4	40.7	48.8	48.8	48.8	45.9	48.5	43.6	36.7
PCP	—	—	—	—	45.3	54.2	59.0	63.3	53.6	54.0	40.8	50.0	56.7	58.6	38.5	57.1	51.7	41.7	51.7	42.9
Ecstasy (MDMA)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocaine	37.8	38.1	33.3	30.2	22.1	21.7	24.8	28.1	29.6	28.0	24.3	24.9	32.2	34.7	36.9	43.6	55.1	49.2	45.9	39.0
Crack	—	—	—	—	—	—	—	—	—	—	—	—	27.8	35.4	34.0	45.7	51.6	42.3	42.3	36.7
Other Cocaine	—	—	—	—	—	—	—	—	—	—	—	—	30.0	38.8	38.8	46.5	54.3	50.9	46.3	42.3
Heroin [b]	54.5	55.6	55.6	50.0	54.5	54.5	54.5	50.0	50.0	61.5	50.0	54.5	58.3	54.5	53.8	61.5	55.6	50.0	54.5	50.0
With a needle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Without a needle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Narcotics other than Heroin [c,d]	36.7	40.6	37.9	39.4	38.6	35.7	41.6	44.8	45.7	46.4	42.2	42.2	42.4	46.5	47.0	45.8	47.0	45.9	43.8	42.4
Amphetamines [c,e]	27.4	30.1	29.1	25.3	24.4	21.2	19.3	27.2	33.5	36.6	39.7	42.7	43.5	44.9	43.5	48.0	46.8	48.9	44.4	40.1
Methamphetamine	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Crystal Methamphetamine (Ice)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	51.9	57.6	55.2	45.2	47.1
Sedatives (Barbiturates) [c,f]	36.7	40.7	40.4	40.9	36.4	38.2	41.6	46.6	47.5	50.5	50.0	50.0	51.4	52.2	49.2	50.0	45.2	49.1	46.0	41.4
Sedatives, Adjusted	35.7	39.5	37.9	38.1	32.2	30.9	34.4	40.1	45.1	50.4	50.8	50.0	52.9	52.6	50.0	—	—	—	—	—
Methaqualone [c]	37.0	39.7	38.8	38.0	28.9	24.2	28.3	36.4	46.5	54.2	58.2	59.6	62.5	60.6	51.9	69.6	†	†	†	†
Tranquilizers [c,g]	37.6	38.7	40.0	41.8	41.1	42.8	45.6	50.0	48.1	50.8	48.7	46.8	49.5	48.9	50.0	51.4	50.0	53.3	45.3	43.9
Rohypnol	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol [h]	6.2	6.7	5.9	5.8	5.3	5.7	6.0	6.5	5.7	7.1	7.2	7.4	7.0	7.3	8.8	9.9	11.7	12.2‡	9.1	9.2
Been Drunk	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.4	20.7	20.6	17.8
Cigarettes [i]	16.0	16.7	16.2	17.9	19.6	21.4	20.8	19.1	18.6	18.5	15.9	17.0	17.1	18.2	18.5	18.2	17.4	18.6	16.9	15.9
Smokeless Tobacco [i]	—	—	—	—	—	—	—	—	—	—	—	21.8	18.4	25.7	26.2	—	—	29.6	25.5	33.1
Steroids [j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.7	41.4	33.3	47.6	40.0	45.8

(Table continued on next page.)

TABLE 5-7a (cont.)
Trends in Noncontinuation Rates among 12th Graders
Who Ever Used Drug in Lifetime

Percentage who did not use in last 12 months

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Marijuana/Hashish	16.8	20.3	22.4	23.6	23.9	25.2	24.5	24.3	24.3	24.9	25.0	25.6	24.1	24.0	21.9	20.5	20.1	19.5	20.0	20.9
Inhalants	54.0	54.2	58.4	59.2	63.6	58.5	65.4	61.5	65.2	61.5	55.6	59.4	65.1	62.0	63.8	59.7	60.8	63.6	63.7	70.1
Inhalants, Adjusted	52.8	51.4	56.8	57.0	62.5	57.5	64.5	60.5	63.1	59.6	54.6	58.7	63.2	60.7	60.1	—	—	—	—	—
Amyl/Butyl Nitrites	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	—	—	—	—	—
Hallucinogens [a]	26.8	27.9	35.1	36.2	31.4	37.7‡	34.4	45.0	44.3	36.1	38.2	41.3	35.4	32.3	36.7	35.9	38.0	36.5	41.4	36.9
Hallucinogens, Adjusted [a]	26.0	26.2	35.1	36.1	31.0	36.0‡	32.8	43.8	40.4	35.4	35.8	39.8	34.9	31.6	35.6	34.5	34.3	35.7	39.9	—
LSD	28.2	30.2	38.2	39.7	33.6	40.5	39.4	58.3	67.8	52.2	48.8	49.0	38.6	31.4	40.9	35.6	33.0	37.5	44.5	33.3
Hallucinogens other than LSD [a]	29.6	35.3	38.7	35.2	35.8	36.2‡	37.1	41.3	40.0	35.6	38.6	41.4	37.5	35.3	37.7	38.1	41.4	38.7	42.2	40.3
PCP	33.3	35.0	41.0	46.2	47.1	32.4	48.6	64.5	48.0	†	†	†	†	†	†	†	†	†	†	—
Ecstasy (MDMA)	—	24.6	42.0	37.9	30.0	25.5	21.4	29.5	45.8	46.7	44.0	36.8	30.2	30.3	34.8	38.8	33.7	47.5	43.7	35.7
Cocaine	33.3	31.0	36.8	38.7	36.7	41.9	41.5	35.9	37.7	34.6	36.8	32.6	33.0	39.6	44.2	46.2	44.7	43.9	41.8	38.4
Crack	30.0	36.4	38.5	43.2	41.3	43.6	43.2	39.5	38.9	41.0	43.9	41.7	40.1	43.2	45.4	42.1	45.4	42.5	41.6	37.5
Other Cocaine	33.3	34.4	39.0	41.7	34.1	41.6	40.5	37.1	37.3	35.6	36.6	34.6	34.3	38.0	44.1	49.0	46.0	46.2	43.5	42.0
Heroin [b]	31.3	44.4	42.9	50.0	45.0	37.5	50.0	41.2	46.7	40.0	43.9	45.6	39.9	43.1	39.8	45.1	46.4	41.3	42.9	38.9
With a needle	28.6	37.5	44.4	50.0	55.6	†	†	†	42.9	42.9	46.7	37.7	48.6	†	†	40.0	33.6	†	†	36.9
Without a needle	28.6	41.2	42.9	50.0	44.4	33.3	46.7	50.0	55.6	50.0	39.9	48.1	30.7	53.6	30.9	40.0	46.4	50.0	51.0	†
Narcotics other than Heroin [c,d]	34.7	34.2	36.1	35.7	34.3	34.0	32.3‡	30.7	29.5	29.6	29.4	32.5	30.1	30.8	30.2	33.2	33.0	35.4	36.3	36.0
Amphetamines [c,e]	39.2	37.9	38.2	38.4	37.4	32.7	32.7	33.9	31.3	33.3	34.5	35.1	34.7	35.8	32.9	33.7	33.2	34.3‡	29.3	32.7
Methamphetamine	—	—	—	—	42.7	45.6	43.5	46.3	48.4	45.2	43.3	43.5	44.3	55.6	50.0	53.7	34.1	37.9	38.6	50.5
Crystal Methamphetamine (Ice)	38.5	36.4	47.7	43.4	60.4	45.0	39.0	36.2	48.7	47.5	41.9	46.0	52.0	62.6	54.0	50.9	45.1	49.1	43.0	39.9
Sedatives (Barbiturates) [c,f]	36.5	35.5	37.0	36.8	34.8	32.6	34.5	29.5	31.8	34.3	31.8	35.7	33.3	31.5	36.2	35.5	38.4	34.8	36.0	37.6
Sedatives, Adjusted	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methaqualone [c]	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	—	—
Tranquilizers [c,g]	38.0	36.1	39.7	35.3	37.6	36.0‡	29.3	32.5	34.3	31.1	31.5	35.5	35.2	30.4	32.5	34.5	35.5	37.1	39.4	36.0
Rohypnol	—	†	†	53.3	†	†	†	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol [h]	8.7	8.5	8.4	8.7	7.8	8.8	8.0	8.8	8.5	8.1	8.7	8.5	8.0	9.0	8.5	8.2	9.3	8.5	9.2	8.8
Been Drunk	16.9	16.0	17.1	16.7	14.6	16.9	16.7	18.2	17.4	14.1	17.0	15.1	16.3	16.7	16.7	18.6	17.4	17.0	16.9	16.8
Cigarettes [i]	14.6	13.5	13.1	14.3	16.1	16.3	17.5	17.3	17.2	15.9	16.7	18.9	17.9	17.9	17.8	18.3	20.0	20.4	21.4	22.8
Smokeless Tobacco [i]	26.5	27.3	26.2	17.9	20.7	15.1	18.9	20.4	16.2	15.3	15.4	25.1	17.4	16.0	15.6	14.8	18.2	17.6	15.3	7.5
Steroids [j]	34.8	26.3	41.7	37.0	37.9	32.0	35.1	37.5	40.0	26.5	44.2	35.6	35.5	31.5	32.3	27.1	32.5	30.2	31.5	23.7

(Table continued on next page.)

TABLE 5-7a (cont.)
Trends in Noncontinuation Rates among 12th Graders
Who Ever Used Drug in Lifetime

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' — ' indicates data not available. ' † ' indicates that the cell entry was omitted because it was based on fewer than 50 twelfth graders who ever used drug in lifetime. All other cells are based on more than 50 cases. ' ‡ ' indicates some change in the question. See relevant footnote for that drug.

[a]In 2001 the question text was changed in half of the questionnaire forms. Other psychedelics was changed to other hallucinogens and shrooms was added to the list of examples. The 2001 data are based on the changed forms only. In 2002 the remaining forms were changed. Beginning in 2002, the data are based on all forms. Data for hallucinogens are also affected by these changes and have been handled in a parallel manner.

[b]In 1995, the heroin question was changed in three of six forms. Separate questions were asked for use with and without injection. Data presented here represent the combined data from all forms.

[c]Only drug use not under a doctor's orders is included here.

[d]In 2002 the question text was changed in half of the questionnaire forms. In the list of examples of narcotics other than heroin, Talwin, laudanum, and paregoric were replaced with Vicodin, OxyContin, and Percocet. The 2002 data are based on the changed forms only. In 2003, the remaining forms were changed to the new wording. Beginning in 2003, the data are based on all forms. In 2013 the list of examples was changed on one form: MS Contin, Roxycodone, Hydrocodone (Lortab, Lorcet, Norco), Suboxone, Tylox, and Tramadol were added to the list. An examination of the data did not show any effect from the wording change.

[e]In 2009, the question text was changed slightly in half of the questionnaire forms. An examination of the data did not show any effect from the wording change. The remaining forms where changed in 2010. In 2011 the introduction to the question was changed slightly in one of six forms. An examination of the data did not show any effect from the wording change. In 2013 the question wording was chanaged in three of the questionnaires. The new wording in 2013 asked "On how many occasions (if any) have you taken amphetamines or other prescription stimulant drugs…" In contrast, the old wording did not include the text highlighted in red. Results in 2013 indicated higher prevalence in questionnaires with the new as compared to the old wording; it was 21% higher in 12th grade. 2013 data are based on the changed forms only; *N* is one half of *N* indicated. In 2014 all questionnaires included the new, updated wording.

[f]For 12th graders only: In 2004 the question text was changed in half of the questionnaire forms. Barbiturates was changed to sedatives, including barbiturates. Goofballs, yellows, reds, blues, and rainbows were deleted from the list of examples; Phenobarbital, Tuinal, Nembutal, and Seconal were added. An examination of the data did not show any effect from the wording change. In 2005 the remaining forms were changed in a like manner. In 2013 the question text was changed in all forms: Tuinal, Nembutal, and Seconal were replaced with Ambien, Lunesta, and Sonata. In one form the list of examples was also changed: Tuinal was dropped from the list and Dalmane, Restoril, Halcion, Intermezzo, and Zolpimist were added. An examination of the data did not show any effect from the wording change.

[g]In 2001, for the tranquilizer list of examples, Miltown was replaced with Xanax in half of the questionnaire forms. The 2001 data are based on the changed forms only. In 2002 the remaining forms were changed. Beginning in 2002, the data are based on all forms.

[h]In 1993, the question text was changed slightly in half of the questionnaire forms to indicate that a drink meant more than a few sips. The 1993 data are based on the changed forms only. In 1994 the remaining forms were changed to the new wording. Beginning in 1994, the data are based on all forms. In 2004, the question text was changed slightly in half of the forms. An examination of the data did not show any effect from the wording change. The remaining forms were changed in 2005.

[i]Percentage of regular users (ever) who did not use at all in the last 30 days.

[j]In 2006, the question text was changed slightly in one of the questionnaire forms. An examination of the data did not show any effect from the wording change. The remaining forms were changed in 2007. In 2008 the question text was changed slightly. An examination of the data did not show any effect from the wording change. In 2009 the remaining forms were changed.

TABLE 5-7b
Trends in Noncontinuation Rates among 12th Graders
Who Used Drug 10 or More Times in Lifetime

Percentage who did not use in last 12 months

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Marijuana/Hashish	4.0	4.0	4.1	3.7	4.6	5.4	7.2	7.6	8.3	8.8	7.8	7.9	9.2	9.9	10.6	12.3	10.5	10.9	7.8	5.0
Inhalants [a]	—	48.9	42.6	34.6	23.8	25.2	23.8	27.2	23.1	23.4	25.8	15.3	21.1	21.5	25.9	24.0	23.7	28.6	21.8	26.4
Amyl/Butyl Nitrites	—	—	—	—	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†
Hallucinogens [b]	10.8	16.1	15.2	10.8	8.1	8.4	7.7	7.5	13.0	14.1	12.2	11.1	11.9	16.6	21.8	16.5	17.4	11.5	12.1	14.3
LSD [c]	15.2	17.3	18.0	12.2	7.4	6.4	7.1	7.5	15.3	12.1	12.6	12.2	11.5	16.0	21.2	16.0	18.5	11.4	11.9	15.3
Hallucinogens other than LSD [b]	—	16.6	14.4	13.3	11.5	13.1	7.7	8.2	8.5	14.5	13.7	16.0	15.8	20.1	19.5	22.6	29.3	19.6	16.2	16.0
PCP	—	—	—	—	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†
Ecstasy (MDMA) [d]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocaine	7.7	8.2	6.2	3.8	3.1	3.1	3.1	2.9	6.2	3.1	2.5	3.5	7.6	11.4	11.3	19.6	25.3	20.2	14.1	22.9
Crack [e]	—	—	—	—	—	—	—	—	—	—	—	—	13.4	2.1	5.2	26.2	31.1	15.3	16.4	16.8
Other Cocaine	—	—	—	—	—	—	—	—	—	—	—	—	10.2	6.1	16.2	18.5	24.3	23.2	14.7	24.1
Heroin [f]	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†
With a needle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Without a needle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Narcotics other than Heroin [g,h]	9.6	11.6	9.7	9.9	8.7	10.8	10.1	13.5	16.4	15.4	12.2	13.8	15.6	19.3	15.2	15.9	16.1	16.8	16.7	16.8
Amphetamines [g,i]	8.0	9.8	7.6	7.4	6.1	4.1	4.4	8.4	10.7	12.7	17.5	17.6	17.5	16.0	17.4	18.1	17.2	19.8	13.5	13.8
Methamphetamine	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Crystal Methamphetamine (Ice) [j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	†	†	†	†	†
Sedatives (Barbiturates) [g,k]	13.4	16.5	12.9	13.5	11.2	11.7	8.9	12.6	17.7	22.8	20.6	19.7	20.7	23.4	18.0	19.8	19.7	23.4	11.0	14.9
Sedatives, Adjusted	13.6	16.2	12.4	12.8	8.6	10.5	7.6	8.6	16.4	20.8	23.6	19.7	23.1	25.2	17.3	—	—	—	—	—
Methaqualone [g]	13.5	15.9	11.9	13.1	6.1	6.0	4.9	8.0	16.3	23.3	26.7	24.9	32.2	29.8	18.6	—	—	—	—	—
Tranquilizers [g,l]	12.0	13.0	11.1	14.4	14.1	14.3	16.3	16.0	14.8	18.8	19.2	15.0	17.1	15.8	11.7	19.3	13.1	21.0	6.7	13.8
Rohypnol	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol [m]	0.6	0.8	0.6	0.9	0.7	0.8	1.0	0.9	0.9	1.1	1.2	1.0	1.1	1.2	1.5	1.9	1.9	2.3‡	2.5	2.1
Been Drunk	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.3	4.1	4.6	3.3
Steroids [n]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	†	†	†	†	†	†

(Years cont.)

(Table continued on next page.)

TABLE 5-7b (cont.)
Trends in Noncontinuation Rates among 12th Graders
Who Used Drug 10 or More Times in Lifetime

Percentage who did not use in last 12 months

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Marijuana/Hashish	4.7	6.6	7.7	8.2	8.5	9.0	8.7	9.4	8.4	8.9	8.8	9.2	8.8	7.2	7.7	7.7	6.4	6.6	6.8	7.1
Inhalants [a]	21.6	24.8	25.2	28.0	27.8	23.0	30.8	25.7	23.8	30.1	12.2	26.3	24.8	19.3	20.7	26.4	23.2	24.4	31.7	33.8
Amyl/Butyl Nitrites	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	—	—	—	—	—
Hallucinogens [b]	10.6	9.0	12.2	16.4	12.8	12.9‡	12.3	20.0	21.5	12.1	14.3	19.1	13.3	7.3	13.1	12.7	5.4	8.8	14.6	16.6
LSD [c]	11.5	10.5	16.8	20.3	14.3	15.7	14.6	28.6	47.8	23.0	16.3	23.4	14.9	5.9	15.8	11.6	4.8	5.5	8.0	7.9
Hallucinogens other than LSD [b]	10.1	15.5	15.9	17.5	13.4	6.2‡	10.8	11.0	18.4	9.7	13.1	17.7	15.3	7.7	15.7	12.9	7.6	8.7	15.2	21.6
PCP	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	—	—	—	—	—
Ecstasy (MDMA) [d]	—	†	†	†	†	†	2.5	8.3	33.2	17.7	12.2	†	18.9	6.8	7.7	18.2	15.5	15.4	†	7.8
Cocaine	9.6	8.8	12.0	12.4	12.3	18.1	15.6	11.3	11.8	13.2	10.5	11.9	15.0	14.7	16.3	20.1	21.9	14.9	18.0	11.4
Crack [e]	6.3	8.3	17.4	19.5	16.0	13.5	7.1	10.9	12.1	13.7	7.5	18.5	18.4	17.9	14.6	21.9	19.9	15.2	13.2	8.7
Other Cocaine	15.5	13.9	14.6	17.1	13.1	22.5	14.9	11.7	11.0	15.6	12.4	14.5	11.8	17.5	18.4	19.5	24.8	14.8	17.6	13.5
Heroin [f]	†	†	†	†	†	†	†	†	†	†	†	†	†	†	13.5	21.4	14.5	25.5	†	†
With a needle	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†
Without a needle	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†	†
Narcotics other than Heroin [g,h]	12.6	11.5	10.1	12.4	12.2	10.8	9.7‡	8.3	9.2	8.2	8.4	12.2	9.0	9.0	11.1	12.4	9.2	14.2	14.5	13.8
Amphetamines [g,i]	11.9	10.2	10.8	15.0	12.7	11.2	7.7	10.0	8.9	12.9	13.0	11.3	13.8	17.7	13.3	11.2	17.2	16.3‡	9.7	11.9
Methamphetamine	—	—	—	—	12.4	22.8	19.2	23.9	29.1	13.5	21.5	16.9	†	†	†	†	†	†	†	†
Crystal Methamphetamine (Ice) [j]	†	†	†	†	†	†	†	11.2	†	23.1	†	†	†	†	†	†	†	†	†	†
Sedatives (Barbiturates) [g,k]	10.9	8.3	11.1	12.5	10.7	7.0	5.6	5.7	6.9	8.5	10.4	11.4	11.9	10.0	11.6	10.3	16.8	10.4	12.2	9.4
Sedatives, Adjusted	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methaqualone [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers [g,l]	6.2	6.9	13.9	13.6	9.9	5.3‡	8.1	5.8	11.2	7.9	9.8	12.3	10.7	8.7	8.8	10.6	14.4	12.9	15.7	18.1
Rohypnol	—	†	†	†	†	†	†	†	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol [m]	2.0	1.6	1.9	1.9	1.7	1.7	1.3	1.9	1.5	1.3	1.6	1.4	1.2	1.5	1.6	1.6	1.8	1.4	1.7	1.5
Been Drunk	2.8	2.1	3.6	2.8	1.8	2.6	2.3	2.0	2.9	2.1	2.9	3.1	2.2	2.6	2.9	3.0	2.4	2.0	2.0	2.4
Steroids [n]	†	†	†	†	†	†	†	†	†	†	†	11.9	†	†	†	0.0	†	†	†	†

(Table continued on next page.)

TABLE 5-7b (cont.)
Trends in Noncontinuation Rates among 12th Graders
Who Used Drug 10 or More Times in Lifetime

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' — ' indicates data not available. ' † ' indicates that the cell entry was omitted because it was based on fewer than 50 twelfth graders who used 10 or more times. All other cells are based on more than 50 cases. ' ‡ ' indicates some change in the question. See relevant footnote for that drug.

[a]Inhalants are unadjusted for underreporting of amyl and butyl nitrites.

[b]In 2001 the question text was changed in half of the questionnaire forms. Other psychedelics was changed to other hallucinogens, and shrooms was added to the list of examples. The 2001 data are based on the changed forms only. In 2002 the remaining forms were changed. Beginning in 2002, the data are based on all forms. Data for hallucinogens are also affected by these changes and have been handled in a parallel manner. Hallucinogens are unadjusted for underreporting of PCP.

[c]Based on 55 cases in 2009.

[d]Based on 54 cases in 2005, 55 cases in 2009, 56 cases in 2010, and 57 cases in 2012.

[e]Based on 85 cases in 1987, 54 cases in 1988, and 56 cases in 1989. Crack was included in all six questionnaire forms beginning in 1990. Based on 56 cases in 2013.

[f]In 1995, the heroin question was changed in three of six forms. Separate questions were asked for use with and without injection. Data presented here represent the combined data from all forms. Based on 54 cases in 2009.

[g]Only drug use not under a doctor's orders is included here.

[h]In 2002 the question text was changed in half of the questionnaire forms. In the list of examples of narcotics other than heroin, Talwin, laudanum, and paregoric were replaced with Vicodin, OxyContin, and Percocet. The 2002 data are based on the changed forms only. In 2003, the remaining forms were changed to the new wording. Beginning in 2003, the data are based on all forms. In 2013 the list of examples was changed on one form: MS Contin, Roxycodone, Hydrocodone (Lortab, Lorcet, Norco), Suboxone, Tylox, and Tramadol were added to the list. An examination of the data did not show any effect from the wording change.

[i]In 2009, the question text was changed slightly in half of the forms. An examination of the data did not show any effect from the wording change. In 2010 the remaining forms. were changed. In 2011 the introduction to the question was changed slightly in one of six forms. An examination of the data did not show any effect from the wording change. In 2013 the question wording was chanaged in three of the questionnaires. The new wording in 2013 asked "On how many occasions (if any) have you taken amphetamines or other prescription stimulant drugs…" In contrast, the old wording did not include the text highlighted in red. Results in 2013 indicated higher prevalence in questionnaires with the new as compared to the old wording; it was 21% higher in 12th grade. 2013 data are based on the changed forms only; *N* is one half of *N* indicated. In 2014 all questionnaires included the new, updated wording.

[j]Based on 55 cases in 2002 and 56 cases in 2004.

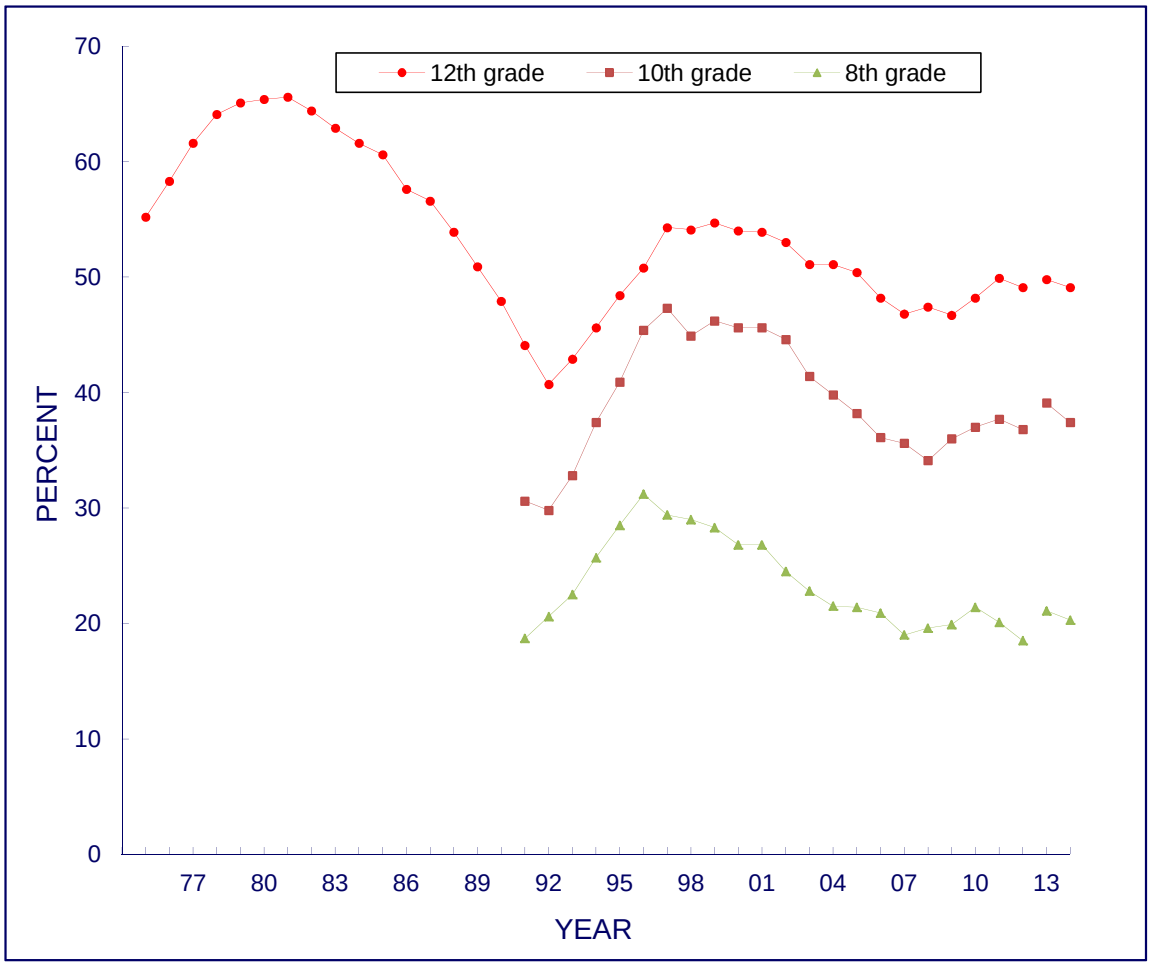
[k]For 12th graders only: In 2004 the question text was changed in half of the questionnaire forms. Barbiturates was changed to sedatives, including barbiturates. Goofballs, yellows, reds, blues, and rainbows were deleted from the list of examples; Phenobarbital, Tuinal, Nembutal, and Seconal were added. An examination of the data did not show any effect from the wording change. In 2005 the remaining forms were changed in a like manner. In 2013 the question text was changed in all forms: Tuinal, Nembutal, and Seconal were replaced with Ambien, Lunesta, and Sonata. In one form the list of examples was also changed: Tuinal was dropped from the list and Dalmane, Restoril, Halcion, Intermezzo, and Zolpimist were added. An examination of the data did not show any effect from the wording change.

[l]In 2001, for the tranquilizer list of examples, Miltown was replaced with Xanax in half of the questionnaire forms. The 2001 data are based on the changed forms only. In 2002 the remaining forms were changed. Beginning in 2002, the data are based on all forms.

[m]In 1993, the question text was changed slightly in half of the questionnaire forms to indicate that a drink meant more than a few sips. The 1993 data are based on the changed forms only. In 1994 the remaining forms were changed to the new wording. Beginning in 1994, the data are based on all forms. In 2004, the question text was changed slightly in half of the forms. An examination of the data did not show any effect from the wording change. The remaining forms were changed in 2005.

[n]In 2006, the question text was changed slightly in one of the questionnaire forms. An examination of the data did not show any effect from the wording change. Based on 62 cases in 2006. The remaining forms were changed in 2007. In 2008 the question text was changed slightly. An examination of the data did not show any effect from the wording change. In 2009 the remaining forms were changed in a like manner. Based on 51 cases in 2010.

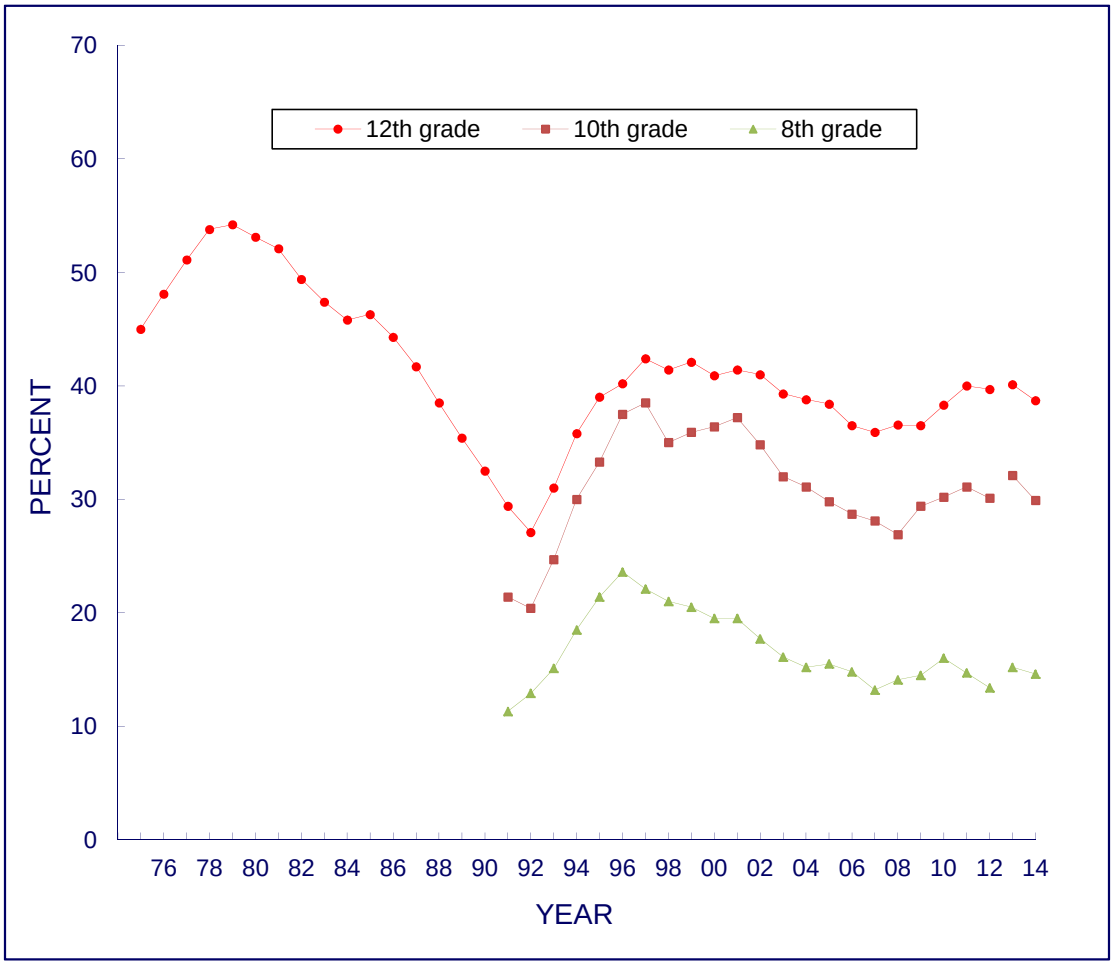
FIGURE 5-1
An Illicit Drug Use Index
Trends in Lifetime Prevalence by Grade



Source. The Monitoring the Future study, the University of Michigan.

Notes. Use of any illicit drug includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin; or any use of other narcotics, stimulants, sedatives (barbiturates), methaqualone (excluded since 1990), or tranquilizers which are not under a doctor's orders. Beginning in 1982, the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of nonprescription stimulants. The prevalence rate dropped slightly as a result of this methodological change. Beginning in 2001, revised sets of questions on other hallucinogen and tranquilizer use were introduced. Data for any illicit drug other than marijuana are affected by these changes. Beginning in 2013, revised sets of questions on amphetamine use were introduced, which affected data for any illicit drug use.

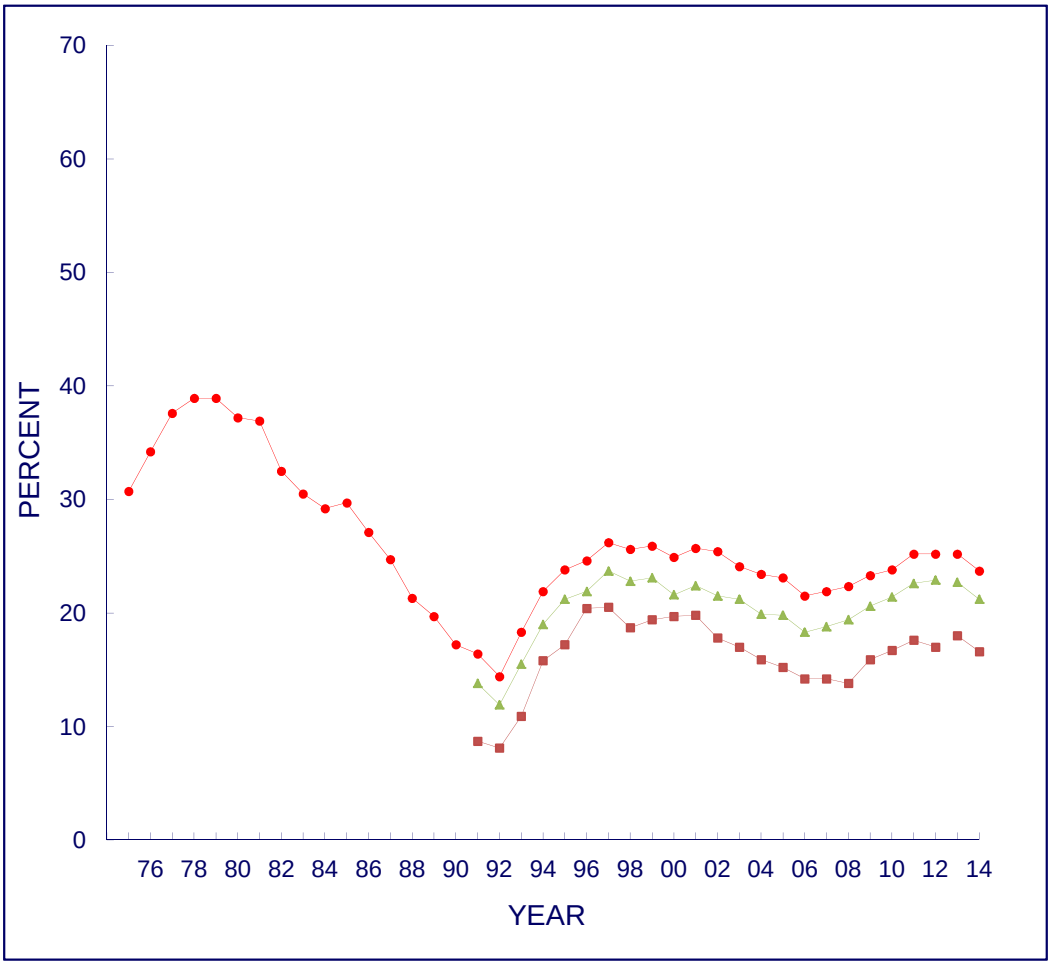
FIGURE 5-2
An Illicit Drug Use Index
Trends in Annual Prevalence in Grade 12



Source. The Monitoring the Future study, the University of Michigan.

Notes. Use of any illicit drug includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin; or any use of other narcotics, stimulants, sedatives (barbiturates), methaqualone (excluded since 1990), or tranquilizers which are not under a doctor's orders. Beginning in 1982, the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of nonprescription stimulants. The prevalence rate dropped slightly as a result of this methodological change. Beginning in 2001, revised sets of questions on other hallucinogen and tranquilizer use were introduced. Data for any illicit drug other than marijuana are affected by these changes. Beginning in 2013, revised sets of questions on amphetamine use were introduced. Data for any illicit drug and any illicit drug other than marijuana are affected by this change.

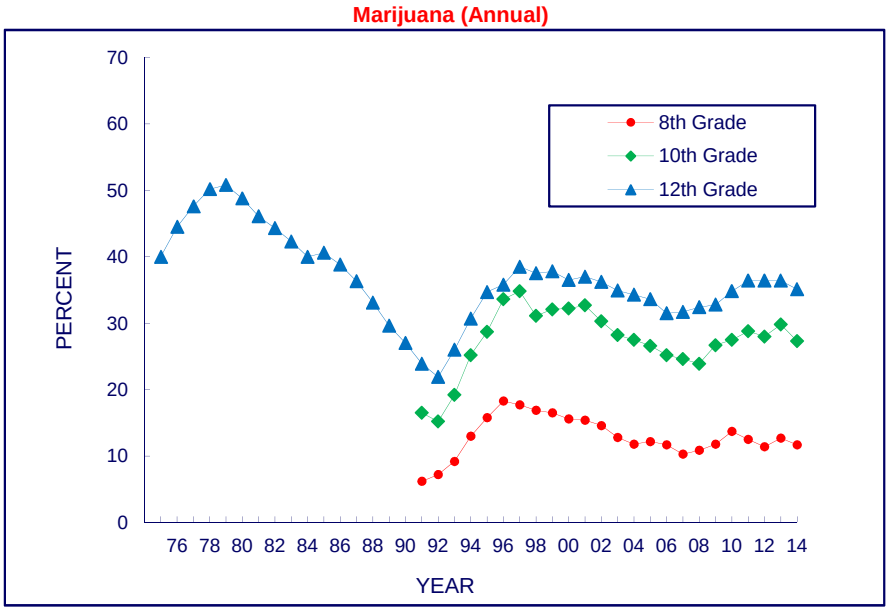
FIGURE 5-3
An Illicit Drug Use Index
Trends in 30-Day Prevalence in Grade 12

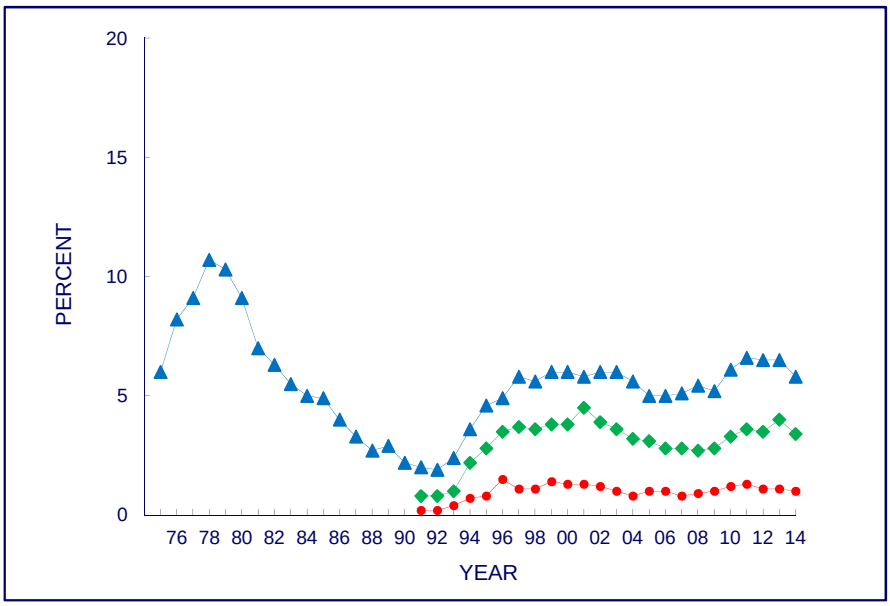


Source. The Monitoring the Future study, the University of Michigan.

Notes. Use of any illicit drug includes any use of marijuana, LSD, other hallucinogens, crack, other cocaine, or heroin; or any use of other narcotics, stimulants, sedatives (barbiturates), methaqualone (excluded since 1990), or tranquilizers which are not under a doctor's orders. Beginning in 1982, the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of nonprescription stimulants. The prevalence rate dropped slightly as a result of this methodological change. Beginning in 2001, revised sets of questions on other hallucinogen and tranquilizer use were introduced. Data for any illicit drug other than marijuana are affected by these changes. Beginning in 2013, revised sets of questions on amphetamine use were introduced. Data for any illicit drug and any illicit drug other than marijuana are affected by this change.

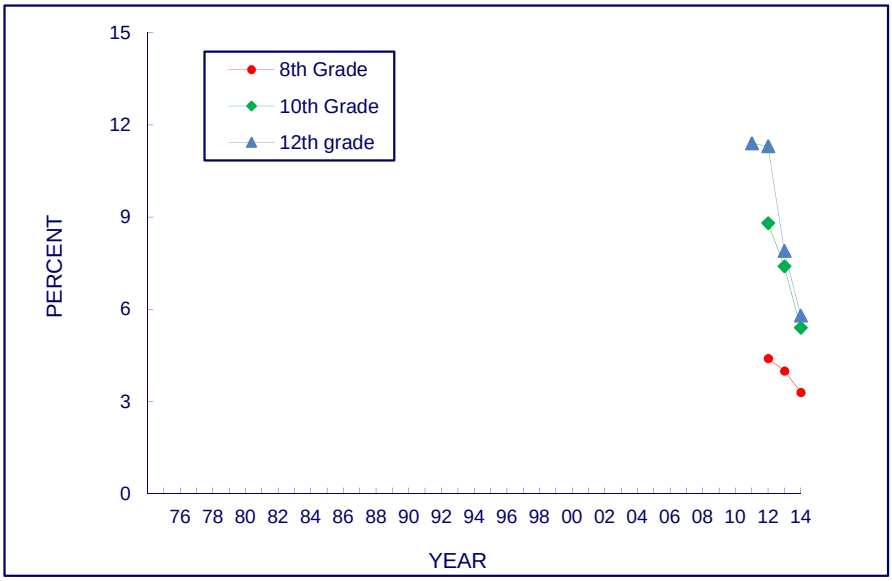
FIGURE 5-4a
MARIJUANA
Trends in Annual Prevalence and 30-Day Prevalence of Daily Use in Grades 8, 10, and 12





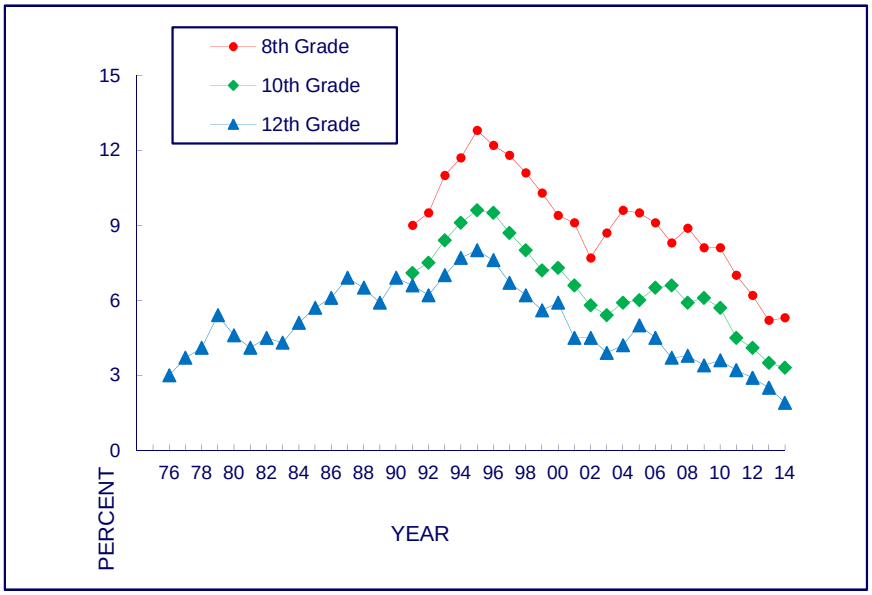
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 5-4b
Synthetic Marijuana
Trends in Annual Prevalence in Grades 8, 10, and 12



Source. The Monitoring the Future study, the University of Michigan.

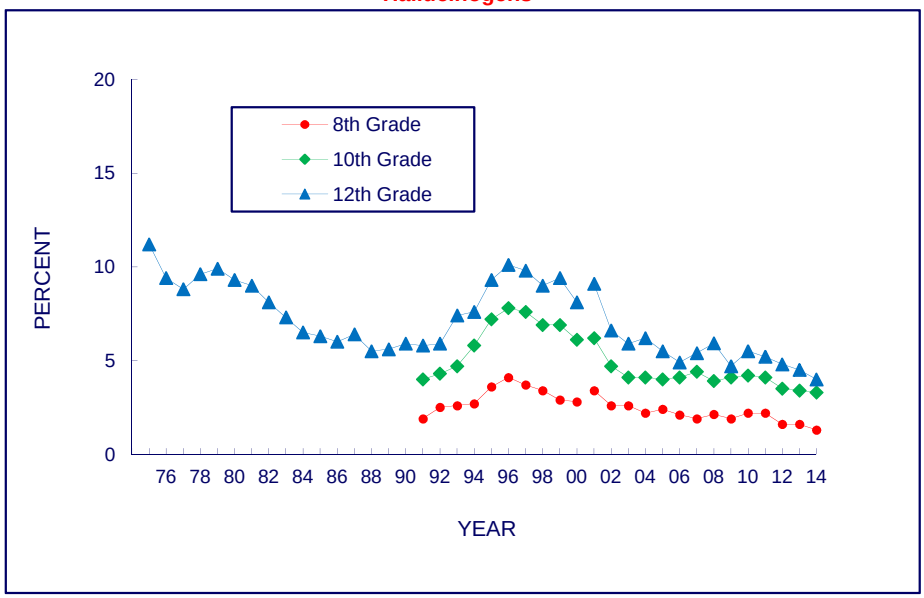
FIGURE 5-4c
INHALANTS
Trends in Annual Prevalence in Grades 8, 10, and 12



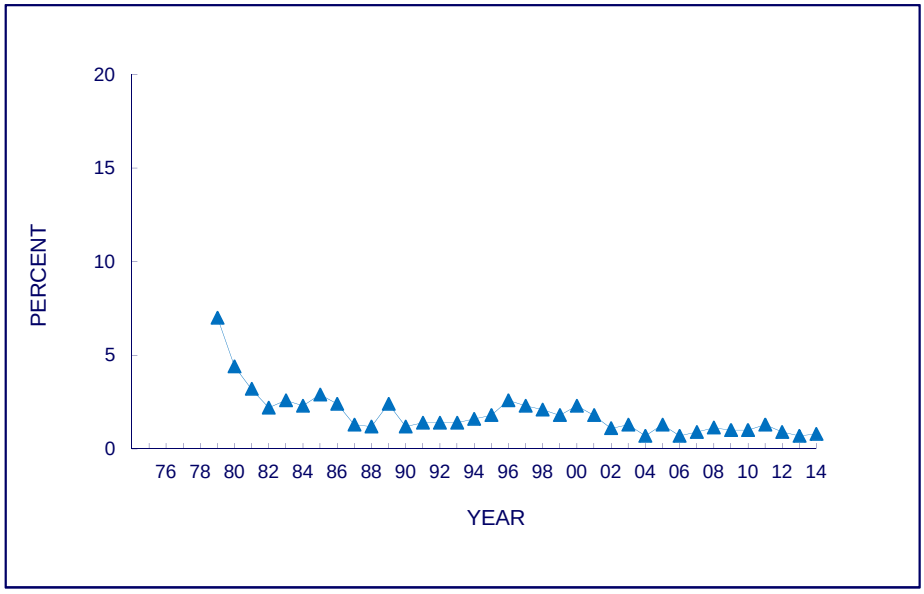
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 5-4d
HALLUCINOGENS AND PCP
Trends in Annual Prevalence in Grades 8, 10, and 12

Hallucinogens [a]



PCP [b]



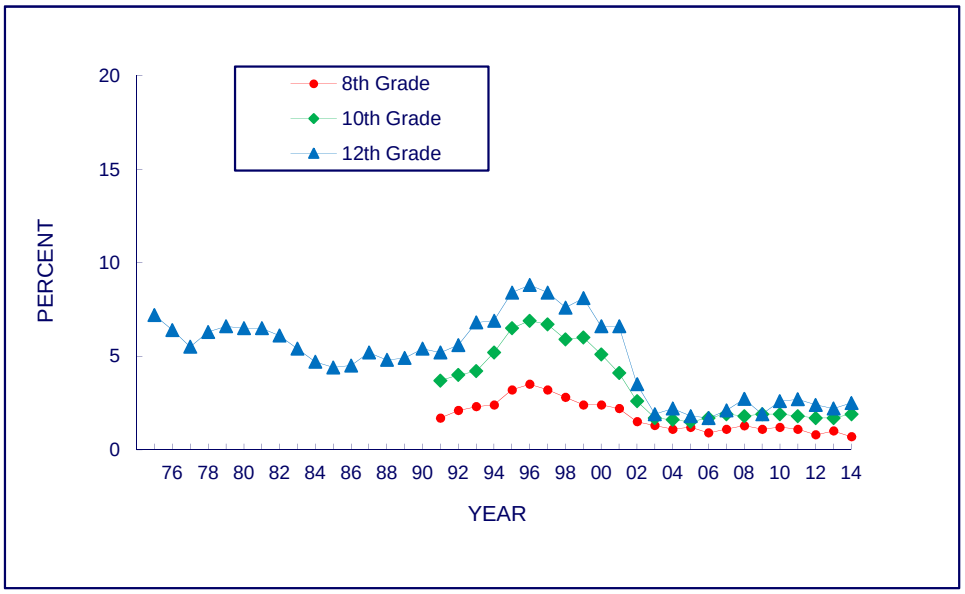
Source. The Monitoring the Future study, the University of Michigan.

[a]In 2001, a revised set of questions on other hallucinogen use was introduced. Other psychedelics was changed to other hallucinogens and shrooms was added to the list of examples. Data for hallucinogens were affected by these changes. From 2001 on, data points are based on the revised question.

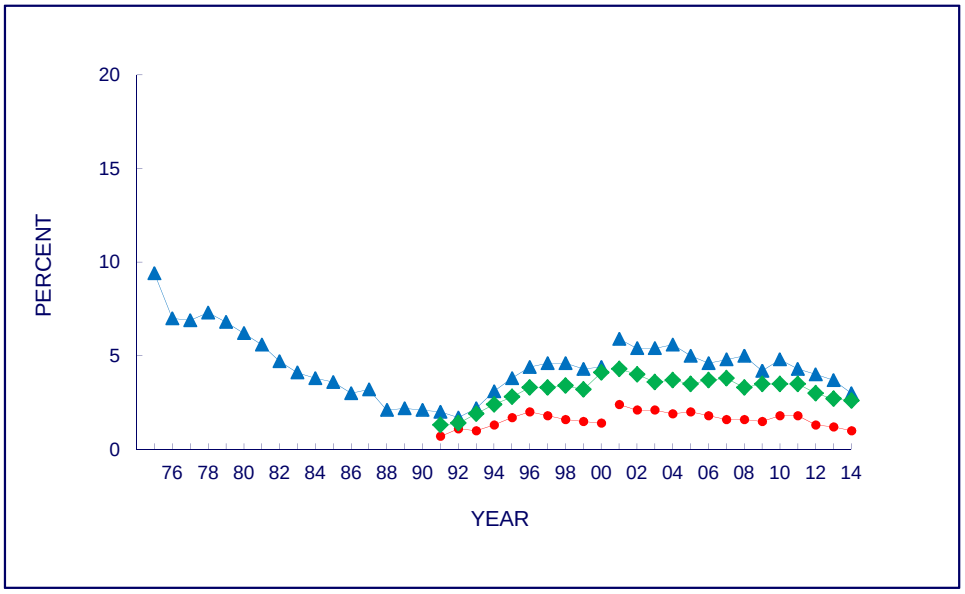
[b]Eighth and 10th graders are not asked about PCP use.

FIGURE 5-4e
LSD AND HALLUCINOGENS OTHER THAN LSD
Trends in Annual Prevalence in Grades 8, 10, and 12

LSD



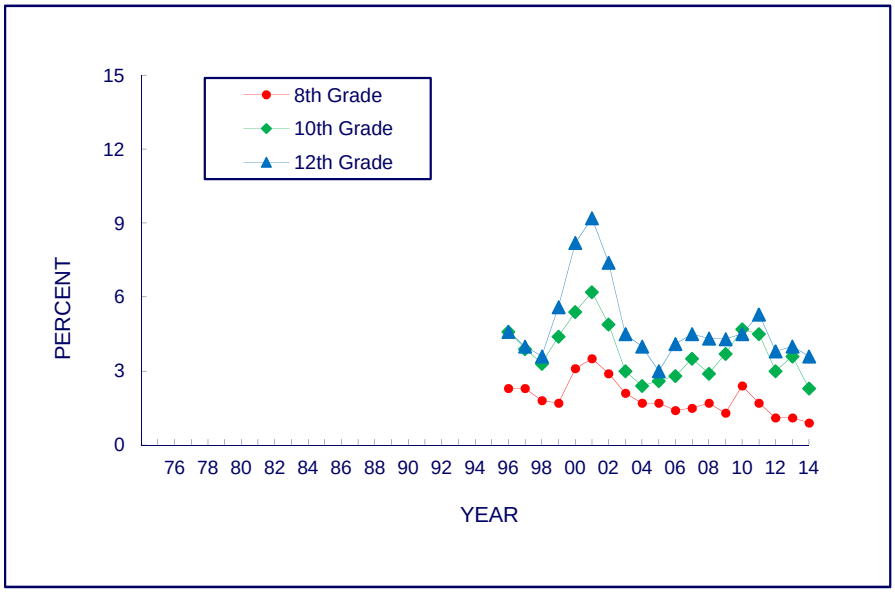
Hallucinogens other than LSD [a]



Source. The Monitoring the Future study, the University of Michigan.

[a]In 2001, a revised set of questions on other hallucinogen use was introduced. Other psychedelics was changed to other hallucinogens and shrooms was added to the list of examples. From 2001 on data points are based on the revised question.

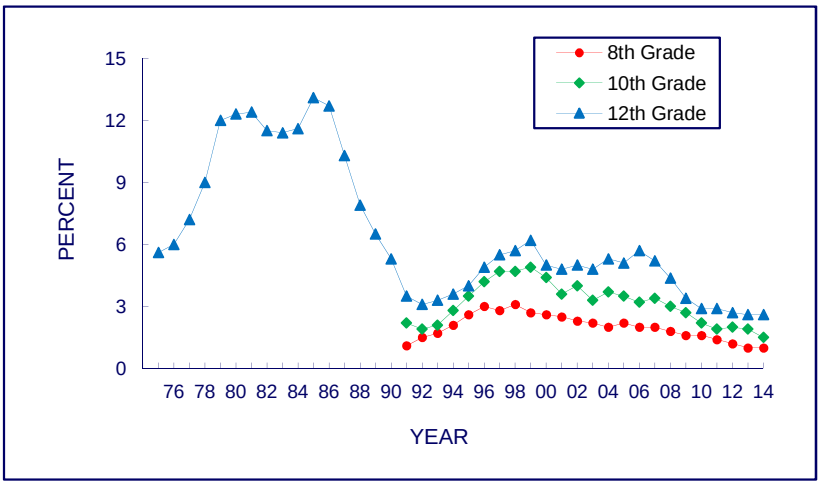
FIGURE 5-4f
ECSTASY (MDMA)
Trends in Annual Prevalence in Grades 8, 10, and 12



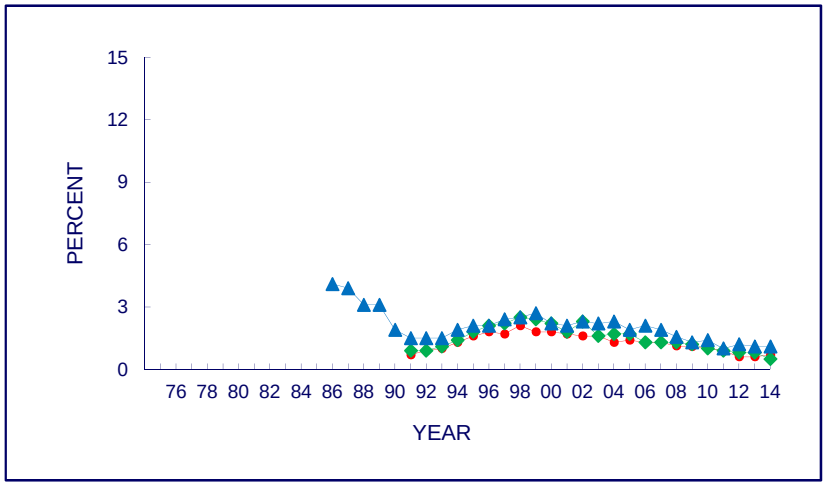
Source: The Monitoring the Future study, the University of Michigan.

FIGURE 5-4g
COCAINE, CRACK, AND OTHER COCAINE
Trends in Annual Prevalence in Grades 8, 10, and 12

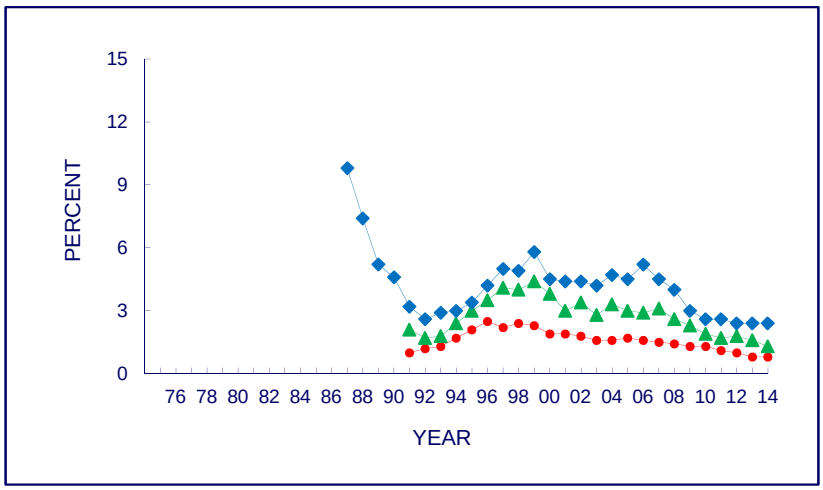
Cocaine



Crack



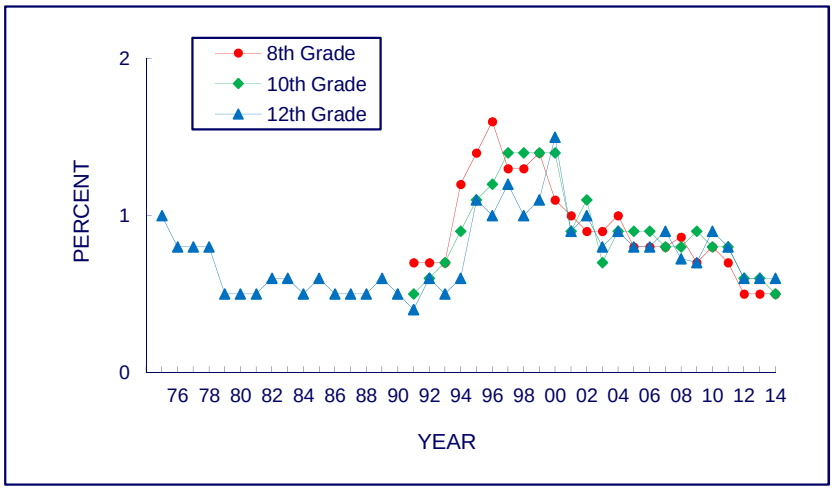
Other Cocaine



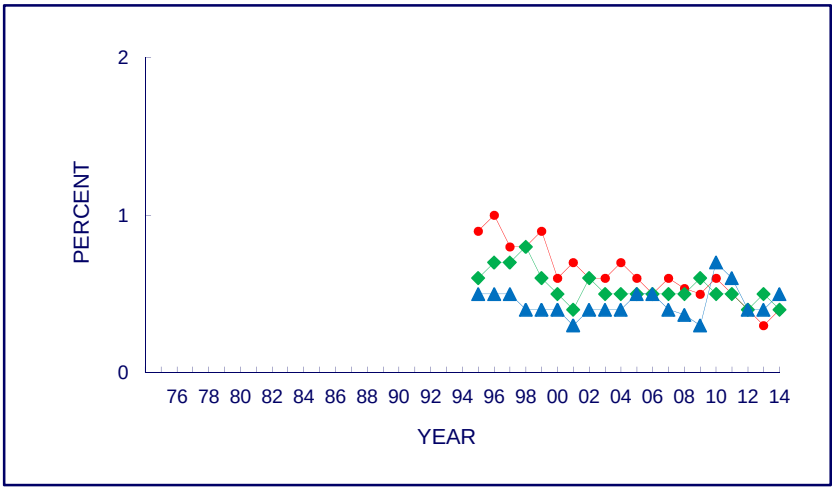
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 5-4h
HEROIN
Trends in Annual Prevalence in Grades 8, 10, and 12

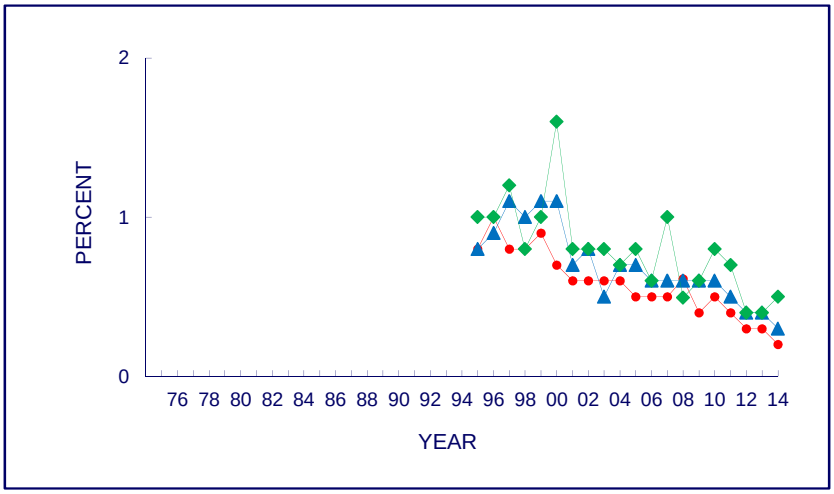
Heroin



Heroin with a Needle

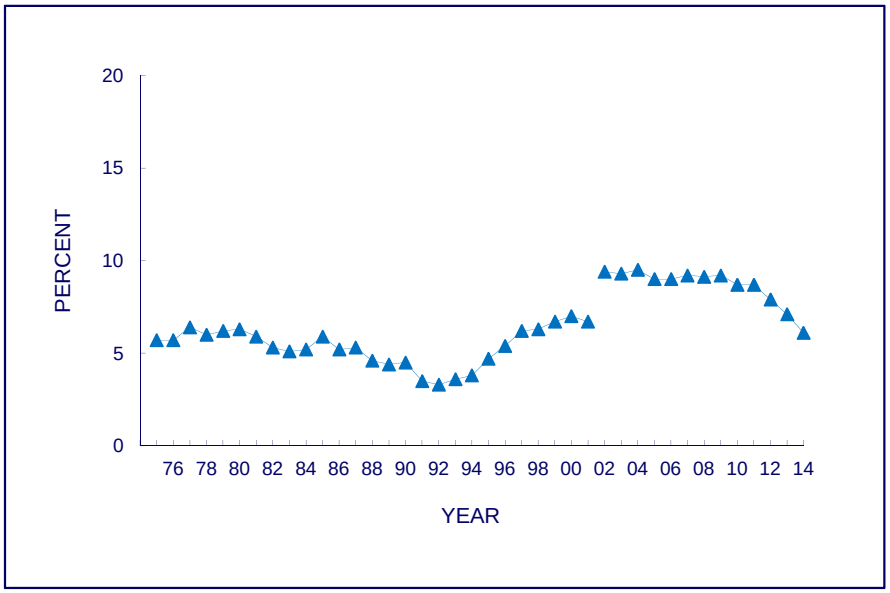


Heroin without a Needle



Source. The Monitoring the Future study, the University of Michigan.

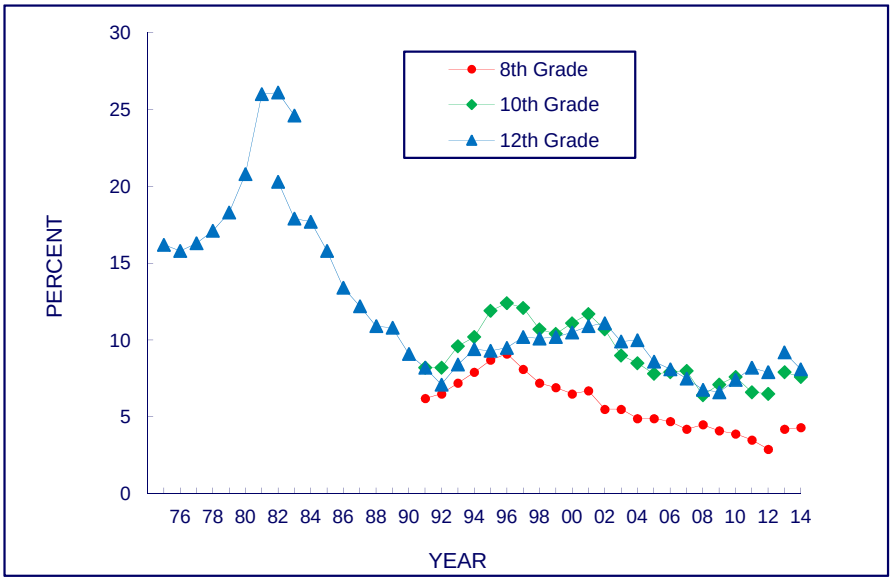
FIGURE 5-4i
NARCOTICS OTHER THAN HEROIN [a]
Trends in Annual Prevalence in Grade 12



Source. The Monitoring the Future study, the University of Michigan.

[a]Data for 8th and 10th graders are not reported for use of narcotics other than heroin. In 2002, a revised set of questions on other narcotic use was introduced. Talwin, laudanum, and paregoric were replaced with Vicodin, OxyContin, and Percocet in the list of examples. From 2002 on, data points are based on the revised question.

FIGURE 5-4j
AMPHETAMINES [a]
Trends in Annual Prevalence in Grades 8, 10, and 12



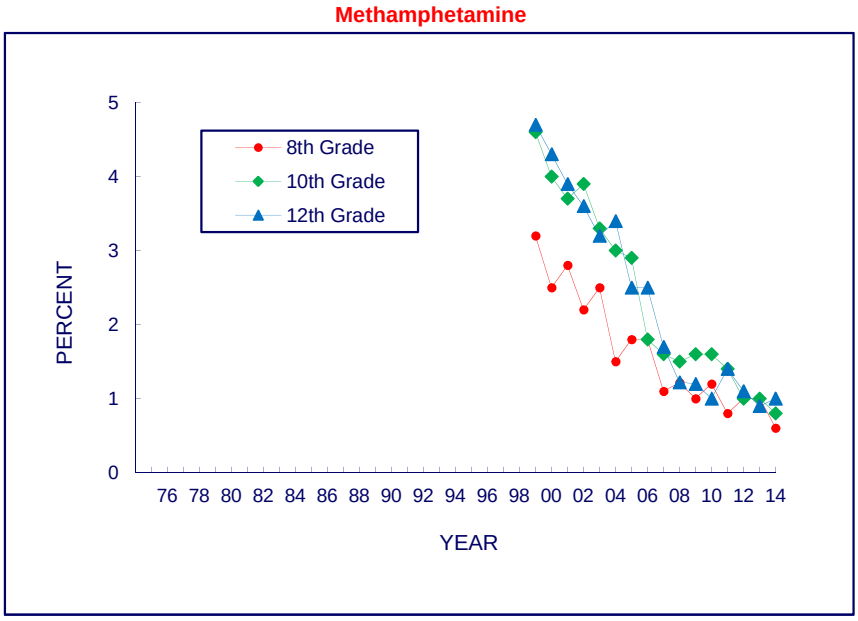
Source. The Monitoring the Future study, the University of Michigan.

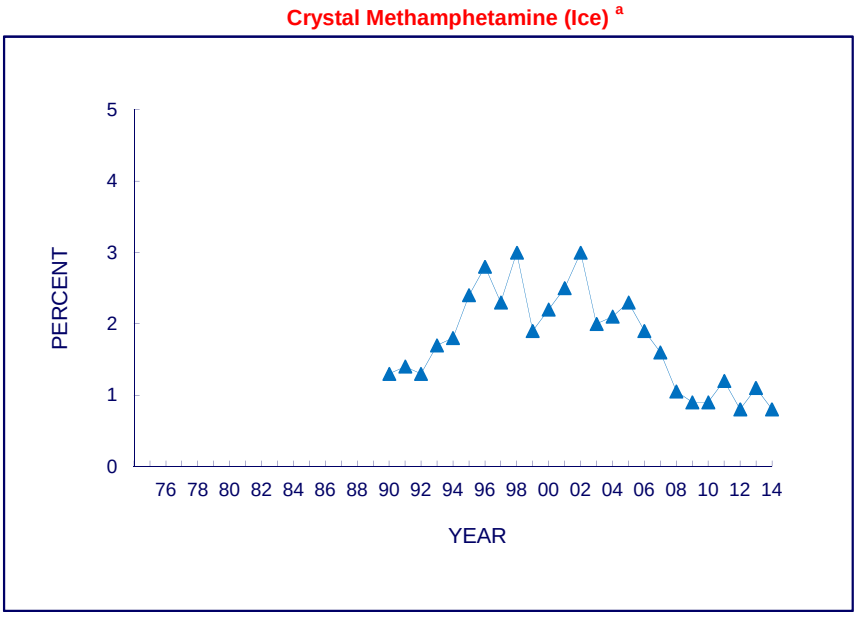
[a]Beginning in 1982, the lines connect percentages that result if nonprescription stimulants are excluded. In 2013, the text was changed on some of the questionnaire forms for all three grades, with the remaining forms changed in 2014. Data presented here include only the changed forms.

FIGURE 5-4k

METHAMPHETAMINE AND CRYSTAL METHAMPHETAMINE (ICE)

Trends in Annual Prevalence in Grades 8, 10, and 12

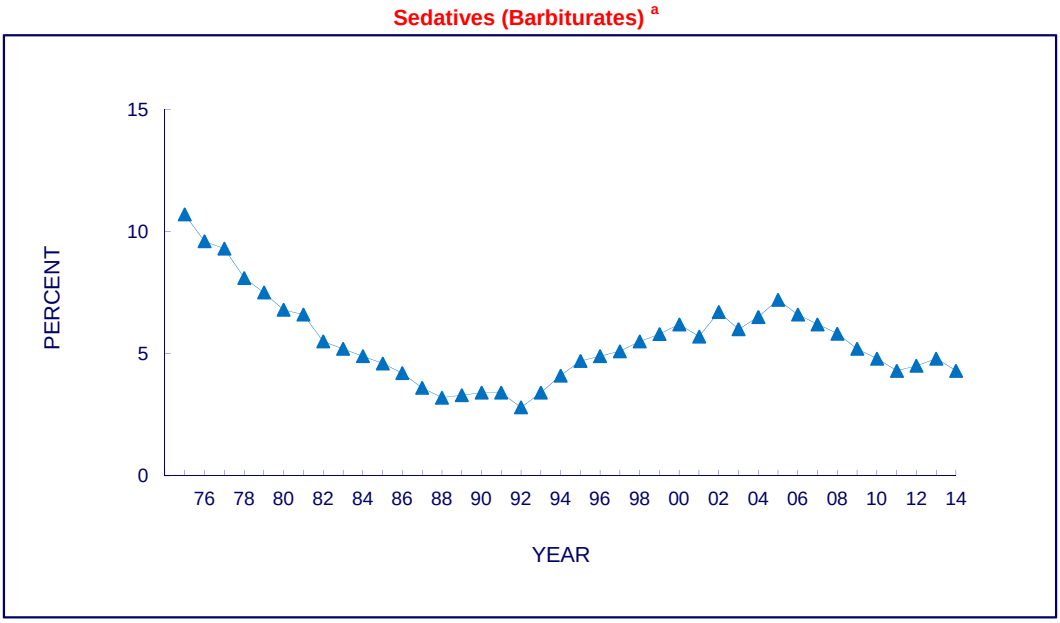




Source. The Monitoring the Future study, the University of Michigan.

[a]Eighth and 10th graders are not asked about crystal methamphetamine use.

FIGURE 5-4l
SEDATIVES (BARBITURATES)
Trends in Annual Prevalence in Grade 12



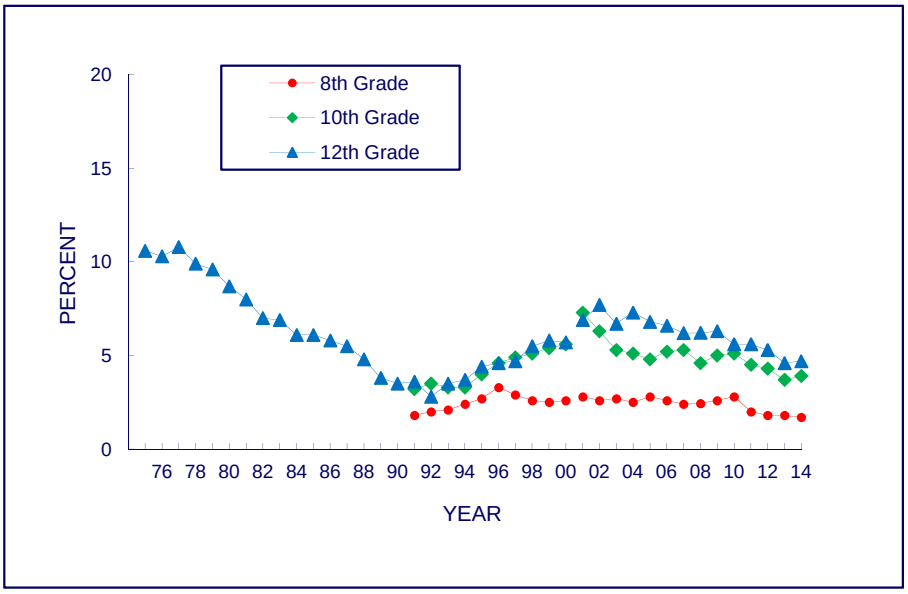
Source. The Monitoring the Future study, the University of Michigan.

[a]In 2004 the question text was changed. Goofballs, yellows, reds, blues, and rainbows were deleted from the list of examples. Phenobarbital, Tuinal, and Seconal were added. An examination of the data did not show any effect from the wording change.

FIGURE 5-4m

TRANQUILIZERS[a]

Trends in Annual Prevalence in Grades 8, 10, and 12



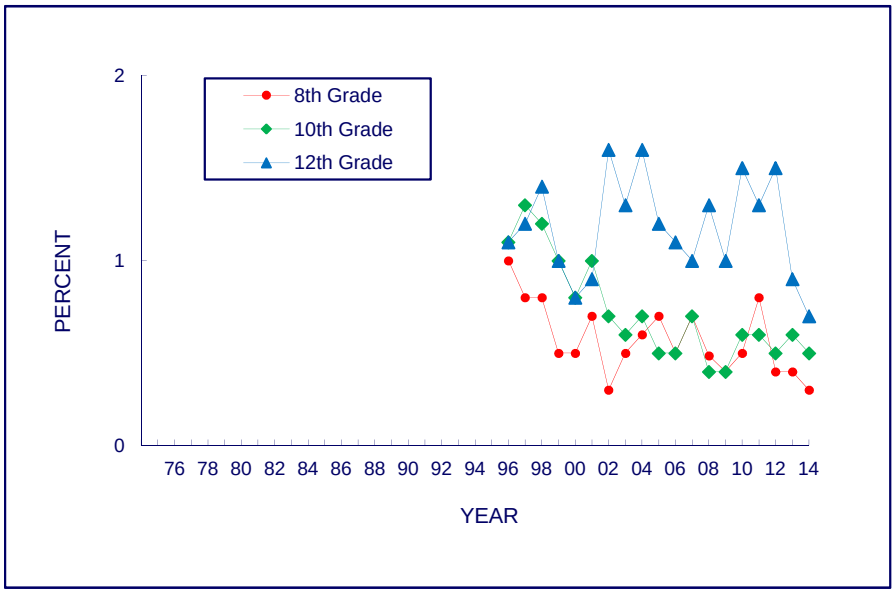
Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2001, a revised set of questions on tranquilizer use was introduced in which Xanax replaced Miltown in the list of examples. From 2001 on data points are based on the revised question.

FIGURE 5-4n

ROHYPNOL[a]

Trends in Annual Prevalence in Grades 8, 10, and 12

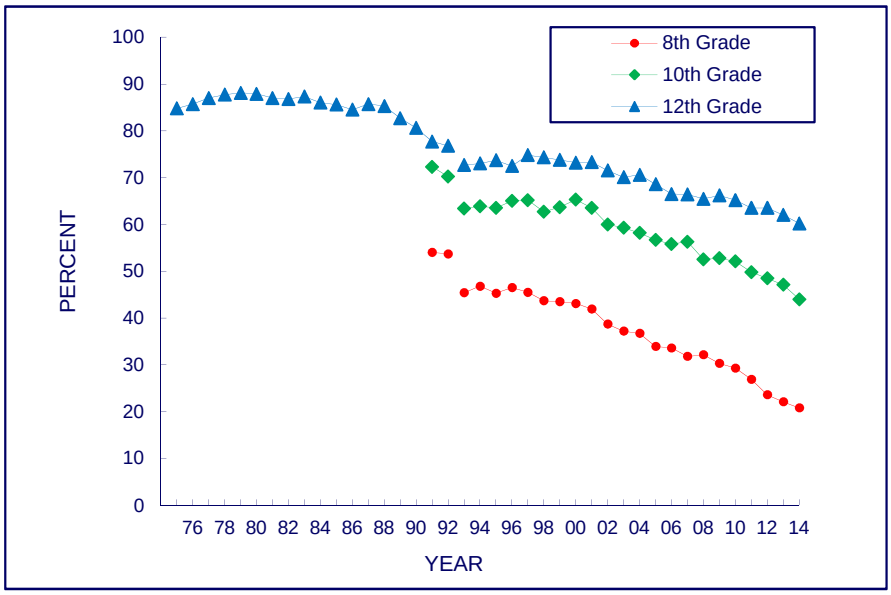


Source. The Monitoring the Future study, the University of Michigan.

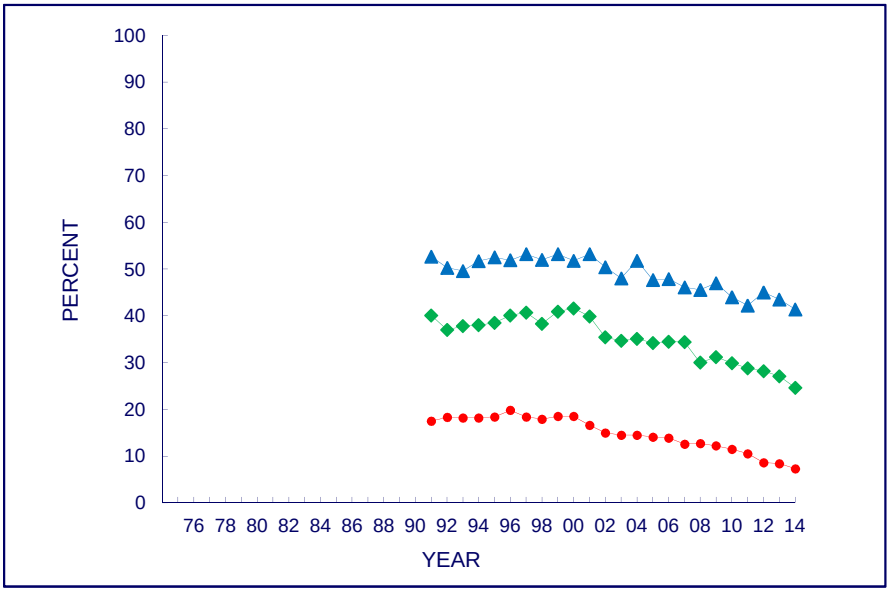
[a]For 12th graders only, Rohypnol data for 2001 are not comparable with data for 2002 due to changes in the questionnaire forms.

FIGURE 5-4o
ALCOHOL AND BEEN DRUNK
Trends in Annual Prevalence in Grades 8, 10, and 12

Alcohol [a]



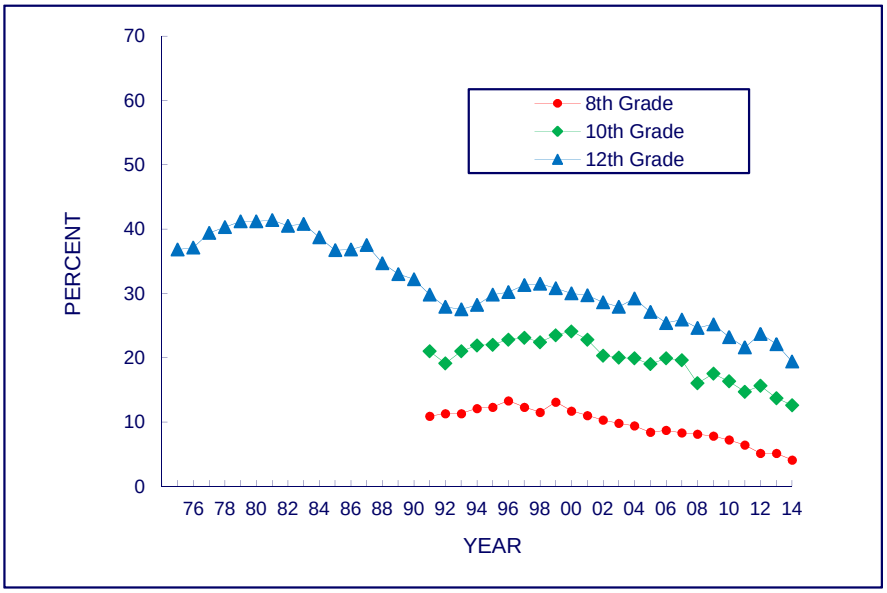
Been Drunk



Source. The Monitoring the Future study, the University of Michigan.

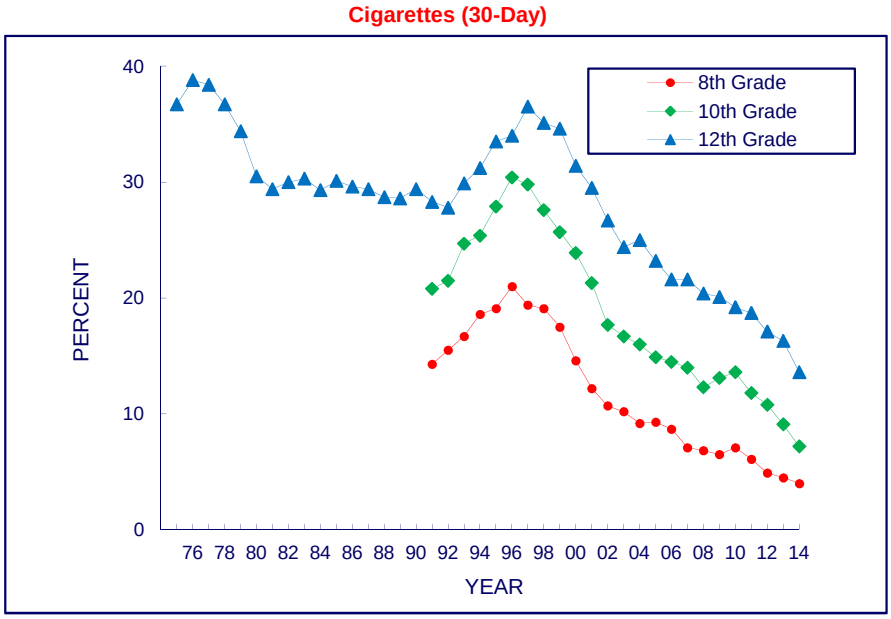
[a]In 1993, a revised set of questions on alcohol use was introduced indicating that a drink meant more than a few sips. From 1993 on, data points are based on the revised question.

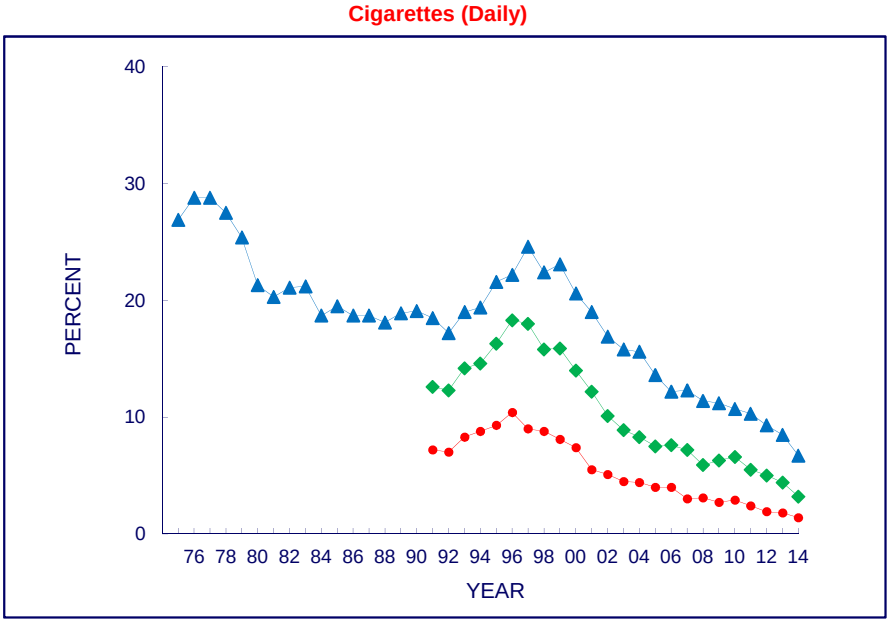
FIGURE 5-4p
FIVE OR MORE DRINKS IN A ROW
Trends in 2-Week Prevalence in Grades 8, 10, and 12



Source. The Monitoring the Future study, the University of Michigan.

FIGURE 5-4q
CIGARETTES
Trends in 30-Day Prevalence and 30-Day Prevalence of Daily Use in Grades 8, 10, and 12

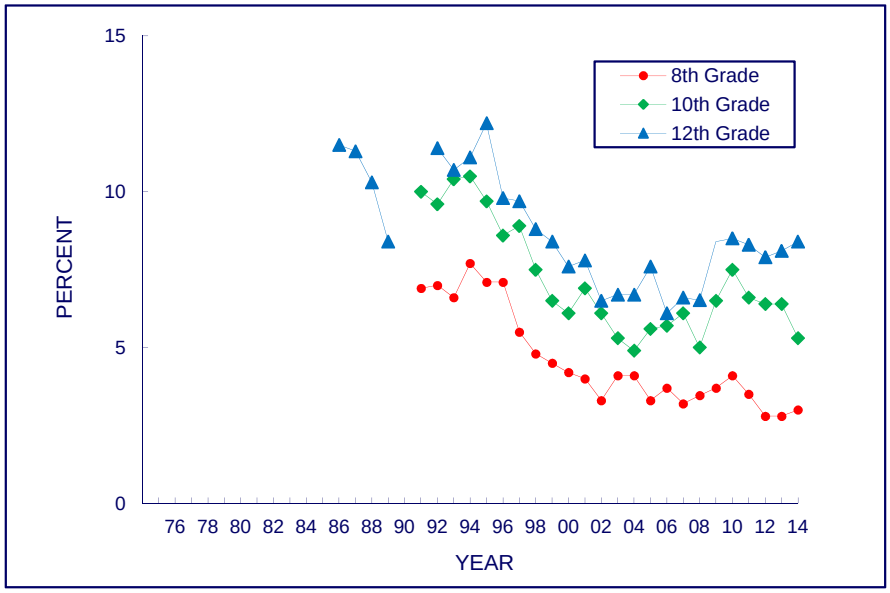




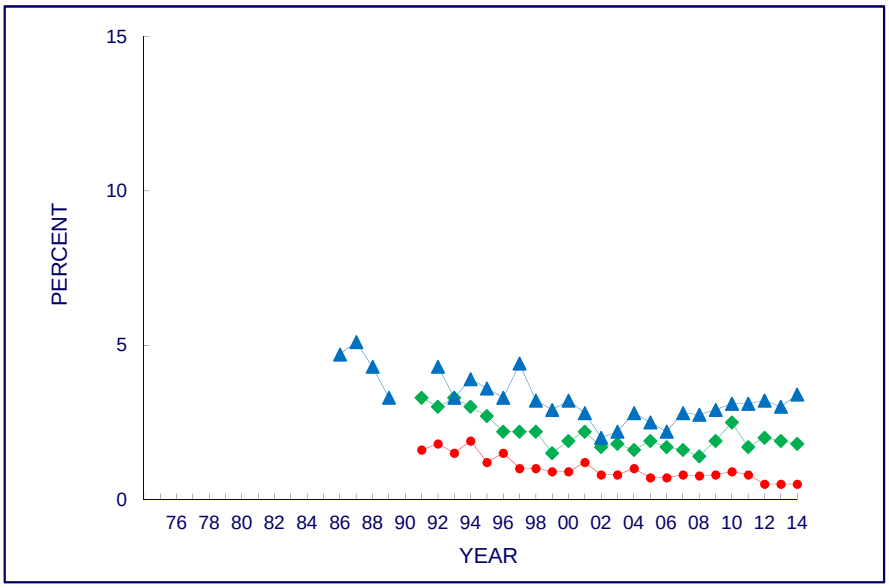
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 5-4r
SMOKELESS TOBACCO
Trends in 30-Day Prevalence and 30-Day Prevalence of Daily Use in Grades 8, 10, and 12

Smokeless Tobacco (30-Day)



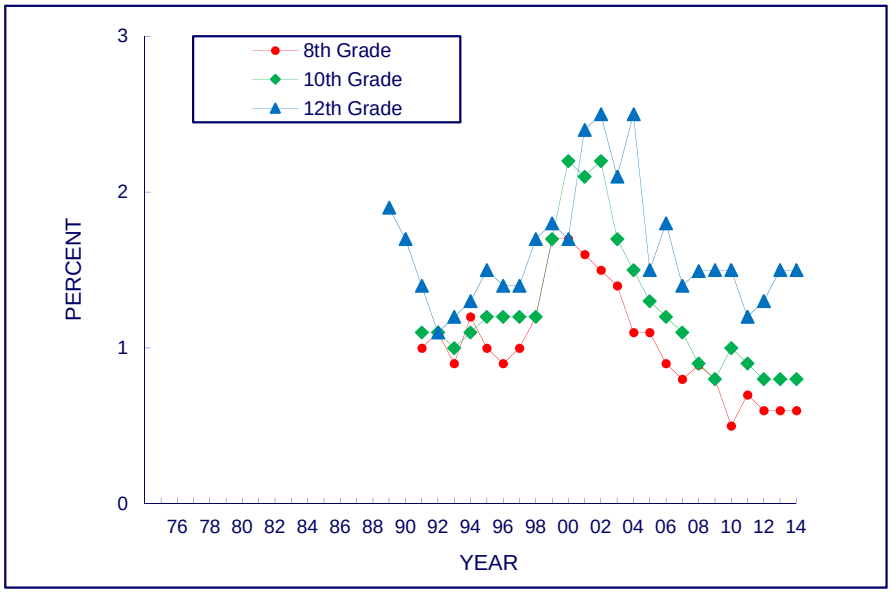
Smokeless Tobacco (Daily) [a]



Source. The Monitoring the Future study, the University of Michigan.

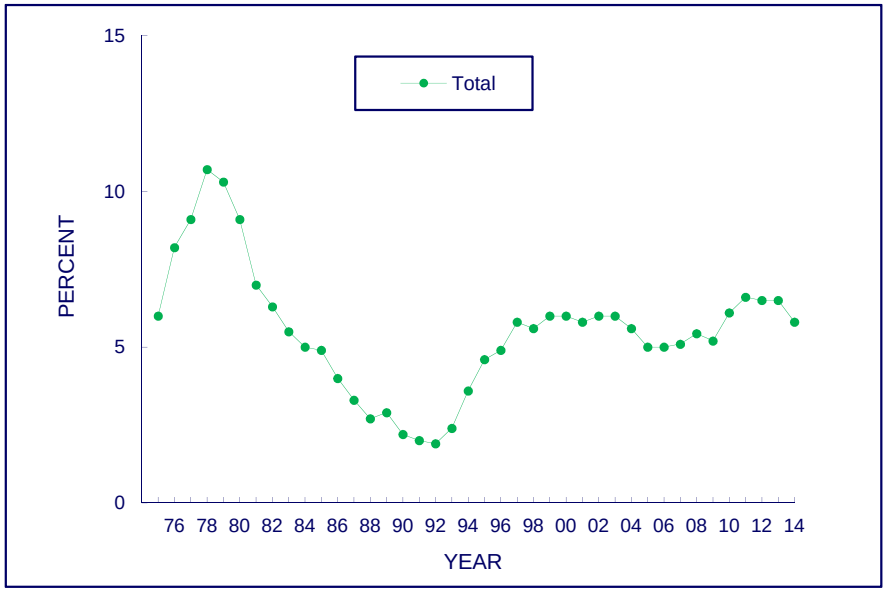
[a]Twelfth graders: Smokeless tobacco data not available in 1990 or 1991.

FIGURE 5-4s
STEROIDS
Trends in Annual Prevalence in Grades 8, 10, and 12



Source. The Monitoring the Future study, the University of Michigan.

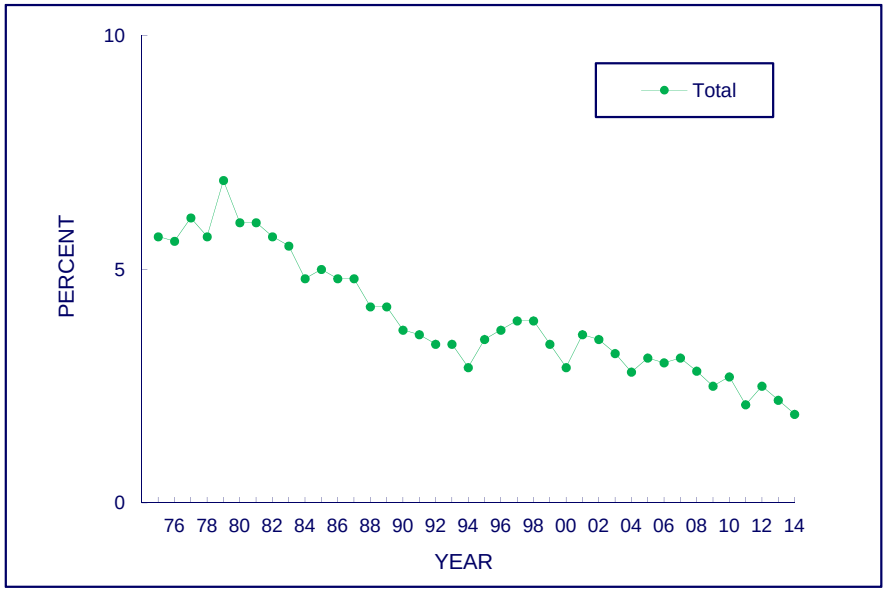
FIGURE 5-5a
MARIJUANA
Trends in 30-Day Prevalence of Daily Use in Grade 12 by Total and by Gender

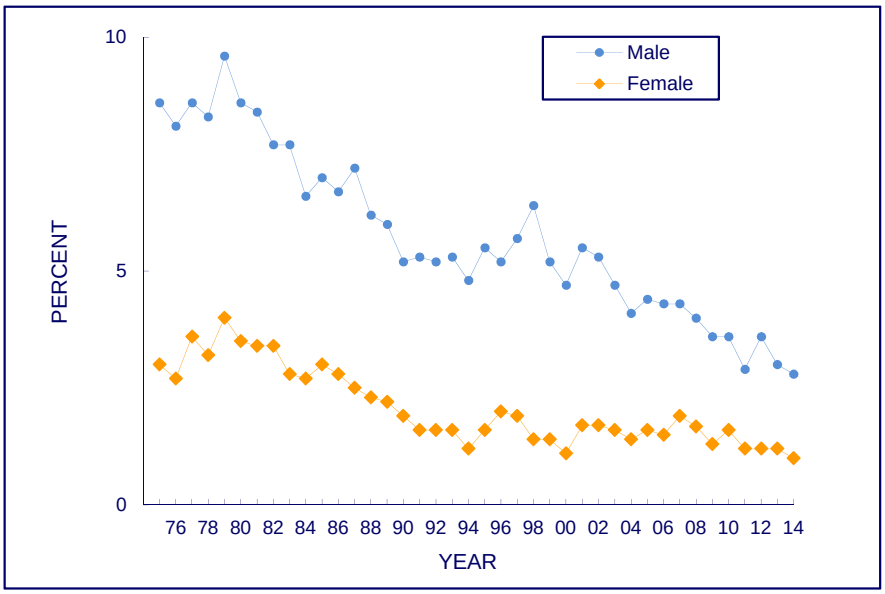


Source. The Monitoring the Future study, the University of Michigan.

Note. Daily use for marijuana is defined as use on 20 or more occasions in the last 30 days.

FIGURE 5-5b
ALCOHOL [a]
Trends in 30-Day Prevalence of Daily Use in Grade 12
by Total and by Gender



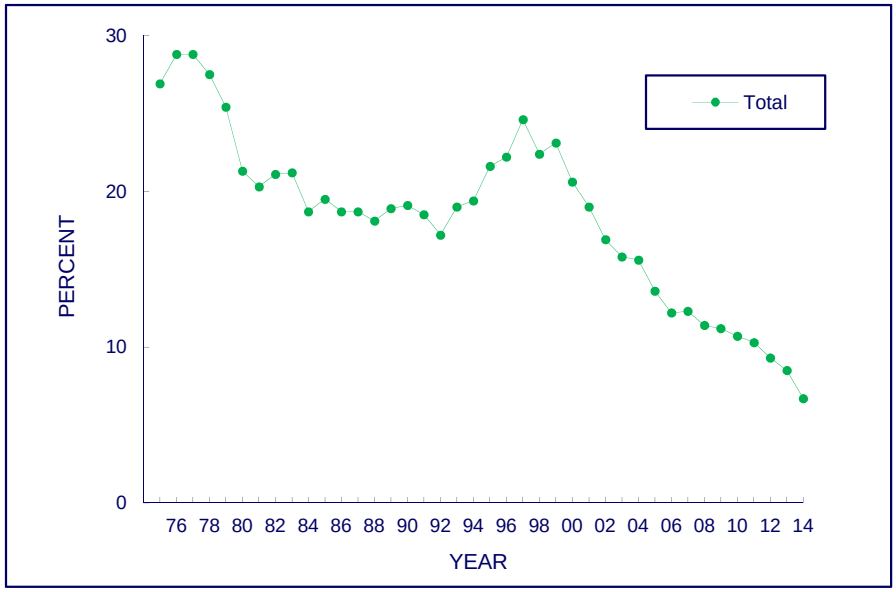


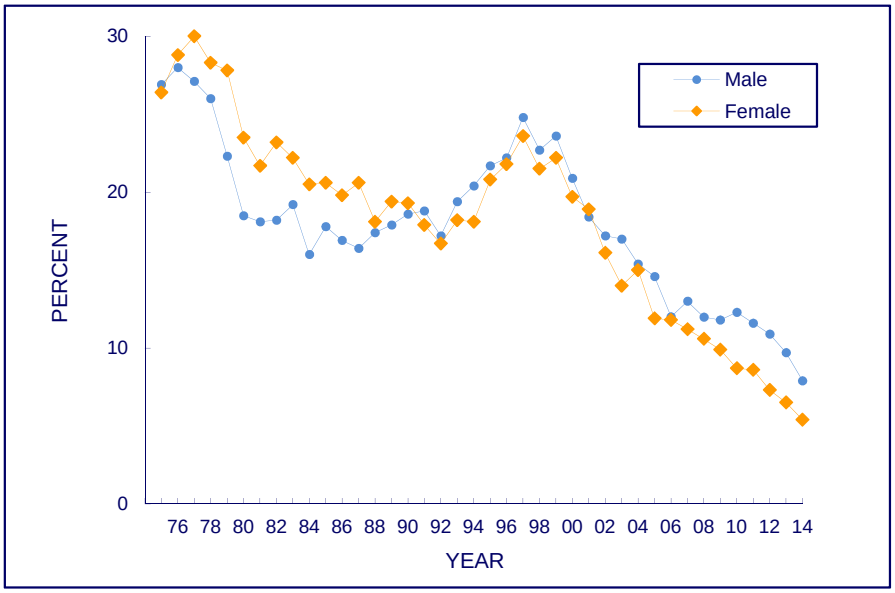
Source. The Monitoring the Future study, the University of Michigan.

Note. Daily use for alcohol is defined as use on 20 or more occasions in the last 30 days.

[a]In 1993, a revised set of questions on alcohol use was introduced indicating that a drink meant more than a few sips. From 1993 on, data points are based on the revised question.

FIGURE 5-5c
CIGARETTES
Trends in 30-Day Prevalence of Daily Use in Grade 12
by Total and by Gender

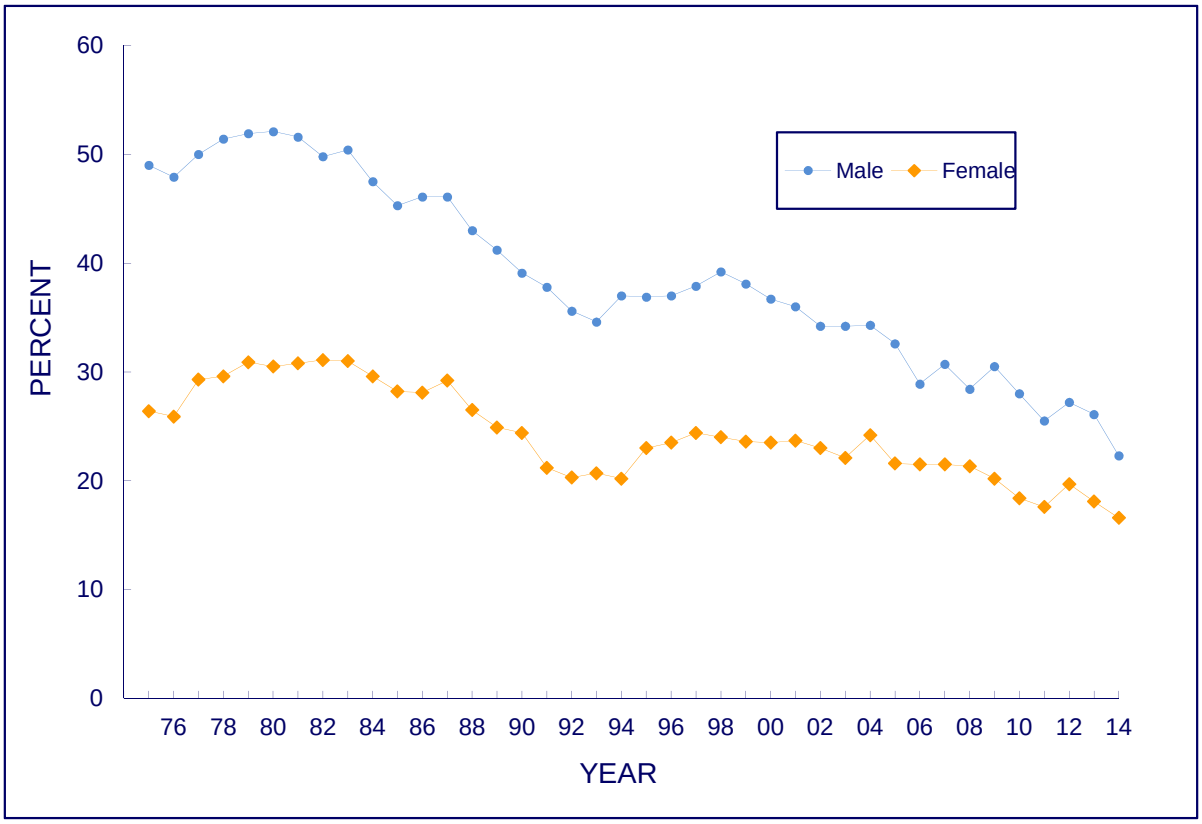




Source. The Monitoring the Future study, the University of Michigan.

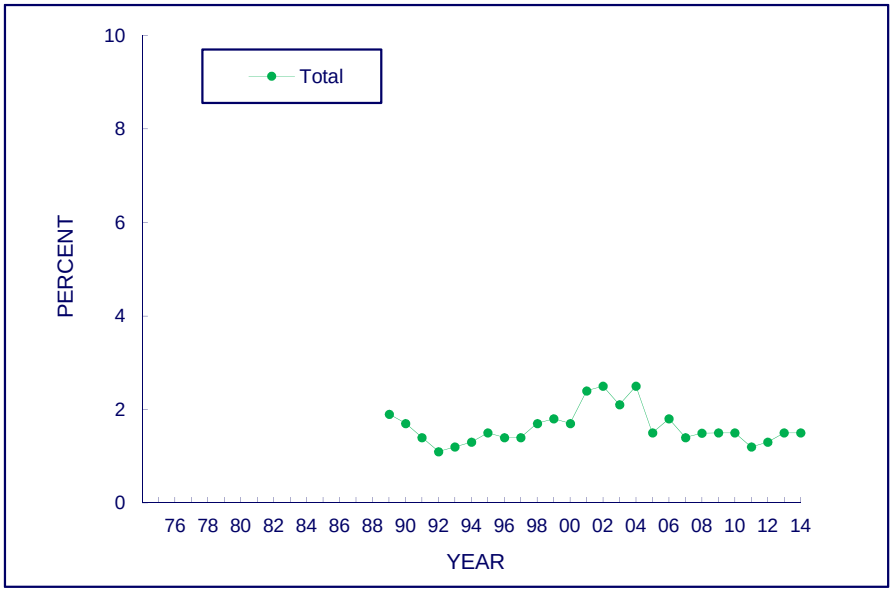
Note. Daily use for cigarettes is defined as smoking one or more cigarettes per day in the last 30 days.

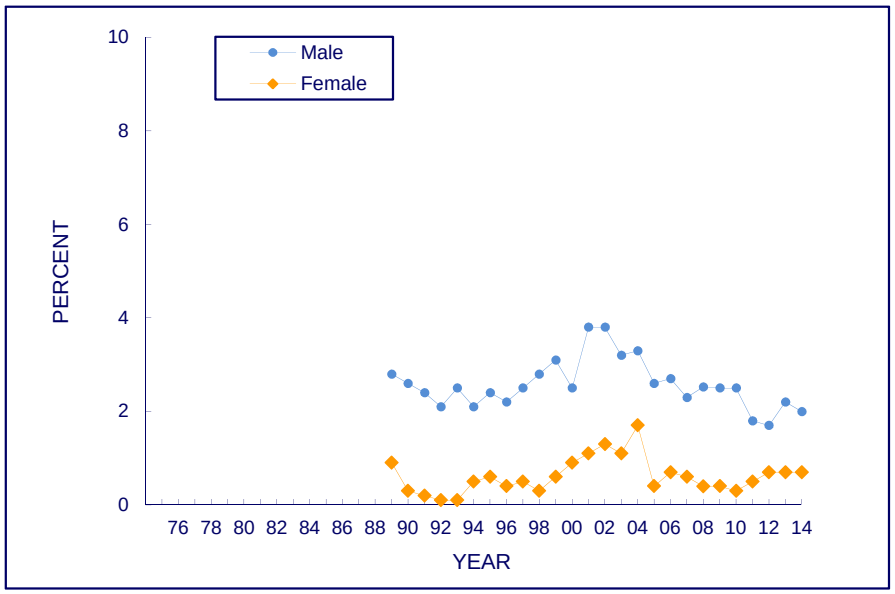
FIGURE 5-6a
ALCOHOL
Trends in 2-Week Prevalence of Heavy Drinking in Grade 12 by Gender



Source. The Monitoring the Future study, the University of Michigan.

FIGURE 5-6b
STEROIDS
Trends in Annual Prevalence in Grade 12
by Total and by Gender



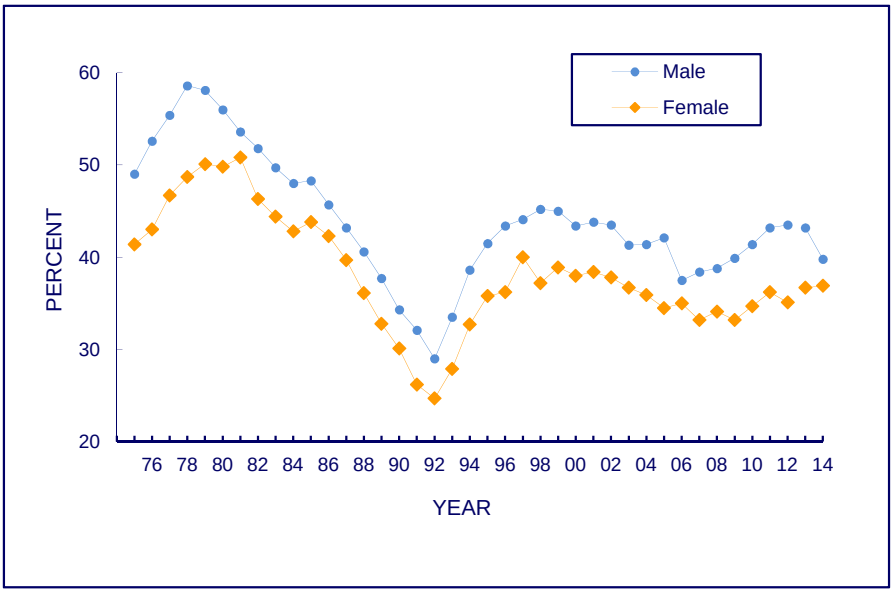


Source. The Monitoring the Future study, the University of Michigan.

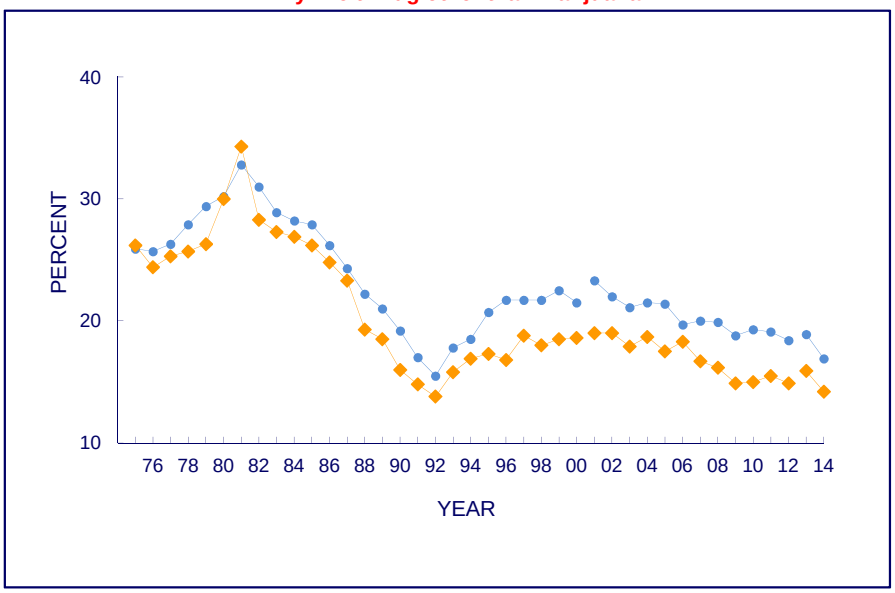
Note. Daily use for marijuana is defined as use on 20 or more occasions in the last 30 days.

FIGURE 5-7
AN ILLICIT DRUG USE INDEX
Trends in Annual Prevalence in Grade 12
by Gender

Any Illicit Drug [a]



Any Illicit Drug other than Marijuana [a]

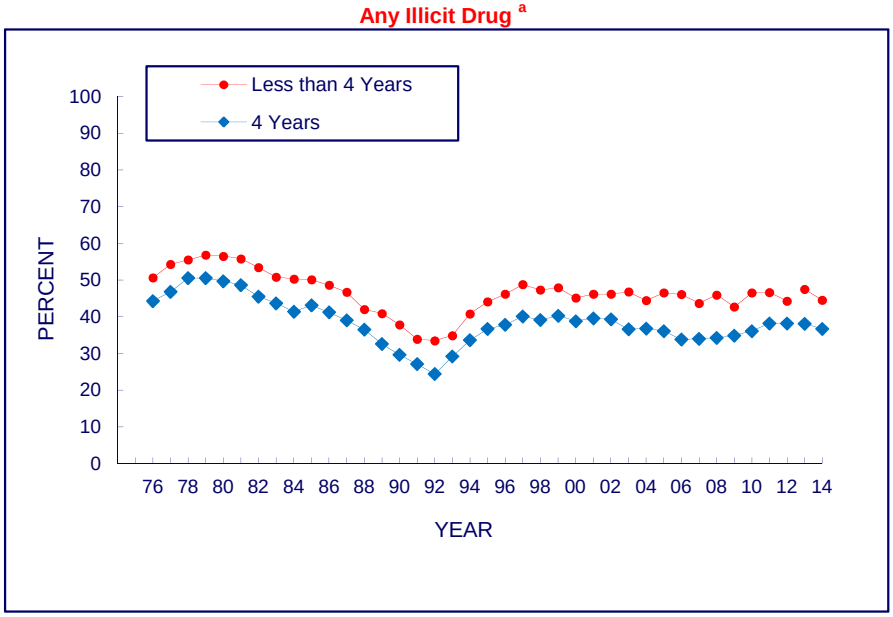


Source. The Monitoring the Future study, the University of Michigan.

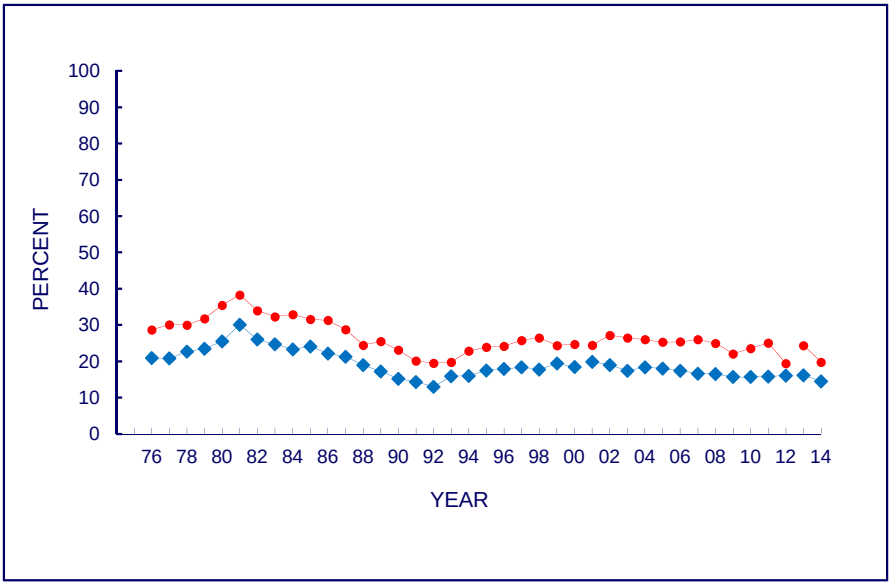
[a]Beginning in 2001, revised sets of questions on other hallucinogen and tranquilizer use were introduced. Data for any illicit drug other than marijuana are affected by these changes. In 2013, revised sets of questions on amphetamine use were introduced. Any illicit drug and any illicit drug other than marijuana are affected by this change.

FIGURE 5-8
AN ILLICIT DRUG USE INDEX
Trends in Annual Prevalence in Grade 12
by College Plans

Any Illicit Drug [a]



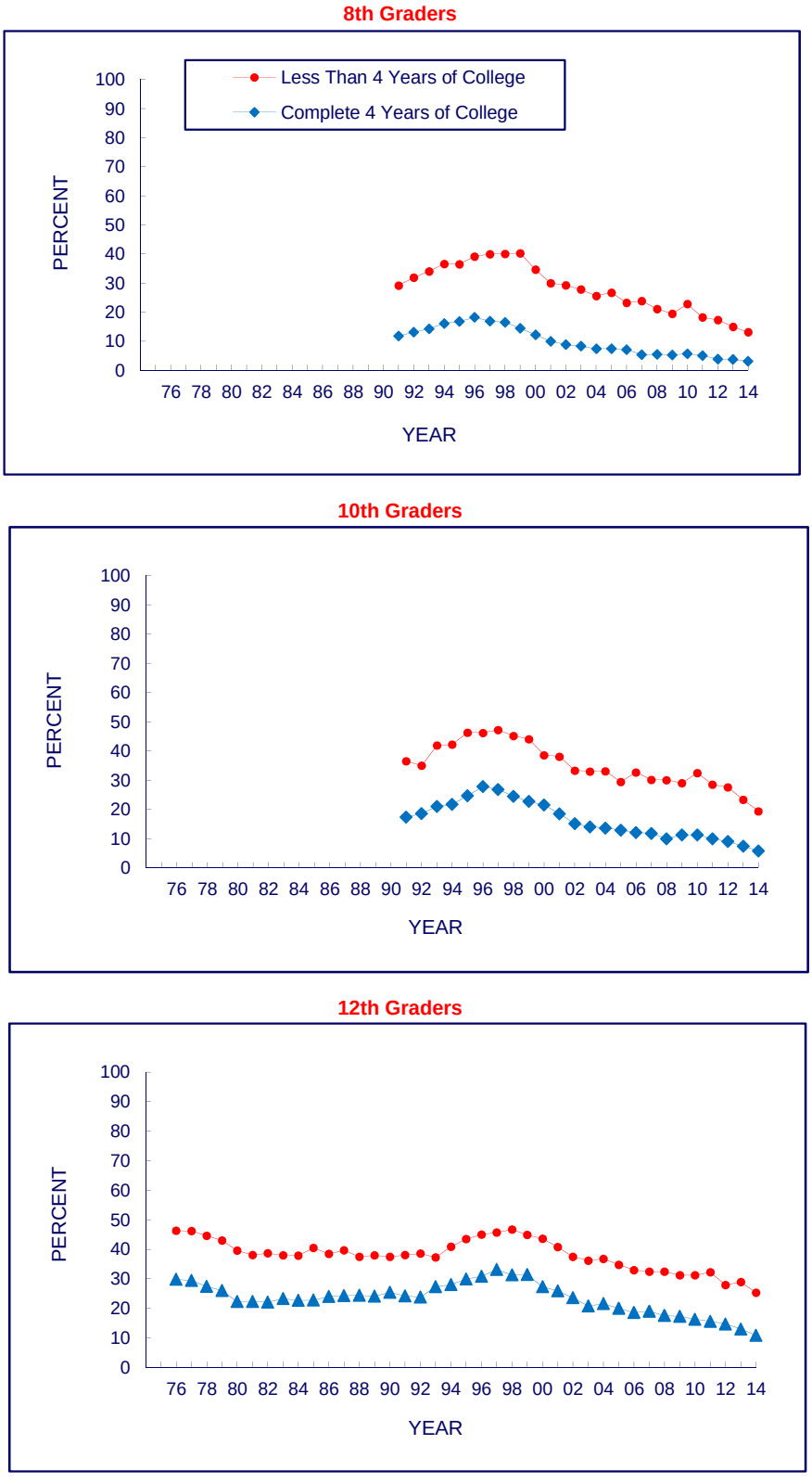
Any Illicit Drug other than Marijuana [a]



Source. The Monitoring the Future study, the University of Michigan.

[a]Beginning in 2001, revised sets of questions on other hallucinogen and tranquilizer use were introduced. Data for any illicit drug other than marijuana are affected by these changes. In 2013, revised sets of questions on amphetamine use were introduced. Any illicit drug and any illicit drug other than marijuana are affected by this change.

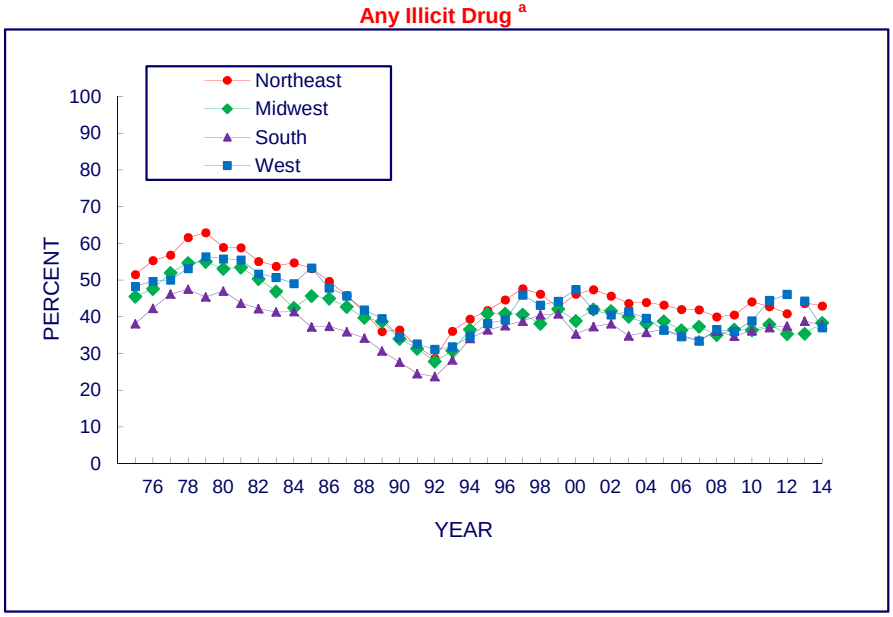
FIGURE 5-9
CIGARETTES
Trends in 30-Day Prevalence in Grades 8, 10, and 12 by College Plans



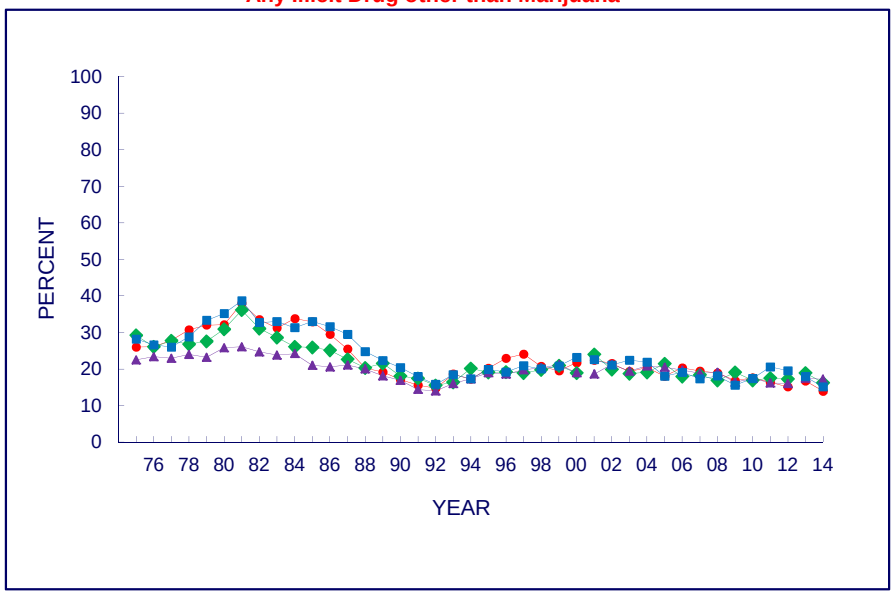
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 5-10a
AN ILLICIT DRUG USE INDEX
Trends in Annual Prevalence in Grade 12
by Region of the Country

Any Illicit Drug [a]



Any Illicit Drug other than Marijuana [a]



Source. The Monitoring the Future study, the University of Michigan.

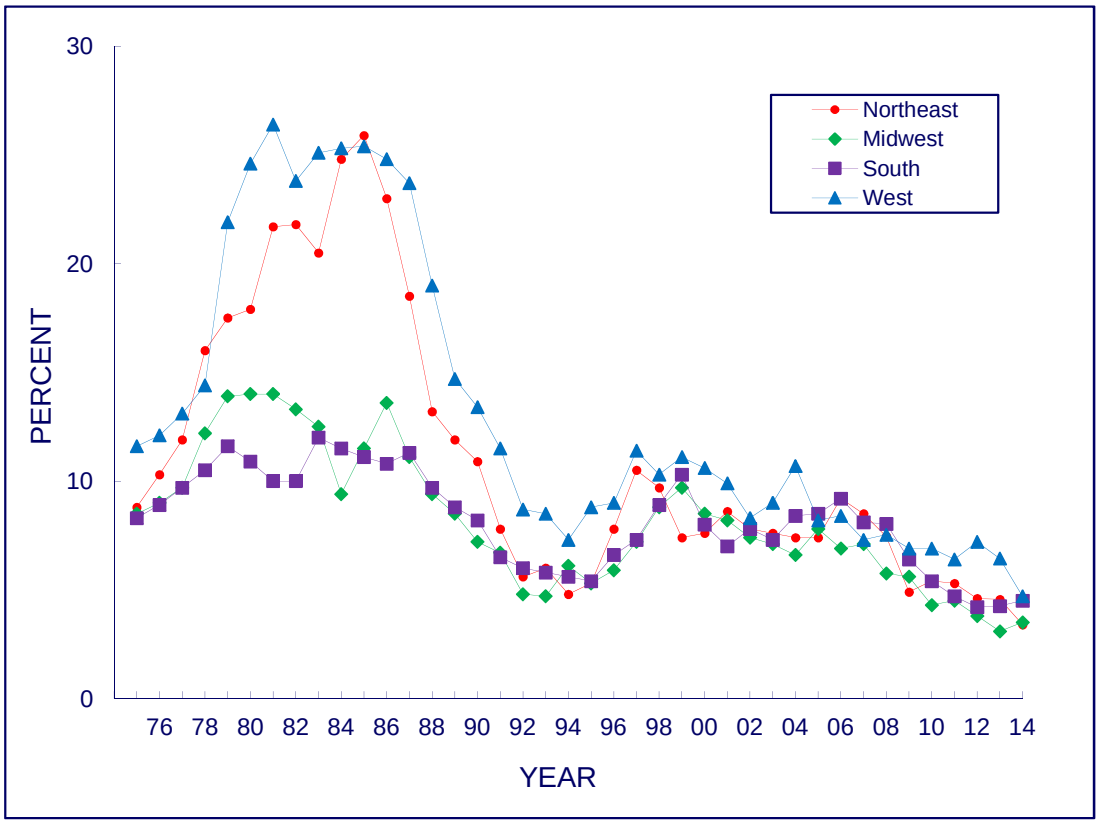
[a]Beginning in 2001, revised sets of questions on other hallucinogen and tranquilizer use were introduced. Data for any illicit drug other than marijuana are affected by these changes. In 2013, revised sets of questions on amphetamine use were introduced. Any illicit drug and any illicit drug other than marijuana are affected by this change.

FIGURE 5-10b

COCAINE

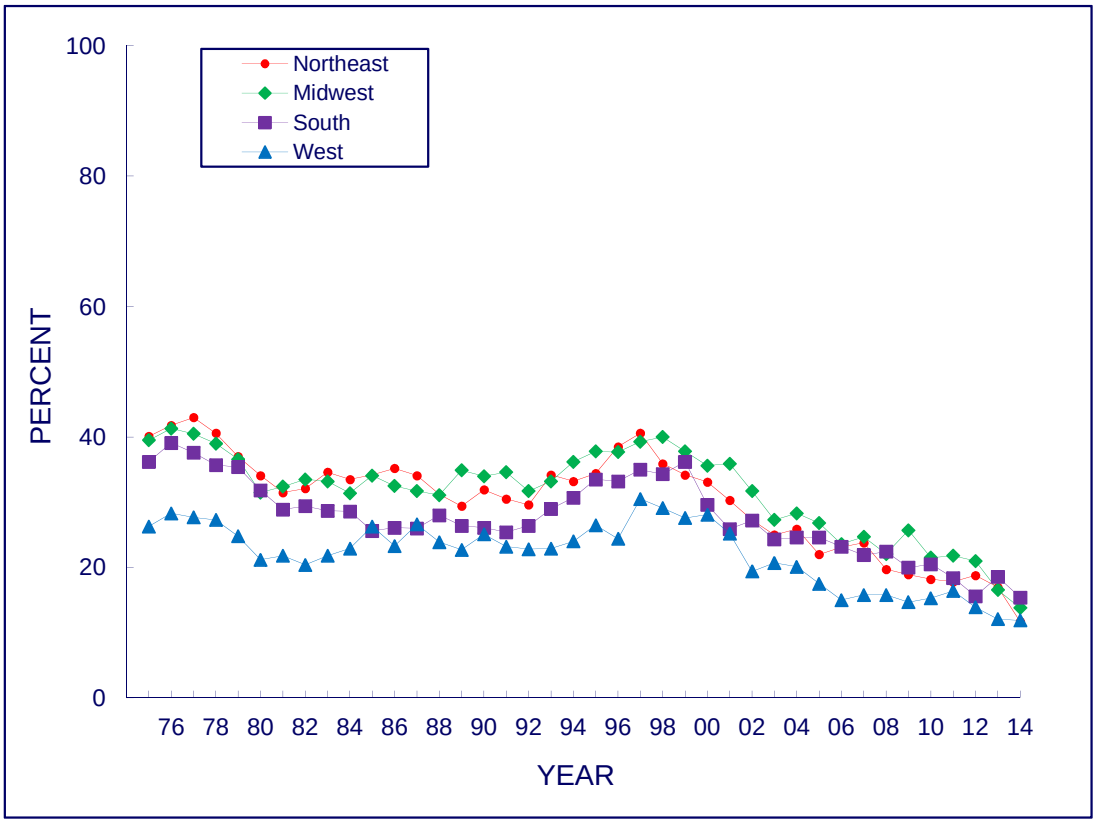
Trends in Lifetime Prevalence in Grade 12

by Region of the Country



Source. The Monitoring the Future study, the University of Michigan.

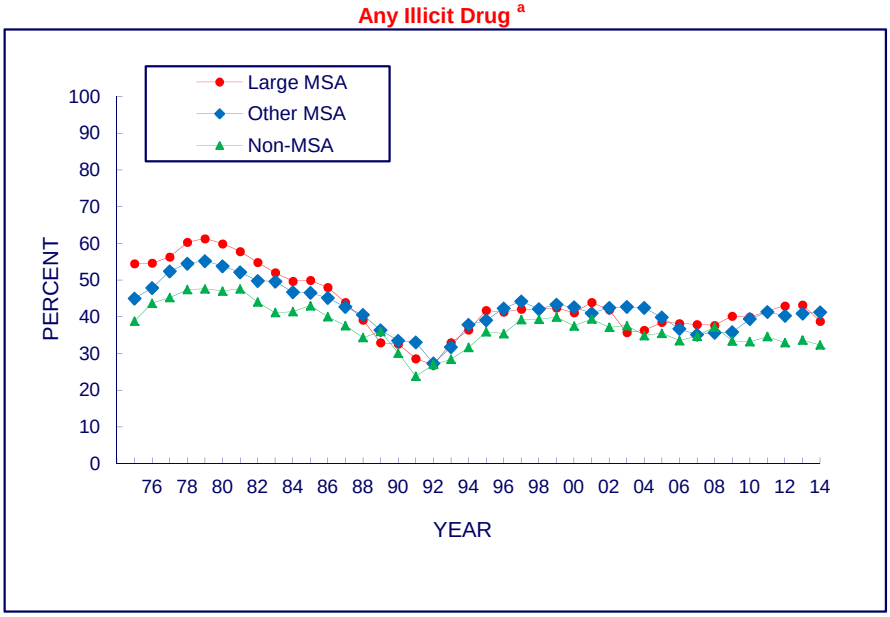
FIGURE 5-10c
CIGARETTES
Trends in 30-Day Prevalence in Grade 12
by Region of the Country



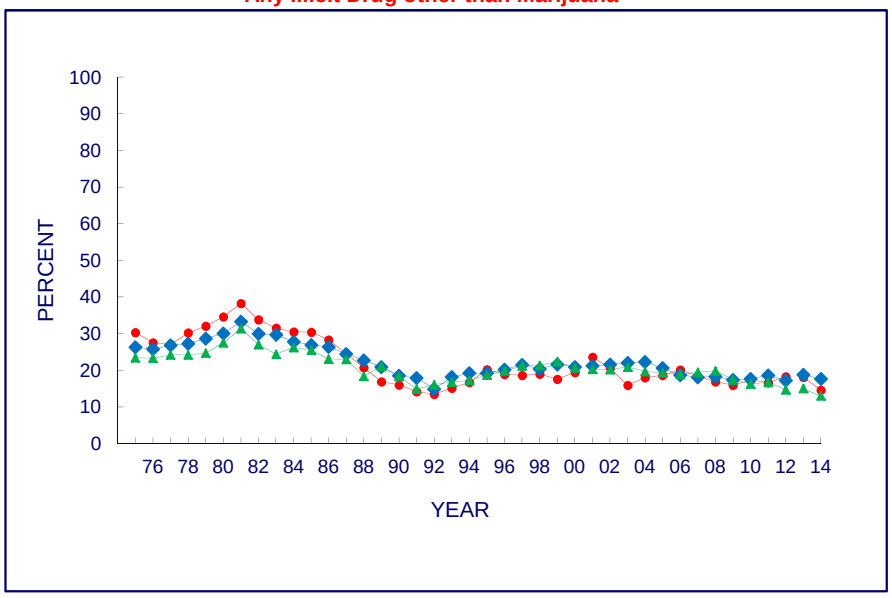
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 5-11a
AN ILLICIT DRUG USE INDEX
Trends in Annual Prevalence in Grade 12
by Population Density

Any Illicit Drug [a]



Any Illicit Drug other than Marijuana [a]

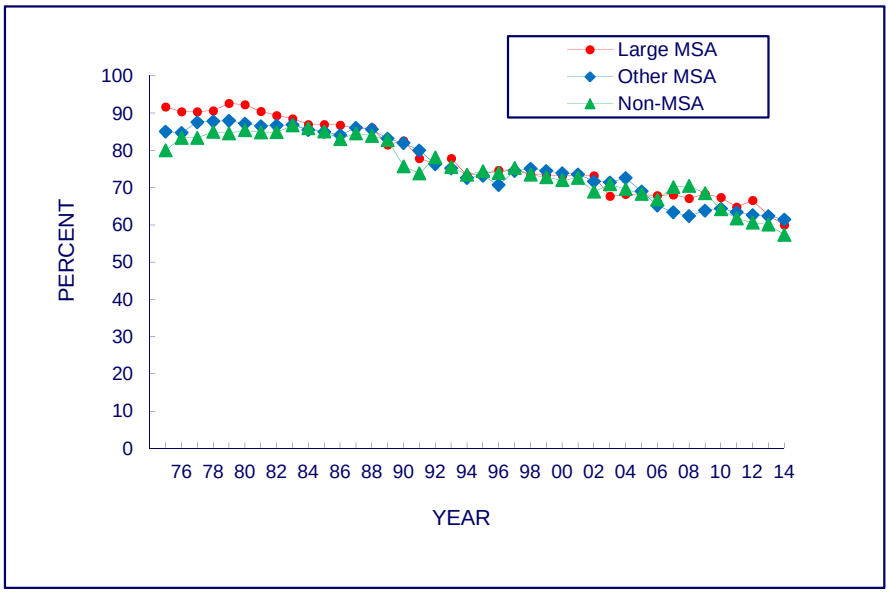


Source. The Monitoring the Future study, the University of Michigan.

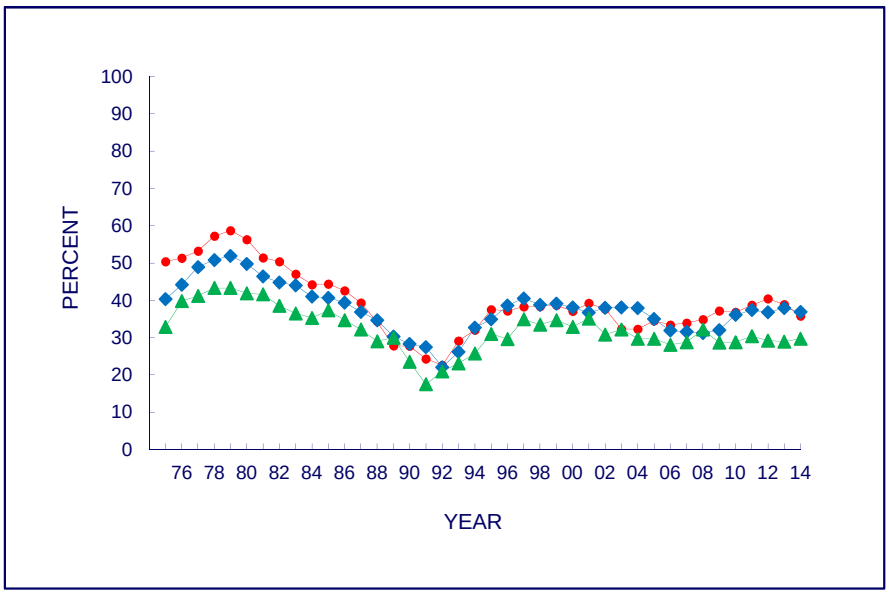
[a]Beginning in 2001, revised sets of questions on other hallucinogen and tranquilizer use were introduced. Data for any illicit drug other than marijuana are affected by these changes. In 2013, revised sets of questions on amphetamine use were introduced. Any illicit drug and any illicit drug other than marijuana are affected by this change.

FIGURE 5-11b
ALCOHOL AND MARIJUANA
Trends in Annual Prevalence in Grade 12
by Population Density

Alcohol [a]



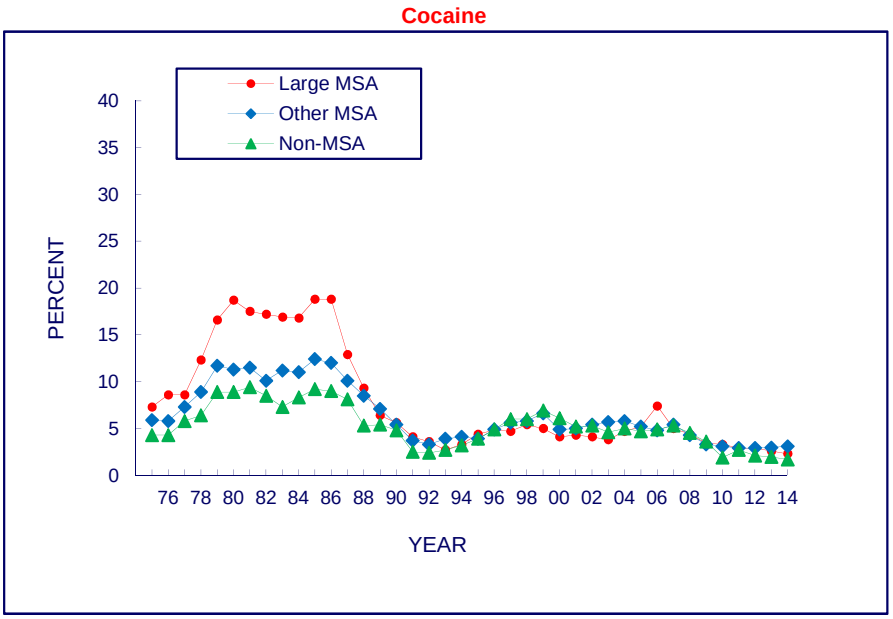
Marijuana

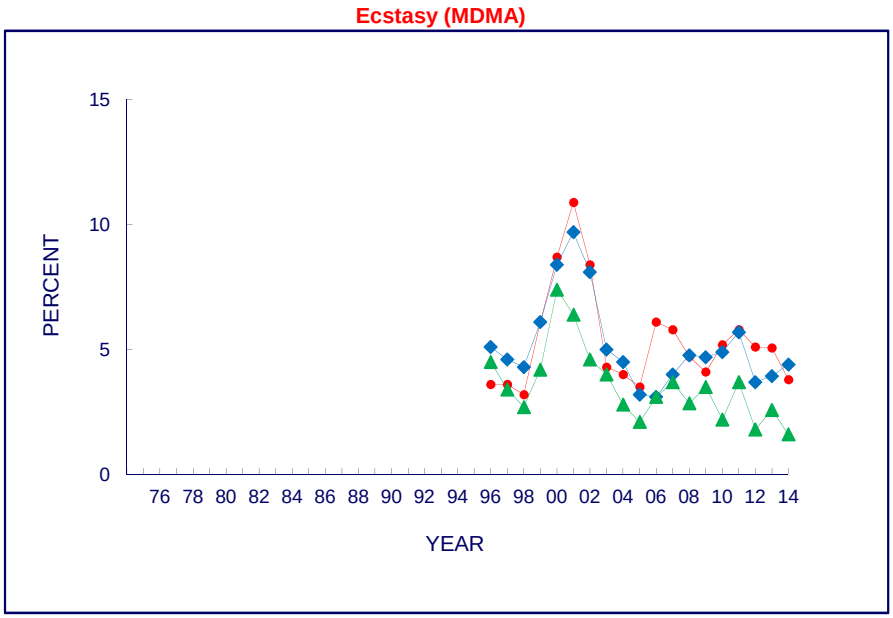


Source. The Monitoring the Future study, the University of Michigan.

[a]In 1993, a revised set of questions on alcohol use was introduced indicating that a drink meant more than a few sips. From 1993 on, data points are based on the revised question.

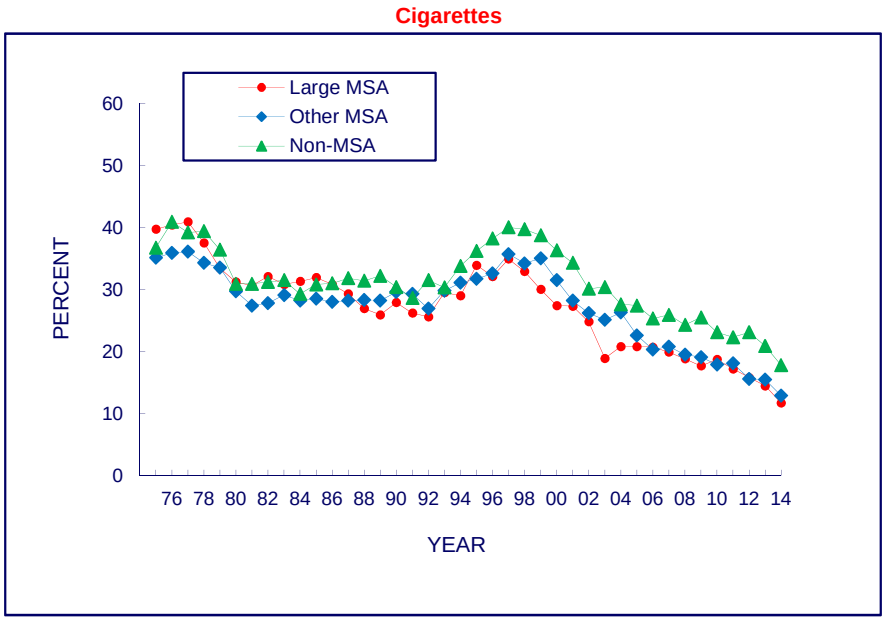
FIGURE 5-11c
COCAINE AND ECSTASY (MDMA)
Trends in Annual Prevalence in Grade 12
by Population Density

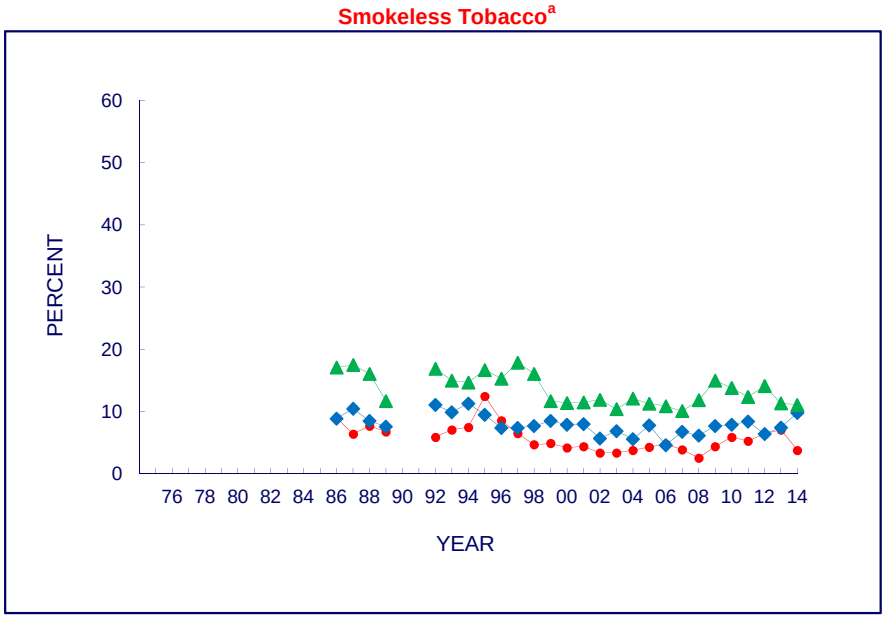




Source. The Monitoring the Future study, the University of Michigan.

FIGURE 5-11d
CIGARETTES AND SMOKELESS TOBACCO
Trends in 30-Day Prevalence in Grade 12
by Population Density





Source. The Monitoring the Future study, the University of Michigan.

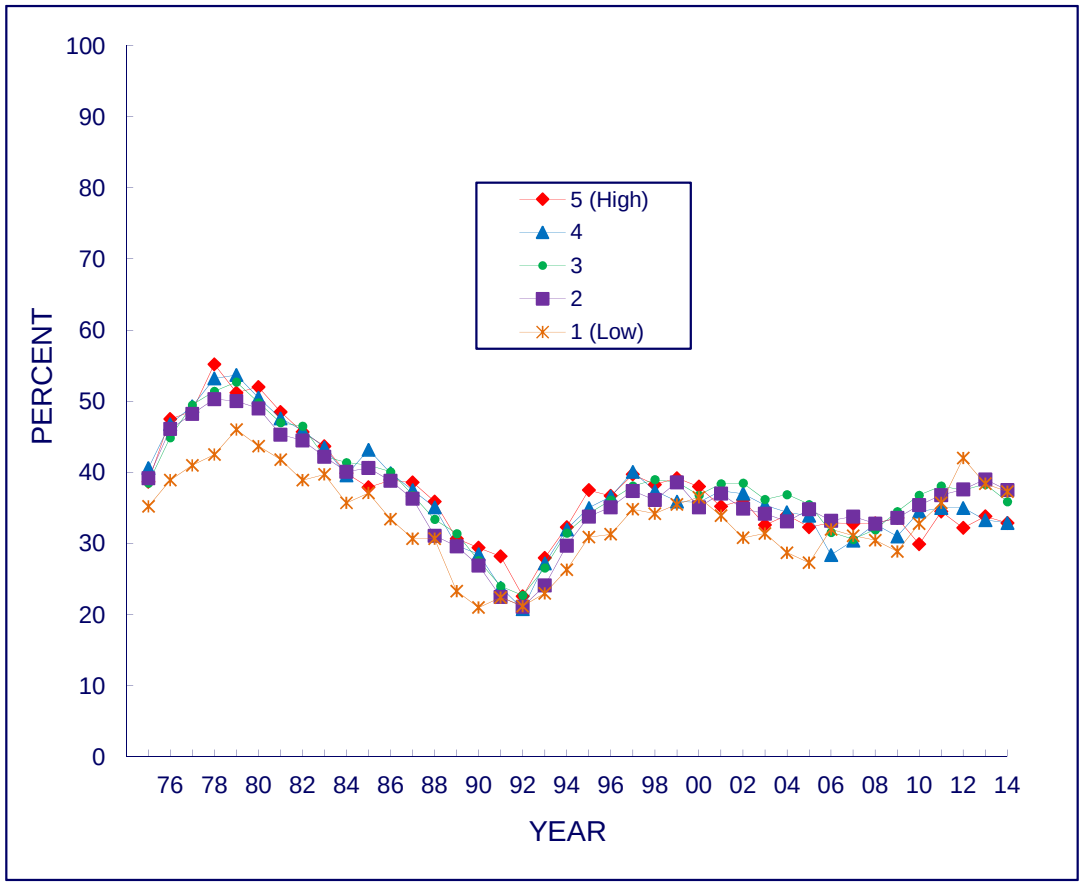
[a]The question on smokeless tobacco was not asked in 1990 or 1991.

FIGURE 5-12a

MARIJUANA

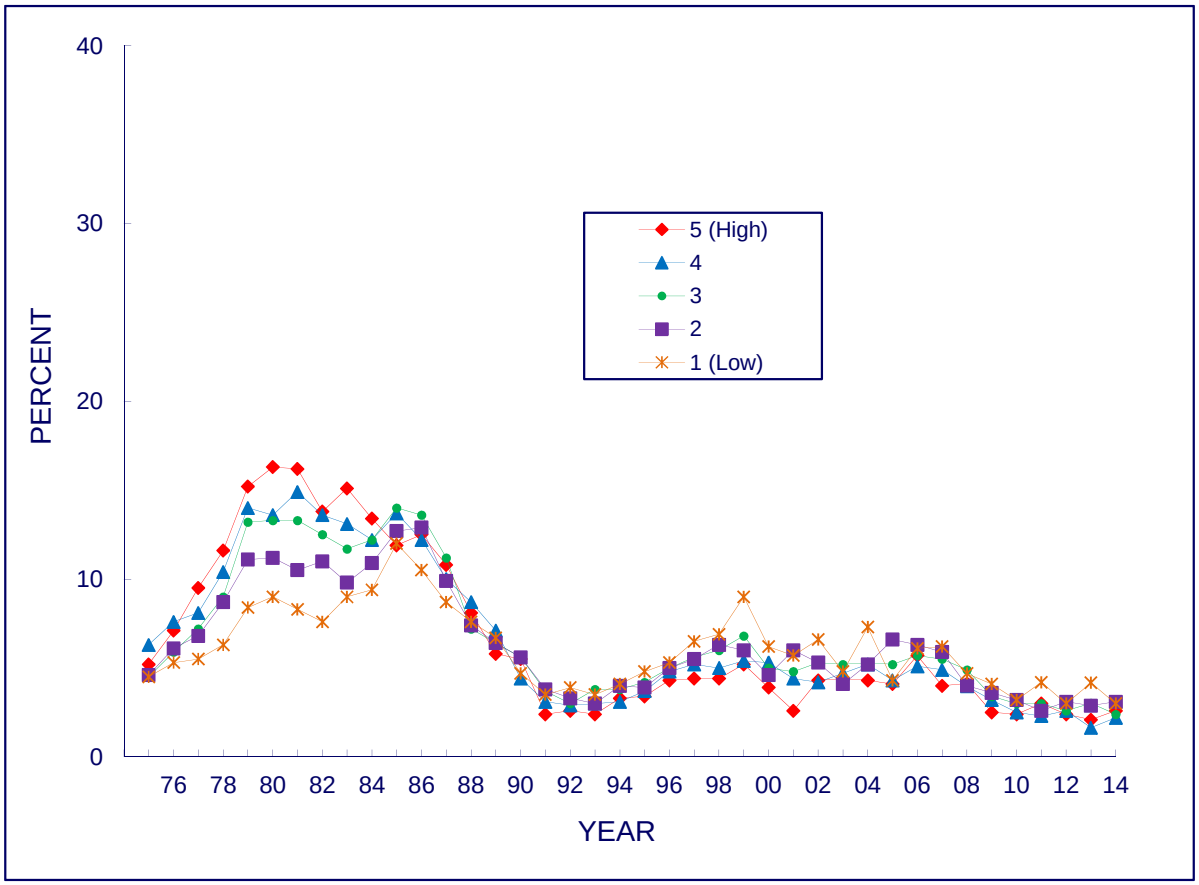
Trends in Annual Prevalence in Grade 12

by Average Education of Parents



Source. The Monitoring the Future study, the University of Michigan.

FIGURE 5-12b
COCAINE
Trends in Annual Prevalence in Grade 12
by Average Education of Parents



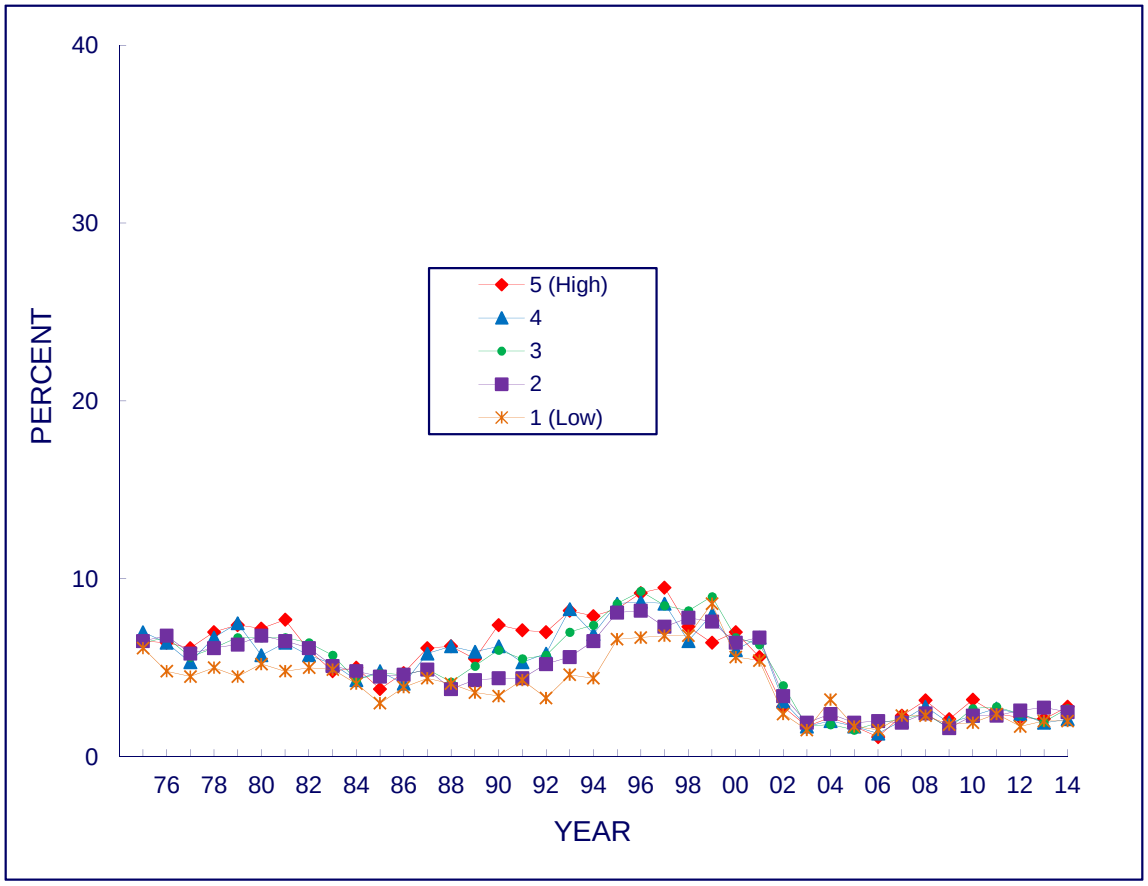
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 5-12c

LSD

Trends in Annual Prevalence in Grade 12

by Average Education of Parents



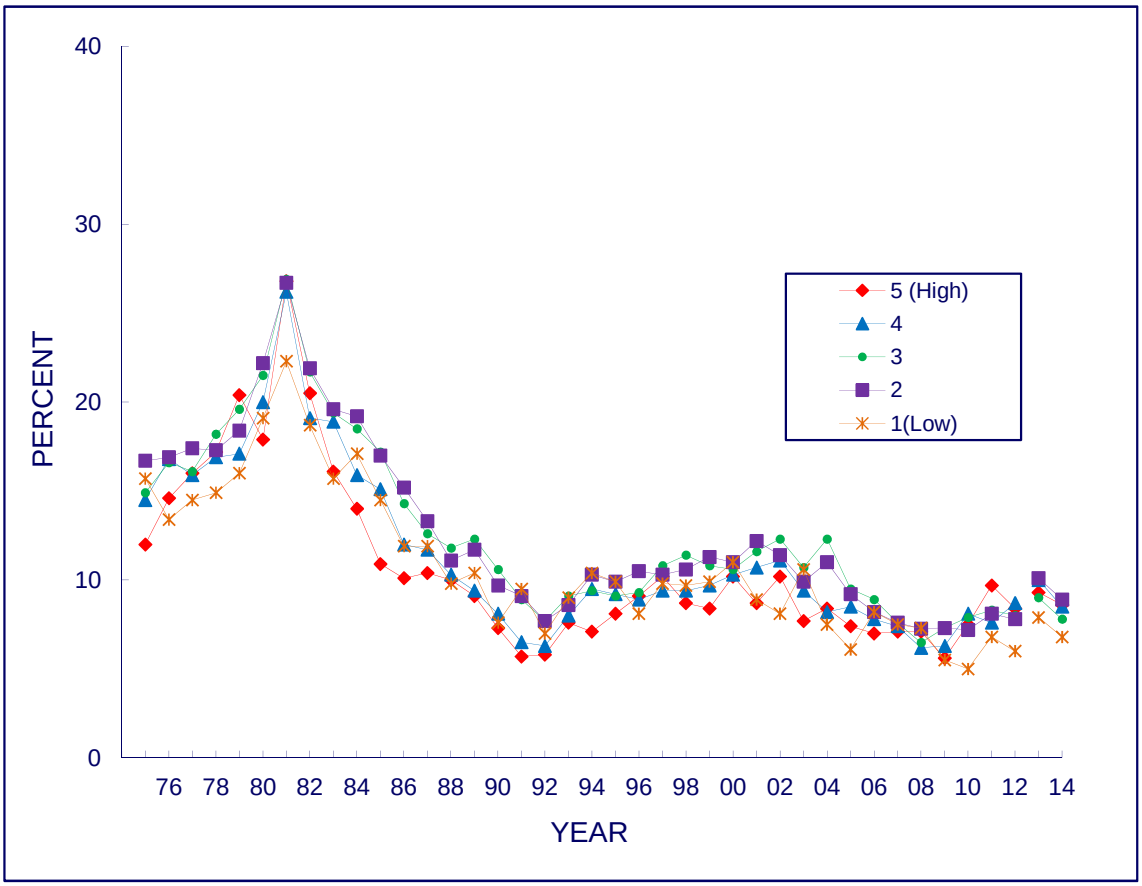
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 5-12d

AMPHETAMINES[a]

Trends in Annual Prevalence in Grade 12

by Average Education of Parents



Source. The Monitoring the Future study, the University of Michigan.

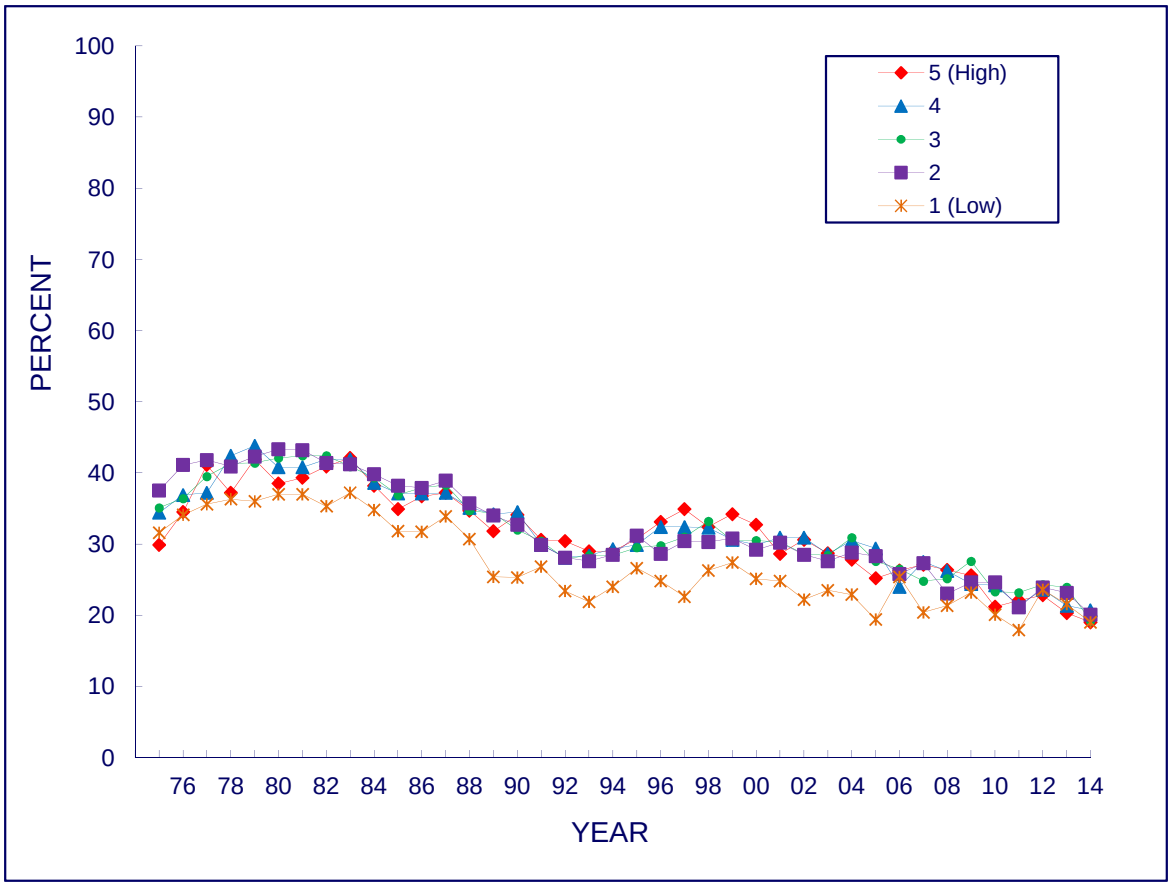
Note. Beginning in 1982, the question about stimulant use (i.e., amphetamines) was revised to get respondents to exclude the inappropriate reporting of nonprescription stimulants. The prevalence rate dropped slightly as a result of this methodological change.

[a]In 2013, the text was changed on some of the questionnaire forms for all three grades, with the remaining forms changed in 2014. Data presented here include only the changed forms.

FIGURE 5-12e

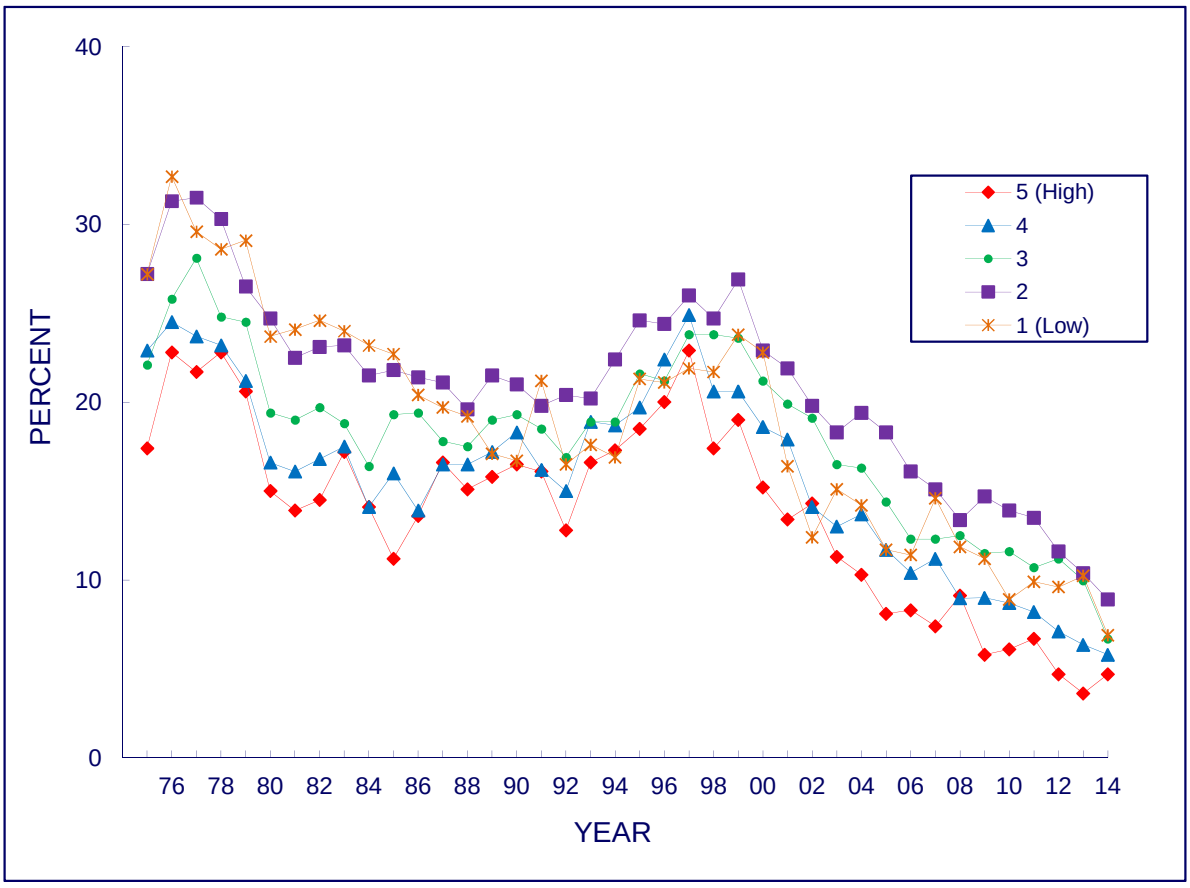
ALCOHOL

Trends in 2-Week Prevalence of
5 or More Drinks in a Row in Grade 12
by Average Education of Parents



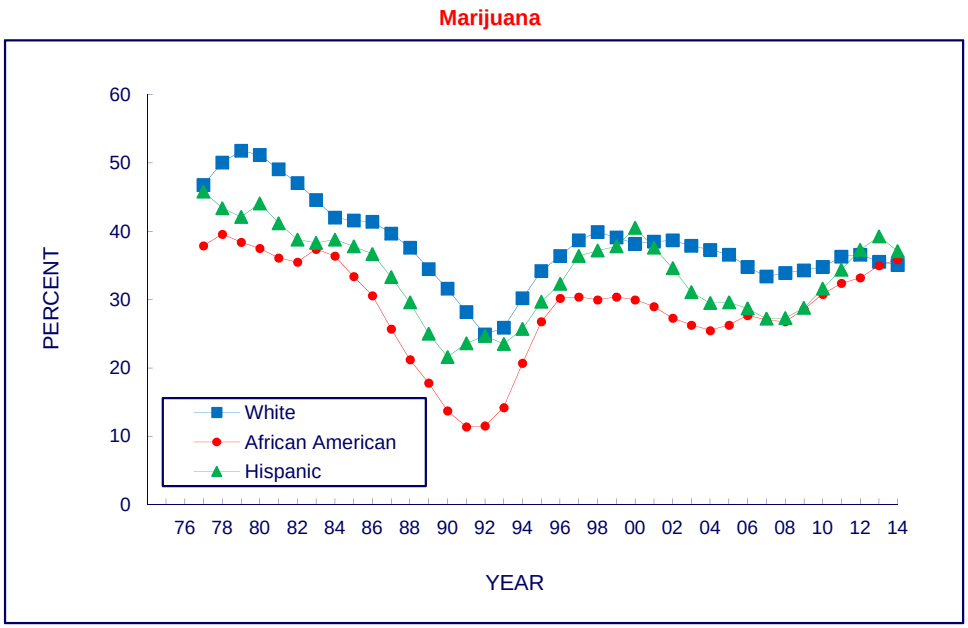
Source. The Monitoring the Future study, the University of Michigan.

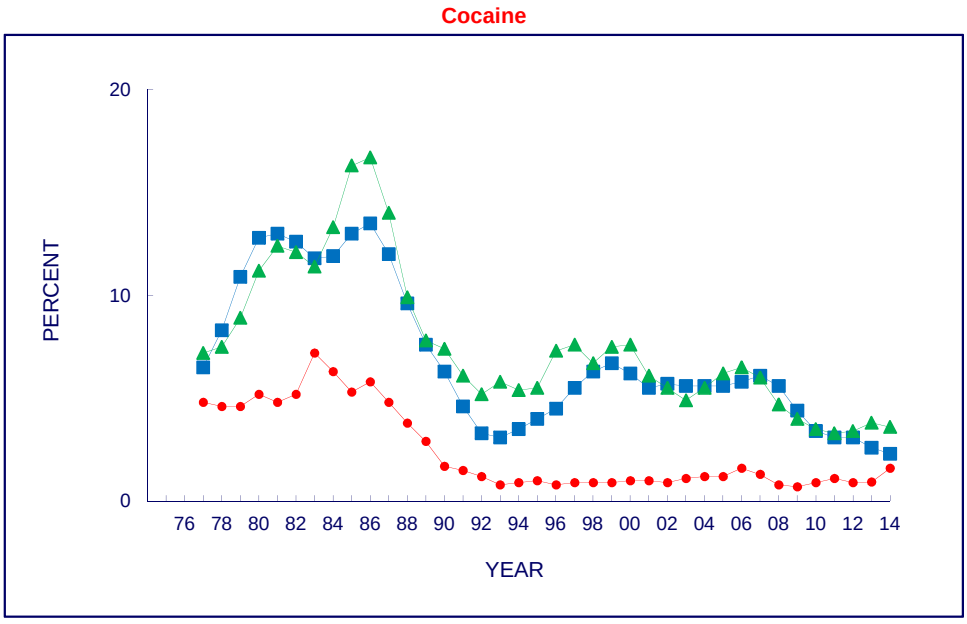
FIGURE 5-12f
CIGARETTES
Trends in Daily Prevalence in Grade 12
by Average Education of Parents



Source. The Monitoring the Future study, the University of Michigan.

FIGURE 5-13a
MARIJUANA AND COCAINE
Trends in Annual Prevalence in Grade 12
by Race/Ethnicity
(Two-year moving average [a])



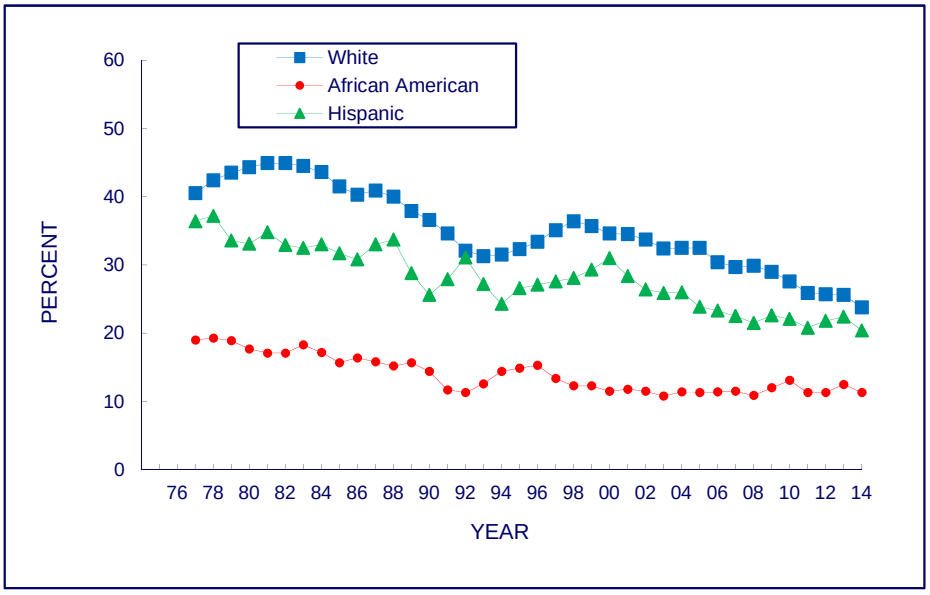


Source. The Monitoring the Future study, the University of Michigan.

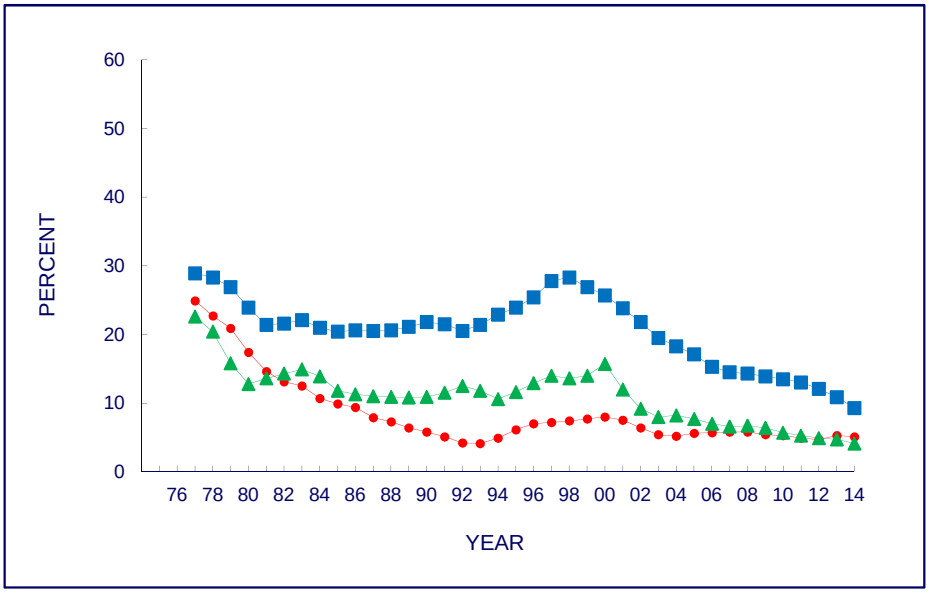
[a]Each point plotted here is the mean of the specified year and the previous year.

FIGURE 5-13b
ALCOHOL AND CIGARETTES
Trends in Prevalence in Grade 12
by Race/Ethnicity
(Two-year moving average [a])

Five or More Drinks in a Row in Last Two Weeks



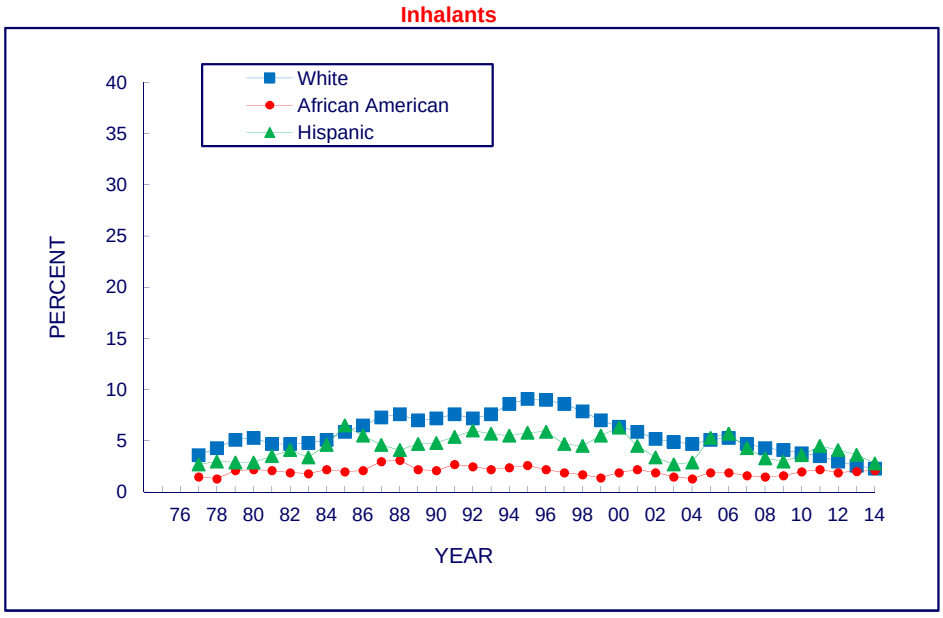
Cigarettes (Daily)

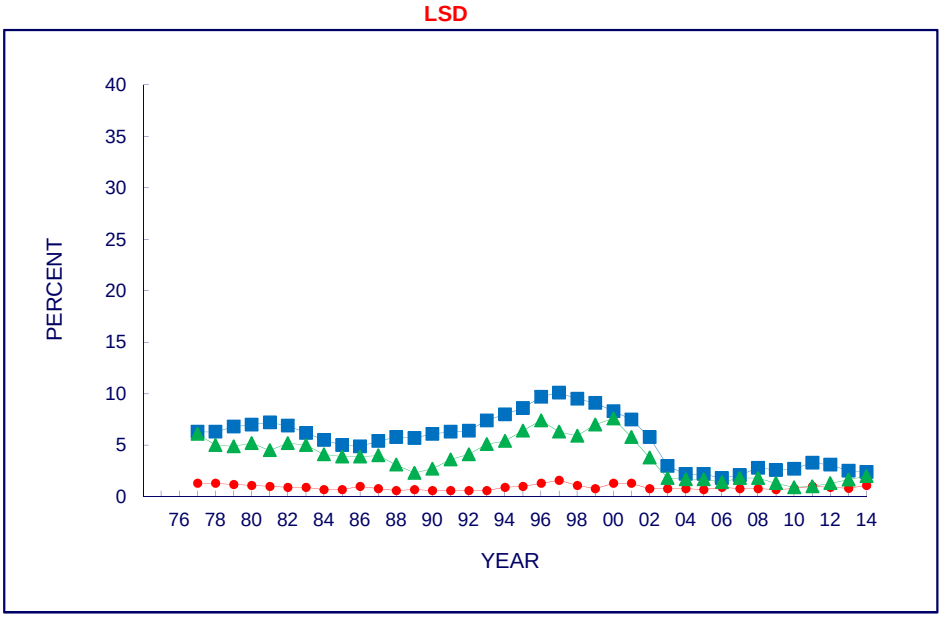


Source. The Monitoring the Future study, the University of Michigan.

[a]Each point plotted here is the mean of the specified year and the previous year.

FIGURE 5-13c
INHALANTS AND LSD
Trends in Annual Prevalence in Grade 12
by Race/Ethnicity
(Two-year moving average [a])





Source. The Monitoring the Future study, the University of Michigan.

[a]Each point plotted here is the mean of the specified year and the previous year.

Chapter 6

INITIATION RATES AND TRENDS IN INITIATION RATES

Knowing when young people begin to use various drugs helps us better understand the etiology of substance use and provides a guide to the timing and nature of various interventions, which are likely most effective when administered prior to the grades of peak initiation. We know that grades of peak initiation vary according to drug and tend to progress from drugs perceived as the least risky, deviant, or illegal toward those perceived as more so.

One way to estimate when use of a particular drug is initiated is to ask respondents to self-report when they first used a drug. In the MTF study we ask about initiation in terms of grade levels rather than age, because we believe that adolescents' memories are more likely to be organized in those terms. It also could be argued that social experiences and risk-taking opportunities are organized more by grade than age. Given that each grade level is composed of students who are about the same age, grade can be readily translated into modal ages.

MTF has been collecting grade of initiation data for 12th graders since 1975. The results reported in this series of monographs provide a retrospective view of trends in lifetime prevalence of use at earlier grade levels. We present a series of tables and figures based on retrospective reports from 8th and 12th graders, and tables only for 10th graders. These retrospective reports provide information on drug use at grade levels not directly surveyed by MTF (i.e., 11th grade, 9th grade, and every grade below 8th).

One would not necessarily expect a particular year's 8th, 10th, and 12th graders to give the same retrospective prevalence level for a drug, even for a given grade, because the three groups differ in a number of important ways:

- The 8th- and 10th-grade samples include eventual school dropouts, whereas 12th-grade samples (who complete the survey late in the school year) include almost none. The lower grades also have lower absentee rates. For any given year, both of these factors should cause the prevalence-of-use levels derived contemporaneously from a particular class cohort of 8th graders to be higher (for any specified grade level up through 8th grade) than the retrospectively reported prevalence rates derived from that same class cohort of young people who are still in school near the end of 10th or 12th grades.

- Because each class cohort experienced 8th grade in a different year, any broad historical or secular trend in the use of a drug could contribute substantially to differences in respondents' reports of their experiences when they were in 8th grade.

- Because 8th, 10th, and 12th graders are in three different class cohorts, any lasting differences among cohorts could contribute to differences in reported use at any specified grade level, including 8th grade.

Two types of method artifacts could also explain observed differences:

- Memory errors for early years are more likely to occur for older respondents (who are, of course, further removed from the initiation experience). They may forget that an event ever occurred (although this may be unlikely for use of drugs), or they may not accurately remember *when* an event occurred. For example, events may be remembered as having occurred more recently than they actually did—a kind of forward telescoping of the recalled timing of events.[1]

- The definition of the eligible event may change as a respondent gets older. Thus, an older student may be less likely to include an occasion of taking a sip from someone's beer as an alcohol use event, or an older student may be more likely to appropriately exclude an over-the-counter stimulant when asked about amphetamine use. While we attempt to ask the questions as clearly as possible, some of these drug definitions are fairly subtle and may be more difficult for younger respondents. Indeed, we have omitted from this report 8th and 10th graders' data on their use of sedatives (barbiturates) and narcotics other than heroin because we judged them to contain erroneous information.[2]

INCIDENCE OF USE BY GRADE LEVEL

Tables 6-1 through 6-3 provide retrospective initiation levels for various types of drug use as reported by students surveyed in 8th, 10th, and 12th grades. Obviously, the older students have a longer age span over which they can report initiation. Table 6-4 shows the retrospective initiation rates from all three grades separately to allow comparison by grade levels.

The questions from which the data are derived have a common stem: "When (if ever) did you FIRST do each of the following things? Don't count anything you took because a doctor told you to." Various drug-using behaviors are asked about, for example, "smoke your first cigarette," "smoke cigarettes on a daily basis," "try an alcoholic beverage—more than just a few sips," etc. The answer alternatives differentiate the grade levels at which first use occurred.

- The 2014 respondents from each of the three grades all retrospectively reported very low levels of use up through the end of 6th grade for ***hallucinogens*** (in general), ***LSD specifically***, ***hallucinogens other than LSD***, ***cocaine*** in general, ***crack cocaine***, ***cocaine powder***, ***heroin***, ***tranquilizers***, and ***steroids*** (all less than 1%). All showed less than 1% reporting any use of these drugs by 6th grade. Less than 1% of 12th graders reported using ***sedatives*** (***barbiturates***) and ***narcotics other than heroin*** by the end of 6th grade. (Data

[1] See Bachman, J. G., & O'Malley, P. M. (1981). When four months equal a year: Inconsistencies in students' reports of drug use. *Public Opinion Quarterly, 45*, 536–548; Jabine, T. B., Straf, M. L., Tanur, J. M., & Tourangeau, R. (Eds.). (1984). *Cognitive aspects of survey methodology: Building a bridge between disciplines*. Washington DC: National Academy Press.

[2] We have found that young adult follow-up surveys of 12th graders yield higher recanting rates for the psychotherapeutic drugs, in contrast to the illegal drugs. We interpret this discrepancy as reflecting, in part, a better understanding of the distinctions between prescription and nonprescription drugs in young adulthood. See Johnston, L. D., & O'Malley, P. M. (1997). The recanting of earlier reported drug use by young adults. In L. Harrison & A. Hughes (Eds.), *The validity of self-reported drug use: Improving the accuracy of survey estimates* (pp. 59–80) (NIDA Research Monograph No. 167). Rockville, MD: National Institute on Drug Abuse.

are not reported for these two drug classes for 8th and 10th graders.) ***Amphetamine*** use by 6th grade has a less than 1% initiation rate among 10th- and 12th-grade respondents, but among 8th-grade respondents it has a 2.0% initiation rate.

- Among 8th-grade respondents in 2014, 5.2% said they had tried ***marijuana*** by the end of 6th grade (Table 6-1). In 2014, the older respondents gave lower retrospective estimates of their marijuana use by 6th grade: 3.5% among 10th graders and 1.3% among 12th graders.

- In all grades ***alcohol*** and ***cigarettes*** are the substances most likely to be initiated at an early age (i.e., by end of 6th grade; see Table 6-4). The next two drugs are ***inhalants*** and ***marijuana***; in 8th grade inhalant use ranks higher than use of marijuana, in 10th grade use of the two drugs is essentially the same, and in 12th grade marijuana use ranks higher than inhalant use. For all three groups, marijuana is more likely than inhalants to have been tried by the end of 8th grade.

- ***Cigarette*** smoking tends to be initiated particularly early. Based on data from the 2014 eighth graders (Table 6-1), their peak years for initiation of cigarette smoking were in the 6th (2.8%) and 7th (4.2%) grades—or modal ages 11 through 13—but a considerable number initiated smoking even earlier. Indeed, in 2014 4.0% of 8th-grade respondents reported having had their first cigarette by the end of 5th grade.

  Note that 8th graders' 2014 reports of smoking initiation by the end of 6th grade are higher (6.9%) than 12th graders' reports of initiation by end of 6th grade (4.4%). Several factors noted earlier in this chapter could have contributed to this difference; however, it seems likely that most of the difference occurs because the 8th-grade samples include nearly all those who will eventually drop out (and thus would not be included in the 12th-grade sample), and because educational attainment is highly correlated with cigarette smoking.[3]

- ***Smokeless tobacco*** use also tends to be initiated early, as Tables 6-1 through 6-3 illustrate, with grades 7 through 11 tending to show the highest rates of initiation. Of the 8th-grade respondents in 2014, 3.6% reported trying smokeless tobacco by 6th grade, and another 4.4% by 8th grade (for a total of 8.0%). These rates are based on boys and girls combined—rates are substantially higher among boys.

- ***Inhalant*** use tends to occur early, according to responses from 8th graders; inhalants have the third highest initiation by 6th grade after alcohol and cigarettes; and, based on the responses from 10th graders, most inhalant initiation appears to have occurred by the end of 9th grade.

  Of the illicit drugs, inhalants show the largest differences in the incidence rates reported by the three grade levels, although marijuana shows considerable differences, as well. Among 2014 respondents, only 0.9% of 12th graders, compared to 6.7% of 8th graders, reported using inhalants by the end of 6th grade. Although any of the explanations offered earlier might help to explain these differences, we believe that early inhalant use may be

[3]Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Freedman-Doan, P., & Messersmith, E. E. (2008). *The education–drug use connection: How successes and failures in school relate to adolescent smoking, drug use, and delinquency.* New York: Lawrence Erlbaum Associates/Taylor & Francis Group.

particularly associated with dropping out. Another possible contributor to the differences in rates is that the question differs by grade. For 8th and 10th graders the question asks about when they first "sniff glue, gases or sprays to get high" while for 12th graders when did they first "try inhalants." In addition, use of non-nitrite inhalants such as glues, aerosols, and butane had been increasing for some time (up to 1995, and again in 2003 and 2004), and these types of inhalants tend to be used at younger ages. (See also Chapter 4 for a discussion of differential reporting of lifetime prevalence of inhalant by grade.)

- Like cigarette use, ***alcohol*** use shows a pattern of early initiation. Alcohol use by the end of 6th grade was reported by 12.0% of 8th-grade respondents in 2014, but by only 3.5% of 12th-grade respondents (Table 6-4). Several factors as noted earlier may contribute to this difference. One is that eventual dropouts are much more likely than average to drink at an early age.[4] Another is related to the issue of what is meant by "first use." The questions for all grades refer specifically to the first use of "an alcoholic beverage—more than just a few sips," but we believe that the older students (12th graders) are more likely to report only use that is *not* adult-approved, and not count having a small amount (more than a few sips, less than a glass) with parents or for religious or celebratory purposes. Note that data from the three groups of respondents tend to converge as we ask about lifetime alcohol use by the time they reach higher grade levels (Table 6-4).

  For these reasons, we rely more on 12th-grade data to examine changes in initiation of alcohol use across age, and these data suggest that the peak years of alcohol initiation are 7th through 11th grades. The first occasion of ***drunkenness*** is also most likely to occur in grades 7 through 11; however, in 2014, 2.6% of 8th graders reported first having been drunk by the end of 6th grade.

- The ***illicit drugs other than marijuana*** generally do not reach peak initiation rates until the high school years (grades 9 through 11 for most drugs)

Of all 12th graders who reported prior use of a drug, the proportions reporting their initial use of that drug *by the end of grade 9* are presented below:[5]

inhalants (68%)
heroin (60%)
cigarettes (56%)
alcohol (50%)
crack (50%)
marijuana (48%)
cigarettes (daily) (45%)
smokeless tobacco (42%)
sedatives (barbiturates) (41%)
been drunk (40%)

[4] Bachman, J. G., O'Malley, P. M., Schulenberg, J. E., Johnston, L. D., Freedman-Doan, P., & Messersmith, E. E. (2008). *The education–drug use connection: How successes and failures in school relate to adolescent smoking, drug use, and delinquency.* New York: Lawrence Erlbaum Associates/Taylor & Francis Group.

[5]Note that such an ordering can be influenced by secular trends in use. Also, confidence intervals can be relatively large because the data are based on only one, two, or three questionnaire forms (depending on drug) and on only those who had used each drug by end of 12th grade.

tranquilizers (34%)
cocaine (33%)
narcotics other than heroin (31%)
cocaine powder (27%)
LSD (27%)
steroids (26%)
hallucinogens (25%)
hallucinogens other than LSD (24%)
amphetamines (23%)

The high ranking of heroin is of particular note. It is important to recognize that the number of 12th-grade students who reported heroin use is small (n=114), thereby making estimates of its use unstable. That being said, in 2014 it ranked second on this list, a sudden jump from last year when it was fifth from the bottom.

TRENDS IN LIFETIME PREVALENCE AT EARLIER GRADE LEVELS

Using the retrospective data provided by members of each 12th-grade class concerning their grade of first use, it has been possible to reconstruct lifetime prevalence-of-use trend curves for lower grade levels over many earlier years as the 12th graders passed through those grades. Obviously, data from school dropouts are not included. Figures 6-1 through 6-22 present the reconstructed lifetime prevalence curves (reflecting any use in lifetime) for most drugs. Starting with Figure 6-4, retrospective prevalence curves are also presented for 8th graders, who have been included in the annual MTF surveys since 1991. These curves should include data from nearly all eventual dropouts.

When comparing the retrospective prevalence curves for 12th- versus 8th-grade respondents, the reader should keep in mind that the curves are often plotted on different scales on the vertical axis to improve the clarity of each figure.

We have chosen to report initiation rates in terms of trends in lifetime prevalence attained by each class of students as they reach different *grade* levels. Although average *age* of initiation is another way to discuss this type of data, we think it could be misleading. For example, the average age of initiation could be lower in more recent classes because fewer students are initiating use at *later* ages (perhaps due to a recent downward secular trend) rather than because more students are starting at younger ages. Yet many readers may interpret a decline in average age of initiation as reflecting a downward shift in the propensity to use at younger ages, independent of any secular trends, and therein lies the potential confusion.

- Based on retrospective data provided by successive 12th-grade classes, Figure 6-1 shows trends at each grade level for lifetime use of ***any illicit drug***. Very few 12th graders report initiation of drug use by 6th grade, a finding that persists throughout all forty years of the study. These results indicate that the vast majority of initiation begins after elementary school.

  More than half of 12th graders who report having used an illicit drug had done so by 10th grade. In 2014, 52% of the 12th-grade students who had ever used cocaine initially began by 10th grade (marijuana initiation for the senior class of 2014 had already reached 31% by

10th grade, which is 55% of the 56% prevalence it would reach by 12th grade). This finding is visually depicted in Figure 6-1 by lifetime prevalence levels for successive cohorts of 10th-grade students that are higher than half of their lifetime prevalence when they reach 12th grade (two years later). In all years, the Figure shows that as lifetime prevalence in 12th grade has risen and fallen over the last forty years, more than half of it was established by the cohort by the time it was in 10th grade. This result suggests that 7th through 10th grade is a key developmental period for the initiation of illicit drug use.

As we discuss in more detail below, the inclusion of marijuana in the composite measure of "any illicit drug use" has a substantial influence on findings for initiation. Marijuana has high initiation levels in middle school. In contrast, first use of illicit drugs other than marijuana typically occurs in high school.

- In all years, more than half of 12th graders who reported using ***marijuana*** had done so by 9th or 10th grades. This is visually depicted in Figure 6-4 by trend lines for 9th- and 10th-grade students that are higher than half the lifetime prevalence for the cohort when it was in 12th grade (2 to 3 years later).

  The historical increases and decreases in 12th grade lifetime prevalence of marijuana use are also present in 8th grade. Parallel trends for 8th and 12th grade are seen in the top panel of Figure 6-4, and are present for the constant level of lifetime marijuana prevalence since the mid-1990s, the substantial increase during the 1990s relapse, the decline in lifetime prevalence through the 1980s, as well as the increase in the late 1970s. These results indicate that the social influences that lead to changes in adolescent marijuana use extend as far down as 8th grade.

  In fact, the historical variation in marijuana observed among 12th-grade students is seen as far down as 7th grade, as indicated in the lower panel of Figure 6-4. This panel depicts retrospective reports of 8th graders on their lifetime marijuana use. It shows a marked increase in lifetime marijuana prevalence during the 1990s drug relapse in both 8th grade and 7th grade as well. While there is a slight increase present in 6th grade, prevalence does not rise much above 5% in this grade in any year. Taken as a whole, these results indicate that the behaviors of middle school students are sensitive to the changing norms and mores about marijuana use in the general population. It is possible that these younger students may imitate the drug use patterns of older siblings and/or friends.

- Variation in lifetime prevalence of ***any illicit drug other than marijuana*** over the course of the study has been driven primarily by initiation in high school (Figure 6-2), that is, 9th grade and after. The lifetime prevalence level for 9th-grade students is relatively flat over the course of the study, with a slight, overall decline in the past decade. In contrast, the trends for high school students show much more variation, especially before the mid-1990s. The biggest cause of increases in these curves from 1978 to 1981 was the rise in reports of ***amphetamine*** use. As noted earlier, we suspect that at least some of that rise was an artifact of the improper inclusion by some respondents of nonprescription stimulants ("***look-alikes***" and "***sound-alikes***"). The removal of amphetamines from the drug index (Figure 6-3) results in substantially less variation in lifetime prevalence over the course of

the study, although most of the variation that is still present continues to occur in the high school years.

- The majority of 12th grade ***inhalant*** initiation has taken place by 9th grade. This is depicted in Figure 6-5 by the finding that lifetime prevalence in 9th grade is about half of the lifetime prevalence for the same cohort in 12th grade (four years later). As a result, lifetime inhalant trends over time in 12th grade are in large part a reflection of initiation trends that took place by 9th grade. This result is consistent with the finding that inhalants are considered a "kids' drug," and are the only class of drugs with prevalence that declines markedly at higher grade levels (discussed in more detail in Chapter 5).

  The lower panel of Figure 6-5 presents reports from 8th-grade students on their past use of inhalants. It shows that initiation levels are also quite high in 7th grade, pointing to the importance of the middle school years as a key age of initiation for use of inhalants.

  Lifetime prevalence levels as reported by 8th-grade students are substantially higher than lifetime prevalence levels in 8th grade as reported by 12th-grade students. This is, in part, because the surveys of 8th graders include students who will later drop out of school and, consequently, not be included in 12th-grade reports of earlier inhalant use.

- The study reported the use of ***nitrites*** from its first year in 1975 until 2009, when prevalence fell to such a low level that questions on nitrites were dropped and replaced with questions on other drugs. For a discussion of nitrite initiation see the 2014 version of this monograph that reports data through 2013.

- Of 12th-grade students who have used ***hallucinogens*** (unadjusted for underreporting of PCP), about half initiated use by 10th grade. This is depicted in Figure 6-6 with a lifetime prevalence level for students in 10th grade that is about half or more than their lifetime prevalence in 12th grade, two years later. Lifetime prevalence of students when in 6th grade is near zero in all forty years of the study, and for 9th-grade students is typically less than 5%. Throughout the life of the study a substantial jump in lifetime prevalence occurs when students are in 10th and 11th grade, indicating that these are key years of initiation. Since the early 2000s hallucinogen initiation (and therefore use) has been steadily decreasing in all grades. The apparent upturn in the Class of 2001 is an artifact of a change in question wording; when the term "shrooms" (a commonly used term for hallucinogenic mushrooms) was added to the list of examples in the question about use of "other hallucinogens," the absolute level of reported hallucinogen use increased somewhat, but thereafter the trend lines continued to show declines.

- The lifetime prevalence trends for ***hallucinogens other than LSD*** (Figure 6-8) are similar to the ones just discussed for the entire class of hallucinogens. The declines observed for the different grades appear to have begun in the lower grades at an earlier time, suggesting a cohort effect. The lifetime prevalence trends for ***LSD*** (Figure 6-7) differ in showing a sharp decline in LSD use after 2001 in both the 12th- and 8th-grade figures; this looks more like a secular trend.

- Retrospective questions about grade of first use for ***PCP*** were added in 1980 and discontinued in 2009 because its very low prevalence made it strategic for the survey to ask questions about other drugs. For a discussion of initiation trends for this drug see the 2014 version of this volume that reports data through 2013.

- Trends in lifetime prevalence of ***cocaine*** use at various grade levels, as estimated from the retrospective grade of initiation data, are displayed in Figure 6-9. For the 12th-grade classes, over half of cocaine initiation takes place in grades 10 through 12. Fluctuations in the use of this drug have been greatest in the high school grades, with very low lifetime prevalence in 6th and 7th grades, and lifetime prevalence below 5% with little variation in 8th and 9th grades. Initiation has been decreasing since the mid-2000s, as indicated by a declining lifetime prevalence in all grades.

- Similarly, much of the initiation of ***crack cocaine*** (Figure 6-10) and ***powdered cocaine*** (Figure 6-11) use takes place during the high school years. About half of lifetime prevalence by 12th grade is initiated after 10th grade, a trend most clearly apparent in the early years of the study when the prevalence of crack and powdered cocaine were highest.

- Among 12th-grade students who had used ***heroin***, most initiated use during the high school years (Figure 6-12). In all years about half of heroin initiation takes place in the two years between 10th and 12th grade, as indicated in the Figure by lifetime prevalence levels in 10th grade at levels about half of what they are for the cohort in 12th grade (two years later).

- More than half of lifetime prevalence of ***narcotics other than heroin*** among 12th-grade students had been initiated before 10th grade. This finding is indicated in Figure 6-13 by a lifetime prevalence for 10th-grade cohorts that in most years is half or more of what it is for the cohort when it is in 12th grade (2 years later). This pattern of initiation remained when the question was updated in 2002 to include the additional examples of Vicodin and OxyContin.

- A little over half of lifetime prevalence of ***amphetamines*** use in 12th grade was initiated before 10th grade. This finding is indicated in Figure 6-14 by a lifetime prevalence for 10th-grade cohorts that in all years is half or more of what it is for the cohort in 12th grade (2 years later).

- Figure 6-15 shows that most 12th graders who had ever used ***sedatives (barbiturates)*** had initiated use by 10th grade. This is indicated by lifetime prevalence levels in all years for 10th-grade cohort at levels half or more of lifetime prevalence when the cohorts was in 12th grade (two years later). Lifetime prevalence of sedatives shows a substantial jump from 9th grade to 10th grade, especially in the earlier years of the survey, indicating that the initial years of high school are a period of high risk for the initiation of sedative use.

- Starting at its beginning in 1975, the study has tracked the initiation of ***methaqualone*** use (brand name Quaalude). Due to low prevalence, questions on this drug were dropped from the study in 2013 to make space for other questions. A full discussion of initiation trends for this drug is available in the 2014 version of this Volume that reports data through 2013.

- Figure 6-16 shows that most 12th graders who had ever used ***tranquilizers*** had initiated use by 10th grade, a pattern common to prescription drugs. This is indicated by lifetime prevalence levels in all years for 10th-grade cohort at levels half or more of lifetime prevalence when the cohorts was in 12th grade (two years later). This pattern of initiation has remained throughout the study, as tranquilizer initiation declined from the 1970s to a nadir in the early 1990s—before the 1990s relapse—and then subsequently increased. In 2001, when Xanax was added to the list of examples in the question text, reported use of tranquilizers increased in all grades but age of initiation remained higher in the high school grades than the earlier ones.

- About half of all 12th graders who have ever used ***alcohol*** initiated use by 9th grade (Figure 6-17). This is indicated by lifetime prevalence in all years of the survey for 9th-grade cohorts that are at half or more of the levels when the cohorts were in 12th grade (three years later). From the early 1970s to mid-1980s, the trends lines were fairly steady in the upper grades, and increased very slightly in grades 8 and 9. Since the mid-1980s, all grades have shown steady declines. Because the results from the classes of 1993 through 2014 are based on the revised question about alcohol use—which qualifies the question with the phrase "more than just a few sips"—these data are not strictly comparable to earlier trend data. These more recent classes of 12th graders continued to show a very gradual decline in initiation rates through 2014. The lower panel of Figure 6-20, based on data from 8th-grade respondents, also shows a gradual, steady decline in lifetime prevalence of use from the late 1980s through 2014 for most grades.

- In 1986, we began asking 12th graders about the first time they drank "enough to feel ***drunk*** or very high" (Figure 6-18). In all years the trend lines show a substantial gap in lifetime prevalence between 8th and 9th, as well as 9th and 10th grades. These gaps reflect substantial levels of initiation between 8th and 10th grades. In fact, among 12th-grade students who had ever been drunk, about half first became drunk between 8th and 10th grade, as indicated by the distance between the 8th and 10th grades encompassing more half or more of the total lifetime prevalence recorded by 12th grade.

  Responses from 8th graders reveal a fairly steady decline in lifetime incidence of drunkenness in the lower grades throughout most of the 1990s and into the 2000s. The proportional declines at these younger ages have been sharp, particularly among 7th and 8th graders.

- Of all substances considered in the survey, ***cigarette smoking*** has one of the lowest ages of initiation. The gaps between the trend lines for lifetime smoking in 6th and 8th grade is one of the largest for all drugs, indicating substantial initiation at these ages. Although lifetime prevalence of cigarette smoking has declined substantially over the course of the study, still 14% of 8th-grade students report having smoked a cigarette in 2014. After 8th grade, lifetime prevalence increases by about 6% at each grade until it reaches a prevalence of 34% among 12th-grade students in 2014. The increases in lifetime prevalence across grade levels appear to be somewhat larger in the younger as compared to the older grades, perhaps due to the inclusion of eventual dropouts among the 8th graders.

The important decline in teen smoking initiation that began in the mid-1990s can be seen in the lower panel of Figure 6-19, based on responses from 8th-grade students. This figure also shows evidence of a secular trend, in that the sharp decline since 1996 at 8th grade is not much reflected in the retrospective data for earlier grades until the 8th-grade class of 2002. After a sharp drop, the rate of decline in smoking initiation by 8th grade decelerated across about five classes until both the 8th- and 12th-grade classes of 2011 showed a sharper decline, likely due at least in part to an increase in federal tobacco taxes in 2009.

- Figure 6-20 presents the lifetime prevalence of cigarette smoking "on a daily basis," a measure included since the beginning of MTF in 1975. Substantial historical variation in ***daily smoking*** outcome is seen starting in 7th grade, and for 6th-grade students prevalence is low (less than 5%) and steady throughout the study. These results suggest that the historical/social influences that alter the prevalence of lifetime daily smoking reach down to about 7th grade. For the past decade historical change has consisted of a decline in all grades. The decline seen in the early 1970s among younger teens—which was subsequently evident at increasingly higher grades indicative of a cohort effect—may well have reflected the effects of the Federal Communications Commission's "fairness doctrine," which had the effect of greatly diminishing cigarette advertising on television for some time, followed by the Congressional ban on all cigarette advertising on television and radio starting in January, 1971.

- Questions about ***smokeless tobacco*** initiation (Figure 6-21) were first asked of 12th graders in the class of 1986. These prevalence questions were dropped from the 1990 and 1991 surveys of 12th graders, but reinstated in 1992. The 1986–1989 survey questions were located near the end of one questionnaire form; the questions since 1992 have been relocated so they appear early in the form. As a result, estimates based on two versions are not strictly comparable, and it may be misleading, therefore, to connect the two trend lines.

  Initiation patterns are similar to those for cigarette smoking (discussed above), with the earliest grades showing both substantial initiation and as well as historical variation in levels of initiation (even in 4th grade), a large jump in lifetime prevalence between 6th and 8th grades during the earlier years of the study, and a substantial decline in initiation over the course of the study. One important difference between trends in smokeless tobacco and cigarettes is that for all grades the decline in smokeless tobacco paused in the late 2000s. This pause continued in 2014 among 8th-grade students.

- As shown in Figure 6-22, data on grade of first use for ***steroids*** were not gathered until 1990. Initiation levels are first detectable at about 7th grade, with earlier grades showing a low lifetime prevalence with little variation over the course of the study. Overall lifetime prevalence levels are low, and in 2014 are less than 2% among 12th-grade students. At such low prevalence levels the results are somewhat noisy. One general trend apparent across survey years is a substantial jump at 10th and/or 11th grade, indicating that the high school years are a substantial risk period for initiation of steroids.

  The data from both 8th- and 12th-grade students show an increase in steroid use in the late 1990s. This would be consistent with our interpretation that knowledge of androstenedione use by the famous baseball player Mark McGwire became widespread in 1998 and likely

served to stimulate steroid use among 8th and 10th graders. The lower panel of data from 8th graders generally shows declines in use, at least in grades 7 and 8, since the 8th-grade class of 2000 passed through these grades. Twelfth-grade classes since the class of 2002 likewise showed a general pattern of decline in initiation at 12th grade following a prior period of increase, at least until the class of 2012, which showed a leveling. (That leveling was not reflected in grades 10 and 11 as the Class of 2012 passed through them.)

TABLE 6-1
Incidence of Use of Various Drugs by Grade for 8th Graders, 2014

(Entries are percentages.)

Grade in which drug was first used:	Marijuana	Inhalants	Hallucinogens	LSD	Hallucinogens other than LSD	Cocaine	Crack	Cocaine Powder	Heroin	Amphetamines	Tranquilizers	Alcohol	Been Drunk	Cigarettes	Cigarettes (Daily)[a]	Smokeless Tobacco	Steroids
4th (or below)	1.0	2.8	0.2	0.2	0.2	0.2	0.2	0.2	0.3	0.8	0.3	3.5	0.6	2.1	0.1	1.1	0.2
5th	1.3	1.7	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.6	0.2	2.7	0.5	1.9	0.2	1.0	0.2
6th	2.9	2.2	0.2	0.1	0.2	0.2	0.2	0.2	0.1	0.6	0.4	5.8	1.4	2.8	0.3	1.5	0.1
7th	5.1	2.6	0.6	0.4	0.5	0.5	0.4	0.4	0.2	2.4	0.8	8.7	3.9	4.2	0.7	2.0	0.2
8th	5.4	1.5	0.8	0.4	0.7	0.7	0.5	0.6	0.3	2.3	1.2	6.1	4.3	2.4	0.7	2.4	0.3
Never used	84.4	89.2	98.0	98.9	98.5	98.2	98.8	98.6	99.1	93.3	97.1	73.2	89.2	86.5	98.0	92.0	99.0

Source. The Monitoring the Future study, the University of Michigan.

Notes. All drugs were asked about in all four forms except for the following: hallucinogens, LSD, hallucinogens other than LSD, heroin, amphetamines, tranquilizers, and smokeless tobacco, which were asked about in only two forms. The approximate *N* for all forms was 14,600.

[a]Data based on the percentage of regular smokers (ever).

TABLE 6-2
Incidence of Use of Various Drugs by Grade for 10th Graders, 2014

(Entries are percentages.)

Grade in which drug was first used:	Marijuana	Inhalants	Hallucinogens	LSD	Hallucinogens other than LSD	Cocaine	Crack	Cocaine Powder	Heroin	Amphetamines	Tranquilizers	Alcohol	Been Drunk	Cigarettes	Cigarettes (Daily)[a]	Smokeless Tobacco	Steroids
4th (or below)	0.6	1.8	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.4	0.1	2.2	0.5	1.7	0.1	0.9	0.1
5th	0.7	0.7	0.1	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	1.8	0.4	1.6	0.1	0.5	0.1
6th	2.2	1.2	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.4	0.1	3.4	1.0	2.2	0.3	0.9	0.1
7th	4.4	1.6	0.4	0.1	0.3	0.2	0.1	0.2	0.1	0.9	0.6	6.6	2.7	3.7	0.7	1.3	0.1
8th	7.6	1.3	0.9	0.5	0.8	0.4	0.2	0.4	0.2	1.9	1.2	12.6	6.3	4.9	1.0	2.1	0.2
9th	11.2	1.5	1.9	1.2	1.3	1.0	0.4	0.9	0.3	3.9	2.0	15.6	11.8	5.8	1.3	5.0	0.5
10th	6.9	0.6	1.5	0.6	1.4	0.7	0.3	0.6	0.2	3.1	1.7	7.2	7.4	2.6	1.0	2.8	0.4
Never used	66.3	91.3	95.0	97.4	95.9	97.4	99.0	97.8	99.1	89.4	94.2	50.7	69.8	77.4	95.4	86.4	98.6

Source. The Monitoring the Future study, the University of Michigan.

Notes. All drugs were asked about in all four forms except for the following: hallucinogens, LSD, hallucinogens other than LSD, heroin, amphetamines, tranquilizers, and smokeless tobacco, which were asked about in only two forms. The approximate *N* for all forms was 13,000.

[a]Data based on the percentage of regular smokers (ever).

TABLE 6-3
Incidence of Use of Various Drugs by Grade for 12th Graders, 2014

(Entries are percentages.)

Grade in which drug was first used:	Any Illicit Drug	Any Illicit Drug other than Marijuana	Marijuana	Inhalants	Hallucinogens [a]	LSD	Hallucinogens other than LSD	Cocaine	Crack	Other Forms of Cocaine	Heroin	Narcotics other than Heroin	Amphetamines [b]	Sedatives (Barbiturates)	Tranquilizers	Alcohol	Been Drunk	Cigarettes	Cigarettes (Daily) [c]	Smokeless Tobacco	Steroids
6th (or below)	2.0	1.1	1.3	0.9	0.1	0.0	0.1	0.2	0.3	0.1	0.1	0.5	0.5	0.5	0.2	3.5	0.8	4.4	0.4	1.2	0.2
7th–8th [d]	9.8	2.4	8.8	1.6	0.6	0.4	0.4	0.6	0.3	0.6	0.3	1.0	0.8	1.1	0.8	13.6	7.4	8.4	1.4	2.8	0.2
9th	11.9	3.8	11.1	1.9	0.9	0.6	0.7	0.7	0.3	0.4	0.2	1.4	1.5	1.2	1.5	15.6	11.7	6.6	2.0	2.4	0.1
10th	10.3	4.8	9.4	0.6	1.1	0.6	1.0	0.9	0.4	1.3	0.2	2.3	3.2	1.4	1.5	13.8	12.4	6.1	1.7	3.3	0.4
11th	9.2	6.1	8.5	0.8	1.8	0.8	1.4	1.0	0.2	1.0	0.1	2.5	3.3	1.1	1.7	11.5	10.5	5.2	1.6	3.2	0.3
12th	5.7	4.4	5.2	0.6	1.7	1.4	1.3	1.3	0.4	0.8	0.1	1.8	2.8	1.6	1.8	8.0	7.0	3.8	1.4	2.2	0.7
Never used	50.9	77.4	55.6	93.5	93.7	96.3	94.9	95.4	98.2	95.9	99.0	90.5	87.9	93.2	92.6	34.0	50.2	65.6	91.5	84.9	98.1

Source. The Monitoring the Future study, the University of Michigan.

Notes. Percentages are based on two of the six forms (*N* = approximately 4,100) except for cocaine, crack, and cigarettes, for which percentages are based on three of the six forms (*N* = approximately 6,200); and inhalants, other forms of cocaine, and steroids, for which percentages are based on one of the six forms (*N* = approximately 2,100).

[a] Unadjusted for known underreporting of certain drugs. See text for details.

[b] Based on data from the revised question, which attempts to exclude the inappropriate reporting of nonprescription amphetamines.

[c] Data based on the percentage of regular smokers (ever).

[d] For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

TABLE 6-4
Incidence of Use of Various Drugs: A Comparison of Responses from 8th, 10th, and 12th Graders, 2014

Grade level of respondents:	Marijuana	Inhalants	Hallucinogens [a]	LSD	Hallucinogens other than LSD	Cocaine	Crack	Other Cocaine	Heroin	Amphetamines [b]	Tranquilizers	Alcohol	Been Drunk	Cigarettes	Cigarettes (Daily) [c]	Smokeless Tobacco	Steroids
Percentage who used by end of 6th grade																	
8th	5.1	6.7	0.6	0.3	0.4	0.6	0.4	0.4	0.5	2.0	0.9	12.0	2.6	6.9	0.6	3.6	0.5
10th	3.6	3.7	0.3	0.2	0.2	0.3	0.1	0.2	0.1	0.8	0.3	7.3	1.9	5.6	0.6	2.3	0.2
12th	1.3	0.9	0.1	0.0	0.1	0.2	0.3	0.1	0.1	0.5	0.2	3.5	0.8	4.4	0.4	1.2	0.2
Percentage who used by end of 8th grade																	
8th	15.6	10.8	2.0	1.1	1.5	1.8	1.2	1.4	0.9	6.7	2.9	26.8	10.8	13.5	2.0	8.0	1.0
10th	15.6	6.6	1.6	0.8	1.3	0.9	0.4	0.8	0.4	3.6	2.1	26.5	11.0	14.2	2.2	5.8	0.5
12th	10.1	2.5	0.7	0.4	0.6	0.8	0.5	0.7	0.4	1.3	1.0	17.1	8.2	12.8	1.8	4.0	0.4
Percentage who used by end of 10th grade																	
10th	33.7	8.7	5.0	2.6	4.1	2.6	1.0	2.2	0.9	10.6	5.8	49.3	30.2	22.6	4.6	13.6	1.4
12th	30.6	5.1	2.8	1.5	2.3	2.3	1.2	2.4	0.8	5.9	3.9	46.5	32.3	25.4	5.5	9.7	0.9

Source. The Monitoring the Future study, the University of Michigan.

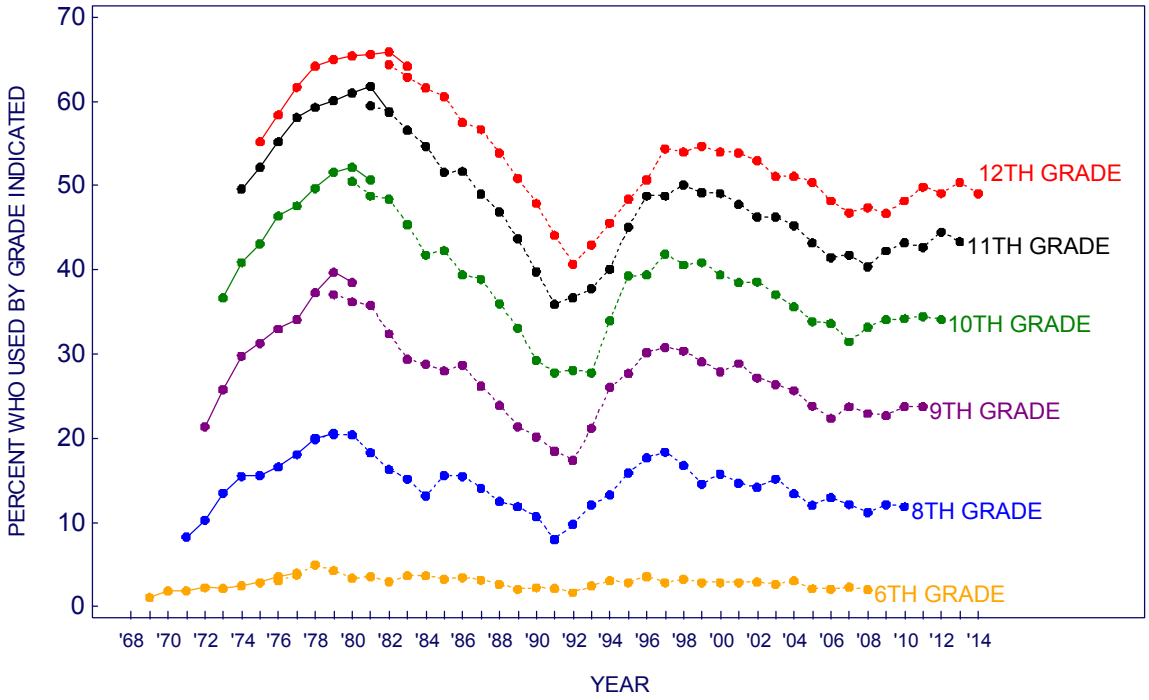
Notes. For 8th and 10th graders, all drugs were asked about in all four forms except for the following: hallucinogens, LSD, hallucinogens other than LSD, heroin, amphetamines, tranquilizers, and smokeless tobacco, which were asked about in only two forms. The approximate *N* for all forms was 14,600 for 8th graders and 13,000 for 10th graders. For 12th graders, percentages are based on two of six forms (*N* = approximately 4,100) except for cocaine, crack, and cigarettes, for which percentages are based on three of six forms (*N* = approximately 6,200); and inhalants, other forms of cocaine, and steroids, for which percentages are based on one of six forms (*N* = approximately 2,100).

[a]Unadjusted for underreporting of certain drugs. See text for details.

[b]Based on data from the revised question, which attempts to exclude the inappropriate reporting of nonprescription amphetamines.

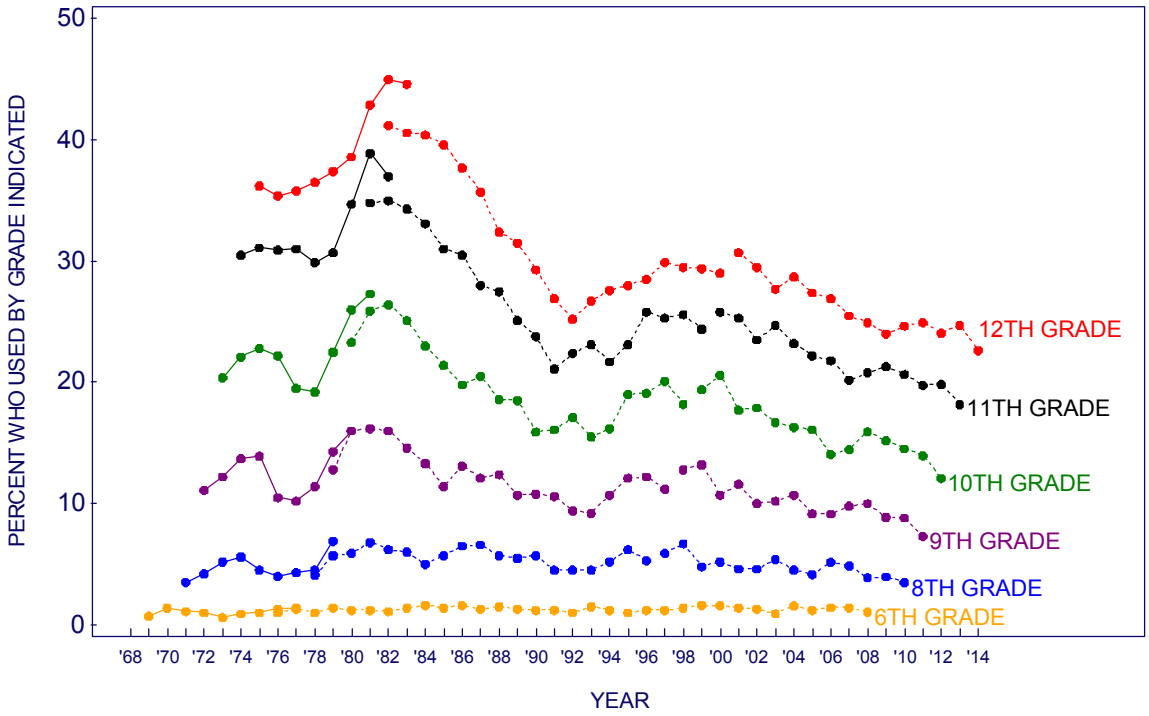
[c]Data based on the percentage of regular smokers (ever).

FIGURE 6-1
Any Illicit Drug
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th Graders



Source. The Monitoring the Future study, the University of Michigan.
Note. The dashed lines connect percentages that result if nonprescription stimulants are excluded.
*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

FIGURE 6-2
Any Illicit Drug other than Marijuana
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th Graders



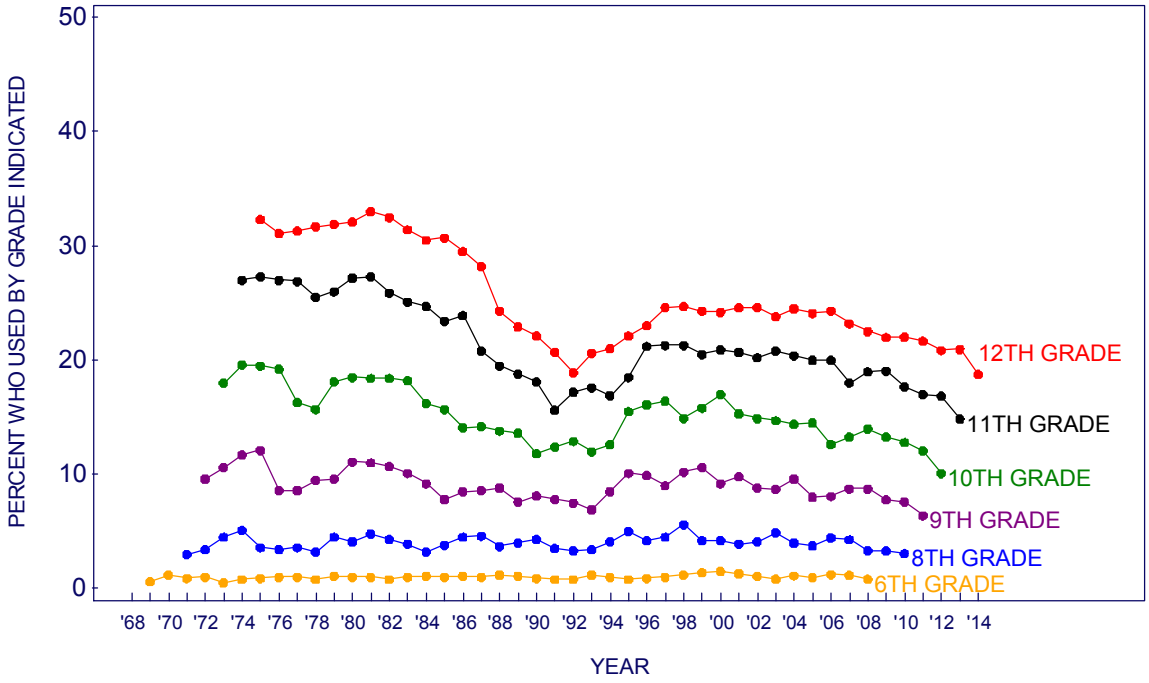
Source. The Monitoring the Future study, the University of Michigan.

Notes. The dashed lines connect percentages that result if nonprescription stimulants are excluded.

Beginning in 2001, revised sets of questions on other hallucinogen and tranquilizer use were introduced. Data for any illicit drug other than marijuana are affected by these changes. Beginning in 2001, the dashed lines also connect percentages that are based on data from the revised questions.

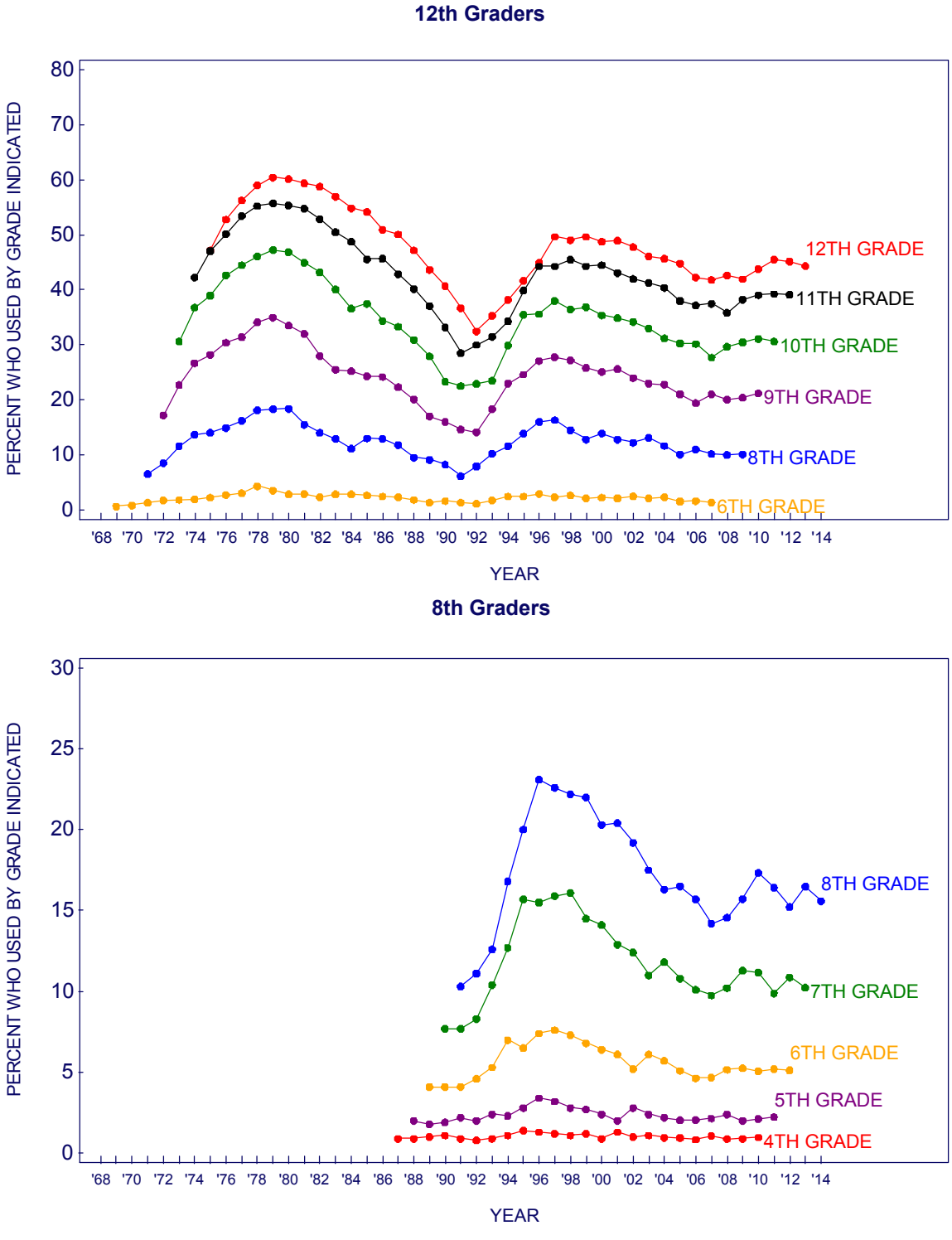
*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

FIGURE 6-3
Any Illicit Drug other than Marijuana or Amphetamines
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th Graders



Source. The Monitoring the Future study, the University of Michigan.
*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

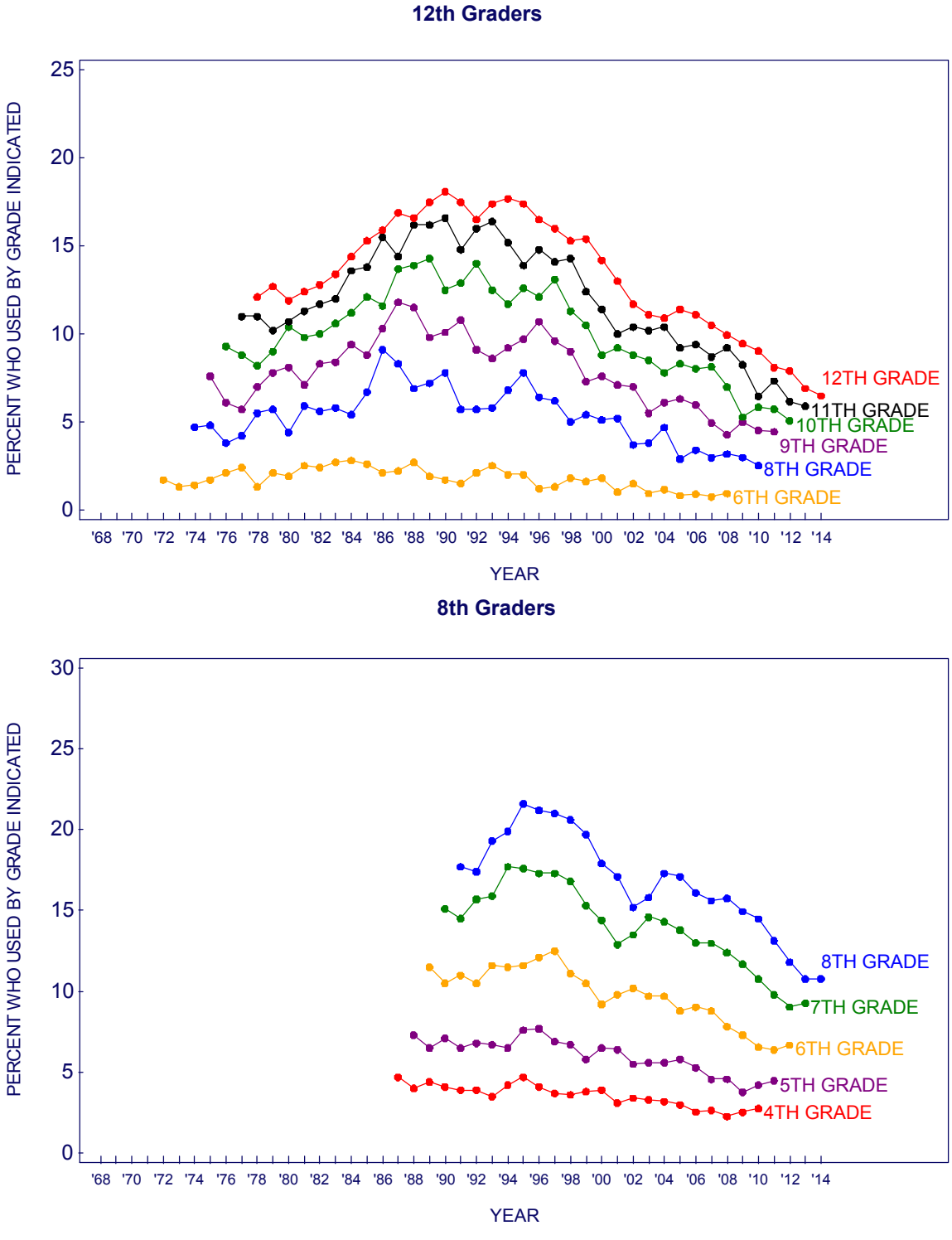
FIGURE 6-4
Marijuana
Trends in Lifetime Prevalence at Earlier Grade Levels* based on Retrospective Reports from 12th and 8th Graders



Source. The Monitoring the Future study, the University of Michigan.

*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

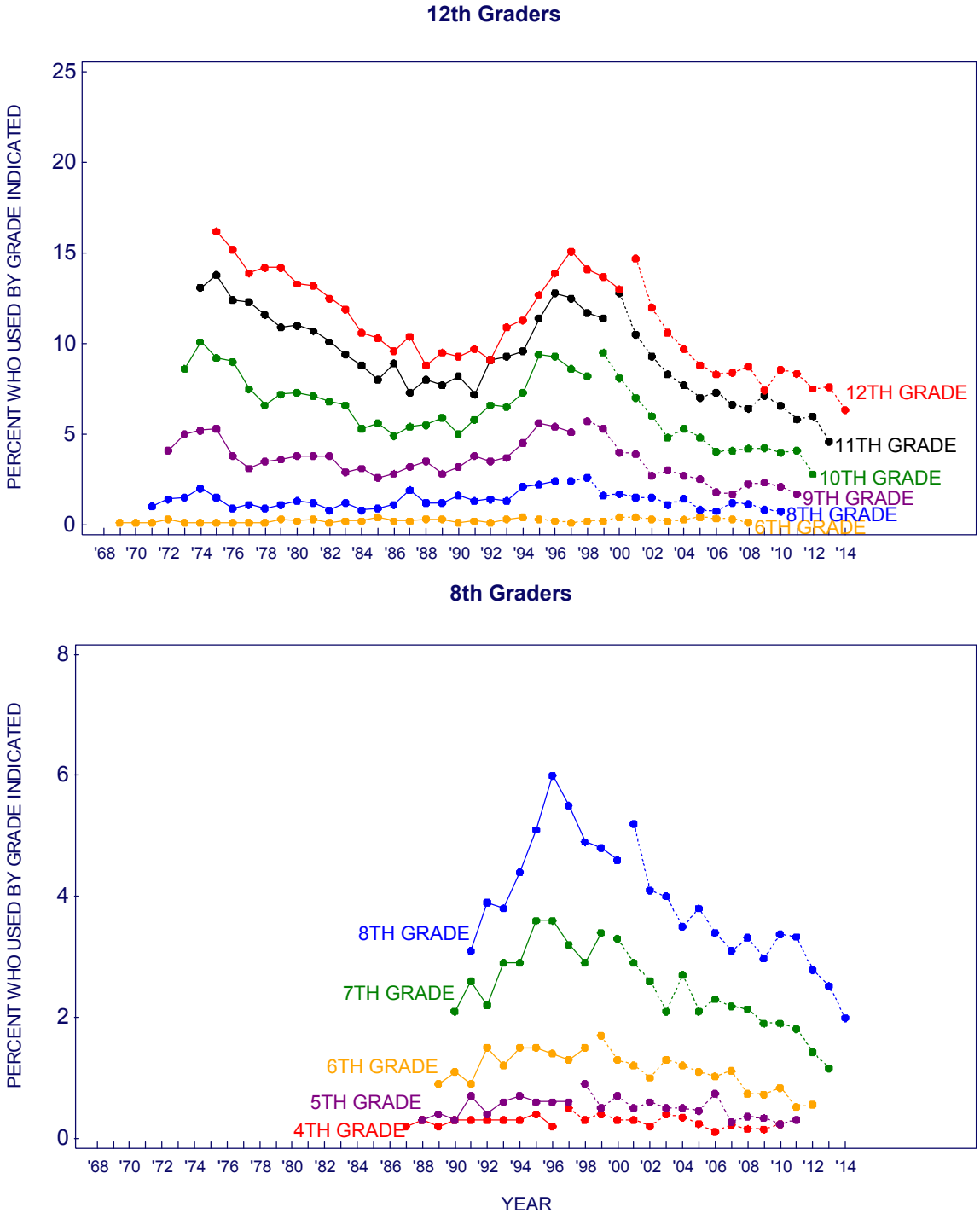
FIGURE 6-5
Inhalants
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th and 8th Graders



Source. The Monitoring the Future study, the University of Michigan.

*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

FIGURE 6-6
Hallucinogens
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th and 8th Graders



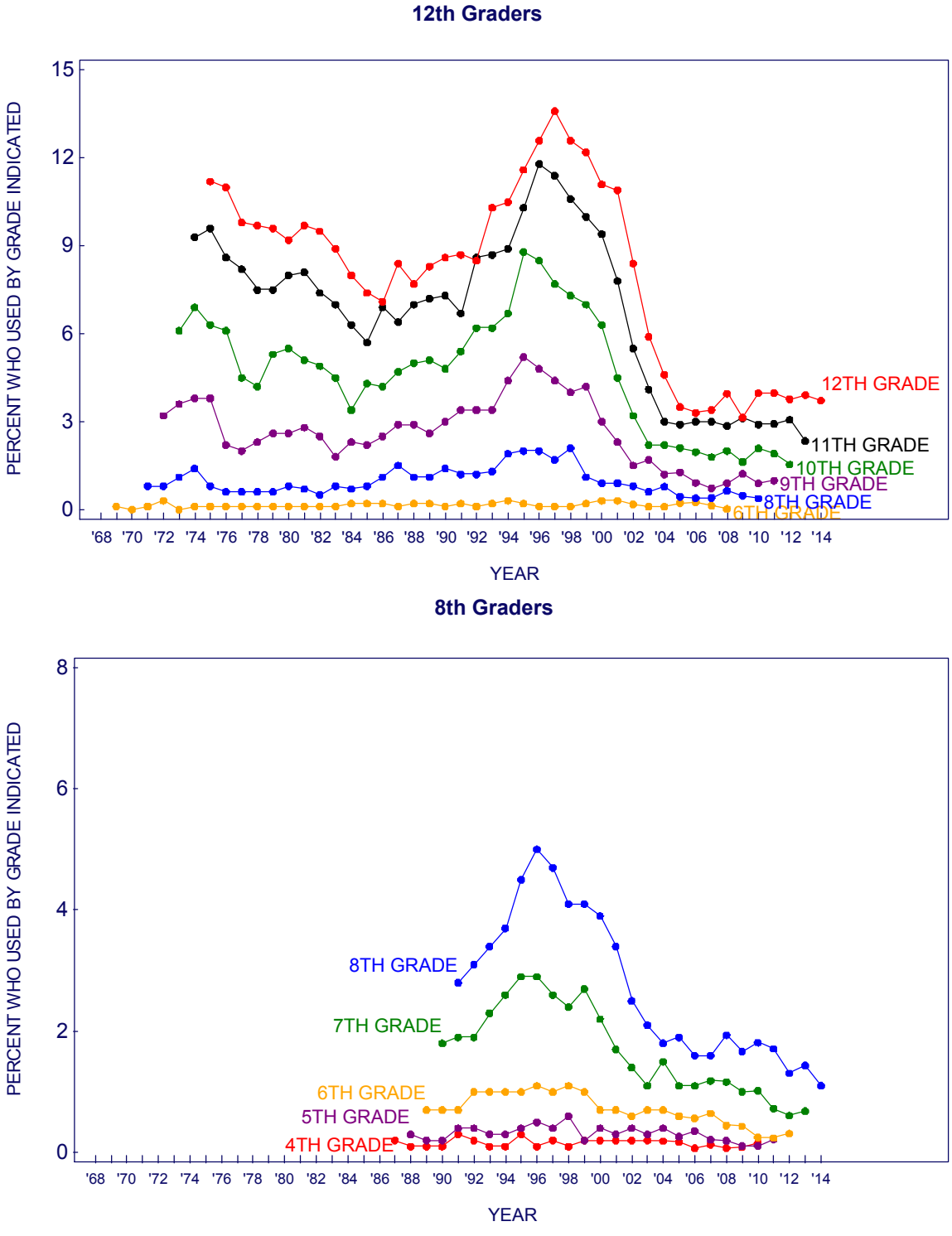
Source. The Monitoring the Future study, the University of Michigan.

Notes. Hallucinogens unadjusted for any underreporting of PCP are graphed here.

Beginning in 2001, revised sets of questions on other hallucinogen use were introduced. Data for hallucinogens are affected by these changes. The dashed lines connect percentages that are based on data from the revised questions.

*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

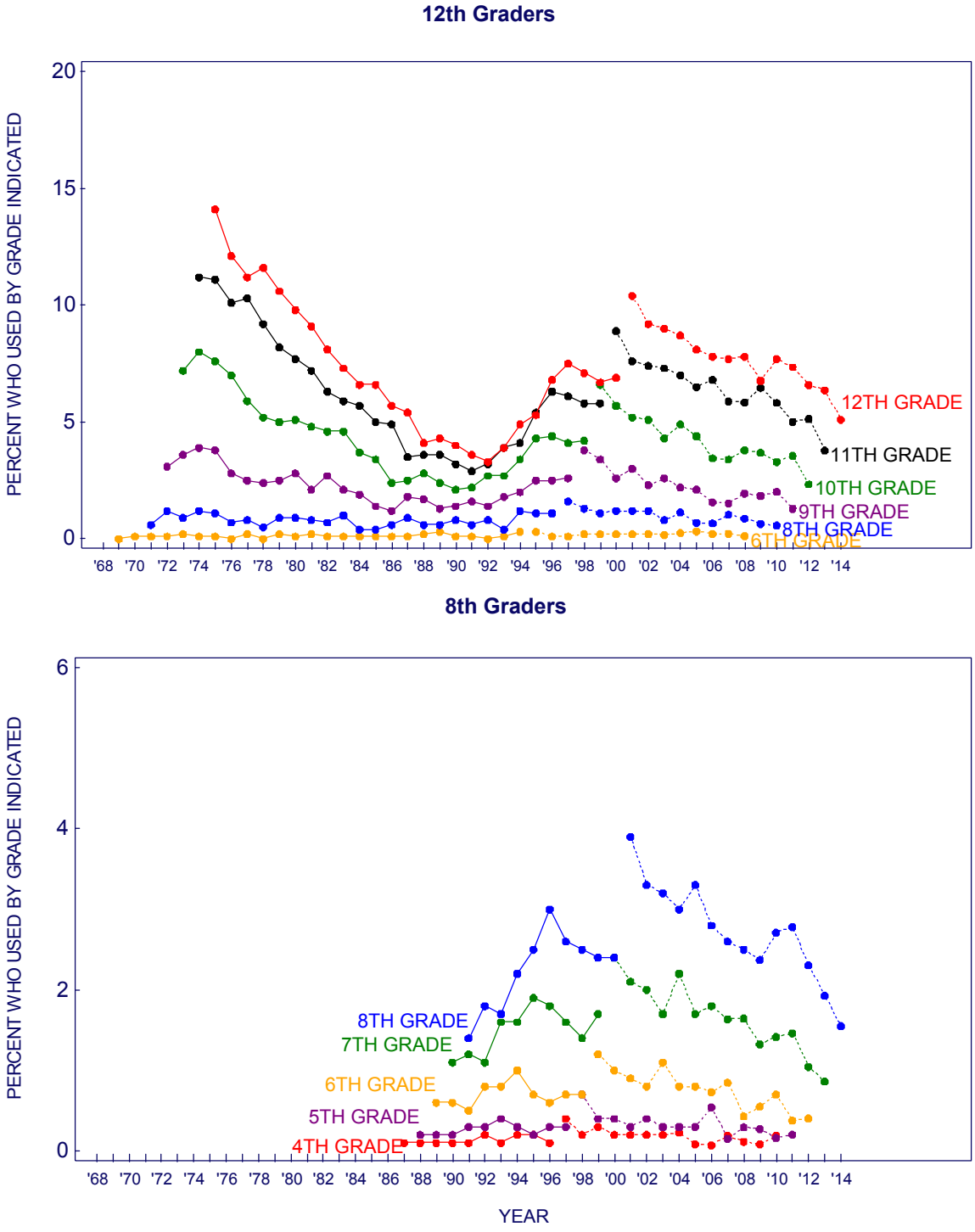
FIGURE 6-7
LSD
Trends in Lifetime Prevalence at Earlier Grade Levels* based on Retrospective Reports from 12th and 8th Graders



Source. The Monitoring the Future study, the University of Michigan.

*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

FIGURE 6-8
Hallucinogens other than LSD
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th and 8th Graders

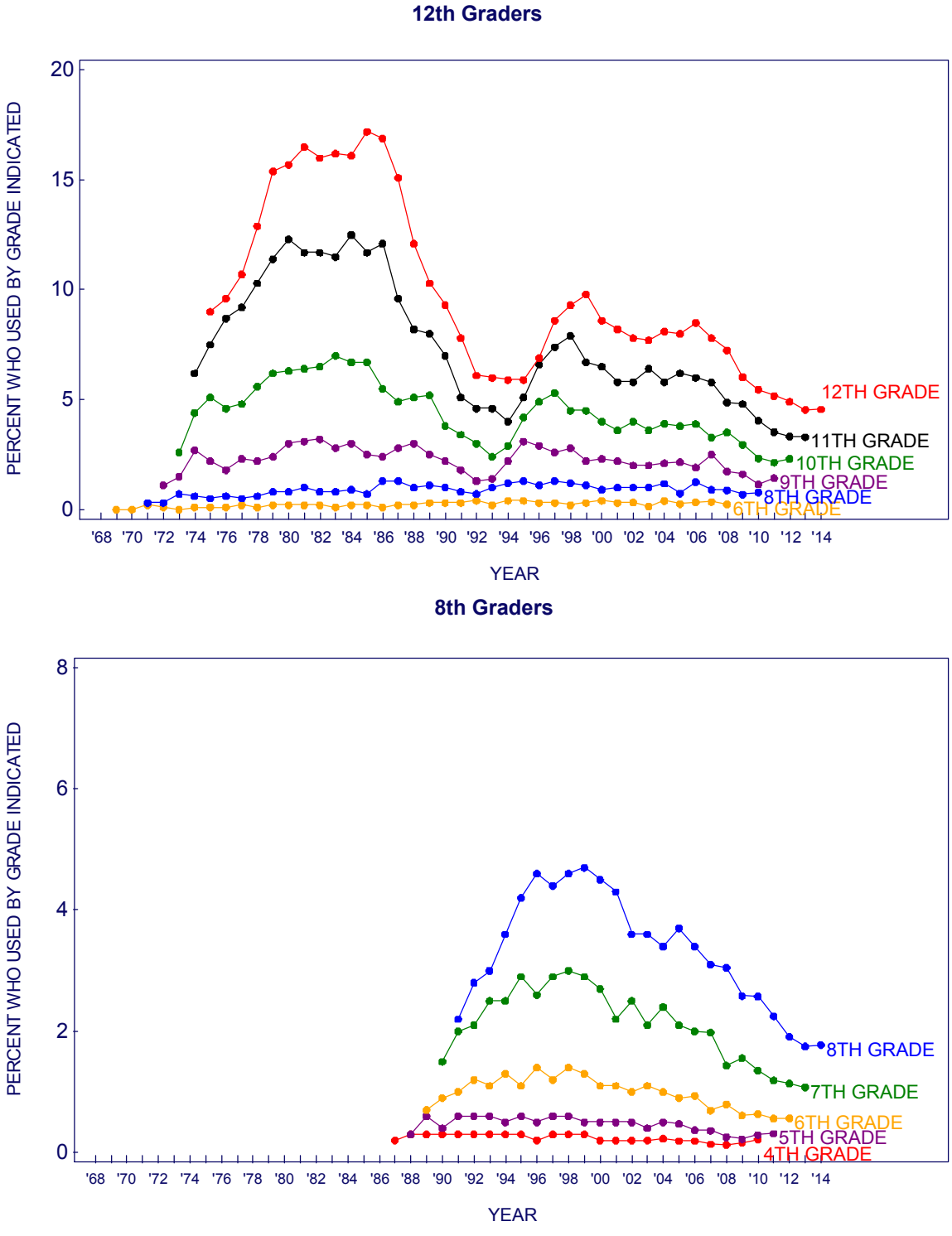


Source. The Monitoring the Future study, the University of Michigan.

Notes. Beginning in 2001, revised sets of questions on hallucinogens other than LSD were introduced, in which other psychedelics was changed to other hallucinogens and shrooms was added to the list of examples. The dashed lines connect percentages based on data from the revised questions.

*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

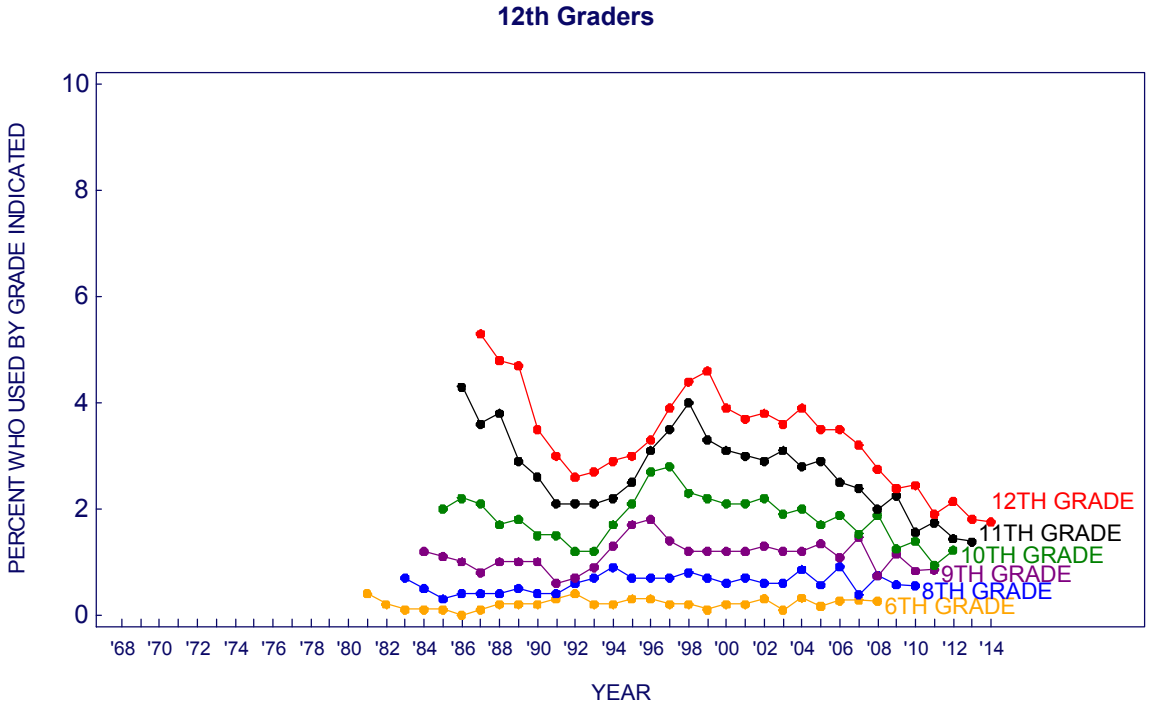
FIGURE 6-9
Cocaine
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th and 8th Graders

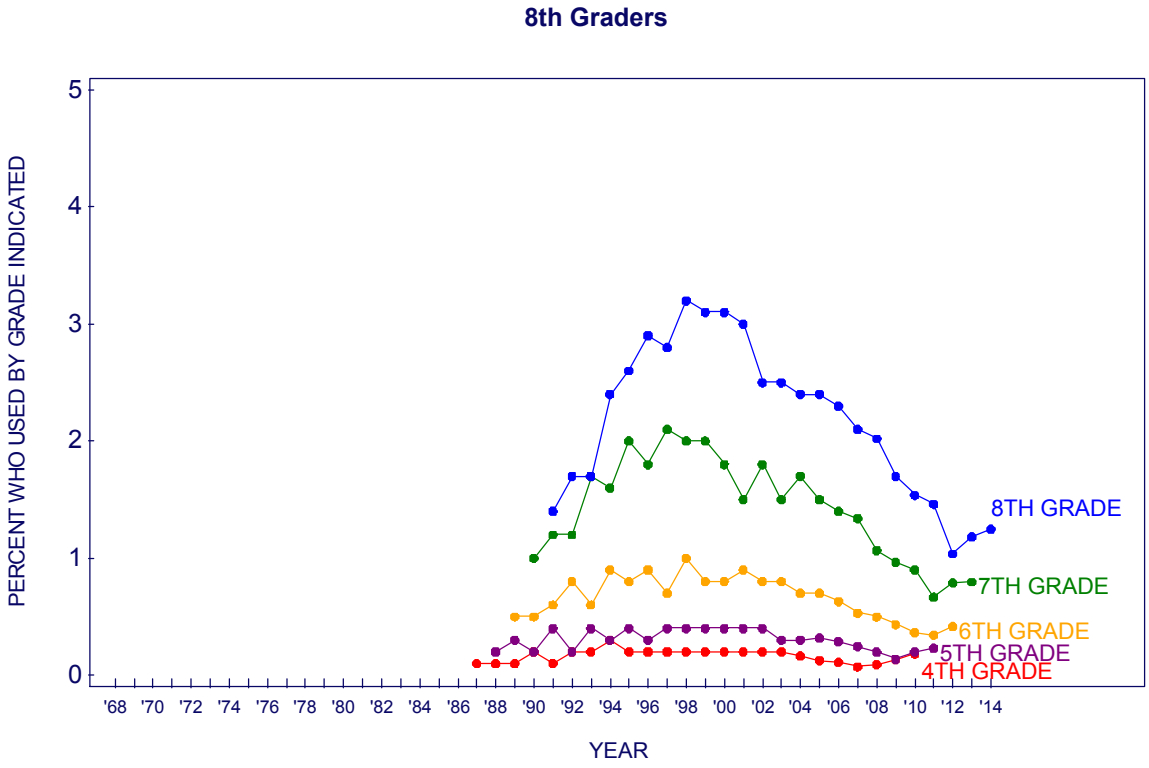


Source. The Monitoring the Future study, the University of Michigan.

*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

FIGURE 6-10
Crack Cocaine
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th and 8th Graders

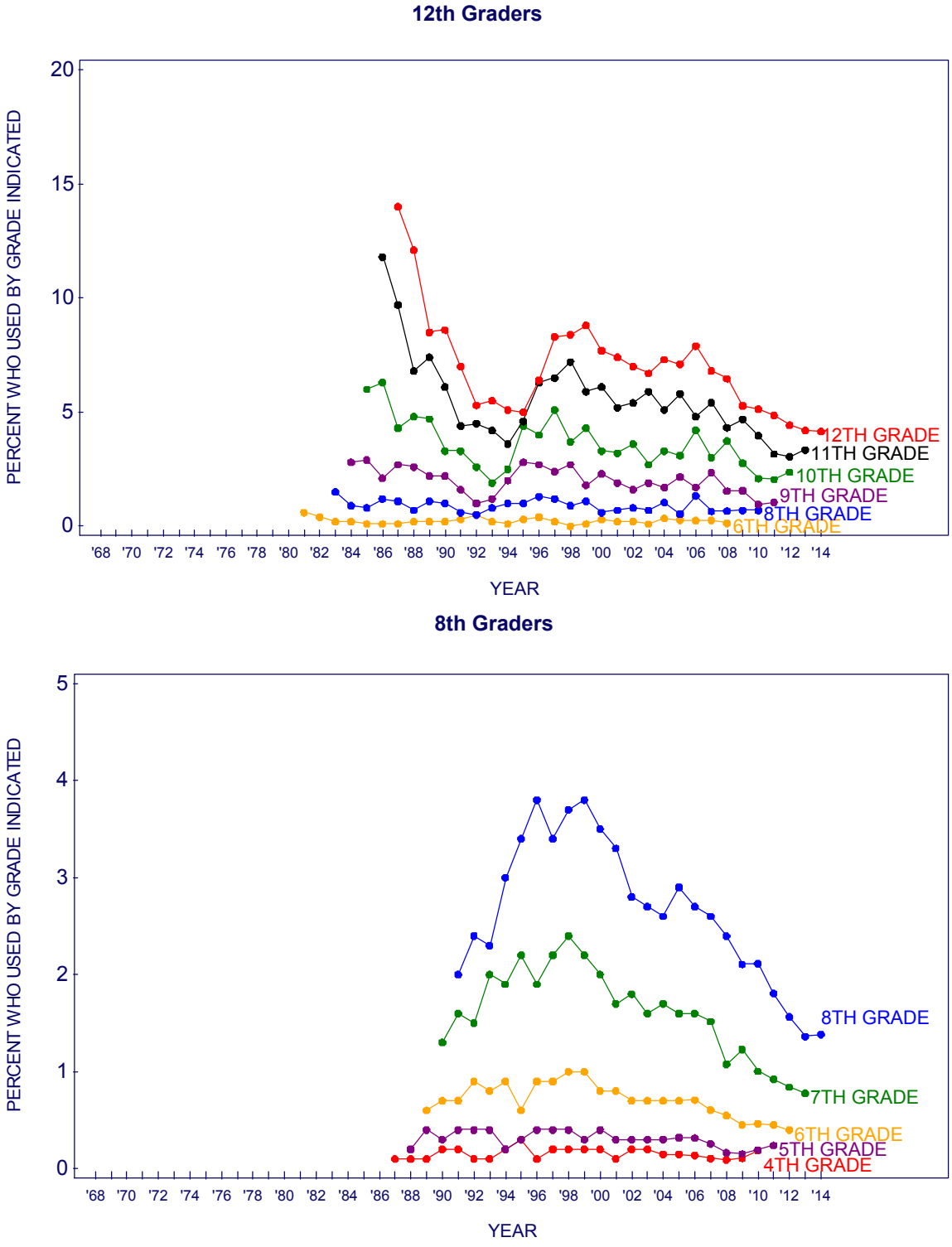




Source. The Monitoring the Future study, the University of Michigan.

*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

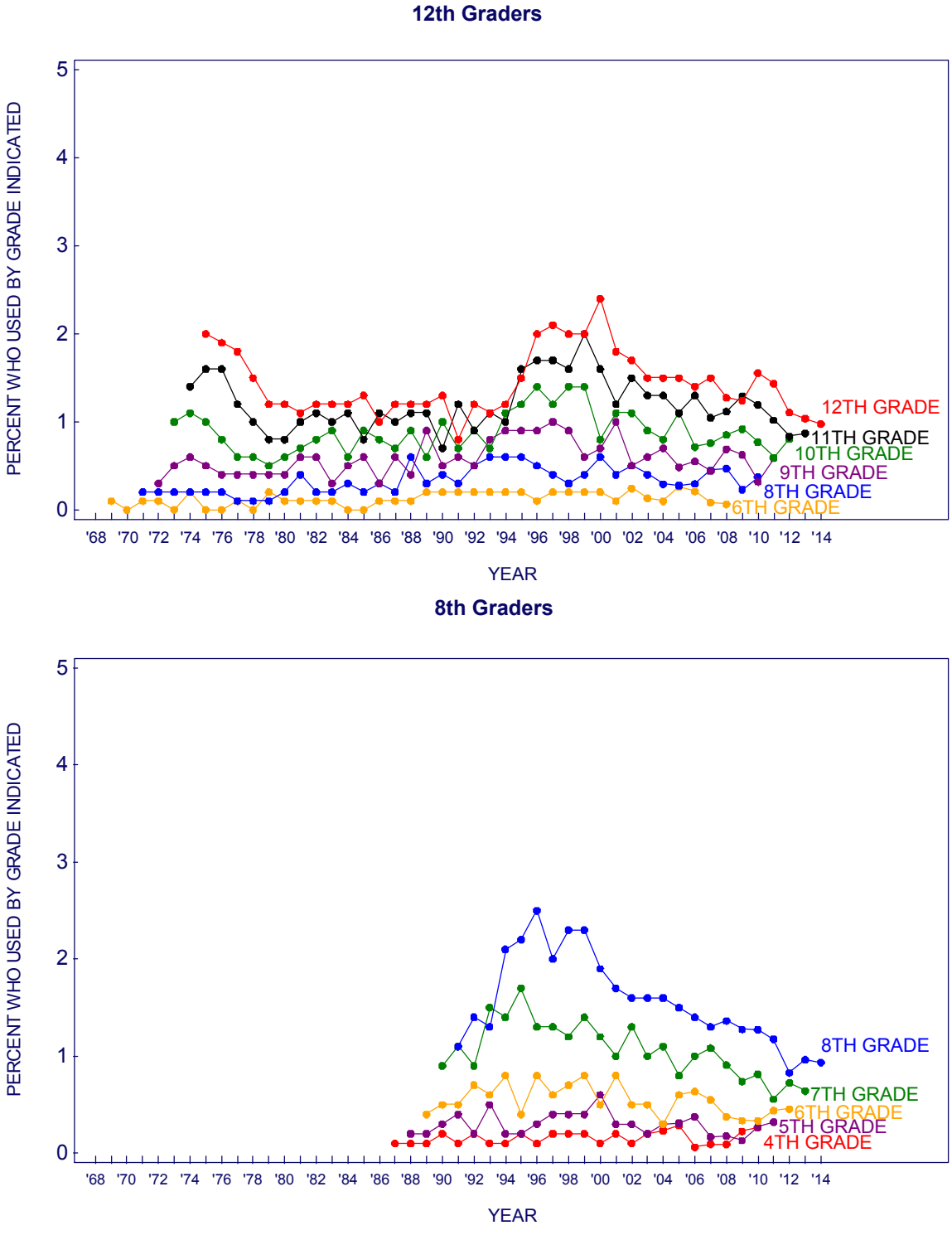
FIGURE 6-11
Other Forms of Cocaine
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th and 8th Graders



Source. The Monitoring the Future study, the University of Michigan.

*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

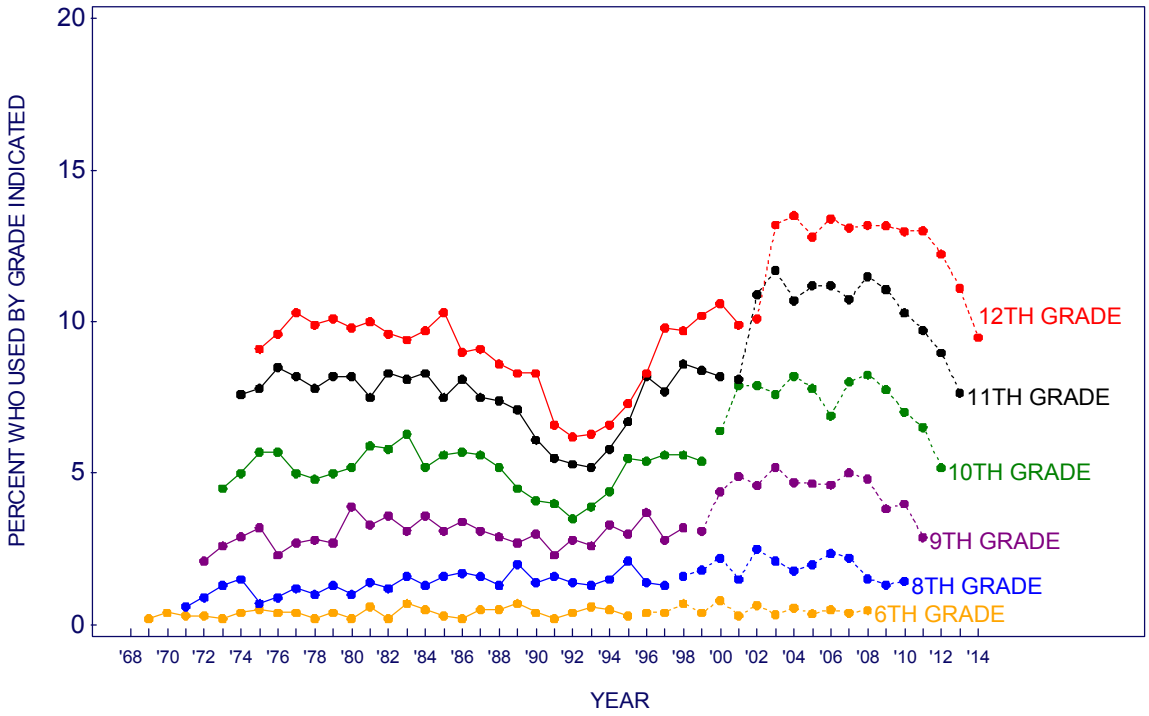
FIGURE 6-12
Heroin
Trends in Lifetime Prevalence at Earlier Grade Levels* based on Retrospective Reports from 12th and 8th Graders



Source. The Monitoring the Future study, the University of Michigan.

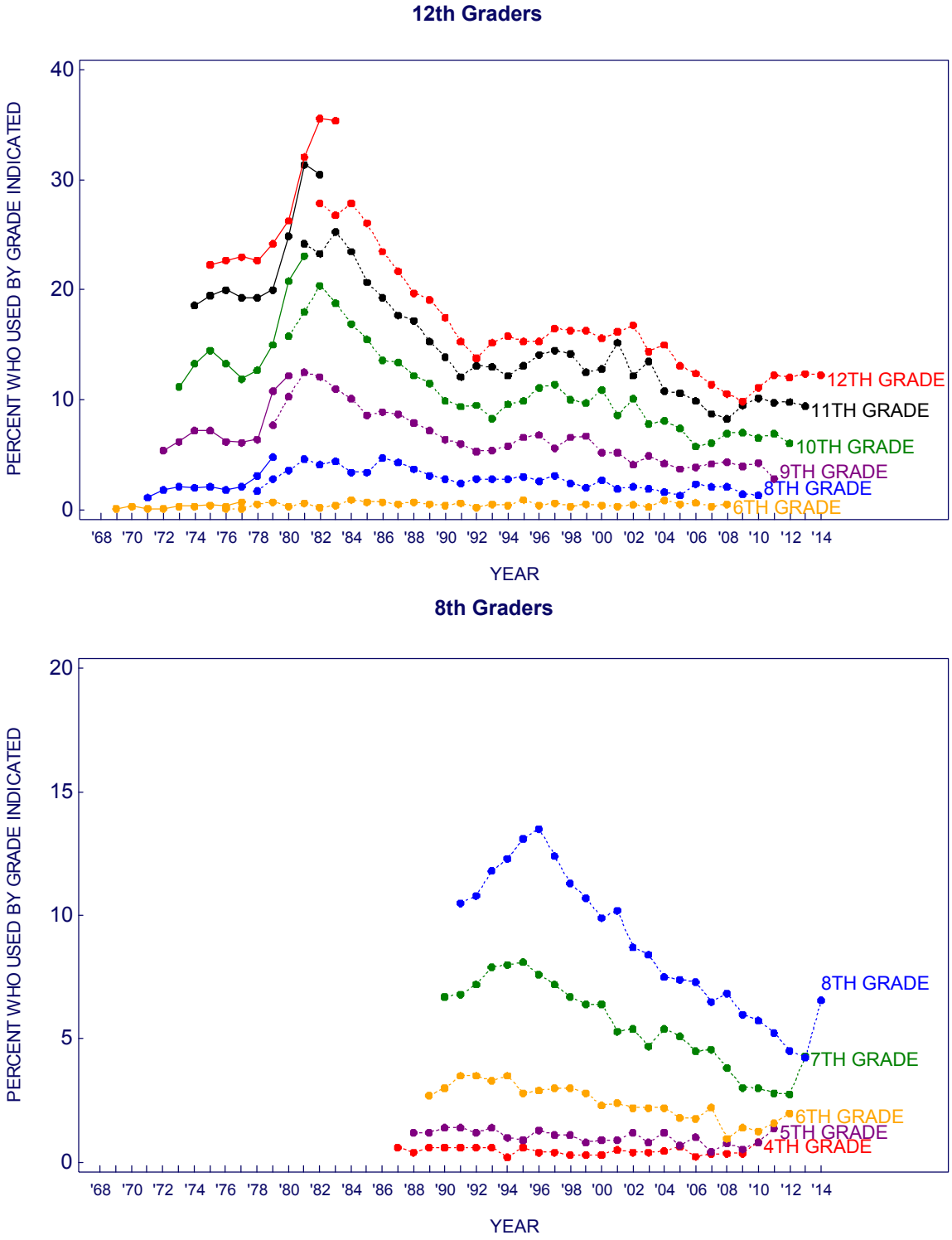
*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

FIGURE 6-13
Narcotics other than Heroin
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th Graders



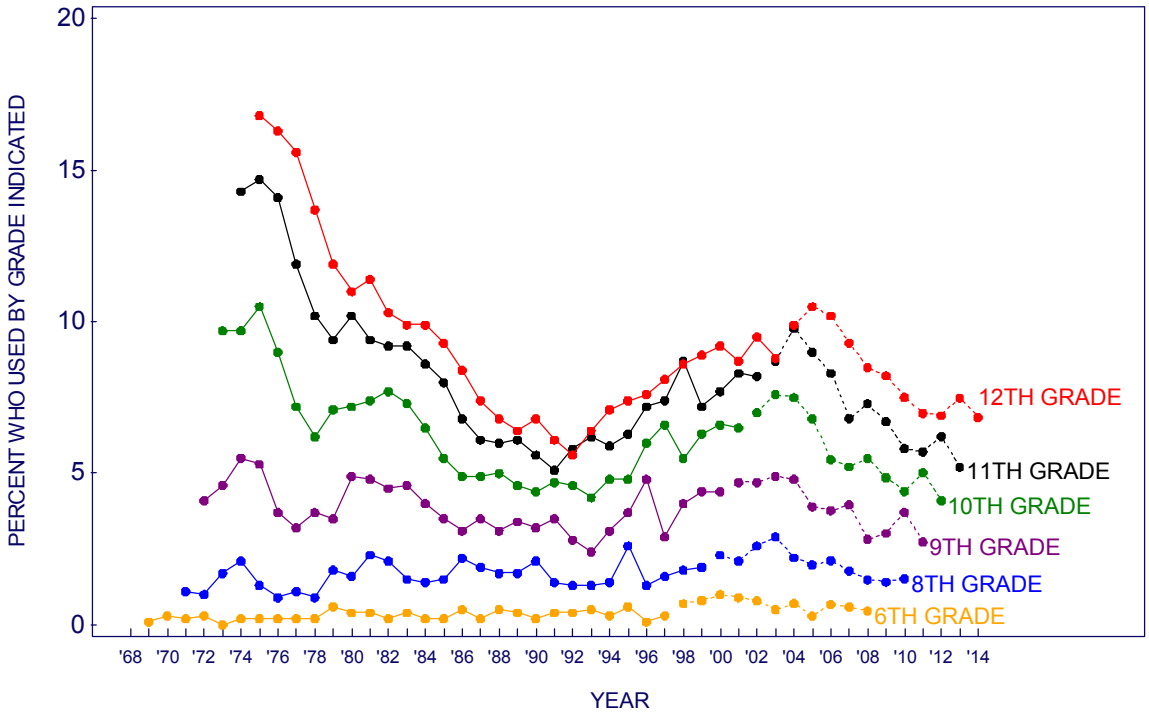
Source. The Monitoring the Future study, the University of Michigan.
Note. Beginning in 2002, a revised set of questions on narcotics other than heroin was introduced. The dashed lines connect percentages that are based on data from the revised questions.
*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

FIGURE 6-14
Amphetamines
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th and 8th Graders



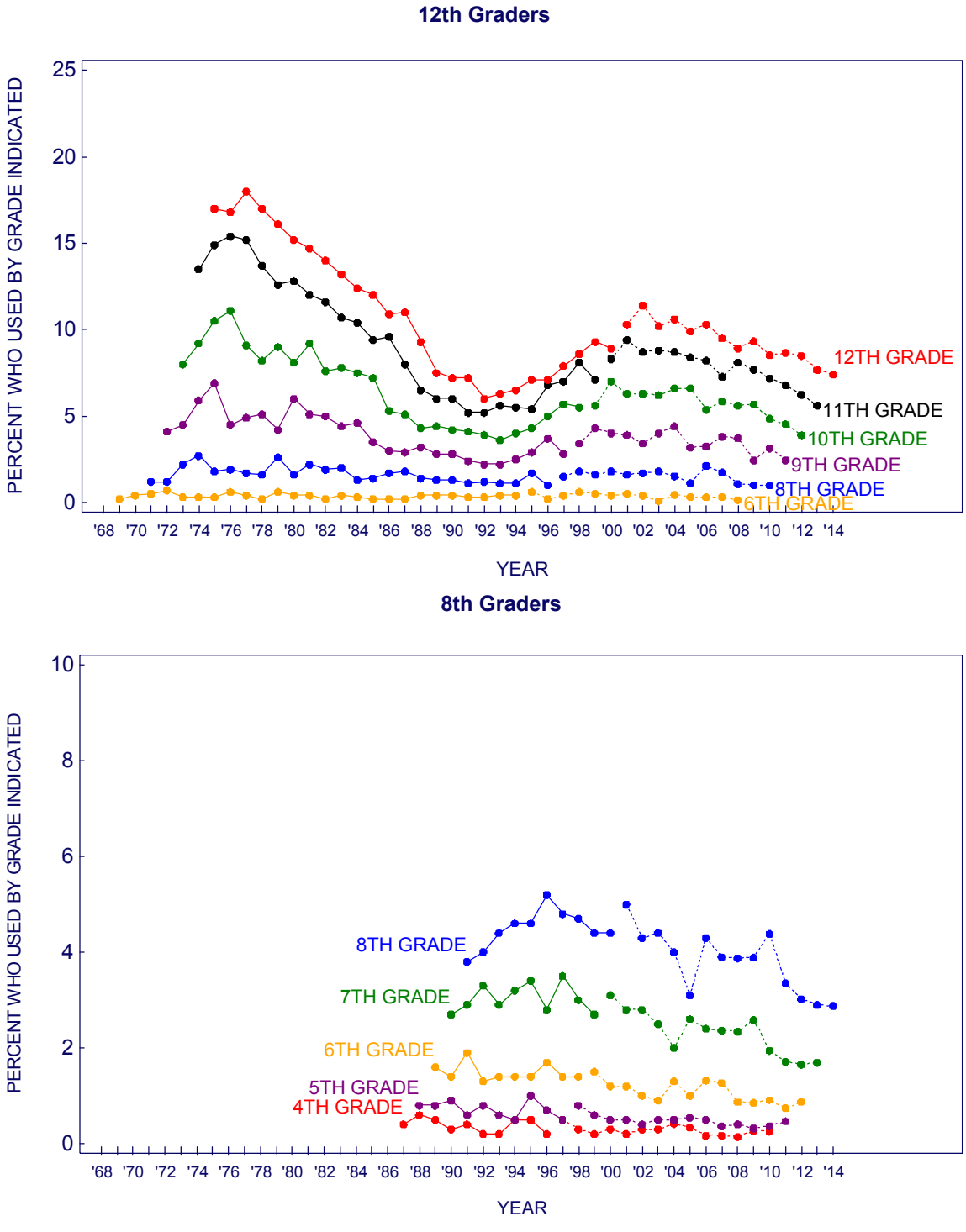
Source. The Monitoring the Future study, the University of Michigan.
Note. The dashed lines connect percentages that result if nonprescription stimulants are excluded.
*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

FIGURE 6-15
Sedatives (Barbiturates)
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th Graders



Source. The Monitoring the Future study, the University of Michigan.
Note. Beginning in 2004, a revised set of questions on sedatives (barbiturates) was introduced. The dashed lines connect percentages that are based on data from the revised questions.
*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

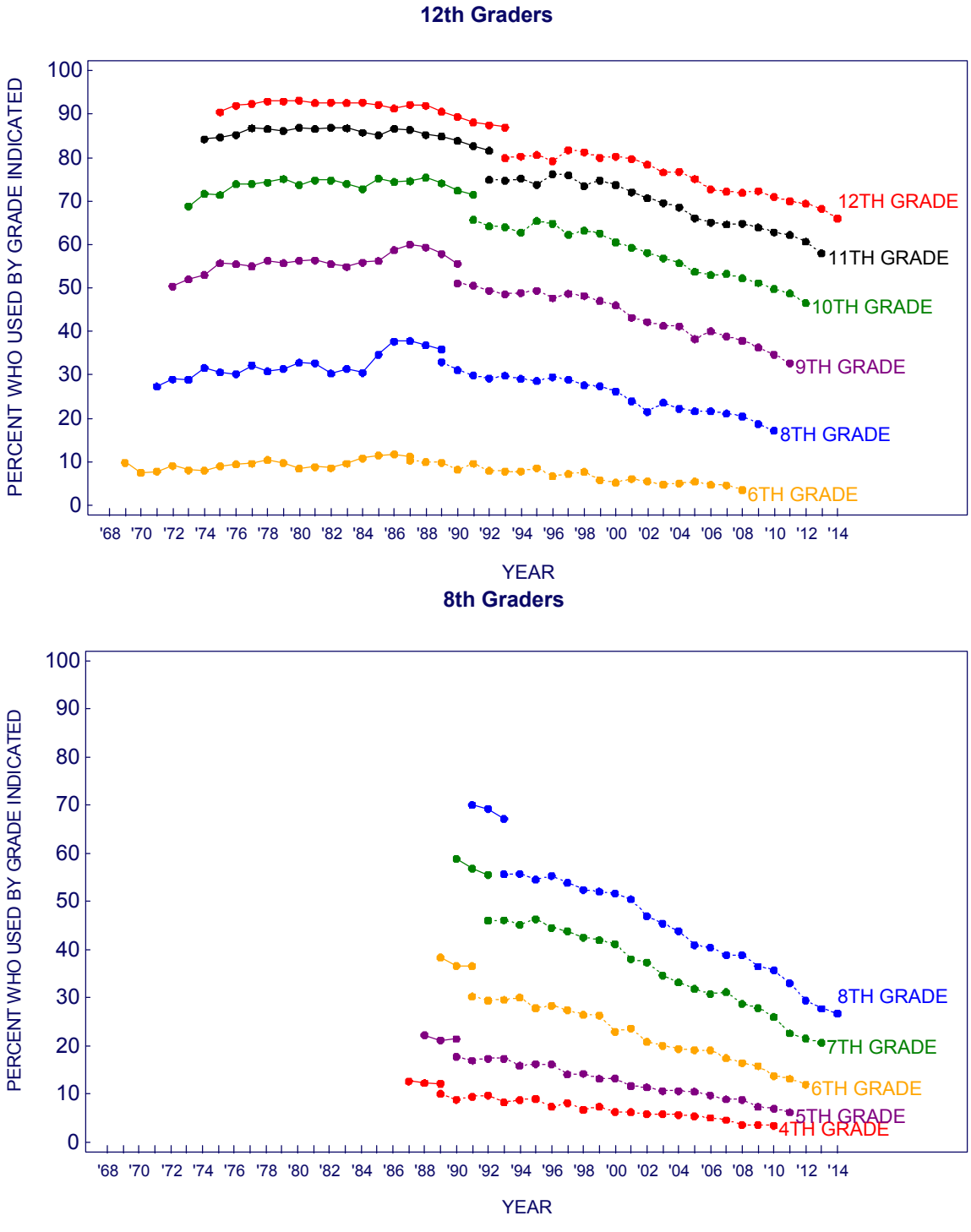
FIGURE 6-16
Tranquilizers
Trends in Lifetime Prevalence at Earlier Grade Levels* based on Retrospective Reports from 12th and 8th Graders



Source. The Monitoring the Future study, the University of Michigan.
Note. Beginning in 2001, a revised set of questions on tranquilizer use was introduced, in which Xanax replaced Miltown in the list of examples. The dashed lines connect percentages that are based on data from the revised questions.

*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

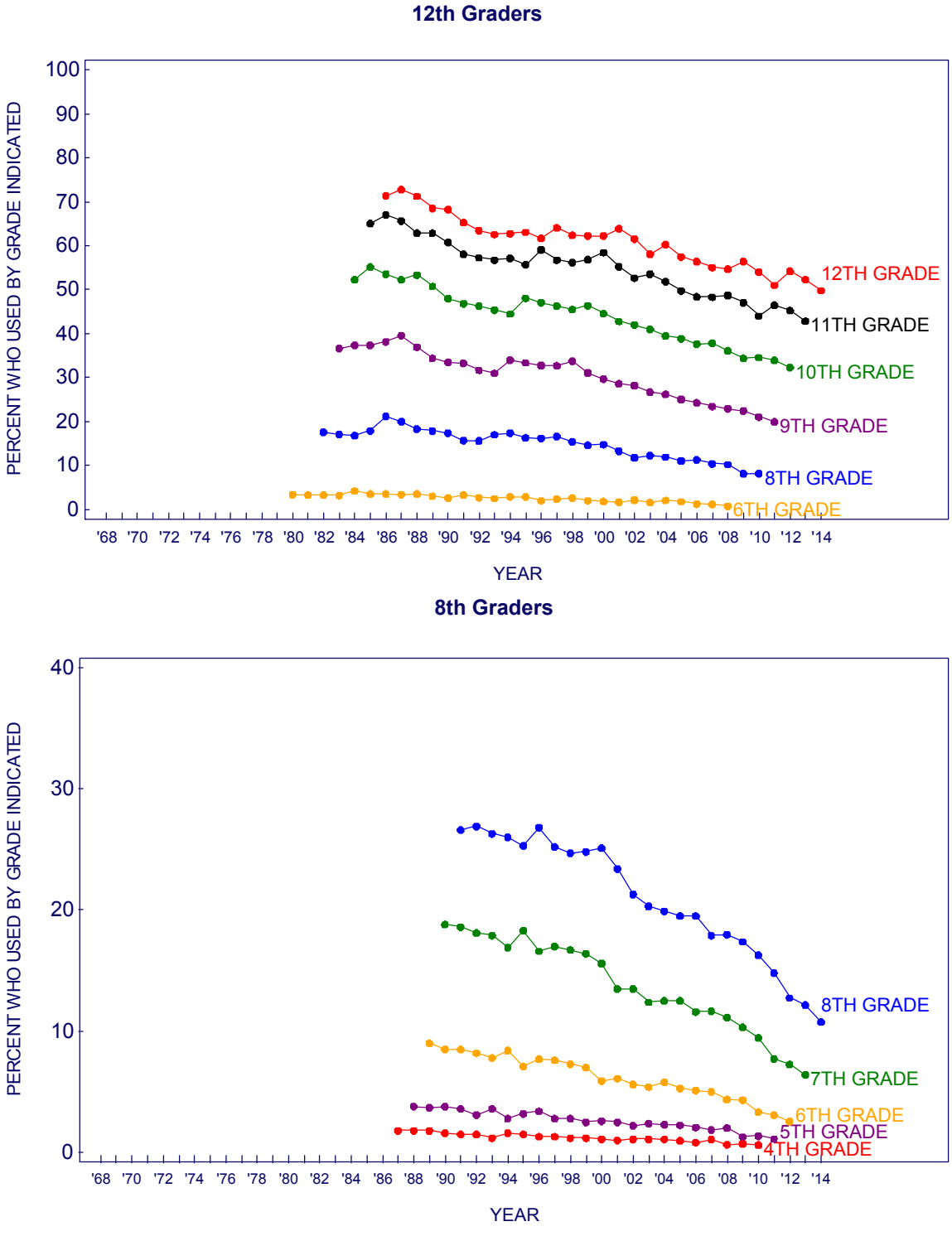
FIGURE 6-17
Alcohol
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th and 8th Graders



Source. The Monitoring the Future study, the University of Michigan.
Note. Beginning in 1993, a revised set of questions on alcohol use was introduced, in which respondents were told that an occasion of use meant more than just a few sips. The dashed lines connect percentages that are based on data from the revised questions. See text for details.

*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

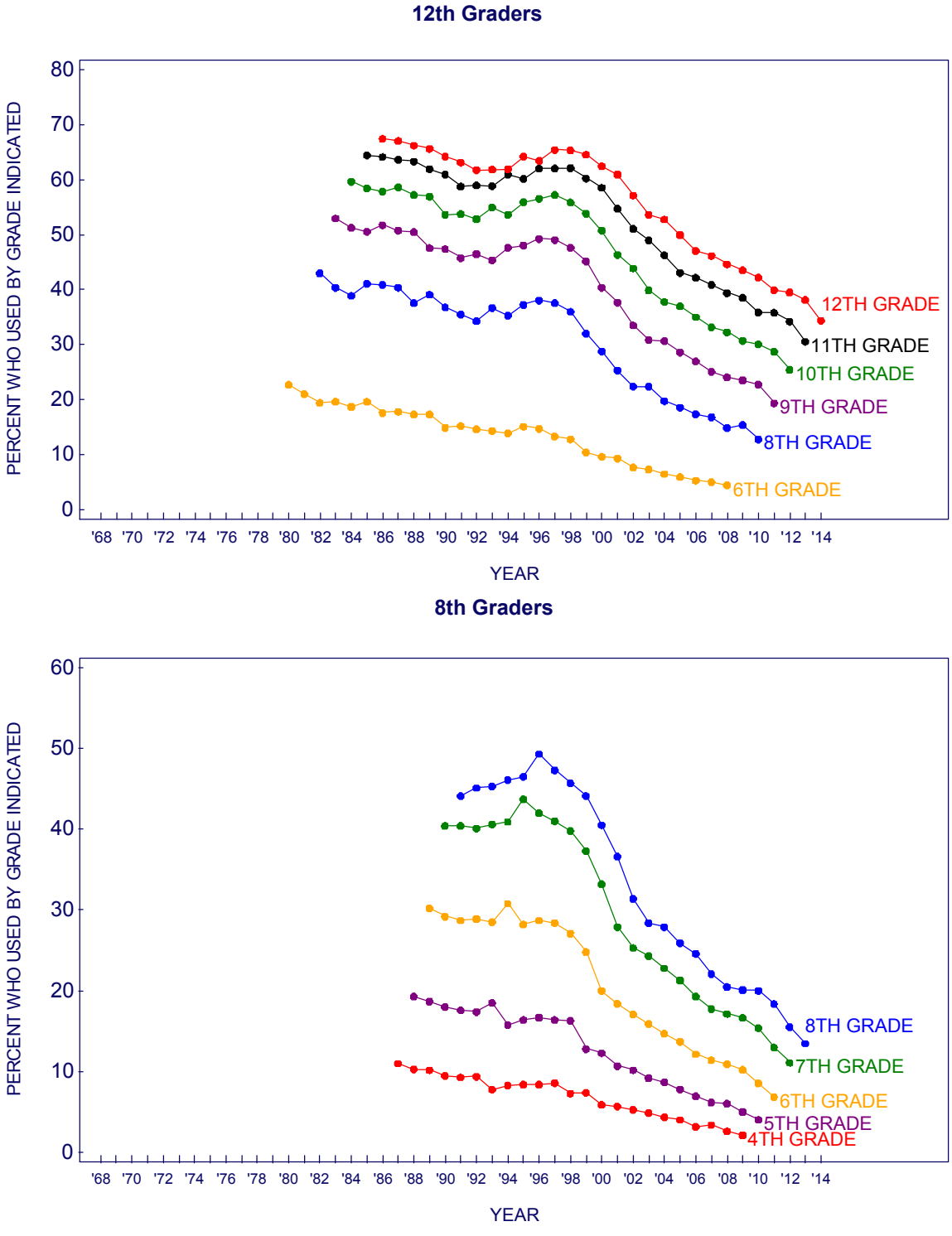
FIGURE 6-18
Been Drunk
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th and 8th Graders



Source. The Monitoring the Future study, the University of Michigan.

*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

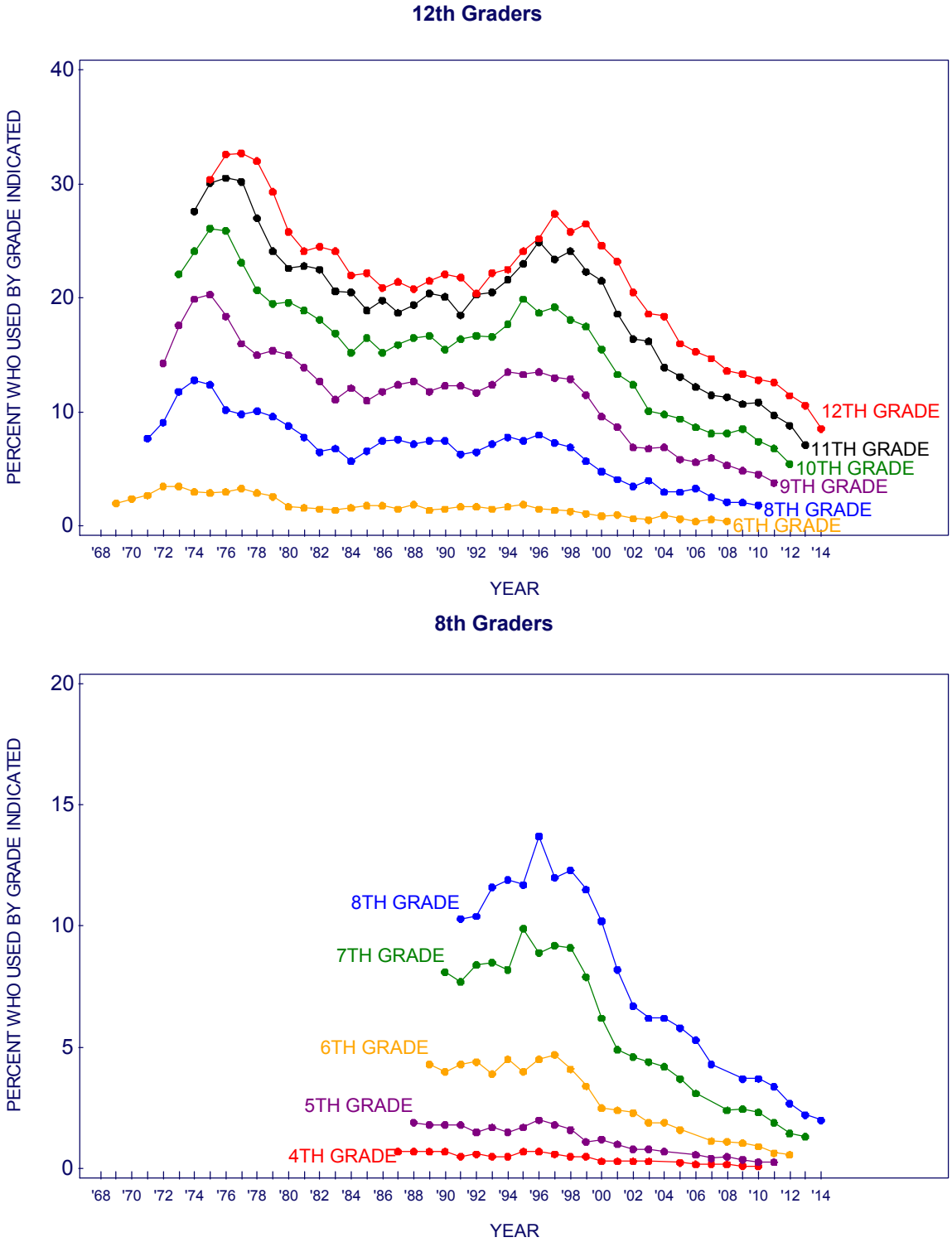
FIGURE 6-19
Cigarettes
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th and 8th Graders



Source. The Monitoring the Future study, the University of Michigan.

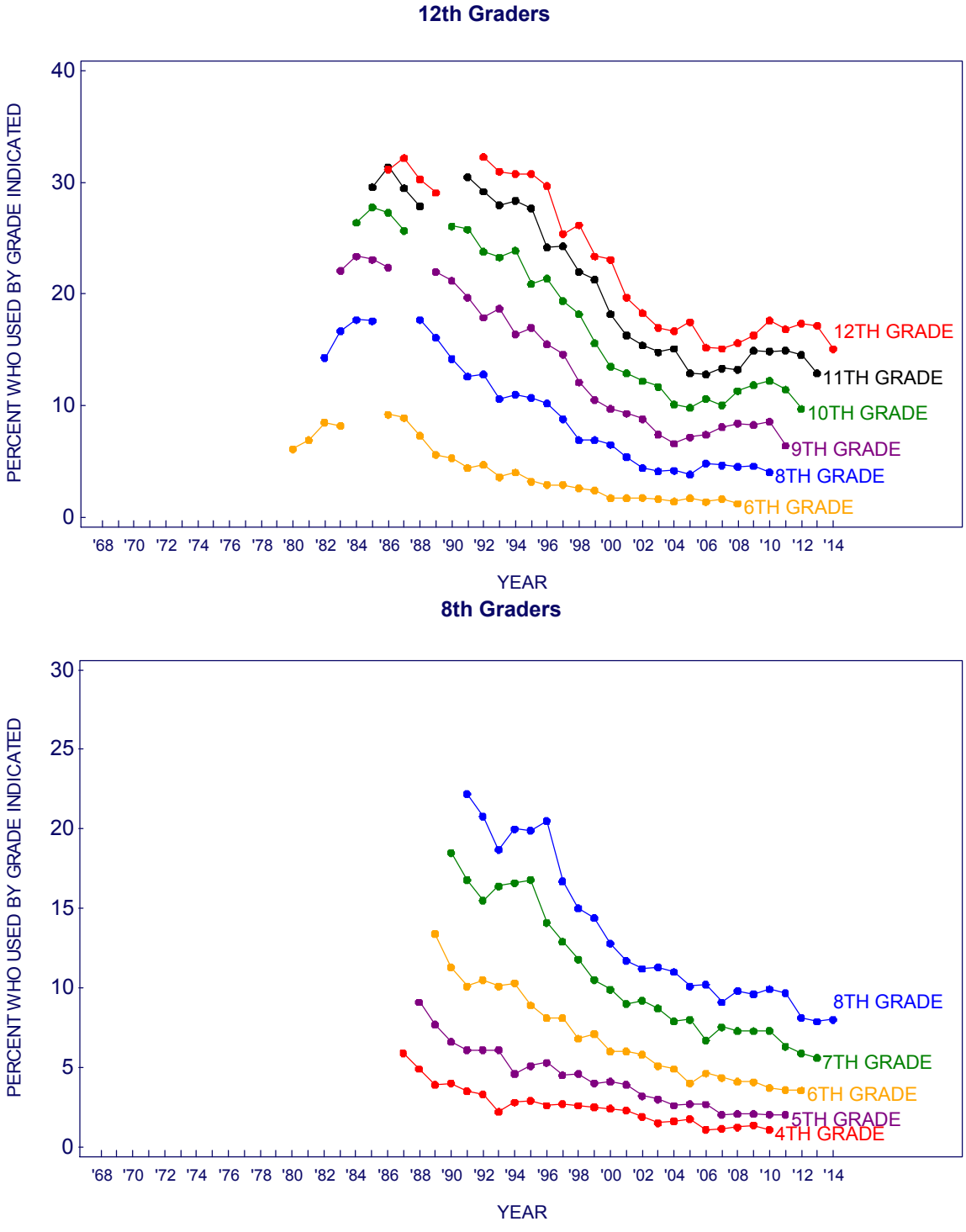
*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

FIGURE 6-20
Cigarette Smoking on a Daily Basis
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th and 8th Graders



Source. The Monitoring the Future study, the University of Michigan.
*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

FIGURE 6-21
Smokeless Tobacco
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th and 8th Graders

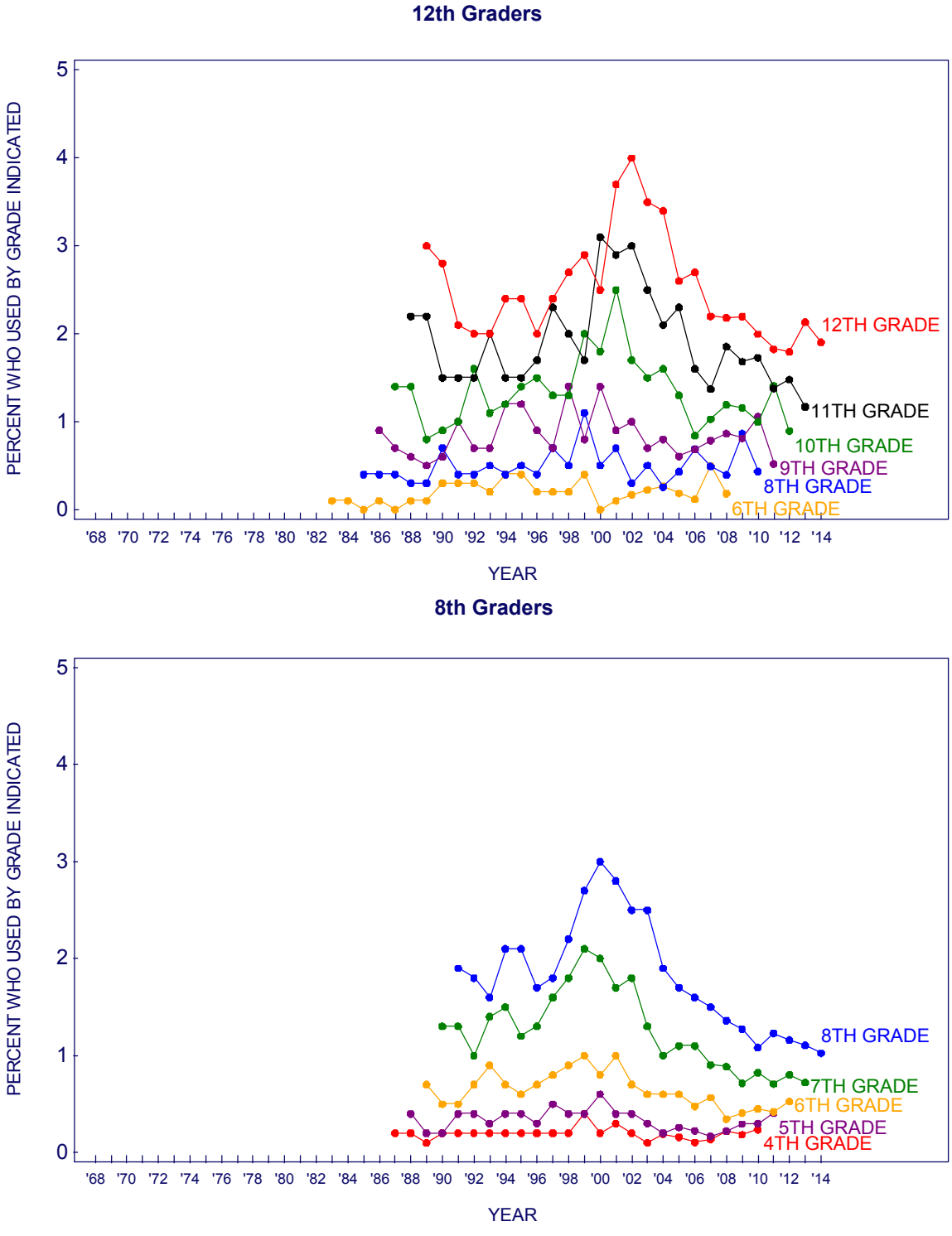


Source. The Monitoring the Future study, the University of Michigan.

Note. Prevalence of smokeless tobacco was not asked of 12th graders in 1990 and 1991. Prior to 1990, the prevalence question on smokeless tobacco was located near the end of one 12th-grade questionnaire form, whereas after 1991 the question was placed earlier and in a different form. This shift could explain the discontinuity between the corresponding lines for each grade.

*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

FIGURE 6-22
Steroids
Trends in Lifetime Prevalence at Earlier Grade Levels*
based on Retrospective Reports from 12th and 8th Graders



Source. The Monitoring the Future study, the University of Michigan.

*For 12th graders, the question about grade of initiation of use originally asked about initiation in grade 7 or grade 8 combined. Beginning in 1990, the question asked about initiation in each grade separately. For consistency, those 12th graders reporting initiation of use in 7th or 8th grade are combined on the chapter 6 tables and figures.

Chapter 7

DEGREE AND DURATION OF DRUG HIGHS

Among the reasons given by adolescents for using different drugs,[1,2,3] achieving an altered state of consciousness or "getting high" is a central objective for many of them. MTF assesses the degree or duration of highs experienced by 12th graders, both as trends at the population level and in terms of variation from drug to drug. Measuring these subjective experiences and monitoring changes in them over time, as MTF has done for many years, can be helpful from epidemiological and policy points of view. Although these data do not address the many qualitative differences in the experience of being high, they provide a useful description of two important dimensions: degree and duration. Twelfth-grade respondents are asked in one of the six questionnaire forms to indicate—for each of eight different classes of drugs that they might report having used in the prior 12 months—how high they usually get and how long they usually stay high. (These questions are not asked of 8th and 10th graders.) The term "high" is not defined for the respondent, but we assume that people interpret it as the degree to which normal cognitive functioning and affective states are altered by taking the drug.

DEGREE AND DURATION OF HIGHS AMONG TWELFTH GRADERS IN 2014

Figure 7-1 shows the proportion of 2014 twelfth graders who said that they *usually* get "very," "moderately," "a little," or "not at all" high when they use a given type of drug. The percentages are based on all respondents who reported use of each given drug class in the previous 12 months, and each bar cumulates to 100%. The order of the drugs from left to right is based on the percentage of users of each drug who reported that they usually get "very" high. The reader is advised to note the sample sizes provided in the tables in this chapter, as these statistics are based on self-reported use in only one of six questionnaire forms. When percentages are based on such limited sample sizes, the fluctuation from year to year due to random sample differences is much larger than occurs in most other MTF measures.

Tables 7-1 through 7-8 provide the percentages of recent users giving each answer for each drug. They also show what percentage of all 12th graders are reporting getting high to varying degrees from using each drug.

- ***Hallucinogens*** and ***heroin*** usually produce the most intense highs. Beginning in 1982, this question was omitted for heroin because of the small number of cases available each year. An averaging across earlier years indicated that it would rank close to LSD, with a substantial majority of past-year users saying they usually get very high when they use it. In the 2014 survey, about two thirds of ***LSD*** users (68%) said they usually get very high

[1] Terry-McElrath, Y. M., O'Malley, P. M., & Johnston, L. D. (2009). Reasons for drug use among American youth by consumption level, gender, and race/ethnicity: 1976-2005. *Journal of Drug Issues, 39*(3), 677-714, doi:10.1177/002204260903900310.

[2] Patrick, M. E., Schulenberg, J. E., O'Malley, P. M., Johnston, L. D., & Bachman, J. G. (2011). Adolescents' reported reasons for alcohol and marijuana use as predictors of substance use and problems in adulthood. *Journal of Studies on Alcohol and Drugs, 72*(1), 106-116, http://www.ncbi.nlm.nih.gov/pubmed/21138717.

[3] Johnston, L. D., & O'Malley, P. M. (1986). Why do the nation's students use drugs and alcohol? Self-reported reasons from nine national surveys. *Journal of Drug Issues, 16*, 29–66.

using that drug. Almost as large a proportion of users of ***other hallucinogens*** (59%) say that they usually get very high.

- ***Cocaine*** is next in intensity of highs produced, as measured by the proportion who report getting "very high" (30.1%). Cocaine also ranks among the highest of all drugs for the proportion of users who report getting either "moderately" or "very high," with 66% of users marking one of these categories.

- ***Marijuana*** is next in intensity of highs produced. The proportion of users reporting that they get very high is 27%, and about three quarters (72%) said they usually get moderately (45%) or very (27%) high.

- ***Amphetamines*** rank next in terms of users getting very high (19%). However, the percentage of users who report getting either moderately or very high is 38%, which in comparison to the other drugs is one of the lowest values for this measure.

- ***Tranquilizers*** follow amphetamines closely in terms of intense highs, with 17% of tranquilizer users report getting very high. Fifty-five percent of users report getting either moderately or very high.

- Users of ***narcotics other than heroin*** rank next with 16% of users reporting getting very high and 48% saying that they usually get moderately or very high.

- Relatively few of the large proportion of 12th graders who use ***alcohol*** said that they usually get very high when drinking (9%), although nearly one half (45%) said they usually get moderately or very high. For a given individual, we would expect more variability in the degree of intoxication achieved with alcohol from occasion to occasion than with most other drugs. Therefore, many drinkers probably get very high at least sometimes, even if that is not "usually" the case, though that is what the question asks. Certainly the prevalence of occasions of heavy drinking (having five or more drinks in a row) and self-reported drunkenness would suggest that to be the case.

Figure 7-2 presents data on the *duration* of highs usually experienced, as reported by past-year users of each drug class. The drugs are arranged in the same order as in Figure 7-1 on the intensity of highs to permit an examination of the correspondence between degree and duration of highs.

- As shown in Figure 7-2, drug use that results in the most intense highs generally results in the longest highs as well. For example, ***LSD*** and ***hallucinogens other than LSD*** hold the top two positions on both dimensions.

- As would be expected, the correspondence between degree and duration of highs is not perfect. For example, the highs obtained with ***marijuana*** tend to be relatively intense in degree but not long in duration compared to a number of other drugs. About half of marijuana users (47%) said they usually stay high one to two hours. Still, more than one third of users (39%) reported usually staying high three to six hours, and another 7% usually stay high for seven hours or more.

- Generally ***cocaine*** users have reported staying high for shorter periods, despite having more intense highs relative to users of many other drugs. In 2014, 47% reported staying high for one to two hours, 28% for three to six hours, and 7% for seven or more hours. (Note that these results are based on only 50 cases; however, Table 7-4 shows a rough consistency over recent years, with the variability attributable to random fluctuations due to the small sample sizes for users.)

- As shown in Figure 7-2, significant proportions of users of three psychotherapeutic drugs (***tranquilizers***, ***amphetamines***, and ***narcotics other than heroin***) and of ***alcohol*** say that they usually do not usually get high when using them.

In sum, drugs vary considerably in both degree and duration of highs obtained. For many drugs, sizeable proportions of users respond that they usually get high for at least three hours per occasion. And for some drugs —particularly ***LSD*** and ***hallucinogens other than LSD***—appreciable proportions usually stay high for seven hours or more.

TRENDS IN THE DEGREE AND DURATION OF DRUG HIGHS

Since 1975, when the MTF study began, many important shifts have occurred in the degree and duration of highs usually experienced by young people. Recall that only 12th-grade students who reported using the drug in question during the prior 12 months answer these questions.

Results for each of the eight different classes of drugs for which degree and duration of highs were asked are provided in Tables 7-1 through 7-8. Each of these tables presents trends in two ways. First, the results are shown as a percentage of *past-year users* of each drug in order to indicate any changes in the experiences among fairly recent users and to provide some indication of changes in the quantity of the active ingredient consumed by users. Results are also displayed as a percentage of *all* respondents answering that questionnaire form, thereby indicating experiences of drug-induced highs as proportions of the entire population under study.

- The *degree* of highs usually attained by ***marijuana*** users remains at high levels first established in the early 2000s, and has not shown a consistent increase or decline since then (Table 7-1). The proportion of marijuana users usually getting "moderately" or "very" high has fluctuated around 74% for the last decade and a half, a level higher than any other period covered by the survey. Prior to the early 2000s, the intensity of highs obtained by adolescents tracked loosely with overall marijuana prevalence, with intensity of highs increasing as prevalence increased and vice-versa. During the 1990s drug relapse, the percentage of 12th grade students getting "moderately" or "very" high increased from around 65% at the start of the 1990s to 75% at the end, at a time when marijuana prevalence increased. Previous to the relapse, from the late 1970s through the 1980s, the intensity of highs obtained showed an overall decline and leveling as prevalence declined and leveled during this period.

- The trend in *duration* of highs from marijuana use is similar to that for intensity. The proportion of users saying they stay high three or more hours has leveled in the past 15 years, fluctuating around 43%. Prior to the early 2000s, duration of highs tracked with overall prevalence of use, with increases in both during the 1990s relapse and decreases in

both from the late 1970 through the 1980s. The decrease was likely due in part to the increasing number of 12th graders using marijuana and using it lightly, and in part due to a general shift toward less intense use, even within the segment most prone toward marijuana use.[4] The proportion of users staying higher three or more hours reached a low of 35% in 1988, in contrast to a high of 52% at the very start of the survey in 1975. Importantly, duration of highs from marijuana use today are not the highest recorded, a distinction that belongs to the mid-1970s.

- Both degree and duration of highs from marijuana track only weakly, if at all, with the substantial increase in THC (tetrahydracannabinol) content of marijuana over the four decades of the survey. The Marijuana Potency Project, sponsored in part by the National Institute on Drug Abuse (NIDA), has analyzed tens of thousands of cannabis preparations confiscated by U.S. law enforcement. In 1975 the average concentration of THC in seized samples was 0.74%, and steadily climbed thereafter, to 2.82% in 1985, 3.75% in 1995, 7.2% in 2005, and was nearly 13% in 2013.[5,6,7] As shown above, no such 15-fold increase is present in the intensity and duration of marijuana highs among adolescents. Taken as a whole, these results suggest that adolescent marijuana users titrate their intake to achieve a degree and duration of high that has changed little over the course of the survey in comparison to the substantial changes in marijuana potency over the years.

- No clearly discernible long-term pattern has emerged in the intensity of highs reported by ***LSD*** users—substantial proportions of users every year reported intense highs—but the average duration of highs has declined considerably since the late 1990s (Table 7-2). After 2001, the prevalence of LSD use declined sharply, which in turn is reflected in the decreased proportion of all respondents saying that they got high at all on LSD. The average duration of LSD highs has declined some since the mid-1990s. For ***hallucinogens other than LSD***, the duration of highs has not varied systematically—the modal response has remained at three to six hours high with few exceptions, though the degree of highs increased some after the early 1990s (see Table 7-3).

- The proportion of 12th grade students who report getting "moderately" or "very" high from ***cocaine*** use has not shown a consistent direction since 1981 and has hovered around an average of 70% (Table 7-4). Similarly, duration of high from cocaine use has also shown no consistent direction since 1985, and the proportion of adolescents who report getting high for two hours or less has hovered around 60%. Previous to the mid-1980s, when cocaine was at its height of popularity, the degree of the high from cocaine use was greater, and the duration longer. The degree and duration of highs after the mid-1980s may have

[4] For detailed interpretations of the data for these years, please refer to Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1984). *Drugs and American high school students: 1975-1983.* (DHHS Publication No. [ADM] 85-1374). Rockville, MD: National Institute on Drug Abuse , pp. 82-83, http://monitoringthefuture.org/pubs/monographs/mtf-vol1_1983.pdf.

[5] Average marijuana potency by year, 1975-2003. (2009, April 6). Retrieved from http://medicalmarijuana.procon.org/view.additional-resource.php?resourceID=191

[6] Mehmedic, Z., Chandra, S., Slade, D., Denham, H., Foster, S., Patel, A. S., . . . & ElSohly, M. A. (2010). Potency trends of delta 9-THC and other cannabinoids in confiscated cannabis preparations from 1993 to 2008. *Journal of Forensic Sciences*, *55*(5), 1209-1217. PubMed PMID: 20487147. doi:10.1111/j.1556-4029.2010.01441.x

[7] Hellerman, C. (2013, August 9). Is super weed, super bad? CNN. Retrieved from http://www.cnn.com/2013/08/09/health/weed-potency-levels

decreased as growing concerns about the dangers of cocaine use led users to become more moderate in their use for fear of it leading to addiction.

- The proportion of 12th-grade students reporting that they get "very" high from the use of ***narcotics other than heroin*** has fluctuated at around 13% since 1993 (Table 7-5). Duration over the same time period has also not moved in any consistent direction, and the proportion reporting a high lasting seven hours or longer has hovered at around 11%. Previously, over a 17- year period from 1975 through 1992, a substantial decline occurred in both the intensity and duration of highs. In 1975, 39% of past-year users said they usually got "very high" compared to only 12% in 1992. The proportion usually staying high for seven or more hours dropped from 28% in 1975 to 11% in 1992. This shift was due, in part, to a substantial increase in the proportion of users who said they do not take these drugs "to get high" (4% in 1975, increasing to 28% by 1992, before falling back to 13% in 2014). Because the actual prevalence of narcotic use dropped only modestly over that interval, these findings suggest that an increase in use for self-medication may have masked a larger decrease in recreational use than is apparent from the prevalence data. During the 1990s, the percent of users of narcotics other than heroin who said that they "usually don't get high" declined some (from 39% in 1990 to 23% in 2000), while somewhat more said that they get high for three to six hours (29% in 1990, 43% in 2000). The proportion saying they got "very high" has increased some from 12% in 1992 to 16% by 2014, while the proportion saying they do not take narcotics to get high has declined from 28% in 1992 to 13% by 2014.

- Intensity and duration of highs from ***amphetamines*** have tracked closely with trends in overall prevalence, and today both stand at levels in between the lows established in the early 1990s and the highs present at the beginning of the MTF annual surveys in 1975 (Table 7-6).[8] The proportion of 12th-grade students who reported using amphetamines to get "moderately" or "very" high has hovered at around 40% since 2000. Previously, it dipped below 30% in the late 1980s and early 1990s, the result of a long decline since the beginning of the survey in 1975 when it was 60%. The proportion reporting a high lasting seven hours or longer has fluctuated around 25% since 2000. As with degree of high, this proportion was lowest in the early 1990s (it was 9.9% in 1993) and highest at the start of the survey (when it was 41%).

- An examination of data on self-reported reasons for use shows shifts in the purposes for amphetamine use. Between the mid-1970s and mid-1980s, there was a decline in the frequency with which recent users mentioned social/recreational reasons for use and an increase in mentions of use for instrumental purposes ("to stay awake," "to get more energy," "to get through the day").[9] The late 1980s saw some decline in the instrumental

[8] In 1982, the questionnaire form containing the questions on degree and duration of highs clarified the amphetamine usage questions in order to eliminate the inappropriate inclusion of nonprescription amphetamines. One might have expected this change to have increased the degree and duration of highs being reported, given that real amphetamines would be expected to have greater psychological impact on average; but the trends still continued downward that year.

[9] Johnston, L. D., & O'Malley, P. M. (1986). Why do the nation's students use drugs and alcohol? Self-reported reasons from nine national surveys. *Journal of Drug Issues, 16*, 29–66. Terry-McElrath, Y. M., O'Malley, P. M., & Johnston, L. D. (2009). Reasons for drug use among American youth by consumption level, gender, and race/ethnicity: 1976-2005. Journal of Drug Issues, *39*(3), 677-714. doi: 10.1177/002204260903900310.

purposes and a leveling in the mentions of social/recreational reasons. In the 1990s, as use rose a bit, there was only a very slight upturn in mentions of social/recreational reasons for use, followed by a leveling by the late 1990s.

- With respect to social/recreational shifts, the percentage of all recent users reporting that they used amphetamines "to feel good or get high" declined from 58% in 1979 to 45% in 1984, rose to 52% in 2005, and was down to 33% in 2014. Similarly, respondents who reported that they use amphetamines "to have a good time with my friends" declined from 38% to 30% between 1979 and 1984 and increased again to 38% in 2005; it was down to 18% in 2014. (The low numbers of users in these years make estimates quite unstable.) Reports of instrumental amphetamine use increased between 1976 and 1984: "to lose weight" increased by 15 percentage points (to 41%); "to get more energy" increased by 14 percentage points (to 69%); "to stay awake" increased by 10 percentage points (to 62%); and "to get through the day" increased by 10 percentage points (to 32%). Beginning in about 1988 and continuing through the 2000s, these instrumental objectives have been mentioned somewhat less often by users. In 2014, "to lose weight" was mentioned by only 7% of recent users; "to get more energy," by 38%; "to stay awake," by 36%; and "to get through the day," by 12%. It thus appears that use for instrumental reasons has been declining.

- Both degree and duration of highs achieved by ***tranquilizer*** use are about where they stood at the beginning of the survey in 1975, after considerable change in the 1980s and 1990s (Table 7-7). The proportion of 12th-grade students who report that they do *not* use tranquilizers to get high has fluctuated around 15% since the year 2000. This percentage increased to nearly 50% in the early 1990s as overall prevalence decreased, but then returned to 15% by 2000, at the end of the 1990s relapse. This decline during the 1990s relapse indicates that recreational use played an important role in the increased prevalence of tranquilizers during this period. Duration followed a similar trend, and the percentage who reported getting high for one to six hours has been at about 60% since 2000. This percentage decreased in the 1980s and early 1990s—reaching a low of 38% in 1992—but then gradually increased to 60% through the end of the 1990s.

- Data are not collected for highs experienced in the use of ***inhalants*** (including amyl and butyl nitrites), ***PCP***, ***ecstasy***, or ***heroin***.

- The intensity and duration of highs associated with ***alcohol*** use have generally been stable throughout the MTF study (see Table 7-8), with the following exceptions: (a) the proportion of *all* 12th graders who reported getting "very high" rose a little in the 1990s (from 6% in 1993 to 9% in 1998), leveled until 2004, and declined some since then (6% in 2014); and (b) the proportion of *all* 12th graders saying they usually stay high on alcohol for seven hours or more was fairly stable at between 2% and 4% from 1975 through 1994, then increased slightly and has generally been between 3% and 5% since then.

TABLE 7-1
MARIJUANA
Trends in Degree and Duration of Feeling High in Grade 12

(Entries are percentages.)

(Years cont.)

When you use marijuana or hashish how high do you usually get? [a]	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
% of Recent Users																				
Not at all high	6.9	5.7	7.5	6.3	6.0	6.3	4.9	4.6	6.6	6.8	7.2	5.1	6.8	6.6	7.6	5.8	7.2	7.8	9.0	7.0
A little high	22.1	20.9	22.5	20.3	22.5	23.5	29.0	26.3	29.4	29.0	27.2	27.6	29.5	30.2	22.8	23.2	21.6	25.9	19.4	21.7
Moderately high	45.5	47.7	43.5	46.8	47.5	47.7	45.7	45.6	41.9	36.9	41.8	43.8	40.9	40.3	44.1	40.8	42.8	39.3	45.9	40.6
Very high	25.5	25.7	26.5	26.6	24.0	22.6	20.4	23.5	22.0	27.4	23.8	23.5	22.9	22.9	25.5	30.3	28.4	27.0	25.8	30.7
Approximate weighted N =	*1,142*	*1,266*	*1,448*	*1,873*	*1,606*	*1,495*	*1,607*	*1,588*	*1,366*	*1,264*	*1,298*	*1,177*	*1,174*	*1,142*	*782*	*694*	*591*	*605*	*669*	*779*
% of All Respondents																				
No use in last 12 months	60.0	55.5	52.4	49.8	49.4	52.4	53.2	54.7	58.2	59.9	59.0	61.2	63.5	64.9	71.6	72.7	76.2	76.8	74.8	69.6
Not at all high	2.8	2.5	3.6	3.2	3.0	3.0	2.3	2.1	2.8	2.7	2.9	2.0	2.5	2.3	2.2	1.6	1.7	1.8	2.3	2.1
A little high	8.8	9.3	10.7	10.2	11.4	11.2	13.6	11.9	12.3	11.6	11.2	10.7	10.7	10.6	6.5	6.3	5.1	6.0	4.9	6.6
Moderately high	18.2	21.2	20.7	23.5	24.0	22.7	21.4	20.6	17.5	14.8	17.2	17.0	14.9	14.1	12.5	11.1	10.2	9.1	11.6	12.4
Very high	10.2	11.4	12.6	13.4	12.2	10.8	9.6	10.6	9.2	11.0	9.8	9.1	8.4	8.1	7.2	8.3	6.7	6.3	6.5	9.3
Approximate weighted N =	*2,855*	*2,845*	*3,042*	*3,731*	*3,175*	*3,143*	*3,437*	*3,506*	*3,268*	*3,154*	*3,163*	*3,033*	*3,219*	*3,250*	*2,755*	*2,542*	*2,487*	*2,614*	*2,655*	*2,558*
When you use marijuana or hashish how long do you usually stay high? [a]																				
% of Recent Users																				
Usually don't get high	8.5	8.0	9.5	8.0	8.4	8.5	7.6	7.0	9.9	9.6	9.3	8.2	11.1	9.6	10.8	7.8	8.5	9.5	10.9	9.5
One to two hours	39.7	43.2	42.6	47.4	48.7	51.7	52.5	53.8	55.6	51.7	52.4	55.0	52.9	56.0	51.9	53.3	49.5	47.2	48.6	47.4
Three to six hours	45.4	43.7	42.7	39.0	37.4	35.0	35.7	34.2	30.4	33.1	34.0	32.9	32.2	30.2	33.3	33.1	34.4	37.7	36.8	36.1
Seven to 24 hours	5.9	4.9	4.7	5.1	5.0	4.1	4.0	4.5	3.5	5.0	3.9	3.3	3.7	3.8	3.3	5.4	6.9	4.9	3.2	5.5
More than 24 hours	0.5	0.2	0.6	0.5	0.5	0.7	0.2	0.5	0.6	0.7	0.4	0.6	0.1	0.4	0.8	0.4	0.8	0.8	0.4	1.4
Approximate weighted N =	*1,141*	*1,261*	*1,449*	*1,873*	*1,619*	*1,500*	*1,607*	*1,593*	*1,357*	*1,268*	*1,295*	*1,176*	*1,172*	*1,147*	*787*	*694*	*589*	*602*	*666*	*774*
% of All Respondents																				
No use in last 12 months	60.0	55.5	52.4	49.8	49.2	52.3	53.2	54.6	58.4	59.9	59.0	61.2	63.6	64.8	71.5	72.7	76.3	76.9	74.9	69.7
Usually don't get high	3.4	3.6	4.5	4.0	4.3	4.0	3.6	3.2	4.1	3.8	3.8	3.2	4.0	3.4	3.1	2.1	2.0	2.2	2.7	2.9
One to two hours	15.9	19.2	20.3	23.8	24.7	24.6	24.5	24.4	23.1	20.7	21.5	21.3	19.3	19.7	14.8	14.6	11.7	10.9	12.2	14.4
Three to six hours	18.2	19.4	20.3	19.6	19.0	16.7	16.7	15.5	12.7	13.3	13.9	12.8	11.7	10.7	9.5	9.0	8.1	8.7	9.2	11.0
Seven to 24 hours	2.4	2.2	2.2	2.6	2.5	2.0	1.9	2.0	1.4	2.0	1.6	1.3	1.3	1.3	0.9	1.5	1.6	1.1	0.8	1.7
More than 24 hours	0.2	0.1	0.3	0.3	0.2	0.3	0.1	0.2	0.3	0.3	0.2	0.2	0.0	0.1	0.2	0.1	0.2	0.2	0.1	0.4
Approximate weighted N =	*2,853*	*2,834*	*3,044*	*3,731*	*3,188*	*3,149*	*3,437*	*3,511*	*3,259*	*3,158*	*3,160*	*3,032*	*3,218*	*3,255*	*2,760*	*2,542*	*2,485*	*2,611*	*2,652*	*2,553*

(Table continued on next page.)

TABLE 7-1 (cont.)
MARIJUANA
Trends in Degree and Duration of Feeling High in Grade 12

(Entries are percentages.)

When you use marijuana or hashish how high do you usually get? [a]	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
% of Recent Users																				
Not at all high	8.1	5.7	5.4	6.1	6.8	6.3	5.4	5.4	5.1	5.4	6.4	5.2	5.7	4.6	5.2	4.4	5.0	4.9	5.0	6.4
A little high	22.3	17.9	18.6	22.0	19.8	22.6	18.7	23.2	17.7	19.2	21.1	18.8	21.8	20.9	18.5	22.1	18.8	22.3	19.5	21.9
Moderately high	40.8	47.5	45.1	43.6	43.7	39.6	42.8	41.7	44.6	42.6	42.7	44.3	42.8	44.7	45.6	43.9	43.4	41.3	43.8	44.6
Very high	28.8	28.9	30.9	28.4	29.8	31.4	33.1	29.7	32.7	32.8	29.9	31.8	29.7	29.8	30.7	29.6	32.9	31.5	31.8	27.2
Approximate weighted N =	*916*	*788*	*998*	*944*	*812*	*809*	*776*	*713*	*809*	*851*	*811*	*772*	*737*	*740*	*724*	*812*	*860*	*817*	*740*	*698*
% of All Respondents																				
No use in last 12 months	64.1	66.5	61.2	62.6	63.6	61.8	63.0	66.3	66.6	65.2	66.7	66.9	69.3	67.7	67.9	65.6	63.0	63.7	64.9	66.1
Not at all high	2.9	1.9	2.1	2.3	2.5	2.4	2.0	1.8	1.7	1.9	2.1	1.7	1.8	1.5	1.7	1.5	1.8	1.8	1.7	2.2
A little high	8.0	6.0	7.2	8.2	7.2	8.6	6.9	7.8	5.9	6.7	7.0	6.2	6.7	6.8	5.9	7.6	7.0	8.1	6.8	7.4
Moderately high	14.7	15.9	17.5	16.3	15.9	15.1	15.8	14.1	14.9	14.8	14.2	14.7	13.1	14.4	14.7	15.1	16.1	15.0	15.4	15.2
Very high	10.4	9.7	12.0	10.6	10.8	12.0	12.2	10.0	10.9	11.4	9.9	10.5	9.1	9.6	9.9	10.2	12.2	11.4	11.2	9.2
Approximate weighted N =	*2,549*	*2,355*	*2,570*	*2,526*	*2,231*	*2,121*	*2,098*	*2,114*	*2,423*	*2,447*	*2,440*	*2,333*	*2,403*	*2,291*	*2,253*	*2,362*	*2,322*	*2,254*	*2,109*	*2,056*
When you use marijuana or hashish how long do you usually stay high? [a]																				
% of Recent Users																				
Usually don't get high	8.7	6.4	6.1	7.4	7.6	8.7	5.8	6.9	6.3	6.1	7.6	6.3	7.3	6.7	6.6	5.5	5.9	7.1	5.5	8.2
One to two hours	46.0	46.9	49.6	51.4	51.8	52.0	48.3	55.5	51.2	52.5	52.6	49.2	50.5	48.3	52.4	50.9	49.5	49.7	51.8	46.8
Three to six hours	37.6	39.3	37.1	35.7	33.5	34.9	38.2	32.4	37.2	35.3	34.7	37.3	37.3	38.2	35.6	38.2	36.8	35.9	37.9	38.6
Seven to 24 hours	6.7	6.2	6.0	5.1	5.9	3.6	6.0	5.1	4.8	4.3	3.7	6.2	4.3	5.7	4.1	4.4	5.6	6.1	2.7	5.7
More than 24 hours	1.0	1.2	1.1	0.4	1.2	0.9	1.6	0.1	0.6	1.9	1.3	1.0	0.7	1.1	1.4	1.1	2.2	1.2	2.2	0.9
Approximate weighted N =	*911*	*789*	*996*	*945*	*814*	*807*	*781*	*713*	*812*	*848*	*814*	*772*	*732*	*750*	*721*	*813*	*859*	*807*	*739*	*705*
% of All Respondents																				
No use in last 12 months	64.2	66.5	61.2	62.6	63.6	61.9	62.9	66.3	66.5	65.3	66.7	66.9	69.5	67.4	68.0	65.6	63.0	64.0	65.0	65.8
Usually don't get high	3.1	2.1	2.4	2.8	2.8	3.3	2.2	2.3	2.1	2.1	2.5	2.1	2.2	2.2	2.1	1.9	2.2	2.6	1.9	2.8
One to two hours	16.5	15.7	19.3	19.2	18.9	19.8	17.9	18.7	17.1	18.2	17.5	16.3	15.4	15.8	16.8	17.5	18.3	17.9	18.1	16.0
Three to six hours	13.5	13.2	14.4	13.4	12.2	13.3	14.2	10.9	12.5	12.2	11.6	12.4	11.4	12.5	11.4	13.1	13.6	12.9	13.3	13.2
Seven to 24 hours	2.4	2.1	2.3	1.9	2.1	1.4	2.2	1.7	1.6	1.5	1.2	2.1	1.3	1.9	1.3	1.5	2.1	2.1	1.0	1.9
More than 24 hours	0.4	0.4	0.4	0.2	0.4	0.3	0.6	0.1	0.2	0.6	0.4	0.3	0.2	0.4	0.4	0.4	0.8	0.4	0.8	0.3
Approximate weighted N =	*2,544*	*2,356*	*2,568*	*2,527*	*2,233*	*2,119*	*2,103*	*2,114*	*2,426*	*2,444*	*2,442*	*2,334*	*2,398*	*2,302*	*2,249*	*2,364*	*2,321*	*2,243*	*2,107*	*2,063*

Source. The Monitoring the Future study, the University of Michigan.

[a]These questions appear in just one form. They are asked only of respondents who report use of the drug in the prior 12 months (i.e., recent users).

TABLE 7-2
LSD
Trends in Degree and Duration of Feeling High in Grade 12

(Entries are percentages.)

(Years cont.)

When you take LSD how high do you usually get? [a]	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
% of Recent Users																				
Not at all high	0.2	1.7	1.6	0.5	2.8	2.0	1.6	2.7	0.0	2.5	1.2	3.3	2.5	1.3	4.9	0.6	4.0	1.7	1.8	1.1
A little high	4.8	1.9	7.4	4.9	8.4	5.0	9.6	4.1	4.2	5.6	3.7	4.1	4.3	4.1	6.6	2.0	6.9	2.9	10.8	6.3
Moderately high	16.2	22.4	19.3	24.7	14.9	23.4	23.3	26.4	26.9	24.8	16.2	23.3	21.9	20.4	17.4	33.8	23.0	32.4	30.1	29.3
Very high	78.8	73.9	71.7	69.9	73.9	69.5	65.5	66.8	68.9	67.1	78.9	69.3	71.4	74.2	71.1	63.6	66.2	63.1	57.4	63.2
Approximate weighted N =	*213*	*193*	*183*	*223*	*228*	*228*	*236*	*249*	*200*	*168*	*151*	*168*	*192*	*175*	*133*	*138*	*140*	*146*	*209*	*175*
% of All Respondents																				
No use in last 12 months	92.5	93.6	94.4	93.7	92.9	92.8	93.2	92.9	93.9	94.7	95.3	94.5	94.0	94.6	95.2	94.5	94.4	94.4	92.1	93.1
Not at all high	0.0	0.1	0.1	0.0	0.2	0.1	0.1	0.2	0.0	0.1	0.1	0.2	0.1	0.1	0.2	0.0	0.2	0.1	0.1	0.1
A little high	0.4	0.1	0.4	0.3	0.6	0.4	0.6	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.3	0.1	0.4	0.2	0.8	0.4
Moderately high	1.2	1.4	1.1	1.6	1.1	1.7	1.6	1.9	1.6	1.3	0.8	1.3	1.3	1.1	0.8	1.9	1.3	1.8	2.4	2.0
Very high	5.9	4.7	4.0	4.4	5.2	5.0	4.4	4.7	4.2	3.5	3.7	3.8	4.3	4.0	3.4	3.5	3.7	3.5	4.5	4.3
Approximate weighted N =	*2,840*	*3,016*	*3,268*	*3,540*	*3,228*	*3,182*	*3,488*	*3,506*	*3,277*	*3,166*	*3,179*	*3,060*	*3,214*	*3,271*	*2,763*	*2,527*	*2,494*	*2,619*	*2,655*	*2,547*
When you take LSD how long do you usually stay high? [a]																				
% of Recent Users																				
Usually don't get high	1.6	2.3	2.5	0.5	3.4	2.3	1.6	1.5	0.0	3.2	1.2	3.3	2.5	1.0	6.1	0.6	3.5	1.7	3.4	0.5
One to two hours	1.3	1.7	3.8	3.9	4.0	2.5	5.4	3.6	2.6	2.5	3.3	2.0	4.9	2.0	4.1	6.7	4.5	5.5	3.8	5.7
Three to six hours	22.7	30.7	30.5	31.9	33.1	34.6	35.5	30.7	43.6	29.4	32.4	32.8	27.6	28.2	19.2	24.4	16.0	21.4	27.7	20.1
Seven to 24 hours	69.8	59.9	59.8	58.5	52.1	55.4	54.6	62.5	49.3	60.9	60.3	59.8	59.4	64.3	65.9	63.1	73.8	66.3	62.3	70.6
More than 24 hours	4.6	5.5	3.4	5.3	7.4	5.2	2.9	1.7	4.6	4.0	2.8	2.2	5.6	4.5	4.7	5.2	2.2	5.0	2.9	3.0
Approximate weighted N =	*215*	*193*	*182*	*224*	*228*	*226*	*236*	*252*	*199*	*168*	*153*	*168*	*191*	*178*	*133*	*137*	*141*	*147*	*205*	*176*
% of All Respondents																				
No use in last 12 months	92.5	93.6	94.4	93.7	92.9	92.9	93.2	92.8	93.9	94.7	95.2	94.5	94.1	94.6	95.2	94.6	94.4	94.4	92.3	93.1
Usually don't get high	0.1	0.1	0.1	0.0	0.2	0.2	0.1	0.1	0.0	0.2	0.1	0.2	0.1	0.1	0.3	0.0	0.2	0.1	0.3	0.0
One to two hours	0.1	0.1	0.2	0.3	0.3	0.2	0.4	0.3	0.2	0.1	0.2	0.1	0.3	0.1	0.2	0.4	0.3	0.3	0.3	0.4
Three to six hours	1.7	2.0	1.7	2.0	2.3	2.5	2.4	2.2	2.6	1.6	1.6	1.8	1.6	1.5	0.9	1.3	0.9	1.2	2.1	1.4
Seven to 24 hours	5.2	3.8	3.3	3.7	3.7	3.9	3.7	4.5	3.0	3.2	2.9	3.3	3.5	3.5	3.2	3.4	4.2	3.7	4.8	4.9
More than 24 hours	0.3	0.4	0.2	0.3	0.5	0.4	0.2	0.1	0.3	0.2	0.1	0.1	0.3	0.2	0.2	0.3	0.1	0.3	0.2	0.2
Approximate weighted N =	*2,867*	*3,016*	*3,250*	*3,556*	*3,227*	*3,180*	*3,487*	*3,509*	*3,276*	*3,166*	*3,181*	*3,060*	*3,214*	*3,274*	*2,763*	*2,526*	*2,495*	*2,619*	*2,651*	*2,548*

(Table continued on next page.)

TABLE 7-2 (cont.)
LSD
Trends in Degree and Duration of Feeling High in Grade 12

(Entries are percentages.)

When you take LSD how high do you usually get? [a]	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
% of Recent Users																				
Not at all high	3.0	4.0	2.3	4.3	0.0	4.8	3.3	4.7	1.9	10.3	5.5	6.2	4.3	10.7	10.7	2.4	2.8	6.8	2.9	16.1
A little high	7.4	5.2	9.2	5.5	4.6	6.7	8.2	7.0	12.7	10.5	6.7	3.1	3.7	11.3	6.0	7.2	1.0	9.6	8.7	5.8
Moderately high	21.7	20.6	21.1	31.2	19.1	22.3	28.9	22.4	16.3	18.0	13.9	27.2	27.9	18.7	15.6	24.0	20.8	14.7	23.2	9.7
Very high	67.9	70.2	67.4	59.0	76.3	66.1	59.6	66.0	69.2	61.3	74.0	63.5	64.1	59.4	67.8	66.5	75.4	68.9	65.2	68.4
Approximate weighted N =	*205*	*184*	*250*	*188*	*176*	*145*	*144*	*79*	*42*	*77*	*52*	*46*	*63*	*67*	*56*	*67*	*71*	*64*	*56*	*60*
% of All Respondents																				
No use in last 12 months	91.9	92.2	90.2	92.6	92.1	93.2	93.1	96.3	98.3	96.8	97.8	98.0	97.4	97.0	97.5	97.1	96.9	97.2	97.4	97.0
Not at all high	0.2	0.3	0.2	0.3	0.0	0.3	0.2	0.2	0.0	0.3	0.1	0.1	0.1	0.3	0.3	0.1	0.1	0.2	0.1	0.5
A little high	0.6	0.4	0.9	0.4	0.4	0.5	0.6	0.3	0.2	0.3	0.1	0.1	0.1	0.3	0.2	0.2	0.0	0.3	0.2	0.2
Moderately high	1.8	1.6	2.1	2.3	1.5	1.5	2.0	0.8	0.3	0.6	0.3	0.5	0.7	0.6	0.4	0.7	0.6	0.4	0.6	0.3
Very high	5.5	5.5	6.6	4.4	6.0	4.5	4.1	2.5	1.2	2.0	1.6	1.3	1.7	1.8	1.7	1.9	2.3	2.0	1.7	2.1
Approximate weighted N =	*2,517*	*2,347*	*2,543*	*2,525*	*2,226*	*2,128*	*2,089*	*2,126*	*2,412*	*2,425*	*2,402*	*2,321*	*2,377*	*2,270*	*2,234*	*2,341*	*2,298*	*2,233*	*2,092*	*1,990*
When you take LSD how long do you usually stay high? [a]																				
% of Recent Users																				
Usually don't get high	3.8	2.2	2.4	3.2	0.6	3.4	3.0	1.4	2.0	7.5	2.9	1.3	2.3	8.9	11.4	2.3	2.9	8.7	9.9	14.7
One to two hours	2.5	5.0	3.9	2.6	1.9	3.7	4.0	8.2	9.3	11.3	0.9	3.4	6.6	10.4	4.6	6.3	3.0	2.5	10.6	9.3
Three to six hours	21.1	19.6	25.4	29.7	21.9	31.7	32.7	40.6	31.9	31.6	23.4	27.8	43.1	14.6	34.1	23.1	29.8	40.5	38.9	22.6
Seven to 24 hours	67.0	70.0	62.3	61.4	71.0	55.6	55.9	43.3	52.4	37.4	63.3	49.3	43.2	57.4	46.1	59.0	49.3	43.6	34.5	50.4
More than 24 hours	5.7	3.3	6.0	3.2	4.6	5.6	4.4	6.5	4.4	12.2	9.5	18.2	4.9	8.7	3.9	9.3	15.1	4.6	6.2	3.1
Approximate weighted N =	*203*	*186*	*252*	*186*	*173*	*143*	*145*	*79*	*40*	*77*	*49*	*45*	*62*	*65*	*55*	*70*	*70*	*62*	*56*	*61*
% of All Respondents																				
No use in last 12 months	91.9	92.1	90.1	92.6	92.2	93.3	93.1	96.3	98.3	96.8	98.0	98.1	97.4	97.1	97.5	97.0	97.0	97.2	97.4	96.9
Usually don't get high	0.3	0.2	0.2	0.2	0.0	0.2	0.2	0.1	0.0	0.2	0.1	0.0	0.1	0.3	0.3	0.1	0.1	0.2	0.3	0.5
One to two hours	0.2	0.4	0.4	0.2	0.1	0.3	0.3	0.3	0.2	0.4	0.0	0.1	0.2	0.3	0.1	0.2	0.1	0.1	0.3	0.3
Three to six hours	1.7	1.6	2.5	2.2	1.7	2.1	2.3	1.5	0.5	1.0	0.5	0.5	1.1	0.4	0.9	0.7	0.9	1.1	1.0	0.7
Seven to 24 hours	5.4	5.6	6.2	4.5	5.5	3.7	3.9	1.6	0.9	1.2	1.3	1.0	1.1	1.7	1.2	1.8	1.5	1.2	0.9	1.6
More than 24 hours	0.5	0.3	0.6	0.2	0.4	0.4	0.3	0.2	0.1	0.4	0.2	0.4	0.1	0.3	0.1	0.3	0.5	0.1	0.2	0.1
Approximate weighted N =	*2,515*	*2,349*	*2,545*	*2,524*	*2,223*	*2,126*	*2,090*	*2,126*	*2,411*	*2,425*	*2,399*	*2,320*	*2,376*	*2,268*	*2,234*	*2,343*	*2,297*	*2,231*	*2,092*	*1,991*

Source. The Monitoring the Future study, the University of Michigan.

[a]These questions appear in just one form. They are asked only of respondents who report use of the drug in the prior 12 months (i.e., recent users).

TABLE 7-3
HALLUCINOGENS OTHER THAN LSD
Trends in Degree and Duration of Feeling High in Grade 12

(Entries are percentages.)

(Years cont.)

When you take hallucinogens other than LSD how high do you usually get? [a]	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
% of Recent Users																				
Not at all high	2.4	1.2	1.2	1.2	2.1	0.9	2.3	2.5	4.0	4.9	3.2	3.4	5.6	3.1	1.0	2.5	5.0	1.0	7.6	8.8
A little high	7.9	9.6	8.4	8.3	9.6	10.4	12.9	10.3	8.2	10.8	9.5	13.6	13.6	8.8	8.2	5.8	9.9	18.2	10.8	12.6
Moderately high	35.5	39.6	40.8	36.3	37.7	38.9	37.9	35.9	36.6	38.0	36.1	36.8	32.1	28.7	33.4	41.2	41.0	32.0	37.4	25.5
Very high	54.1	49.7	49.6	54.3	50.6	49.9	46.9	51.3	51.2	46.3	51.3	46.3	48.6	59.5	57.4	50.5	44.1	48.8	44.2	53.1
Approximate weighted N =	*322*	*237*	*246*	*326*	*253*	*255*	*246*	*201*	*170*	*153*	*134*	*114*	*115*	*85*	*53*	*58*	*39*	*47*	*62*	*67*
% of All Respondents																				
No use in last 12 months	90.4	93.0	93.0	92.7	91.9	91.8	92.8	94.2	94.7	95.1	95.7	96.2	96.4	97.4	98.1	97.7	98.4	98.2	97.6	97.3
Not at all high	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.2	0.1	0.0	0.1	0.1	0.0	0.2	0.2
A little high	0.8	0.7	0.6	0.6	0.8	0.9	0.9	0.6	0.4	0.5	0.4	0.5	0.5	0.2	0.2	0.1	0.2	0.3	0.3	0.3
Moderately high	3.4	2.8	2.9	2.6	3.0	3.2	2.7	2.1	1.9	1.9	1.5	1.4	1.2	0.8	0.6	1.0	0.6	0.6	0.9	0.7
Very high	5.2	3.5	3.5	4.0	4.1	4.1	3.4	3.0	2.7	2.3	2.2	1.8	1.8	1.6	1.1	1.2	0.7	0.9	1.0	1.4
Approximate weighted N =	*3,354*	*3,386*	*3,514*	*4,466*	*3,127*	*3,098*	*3,407*	*3,466*	*3,235*	*3,129*	*3,142*	*3,004*	*3,182*	*3,220*	*2,734*	*2,498*	*2,472*	*2,591*	*2,629*	*2,523*
When you take hallucinogens other than LSD how long do you usually stay high? [a]																				
% of Recent Users																				
Usually don't get high	2.0	1.2	1.1	1.3	2.5	1.3	2.8	3.6	4.8	4.0	0.9	5.2	7.2	3.9	4.2	2.5	7.6	6.1	3.6	7.2
One to two hours	8.5	9.4	7.0	8.4	8.3	7.8	8.3	6.6	7.9	8.9	12.9	9.1	9.8	7.8	16.5	13.8	12.3	15.3	6.9	11.5
Three to six hours	41.3	46.1	45.5	47.7	48.2	49.1	47.1	52.6	54.1	48.7	46.7	43.3	46.0	46.2	35.3	46.8	25.9	38.9	51.9	41.5
Seven to 24 hours	45.6	39.9	44.1	41.1	37.2	39.6	38.7	34.4	30.5	36.0	37.1	40.6	35.8	40.5	42.1	25.8	52.4	33.3	37.7	39.8
More than 24 hours	2.7	3.4	2.3	1.5	3.8	2.2	3.1	2.8	2.7	2.5	2.5	1.9	1.3	1.6	1.9	11.2	1.8	6.4	0.0	0.0
Approximate weighted N =	*322*	*238*	*243*	*326*	*249*	*254*	*246*	*203*	*171*	*153*	*132*	*115*	*116*	*84*	*55*	*60*	*40*	*48*	*59*	*68*
% of All Respondents																				
No use in last 12 months	90.4	93.0	93.0	92.7	92.0	91.8	92.8	94.1	94.7	95.1	95.8	96.2	96.4	97.4	98.0	97.6	98.4	98.1	97.8	97.3
Usually don't get high	0.2	0.1	0.1	0.1	0.2	0.1	0.2	0.2	0.3	0.2	0.0	0.2	0.3	0.1	0.1	0.1	0.1	0.1	0.1	0.2
One to two hours	0.8	0.7	0.5	0.6	0.7	0.6	0.6	0.4	0.4	0.4	0.5	0.3	0.4	0.2	0.3	0.3	0.2	0.3	0.2	0.3
Three to six hours	4.0	3.2	3.2	3.5	3.8	4.0	3.4	3.1	2.9	2.4	2.0	1.7	1.7	1.2	0.7	1.1	0.4	0.7	1.2	1.1
Seven to 24 hours	4.4	2.8	3.1	3.0	3.0	3.2	2.8	2.0	1.6	1.8	1.6	1.6	1.3	1.1	0.8	0.6	0.8	0.6	0.8	1.1
More than 24 hours	0.3	0.2	0.2	0.1	0.3	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.3	0.0	0.1	0.0	0.0
Approximate weighted N =	*3,354*	*3,400*	*3,471*	*4,466*	*3,123*	*3,096*	*3,407*	*3,467*	*3,236*	*3,129*	*3,140*	*3,005*	*3,183*	*3,219*	*2,736*	*2,499*	*2,473*	*2,592*	*2,626*	*2,524*

(Table continued on next page.)

TABLE 7-3 (cont.)
HALLUCINOGENS OTHER THAN LSD
Trends in Degree and Duration of Feeling High in Grade 12

(Entries are percentages.)

When you take hallucinogens other than LSD how high do you usually get? [a]	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
% of Recent Users																				
Not at all high	3.1	4.0	3.1	1.9	2.8	1.7	5.1	0.6	0.9	5.0	5.2	4.1	2.2	2.0	3.6	5.1	4.3	4.4	0.9	9.3
A little high	4.4	7.9	10.7	5.3	7.2	4.5	5.6	5.4	2.8	10.0	7.9	5.3	10.9	10.6	1.9	10.0	7.5	2.1	10.5	8.5
Moderately high	24.5	26.9	20.4	38.0	16.1	26.4	31.3	39.5	25.2	31.7	16.6	22.5	28.9	35.8	34.0	26.8	27.9	24.6	27.9	22.8
Very high	68.1	61.2	65.9	54.8	73.8	67.5	58.1	54.6	71.0	53.3	70.3	68.2	58.0	51.7	60.5	58.0	60.2	69.0	60.7	59.4
Approximate weighted N =	*86*	*103*	*120*	*110*	*98*	*97*	*126*	*108*	*129*	*151*	*132*	*101*	*121*	*106*	*102*	*110*	*109*	*107*	*67*	*63*
% of All Respondents																				
No use in last 12 months	96.6	95.6	95.2	95.6	95.6	95.3	93.9	94.9	94.6	93.7	94.4	95.6	94.9	95.3	95.4	95.2	95.2	95.1	96.7	96.8
Not at all high	0.1	0.2	0.2	0.1	0.1	0.1	0.3	0.0	0.1	0.3	0.3	0.2	0.1	0.1	0.2	0.2	0.2	0.2	0.0	0.3
A little high	0.1	0.4	0.5	0.2	0.3	0.2	0.3	0.3	0.2	0.6	0.4	0.2	0.6	0.5	0.1	0.5	0.4	0.1	0.3	0.3
Moderately high	0.8	1.2	1.0	1.7	0.7	1.2	1.9	2.0	1.4	2.0	0.9	1.0	1.5	1.7	1.6	1.3	1.4	1.2	0.9	0.7
Very high	2.3	2.7	3.2	2.4	3.3	3.2	3.6	2.8	3.9	3.4	3.9	3.0	3.0	2.4	2.8	2.8	2.9	3.4	2.0	1.9
Approximate weighted N =	*2,515*	*2,319*	*2,500*	*2,486*	*2,213*	*2,079*	*2,058*	*2,116*	*2,385*	*2,394*	*2,374*	*2,291*	*2,354*	*2,242*	*2,210*	*2,303*	*2,259*	*2,180*	*2,030*	*1,957*
When you take hallucinogens other than LSD how long do you usually stay high? [a]																				
% of Recent Users																				
Usually don't get high	3.1	2.4	4.3	2.1	2.8	2.1	3.8	2.0	2.1	2.3	5.3	3.6	3.0	5.6	5.4	7.3	8.2	5.6	2.2	12.4
One to two hours	6.2	8.8	5.3	2.6	7.1	10.0	8.0	7.9	3.8	14.4	3.3	6.9	8.4	16.4	21.0	11.9	5.9	7.5	10.6	19.9
Three to six hours	35.0	55.6	57.9	56.0	44.9	52.0	49.5	57.2	49.9	54.0	52.7	49.4	53.1	45.5	34.7	46.6	44.0	44.1	54.4	36.5
Seven to 24 hours	50.2	29.5	30.6	37.3	42.2	32.7	35.5	32.9	42.0	28.4	37.2	36.9	35.4	27.4	34.5	28.2	31.8	40.2	31.1	29.7
More than 24 hours	5.5	3.6	2.0	1.9	3.1	3.2	3.1	0.0	2.1	1.0	1.6	3.3	0.0	5.1	4.4	5.8	10.1	2.7	1.7	1.5
Approximate weighted N =	*86*	*101*	*118*	*110*	*98*	*97*	*125*	*108*	*131*	*149*	*131*	*101*	*122*	*104*	*103*	*111*	*109*	*105*	*66*	*61*
% of All Respondents																				
No use in last 12 months	96.6	95.6	95.3	95.6	95.6	95.3	93.9	94.9	94.5	93.8	94.5	95.6	94.8	95.4	95.3	95.2	95.2	95.2	96.8	96.9
Usually don't get high	0.1	0.1	0.2	0.1	0.1	0.1	0.2	0.1	0.1	0.1	0.3	0.2	0.2	0.3	0.3	0.4	0.4	0.3	0.1	0.4
One to two hours	0.2	0.4	0.2	0.1	0.3	0.5	0.5	0.4	0.2	0.9	0.2	0.3	0.4	0.8	1.0	0.6	0.3	0.4	0.3	0.6
Three to six hours	1.2	2.4	2.7	2.5	2.0	2.4	3.0	2.9	2.7	3.4	2.9	2.2	2.8	2.1	1.6	2.2	2.1	2.1	1.8	1.1
Seven to 24 hours	1.7	1.3	1.4	1.7	1.9	1.5	2.2	1.7	2.3	1.8	2.1	1.6	1.8	1.3	1.6	1.4	1.5	1.9	1.0	0.9
More than 24 hours	0.2	0.2	0.1	0.1	0.1	0.1	0.2	0.0	0.1	0.1	0.1	0.2	0.0	0.2	0.2	0.3	0.5	0.1	0.1	0.1
Approximate weighted N =	*2,515*	*2,317*	*2,498*	*2,486*	*2,213*	*2,079*	*2,057*	*2,117*	*2,387*	*2,392*	*2,373*	*2,291*	*2,355*	*2,240*	*2,212*	*2,304*	*2,259*	*2,178*	*2,029*	*1,955*

Source. The Monitoring the Future study, the University of Michigan.

[a]These questions appear in just one form. They are asked only of respondents who report use of the drug in the prior 12 months (i.e., recent users).

TABLE 7-4
COCAINE
Trends in Degree and Duration of Feeling High in Grade 12

(Entries are percentages.)

(Years cont.)

When you take cocaine how high do you usually get? [a]	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
% of Recent Users																				
I don't take it to get high	1.1	0.8	0.3	0.0	2.1	1.9	0.6	2.1	1.9	2.8	3.1	4.1	3.6	4.9	4.6	3.9	2.7	3.1	7.7	2.6
Not at all high	3.5	2.9	4.5	5.5	3.6	3.6	7.4	6.4	10.1	6.0	6.8	4.6	5.9	5.7	7.9	10.2	11.3	6.4	12.1	10.5
A little high	18.8	11.8	17.9	17.6	19.6	22.9	22.1	22.7	25.7	23.5	24.5	24.6	18.8	19.1	12.1	18.1	13.2	22.1	19.7	16.3
Moderately high	40.1	45.1	45.9	38.2	50.6	43.7	42.4	44.5	37.0	39.3	43.1	43.4	44.0	43.3	39.7	36.1	45.1	31.8	33.6	33.0
Very high	36.6	39.5	31.4	38.6	24.2	27.9	27.5	24.3	25.3	28.4	22.5	23.5	27.7	27.0	35.7	31.8	27.8	36.5	27.0	37.5
Approximate weighted N =	*124*	*166*	*223*	*335*	*394*	*360*	*434*	*421*	*343*	*362*	*409*	*407*	*329*	*264*	*156*	*109*	*71*	*66*	*89*	*79*
% of All Respondents																				
No use in last 12 months	94.4	94.0	92.8	91.0	87.5	88.4	87.2	87.9	89.4	88.4	87.0	86.4	89.5	91.7	94.2	95.6	97.1	97.4	96.5	96.8
I don't take it to get high	0.1	0.0	0.0	0.0	0.3	0.2	0.1	0.3	0.2	0.3	0.4	0.6	0.4	0.4	0.3	0.2	0.1	0.1	0.3	0.1
Not at all high	0.2	0.2	0.3	0.5	0.5	0.4	0.9	0.8	1.1	0.7	0.9	0.6	0.6	0.5	0.5	0.5	0.3	0.2	0.4	0.3
A little high	1.1	0.7	1.3	1.6	2.5	2.7	2.8	2.7	2.7	2.7	3.2	3.3	2.0	1.6	0.7	0.8	0.4	0.6	0.7	0.5
Moderately high	2.2	2.7	3.3	3.4	6.3	5.1	5.4	5.4	3.9	4.6	5.6	5.9	4.6	3.6	2.3	1.6	1.3	0.8	1.2	1.1
Very high	2.0	2.4	2.3	3.5	3.0	3.2	3.5	2.9	2.7	3.3	2.9	3.2	2.9	2.2	2.1	1.4	0.8	0.9	0.9	1.2
Approximate weighted N =	*2,214*	*2,767*	*3,097*	*3,722*	*3,142*	*3,105*	*3,400*	*3,473*	*3,235*	*3,114*	*3,142*	*2,992*	*3,130*	*3,179*	*2,685*	*2,480*	*2,420*	*2,560*	*2,550*	*2,473*
When you take cocaine how long do you usually stay high? [a]																				
% of Recent Users																				
Usually don't get high	3.4	2.8	3.6	5.8	5.8	7.2	8.2	8.2	14.5	9.7	9.2	8.7	9.8	12.8	11.3	11.6	21.5	6.6	16.9	10.4
One to two hours	31.0	27.6	31.9	33.2	43.3	38.2	45.9	43.2	41.3	43.7	48.6	55.2	44.7	49.3	52.6	52.0	34.0	41.8	42.7	52.8
Three to six hours	47.5	46.8	49.4	39.6	36.5	36.0	33.8	34.5	34.1	33.6	31.8	27.7	29.2	25.6	20.9	25.9	32.3	25.0	24.2	20.1
Seven to 24 hours	14.4	19.6	13.1	20.9	14.1	17.3	9.8	13.3	8.7	11.8	8.5	7.1	13.0	10.1	9.8	8.1	10.4	20.2	12.9	12.8
More than 24 hours	3.7	3.1	1.9	0.5	0.3	1.3	2.3	0.8	1.4	1.1	1.9	1.3	3.3	2.3	5.3	2.5	1.7	6.5	3.3	3.9
Approximate weighted N =	*125*	*165*	*220*	*331*	*392*	*357*	*432*	*419*	*344*	*360*	*403*	*408*	*329*	*262*	*151*	*108*	*72*	*64*	*92*	*74*
% of All Respondents																				
No use in last 12 months	94.4	94.0	92.8	91.0	87.5	88.5	87.3	87.9	89.4	88.4	87.1	86.4	89.5	91.7	94.4	95.6	97.0	97.5	96.4	97.0
Usually don't get high	0.2	0.2	0.3	0.5	0.7	0.8	1.0	1.0	1.5	1.1	1.2	1.2	1.0	1.1	0.6	0.5	0.6	0.2	0.6	0.3
One to two hours	1.7	1.7	2.3	3.0	5.4	4.4	5.8	5.2	4.4	5.1	6.2	7.5	4.7	4.1	3.0	2.3	1.0	1.0	1.5	1.6
Three to six hours	2.7	2.8	3.6	3.6	4.6	4.2	4.3	4.2	3.6	3.9	4.1	3.8	3.1	2.1	1.2	1.1	1.0	0.6	0.9	0.6
Seven to 24 hours	0.8	1.2	0.9	1.9	1.8	2.0	1.2	1.6	0.9	1.4	1.1	1.0	1.4	0.8	0.6	0.4	0.3	0.5	0.5	0.4
More than 24 hours	0.2	0.2	0.1	0.0	0.0	0.1	0.3	0.1	0.2	0.1	0.2	0.2	0.3	0.2	0.3	0.1	0.0	0.2	0.1	0.1
Approximate weighted N =	*2,232*	*2,750*	*3,056*	*3,678*	*3,140*	*3,102*	*3,398*	*3,471*	*3,235*	*3,112*	*3,137*	*2,993*	*3,130*	*3,178*	*2,680*	*2,479*	*2,420*	*2,559*	*2,553*	*2,468*

(Table continued on next page.)

TABLE 7-4 (cont.)
COCAINE
Trends in Degree and Duration of Feeling High in Grade 12

(Entries are percentages.)

When you take cocaine how high do you usually get? [a]	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
% of Recent Users																				
I don't take it to get high	4.6	9.5	4.6	7.6	5.1	5.1	11.7	4.6	2.4	5.1	3.6	3.3	0.0	7.5	6.6	8.3	12.2	3.3	3.5	9.6
Not at all high	8.9	5.1	5.1	10.8	7.1	8.6	8.9	8.9	12.8	12.2	12.7	4.0	6.3	11.1	8.5	7.6	5.2	6.9	17.3	9.1
A little high	12.9	13.2	15.4	16.6	12.0	29.1	14.4	14.3	12.6	17.9	14.8	17.4	15.5	14.9	22.4	24.9	18.9	12.7	17.6	14.9
Moderately high	27.8	46.7	30.6	35.2	45.9	29.0	32.2	42.9	41.8	35.8	33.6	40.3	40.5	32.9	26.9	20.8	33.2	46.9	38.6	36.3
Very high	45.8	25.4	44.3	29.8	29.9	28.2	32.7	29.3	30.5	29.0	35.3	35.0	37.6	33.7	35.5	38.3	30.5	30.2	23.1	30.1
Approximate weighted N =	*85*	*76*	*127*	*119*	*126*	*99*	*99*	*90*	*97*	*124*	*119*	*118*	*113*	*107*	*66*	*65*	*67*	*55*	*47*	*49*
% of All Respondents																				
No use in last 12 months	96.5	96.6	94.8	95.1	94.2	95.1	95.1	95.6	95.8	94.6	94.9	94.8	95.1	95.1	97.0	97.1	97.0	97.4	97.7	97.5
I don't take it to get high	0.2	0.3	0.2	0.4	0.3	0.3	0.6	0.2	0.1	0.3	0.2	0.2	0.0	0.4	0.2	0.2	0.4	0.1	0.1	0.2
Not at all high	0.3	0.2	0.3	0.5	0.4	0.4	0.4	0.4	0.5	0.7	0.7	0.2	0.3	0.5	0.3	0.2	0.2	0.2	0.4	0.2
A little high	0.4	0.4	0.8	0.8	0.7	1.4	0.7	0.6	0.5	1.0	0.8	0.9	0.8	0.7	0.7	0.7	0.6	0.3	0.4	0.4
Moderately high	1.0	1.6	1.6	1.7	2.7	1.4	1.6	1.9	1.8	1.9	1.7	2.1	2.0	1.6	0.8	0.6	1.0	1.2	0.9	0.9
Very high	1.6	0.9	2.3	1.5	1.7	1.4	1.6	1.3	1.3	1.6	1.8	1.8	1.8	1.6	1.1	1.1	0.9	0.8	0.5	0.8
Approximate weighted N =	*2,463*	*2,261*	*2,452*	*2,424*	*2,169*	*2,024*	*2,020*	*2,053*	*2,308*	*2,318*	*2,319*	*2,269*	*2,311*	*2,208*	*2,165*	*2,225*	*2,217*	*2,136*	*2,006*	*1,927*
When you take cocaine how long do you usually stay high? [a]																				
% of Recent Users																				
Usually don't get high	13.0	6.3	10.5	14.1	9.8	15.0	12.1	7.3	14.1	16.0	15.8	13.1	8.7	15.1	17.0	18.0	15.4	10.9	13.3	17.3
One to two hours	41.4	51.8	51.3	44.4	39.7	39.8	40.9	48.9	39.6	50.1	46.7	54.9	51.6	52.6	61.9	41.8	44.3	53.3	44.5	47.3
Three to six hours	18.7	22.9	24.9	29.6	36.1	28.5	25.0	29.1	32.1	22.3	22.2	22.1	26.1	20.6	15.2	16.5	24.8	22.4	28.2	28.0
Seven to 24 hours	21.1	11.5	13.2	6.7	12.9	11.4	18.2	10.8	11.0	8.8	13.0	9.1	10.7	8.5	4.5	19.2	12.3	12.2	11.6	5.1
More than 24 hours	5.7	7.5	0.0	5.2	1.5	5.3	3.9	3.9	3.3	2.9	2.4	0.8	2.9	3.3	1.4	4.4	3.3	1.3	2.4	2.3
Approximate weighted N =	*83*	*69*	*128*	*115*	*126*	*98*	*99*	*86*	*93*	*124*	*116*	*114*	*111*	*100*	*67*	*63*	*66*	*57*	*46*	*50*
% of All Respondents																				
No use in last 12 months	96.6	96.9	94.8	95.2	94.2	95.2	95.1	95.8	96.0	94.7	95.0	95.0	95.2	95.5	96.9	97.2	97.0	97.3	97.7	97.4
Usually don't get high	0.4	0.2	0.5	0.7	0.6	0.7	0.6	0.3	0.6	0.9	0.8	0.7	0.4	0.7	0.5	0.5	0.5	0.3	0.3	0.4
One to two hours	1.4	1.6	2.7	2.1	2.3	1.9	2.0	2.1	1.6	2.7	2.3	2.8	2.5	2.4	1.9	1.2	1.3	1.4	1.0	1.2
Three to six hours	0.6	0.7	1.3	1.4	2.1	1.4	1.2	1.2	1.3	1.2	1.1	1.1	1.3	0.9	0.5	0.5	0.7	0.6	0.7	0.7
Seven to 24 hours	0.7	0.4	0.7	0.3	0.7	0.6	0.9	0.5	0.4	0.5	0.7	0.5	0.5	0.4	0.1	0.5	0.4	0.3	0.3	0.1
More than 24 hours	0.2	0.2	0.0	0.2	0.1	0.3	0.2	0.2	0.1	0.2	0.1	0.0	0.1	0.2	0.0	0.1	0.1	0.0	0.1	0.1
Approximate weighted N =	*2,461*	*2,254*	*2,453*	*2,421*	*2,168*	*2,022*	*2,020*	*2,048*	*2,305*	*2,317*	*2,315*	*2,266*	*2,310*	*2,200*	*2,166*	*2,224*	*2,216*	*2,138*	*2,004*	*1,928*

Source. The Monitoring the Future study, the University of Michigan.

[a]These questions appear in just one form. They are asked only of respondents who report use of the drug in the prior 12 months (i.e., recent users).

TABLE 7-5
NARCOTICS OTHER THAN HEROIN
Trends in Degree and Duration of Feeling High in Grade 12

(Entries are percentages.)

(Years cont.)

When you take narcotics other than heroin how high do you usually get? [a]	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
% of Recent Users																				
I don't take them to get high	4.1	7.6	7.8	10.4	10.0	8.6	14.5	17.8	21.9	22.5	21.3	19.6	28.8	24.5	29.6	36.6	20.5	27.7	25.1	22.7
Not at all high	3.6	6.1	2.8	5.9	8.1	10.5	11.6	3.8	9.9	7.5	12.1	12.1	19.1	7.9	12.2	10.1	9.9	26.7	18.0	10.8
A little high	8.8	18.3	25.9	17.5	24.3	21.6	30.0	26.6	17.9	29.4	28.5	25.2	18.7	19.3	15.1	18.5	20.6	19.2	12.8	22.8
Moderately high	45.0	40.4	37.5	41.4	40.1	41.2	29.4	34.0	34.3	28.1	27.7	24.3	15.5	31.8	27.5	19.5	36.9	14.2	27.9	29.0
Very high	38.5	27.5	26.0	24.8	17.5	18.2	14.5	17.7	16.0	12.5	10.4	18.8	17.8	16.6	15.6	15.3	12.1	12.1	16.3	14.8
Approximate weighted N =	*78*	*130*	*124*	*179*	*156*	*165*	*182*	*116*	*94*	*125*	*126*	*104*	*112*	*84*	*66*	*71*	*46*	*74*	*56*	*58*
% of All Respondents																				
No use in last 12 months	94.3	94.3	93.6	94.0	94.9	94.5	94.4	96.5	97.0	95.9	95.9	96.4	96.4	97.3	97.5	97.1	98.1	97.1	97.8	97.7
I don't take them to get high	0.2	0.4	0.5	0.6	0.5	0.5	0.8	0.6	0.7	0.9	0.9	0.7	1.0	0.7	0.7	1.1	0.4	0.8	0.6	0.5
Not at all high	0.2	0.3	0.2	0.4	0.4	0.6	0.6	0.1	0.3	0.3	0.5	0.4	0.7	0.2	0.3	0.3	0.2	0.8	0.4	0.3
A little high	0.5	1.0	1.7	1.1	1.2	1.2	1.7	0.9	0.5	1.2	1.2	0.9	0.7	0.5	0.4	0.5	0.4	0.6	0.3	0.5
Moderately high	2.6	2.3	2.4	2.5	2.1	2.3	1.6	1.2	1.0	1.2	1.1	0.9	0.6	0.8	0.7	0.6	0.7	0.4	0.6	0.7
Very high	2.2	1.6	1.7	1.5	0.9	1.0	0.8	0.6	0.5	0.5	0.4	0.7	0.6	0.4	0.4	0.4	0.2	0.4	0.4	0.3
Approximate weighted N =	*1,368*	*2,281*	*1,938*	*2,983*	*3,045*	*2,983*	*3,277*	*3,353*	*3,115*	*3,048*	*3,065*	*2,911*	*3,091*	*3,144*	*2,655*	*2,465*	*2,410*	*2,538*	*2,553*	*2,492*
When you take narcotics other than heroin how long do you usually stay high? [a]																				
% of Recent Users																				
Usually don't get high	6.8	15.4	7.4	24.6	17.8	15.7	24.2	17.0	23.9	23.2	25.1	24.7	41.4	23.7	38.8	38.5	31.3	36.8	36.3	31.7
One to two hours	8.8	16.7	32.5	19.3	24.6	29.5	30.4	36.4	26.7	29.3	30.9	30.9	25.9	26.6	18.2	24.0	23.0	26.7	18.1	31.6
Three to six hours	56.5	44.1	46.2	50.2	44.3	42.1	33.2	34.0	38.6	38.1	29.9	35.3	24.9	41.4	22.6	29.1	38.2	26.0	29.9	35.2
Seven to 24 hours	24.5	20.5	11.1	15.9	12.1	12.4	9.8	12.0	8.4	8.8	13.3	9.2	5.8	7.5	15.6	5.7	7.5	5.6	13.0	0.7
More than 24 hours	3.4	3.2	2.8	0.0	1.2	0.2	2.3	0.6	2.4	0.6	0.8	0.0	2.0	0.8	4.8	2.7	0.0	5.0	2.7	0.9
Approximate weighted N =	*78*	*130*	*124*	*173*	*151*	*164*	*180*	*116*	*94*	*121*	*128*	*102*	*112*	*79*	*65*	*69*	*49*	*76*	*57*	*60*
% of All Respondents																				
No use in last 12 months	94.3	94.3	93.6	94.0	95.0	94.5	94.5	96.5	97.0	96.0	95.8	96.5	96.4	97.5	97.5	97.2	98.0	97.0	97.8	97.6
Usually don't get high	0.4	0.9	0.5	0.9	0.9	0.9	1.3	0.6	0.7	0.9	1.0	0.9	1.5	0.6	1.0	1.1	0.6	1.1	0.8	0.8
One to two hours	0.5	1.0	2.1	1.2	1.2	1.6	1.7	1.3	0.8	1.2	1.3	1.1	0.9	0.7	0.4	0.7	0.5	0.8	0.4	0.8
Three to six hours	3.2	2.5	3.0	3.0	2.2	2.3	1.8	1.2	1.2	1.5	1.2	1.2	0.9	1.0	0.6	0.8	0.8	0.8	0.7	0.8
Seven to 24 hours	1.4	1.2	0.7	1.0	0.6	0.7	0.5	0.4	0.3	0.3	0.6	0.3	0.2	0.2	0.4	0.2	0.2	0.2	0.3	0.0
More than 24 hours	0.2	0.2	0.2	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.0	0.0	0.1	0.0	0.1	0.1	0.0	0.1	0.1	0.0
Approximate weighted N =	*1,368*	*2,281*	*1,938*	*2,883*	*3,040*	*2,982*	*3,275*	*3,353*	*3,116*	*3,043*	*3,067*	*2,908*	*3,092*	*3,139*	*2,654*	*2,463*	*2,413*	*2,540*	*2,554*	*2,493*

(Table continued on next page.)

TABLE 7-5 (cont.)
NARCOTICS OTHER THAN HEROIN
Trends in Degree and Duration of Feeling High in Grade 12

(Entries are percentages.)

When you take narcotics other than heroin how high do you usually get? [a]	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
% of Recent Users																				
I don't take them to get high	13.7	23.4	12.8	12.6	14.2	19.6	18.6	15.4	19.4	7.4	15.1	10.7	15.0	15.6	17.6	13.3	11.2	12.0	8.5	12.9
Not at all high	13.0	12.3	5.0	9.8	10.6	9.0	0.0	11.6	4.6	8.9	8.5	7.2	7.7	9.6	6.0	9.9	8.9	12.3	11.6	8.9
A little high	13.9	20.0	27.4	27.5	14.7	20.8	27.8	23.0	21.2	23.9	28.4	25.9	26.3	24.1	23.7	21.9	25.1	23.2	24.3	30.5
Moderately high	34.0	23.4	43.0	26.0	38.3	30.2	31.6	35.3	40.3	42.3	34.7	37.0	39.5	37.5	39.1	38.6	37.5	36.7	36.0	31.3
Very high	25.5	20.9	11.8	24.1	22.3	20.4	21.9	14.8	14.5	17.5	13.3	19.2	11.6	13.1	13.7	16.2	17.4	15.9	19.6	16.4
Approximate weighted N =	*51*	*82*	*96*	*113*	*89*	*102*	*82*	*133*	*158*	*182*	*168*	*144*	*186*	*174*	*152*	*147*	*143*	*140*	*107*	*110*
% of All Respondents																				
No use in last 12 months	97.9	96.4	96.0	95.3	95.9	94.9	95.9	93.5	93.1	92.2	92.7	93.6	91.9	92.0	93.0	93.3	93.5	93.5	94.6	94.3
I don't take them to get high	0.3	0.8	0.5	0.6	0.6	1.0	0.8	1.0	1.3	0.6	1.1	0.7	1.2	1.3	1.2	0.9	0.7	0.8	0.5	0.7
Not at all high	0.3	0.4	0.2	0.5	0.4	0.5	0.0	0.8	0.3	0.7	0.6	0.5	0.6	0.8	0.4	0.7	0.6	0.8	0.6	0.5
A little high	0.3	0.7	1.1	1.3	0.6	1.1	1.1	1.5	1.5	1.9	2.1	1.7	2.1	1.9	1.7	1.5	1.6	1.5	1.3	1.7
Moderately high	0.7	0.9	1.7	1.2	1.6	1.5	1.3	2.3	2.8	3.3	2.5	2.4	3.2	3.0	2.8	2.6	2.4	2.4	1.9	1.8
Very high	0.5	0.8	0.5	1.1	0.9	1.0	0.9	1.0	1.0	1.4	1.0	1.2	0.9	1.1	1.0	1.1	1.1	1.0	1.1	0.9
Approximate weighted N =	*2,442*	*2,261*	*2,407*	*2,409*	*2,167*	*2,001*	*1,996*	*2,035*	*2,299*	*2,334*	*2,305*	*2,258*	*2,304*	*2,177*	*2,162*	*2,202*	*2,203*	*2,141*	*1,983*	*1,917*
When you take narcotics other than heroin how long do you usually stay high? [a]																				
% of Recent Users																				
Usually don't get high	22.4	27.8	20.6	18.8	21.5	23.1	15.2	22.8	17.6	15.1	17.4	12.5	17.8	19.3	18.4	19.7	17.6	20.6	20.4	20.2
One to two hours	23.8	22.7	35.7	26.1	30.1	25.9	36.7	29.7	34.4	35.4	35.3	36.8	33.1	32.1	37.7	24.0	27.3	29.8	36.5	39.9
Three to six hours	36.2	32.5	36.1	37.8	29.2	42.9	40.2	33.0	36.8	42.0	33.3	40.1	42.1	37.3	36.1	40.6	48.4	42.1	34.1	26.5
Seven to 24 hours	15.4	14.2	7.6	14.4	17.4	3.9	7.8	14.5	10.0	6.7	11.5	9.3	6.4	9.0	6.4	14.7	6.7	7.5	7.8	12.4
More than 24 hours	2.3	2.7	0.0	2.9	1.7	4.2	0.0	0.0	1.2	0.8	2.6	1.3	0.7	2.4	1.6	1.1	0.0	0.0	1.3	1.1
Approximate weighted N =	*49*	*82*	*96*	*111*	*89*	*97*	*84*	*136*	*156*	*182*	*166*	*144*	*185*	*174*	*153*	*150*	*145*	*139*	*108*	*110*
% of All Respondents																				
No use in last 12 months	98.0	96.4	96.0	95.4	95.9	95.1	95.8	93.3	93.2	92.2	92.8	93.6	92.0	92.0	92.9	93.2	93.4	93.5	94.6	94.3
Usually don't get high	0.5	1.0	0.8	0.9	0.9	1.1	0.6	1.5	1.2	1.2	1.3	0.8	1.4	1.5	1.3	1.3	1.2	1.3	1.1	1.2
One to two hours	0.5	0.8	1.4	1.2	1.2	1.3	1.5	2.0	2.3	2.8	2.5	2.4	2.7	2.6	2.7	1.6	1.8	1.9	2.0	2.0
Three to six hours	0.7	1.2	1.4	1.7	1.2	2.1	1.7	2.2	2.5	3.3	2.4	2.6	3.4	3.0	2.6	2.8	3.2	2.7	1.9	1.5
Seven to 24 hours	0.3	0.5	0.3	0.7	0.7	0.2	0.3	1.0	0.7	0.5	0.8	0.6	0.5	0.7	0.5	1.0	0.4	0.5	0.4	0.7
More than 24 hours	0.0	0.1	0.0	0.1	0.1	0.2	0.0	0.0	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.0	0.0	0.1	0.1
Approximate weighted N =	*2,441*	*2,261*	*2,407*	*2,406*	*2,167*	*1,996*	*1,998*	*2,037*	*2,297*	*2,334*	*2,303*	*2,258*	*2,302*	*2,177*	*2,164*	*2,205*	*2,205*	*2,140*	*1,985*	*1,917*

Source. The Monitoring the Future study, the University of Michigan.

[a]These questions appear in just one form. They are asked only of respondents who report use of the drug in the prior 12 months (i.e., recent users).

TABLE 7-6
AMPHETAMINES
Trends in Degree and Duration of Feeling High in Grade 12

(Entries are percentages.)

(Years cont.)

When you take amphetamines how high do you usually get? [a]	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
% of Recent Users																				
I don't take them to get high	9.3	10.7	15.1	14.7	16.8	17.1	20.2	21.0	24.2	22.8	20.4	18.7	20.7	23.9	19.3	15.8	24.7	15.8	18.6	19.9
Not at all high	4.6	5.0	7.5	6.2	7.7	8.9	11.5	9.1	11.9	9.3	12.8	10.8	12.2	14.2	14.0	18.8	10.8	19.2	20.5	12.0
A little high	26.4	26.1	24.0	25.9	26.5	34.0	31.4	36.8	33.0	34.8	36.7	42.6	40.0	29.1	30.8	30.0	35.5	28.6	30.6	29.1
Moderately high	44.6	43.8	39.2	40.2	36.4	30.8	30.6	28.5	27.0	29.5	24.9	23.3	20.6	24.8	24.4	24.9	16.8	23.0	19.9	26.8
Very high	15.1	14.4	14.1	13.0	12.6	9.3	6.3	4.6	3.9	3.5	5.2	4.6	6.6	8.0	11.5	10.5	12.1	13.4	10.3	12.2
Approximate weighted N =	*410*	*406*	*449*	*542*	*507*	*575*	*788*	*622*	*463*	*418*	*380*	*305*	*265*	*196*	*153*	*131*	*107*	*105*	*127*	*144*
% of All Respondents																				
No use in last 12 months	83.8	84.2	83.7	82.9	83.6	81.2	76.5	82.0	85.6	86.7	87.9	89.8	91.7	93.9	94.4	94.8	95.7	96.0	95.2	94.3
I don't take them to get high	1.5	1.7	2.5	2.5	2.8	3.2	4.8	3.8	3.5	3.0	2.5	1.9	1.7	1.5	1.1	0.8	1.1	0.6	0.9	1.1
Not at all high	0.7	0.8	1.2	1.1	1.3	1.7	2.7	1.6	1.7	1.2	1.6	1.1	1.0	0.9	0.8	1.0	0.5	0.8	1.0	0.7
A little high	4.3	4.1	3.9	4.4	4.3	6.4	7.4	6.6	4.8	4.6	4.5	4.3	3.3	1.8	1.7	1.6	1.5	1.1	1.5	1.7
Moderately high	7.2	6.9	6.4	6.9	6.0	5.8	7.2	5.1	3.9	3.9	3.0	2.4	1.7	1.5	1.4	1.3	0.7	0.9	1.0	1.5
Very high	2.4	2.3	2.3	2.2	2.1	1.7	1.5	0.8	0.6	0.5	0.6	0.5	0.5	0.5	0.6	0.5	0.5	0.5	0.5	0.7
Approximate weighted N =	*2,531*	*2,570*	*2,755*	*3,170*	*3,098*	*3,055*	*3,354*	*3,455*	*3,211*	*3,129*	*3,131*	*2,994*	*3,170*	*3,217*	*2,741*	*2,513*	*2,473*	*2,609*	*2,634*	*2,538*
When you take amphetamines how long do you usually stay high? [a]																				
% of Recent Users																				
Usually don't get high	10.7	11.2	11.9	14.5	15.4	17.9	24.4	17.5	22.7	25.3	26.1	21.3	24.4	29.3	25.3	30.0	38.8	31.3	33.7	34.6
One to two hours	11.4	12.1	15.3	17.0	18.7	19.9	20.3	25.2	23.2	27.0	31.4	36.8	37.4	30.4	36.9	33.2	23.4	32.2	31.5	28.7
Three to six hours	37.0	48.4	38.4	39.5	40.1	43.4	38.2	45.5	42.6	35.7	31.2	31.0	23.3	26.0	26.5	22.5	19.0	11.0	25.0	20.7
Seven to 24 hours	37.0	26.1	31.6	27.1	23.8	17.7	16.3	11.0	9.7	11.9	10.8	10.1	12.9	13.1	7.2	12.9	12.8	18.1	6.9	10.7
More than 24 hours	3.8	2.1	2.9	1.9	2.0	1.1	0.8	0.8	1.8	0.2	0.6	0.8	2.0	1.1	4.2	1.4	6.0	7.5	3.0	5.3
Approximate weighted N =	*412*	*413*	*446*	*546*	*521*	*583*	*810*	*627*	*478*	*424*	*392*	*309*	*267*	*202*	*154*	*131*	*109*	*102*	*125*	*146*
% of All Respondents																				
No use in last 12 months	83.8	84.2	83.7	82.9	83.3	81.0	76.0	81.9	85.2	86.5	87.5	89.7	91.6	93.7	94.4	94.8	95.6	96.1	95.3	94.3
Usually don't get high	1.7	1.8	1.9	2.5	2.6	3.4	5.8	3.2	3.4	3.4	3.3	2.2	2.0	1.8	1.4	1.6	1.7	1.2	1.6	2.0
One to two hours	1.8	1.9	2.5	2.9	3.1	3.8	4.9	4.6	3.4	3.7	3.9	3.8	3.1	1.9	2.1	1.7	1.0	1.3	1.5	1.6
Three to six hours	6.0	7.6	6.3	6.7	6.7	8.3	9.2	8.2	6.3	4.8	3.9	3.2	2.0	1.6	1.5	1.2	0.8	0.4	1.2	1.2
Seven to 24 hours	6.0	4.1	5.1	4.6	4.0	3.4	3.9	2.0	1.4	1.6	1.3	1.0	1.1	0.8	0.4	0.7	0.6	0.7	0.3	0.6
More than 24 hours	0.6	0.3	0.5	0.3	0.3	0.2	0.2	0.2	0.3	0.0	0.1	0.1	0.2	0.1	0.2	0.1	0.3	0.3	0.1	0.3
Approximate weighted N =	*2,543*	*2,614*	*2,736*	*3,193*	*3,111*	*3,063*	*3,375*	*3,460*	*3,227*	*3,135*	*3,142*	*2,998*	*3,172*	*3,223*	*2,742*	*2,513*	*2,475*	*2,607*	*2,633*	*2,539*

(Table continued on next page.)

TABLE 7-6 (cont.)
AMPHETAMINES
Trends in Degree and Duration of Feeling High in Grade 12

(Entries are percentages.)

When you take amphetamines how high do you usually get? [a]	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
% of Recent Users																				
I don't take them to get high	16.1	30.6	18.1	18.9	19.6	17.3	22.4	27.4	20.3	18.8	18.5	12.7	18.5	18.8	17.2	18.5	25.9	24.6	24.9	28.3
Not at all high	17.0	9.3	16.0	12.4	12.9	11.4	11.8	15.3	13.7	14.2	11.4	11.4	17.0	14.5	21.2	14.9	10.2	13.9	9.5	9.4
A little high	27.5	25.4	27.3	27.3	26.9	23.5	15.9	23.9	22.6	29.4	23.7	22.7	18.9	22.0	14.7	23.6	27.6	19.0	19.5	24.8
Moderately high	28.1	18.3	23.2	25.1	25.9	28.2	27.4	18.6	29.9	24.6	31.5	35.3	33.4	30.7	28.3	24.0	25.3	31.3	26.8	18.6
Very high	11.3	16.4	15.3	16.3	14.6	19.6	22.5	14.8	13.5	13.1	14.9	17.9	12.2	14.0	18.6	18.9	11.0	11.3	19.3	18.9
Approximate weighted N =	*145*	*138*	*183*	*198*	*141*	*126*	*145*	*146*	*177*	*206*	*135*	*147*	*149*	*124*	*122*	*121*	*170*	*121*	*104*	*119*
% of All Respondents																				
No use in last 12 months	94.2	94.0	92.6	92.0	93.7	93.9	92.9	93.0	92.6	91.4	94.3	93.6	93.7	94.5	94.5	94.8	92.6	94.5	94.9	94.0
I don't take them to get high	0.9	1.8	1.3	1.5	1.2	1.1	1.6	1.9	1.5	1.6	1.1	0.8	1.2	1.0	1.0	1.0	1.9	1.4	1.3	1.7
Not at all high	1.0	0.6	1.2	1.0	0.8	0.7	0.8	1.1	1.0	1.2	0.7	0.7	1.1	0.8	1.2	0.8	0.8	0.8	0.5	0.6
A little high	1.6	1.5	2.0	2.2	1.7	1.4	1.1	1.7	1.7	2.5	1.3	1.4	1.2	1.2	0.8	1.2	2.0	1.1	1.0	1.5
Moderately high	1.6	1.1	1.7	2.0	1.6	1.7	1.9	1.3	2.2	2.1	1.8	2.2	2.1	1.7	1.6	1.3	1.9	1.7	1.4	1.1
Very high	0.6	1.0	1.1	1.3	0.9	1.2	1.6	1.0	1.0	1.1	0.8	1.1	0.8	0.8	1.0	1.0	0.8	0.6	1.0	1.1
Approximate weighted N =	*2,514*	*2,300*	*2,490*	*2,482*	*2,233*	*2,058*	*2,053*	*2,101*	*2,383*	*2,404*	*2,381*	*2,313*	*2,374*	*2,253*	*2,227*	*2,316*	*2,293*	*2,199*	*2,043*	*1,980*
When you take amphetamines how long do you usually stay high? [a]																				
% of Recent Users																				
Usually don't get high	27.9	32.7	29.0	23.1	21.7	24.1	30.1	36.4	27.2	29.5	28.1	20.6	28.0	26.6	30.1	27.4	19.6	30.4	25.5	26.2
One to two hours	23.8	25.1	26.7	26.5	29.0	26.9	27.8	18.2	25.0	21.8	17.3	14.3	21.6	20.7	12.7	14.8	17.6	15.5	17.0	18.0
Three to six hours	29.7	27.2	29.8	28.0	37.5	34.2	23.9	22.3	24.5	27.0	24.6	30.9	24.7	33.7	32.5	26.0	34.1	35.1	26.7	34.0
Seven to 24 hours	13.6	11.6	12.6	16.9	8.6	14.2	17.0	18.1	18.4	21.0	20.1	30.4	18.4	16.3	23.1	24.6	23.9	15.2	25.9	15.4
More than 24 hours	4.9	3.4	1.9	5.5	3.2	0.6	1.1	5.0	5.0	0.8	9.9	3.8	7.4	2.7	1.7	7.3	4.9	3.7	4.9	6.4
Approximate weighted N =	*147*	*136*	*178*	*195*	*134*	*123*	*143*	*143*	*172*	*206*	*133*	*147*	*148*	*121*	*119*	*117*	*165*	*119*	*105*	*116*
% of All Respondents																				
No use in last 12 months	94.2	94.1	92.8	92.1	94.0	94.0	93.0	93.2	92.8	91.4	94.4	93.7	93.8	94.6	94.7	94.9	92.8	94.6	94.9	94.1
Usually don't get high	1.6	1.9	2.1	1.8	1.3	1.4	2.1	2.5	2.0	2.5	1.6	1.3	1.8	1.4	1.6	1.4	1.4	1.6	1.3	1.5
One to two hours	1.4	1.5	1.9	2.1	1.7	1.6	1.9	1.2	1.8	1.9	1.0	0.9	1.4	1.1	0.7	0.7	1.3	0.8	0.9	1.1
Three to six hours	1.7	1.6	2.1	2.2	2.3	2.0	1.7	1.5	1.8	2.3	1.4	2.0	1.5	1.8	1.7	1.3	2.5	1.9	1.4	2.0
Seven to 24 hours	0.8	0.7	0.9	1.3	0.5	0.9	1.2	1.2	1.3	1.8	1.1	1.9	1.2	0.9	1.2	1.2	1.7	0.8	1.3	0.9
More than 24 hours	0.3	0.2	0.1	0.4	0.2	0.0	0.1	0.3	0.4	0.1	0.6	0.2	0.5	0.2	0.1	0.4	0.4	0.2	0.3	0.4
Approximate weighted N =	*2,516*	*2,298*	*2,485*	*2,479*	*2,226*	*2,055*	*2,051*	*2,098*	*2,378*	*2,404*	*2,379*	*2,313*	*2,373*	*2,251*	*2,223*	*2,312*	*2,288*	*2,197*	*2,044*	*1,977*

Source. The Monitoring the Future study, the University of Michigan.

[a]These questions appear in just one form. They are asked only of respondents who report use of the drug in the prior 12 months (i.e., recent users).

TABLE 7-7
TRANQUILIZERS
Trends in Degree and Duration of Feeling High in Grade 12

(Entries are percentages.)

(Years cont.)

When you take tranquilizers how high do you usually get? [a]	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
% of Recent Users																				
I don't take them to get high	17.9	18.5	23.6	23.0	16.8	14.7	19.1	25.3	20.2	24.3	21.7	30.7	30.4	42.7	34.8	34.5	48.3	31.0	29.0	30.5
Not at all high	11.1	16.2	12.4	14.0	15.0	17.6	17.0	17.3	17.1	16.7	17.6	24.0	20.8	12.9	22.6	11.5	13.9	18.6	29.5	19.2
A little high	30.1	24.1	29.5	27.0	27.0	27.5	28.7	30.0	27.7	29.9	37.5	19.2	18.4	22.4	16.6	26.1	19.7	16.1	19.0	22.0
Moderately high	28.9	31.4	25.8	29.1	30.5	29.8	22.9	18.5	26.0	21.4	19.8	17.3	18.2	14.1	21.5	18.2	17.3	21.2	14.6	24.4
Very high	11.9	9.8	8.7	6.8	10.8	10.5	12.4	8.8	9.0	7.7	3.4	8.9	12.2	7.9	4.5	9.8	0.8	13.2	7.8	4.0
Approximate weighted N =	*159*	*213*	*243*	*267*	*218*	*205*	*223*	*154*	*128*	*115*	*144*	*122*	*125*	*99*	*68*	*75*	*51*	*57*	*68*	*58*
% of All Respondents																				
No use in last 12 months	89.4	89.7	89.2	90.1	92.9	93.2	93.3	95.5	96.0	96.3	95.4	95.9	96.0	96.9	97.5	97.0	97.9	97.8	97.4	97.7
I don't take them to get high	1.9	1.9	2.5	2.3	1.2	1.0	1.3	1.1	0.8	0.9	1.0	1.3	1.2	1.3	0.9	1.0	1.0	0.7	0.8	0.7
Not at all high	1.2	1.7	1.3	1.4	1.1	1.2	1.1	0.8	0.7	0.6	0.8	1.0	0.8	0.4	0.6	0.3	0.3	0.4	0.8	0.4
A little high	3.2	2.5	3.2	2.7	1.9	1.9	1.9	1.4	1.1	1.1	1.7	0.8	0.7	0.7	0.4	0.8	0.4	0.4	0.5	0.5
Moderately high	3.1	3.2	2.8	2.9	2.2	2.0	1.5	0.8	1.0	0.8	0.9	0.7	0.7	0.4	0.5	0.6	0.4	0.5	0.4	0.6
Very high	1.3	1.0	0.9	0.7	0.8	0.7	0.8	0.4	0.4	0.3	0.2	0.4	0.5	0.2	0.1	0.3	0.0	0.3	0.2	0.1
Approximate weighted N =	*1,500*	*2,068*	*2,250*	*2,697*	*3,073*	*3,040*	*3,330*	*3,420*	*3,186*	*3,074*	*3,119*	*2,963*	*3,141*	*3,199*	*2,710*	*2,509*	*2,448*	*2,571*	*2,598*	*2,523*
When you take tranquilizers how long do you usually stay high? [a]																				
% of Recent Users																				
Usually don't get high	29.9	33.0	31.6	32.7	27.8	27.9	31.1	31.9	38.8	36.9	36.8	46.0	50.4	48.3	45.3	35.8	47.2	48.7	50.2	43.6
One to two hours	17.6	24.1	22.5	26.0	21.3	25.4	27.2	25.0	21.6	25.7	24.7	25.3	20.0	19.3	19.9	20.7	20.5	19.1	19.1	18.7
Three to six hours	42.9	35.6	38.8	32.3	40.2	32.4	32.1	33.3	32.5	27.8	33.5	22.4	21.8	23.7	28.5	31.1	25.0	18.9	19.1	31.3
Seven to 24 hours	9.5	6.5	6.1	8.7	9.4	14.2	9.5	9.8	6.3	9.5	3.5	4.4	7.3	8.0	3.0	9.7	5.6	12.2	11.6	3.0
More than 24 hours	0.0	0.7	1.0	0.4	1.3	0.0	0.0	0.0	0.8	0.0	1.6	1.9	0.4	0.8	3.3	2.8	1.6	1.2	0.0	3.5
Approximate weighted N =	*158*	*214*	*242*	*269*	*221*	*200*	*221*	*151*	*132*	*114*	*134*	*121*	*129*	*95*	*65*	*67*	*48*	*55*	*72*	*51*
% of All Respondents																				
No use in last 12 months	89.4	89.7	89.2	90.1	92.8	93.4	93.4	95.6	95.9	96.3	95.7	95.9	95.9	97.0	97.6	97.3	98.0	97.9	97.2	98.0
Usually don't get high	3.2	3.4	3.4	3.2	2.0	1.8	2.1	1.4	1.6	1.4	1.6	1.9	2.1	1.4	1.1	1.0	0.9	1.0	1.4	0.9
One to two hours	1.9	2.5	2.4	2.6	1.5	1.7	1.8	1.1	0.9	1.0	1.1	1.0	0.8	0.6	0.5	0.6	0.4	0.4	0.5	0.4
Three to six hours	4.5	3.7	4.2	3.2	2.9	2.1	2.1	1.5	1.3	1.0	1.4	0.9	0.9	0.7	0.7	0.8	0.5	0.4	0.5	0.6
Seven to 24 hours	1.0	0.7	0.7	0.9	0.7	0.9	0.6	0.4	0.3	0.4	0.1	0.2	0.3	0.2	0.1	0.3	0.1	0.3	0.3	0.1
More than 24 hours	0.0	0.1	0.1	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.1	0.1	0.0	0.0	0.1	0.1	0.0	0.0	0.0	0.1
Approximate weighted N =	*1,491*	*2,078*	*2,241*	*2,717*	*3,075*	*3,034*	*3,328*	*3,417*	*3,190*	*3,072*	*3,110*	*2,962*	*3,144*	*3,196*	*2,707*	*2,501*	*2,446*	*2,570*	*2,602*	*2,516*

(Table continued on next page.)

TABLE 7-7 (cont.)
TRANQUILIZERS
Trends in Degree and Duration of Feeling High in Grade 12

(Entries are percentages.)

When you take tranquilizers how high do you usually get? [a]	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
% of Recent Users																				
I don't take them to get high	26.6	18.3	19.3	19.6	11.3	9.4	20.1	16.6	16.1	14.3	13.4	10.3	11.7	14.1	11.0	15.2	14.0	13.5	18.5	14.9
Not at all high	18.6	9.4	13.4	8.0	7.9	10.9	11.8	10.4	7.5	13.4	10.3	3.2	7.8	10.4	6.7	8.4	13.6	10.8	11.1	13.5
A little high	18.9	34.0	25.2	24.9	22.1	35.2	21.4	17.2	23.2	24.1	18.0	31.5	22.3	18.5	19.9	15.0	21.8	18.0	17.5	17.0
Moderately high	24.0	28.1	23.9	37.9	39.7	33.7	29.4	34.2	32.0	32.3	36.7	39.0	41.5	34.4	34.7	31.5	22.7	32.6	26.2	37.5
Very high	11.8	10.2	18.2	9.5	19.1	10.9	17.3	21.6	21.2	16.0	21.6	16.0	16.7	22.6	27.7	29.9	27.9	25.2	26.7	17.0
Approximate weighted N =	*67*	*54*	*83*	*80*	*77*	*69*	*95*	*98*	*110*	*126*	*111*	*96*	*119*	*115*	*93*	*103*	*97*	*93*	*70*	*84*
% of All Respondents																				
No use in last 12 months	97.3	97.6	96.6	96.8	96.5	96.6	95.3	95.3	95.4	94.7	95.3	95.8	94.9	94.8	95.8	95.4	95.7	95.7	96.5	95.8
I don't take them to get high	0.7	0.4	0.6	0.6	0.4	0.3	0.9	0.8	0.8	0.8	0.6	0.4	0.6	0.7	0.5	0.7	0.6	0.6	0.6	0.6
Not at all high	0.5	0.2	0.5	0.3	0.3	0.4	0.6	0.5	0.4	0.7	0.5	0.1	0.4	0.5	0.3	0.4	0.6	0.5	0.4	0.6
A little high	0.5	0.8	0.9	0.8	0.8	1.2	1.0	0.8	1.1	1.3	0.9	1.3	1.1	1.0	0.8	0.7	0.9	0.8	0.6	0.7
Moderately high	0.6	0.7	0.8	1.2	1.4	1.1	1.4	1.6	1.5	1.7	1.7	1.6	2.1	1.8	1.5	1.4	1.0	1.4	0.9	1.6
Very high	0.3	0.2	0.6	0.3	0.7	0.4	0.8	1.0	1.0	0.9	1.0	0.7	0.9	1.2	1.2	1.4	1.2	1.1	0.9	0.7
Approximate weighted N =	*2,500*	*2,292*	*2,469*	*2,468*	*2,205*	*2,046*	*2,033*	*2,088*	*2,356*	*2,363*	*2,353*	*2,292*	*2,334*	*2,217*	*2,208*	*2,255*	*2,258*	*2,176*	*2,033*	*1,966*
When you take tranquilizers how long do you usually stay high? [a]																				
% of Recent Users																				
Usually don't get high	34.0	30.6	22.1	25.1	11.5	13.4	25.2	23.8	22.6	20.9	21.8	7.2	19.0	17.1	16.7	14.8	23.4	19.5	24.0	26.5
One to two hours	25.4	22.6	35.2	31.4	36.4	34.3	19.0	27.6	27.8	27.8	25.0	28.8	27.0	24.4	20.6	24.1	19.2	13.1	22.3	29.7
Three to six hours	28.5	32.7	35.7	36.0	41.9	45.8	38.6	35.1	38.1	38.5	40.3	55.2	41.7	40.3	47.4	42.9	40.1	46.4	34.9	29.0
Seven to 24 hours	8.9	11.5	6.1	4.7	9.0	4.6	11.0	12.6	11.5	10.8	11.8	7.4	10.4	18.3	15.2	15.8	12.2	18.3	17.3	10.4
More than 24 hours	3.2	2.6	1.0	2.9	1.3	1.9	6.3	1.0	0.0	2.0	1.1	1.4	1.8	0.0	0.0	2.3	5.1	2.7	1.6	4.6
Approximate weighted N =	*62*	*54*	*79*	*81*	*74*	*70*	*95*	*98*	*106*	*128*	*111*	*97*	*118*	*112*	*95*	*99*	*97*	*92*	*70*	*83*
% of All Respondents																				
No use in last 12 months	97.5	97.7	96.8	96.7	96.6	96.6	95.3	95.3	95.5	94.6	95.3	95.8	94.9	94.9	95.7	95.6	95.7	95.8	96.6	95.8
Usually don't get high	0.8	0.7	0.7	0.8	0.4	0.5	1.2	1.1	1.0	1.1	1.0	0.3	1.0	0.9	0.7	0.7	1.0	0.8	0.8	1.1
One to two hours	0.6	0.5	1.1	1.0	1.2	1.2	0.9	1.3	1.3	1.5	1.2	1.2	1.4	1.2	0.9	1.1	0.8	0.6	0.8	1.3
Three to six hours	0.7	0.8	1.1	1.2	1.4	1.6	1.8	1.7	1.7	2.1	1.9	2.3	2.1	2.0	2.0	1.9	1.7	2.0	1.2	1.2
Seven to 24 hours	0.2	0.3	0.2	0.2	0.3	0.2	0.5	0.6	0.5	0.6	0.6	0.3	0.5	0.9	0.7	0.7	0.5	0.8	0.6	0.4
More than 24 hours	0.1	0.1	0.0	0.1	0.0	0.1	0.3	0.1	0.0	0.1	0.1	0.1	0.1	0.0	0.0	0.1	0.2	0.1	0.1	0.2
Approximate weighted N =	*2,495*	*2,291*	*2,465*	*2,468*	*2,202*	*2,047*	*2,032*	*2,088*	*2,352*	*2,365*	*2,353*	*2,293*	*2,333*	*2,214*	*2,209*	*2,252*	*2,258*	*2,174*	*2,033*	*1,965*

Source. The Monitoring the Future study, the University of Michigan.

[a]These questions appear in just one form. They are asked only of respondents who report use of the drug in the prior 12 months (i.e., recent users).

TABLE 7-8
ALCOHOL
Trends in Degree and Duration of Feeling High in Grade 12

(Entries are percentages.)

(Years cont.)

When you drink alcoholic beverages how high do you usually get? [a]	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
% of Recent Users																				
Not at all high	23.6	21.6	20.6	19.1	19.6	20.7	18.9	18.9	18.8	19.0	19.7	18.5	18.8	20.0	22.1	23.0	20.6	24.2	23.8	19.7
A little high	33.8	32.3	32.8	33.9	33.6	32.6	33.8	32.6	35.8	34.0	34.8	34.7	34.4	34.2	34.4	32.3	36.8	32.5	32.2	32.7
Moderately high	35.9	38.0	39.6	39.9	38.7	39.7	41.4	40.9	38.8	39.2	38.5	39.8	38.8	38.2	35.9	36.2	34.0	35.6	36.5	38.3
Very high	6.6	8.1	7.0	7.1	8.1	7.0	5.8	7.5	6.7	7.8	7.1	7.1	8.0	7.6	7.6	8.5	8.6	7.7	7.5	9.2
Approximate weighted N =	*2,419*	*2,368*	*2,578*	*3,124*	*2,764*	*2,709*	*2,912*	*2,958*	*2,808*	*2,601*	*2,618*	*2,531*	*2,718*	*2,755*	*2,211*	*1,965*	*1,898*	*1,965*	*1,960*	*1,866*
% of All Respondents																				
No use in last 12 months	15.2	14.3	13.0	12.3	12.5	13.2	14.7	14.1	14.1	17.1	16.1	16.0	14.6	14.8	18.8	21.2	22.7	23.6	25.4	26.4
Not at all high	20.0	18.5	17.9	16.8	17.2	18.0	16.2	16.2	16.2	15.8	16.5	15.5	16.0	17.0	18.0	18.1	15.9	18.5	17.8	14.5
A little high	28.7	27.7	28.5	29.7	29.4	28.3	28.9	28.0	30.7	28.2	29.2	29.1	29.4	29.2	28.0	25.5	28.5	24.8	24.0	24.1
Moderately high	30.4	32.6	34.5	35.0	33.8	34.4	35.3	35.2	33.3	32.5	32.3	33.4	33.1	32.6	29.2	28.5	26.3	27.2	27.2	28.2
Very high	5.6	6.9	6.1	6.2	7.1	6.1	5.0	6.5	5.7	6.5	5.9	6.0	6.8	6.5	6.1	6.7	6.7	5.9	5.6	6.8
Approximate weighted N =	*2,853*	*2,763*	*2,963*	*3,562*	*3,159*	*3,122*	*3,413*	*3,443*	*3,268*	*3,137*	*3,120*	*3,011*	*3,183*	*3,232*	*2,721*	*2,493*	*2,454*	*2,572*	*2,627*	*2,533*
When you drink alcoholic beverages how long do you usually stay high? [a]																				
% of Recent Users																				
Usually don't get high	25.7	24.6	22.6	21.3	21.7	22.7	20.9	20.5	21.4	20.3	21.5	20.9	20.8	22.9	24.2	24.7	23.0	27.0	26.1	22.5
One to two hours	40.5	38.5	38.8	39.8	41.9	39.5	40.3	41.3	40.8	42.2	41.5	40.6	43.8	42.0	41.3	39.4	40.1	37.3	38.8	40.5
Three to six hours	30.1	33.8	34.8	35.7	32.7	33.8	35.6	34.4	33.7	33.1	33.5	34.9	31.5	32.1	31.6	31.7	31.7	30.7	30.4	32.2
Seven to 24 hours	3.4	3.0	3.5	3.1	3.4	3.8	3.1	3.4	3.9	4.0	3.1	3.2	3.7	2.9	2.8	4.0	4.6	4.7	4.3	4.2
More than 24 hours	0.2	0.2	0.3	0.1	0.2	0.2	0.1	0.4	0.3	0.3	0.4	0.4	0.2	0.1	0.2	0.3	0.6	0.3	0.3	0.6
Approximate weighted N =	*2,403*	*2,358*	*2,547*	*3,098*	*2,746*	*2,697*	*2,892*	*2,947*	*2,792*	*2,588*	*2,608*	*2,509*	*2,711*	*2,748*	*2,202*	*1,949*	*1,884*	*1,951*	*1,950*	*1,857*
% of All Respondents																				
No use in last 12 months	15.2	14.3	13.0	12.3	12.6	13.3	14.8	14.1	14.1	17.1	16.1	16.1	14.7	14.8	18.8	21.3	22.8	23.7	25.5	26.4
Usually don't get high	21.8	21.1	19.7	18.7	19.0	19.7	17.8	17.6	18.3	16.9	18.0	17.5	17.8	19.5	19.6	19.4	17.8	20.6	19.5	16.5
One to two hours	34.3	33.0	33.8	34.9	36.6	34.2	34.3	35.5	35.0	35.0	34.8	34.1	37.4	35.8	33.5	31.0	31.0	28.5	28.9	29.8
Three to six hours	25.5	29.0	30.3	31.3	28.6	29.3	30.4	29.6	28.9	27.4	28.1	29.3	26.9	27.3	25.6	24.9	24.4	23.4	22.7	23.7
Seven to 24 hours	2.9	2.6	3.0	2.7	3.0	3.3	2.7	2.9	3.3	3.4	2.6	2.7	3.2	2.5	2.2	3.2	3.5	3.6	3.2	3.1
More than 24 hours	0.2	0.2	0.3	0.1	0.2	0.2	0.1	0.3	0.2	0.2	0.3	0.4	0.2	0.1	0.2	0.2	0.5	0.2	0.2	0.4
Approximate weighted N =	*2,834*	*2,751*	*2,928*	*3,532*	*3,142*	*3,109*	*3,393*	*3,431*	*3,252*	*3,124*	*3,110*	*2,990*	*3,177*	*3,226*	*2,712*	*2,477*	*2,441*	*2,558*	*2,616*	*2,525*

(Table continued on next page.)

TABLE 7-8 (cont.)
ALCOHOL
Trends in Degree and Duration of Feeling High in Grade 12

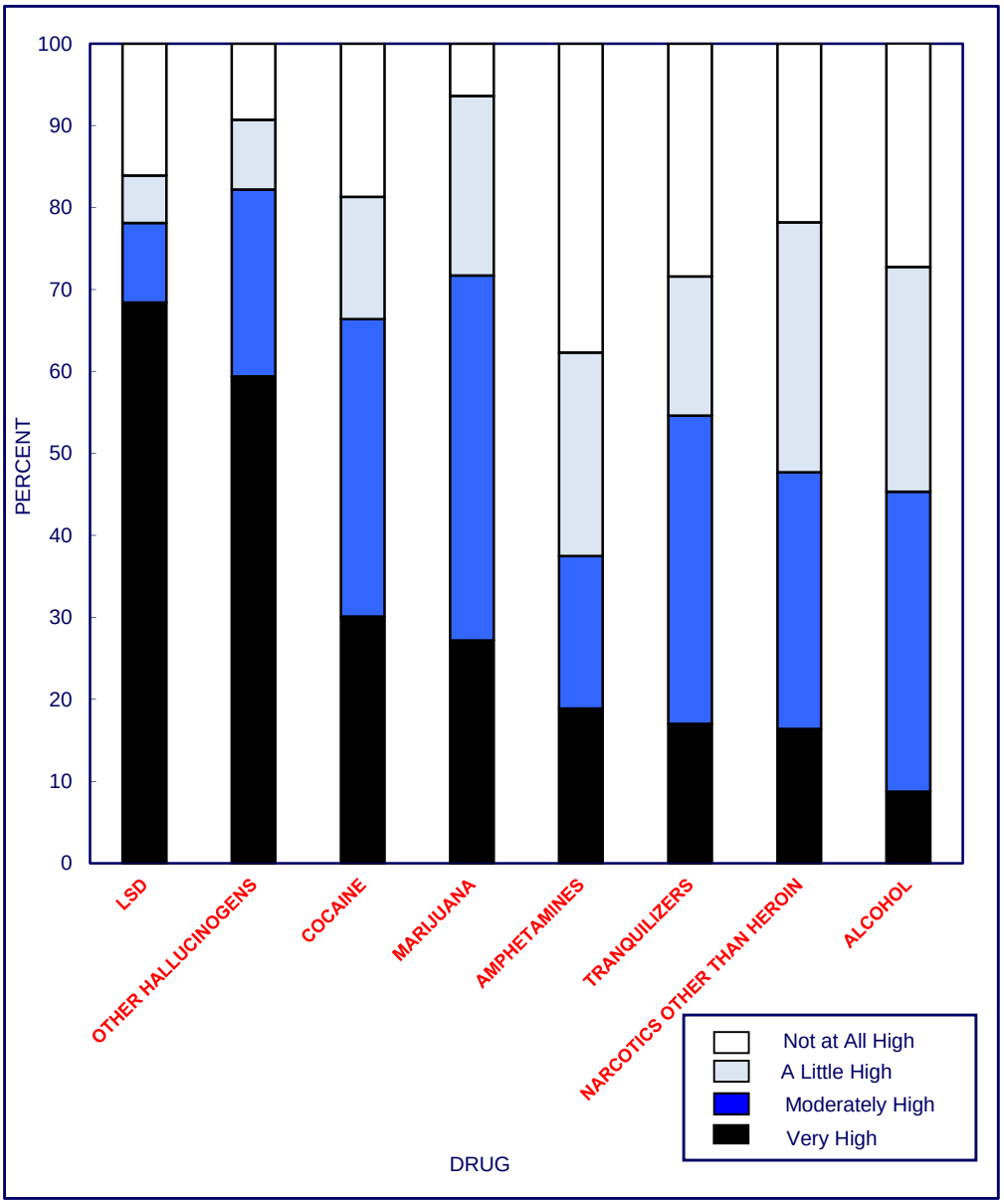
(Entries are percentages.)

When you drink alcoholic beverages how high do you usually get? [a]	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
% of Recent Users																				
Not at all high	20.7	23.2	22.0	20.6	21.1	22.4	20.5	23.2	21.0	23.5	23.6	25.0	28.0	29.7	26.0	31.4	30.0	31.2	27.5	27.3
A little high	32.6	29.9	28.9	29.8	27.3	26.1	26.7	30.1	28.6	25.8	25.3	27.6	26.9	27.7	30.3	26.0	26.8	26.3	23.5	27.4
Moderately high	36.5	35.5	37.5	37.5	41.7	38.8	40.9	35.1	37.6	37.6	38.7	35.2	33.9	32.8	33.6	32.1	34.3	33.1	38.6	36.6
Very high	10.1	11.4	11.6	12.1	10.0	12.7	11.8	11.7	12.9	13.1	12.4	12.2	11.2	9.8	10.0	10.4	9.0	9.5	10.4	8.7
Approximate weighted N =	*1,867*	*1,664*	*1,915*	*1,874*	*1,619*	*1,567*	*1,591*	*1,530*	*1,691*	*1,785*	*1,712*	*1,629*	*1,676*	*1,608*	*1,565*	*1,617*	*1,546*	*1,502*	*1,365*	*1,308*
% of All Respondents																				
No use in last 12 months	25.7	28.2	24.7	25.6	27.0	26.2	24.2	28.7	30.1	26.5	29.9	30.0	30.1	30.4	30.5	31.9	33.7	33.1	35.3	36.6
Not at all high	15.4	16.6	16.6	15.3	15.4	16.6	15.6	16.5	14.7	17.3	16.5	17.5	19.6	20.7	18.1	21.4	19.9	20.9	17.8	17.3
A little high	24.2	21.5	21.8	22.2	19.9	19.3	20.2	21.4	20.0	18.9	17.8	19.3	18.8	19.3	21.1	17.7	17.7	17.6	15.2	17.4
Moderately high	27.1	25.5	28.2	27.9	30.5	28.6	31.0	25.1	26.3	27.7	27.1	24.6	23.7	22.8	23.4	21.9	22.7	22.2	25.0	23.2
Very high	7.5	8.2	8.7	9.0	7.3	9.4	9.0	8.3	9.0	9.7	8.7	8.6	7.8	6.8	7.0	7.1	6.0	6.3	6.7	5.5
Approximate weighted N =	*2,514*	*2,318*	*2,542*	*2,517*	*2,217*	*2,123*	*2,099*	*2,145*	*2,418*	*2,427*	*2,441*	*2,328*	*2,399*	*2,311*	*2,252*	*2,373*	*2,331*	*2,244*	*2,109*	*2,064*
When you drink alcoholic beverages how long do you usually stay high? [a]																				
% of Recent Users																				
Usually don't get high	23.2	25.3	23.5	22.6	22.5	24.6	21.5	24.9	22.3	24.6	25.2	27.0	30.2	32.3	28.0	31.2	32.0	31.7	26.6	27.6
One to two hours	36.7	33.1	33.6	36.8	32.3	32.2	33.7	33.7	32.7	31.5	31.0	32.1	28.9	27.4	33.4	28.4	28.5	31.3	28.7	33.4
Three to six hours	34.2	35.7	36.9	34.5	39.6	37.0	38.5	35.7	39.1	36.5	37.4	34.7	34.3	33.9	32.9	33.6	33.7	31.9	38.0	33.9
Seven to 24 hours	5.4	5.3	5.2	5.7	5.1	5.4	5.6	5.1	5.4	6.7	5.5	5.7	5.8	6.0	4.9	5.8	5.0	4.5	6.0	4.6
More than 24 hours	0.6	0.5	0.9	0.5	0.5	0.9	0.7	0.6	0.6	0.6	0.9	0.5	0.8	0.4	0.8	1.0	0.9	0.7	0.7	0.6
Approximate weighted N =	*1,849*	*1,657*	*1,897*	*1,853*	*1,614*	*1,552*	*1,586*	*1,523*	*1,681*	*1,775*	*1,698*	*1,625*	*1,664*	*1,601*	*1,561*	*1,606*	*1,535*	*1,498*	*1,361*	*1,304*
% of All Respondents																				
No use in last 12 months	25.9	28.3	24.8	25.8	27.0	26.4	24.3	28.8	30.2	26.6	30.1	30.1	30.3	30.5	30.6	32.0	33.8	33.1	35.3	36.7
Usually don't get high	17.2	18.2	17.6	16.8	16.4	18.1	16.3	17.7	15.5	18.1	17.7	18.8	21.0	22.5	19.4	21.2	21.4	21.2	17.2	17.5
One to two hours	27.2	23.7	25.3	27.3	23.6	23.7	25.5	24.0	22.8	23.2	21.7	22.5	20.2	19.0	23.2	19.3	18.8	20.9	18.6	21.1
Three to six hours	25.3	25.6	27.7	25.6	28.9	27.2	29.2	25.5	27.3	26.8	26.2	24.2	23.9	23.6	22.9	22.8	22.3	21.3	24.6	21.5
Seven to 24 hours	4.0	3.8	3.9	4.2	3.7	3.9	4.2	3.6	3.8	4.9	3.8	4.0	4.1	4.2	3.4	3.9	3.3	3.0	3.9	2.9
More than 24 hours	0.4	0.4	0.7	0.4	0.4	0.7	0.5	0.4	0.4	0.5	0.6	0.4	0.6	0.3	0.5	0.7	0.6	0.5	0.5	0.4
Approximate weighted N =	*2,496*	*2,311*	*2,524*	*2,497*	*2,211*	*2,108*	*2,095*	*2,138*	*2,408*	*2,418*	*2,427*	*2,324*	*2,387*	*2,304*	*2,248*	*2,362*	*2,320*	*2,241*	*2,105*	*2,060*

Source. The Monitoring the Future study, the University of Michigan.

[a]These questions appear in just one form. They are asked only of respondents who report use of the drug in the prior 12 months (i.e., recent users).

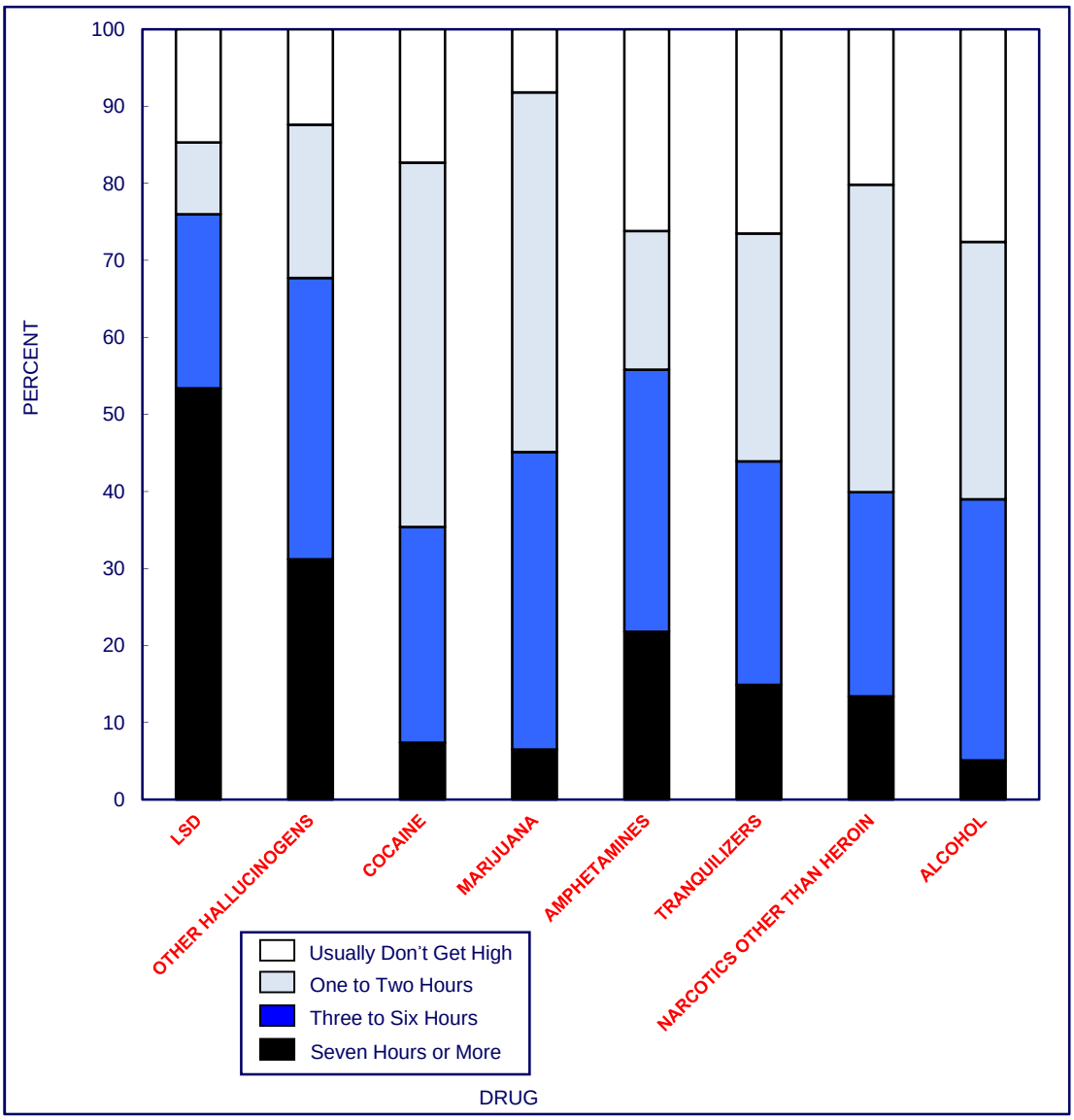
FIGURE 7-1
Degree of Drug Highs Attained by Recent Users for Various Drugs in Grade 12
2014



Source. The Monitoring the Future study, the University of Michigan.

Note. Data are based on answers from respondents reporting any use of the drug in the prior 12 months. Heroin is not included in this figure because these particular questions are not asked of the small number of heroin users.

FIGURE 7-2
Duration of Drug Highs Attained by Recent Users for Various Drugs in Grade 12
2014

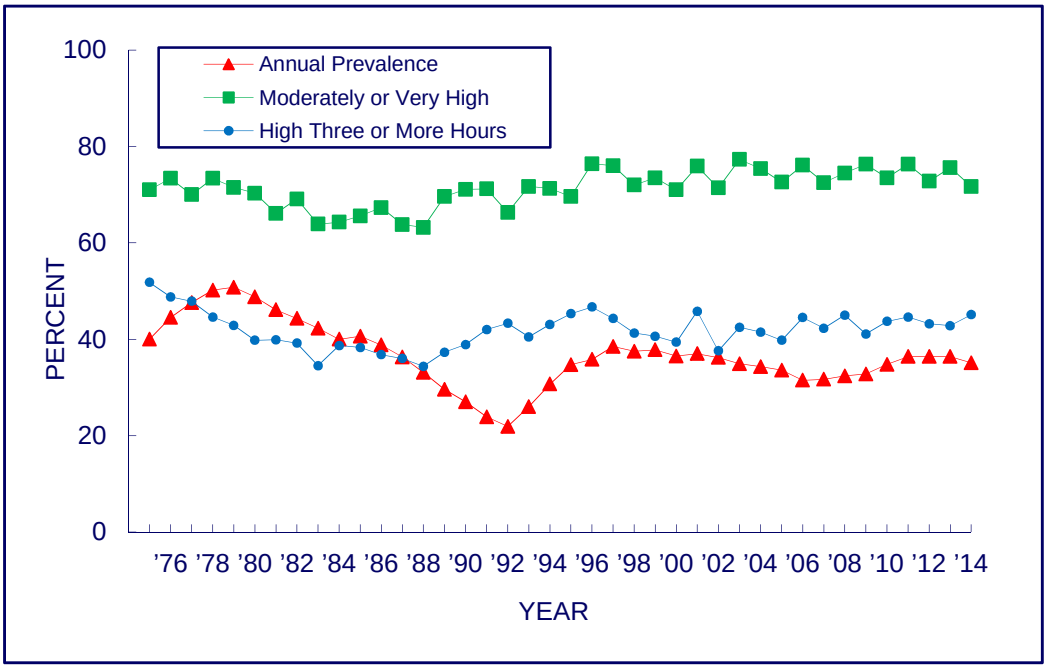


Source. The Monitoring the Future study, the University of Michigan.

Note. Data are based on answers from respondents reporting any use of the drug in the prior 12 months. Heroin is not included in this figure because these particular questions are not asked of the small number of heroin users.

FIGURE 7-3

Marijuana: Trends in Annual Prevalence, Percent of Recent Users Getting Moderately or Very High, and Percent of Recent Users Staying High 3 or More Hours in Grade 12



Source. The Monitoring the Future study, the University of Michigan.

Note. Recent users is defined as respondents reporting any use of marijuana in the prior 12 months.

Chapter 8

ATTITUDES AND BELIEFS ABOUT DRUG USE

Guided by its theoretical conceptual framework, MTF measures key factors that have proved to be central to the explanation of differences and changes in drug use. These factors include in particular perceived risk of harm and personal disapproval. Indeed, one of MTF's most important theoretical and empirical contributions to the general understanding of young people's drug use has been to demonstrate that changes in beliefs and attitudes about drugs have been important determinants of trends, both upward and downward, in the use of many drugs.

The cross-time results for three of these important sets of attitude and belief measures are provided in this chapter: (a) 8th-, 10th-, and 12th-grade students' beliefs about how *harmful* the various kinds of drug use are for the user, (b) the degree to which students personally *disapprove* of various kinds of drug use, and (c) 12th graders' attitudes about various forms of *legal prohibitions* to using drugs. In the next chapter we present results on the closely related topics of parents' and friends' attitudes about drugs, as students perceive them, as well as on various other aspects of the social context, including perceived availability and the extent of exposure to people using drugs.

The data presented in this chapter show inverse relationships at the aggregate level between the level of reported use of a drug and the levels of perceived risk and disapproval of using that drug. For example, among 10th and 12th graders, marijuana is the illicit drug with the highest level of use and one of the lowest levels of perceived risk and disapproval. These relationships suggest that individuals who believe that the use of a particular drug involves risk of harm, and/or who disapprove of its use, are less likely to use that drug; indeed, strong correlations also exist at the individual level between use of a drug and attitudes and beliefs about that drug.[1] Students who use a given drug are less likely to disapprove of its use or to see its use as dangerous.

Many attitudes and beliefs about specific drugs have changed dramatically during the life of the study, as have actual drug-using behaviors. Beginning in 1979, scientists, policymakers, and the media gave considerable attention to young people's increasing level of regular marijuana use as reported by this study and to the potential hazards associated with such use. As discussed later in this chapter, 12th graders' attitudes and beliefs about the regular use of marijuana shifted in a more conservative direction after 1979—a shift that coincided with a reversal in the previous, rapid rise of daily use and that very likely reflected the impact of the increased public attention and a greater focus on adverse consequences. Between 1986 and 1987, a similar and even more dramatic shift occurred for cocaine use and continued for some years. During much of the 1990s, however, there was an important turnaround or "relapse" in these attitudes, accompanied by an increased use of numerous illicit drugs, in particular marijuana. In the early 2000s, increased recognition of the hazards of ecstasy use appeared to contribute to a sharp downturn in use of that particular drug, as we had predicted.

[1] Johnston, L. D. (2003). Alcohol and illicit drugs: The role of risk perceptions. In D. Romer (Ed.), *Reducing adolescent risk: Toward an integrated approach* (pp. 56–74). Thousand Oaks, CA: Sage. Available at http://www.monitoringthefuture.org/pubs/chapters/ldj2003.pdf

PERCEIVED HARMFULNESS OF DRUG USE

Beliefs about Harmfulness among Twelfth Graders

For many drugs, the level of risk attributed to use varies considerably with the intensity of use being considered. Expecting this to be the case, we structured the questions about illicit drugs to differentiate among "using once or twice," "using occasionally," and "using regularly." (Questions about the harmfulness of alcohol and tobacco use also specify different levels of use appropriate to those substances.) The respondent is asked, "How much do you think people risk harming themselves (physically or in other ways), if they . . . ?" The sentence is completed with a number of phrases indicating increasing drug use, such as the series ". . . try marijuana once or twice," ". . . smoke marijuana occasionally," and ". . . smoke marijuana regularly."

Risk from Regular use

- A substantial majority of 12th graders perceive that *regular use* of ***any illicit drug*** entails a great risk of harm for the user. As Table 8-3 shows, 86% of 12th graders perceive a great risk of harm from regular use of ***heroin***, and from regular use of ***crack*** (82%), ***cocaine*** (81%), and ***cocaine powder*** (82%). Nearly two thirds (63%) of 12th graders attribute great risk to regular use of ***LSD***, and more than half (55%) do so for regular use of ***amphetamines***. About half of all 12th graders think that regular use of ***sedatives*** (***barbiturates***) (51%) involves a great risk of harm to the user. Just over a third (36%) think that regular use of marijuana carries a great risk.

- About three quarters of 12th graders (78%) judge smoking one or more packs of ***cigarettes*** per day as entailing a great risk of harm for the user.

- Regular use of ***alcohol*** is more explicitly defined in several questions providing specificity on the amount of use. About one fifth of 12th graders (21%) associate great risk of harm with having one or two drinks nearly every day, nearly one half (45%) think there is great risk involved in having five or more drinks once or twice each weekend, and about three fifths (61%) think the user takes a great risk in consuming four or five drinks nearly every day. Still, it is noteworthy that over a third (39%) do *not* view even heavy daily drinking as entailing great risk.

- ***E-cigarettes*** have one of the lowest levels of perceived risk of all drugs surveyed. In 2014, the first year that MTF included questions on e-cigarettes, 14% of 12th-grade students perceived great harm in regular use of e-cigarettes.

Risk from Experimental use

- Far fewer respondents believe that a person runs a great risk of harm by trying a drug once or twice, which we refer to here as *experimental use*. Still, substantial proportions of 12th graders view even experimenting with most of the illicit drugs as risky. The percentages associating great risk with experimental use rank as follows:

Crystal methamphetamine (ice)	70%
Heroin without using a needle	65%
Heroin	63%
Synthetic stimulants (bath salts)	59%
Anabolic steroid	55%
Crack	55%
PCP	54%
Cocaine	54%
Cocaine powder	50%
Ecstasy (MDMA)	48%
Narcotics other than heroin	43%
LSD	36%
Amphetamines	34%
Adderall	34%
Synthetic marijuana	33%
Sedatives (barbiturates)	30%
Salvia	14%
Marijuana	13%

Note that many of the prescription-type drugs are perceived as having quite low risk, which we believe helps to explain the relatively high levels of use of these drugs in the last decade and a half. (Perceived risk of another prescription drug category, tranquilizers, is not asked.)

- In contrast, only 13% of 12th graders see experimenting with ***marijuana*** as entailing great risk. Only slightly more (16%) see great risk in occasional use.

- Just 9% of 12th graders believe there is much risk involved in trying one or two drinks of an ***alcoholic beverage***.

Eighth and Tenth Graders' Beliefs about Harmfulness

An abbreviated set of the same questions on perceived harmfulness has been asked of 8th and 10th graders since they were first included in MTF in 1991. Perceived harmfulness of ***inhalant*** use is not asked of 12th graders, but is included in the 8th- and 10th-grade questionnaires. Questions about other drugs have been added to and retained in the 8th- and 10th-grade questionnaires as their inclusion has been indicated: ***LSD*** (since 1993), ***heroin without a needle*** (since 1995), ***smoking one to five cigarettes per day*** (added in 1999), ***ecstasy*** (since 2001), and ***e-cigarettes*** (for all grades in 2014). A question about perceived risk of anabolic ***steroid*** use was dropped in 1995 because at that time steroid use was rather stable, and it was judged desirable to replace the question with one about another drug. In 2012 questions on perceived risk were included for a number of drugs that have been added to the survey in recent years: ***Salvia***, ***synthetic marijuana***, ***bath salts***, ***Adderall***, ***OxyContin***, ***Vicodin***, ***cough/cold medicines*** used to get high, ***dissolvable tobacco***, and ***snus***. In 2014 the survey added questions on perceived risk of regular use of e-cigarettes and cigarillos. In general, the findings for 8th and 10th graders are similar to those for 12th graders, but some interesting differences are noted below.

- The most important difference is observed for ***regular cigarette smoking***. Unfortunately, perceived risk is lowest at the ages when initiation is most likely to occur. While about three quarters of 12th graders (78%) see great risk in smoking a pack a day or more, fewer 10th graders (72%) and even fewer 8th graders (62%) see this level of risk. The fact that eventual dropouts are included in the lower grades accounts for some of that difference, but given their limited numbers, it is unlikely that dropouts account for all of it. This developmental trend of increasing perceived risk with age for tobacco use is counter to the more general trend of decreasing perceived risk for most substances.

- Relatively few students see great risk in ***smoking one to five cigarettes per day*** (42% of 8th graders and 52% of 10th graders). (Twelfth graders are not asked this question.) These low proportions seeing great risk suggest that many students are not taking into account that a relatively light smoker runs a substantial risk of becoming a heavy, dependent user.

- Regular use of ***smokeless tobacco*** is viewed as entailing great risk by 35% of 8th graders, 40% of 10th graders, and 41% of 12th graders, meaning that well over half do not see great risk of harm. Again, because this behavior is often initiated at early ages, these figures are disturbingly low.

- As with 12th graders, ***e-cigarettes*** have one of the lowest levels of perceived risk of all drugs surveyed among 8th and 10th graders. In 2014, the first year that MTF included questions on e-cigarettes, 15% of 8th-grade students and 14% of 10th-grade students perceived great harm in regular use of e-cigarettes.

- In contrast, the younger students, particularly 8th graders, are somewhat *more* likely than 12th graders to see ***marijuana*** use as dangerous. For example, in 2014, 8th graders (37%) are considerably more likely than 12th graders (16%) to see occasional marijuana use as entailing great risk of harm. (Tenth graders fall in between at 24%.)

- Eighth and 10th graders are slightly more likely than 12th graders to see weekend ***binge drinking*** as dangerous: 54% for 8th graders, 54% for 10th graders, and 45% for 12th graders. The younger students are also somewhat more likely than 12th graders to see ***daily drinking*** (one or two drinks nearly every day) and experimentation as risky.

- The pattern for ***ecstasy*** (***MDMA***) use is similar to that for cigarettes, with younger students seeing less risk in its use than older students: 24% of 8th graders, 37% of 10th graders, and 48% of 12th graders see great risk in trying ecstasy.

- Experimentation with ***inhalants*** is seen as dangerous by relatively low proportions of 8th and 10th graders (35% and 43%, respectively); these younger students are the ones most likely to be using inhalants. (The question about risk of inhalant use is not asked of 12th graders.)

- Despite considerable media coverage of young people having severe adverse reactions after using what they believed to be ***synthetic marijuana***, relatively few students see experimenting with it as dangerous: 24% in 8th grade, 25% in 10th grade, and 33% in grade 12.

- Compared to risk perception of experimentation with synthetic marijuana use, experimentation with ***bath salts*** is seen as risky by higher proportions of students: 37%, 50%, and 59% in grades 8, 10, and 12, respectively. This age trend of increased perceived danger is similar to what is found for tobacco use and MDMA noted above.

TRENDS IN PERCEIVED HARMFULNESS OF DRUG USE

Trends in Perceived Harmfulness among Twelfth Graders

Several very important trends in student beliefs about the dangers associated with using various drugs have occurred over the life of the study. (See the upper panels of the "a" versions of Figures 8-1 through 8-3 and Figures 8-7 through 8-13, e.g., Figure 8-1a. See also Table 8-3 for tabular data.) For most of the drugs discussed here, the prior monograph[2] in the 2015 series has trends in use, risk, disapproval, and perceived availability all graphed on the same page, making it easier to see the connection between use and these other variables.

- Some of the most important trends have involved ***marijuana*** use (see Figure 8-1a). Currently, the proportion of 12th-grade students who perceive risk of harm from regular use is at the lowest level recorded in 37 years, and the second-lowest level ever recorded by the survey. It stands at 36%, and has been in a steady decline since 2006. This trend is concerning because low levels of perceived risk have closely tracked with, and many times preceded, increases in marijuana prevalence, as illustrated in Figure 8-4. Until very recently, perceived risk and levels of use have served as a mirror image of each other, with an increase in risk tracking with decreased levels of use.

  Specifically, from the beginning of the study in 1975 through 1978, the degree of harmfulness perceived to be associated with all levels of marijuana use declined as use increased sharply (see Figure 8-4). In 1979, for the first time, the proportion of 12th graders seeing risk to the user increased. This increase in perceived risk *preceded* an appreciable downturn in use (which began a year later in 1980) and continued fairly steadily through 1991, as use fell dramatically. However, in 1992 perceived risk began to drop again, which presaged a sharp increase in use beginning in 1993. As Figures 8-1a and 8-4 illustrate, perceived risk continued to drop and use continued to rise until 1997. This clear and consistent concordance in trends supports our contention that changes in beliefs about the harmfulness of marijuana use played a critical role in causing both the downturn and the subsequent upturn in use. In both cases, the reversal in perceived risk preceded the reversal in actual use by a year. This pattern became evident again in 2003, as perceived risk for marijuana increased until 2006 while use declined, and between 2006 and 2012, when perceived risk of regular use declined while use rose. (The decline in risk continued into 2014).

  In the earlier years of MTF, the largest increase (in absolute terms) in perceived risk occurred for ***regular marijuana use***. The proportion of 12th graders who viewed regular

[2] Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2014). *Monitoring the Future national survey results on drug use: 1975-2013: Overview, key findings on adolescent drug use.* Ann Arbor: Institute for Social Research, University of Michigan. Available at http://monitoringthefuture.org/pubs/monographs/mtf-overview2013.pdf

marijuana use as involving a great risk doubled in just seven years from 35% to 70% between 1978 and 1985. Subsequently, the proportion increased more slowly, reaching 79% by 1991. That dramatic change occurred during a period when a substantial amount of scientific and media attention was devoted to the potential dangers of heavy marijuana use. Young people also had ample opportunity for vicarious learning about the effects of heavy use through observation, because such use was widespread among their peers. (In 1978, one in nine 12th graders was an active daily marijuana user.) Concerns about the harmfulness of occasional and experimental use also increased, and those increases were even larger in proportional terms, though not in absolute terms. For example, the proportion of 12th graders seeing great risk in ***trying marijuana*** rose from 8% in 1978 to 27% in 1991, and for ***occasional marijuana use*** perceived risk rose from 12% to 41% over the same interval.

There are several possible and interconnected explanations for the turnaround and decline in perceived risk of marijuana use during the early 1990s. First, some of the forces that gave rise to the earlier increases in perceived risk became less influential: (a) because of lower use rates overall, fewer students had opportunities for vicarious learning by observing firsthand the effects of heavy marijuana use among their peers; (b) media coverage of the harmful effects of drug use, as well as of incidents resulting from drug use (particularly marijuana), decreased substantially in the early 1990s (as has been documented by media surveys of national news programs); (c) media coverage of the antidrug advertising campaign of the Partnership for a Drug-Free America also declined appreciably (as documented by both the Partnership and our own data from 12th graders on their levels of recalled exposure to such ads)[3]; and (d) congressional funding for drug abuse prevention programs and curricula in the schools was cut appreciably in the early 1990s. In addition, forces encouraging use became more visible; in particular, a number of rap, grunge, and rock groups started to sing the praises of using marijuana (and sometimes other drugs), perhaps influencing young people to think that using drugs might not be so dangerous after all. Finally, the drug experiences of many parents may have inhibited them from discussing drugs with their children, and may have caused them uncertainty in knowing how to handle the apparent hypocrisy of telling their children not to do what they themselves had done as teens. We believe that all of these factors may have contributed to the resurgence of marijuana use in the 1990s.

By the mid-1990s, many of these sources of influence had reversed direction, laying the groundwork for an end to the rise in marijuana use (and illicit drug use more generally). First, because there was considerably more use among young people and among many of their public role-model groups, the opportunity for vicarious learning by observing the consequences of use began to increase. And as MTF and other studies began to call the public's attention to the resurgence of the drug epidemic among youth, news stories on the subject increased substantially. Other institutions also changed their ways. The recording industry appeared to be producing fewer pro-drug lyrics and messages, in large part because of growing concern about overdose deaths among their artists. (A similar dynamic seems to have occurred in the fashion industry with the resulting demise of the "heroin chic.") Various government initiatives to prevent drug use by young people were launched,

[3] Terry-McElrath, Y. M., Emery, S., Szczypka, G., & Johnston, L. D. (2011). Potential exposure to anti-drug advertising and drug-related attitudes, beliefs, and behaviors among United States youth, 1995-2006. Addictive Behaviors, 36, 116-124. doi:10.1016/j.addbeh.2010.09.005.

including the Department of Health and Human Services (DHHS) Secretary's Marijuana Use Prevention Initiative. This initiative was launched at the 1994 annual national press conference reporting the MTF results. Federal funding for drug prevention in schools also increased appreciably.

In addition, parents were repeatedly exhorted to talk to their children about drugs, and it appears from other surveys that more of them did so. In the late 1990s, a federally sponsored media campaign involving paid advertising was initiated. MTF data indicate that the campaign reached increasing numbers of young people over a period of several years.[4]

- Trends among 12th graders in their perceived risk of ***regular marijuana use*** and 30-day prevalence of marijuana use are combined in Figure 8-4 to illustrate more clearly their degree of covariance over time, which we interpret as reflecting a causal connection.[5] The trend line for the perceived availability of marijuana is included in Figure 8-4 to show its relative stability (particularly from 1975 to 1992) and, thus, its inability to explain the substantial fluctuations in usage levels over that time period. We have hypothesized that perceived risk operates not only directly on the individual's use, but also indirectly through its impact on personal disapproval. In turn, personal disapproval operates directly on use and, in the collective, indirectly by influencing peer norms. (See Chapter 9 for evidence on how closely perceptions of friends' disapproval track personal disapproval at the aggregate level.) Presumably there is some lag in these indirect effects: while 12th graders' perceived risk began to fall in 1992, their personal disapproval did not begin to decline for experimental marijuana use until 1993, when it dropped sharply and use began to rise sharply. These shifts continued through 1997.

  From 1997 through 2002, there was some decline in perceived risk of regular use of marijuana, but no further increase in use; in fact, actual use declined slightly (by about two percentage points in 2002 for all three measures—monthly, annual, and lifetime). This pattern was, of course, not consistent with the earlier findings of risk and use moving in opposite directions. The decline in use of marijuana without a corresponding (or leading) increase in perceived risk associated specifically with that drug may reflect some general decrease in young people's motivation to use drugs (conceivably associated with the shock of the 9-11 events in late 2001), or possibly a change in some other predisposing factor, such as the decline in cigarette smoking (which is strongly correlated with marijuana use). However, perceived risk increased from 2003 to 2006 among 12th graders, and their use declined in that interval, consistent with the more general pattern of use declining with increases in perceived risk. Between 2006 and 2013, perceived risk of regular use declined,

[4] For example, see Johnston, L. D. (2002, June 19). Written and oral testimony presented at hearings on the National Youth Anti-Drug Media Campaign, held by the Treasury and General Government Subcommittee on Appropriations of the U.S. Senate Appropriations Committee. Published in *The Congressional Record.*

[5] We have addressed elsewhere an alternate hypothesis—that a general shift toward a more conservative lifestyle might have accounted for the shifts in both attitudes and behaviors. The empirical evidence tended to contradict that hypothesis. See Bachman, J. G., Johnston, L. D., O'Malley, P. M., & Humphrey, R. H. (1988). Explaining the recent decline in marijuana use: Differentiating the effects of perceived risks, disapproval, and general lifestyle factors. *Journal of Health and Social Behavior, 29,* 92–112. Johnston also showed that an increasing proportion of the quitters of and abstainers from marijuana use reported concern over the physical and psychological consequences of use as reasons for their non-use. See Johnston, L. D. (1982). A review and analysis of recent changes in marijuana use by American young people. In *Marijuana: The national impact on education* (pp. 8–13). New York: American Council on Marijuana. The role of perceived risk in the period of more recent increase in marijuana use in the 1990s is addressed in Bachman, J. G., Johnston, L. D., & O'Malley, P. M. (1998). Explaining the recent increases in students' marijuana use: The impacts of perceived risks and disapproval from 1976 through 1996. *American Journal of Public Health, 88,* 887–892.

while use (30-day prevalence) rose steadily, at least through 2012. The fact that the decline in risk continued into 2014 (down 19 percentage points between 2006 and 2013) suggests that there may be additional increases in use in the future.

- Like marijuana, ***cocaine*** has shown a pattern of closely corresponding trends between perceived risk and actual use among 12th graders (see Figure 8-5). In 2014 the proportion of 12th-grade students who perceive great risk in trying cocaine once or twice is 54%, where it has hovered for the past two decades. Use levels have also changed little during this period. The tight, mirror-image correspondence between perceived risk and levels of use is illustrated most clearly in the 1970s and 1980s. First, the percentage who perceived great risk in ***trying cocaine*** once or twice dropped steadily from 43% to 31% between 1975 and 1980, corresponding to a period of rapidly increasing annual prevalence of use. However, rather than reversing sharply, as did perceived risk for marijuana use, perceived risk for experimental cocaine use moved rather little from 1980 to 1986, corresponding to a fairly stable period in actual use. Then, from 1986 to 1987, perceived risk for experimenting with cocaine jumped abruptly from 34% to 48% in a single year, and in that year the first significant decline in use took place. From 1987 to 1990, perceived risk continued to rise as use fell.

  Correspondence between perceived risk of trying cocaine and levels of actual use can also be seen in the 1990s, although the changes are smaller. An increase in perceived risk of cocaine use ended in 1991, similar to the trend for marijuana. Perceived risk began to fall in 1992, and a year later actual use began rising among 12th graders (see Figure 8-5). The significant reversal of trends in beliefs set the stage for a resurgence in use, particularly when combined with the fact that the proportions of students using two of the so-called "gateway drugs"—cigarettes and marijuana—had also been rising. From 1992 to 1999, the proportion of 12th graders using cocaine in the prior 12 months rose steadily from 3.1% to 6.2% before decreasing significantly to 5.0% in 2000, with little change for some years after that.

  The decline in 12th graders' cocaine use in 2000 was not accompanied by any increase in perceived risk or disapproval. Thus, there must be other reasons for the decline. One possibility is that the decline reflects a more general antidrug attitude among 12th graders. Another possibility is that some other drug may have been substituting for cocaine to some extent—quite possibly ***ecstasy*** (***MDMA***), which was rising in popularity that year.

  Levels of actual cocaine use track more closely with trends in perceived risk of experimental cocaine use than they with perceived risk of regular cocaine use. As we had predicted earlier, it was not until 12th graders' attitudes about behaviors they saw as relevant to themselves began to change (i.e., attitudes about experimental and occasional cocaine use) that the behaviors also began to shift.[6,7]

[6] See also Bachman, J. G., Johnston, L. D., & O'Malley, P. M. (1990). Explaining the recent decline in cocaine use among young adults: Further evidence that perceived risks and disapproval lead to reduced drug use. *Journal of Health and Social Behavior, 31,* 173–184. For a discussion of perceived risk in the larger set of factors influencing trends, and for a consideration of the forces likely to influence perceived risk, see Johnston, L. D. (1991). Toward a theory of drug epidemics. In R. L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp. 93–131). Hillsdale, NJ: Lawrence Erlbaum. Available at http://monitoringthefuture.org/pubs/chapters/ldj1991theory.pdf.

[7] Our belief in the importance of perceived risk of experimental and occasional cocaine use led us to include in 1986 for the first time the question about the dangers of occasional cocaine use. The very next year proved to have a sharp rise on this measure.

We believe the large changes in both perceived risk of experimental and occasional use as well in changes in actual levels of use from 1986 to 1991 resulted from three factors: (a) the greatly increased media coverage of cocaine use and its dangers that occurred in that interval (particularly in 1986); (b) an increasing number of anti-drug, and specifically, anti-cocaine media campaigns; and (c) the widely publicized 1986 deaths, attributed to cocaine use, of sports stars Len Bias and Don Rogers. The deaths of the sports stars, we believe, helped to bring home the notions, first, that no one—regardless of age or physical condition—is invulnerable to being killed by cocaine, and second, that one does not have to be an addict or regular user to suffer such adverse consequences. In the media coverage that occurred during that period, the addictive potential of cocaine was heavily emphasized.

- Trends in attitudes toward regular use of ***crack*** and ***cocaine powder*** have not varied much since they were first tracked by the survey in 1987. The proportion of 12th-grade students seeing great risk in regular use of crack has been between 85% and 92% in all years of the survey, and for cocaine powder, the proportions have been between 81% and 88%. For occasional and experimental use of both drugs, perceived risk was highest at the start of the 1990s, declined until the mid-2000s, and then turned upward in the following years. All three levels of use—regular, occasional, and experimental—decreased slightly in 2014 from their levels in the previous year.

- The proportion of 12th-grade students perceiving great harm in regular use of ***amphetamines*** has remained between 60% and 70% throughout most of the survey, but fell to 55% in 2014 (Figure 8-7a). Part of this drop is attributable to a methodological artifact and is due to a change in question wording that took place in 2011 (see Figure 8-7a for details). In contrast, the proportion of students perceiving harm in experimental use modestly but gradually increased from the mid-1990s to 2011, when a change in question wording made comparison with subsequent years difficult. From 2011 to 2014 the proportion seeing great risk in experimental use has held steady at around 35%.

- Trends in ***sedatives (barbiturates)*** have followed an opposite pattern in comparison to amphetamines, with the proportion of 12th-grade students perceiving harm from regular use declining over the course of the survey (from 69% in 1975 to 51% in 2014), while the proportion perceiving harm from occasional use staying steady (35% in 1975 and 30%) in 2014.

- ***Heroin*** has consistently been seen as one of the most dangerous drugs—in particular regular heroin use, which no doubt accounts at least in part for the low prevalence rates observed throughout the life of the study. But there has been some variation in levels of perceived risk related to experimental or occasional use (Figure 8-9a). Perceived risk of experimental use declined gradually between 1975 and 1986 (perhaps as the result of generational forgetting of the dangers of heroin), even though use dropped and then stabilized in that interval. There was then an upward shift in perceived risk in 1987 (the same year in which there was a dramatic rise in perceived risk for cocaine) to a new level, where it held for four years. In 1992 risk dropped to a lower plateau again, a year or two before use started to rise. As perceived risk fell in the early 1990s, heroin use by 12th graders rose, with annual prevalence of use nearly tripling from 0.4% in 1991 to 1.1% by

1995. (Use also rose in the lower grades.) From 1995 through 1998 there was some increase in perceived risk (an increase that was also observed in the lower grades; see Tables 8-1 and 8-2 and Figure 8-9a). Usage rates then generally stabilized. Perhaps not entirely coincidentally, the Partnership for a Drug-Free America launched a media campaign aimed at deglamorizing heroin in 1996. While the target audience was young adults, many secondary school students undoubtedly saw the ads as well. Annual use of heroin by 12th graders decreased from 1.5% in 2000 to 0.8% by 2003 subsequent to the upturn in perceived risk between 1995 and 1998. Neither perceived risk nor use of heroin has changed much since 2003. However, over the past three to five years, perceived risk has been rising gradually in the upper grades and use has very gradually declined in all three grades.

- The proportion of 12th-grade students who see great risk in regular or experimental use of ***LSD*** is now near the lowest level ever recorded by the survey (Figure 8-8a). Perceived risk of regular use has been in a slight but consistent decline since the early 1990s and in 2014 stood at 63%. Perceived risk of experimental use also declined during the 1990s, but leveled out to about 35% in 2000 and has hovered there since. The sharp decline in 12th graders' perceived risk of LSD use between 1991 and 1997 was particularly noteworthy, confirming our concerns about generational forgetting—that attitudes and beliefs of the newer generation of young people were not influenced by the direct and vicarious learning experiences that helped to make their predecessors more cautious about using LSD (see Figure 8-8a). In the late 1960s and early 1970s, young people became aware of the risks of bad trips, uncontrollable flashbacks, dangerous behaviors under the influence, etc. Since then those in their teens seem to know much less about those risks.

  Despite the fact that perceived risk of LSD use declined some prior to 2001 (while disapproval was fairly steady), use had been falling. Obviously, this decline in use cannot be explained by a change in attitudes, and thus raises the question of whether there was any substitution by another drug. As it happens, another drug popular in the club scene and also used for its hallucinogenic properties, ***ecstasy*** (***MDMA***), had been in ascent and may have had some substitution effect. From 1998 to 2001, ecstasy use more than doubled as LSD use was in decline. However, after 2001 both drugs declined, suggesting that there may no longer have been a displacement effect. Indeed, after 2001 there was a sharp decline in availability of LSD, which may well have played a key role in its further sharp drop in use. The historically low levels of perceived risk for LSD reached in recent years suggest that young people today are not well prepared to resist a resurgence in the popularity and availability of that drug, should that occur.

- Perceived risk for ***ecstasy (MDMA)*** use was asked only of 12th graders from 1997 to 2000 (see Figure 8-6). The proportion of 12th-grade students who see potential harm in trying ecstasy "once or twice" has gradually declined from its level in 2005, when it was 60%, to today's level of 48%. Levels of use have fluctuated slightly at around 4% during this time period. Prior to 2005 levels of perceived risk increased monotonically from a low of 34% in 1997, when it was first measured.

  As documented in the next chapter, there was a dramatic rise in the availability of ecstasy to American teens up to 2001, which may well help to explain its spread (see Figure 8-6).

Another belief—the perceived benefits of using a drug—is, like perceived risk, almost surely a determinant of use. It seems very likely that there was a change in the perceived benefits of ecstasy use; but unfortunately for these purposes, we do not measure this belief. The significant increases in perceived risk (for all three grades) in 2000 through 2003 were encouraging. We stated in the 2001 report in this series that we believed the use of this drug would not decline until more young people came to see its use as dangerous. In 2002, use of ecstasy decreased some for all three grades, and in 2003 use decreased significantly for all three grades, presumably driven by the increased perceptions of risk.

We believe that the unusually rapid changes in perceptions of risk about ecstasy reflect the effects of three efforts: much media coverage of adverse events associated with ecstasy use; the substantial efforts of the National Institute on Drug Abuse to gather and disseminate information about the adverse consequences associated with ecstasy use; and efforts by the Partnership for a Drug-Free America and the Office of National Drug Control Policy to discourage ecstasy use through an ad campaign, begun in 2002, that addressed the hazards of use. Despite the dramatic increase in perceived risk up through 2005, the gradual erosion in the level of perceived risk since 2005 raises the question of whether a process of generational forgetting of the hazards of ecstasy use has been occurring.

- The proportion of students associating great risk with experimental use of ***crystal methamphetamine*** (***ice***) is near the highest levels recorded by the survey. In 2014 the proportion of 12th-grade students who perceived great risk in trying the drug "once or twice" was 70%. The only year in which this level was higher was 2013, when it was 72%. Consistent with the high levels of perceived risk, levels of use are extremely low, and in 2014 the prevalence of past-year use was 0.8%. A drop in prevalence occurred *after* increases in perceived risk, consistent with perceived risk being a leading indicator and cause of changes in drug use.

- The proportion of 12th-grade students who perceived a great risk of harm in trying ***PCP*** was 54% in 2014, where it has been since 2011. The current level of perceived risk has rebounded from a low of 45% in 1999 and is approaching its high of 59% that was recorded in 1988. Actual use has remained low since about 2003, and annual prevalence was 0.8% in 2014.

- In 2014, 55% of 12th-grade students saw a great risk in taking ***steroids***, about the same level of risk as trying PCP. A noteworthy change occurred in 1992, when perceived risk of taking steroids rose by five percentage points (from 66% to 71%) among 12th graders. (Similar changes occurred for 8th and 10th graders.) This change suggested that the widely publicized experience of professional football player Lyle Alzado, who was dying of a brain tumor that he believed resulted from his steroid use, had an important effect on young people's beliefs regarding the harmfulness of this drug. The effect of this "unfortunate role model" was similar to the effect of Len Bias' death on beliefs about the dangers of cocaine use, except that in Lyle Alzado's case he *intentionally* set about making his experience an

object lesson for young people.[8] Unfortunately, levels of perceived risk have since declined.

This decline accelerated in 1999, with an unusually sharp drop of six percentage points in 12th graders' perceived risk of steroid use; this coincided with a slight rise in use among 12th graders and a sharp rise in use among 8th and 10th graders. (Since 1995 perceived risk has been measured only among 12th graders, so their answers serve as the best estimate we have of how this belief was changing among secondary schools students more generally. For this reason, we comment in this section on 8th and 10th graders as well as 12th graders.) We believe it likely that a highly visible baseball player (Mark McGwire), whose use of a steroid precursor was widely reported in 1998, served unwittingly as a role model that year, this time associating the use of steroids with athletic success and physical prowess. In 2000 there was a continued sharp decline in perceived risk of steroid use among 12th graders. After 2000 perceived risk did not change a great deal until there was a significant drop in 2013, with no appreciable further change in 2014.

A cohort effect is suggested by a pattern of declining steroid use across the grades since 1999; 8th graders were first to show a downturn beginning in about 2001, followed by 10th graders in 2003, and then by 12th graders in about 2005. Those staggered decreases followed somewhat staggered increases in the prior years, though both 8th and 10th graders began to increase in the same year (1999). In 2004 perceived risk began to rise in 12th grade (again, the only grade in which it is measured), and use continued to decline in all grades. Some might ask why use has not increased in the past few years as stories of widespread steroid use in professional baseball have hit the headlines. The answer may lie in the amount of *negative* publicity and *negative* outcomes that have emerged for some of these players. Mark McGwire eventually admitted in 2010 that he had used steroids and that he regretted their use. Baseball player Roger Clemens had denied using steroids, but in 2010 he was indicted by a grand jury, charged with lying to Congress about his use of these drugs. He was tried on six felony counts and, following a long and damaging trial process, was found not guilty. In addition, use has probably decreased in part because most anabolic steroids have been scheduled by the DEA since 1990, with updates in 2004, making their use and possession illegal.

- The proportion perceiving great risk of harm in having ***one or two drinks nearly every day*** was 21.1% in 2014 among 12th-grade students, about the same level as it had been during the first year of the survey in 1975, when it was 21.5% (Figure 8-11a). In the intervening years it gradually increased to a peak of 33% in 1991, when use of many drugs reached a nadir, and subsequently declined to its level of 21.5% today. The decline was due perhaps in part to publicity about the value of moderate alcohol consumption in protecting against cardiovascular disease.

- The proportion of 12th graders perceiving great risk in having ***four or five drinks nearly every day*** (Figure 8-11a) was 61.2% in 2014, close to where it was during the first year of

[8] The July 8, 1991, issue of *Sports Illustrated* magazine had an article by Lyle Alzado entitled "I Lied." For a discussion of the importance of vicarious learning from unfortunate role models, see Johnston, L. D. (1991). Toward a theory of drug epidemics. In R. L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp. 93–131). Hillsdale, NJ: Lawrence Erlbaum. Available at http://monitoringthefuture.org/pubs/chapters/ldj1991theory.pdf.

the survey in 1975, when it was 63.5%. As with the outcome of one or two drinks nearly every day , perceived risk rose to a peak in the early 1990s (of 70%), and subsequently declined to its current level.

- The trend for perceived risk of ***occasions of heavy drinking*** (having five or more drinks once or twice a weekend) shows an overall increase over the course of the survey to 45% in 2014 from a level of 38% in 1975 (Figure 8-11a). This overall increase consisted of a gradual rise from the beginning of the survey to 1992, when risk was 49%, followed by a slight decline through 1997, to 43%, where it leveled. The increase in perceived risk tended to be followed by some decline in the actual behaviors—while the decrease in perceived risk tended to be followed by some increases in those behaviors—once again suggesting the importance of these beliefs in influencing use, even the use of licit drugs. Actual prevalence of occasional binge drinking declined appreciably between 1981 and 1993, from 41% to 28%, and rose slightly to 32% by 1998. The increase in perceived risk during the 1980s may have been due in large part to the many efforts aimed at discouraging drunk driving—a point discussed in more detail elsewhere.[9] Since 1998 perceived risk has remained steady while binge drinking has declined to a historic low of 19% in 2014, suggesting the influence of factors other than perceived risk in recent years.

- Despite all that is known today about the health consequences of ***cigarette smoking***, more than one fifth (22%) of 12th-grade students still do not believe that there is a great risk in smoking a pack or more of cigarettes per day (see Figure 8-12a). The number of 12th graders who thought ***smoking a pack or more a day*** involved great risk to the user increased from 51% in 1975 to 64% in 1980. This shift corresponded to, and to some degree preceded, the downturn in current smoking found in this age group (compare Figures 5-4q and 8-12a). Between 1980 and 1984, both perceived risk and use leveled. Then, from 1984 to 1993 perceived risk inched up from 64% to 70% while use remained quite stable. Perceived risk then declined a bit in 1994 and 1995 (as it did in the lower grades) and use rose through 1997. Between 1995 and 1998, perceived risk rose about five percentage points, presaging a decline in smoking that began in 1998. Overall, in the 13-year interval between 1984 and 1997, the percentage of 12th graders perceiving great risk in regular smoking rose only about five percentage points, while use *rose*, not fell, by seven percentage points. Clearly, influences other than perceived risk were at work during this period. Between 1997 and 2006, perceived risk rose by another nine percentage points from 69% to 78%, while use fell by 15 percentage points (from 37% in 1997 to 22% in 2006). Thus, changes in perceived risk may well have contributed to the decline in use during this period. Perceived risk among 12th graders has held steady since 2006 and again stood at 78% in 2014. In contrast, the 30-day prevalence of use has continued to decline and was at 14% in 2014—the lowest rate in the life of the study. It seems likely that increases in cigarette prices played an important role in the decline during this period, including the increase in the federal tobacco tax passed in 2009.

- Perceived risk in regular use of ***smokeless tobacco*** (see Figure 8-13a) has been at about 43% since 1998 and was at 41% in 2014. It increased from 26% in 1986, when it was first measured, to 39% in 1993. From 1993 to 1995 such concern decreased a bit, declining to

[9] O'Malley, P. M., & Johnston, L. D. (1999). Drinking and driving among American high school seniors: 1984–1997. *American Journal of Public Health, 89*, 678–684.

33% by 1995, but then rose again to reach 45% by 2001**,** with not much change thereafter. As perceived risk rose, 30-day prevalence of smokeless tobacco use declined appreciably from 12% in 1995 to 7% in 2002. It was at 8% in 2014.

Trends in Perceived Harmfulness among Eighth and Tenth Graders

Because 8th and 10th graders are asked a shorter list of questions, the data regarding perceived risk of specific drugs are more limited compared to what is available for 12th graders. (See the lower panels of the "a" versions of Figures 8-1, 8-2, 8-3, 8-8, and 8-11. See also Table 8-3 for the tabular data.)

- For 8th-and 10th-grade students, the proportion who see great risk in experimental use of ***marijuana*** is at the lowest level ever recorded by the survey, at 23% and 15%, respectively (Tables 8-1 and 8-2, also Figure 8-1a). Most likely, youth throughout the country interpret the recent trends permitting medical marijuana in many states and legalization of marijuana for adult use in some states as signals that the drug is not dangerous and does not pose great risk of harm. Perceived risk has been in a steady decline since the late 2000s. When this decline began, actual use of marijuana increased, but use leveled around 2010 and decreased slightly in 2014, suggesting the influence of some other factors at work. Before the late 2000s the trend in perceived risk resembled a U curve, in which it was at its highest level during the first two years when the survey measured it in 1991-92 (40% for 8th graders and 32% for 10th graders), declined during the 1990s relapse, and then rebounded until the late 2000s. In both 8th and 10th grades, marijuana prevalence followed a mirror image of these trends, with prevalence increasing during the 1990s (when perceived risk decreased), decreasing from the late 1990s through the mid-2000s (when perceived risk increased), and increasing through 2010 (when perceived risk decreased).

  Perceived harm of ***regular marijuana use*** follows the same trends, although overall levels of perceived risk are higher. In 2014 the proportions of 8th and 10th graders who saw great risk in regular use of marijuana were at the lowest level ever recorded by the survey—59% and 45%, respectively.

- The proportion of 8th-and 10th-grade students perceiving a great risk in ***experimental cocaine*** use has held steady for a period spanning two decades (Tables 8-1 and 8-2, also Figure 8-2a). For 8th-grade students the proportions were 45% in 1996 and 44% in 2014, with little change in the intervening years. For 10th-grade students the proportions were 54% in both 1998 and 2014, again with little variation in the intervening years. Previous to this time span, perceived risk of experimental cocaine use dropped from the highest levels recorded by the survey, in 1991, at 56% for 8th graders and 59% for 10th graders. Trends in the risk of ***occasional cocaine use*** follow the same pattern, although the overall level of perceived risk is higher than for experimental use. Annual prevalence of cocaine use among 8th- and 10th-grade students has been less than 5% in all years it has been measured, providing little variation for perceived risk to explain; nevertheless, the largest change in perceived risk—the drop through the 1990s—corresponds with an increase in cocaine prevalence in both grades.

- Perceived risk for ***LSD*** use has generally been declining among 8th and 10th graders since it was first measured in 1993 (and among 12th graders since 1991). For example, among

8th graders, the proportion seeing great risk in trying LSD fell by more than half from 42% in 1993 to 20% in 2012 where it remained in 2014. Use, which had been increasing fairly steadily in all grades through 1996, has shown some appreciable decline in all grades since then (for example, from 3.5% annual prevalence in 1996 to 0.7% in 2014 among 8th graders and from 6.9% to 1.9% among 10th graders). Annual prevalence remains at quite low levels. As we pointed out earlier, the recent drop in LSD use cannot be explained by parallel changes in perceived risk, because perceived risk was itself falling, not rising. As discussed in the next chapter, there has been a decline in the reported availability of LSD since the mid-1990s. Despite the lower levels of use at present, we note that perceived risk for LSD use generally has been dropping in recent years in the lower grades, particularly among 8th graders, likely as the result of generational forgetting of the consequences of using this drug. This leaves these new cohorts of teens potentially vulnerable to resurgence in LSD use, should the drug become widely available again.

- Questions about the dangers of ***inhalant*** use have been asked only of 8th and 10th graders, where use has tended to be most concentrated (Tables 8-1 and 8-2). In both grades perceived risk of regular inhalant use is at the lowest levels recorded by the survey, at 55%. This decline has been ongoing since the early 2000s. Prior to the 2000s, levels of perceived risk jumped in 1996, after the Partnership for a Drug-Free America launched a media campaign in 1995 to increase adolescents' awareness of the dangers associated with inhalant use. The data here are consistent with the notion that their efforts were successful, because the increase in perceived risk occurred during the years of this intervention; most of the other drugs had not yet begun to show an increase in perceived risk at that point, and actual prevalence declined in all grades. In 2001, perceived risk of inhalant use again jumped significantly in both grades, and use declined some. Since 2001, perceived risk (of both experimental and occasional use) has fallen fairly steadily in both grades. During this period of declining perceived risk, there were some small changes in use, but by 2009 use was very close to 2002 levels. After a decrease in use for both grades after 2011, use is now at its lowest level in all three grades. The declines in perceived risk imply that generational forgetting of the dangers of inhalant use may have been taking place, which suggests that it may be time for another advertising and public information campaign on the subject (among other potential interventions).

- The proportions of 8th- and 10th-grade students who perceive great risk in having five or more drinks of ***alcohol*** once or twice each weekend have stayed within the narrow range of 51%-59% in the 24 years they have been measured for both 8th and 10th graders. Proportions dropped from 59% in 1991 to 52% in 1996 for 8th graders, and from 56% in 1992 to 51% in 1996 for 10th graders. During the same interval, self-reported ***occasions of heavy drinking*** rose gradually. Since that time, levels of perceived risk have slightly increased and then decreased in both grades, with a peak in 2007 for 8th-grade students (58%) and a peak in 2008 for 10th-grade students (57%), while actual use has steadily declined.

- The proportions of 8th- and 10th-grade students who see great risk in pack-a-day ***cigarette smoking*** are at or near the highest levels recorded by the survey, at 62% and 72%, respectively (see Figure 8-11a). After 1995, perceived risk rose in all three grade levels, including significant increases for 8th and 10th graders in 2000. Levels of smoking began to

drop in 1997 for grades 8 and 10, and a year later among 12th graders; thus, an increase in perceived risk presaged, and very likely helped to drive, this important decline.

A number of incidents in the late 1990s may well have contributed to the decline in teen smoking. A series of public debates brought considerable adverse publicity to the product and the industry, and they eventually led to the widely publicized tobacco settlement between the states' attorneys general and the tobacco companies. Additional deterrents included increased cigarette prices, increased tobacco taxes, substantial tobacco prevention efforts in several large states, antismoking ad campaigns (the largest of which was funded by the American Legacy Foundation—an entity created and funded under the tobacco settlement), the withdrawal of advertising from billboards, and the elimination of the Joe Camel ads (that we believe may have been particularly successful with adolescent boys from the upper end of the socioeconomic spectrum).

Between 2000 and 2003 cigarette smoking continued a fairly steep decline; it then generally declined at a more modest pace through 2011, followed by significant decreases among 8th graders in 2012 and among 10th graders in 2014. Each grade showed at least one year of increase, but smoking levels in 2014 remained distinctly lower than in 2000. Perceived risk of cigarette smoking showed a slight, inconsistent increase over that interval. By 2014, perceived risk was only about three to six percentage points higher than in 2000, in all three grades. Cigarette smoking on the other hand was down by about 73%, 70%, and 57% in grades 8, 10, and 12, respectively.

- The proportions of 8th- and 10th-grade students who see great risk in regular use of ***smokeless tobacco*** have been declining for three years among 8th graders and four years among 10th graders, and were at 35% and 40%, respectively, in 2014. For both grades, the levels of perceived risk in 2014 are the same as in 1991, the first year it was assessed for these two grades. In both grades level of risk had small, long-term increases in 1995 that lasted for a decade and resulted in increases of about 10 percentage points for 10th graders and 5 percentage points for 8th graders. During this period of substantial increase in perceived risk between 1995 and 2000, a considerable decline in the use of smokeless tobacco took place. The gains in perceived risk lasted until the most recent 3 or 4 years, and have since receded. Prevalence of smokeless tobacco has not increased in recent years, possibly because it has fallen out of fashion and has a prevalence less than 2% in 8th and 10th grades. It seems quite possible that recent advertising campaigns for various smokeless tobacco products have affected perceived risk among students.

PERSONAL DISAPPROVAL OF DRUG USE

Since the beginning of the MTF study, we have included a set of questions to measure the moral sentiment respondents attach to various types of drug use. The phrasing of the question is, "Do you disapprove of people (who are 18 or older) doing each of the following?" is used. The answer alternatives are "don't disapprove," "disapprove," and "strongly disapprove." For 8th and 10th grades, a fourth response, "can't say, drug unfamiliar," is included, and the parenthetical phrase "who are 18 or older" is omitted from the question stem. Responses of "disapprove" or "strongly disapprove" are combined and reported here as "disapproval." For 8th and 10th graders, "can't say,

drug unfamiliar" is included in calculating the percentages, so that what is represented (in all three grades) is the proportion of *all* respondents who hold a disapproving attitude. Each question specifies a level of drug involvement, such as "trying marijuana," "using marijuana occasionally," or "using marijuana regularly," similar to the questions about perceived risk.

Extent of Disapproval among Twelfth Graders

- The vast majority of 12th graders do not condone *regular use* of ***any of the illicit drugs*** (see Table 8-6). Among 2014 12th graders, 73% disapprove (including strongly disapprove) of ***regular marijuana use*** and between 92% and 97% disapprove of regular use of each of the other illicit drugs. (Regular ***steroid*** use meets with a 88% disapproval rate.)

- For each of the drugs included in this set of questions, fewer respondents indicate disapproval of experimental or occasional use than of regular use. However, the differences are not great for the use of ***illicit drugs other than marijuana***, because nearly all 12th graders disapprove of even experimenting with them. For example, the proportions disapproving of *experimental* use are 95% for ***heroin***; 90% for ***cocaine;*** 89% for ***crack***; 89% for ***sedatives*** (***barbiturates***); 86% for ***cocaine powder***; 85% for ***LSD;*** and 83% for ***ecstasy*** (***MDMA***). The extent of disapproval of illicit drug use by peers is no doubt underestimated by adolescents and, as we have written for some time, the extent of disapproval that actually does exist could be widely publicized and provide the basis for some potentially powerful prevention messages in the form of normative education.[10]

- For ***marijuana***, the rate of disapproval varies substantially for different usage levels, although not as much as it has in the past. Disapproval for this drug is really quite high. About half of all seniors (48%) disapprove of even trying marijuana once or twice, about three of five (57%) disapprove of its occasional use, and three of four (73%) disapprove of regular use. Looked at another way, only about one quarter of 12th graders (27%) say they don't disapprove of regular marijuana use.

- Smoking a pack (or more) of ***cigarettes*** per day now meets with disapproval by more than eight out of ten (85%) 12th-grade students—a level comparable to the level of disapproval for many of the illicit drugs and actually higher than marijuana disapproval.

- Having ***one or two drinks nearly every day*** meets with the disapproval of 72% of 12th graders. Curiously, almost the same percentage of 12th graders (73%) disapprove of ***weekend binge drinking*** (five or more drinks once or twice each weekend), despite the fact that twice as many of them see a great risk in weekend binge drinking (45%) than in having one or two drinks nearly every day (21%).

  One likely explanation for these seemingly anomalous findings may be that a greater proportion of this age group are themselves (and have friends who are) weekend binge drinkers rather than moderate daily drinkers. Therefore, some of their disapproval attitudes may be consistent with their own behavior, even though such attitudes are somewhat inconsistent with their beliefs about possible consequences. Perhaps the ubiquitous

[10] Johnston, L. D. (1991). Contributions of drug epidemiology to the field of drug abuse prevention. In C. Leukefeld & W. Bukoski (Eds.), *Drug abuse prevention research: Methodological issues* (pp. 57–80) (NIDA Research Monograph No. 107). Washington, DC: National Institute on Drug Abuse.

advertising of alcohol use in partying situations has also managed to increase social acceptability. In any case, this divergence between the perceived risk associated with the two behaviors and the corresponding levels of disapproval helps to illustrate the point that, while perceived risk may influence disapproval (as we have consistently hypothesized), other factors also play a role. As is mentioned above, the *Overview* monograph dealing with 2014 data shows use and disapproval for 12th graders for each drug in graphs on the same page.[11]

Extent of Disapproval among Eighth and Tenth Graders

- Attitudes about ***inhalant*** use have been asked only of 8th- and 10th-grade students, and in 2014 the great majority (81% and 86%, respectively) said they disapprove of even trying inhalants.

- Currently, the rates of disapproval for trying ***crack*** and ***cocaine powder*** once or twice are similar for all three grades, with between 88% and 91% disapproving (see Tables 8-4 through 8-6).

- ***Marijuana*** use shows the greatest grade-related difference in disapproval—the lower the grade level, the higher the rate of disapproval. Specifically, in 2014, 71% of the 8th graders said they disapprove of trying marijuana compared to 54% of 10th graders and 48% of 12th graders (see Tables 8-4 through 8-6). There is now considerable evidence that these attitudes do shift with age—that there is an age effect common to all cohorts. For example, the 8th graders of 1991 for the most part constituted the 10th graders of 1993 and the 12th graders of 1995, and their disapproval of trying marijuana fell from 85% among 8th graders in 1991, to 70% by 10th grade (in 1993), and to 57% by 12th grade (in 1995). This age-related drop far exceeds the secular trend at any given grade level, and would be even more pronounced were it not for the loss of dropouts between 8th and 12th grades. (It is also possible that, in addition to any age effects, there are lasting differences between class cohorts—i.e., cohort effects.)

  Another possible explanation for this decrease in disapproval with age is that secondary school students' attitudes about use are age-graded—that is, they may disapprove more of an 8th grader using marijuana, less so for a 10th grader, and still less for a 12th grader. The question stem used at the lower grades does not specify the age of the person about whom they are answering, and the respondents may simply assume that the question is about people their age. The question asked of 12th graders over the years specifies people "who are 18 or older," and that lower limit corresponds closely to their current age.

- Disapproval of ***alcohol*** use is also higher at the lower grade levels than among 12th graders. For example, in 2014, 85% of 8th graders and 80% of 10th graders said they disapprove of ***weekend binge drinking*** versus 73% of 12th graders.

[11] Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2014). *Monitoring the Future national survey results on drug use: 1975-2013: Overview, key findings on adolescent drug use.* Ann Arbor: Institute for Social Research, University of Michigan. Available at http://monitoringthefuture.org/pubs/monographs/mtf-overview2013.pdf

- For ***cigarette*** use, the differences between grades are small at present: 88% of 8th graders, 88% of 10th graders, and 85% of 12th graders said they disapprove of someone smoking one or more packs per day. Oddly enough, the 8th graders, who are least likely to see regular smoking as dangerous (as summarized earlier in this chapter), are the most likely to disapprove of it. This disparity may help to explain why so many do begin to smoke. In the absence of an underlying belief that smoking really represents a hazard to them, many may not be deterred by the predominant peer norms alone.

TRENDS IN DISAPPROVAL OF DRUG USE

As will be illustrated below, while the perceived risk associated with a drug often reverses course a year *prior* to a change in the actual use of that drug, disapproval tends to move in a way more synchronous with use. In other words, disapproval tends to rise in the same year that use falls, and tends to fall in the same year that use rises. We have hypothesized that this is due in part to both disapproval *and* use being influenced by perceived risk, for which the inflection point often occurs a year earlier. For the long-term trends in disapproval for 12th grade see the upper panel in the "b" versions of Figures 8-1 through 8-3 and Figures 8-7 through 8-13 (e.g., the upper panel in Figure 8-1b). See also Table 8-6, which provides the underlying tabular data.

Trends in Disapproval among Twelfth Graders

- In 2014 12th-grade students' disapproval of regular ***marijuana*** use was midway between the highs and lows established in previous years, and stood at 73% (Figure 8-1b and Table 8-6). The low occurred near the beginning of the MTF study in 1977, when it was 66%. This was undoubtedly a continuation of longer-term trends that began in the late 1960s, as the norms of American young people against illicit drug use seriously eroded. Between 1977 and 1990, however, there was a substantial reversal of that trend as disapproval of regular use increased by 26 percentage points and reached the highest level recorded by the study in the early 1990s. While disapproval increased to this historic high, annual prevalence of marijuana hit a historic low. Since that time disapproval slipped during the 1990s drug relapse, while marijuana prevalence increased. Note that a sharp drop in disapproval is first apparent in 1993, a year *after* perceived risk began to decline. Changes in disapproval paused from 1995 to 2005, as did prevalence, and then disapproval continued its decline until it reached its current level. Prevalence increased somewhat in the mid-2000s, but not as much in recent years as would be expected by trends in disapproval alone. Trends in disapproval of occasional and experimental use follow a similar pattern, although at overall lower levels.

- The proportion of 12th graders who disapproved of experimental use of ***amphetamines*** has gradually increased over the course of the study (see Figure 8-7b and Table 8-6). Overall levels of disapproval have increased from 75% at the start of the study in 1975 to 83% in 2014, with two drops in disapproval along the way at the start of the 1980s and the start of the 1990s. Prevalence tracks with these changes in disapproval and decreased or levelled over the course of the survey, with the exception of increases at the start of the 1980s and the start of the 1990s. A revision of the amphetamine question in 2011 that updated the list of examples of specific amphetamines led to a slight, artifactual drop in that year and

thereafter, indicating that levels of disapproval today would be slightly higher were it not for this change. Levels of disapproval of regular use of amphetamines have bumped up against the ceiling of the measure and have been at 92% or higher in all years.

- Disapproval of experimental use of ***sedatives (barbiturates)*** is high and stood at 89% in 2014 (Figure 8-7b and Table 8-6). Overall, disapproval has increased over the life of the study from a low of 78% in the first year in 1975, with the one exception of a slight drop during the 1990s drug relapse. Annual prevalence has tracked with these changes and has overall decreased over the course of the survey, with the exception of an increase during the 1990s drug relapse. Disapproval of regular use of sedatives has always been above 93% in all forty years of the survey.

- The proportion of 12th-grade students who disapprove of experimental ***cocaine*** use has hovered at 90% for the past 25 years (Figure 8-2b and Table 8-6). It reached a nadir in the early 1980s, when cocaine use was popular and experimental use was not considered as dangerous as it is today. This is the same period when prevalence was near its highest levels recorded. There was a sharp rise in disapproval of experimental use between 1986 and 1987, the same interval in which perceived risk rose dramatically (closing the gap between the percent disapproving of experimental use and regular use). This jump in disapproval was accompanied by a sharp drop in use that has persisted ever since. Disapproval of regular cocaine use has always been 91% or higher in all forty years of the survey. Disapproval of ***crack cocaine*** use, whether experimental, occasional, or regular, has always been higher than 80% (see Figure 8-3b). In the last three years it has decreased slightly.

  We believe that the parallel or slightly lagged trends between perceived risk and disapproval—particularly for marijuana and cocaine use—are no accident. We have hypothesized for a long time that perceived risk is an important influence on a person's level of disapproval of a drug-using behavior, although there are surely other influences as well. As levels of personal disapproval change, these individually held attitudes are communicated among friends and acquaintances, and thus perceived norms change as well (as is illustrated in the next chapter). It is noteworthy that, as the rise in perceived risk for use of most of the illicit drugs began to reverse course after 1991 or 1992, personal disapproval began to drop for use of nearly all of the illicit drugs (see Table 8-6), and it continued to fall for use of many of these substances through 1997. Since 2001, disapproval for a number of drugs has been increasing some. This time lag is consistent with the notion that perceived risk influences disapproval, which, in turn, changes peer norms and use.

- The proportion of 12th-grade students who disapprove of trying ***ecstasy*** (***MDMA***) was 83% in 2014, about where it was when first included on the survey in 1997, when it was 82% (Table 8-6). In the intervening years, disapproval levels gradually increased to a high of 89% in 2006 but then receded to current levels. It is worth noting that in 2002 disapproval increased significantly to 84%, at the same time that use decreased and perceived risk continued its increase. Increases in perceived risk may have contributed to the subsequent increase in personal disapproval, albeit with a fair amount of lag.

- Despite the large changes that were taking place in adult use of cigarettes and presumably in adult attitudes about smoking, young people's disapproval of ***regular cigarette smoking*** (a pack or more per day) changed surprisingly little throughout much of the early and middle life of this study. Current levels are at the highest ever recorded by the survey, and 85% of 12th-grade students disapprove of smoking a pack or more per day (Figure 8-12b). The overall trend has been a slight but persistent increase from a level of 68% during the first year of the survey in 1975. The one exception is a sustained decline in disapproval during the 1990s drug relapse, from 1992 to 1997. Since 1997 disapproval has increased and prevalence of cigarette smoking has declined. The earlier lack of appreciable change in students' disapproval of smoking is surprising because many antismoking laws and policies had been enacted during the 1980s and 1990s. Very likely, the tobacco industry's promotion and advertising efforts helped to account for this lack of change in disapproval, as did the widespread portrayal of smoking by characters—often the lead characters—in movies and on television. But by the mid-to-late 1990s the tobacco industry's advertising efforts curtailed and its product received so much adverse publicity that disapproval finally rose substantially.

- There have been some important changes in levels of disapproval related to ***alcohol*** use. Figure 8-11b tracks disapproval rates among 12th graders for several different levels of use (upper panel). The proportion of 12th-grade students who disapprove of the more extreme levels of alcohol use, such as daily drinking (either 4-5 drinks a day or 1-2 drinks per day) has stayed high throughout the surveys. More change is apparent in the relatively lesser-intensity drinking levels of (a) five or more drinks once or twice a weekend, and (b) one or two drinks ever. Disapproval of both these levels has steadily increased over the course of the survey with a pause during the 1990s drug relapse. Corresponding to this trend, prevalence of past-year alcohol use has gradually declined over the course of the survey, with a pause in the decline during the 1990s drug relapse. The prevalence trends track more closely with the disapproval of the lesser-intensity alcohol use levels, most likely because they are closer to the levels that adolescents see as relevant to their own alcohol use behaviors.

- With regard to abstention, the proportions of 12th graders who disapproved of even ***trying one or two drinks of alcohol*** have varied between 25% and 30% since 1989. A substantial increase took place between 1981 and 1989, when disapproval gradually increased from a survey-low of 16% in 1981. It seems likely that the increased minimum drinking age in many states between 1981 and 1987 contributed to these changes in attitude about abstention, because all recent senior classes grew up under the higher minimum drinking age.[12] If so, this illustrates the considerable capacity of laws to influence informal norms. It also seems likely that the activities of Mothers Against Drunk Driving (MADD), which peaked in 1984, and of the designated driver effort, which occurred mostly from 1989 to 1992, helped to influence these attitudes.[13] While these ad campaigns dealt specifically with drinking and driving, we believe the negative connotations may well have generalized

[12] O'Malley, P. M., & Wagenaar, A. C. (1991). Effects of minimum drinking age laws on alcohol use, related behaviors, and traffic crash involvement among American youth: 1976–1987. *Journal of Studies on Alcohol, 52*, 478–491.

[13] O'Malley, P. M., & Johnston, L. D. (2013). Driving (right?) after drug or alcohol use by American high school seniors, 2001-2011. American Journal of Public Health, 102(11), 2027-34. Dx.doi.org/10.2105/AJPH.2013.301246. See also O'Malley, P. M., & Johnston, L. D. (1999). Drinking and driving among U.S. high school seniors, 1984–1997. *American Journal of Public Health, 89*, 678–684.

to heavy drinking under any circumstance, and contributed to the decline in weekend heavy drinking.

Trends in Disapproval among Eighth and Tenth Graders

The lower panels in most of the figures in this chapter show trends in disapproval graphically with regard to using each of the individual drugs one or two times (when data for the lower grade levels are available). Tables 8-4 and 8-5 provide the tabular data for the trends in disapproval by 8th and 10th graders since 1991.

- The proportions of 8th- and 10th-grade students who disapprove of experimental ***marijuana*** use are near the lowest levels recorded by the survey, at 71% and 54%, respectively in 2014. As with 12th-grade students, levels of disapproval fell during the 1990s relapse, to lows of 68% and 54% in 1997 among 8th- and 10th-grade students, respectively. Thereafter disapproval steadily increased for a decade and then steadily declined in the next decade to return to the lows set in the late 1990s. In all years 8th-grade students report the highest levels of disapproval, followed by 10th-grade students and then 12th-grade students. Trends in annual marijuana prevalence track inversely with levels of disapproval (that is, use is higher when disapproval is lower), with use levels lowest among 8th-grade students, higher among 10th-grade students, and highest among 12th-grade students.

- The proportions of 8th- and 10th-grade students who disapprove of experimental ***LSD*** use have hovered over the past decade at levels substantially lower than the levels for 12th-grade students (Figure 8-8b and Tables 8-4 and 8-5). In 2014 the disapproval levels for 8th and 10th-grade students are 53% and 68%, respectively, which are substantially lower than the 85% for 12th graders. In 1991, when disapproval of LSD was first asked for the lower grades, all three grades had about the same levels of disapproval. From 1991 to about 2005 these levels then diverged, declining considerably among 8th graders, declining less among 10th graders, and increasing among 12th graders. Note, however, that the percentages of 8th and 10th graders who respond with "can't say, drug unfamiliar" increased through 2008 (a finding consistent with the notion that generational forgetting has been occurring); thus the base for disapproval has shrunk, suggesting that the real decline of disapproval among the younger students is less than it appears here.

  As noted in chapter 5, the use of LSD decreased in recent years in all three grades despite the fact that there has been little or no increase in either perceived risk or disapproval at any grade (except for an increase in disapproval among 12th graders, which continued into 2004 and a slight increase for 8th graders in 2011 followed by a significant decrease in 2012). The "disconnect" between these attitudes and beliefs and actual use suggests that other important factors were at work. Two possibilities are (1) a displacement of use by the rise in ecstasy use, at least in the early years of the downturn in LSD use; and (2) a large drop in the reported availability of LSD since the mid-1990s, but particularly since 2001. We think it likely that both of these dynamics were at work. We believe that the low levels of perceived risk and disapproval that have emerged among 8th graders with regard to LSD over the past decade or so leaves them potentially vulnerable to another epidemic of LSD use.

- After 2008 disapproval of experimental ***ecstasy*** use leveled at the lowest levels ever recorded by the study among 8th- and 10th-grade students and in 2014 stand at 61% and 74%, respectively. Before 2008 disapproval levels steadily fell from the highest levels ever recorded, at 78% (in 2003) for 8th-grade students, and 84% (in 2004) for 10th-grade students. Overall, trends in disapproval of ecstasy are similar to those for disapproval of LSD, to the extent that disapproval levels were almost equal across the three grades when first measured in all of them (in 2001), and have since diverged, with the disapproval level now lowest in the 8th grade, higher in the 10th grade, and highest in the 12th grade. We believe that generational forgetting of the risks of this drug may account for the decline among the younger adolescents in both perceived risk and disapproval and leave newer classes of youngsters entering adolescence vulnerable to having a relapse in use of this drug.

- The proportions of 8th- and 10th-grade students who disapprove of experimental use of ***crack*** and of ***cocaine powder*** have hovered between 84% and 93% over the course of the survey (Figure 8-3b and Tables 8-4 and 8-5). Disapproval levels fell somewhat during the 1990s drug relapse, but they have since rebounded and in 2014 stand at or above 88%. The softening in attitudes about using crack and cocaine powder in the early 1990s eventually translated into changes in usage levels. For example, crack use rose from 1991 through 1998 in 8th grade, from 1992 through 1998 in 10th grade, and from 1993 through 1999 in 12th grade. Since those peaks in use, there has been some falloff at all grades in the use of both crack (including a significant drop in crack use among 12th graders in 2011 and among 8th graders in 2012) and powder cocaine. The recent general decline in use of cocaine powder since 1999 occurred without any significant covariation with perceived risk or disapproval. However, the decline in crack use did co-vary with modest increases in perceived risk and disapproval. The lack of covariation with perceived risk until recently suggests the possibility that there was some substitution by another drug occurring. Ecstasy would seem a possible candidate; however, its use does not co-vary with use of either crack or powder cocaine. One variable that does co-vary strongly is perceived availability of crack or cocaine powder, but that may be due to the fact that as use declines, a given drug becomes less available because there are fewer user peers who might be sources of the drug.

- In 2014 the proportion of 8th-grade students who disapprove of experimental use of ***inhalants*** is at the lowest level ever recorded by the survey, at 81% (Table 8-4). However, this disapproval level is relatively high and only six points lower than the recorded high of 87% (in 2001). Disapproval levels among 10th-grade students have varied little, between 85% and 89%, and in 2014 stood at 87%.

- The proportion of 8th-grade students who disapproval of weekend ***binge drinking*** held steady at 85% in 2014, where it was when first measured in 1991, and it has changed little since then (Figure 8-11b). In 10th grade the disapproval level continued its steady ascent that has lasted more than a decade and is now at 80%. In general, self-reported binge drinking rates have moved inversely with disapproval over time.

- Disapproval of ***smoking one or more packs of cigarettes per day*** is at the highest levels ever recorded by the survey, with the proportions disapproving at 88% in both 8th and 10th grade (Figure 8-12b). With the exception of a decline in disapproval during the 1990s drug relapse, disapproval has overall increased throughout the survey. During the long period of increasing disapproval since the mid-1990s, and even longer period of increase in perceived risk, actual smoking rates fell appreciably. These changes in attitudes may well have been brought about by the extremely adverse publicity suffered by the tobacco industry during these years. Also, the Joe Camel advertising campaign ended, billboard advertising of cigarettes was removed, and a number of states, as well as the American Legacy Foundation, initiated antismoking campaigns aimed at youth.

ATTITUDES REGARDING THE LEGALITY OF DRUG USE

At the beginning of the study in 1975, legal restraints on drug use appeared likely to be in a state of flux for some time. Therefore, we decided to measure attitudes about legal sanctions. As it turns out, some dramatic changes in these attitudes have occurred, and they are still occurring. Table 8-7 presents a set of questions on this subject, along with the answers provided by each 12th-grade class. The set lists a sampling of illicit and licit drugs and asks respondents whether the use of each should be prohibited by law. A distinction was made between use in public and use in private—a distinction that has proven quite important. (These questions have not been asked of 8th- and 10th-grade respondents.) The answer alternatives are "no," "yes," and "not sure." This section includes marijuana along with the other illicit drugs, and a subsequent section deals specifically with the legal status of marijuana.

Attitudes about Legality of Drug Use among Twelfth Graders

- The great majority of 12th graders agree that people should be prohibited by law from using ***illicit drugs other than marijuana*** in public. (The questions specified people age 18 or older; presumably proportions would be even higher for those under 18.) For example, in 2014 the percentages agreeing to prohibition are 67% for ***amphetamines*** or ***sedatives***, 72% for ***LSD***, and 79% for ***heroin***. Even use in private is opposed by the majority or near-majority, though by smaller proportions; for example, 54% believe that use in private of ***LSD*** should be illegal, and 68% believe it about ***heroin*** use.

  Despite the fact that many 12th graders in 2014 reported ever having used marijuana themselves (44%), and many do not judge it to be as dangerous as other drugs, three fifths of them (57%) favor legally prohibiting ***marijuana*** use in public places. Considerably fewer, less than a third (29%), favor prohibiting marijuana use in private.

- In 2014, 39% of 12th graders believe that ***cigarette smoking*** in "certain specified public places" should be prohibited by law. Were the question more specific as to the types of public places in which smoking might be prohibited (e.g., restaurants or hospitals), quite different results might have emerged.

- About half (48%) of 12th graders in 2014 think that ***getting drunk*** in public should be prohibited.

- For ***all drugs*** included in the question, fewer 12th graders believe that use in private settings should be illegal, as compared with use in public settings. This is particularly true for ***getting drunk*** in private (which only 20% think should be illegal) and for using ***marijuana*** in private (which only 29% think should be illegal).

Trends in Attitudes about Legality of Drug Use among Twelfth Graders

- In 2014 the proportion of 12th-grade students agreeing that drug use in private should be prohibited by law was at the lowest level ever recorded in the 40 years of the survey for the illicit drugs ***LSD***, ***heroin***, and ***amphetamines***. Support for prohibition has been in decline for all these drugs since the beginning of the 1990s drug relapse. The decline has been weakest for heroin, which seems to have maintained its reputation as a very dangerous drug, and support for legal prohibitions against its use in private remain at 68% in 2014. Steeper declines are apparent for LSD and amphetamines, with support for laws prohibiting amphetamine use in private falling below 50% for the last three years. Before 1990 support for laws prohibiting private use had been increasing since the late 1970s.

  For all three drugs, the trends for support of legal prohibitions against public use are similar to their trends for private use, although levels of support of legal prohibitions against public use are higher and are above 65% in all years.

- Support for laws prohibiting consumption of ***marijuana*** in private has been in substantial decline since 1990 and has fallen from a high of 56% (in 1990) to 29% in 2014 (Table 8-7). This trend is almost a mirror image of the pattern before 1990, when the proportion who believed private marijuana use more than doubled, from 25% in 1978 to its level of 56% in 1990 – a dramatic shift. The decline in recent years appears to have accelerated in 2014 and the one-year decrease by 3.6 points from 2013 to 2014 was statistically significant.

  The trend for prohibition of marijuana use in *public* follows very closely the same overall pattern seen for private use, with support for prohibition of public use running about 30 percentage points higher in every year.

- The proportion of 12th graders who said ***smoking cigarettes*** "in certain specified public places" should be prohibited by law was at its lowest level ever recorded by the survey in 2014 at 39% (Table 8-7). Before the decline started in 2012, level of support hovered at around 45% since the 1980s and showed surprisingly little change given the steady decline in smoking prevalence over the course of the survey. Given recent widespread prohibitions of smoking in many public buildings, it is possible that the assumed definition of "certain specified public places" has narrowed in the minds of many 12th graders.

- Attitudes about the legality of ***drunkenness*** in public or private places have been relatively stable over the years of this study (Table 8-7). An overall linear trend line shows a very slight downward trend (i.e., more tolerant) for attitudes toward getting drunk in public, and a slight upward trend (i.e., less tolerant) for getting drunk in private. (Attitudes still favor much less tolerance for getting drunk in public.) The stability of attitudes about the

preferred legality for this culturally ingrained drug-using behavior contrasts sharply with the lability of attitudes regarding the legality of using illicit drugs.

THE LEGAL STATUS OF MARIJUANA

Another set of questions asks with more specificity what legal sanctions, if any, 12th graders think should be attached to the *use* and *sale* of marijuana. (These questions have not been asked of 8th- and 10th-grade respondents.) Respondents are also asked how they would be likely to react to the legalized use and sale of the drug. The answers to such a hypothetical question must be interpreted with considerable caution, of course.

Attitudes and Predicted Responses to Legalization of Marijuana

- Table 8-8 lists the proportions of 12th graders in 2014 who favor various legal consequences for marijuana use: making it entirely legal (43%), a minor violation like a parking ticket but not a crime (25%), or a crime (17%). The remaining 15% said they "don't know." It is noteworthy just how variable attitudes about this contentious issue are.

- Asked whether they thought it should be legal to sell marijuana *if* it were legal to use it, about three in five (60%) said "yes." However, about 85% of those answering "yes" (51% of all respondents) would permit sale *only* to adults. A small minority (9%) favored the sale to anyone, regardless of age, while 27% said that sale should not be legal even if use were made legal, and 13% said they "don't know." Thus, while the majority subscribe to the idea of legal sale, if use is allowed, the great majority agree with the notion that sale to underage people should not be legal.

- Most 12th graders felt that they would be little affected personally by the legalization of either the sale or the use of marijuana. Over half (53%) of the respondents said that they would not use the drug even if it were legal to buy and use, while others indicated that they would use it about as often as they do now (17%) or less often (1 %). Only 8% said they would use it more often than they do at present, while 11% thought they would try it. Another 11% said they did not know how their behavior would be affected if marijuana were legalized. Still, this amounts to 19% of all seniors, or about one in five, who thought that they would try marijuana, or that their use would increase, if marijuana were legalized.

  A study of the effects of decriminalization by several states during the late 1970s, based on MTF data, found no evidence of any impact on the use of marijuana among young people, nor on attitudes and beliefs concerning its use.[14] However, it should be noted that *decriminalization* falls well short of the full *legalization* posited in the questions here. Moreover, the situation today is very different from the one in the late 1970s, with more peer disapproval and more rigorous enforcement of drug laws, at least until very recently. Some recent studies suggest that there might be an impact of decriminalization, because "youths living in decriminalized states are significantly more likely to report currently

[14] See Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1981). *Marijuana decriminalization: The impact on youth, 1975–1980* (Monitoring the Future Occasional Paper No. 13). Ann Arbor, MI: Institute for Social Research.

using marijuana."[15] A recent study using MTF data shows that prevalence of marijuana use among 12th-grade Californian students significantly increased in the two years after decriminalization went into effect in 2011, and youth attitudes also became significantly more permissive.[16] As more states approve full legalization for adults, (as has occurred in Colorado, Washington, Oregon, Alaska, and Washington, DC), it seems quite possible that attitudes about and use of marijuana will change. Declines in perceived risk and disapproval of marijuana would seem the most likely attitudinal changes, and such changes may well lead to increased use among youth.

Trends in Attitudes and Predicted Responses to Legalization of Marijuana

- The proportion of 12th-grade students who favor ***legalization*** of marijuana was at the highest level ever recorded, at 43% (Table 8-8). Support for legalization has been steadily and rapidly increasing since 2008, when it was near 30%. Prior to 2008, support followed a U-shape curve, in which support levels near 30% were present at the beginning of the survey, in 1975, then dipped by half to a nadir of 15% in 1986-88, only to redouble and return to around 30% by 1995, where it hovered for a decade.

- The proportion of 12th-grade students who favor ***marijuana use as a crime*** is at the lowest level ever recorded by the survey (17%), and its trend is a mirror image of the pattern seen for support of marijuana legalization (Table 8-8).

- The recent legalization of marijuana use by adults in Colorado, Washington State, Oregon, Alaska, and Washington, DC may be interpreted by adolescents as a signal that marijuana use is not dangerous, and that may have contributed to the trend for their more tolerant attitudes toward marijuana use. However, it is worth noting that support for marijuana legalization among 12th-grade students is actually substantially lower than it is among adults, at 43% and 53%,[17] respectively. Given that the percentage of 12th-grade students who support legalization has never exceeded 50% in the forty years of this study, some of the greater tolerance for marijuana use apparently develops after the high school years.

- The recent trend toward greater tolerance of marijuana use is also seen in the proportion of 12th-grade students who support ***sales of marijuana***, conditional on its use being legalized. In 2014 this proportion was 51%, the highest level seen since the late 1970s, when it was only three points higher (Table 8-8). In the intervening years, support gradually reached a nadir of 38% in 1989, and then gradually increased to present levels, with a decade-long plateau between 1995 and 2005.

- Youth ***predictions about their own personal marijuana use***, if sale and use were legalized, have been fairly similar for all graduating classes (Table 8-8). The slight shifts observed

[15] Chaloupka, F. J., Pacula, R. L., Farrelly, M. C., Johnston, L. D., O'Malley, P. M., & Bray, J. W. (February 1999). *Do higher cigarette prices encourage youth to use marijuana?* (NBER Working Paper No. 6939). Cambridge, MA: National Bureau of Economic Research.

[16] Miech, R. A., Johnston, L., O'Malley, P. M., Bachman, J. G., Schulenberg, J., & Patrick, M. E. (2015). Trends in use of marijuana and attitudes toward marijuana among youth before and after decriminalization: The case of California 2007-2013. *International Journal of Drug Policy*, *26*, 336-344. NIHMS662057. doi:10.1016/j.drugpo.2015.01.009

[17] Motel, S. (2015, April 14). 6 facts about marijuana. *PewResearchCenter*. Retrieved from http://www.pewresearch.org/fact-tank/2015/04/14/6-facts-about-marijuana/

have been attributable mostly to the changing proportions of 12th graders who have actually used marijuana.

One thing that has become clear over the past four decades is that young people's policy preferences regarding the legal status of marijuana (and other drugs) track rather closely to the extent to which they themselves are using those drugs and the extent to which they personally disapprove of the use of them.

TABLE 8-1
Trends in Harmfulness of Drugs as Perceived by 8th Graders

How much do you think people risk harming themselves (physically or in other ways), if they . . .	Percentage saying great risk [a]																								2013–2014 change
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Try marijuana once or twice [b]	40.4	39.1	36.2	31.6	28.9	27.9	25.3	28.1	28.0	29.0	27.7	28.2	30.2	31.9	31.4	32.2	32.8	31.1	29.5	29.5	28.2	26.0	24.1	23.0	-1.1
Smoke marijuana occasionally [b]	57.9	56.3	53.8	48.6	45.9	44.3	43.1	45.0	45.7	47.4	46.3	46.0	48.6	50.5	48.9	48.9	50.2	48.1	44.8	44.1	43.4	41.7	37.2	36.7	-0.5
Smoke marijuana regularly [b]	83.8	82.0	79.6	74.3	73.0	70.9	72.7	73.0	73.3	74.8	72.2	71.7	74.2	76.2	73.9	73.2	74.3	72.0	69.8	68.0	68.3	66.9	61.0	58.9	-2.1
Try synthetic marijuana once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.4	24.2	23.9	-0.3
Take synthetic marijuana occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.8	36.2	32.4	-3.8 s
Try inhalants once or twice [d]	35.9	37.0	36.5	37.9	36.4	40.8	40.1	38.9	40.8	41.2	45.6	42.8	40.3	38.7	37.5	35.8	35.9	33.9	34.1	35.5	34.7	34.2	33.7	34.5	+0.8
Take inhalants regularly [d]	65.6	64.4	64.6	65.5	64.8	68.2	68.7	67.2	68.8	69.9	71.6	69.9	67.4	66.4	64.1	62.1	61.9	59.2	58.1	60.6	59.0	59.0	56.7	55.3	-1.4
Take LSD once or twice [e]	—	—	42.1	38.3	36.7	36.5	37.0	34.9	34.1	34.0	31.6	29.6	27.9	26.8	25.8	23.8	22.8	21.9	21.4	23.6	21.7	19.9	19.6	20.0	+0.4
Take LSD regularly [e]	—	—	68.3	65.8	64.4	63.6	64.1	59.6	58.8	57.5	52.9	49.3	48.2	45.2	44.0	40.0	38.5	36.9	37.0	38.6	37.8	35.0	34.5	33.7	-0.8
Try ecstasy (MDMA) once or twice [c]	—	—	—	—	—	—	—	—	—	—	35.8	38.9	41.9	42.5	40.0	32.8	30.4	28.6	26.0	27.0	25.4	23.6	24.1	24.3	+0.2
Take ecstasy (MDMA) occasionally [c]	—	—	—	—	—	—	—	—	—	—	55.5	61.8	65.8	65.1	60.8	52.0	48.6	46.8	43.9	45.0	43.7	41.0	42.1	39.4	-2.7
Try salvia once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.5	8.5	—	—
Take salvia occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.1	14.6	—	—
Try crack once or twice [d]	62.8	61.2	57.2	54.4	50.8	51.0	49.9	49.3	48.7	48.5	48.6	47.4	48.7	49.0	49.6	47.6	47.3	47.1	46.6	49.6	48.1	47.0	47.1	48.3	+1.2
Take crack occasionally [d]	82.2	79.6	76.8	74.4	72.1	71.6	71.2	70.6	70.6	70.1	70.0	69.7	70.3	70.4	69.4	68.7	68.3	67.9	66.6	68.4	67.7	67.8	66.5	65.5	-1.1
Try cocaine powder once or twice [d]	55.5	54.1	50.7	48.4	44.9	45.2	45.0	44.0	43.3	43.3	43.9	43.2	43.7	44.4	44.2	43.5	43.5	42.7	42.3	45.7	43.3	42.8	43.5	43.9	+0.4
Take cocaine powder occasionally [d]	77.0	74.3	71.8	69.1	66.4	65.7	65.8	65.2	65.4	65.5	65.8	64.9	65.8	66.0	65.3	64.0	64.2	62.7	62.3	64.2	63.5	63.3	62.7	61.8	-0.9
Try heroin once or twice without using a needle [e]	—	—	—	—	60.1	61.3	63.0	62.8	63.0	62.0	61.1	62.6	62.7	61.6	61.4	60.4	60.3	60.8	60.0	62.3	61.7	59.1	59.8	60.9	+1.0
Take heroin occasionally without using a needle [e]	—	—	—	—	76.8	76.6	79.2	79.0	78.9	78.6	78.5	78.5	77.8	77.5	76.8	75.3	76.4	75.5	74.0	76.7	75.9	75.1	73.4	73.2	-0.1
Try OxyContin once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.9	19.9	22.1	+2.2
Take OxyContin occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35.3	32.6	34.4	+1.8
Try Vicodin once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.5	15.0	18.4	+3.4 ss
Take Vicodin occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29.4	26.2	28.2	+2.0
Try Adderall once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.6	16.5	20.7	+4.2 sss
Take Adderall occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29.9	28.3	32.5	+4.2 sss
Try bath salts (synthetic stimulants) once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.9	39.3	36.8	-2.5 s
Take bath salts (synthetic stimulants) occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	38.8	51.9	49.1	-2.8 s
Try cough/cold medicine once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.2	20.1	22.9	+2.7 s
Take cough/cold medicine occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	38.8	37.3	37.9	+0.6
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) [b]	11.0	12.1	12.4	11.6	11.6	11.8	10.4	12.1	11.6	11.9	12.2	12.5	12.6	13.7	13.9	14.2	14.9	13.5	14.4	14.9	14.5	13.9	13.7	14.8	+1.0
Take one or two drinks nearly every day [b]	31.8	32.4	32.6	29.9	30.5	28.6	29.1	30.3	29.7	30.4	30.0	29.6	29.9	31.0	31.4	31.3	32.6	31.5	31.5	32.3	31.8	31.4	30.6	31.0	+0.3
Have five or more drinks once or twice each weekend [b]	59.1	58.0	57.7	54.7	54.1	51.8	55.6	56.0	55.3	55.9	56.1	56.4	56.5	56.9	57.2	56.4	57.9	57.0	55.8	57.2	58.4	58.2	55.7	54.3	-1.4
Smoke one to five cigarettes per day [c]	—	—	—	—	—	—	—	—	26.9	28.9	30.5	32.8	33.4	37.0	37.5	37.0	38.6	38.6	38.6	38.2	37.4	40.4	42.8	41.9	-0.9
Smoke one or more packs of cigarettes per day [f]	51.6	50.8	52.7	50.8	49.8	50.4	52.6	54.3	54.8	58.8	57.1	57.5	57.7	62.4	61.5	59.4	61.1	59.8	59.1	60.9	62.5	62.6	62.4	62.1	-0.3
Use electronic cigarettes (e-cigarettes) regularly [b]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.5	—
Smoke little cigars or cigarillos regularly [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.8	—
Use smokeless tobacco regularly	35.1	35.1	36.9	35.5	33.5	34.0	35.2	36.5	37.1	39.0	38.2	39.4	39.7	41.3	40.8	39.5	41.8	41.0	40.8	41.8	40.8	37.8	36.2	34.5	-1.7
Take dissolvable tobacco regularly [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34.8	32.2	33.5	+1.3
Take snus regularly [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	42.2	38.9	38.3	-0.5
Take steroids [h]	64.2	69.5	70.2	67.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate weighted N =	*17,400*	*18,700*	*18,400*	*17,400*	*17,500*	*17,900*	*18,800*	*18,100*	*16,700*	*16,700*	*16,200*	*15,100*	*16,500*	*17,000*	*16,800*	*16,500*	*16,100*	*15,700*	*15,000*	*15,300*	*16,000*	*15,100*	*14,600*	*14,600*	

(Table continued on next page.)

TABLE 8-1 (cont.)
Trends in Harmfulness of Drugs as Perceived by 8th Graders

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, drug unfamiliar.

[b]Beginning in 2012 data based on two thirds of *N* indicated.

[c]Data based on one third of *N* indicated.

[d]Beginning in 1997, data based on two thirds of *N* indicated due to changes in questionnaire forms.

[e]Data based on one of two forms in 1993–1996; *N* is one half of *N* indicated. Beginning in 1997, data based on one third of *N* indicated due to changes in questionnaire forms. [f]Beginning in 1999, data based on two thirds of *N* indicated due to changes in questionnaire forms.

[g]E-cigarette data based on two thirds of *N* indicated. Little cigars or cigarillos data based on one third *N* indicated.

[h]Data based on two forms in 1991 and 1992. Data based on one of two forms in 1993 and 1994; *N* is one half of *N* indicated.

TABLE 8-2
Trends in Harmfulness of Drugs as Perceived by 10th Graders

How much do you think people risk harming themselves (physically or in other ways), if they . . .	Percentage saying great risk [a]																									2013–2014 change
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Try marijuana once or twice [b]	30.0	31.9	29.7	24.4	21.5	20.0	18.8	19.6	19.2	18.5	17.9	19.9	21.1	22.0	22.3	22.2	22.2	23.1	20.5	19.9	19.3	17.2	15.7	15.2	-0.5
Smoke marijuana occasionally [b]	48.6	48.9	46.1	38.9	35.4	32.8	31.9	32.5	33.5	32.4	31.2	32.0	34.9	36.2	36.6	35.6	36.0	37.0	32.9	30.9	30.1	26.8	25.1	23.9	-1.2
Smoke marijuana regularly [b]	82.1	81.1	78.5	71.3	67.9	65.9	65.9	65.8	65.9	64.7	62.8	60.8	63.9	65.6	65.5	64.9	64.5	64.8	59.5	57.2	55.2	50.9	46.5	45.4	-1.1
Try synthetic marijuana once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.6	24.1	25.0	+1.0
Take synthetic marijuana occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34.9	32.8	30.7	-2.1
Try inhalants once or twice [d]	37.8	38.7	40.9	42.7	41.6	47.2	47.5	45.8	48.2	46.6	49.9	48.7	47.7	46.7	45.7	43.9	43.0	41.2	42.0	42.5	42.4	42.4	43.0	43.1	+0.1
Take inhalants regularly [d]	69.8	67.9	69.6	71.5	71.8	75.8	74.5	73.3	76.3	75.0	76.4	73.4	72.2	73.0	71.2	70.2	68.6	66.8	66.8	67.1	66.2	66.1	65.9	64.7	-1.2
Take LSD once or twice [e]	—	—	48.7	46.5	44.7	45.1	44.5	43.5	45.0	43.0	41.3	40.1	40.8	40.6	40.3	38.8	35.4	34.6	34.9	33.9	34.2	34.7	34.7	34.5	-0.2
Take LSD regularly [e]	—	—	78.9	75.9	75.5	75.3	73.8	72.3	73.9	72.0	68.8	64.9	63.0	63.1	60.8	60.7	56.8	55.7	56.7	56.1	54.9	56.4	55.9	54.8	-1.1
Try ecstasy (MDMA) once or twice [c]	—	—	—	—	—	—	—	—	—	—	39.4	43.5	49.7	52.0	51.4	48.4	45.3	43.2	38.9	36.3	37.2	36.2	36.0	36.8	+0.8
Take ecstasy (MDMA) occasionally [c]	—	—	—	—	—	—	—	—	—	—	64.8	67.3	71.7	74.6	72.8	71.3	68.2	66.4	62.1	59.2	60.8	59.8	58.6	58.0	-0.6
Try salvia once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.2	10.7	—	—
Take salvia occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.3	17.1	—	—
Try crack once or twice [d]	70.4	69.6	66.6	64.7	60.9	60.9	59.2	58.0	57.8	56.1	57.1	57.4	57.6	56.7	57.0	56.6	56.4	56.5	57.7	58.1	59.5	59.0	60.2	61.4	+1.1
Take crack occasionally [d]	87.4	86.4	84.4	83.1	81.2	80.3	78.7	77.5	79.1	76.9	77.3	75.7	76.4	76.7	76.9	76.2	76.0	76.5	75.9	76.2	76.5	76.7	77.8	76.4	-1.4
Try cocaine powder once or twice [d]	59.1	59.2	57.5	56.4	53.5	53.6	52.2	50.9	51.6	48.8	50.6	51.3	51.8	50.7	51.3	50.2	49.5	49.8	50.8	52.9	53.0	53.4	54.5	54.1	-0.4
Take cocaine powder occasionally [d]	82.2	80.1	79.1	77.8	75.6	75.0	73.9	71.8	73.6	70.9	72.3	71.0	71.4	72.2	72.4	71.3	70.9	71.1	71.0	72.2	72.0	72.6	72.8	71.7	-1.1
Try heroin once or twice without using a needle [e]	—	—	—	—	70.7	72.1	73.1	71.7	73.7	71.7	72.0	72.2	70.6	72.0	72.4	70.0	70.5	70.8	72.2	73.0	72.9	72.6	73.2	72.6	-0.6
Take heroin occasionally without using a needle [e]	—	—	—	—	85.1	85.8	86.5	84.9	86.5	85.2	85.4	83.4	83.5	85.4	85.2	83.6	84.2	83.1	83.3	84.8	83.4	84.4	84.0	82.5	-1.5
Try OxyContin once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.9	29.4	29.7	+0.4
Take OxyContin occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	48.3	44.7	44.4	-0.3
Try Vicodin once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.2	21.0	22.5	+1.4
Take Vicodin occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	40.3	36.0	36.4	+0.3
Try Adderall once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.7	17.6	22.2	+4.7 sss
Take Adderall occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34.3	30.5	37.0	+6.5 sss
Try bath salts (synthetic stimulants) once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32.3	50.1	49.6	-0.5
Take bath salts (synthetic stimulants) occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	44.9	61.8	61.1	-0.7
Try cough/cold medicine once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.6	21.6	22.9	+1.3
Take cough/cold medicine occasionally [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	40.4	37.3	38.3	+1.0
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) [b]	9.0	10.1	10.9	9.4	9.3	8.9	9.0	10.1	10.5	9.6	9.8	11.5	11.5	10.8	11.5	11.1	11.6	12.6	11.9	11.9	12.3	11.3	11.3	11.6	+0.4
Take one or two drinks nearly every day [b]	36.1	36.8	35.9	32.5	31.7	31.2	31.8	31.9	32.9	32.3	31.5	31.0	30.9	31.3	32.6	31.7	33.3	35.0	33.8	33.1	32.9	31.8	30.6	31.3	+0.7
Have five or more drinks once or twice each weekend [b]	54.7	55.9	54.9	52.9	52.0	50.9	51.8	52.5	51.9	51.0	50.7	51.7	51.6	51.7	53.3	52.4	54.1	56.6	54.2	54.6	55.5	52.8	52.3	54.0	+1.7
Smoke one to five cigarettes per day [c]	—	—	—	—	—	—	—	—	28.4	30.2	32.4	35.1	38.1	39.7	41.0	41.3	41.7	43.5	42.8	41.4	44.8	49.1	47.7	52.0	+4.4 s
Smoke one or more packs of cigarettes per day [f]	60.3	59.3	60.7	59.0	57.0	57.9	59.9	61.9	62.7	65.9	64.7	64.3	65.7	68.4	68.1	67.7	68.2	69.1	67.3	67.2	69.8	71.6	70.8	72.0	+1.3
Use electronic cigarettes (e-cigarettes) regularly [b]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.1	—
Smoke little cigars or cigarillos regularly [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31.0	—
Use smokeless tobacco regularly	40.3	39.6	44.2	42.2	38.2	41.0	42.2	42.8	44.2	46.7	46.2	46.9	48.0	47.8	46.1	45.9	46.7	48.0	44.7	43.7	45.7	42.9	40.0	39.9	-0.1
Take dissolvable tobacco regularly [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.3	31.3	32.0	+0.7
Take snus regularly [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	41.0	38.9	38.8	-0.1
Take steroids [h]	67.1	72.7	73.4	72.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate weighted N =	*14,700*	*14,800*	*15,300*	*15,900*	*17,000*	*15,700*	*15,600*	*15,000*	*13,600*	*14,300*	*14,000*	*14,300*	*15,800*	*16,400*	*16,200*	*16,200*	*16,100*	*15,100*	*15,900*	*15,200*	*14,900*	*15,000*	*12,900*	*13,000*	

(Table continued on next page.)

TABLE 8-2 (cont.)
Trends in Harmfulness of Drugs as Perceived by 10th Graders

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, drug unfamiliar.

[b]Beginning in 2012 data based on two thirds of *N* indicated.

[c]Data based on one third of *N* indicated.

[d]Beginning in 1997, data based on two thirds of *N* indicated due to changes in questionnaire forms.

[e]Data based on one of two forms in 1993–1996; *N* is one half of *N* indicated. Beginning in 1997, data based on one third of *N* indicated due to changes in questionnaire forms. [f]Beginning in 1999, data based on two thirds of *N* indicated due to changes in questionnaire forms.

[g]E-cigarette data based on two thirds of *N* indicated. Little cigars or cigarillos data based on one third *N* indicated.

[h]Data based on two forms in 1991 and 1992. Data based on one of two forms in 1993 and 1994; *N* is one half of *N* indicated.

TABLE 8-3
Trends in Harmfulness of Drugs as Perceived by 12th Graders

Percentage saying great risk [a]

How much do you think people risk harming themselves (physically or in other ways), if they . . .	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Try marijuana once or twice	15.1	11.4	9.5	8.1	9.4	10.0	13.0	11.5	12.7	14.7	14.8	15.1	18.4	19.0	23.6	23.1	27.1	24.5	21.9	19.5
Smoke marijuana occasionally	18.1	15.0	13.4	12.4	13.5	14.7	19.1	18.3	20.6	22.6	24.5	25.0	30.4	31.7	36.5	36.9	40.6	39.6	35.6	30.1
Smoke marijuana regularly	43.3	38.6	36.4	34.9	42.0	50.4	57.6	60.4	62.8	66.9	70.4	71.3	73.5	77.0	77.5	77.8	78.6	76.5	72.5	65.0
Try synthetic marijuana once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take synthetic marijuana occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try LSD once or twice	49.4	45.7	43.2	42.7	41.6	43.9	45.5	44.9	44.7	45.4	43.5	42.0	44.9	45.7	46.0	44.7	46.6	42.3	39.5	38.8
Take LSD regularly	81.4	80.8	79.1	81.1	82.4	83.0	83.5	83.5	83.2	83.8	82.9	82.6	83.8	84.2	84.3	84.5	84.3	81.8	79.4	79.1
Try PCP once or twice	—	—	—	—	—	—	—	—	—	—	—	—	55.6	58.8	56.6	55.2	51.7	54.8	50.8	51.5
Try ecstasy (MDMA) once or twice [b]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try salvia once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take salvia occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try cocaine once or twice	42.6	39.1	35.6	33.2	31.5	31.3	32.1	32.8	33.0	35.7	34.0	33.5	47.9	51.2	54.9	59.4	59.4	56.8	57.6	57.2
Take cocaine occasionally	—	—	—	—	—	—	—	—	—	—	—	54.2	66.8	69.2	71.8	73.9	75.5	75.1	73.3	73.7
Take cocaine regularly	73.1	72.3	68.2	68.2	69.5	69.2	71.2	73.0	74.3	78.8	79.0	82.2	88.5	89.2	90.2	91.1	90.4	90.2	90.1	89.3
Try crack once or twice	—	—	—	—	—	—	—	—	—	—	—	—	57.0	62.1	62.9	64.3	60.6	62.4	57.6	58.4
Take crack occasionally	—	—	—	—	—	—	—	—	—	—	—	—	70.4	73.2	75.3	80.4	76.5	76.3	73.9	73.8
Take crack regularly	—	—	—	—	—	—	—	—	—	—	—	—	84.6	84.8	85.6	91.6	90.1	89.3	87.5	89.6
Try cocaine powder once or twice	—	—	—	—	—	—	—	—	—	—	—	—	45.3	51.7	53.8	53.9	53.6	57.1	53.2	55.4
Take cocaine powder occasionally	—	—	—	—	—	—	—	—	—	—	—	—	56.8	61.9	65.8	71.1	69.8	70.8	68.6	70.6
Take cocaine powder regularly	—	—	—	—	—	—	—	—	—	—	—	—	81.4	82.9	83.9	90.2	88.9	88.4	87.0	88.6
Try heroin once or twice	60.1	58.9	55.8	52.9	50.4	52.1	52.9	51.1	50.8	49.8	47.3	45.8	53.6	54.0	53.8	55.4	55.2	50.9	50.7	52.8
Take heroin occasionally	75.6	75.6	71.9	71.4	70.9	70.9	72.2	69.8	71.8	70.7	69.8	68.2	74.6	73.8	75.5	76.6	74.9	74.2	72.0	72.1
Take heroin regularly	87.2	88.6	86.1	86.6	87.5	86.2	87.5	86.0	86.1	87.2	86.0	87.1	88.7	88.8	89.5	90.2	89.6	89.2	88.3	88.0
Try heroin once or twice without using a needle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take heroin occasionally without using a needle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try any narcotic other than heroin (codeine, Vicodin, OxyContin, Percocet, etc.) once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take any narcotic other than heroin occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take any narcotic other than heroin regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try amphetamines once or twice [d]	35.4	33.4	30.8	29.9	29.7	29.7	26.4	25.3	24.7	25.4	25.2	25.1	29.1	29.6	32.8	32.2	36.3	32.6	31.3	31.4
Take amphetamines regularly [d]	69.0	67.3	66.6	67.1	69.9	69.1	66.1	64.7	64.8	67.1	67.2	67.3	69.4	69.8	71.2	71.2	74.1	72.4	69.9	67.0
Try Adderall once or twice [e]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try Adderall occasionally [e]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try crystal methamphetamine (ice) once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	61.6	61.9	57.5	58.3
Try bath salts (synthetic stimulants) once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take bath salts (synthetic stimulants) occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try sedatives (barbiturates) once or twice [f]	34.8	32.5	31.2	31.3	30.7	30.9	28.4	27.5	27.0	27.4	26.1	25.4	30.9	29.7	32.2	32.4	35.1	32.2	29.2	29.9
Take sedatives (barbiturates) regularly [f]	69.1	67.7	68.6	68.4	71.6	72.2	69.9	67.6	67.7	68.5	68.3	67.2	69.4	69.6	70.5	70.2	70.5	70.2	66.1	63.3
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	5.3	4.8	4.1	3.4	4.1	3.8	4.6	3.5	4.2	4.6	5.0	4.6	6.2	6.0	6.0	8.3	9.1	8.6	8.2	7.6
Take one or two drinks nearly every day	21.5	21.2	18.5	19.6	22.6	20.3	21.6	21.6	21.6	23.0	24.4	25.1	26.2	27.3	28.5	31.3	32.7	30.6	28.2	27.0
Take four or five drinks nearly every day	63.5	61.0	62.9	63.1	66.2	65.7	64.5	65.5	66.8	68.4	69.8	66.5	69.7	68.5	69.8	70.9	69.5	70.5	67.8	66.2
Have five or more drinks once or twice each weekend	37.8	37.0	34.7	34.5	34.9	35.9	36.3	36.0	38.6	41.7	43.0	39.1	41.9	42.6	44.0	47.1	48.6	49.0	48.3	46.5
Smoke one or more packs of cigarettes per day	51.3	56.4	58.4	59.0	63.0	63.7	63.3	60.5	61.2	63.8	66.5	66.0	68.6	68.0	67.2	68.2	69.4	69.2	69.5	67.6
Use electronic cigarettes (e-cigarettes) regularly [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smoke little cigars or cigarillos regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use smokeless tobacco regularly	—	—	—	—	—	—	—	—	—	—	—	25.8	30.0	33.2	32.9	34.2	37.4	35.5	38.9	36.6
Take steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	63.8	69.9	65.6	70.7	69.1	66.1
Approximate weighted N =	*2,804*	*2,918*	*3,052*	*3,770*	*3,250*	*3,234*	*3,604*	*3,557*	*3,305*	*3,262*	*3,250*	*3,020*	*3,315*	*3,276*	*2,796*	*2,553*	*2,549*	*2,684*	*2,759*	*2,591*

(Years cont.)

(Table continued on next page.)

TABLE 8-3 (cont.)
Trends in Harmfulness of Drugs as Perceived by 12th Graders

How much do you think people risk harming themselves (physically or in other ways), if they . . .	Percentage saying great risk [a]																				
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Try marijuana once or twice	16.3	15.6	14.9	16.7	15.7	13.7	15.3	16.1	16.1	15.9	16.1	17.8	18.6	17.4	18.5	17.1	15.6	14.8	14.5	12.5	-2.0
Smoke marijuana occasionally	25.6	25.9	24.7	24.4	23.9	23.4	23.5	23.2	26.6	25.4	25.8	25.9	27.1	25.8	27.4	24.5	22.7	20.6	19.5	16.4	-3.1 s
Smoke marijuana regularly	60.8	59.9	58.1	58.5	57.4	58.3	57.4	53.0	54.9	54.6	58.0	57.9	54.8	51.7	52.4	46.8	45.7	44.1	39.5	36.1	-3.4
Try synthetic marijuana once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.5	25.9	32.5	+6.6 sss
Take synthetic marijuana occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32.7	36.2	39.4	+3.3
Try LSD once or twice	36.4	36.2	34.7	37.4	34.9	34.3	33.2	36.7	36.2	36.2	36.5	36.1	37.0	33.9	37.1	35.6	34.7	33.1	34.9	35.5	+0.6
Take LSD regularly	78.1	77.8	76.6	76.5	76.1	75.9	74.1	73.9	72.3	70.2	69.9	69.3	67.3	63.6	67.8	65.3	65.5	66.8	66.8	62.7	-4.1 s
Try PCP once or twice	49.1	51.0	48.8	46.8	44.8	45.0	46.2	48.3	45.2	47.1	46.6	47.0	48.0	47.4	49.7	52.4	53.9	51.6	53.9	53.8	-0.1
Try ecstasy (MDMA) once or twice [b]	—	—	33.8	34.5	35.0	37.9	45.7	52.2	56.3	57.7	60.1	59.3	58.1	57.0	53.3	50.6	49.0	49.4	47.5	47.8	+0.4
Try salvia once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39.8	36.7‡	13.8	12.9	14.1	+1.2
Take salvia occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.1	21.3	20.0	-1.3
Try cocaine once or twice	53.7	54.2	53.6	54.6	52.1	51.1	50.7	51.2	51.0	50.7	50.5	52.5	51.3	50.3	53.1	52.8	54.0	51.6	54.4	53.7	-0.7
Take cocaine occasionally	70.8	72.1	72.4	70.1	70.1	69.5	69.9	68.3	69.1	67.2	66.7	69.8	68.8	67.1	71.4	67.8	69.7	69.0	70.2	68.1	-2.1
Take cocaine regularly	87.9	88.3	87.1	86.3	85.8	86.2	84.1	84.5	83.0	82.2	82.8	84.6	83.3	80.7	84.4	81.7	83.8	82.6	83.3	80.6	-2.6
Try crack once or twice	54.6	56.0	54.0	52.2	48.2	48.4	49.4	50.8	47.3	47.8	48.4	47.8	47.3	47.5	48.4	50.2	51.7	52.0	55.6	54.5	-1.0
Take crack occasionally	72.8	71.4	70.3	68.7	67.3	65.8	65.4	65.6	64.0	64.5	63.8	64.8	63.6	65.2	64.7	64.3	66.2	66.5	69.5	68.5	-0.9
Take crack regularly	88.6	88.0	86.2	85.3	85.4	85.3	85.8	84.1	83.2	83.5	83.3	82.8	82.6	83.4	84.0	83.8	83.9	84.0	85.4	82.0	-3.4 s
Try cocaine powder once or twice	52.0	53.2	51.4	48.5	46.1	47.0	49.0	49.5	46.2	45.4	46.2	45.8	45.1	45.1	46.5	48.2	48.0	48.1	49.9	49.9	0.0
Take cocaine powder occasionally	69.1	68.8	67.7	65.4	64.2	64.7	63.2	64.4	61.4	61.6	60.8	61.9	59.9	61.6	62.6	62.6	64.2	62.6	65.4	64.8	-0.5
Take cocaine powder regularly	87.8	86.8	86.0	84.1	84.6	85.5	84.4	84.2	82.3	81.7	82.7	82.1	81.5	82.5	83.4	81.8	83.3	83.3	83.9	81.5	-2.4
Try heroin once or twice	50.9	52.5	56.7	57.8	56.0	54.2	55.6	56.0	58.0	56.6	55.2	59.1	58.4	55.5	59.3	58.3	59.1	59.4	61.7	62.8	+1.1
Take heroin occasionally	71.0	74.8	76.3	76.9	77.3	74.6	75.9	76.6	78.5	75.7	76.0	79.1	76.2	75.3	79.7	74.8	77.2	78.0	78.2	77.9	-0.2
Take heroin regularly	87.2	89.5	88.9	89.1	89.9	89.2	88.3	88.5	89.3	86.8	87.5	89.7	87.8	86.4	89.9	85.5	87.9	88.6	87.6	85.7	-1.9
Try heroin once or twice without using a needle	55.6	58.6	60.5	59.6	58.5	61.6	60.7	60.6	58.9	61.2	60.5	62.6	60.2	60.8	61.5	63.8	61.1	63.3	64.5	65.3	+0.7
Take heroin occasionally without using a needle	71.2	71.0	74.3	73.4	73.6	74.7	74.4	74.7	73.0	76.1	73.3	76.2	73.9	73.2	74.8	76.2	74.7	76.1	76.4	73.6	-2.8
Try any narcotic other than heroin (codeine, Vicodin, OxyContin, Percocet, etc.) once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	40.4	39.9	38.4	43.1	42.7	-0.4
Take any narcotic other than heroin occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	54.3	54.8	53.8	57.3	59.0	+1.7
Take any narcotic other than heroin regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	74.9	75.5	73.9	75.8	72.7	-3.1
Try amphetamines once or twice [d]	28.8	30.8	31.0	35.3	32.2	32.6	34.7	34.4	36.8	35.7	37.7	39.5	41.3	39.2	41.9	40.6‡	34.8	34.3	36.3	34.1	-2.2
Take amphetamines regularly [d]	65.9	66.8	66.0	67.7	66.4	66.3	67.1	64.8	65.6	63.9	67.1	68.1	68.1	65.4	69.0	63.6‡	58.7	60.0	59.5	55.1	-4.4 s
Try Adderall once or twice [e]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.3	31.2	27.2	31.8	33.6	+1.8
Try Adderall occasionally [e]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	41.6	40.8	35.3	38.8	41.5	+2.7
Try crystal methamphetamine (ice) once or twice	54.4	55.3	54.4	52.7	51.2	51.3	52.7	53.8	51.2	52.4	54.6	59.1	60.2	62.2	63.4	64.9	66.5	67.8	72.2	70.2	-2.0
Try bath salts (synthetic stimulants) once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.2	59.5	59.2	-0.4
Take bath salts (synthetic stimulants) occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	45.0	69.9	68.8	-1.0
Try sedatives (barbiturates) once or twice [f]	26.3	29.1	26.9	29.0	26.1	25.0	25.7	26.2	27.9‡	24.9	24.7	28.0	27.9	25.9	29.6	28.0	27.8	27.8	29.4	29.6	+0.2
Take sedatives (barbiturates) regularly [f]	61.6	60.4	56.8	56.3	54.1	52.3	50.3	49.3	49.6‡	54.0	54.1	56.8	55.1	50.2	54.7	52.1	52.4	53.9	53.3	50.5	-2.8
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	5.9	7.3	6.7	8.0	8.3	6.4	8.7	7.6	8.4	8.6	8.5	9.3	10.5	10.0	9.4	10.8	9.4	8.7	9.9	8.6	-1.3
Take one or two drinks nearly every day	24.8	25.1	24.8	24.3	21.8	21.7	23.4	21.0	20.1	23.0	23.7	25.3	25.1	24.2	23.7	25.4	24.6	23.7	23.1	21.1	-2.0
Take four or five drinks nearly every day	62.8	65.6	63.0	62.1	61.1	59.9	60.7	58.8	57.8	59.2	61.8	63.4	61.8	60.8	62.4	61.1	62.3	63.6	62.4	61.2	-1.3
Have five or more drinks once or twice each weekend	45.2	49.5	43.0	42.8	43.1	42.7	43.6	42.2	43.5	43.6	45.0	47.6	45.8	46.3	48.0	46.3	47.6	48.8	45.8	45.4	-0.4
Smoke one or more packs of cigarettes per day	65.6	68.2	68.7	70.8	70.8	73.1	73.3	74.2	72.1	74.0	76.5	77.6	77.3	74.0	74.9	75.0	77.7	78.2	78.2	78.0	-0.2
Use electronic cigarettes (e-cigarettes) regularly [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.2	—
Smoke little cigars or cigarillos regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	38.3	—
Use smokeless tobacco regularly	33.2	37.4	38.6	40.9	41.1	42.2	45.4	42.6	43.3	45.0	43.6	45.9	44.0	42.9	40.8	41.2	42.6	44.3	41.6	40.7	-0.9
Take steroids	66.4	67.6	67.2	68.1	62.1	57.9	58.9	57.1	55.0	55.7	56.8	60.2	57.4	60.8	60.2	59.2	61.1	58.6	54.2	54.6	+0.4
Approximate weighted N =	*2,603*	*2,449*	*2,579*	*2,564*	*2,306*	*2,130*	*2,173*	*2,198*	*2,466*	*2,491*	*2,512*	*2,407*	*2,450*	*2,389*	*2,290*	*2,440*	*2,408*	*2,331*	*2,098*	*2,067*	

(Table continued on next page.)

TABLE 8-3 (cont.)
Trends in Harmfulness of Drugs as Perceived by 12th Graders

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.

' — ' indicates data not available. ' ‡ ' indicates some change in the question. See relevant footnote for that drug.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, drug unfamiliar.

[b]In 2014 "molly" was added to the question on perceived risk of using MDMA once or twice.

[c]In 2011 the question on perceived risk of using salvia once or twice appeared at the end of a form. In 2012 the question was moved to an earlier section of the same form. A question on perceived risk of using salvia occasionally was also added following the question on perceived risk of trying salvia once or twice. These changes likely explain the discontinuity in the 2012 results.

[d]In 2011 the list of examples was changed from uppers, pep pills, bennies, speed to uppers, speed, Adderall, Ritalin, etc. These changes likely explain the discontinuity in the 2011 results.

[e]In 2014 "(without a doctor's orders)" added to the questions on perceived risk of using Adderall.

[f]In 2004 the question text was changed from barbiturates to sedatives/barbiturates and the list of examples was changed from downers, goofballs, reds, yellows, etc. to just downers. These changes likely explain the discontinuity in the 2004 results.

[g]Based on two of six forms; N is two times the N indicated.

TABLE 8-4
Trends in Disapproval of Drug Use in Grade 8

Do you disapprove of people who . . .	Percentage who disapprove or strongly disapprove [a]																								2013–2014 change
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Try marijuana once or twice [b]	84.6	82.1	79.2	72.9	70.7	67.5	67.6	69.0	70.7	72.5	72.4	73.3	73.8	75.9	75.3	76.0	78.7	76.6	75.3	73.5	74.4	75.1	72.0	70.5	-1.5
Smoke marijuana occasionally [b]	89.5	88.1	85.7	80.9	79.7	76.5	78.1	78.4	79.3	80.6	80.6	80.9	81.5	83.1	82.4	82.2	84.5	82.6	81.9	79.9	81.1	81.6	78.8	77.7	-1.2
Smoke marijuana regularly [b]	92.1	90.8	88.9	85.3	85.1	82.8	84.6	84.5	84.5	85.3	84.5	85.3	85.7	86.8	86.3	86.1	87.7	86.8	85.9	84.3	85.7	85.6	83.8	82.2	-1.6
Try inhalants once or twice [c]	84.9	84.0	82.5	81.6	81.8	82.9	84.1	83.0	85.2	85.4	86.6	86.1	85.1	85.1	84.6	83.4	84.1	82.3	83.1	83.1	82.9	83.1	81.6	80.7	-0.9
Take inhalants regularly [c]	90.6	90.0	88.9	88.1	88.8	89.3	90.3	89.5	90.3	90.2	90.5	90.4	89.8	90.1	89.8	89.0	89.5	88.5	88.4	88.9	88.5	88.6	86.8	85.5	-1.3
Take LSD once or twice [d]	—	—	77.1	75.2	71.6	70.9	72.1	69.1	69.4	66.7	64.6	62.6	61.0	58.1	58.5	53.9	53.5	52.6	53.2	53.7	55.4	51.8	52.0	52.8	+0.8
Take LSD regularly [d]	—	—	79.8	78.4	75.8	75.3	76.3	72.5	72.5	69.3	67.0	65.5	63.5	60.5	60.7	55.8	55.6	54.7	55.7	55.8	57.6	54.1	53.6	54.8	+1.2
Try ecstasy (MDMA) once or twice [e]	—	—	—	—	—	—	—	—	—	—	69.0	74.3	77.7	76.3	75.0	66.7	65.7	63.5	62.3	62.4	64.2	60.2	60.9	61.0	+0.1
Take ecstasy (MDMA) occasionally [e]	—	—	—	—	—	—	—	—	—	—	73.6	78.6	81.3	79.4	77.9	69.8	68.3	66.5	65.7	65.9	67.5	63.2	63.4	64.1	+0.7
Try crack once or twice [c]	91.7	90.7	89.1	86.9	85.9	85.0	85.7	85.4	86.0	85.4	86.0	86.2	86.4	87.4	87.6	87.2	88.6	87.2	88.4	89.1	88.5	89.0	88.1	88.0	-0.1
Take crack occasionally [c]	93.3	92.5	91.7	89.9	89.8	89.3	90.3	89.5	89.9	88.8	89.8	89.6	89.8	90.3	90.5	90.0	91.2	90.3	91.0	91.5	91.0	91.2	90.3	89.8	-0.5
Try cocaine powder once or twice [c]	91.2	89.6	88.5	86.1	85.3	83.9	85.1	84.5	85.2	84.8	85.6	85.8	85.6	86.8	87.0	86.5	88.2	86.8	88.1	88.4	88.3	88.6	88.0	87.7	-0.3
Take cocaine powder occasionally [c]	93.1	92.4	91.6	89.7	89.7	88.7	90.1	89.3	89.9	88.8	89.6	89.9	89.8	90.3	90.7	90.2	91.0	90.1	90.7	91.4	91.3	91.5	90.6	90.1	-0.5
Try heroin once or twice without using a needle [d]	—	—	—	—	85.8	85.0	87.7	87.3	88.0	87.2	87.2	87.8	86.9	86.6	86.9	87.2	88.4	86.9	88.6	89.5	87.5	86.8	87.2	87.1	-0.1
Take heroin occasionally without using a needle [d]	—	—	—	—	88.5	87.7	90.1	89.7	90.2	88.9	88.9	89.6	89.0	88.6	88.5	88.5	89.7	88.2	90.1	90.6	89.0	87.7	88.2	88.1	-0.1
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) [b]	51.7	52.2	50.9	47.8	48.0	45.5	45.7	47.5	48.3	48.7	49.8	51.1	49.7	51.1	51.2	51.3	54.0	52.5	52.7	54.2	54.0	54.1	53.3	53.3	0.0
Take one or two drinks nearly every day [b]	82.2	81.0	79.6	76.7	75.9	74.1	76.6	76.9	77.0	77.8	77.4	78.3	77.1	78.6	78.7	78.7	80.4	79.2	78.5	79.5	80.7	81.3	80.2	79.6	-0.6
Have five or more drinks once or twice each weekend [b]	85.2	83.9	83.3	80.7	80.7	79.1	81.3	81.0	80.3	81.2	81.6	81.9	81.9	82.3	82.9	82.0	83.8	83.2	83.2	83.6	84.8	86.0	85.0	84.9	-0.1
Smoke one to five cigarettes per day [e]	—	—	—	—	—	—	—	—	75.1	79.1	80.4	81.1	81.4	83.1	82.9	83.5	85.3	85.0	83.6	84.7	86.8	—	—	—	—
Smoke one or more packs of cigarettes per day [f]	82.8	82.3	80.6	78.4	78.6	77.3	80.3	80.0	81.4	81.9	83.5	84.6	84.6	85.7	85.3	85.6	87.0	86.7	87.1	87.0	88.0	88.8	88.0	87.5	-0.5
Use electronic cigarettes (e-cigarettes) regularly [e]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	58.4	—
Use smokeless tobacco regularly [b]	79.1	77.2	77.1	75.1	74.0	74.1	76.5	76.3	78.0	79.2	79.4	80.6	80.7	81.0	82.0	81.0	82.3	82.1	81.5	81.2	82.6	82.7	81.5	80.2	-1.3
Take steroids [g]	89.8	90.3	89.9	87.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate weighted N =	*17,400*	*18,500*	*18,400*	*17,400*	*17,600*	*18,000*	*18,800*	*18,100*	*16,700*	*16,700*	*16,200*	*15,100*	*16,500*	*17,000*	*16,800*	*16,500*	*16,100*	*15,700*	*15,000*	*15,300*	*16,000*	*15,100*	*14,600*	*14,600*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a] Answer alternatives were: (1) Don't disapprove, (2) Disapprove, (3) Strongly disapprove, and (4) Can't say, drug unfamiliar. Percentages are shown for categories (2) and (3) combined.

[b] Beginning in 2012, data based on two thirds of *N* indicated.

[c] Beginning in 1997, data based on two thirds of *N* indicated due to changes in questionnaire forms.

[d] Data based on one of two forms in 1993–1996; *N* is one half of *N* indicated. Beginning in 1997, data based on one third of *N* indicated due to changes in questionnaire forms.

[e] Data based on one third of *N* indicated.

[f] Beginning in 1999, data based on two thirds of *N* indicated due to changes in questionnaire forms.

[g] Data based on two forms in 1991 and 1992. Data based on one of two forms in 1993 and 1994; *N* is one half of *N* indicated.

TABLE 8-5
Trends in Disapproval of Drug Use in Grade 10

Do you disapprove of people who . . .	Percentage who disapprove or strongly disapprove [a]																								2014–2014 change
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Try marijuana once or twice [b]	74.6	74.8	70.3	62.4	59.8	55.5	54.1	56.0	56.2	54.9	54.8	57.8	58.1	60.4	61.3	62.5	63.9	64.5	60.1	59.2	58.5	56.2	53.2	53.8	+0.6
Smoke marijuana occasionally [b]	83.7	83.6	79.4	72.3	70.0	66.9	66.2	67.3	68.2	67.2	66.2	68.3	68.4	70.8	71.9	72.6	73.3	73.6	69.2	68.0	67.9	65.7	62.1	62.9	+0.7
Smoke marijuana regularly [b]	90.4	90.0	87.4	82.2	81.1	79.7	79.7	80.1	79.8	79.1	78.0	78.6	78.8	81.3	82.0	82.5	82.4	83.0	79.9	78.7	78.8	77.3	73.8	74.6	+0.9
Try inhalants once or twice [c]	85.2	85.6	84.8	84.9	84.5	86.0	86.9	85.6	88.4	87.5	87.8	88.6	87.7	88.5	88.1	88.1	87.6	87.1	87.0	86.5	86.9	85.7	86.1	85.9	-0.2
Take inhalants regularly [c]	91.0	91.5	90.9	91.0	90.9	91.7	91.7	91.1	92.4	91.8	91.3	91.8	91.0	92.3	91.9	92.2	91.8	91.6	91.1	90.8	90.9	90.0	89.7	89.7	0.0
Take LSD once or twice [d]	—	—	82.1	79.3	77.9	76.8	76.6	76.7	77.8	77.0	75.4	74.6	74.4	72.4	71.8	71.2	67.7	66.3	67.8	68.2	68.5	68.3	69.1	67.8	-1.3
Take LSD regularly [d]	—	—	86.8	85.6	84.8	84.5	83.4	82.9	84.3	82.1	80.8	79.4	77.6	75.9	75.0	74.9	71.5	69.8	72.2	72.9	72.5	73.0	74.2	73.3	-0.8
Try ecstasy (MDMA) once or twice [e]	—	—	—	—	—	—	—	—	—	—	72.6	77.4	81.0	83.7	83.1	81.6	80.0	78.1	76.5	75.5	76.1	75.3	75.4	74.4	-1.0
Take ecstasy (MDMA) occasionally [e]	—	—	—	—	—	—	—	—	—	—	81.0	84.6	86.3	88.0	87.4	86.0	84.3	83.0	81.3	81.3	82.2	81.2	81.3	80.4	-1.0
Try crack once or twice [c]	92.5	92.5	91.4	89.9	88.7	88.2	87.4	87.1	87.8	87.1	86.9	88.0	87.6	88.6	88.8	89.5	89.5	90.8	90.4	90.3	90.9	91.0	90.6	90.6	+0.1
Take crack occasionally [c]	94.3	94.4	93.6	92.5	91.7	91.9	91.0	90.6	91.5	90.9	90.6	91.0	91.0	91.8	91.8	92.0	92.7	92.9	92.8	92.4	93.0	93.0	92.4	92.4	0.0
Try cocaine powder once or twice [c]	90.8	91.1	90.0	88.1	86.8	86.1	85.1	84.9	86.0	84.8	85.3	86.4	85.9	86.8	86.9	87.3	87.7	88.6	88.4	89.0	89.4	89.3	88.7	88.9	+0.2
Take cocaine powder occasionally [c]	94.0	94.0	93.2	92.1	91.4	91.1	90.4	89.7	90.7	89.9	90.2	89.9	90.4	91.2	91.2	91.4	92.0	92.1	92.1	92.2	92.5	92.4	91.8	91.9	+0.1
Try heroin once or twice without using a needle [d]	—	—	—	—	89.7	89.5	89.1	88.6	90.1	90.1	89.1	89.2	89.3	90.1	90.3	91.1	90.7	91.4	91.6	91.4	91.6	91.9	91.3	91.9	+0.6
Take heroin occasionally without using a needle [d]	—	—	—	—	91.6	91.7	91.4	90.5	91.8	92.3	90.8	90.7	90.6	91.8	92.0	92.5	92.5	92.5	93.0	92.4	92.4	92.9	92.3	92.7	+0.4
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) [b]	37.6	39.9	38.5	36.5	36.1	34.2	33.7	34.7	35.1	33.4	34.7	37.7	36.8	37.6	38.5	37.8	39.5	41.8	39.7	40.3	41.5	39.6	38.5	40.7	+2.2
Take one or two drinks nearly every day [b]	81.7	81.7	78.6	75.2	75.4	73.8	75.4	74.6	75.4	73.8	73.8	74.9	74.2	75.1	76.9	76.4	77.1	79.1	77.6	77.6	80.0	78.0	77.1	77.9	+0.8
Have five or more drinks once or twice each weekend [b]	76.7	77.6	74.7	72.3	72.2	70.7	70.2	70.5	69.9	68.2	69.2	71.5	71.6	71.8	73.7	72.9	74.1	77.2	75.1	75.9	77.3	77.5	77.8	79.5	+1.7
Smoke one to five cigarettes per day [e]	—	—	—	—	—	—	—	—	67.8	69.1	71.2	74.3	76.2	77.5	79.3	80.2	79.7	82.5	80.0	80.6	82.1	—	—	—	—
Smoke one or more packs of cigarettes per day [f]	79.4	77.8	76.5	73.9	73.2	71.6	73.8	75.3	76.1	76.7	78.2	80.6	81.4	82.7	84.3	83.2	84.7	85.2	84.5	83.9	85.8	86.0	86.1	88.0	+1.9 s
Use electronic cigarettes (e-cigarettes) regularly [e]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	54.6	—
Use smokeless tobacco regularly [b]	75.4	74.6	73.8	71.2	71.0	71.0	72.3	73.2	75.1	75.8	76.1	78.7	79.4	80.2	80.5	80.5	80.9	81.8	79.5	78.5	79.5	79.5	77.7	78.7	+1.0
Take steroids [g]	90.0	91.0	91.2	90.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate weighted N =	*14,800*	*14,800*	*15,300*	*15,900*	*17,000*	*15,700*	*15,600*	*15,000*	*13,600*	*14,300*	*14,000*	*14,300*	*15,800*	*16,400*	*16,200*	*16,200*	*16,100*	*15,100*	*15,900*	*15,200*	*14,900*	*15,000*	*12,900*	*13,000*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a] Answer alternatives were: (1) Don't disapprove, (2) Disapprove, (3) Strongly disapprove, and (4) Can't say, drug unfamiliar. Percentages are shown for categories (2) and (3) combined.

[b] Beginning in 2012, data based on two thirds of *N* indicated.

[c] Beginning in 1997, data based on two thirds of *N* indicated due to changes in questionnaire forms.

[d] Data based on one of two forms in 1993–1996; *N* is one half of *N* indicated. Beginning in 1997, data based on one third of *N* indicated due to changes in questionnaire forms.

[e] Data based on one third of *N* indicated.

[f] Beginning in 1999, data based on two thirds of *N* indicated due to changes in questionnaire forms.

[g] Data based on two forms in 1991 and 1992. Data based on one of two forms in 1993 and 1994; *N* is one half of *N* indicated.

TABLE 8-6
Trends in Disapproval of Drug Use in Grade 12

Do you disapprove of people (who are 18 or older) doing each of the following? [a]	Percentage who disapprove or strongly disapprove [b]																			
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Trying marijuana once or twice	47.0	38.4	33.4	33.4	34.2	39.0	40.0	45.5	46.3	49.3	51.4	54.6	56.6	60.8	64.6	67.8	68.7	69.9	63.3	57.6
Smoking marijuana occasionally	54.8	47.8	44.3	43.5	45.3	49.7	52.6	59.1	60.7	63.5	65.8	69.0	71.6	74.0	77.2	80.5	79.4	79.7	75.5	68.9
Smoking marijuana regularly	71.9	69.5	65.5	67.5	69.2	74.6	77.4	80.6	82.5	84.7	85.5	86.6	89.2	89.3	89.8	91.0	89.3	90.1	87.6	82.3
Trying LSD once or twice	82.8	84.6	83.9	85.4	86.6	87.3	86.4	88.8	89.1	88.9	89.5	89.2	91.6	89.8	89.7	89.8	90.1	88.1	85.9	82.5
Taking LSD regularly	94.1	95.3	95.8	96.4	96.9	96.7	96.8	96.7	97.0	96.8	97.0	96.6	97.8	96.4	96.4	96.3	96.4	95.5	95.8	94.3
Trying ecstasy (MDMA) once or twice [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trying cocaine once or twice	81.3	82.4	79.1	77.0	74.7	76.3	74.6	76.6	77.0	79.7	79.3	80.2	87.3	89.1	90.5	91.5	93.6	93.0	92.7	91.6
Taking cocaine regularly	93.3	93.9	92.1	91.9	90.8	91.1	90.7	91.5	93.2	94.5	93.8	94.3	96.7	96.2	96.4	96.7	97.3	96.9	97.5	96.6
Trying crack once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	92.3	92.1	93.1	89.9	89.5
Taking crack occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.3	94.2	95.0	92.8	92.8
Taking crack regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.9	95.0	95.5	93.4	93.1
Trying cocaine powder once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	87.9	88.0	89.4	86.6	87.1
Taking cocaine powder occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	92.1	93.0	93.4	91.2	91.0
Taking cocaine powder regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	93.7	94.4	94.3	93.0	92.5
Trying heroin once or twice	91.5	92.6	92.5	92.0	93.4	93.5	93.5	94.6	94.3	94.0	94.0	93.3	96.2	95.0	95.4	95.1	96.0	94.9	94.4	93.2
Taking heroin occasionally	94.8	96.0	96.0	96.4	96.8	96.7	97.2	96.9	96.9	97.1	96.8	96.6	97.9	96.9	97.2	96.7	97.3	96.8	97.0	96.2
Taking heroin regularly	96.7	97.5	97.2	97.8	97.9	97.6	97.8	97.5	97.7	98.0	97.6	97.6	98.1	97.2	97.4	97.5	97.8	97.2	97.5	97.1
Trying heroin once or twice without using a needle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Taking heroin occasionally without using a needle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trying amphetamines once or twice [d]	74.8	75.1	74.2	74.8	75.1	75.4	71.1	72.6	72.3	72.8	74.9	76.5	80.7	82.5	83.3	85.3	86.5	86.9	84.2	81.3
Taking amphetamines regularly [d]	92.1	92.8	92.5	93.5	94.4	93.0	91.7	92.0	92.6	93.6	93.3	93.5	95.4	94.2	94.2	95.5	96.0	95.6	96.0	94.1
Trying sedatives (barbiturates) once or twice [e]	77.7	81.3	81.1	82.4	84.0	83.9	82.4	84.4	83.1	84.1	84.9	86.8	89.6	89.4	89.3	90.5	90.6	90.3	89.7	87.5
Taking sedatives (barbiturates) regularly [e]	93.3	93.6	93.0	94.3	95.2	95.4	94.2	94.4	95.1	95.1	95.5	94.9	96.4	95.3	95.3	96.4	97.1	96.5	97.0	96.1
Trying one or two drinks of an alcoholic beverage (beer, wine, liquor)	21.6	18.2	15.6	15.6	15.8	16.0	17.2	18.2	18.4	17.4	20.3	20.9	21.4	22.6	27.3	29.4	29.8	33.0	30.1	28.4
Taking one or two drinks nearly every day	67.6	68.9	66.8	67.7	68.3	69.0	69.1	69.9	68.9	72.9	70.9	72.8	74.2	75.0	76.5	77.9	76.5	75.9	77.8	73.1
Taking four or five drinks nearly every day	88.7	90.7	88.4	90.2	91.7	90.8	91.8	90.9	90.0	91.0	92.0	91.4	92.2	92.8	91.6	91.9	90.6	90.8	90.6	89.8
Having five or more drinks once or twice each weekend	60.3	58.6	57.4	56.2	56.7	55.6	55.5	58.8	56.6	59.6	60.4	62.4	62.0	65.3	66.5	68.9	67.4	70.7	70.1	65.1
Smoking one or more packs of cigarettes per day	67.5	65.9	66.4	67.0	70.3	70.8	69.9	69.4	70.8	73.0	72.3	75.4	74.3	73.1	72.4	72.8	71.4	73.5	70.6	69.8
Taking steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.8	90.5	92.1	92.1	91.9
Approximate weighted N =	*2,677*	*2,957*	*3,085*	*3,686*	*3,221*	*3,261*	*3,610*	*3,651*	*3,341*	*3,254*	*3,265*	*3,113*	*3,302*	*3,311*	*2,799*	*2,566*	*2,547*	*2,645*	*2,723*	*2,588*

(Years cont.)

(Table continued on next page.)

TABLE 8-6 (cont.)
Trends in Disapproval of Drug Use in Grade 12

Percentage who disapprove or strongly disapprove [b]

Do you disapprove of people (who are 18 or older) doing each of the following? [a]	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Trying marijuana once or twice	56.7	52.5	51.0	51.6	48.8	52.5	49.1	51.6	53.4	52.7	55.0	55.6	58.6	55.5	54.8	51.6	51.3	48.8	49.1	48.0	-1.1
Smoking marijuana occasionally	66.7	62.9	63.2	64.4	62.5	65.8	63.2	63.4	64.2	65.4	67.8	69.3	70.2	67.3	65.6	62.0	60.9	59.1	58.9	56.7	-2.2
Smoking marijuana regularly	81.9	80.0	78.8	81.2	78.6	79.7	79.3	78.3	78.7	80.7	82.0	82.2	83.3	79.6	80.3	77.7	77.5	77.8	74.5	73.4	-1.1
Trying LSD once or twice	81.1	79.6	80.5	82.1	83.0	82.4	81.8	84.6	85.5	87.9	87.9	88.0	87.8	85.5	88.2	86.5	86.3	87.2	86.6	85.0	-1.6
Taking LSD regularly	92.5	93.2	92.9	93.5	94.3	94.2	94.0	94.0	94.4	94.6	95.6	95.9	94.9	93.5	95.3	94.3	94.9	95.2	95.3	94.7	-0.6
Trying ecstasy (MDMA) once or twice [c]	—	—	82.2	82.5	82.1	81.0	79.5	83.6	84.7	87.7	88.4	89.0	87.8	88.2	88.2	86.3	83.9	87.1	84.9	83.1	-1.8
Trying cocaine once or twice	90.3	90.0	88.0	89.5	89.1	88.2	88.1	89.0	89.3	88.6	88.9	89.1	89.6	89.2	90.8	90.5	91.1	91.0	92.3	90.0	-2.4 s
Taking cocaine regularly	96.1	95.6	96.0	95.6	94.9	95.5	94.9	95.0	95.8	95.4	96.0	96.1	96.2	94.8	96.5	96.0	96.0	96.8	96.7	96.3	-0.5
Trying crack once or twice	91.4	87.4	87.0	86.7	87.6	87.5	87.0	87.8	86.6	86.9	86.7	88.8	88.8	89.6	90.9	89.8	91.4	92.8	91.4	89.3	-2.1
Taking crack occasionally	94.0	91.2	91.3	90.9	92.3	91.9	91.6	91.5	90.8	92.1	91.9	92.9	92.4	93.3	94.0	92.6	93.9	95.0	93.6	91.9	-1.7
Taking crack regularly	94.1	93.0	92.3	91.9	93.2	92.8	92.2	92.4	91.2	93.1	92.1	93.8	93.6	93.5	94.3	93.1	94.4	95.4	94.1	92.4	-1.7
Trying cocaine powder once or twice	88.3	83.1	83.0	83.1	84.3	84.1	83.3	83.8	83.6	82.2	83.2	84.1	83.5	85.7	87.3	87.0	88.1	88.7	88.2	85.5	-2.7 s
Taking cocaine powder occasionally	92.7	89.7	89.3	88.7	90.0	90.3	89.8	90.2	88.9	90.0	89.4	90.4	90.6	91.7	92.3	91.0	92.2	93.0	91.7	90.4	-1.3
Taking cocaine powder regularly	93.8	92.9	91.5	91.1	92.3	92.6	92.5	92.2	90.7	92.6	92.0	93.2	92.6	92.8	93.9	92.6	93.8	95.0	94.1	91.7	-2.4 s
Trying heroin once or twice	92.8	92.1	92.3	93.7	93.5	93.0	93.1	94.1	94.1	94.2	94.3	93.8	94.8	93.3	94.7	93.9	94.3	95.8	95.6	94.7	-0.9
Taking heroin occasionally	95.7	95.0	95.4	96.1	95.7	96.0	95.4	95.6	95.9	96.4	96.3	96.2	96.8	95.3	96.9	96.2	96.3	97.0	96.9	96.6	-0.3
Taking heroin regularly	96.4	96.3	96.4	96.6	96.4	96.6	96.2	96.2	97.1	97.1	96.7	96.9	97.1	95.9	97.4	96.4	96.7	97.4	97.4	97.1	-0.3
Trying heroin once or twice without using a needle	92.9	90.8	92.3	93.0	92.6	94.0	91.7	93.1	92.2	93.1	93.2	93.7	93.6	94.2	94.7	93.2	92.6	95.2	93.7	92.5	-1.3
Taking heroin occasionally without using a needle	94.7	93.2	94.4	94.3	93.8	95.2	93.5	94.4	93.5	94.4	95.0	94.5	94.9	95.3	95.5	94.5	94.1	95.9	94.6	93.5	-1.0
Trying amphetamines once or twice [d]	82.2	79.9	81.3	82.5	81.9	82.1	82.3	83.8	85.8	84.1	86.1	86.3	87.3	87.2	88.2	88.1‡	84.1	83.9	84.9	83.1	-1.8
Taking amphetamines regularly [d]	94.3	93.5	94.3	94.0	93.7	94.1	93.4	93.5	94.0	93.9	94.8	95.3	95.4	94.2	95.6	94.9‡	92.9	93.9	93.2	93.0	-0.2
Trying sedatives (barbiturates) once or twice [e]	87.3	84.9	86.4	86.0	86.6	85.9	85.9	86.6	87.8‡	83.7	85.4	85.3	86.5	86.1	87.7	87.6	87.3	88.2	88.9	88.5	-0.5
Taking sedatives (barbiturates) regularly [e]	95.2	94.8	95.3	94.6	94.7	95.2	94.5	94.7	94.4‡	94.2	95.2	95.1	94.6	94.3	95.8	94.7	95.1	96.1	95.8	95.0	-0.8
Trying one or two drinks of an alcoholic beverage (beer, wine, liquor)	27.3	26.5	26.1	24.5	24.6	25.2	26.6	26.3	27.2	26.0	26.4	29.0	31.0	29.8	30.6	30.7	28.7	25.4	27.3	29.2	+1.9
Taking one or two drinks nearly every day	73.3	70.8	70.0	69.4	67.2	70.0	69.2	69.1	68.9	69.5	70.8	72.8	73.3	74.5	70.5	71.5	72.8	70.8	71.9	71.7	-0.2
Taking four or five drinks nearly every day	88.8	89.4	88.6	86.7	86.9	88.4	86.4	87.5	86.3	87.8	89.4	90.6	90.5	89.8	89.7	88.8	90.8	90.1	90.6	91.9	+1.4
Having five or more drinks once or twice each weekend	66.7	64.7	65.0	63.8	62.7	65.2	62.9	64.7	64.2	65.7	66.5	68.5	68.8	68.9	67.6	68.8	70.0	70.1	71.6	72.6	+1.0
Smoking one or more packs of cigarettes per day	68.2	67.2	67.1	68.8	69.5	70.1	71.6	73.6	74.8	76.2	79.8	81.5	80.7	80.5	81.8	81.0	83.0	83.7	82.6	85.0	+2.4
Taking steroids	91.0	91.7	91.4	90.8	88.9	88.8	86.4	86.8	86.0	87.9	88.8	89.4	89.2	90.9	90.3	89.8	89.7	90.4	88.2	87.5	-0.7
Approximate weighted N =	*2,603*	*2,399*	*2,601*	*2,545*	*2,310*	*2,150*	*2,144*	*2,160*	*2,442*	*2,455*	*2,460*	*2,377*	*2,450*	*2,314*	*2,233*	*2,449*	*2,384*	*2,301*	*2,147*	*2,078*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' —' indicates data not available. ' ‡ ' indicates some change in the question. See relevant footnote for that drug.
Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a] The 1975 question asked about people who are 20 or older.

[b] Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

[c] In 2014 "molly" was added to the question on disapproval of using MDMA once or twice.

[d] In 2011 the list of examples was changed from upper, pep pill, bennie, speed to upper, speed, Adderall, Ritalin, etc. These changes likely explain the discontinuity in the 2011 results.

[e] In 2004 the question text was changed from barbiturates to sedatives/barbiturates and the list of examples was changed from downers, goofballs, reds, yellows, etc. to just downers. These changes likely explain the discontinuity in the 2004 results.

TABLE 8-7
Trends in 12th Graders' Attitudes Regarding Legality of Drug Use

Do you think that people (who are 18 or older) [b] *should be prohibited by law from doing each of the following?*	Percentage saying "yes" [a]																			
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Smoking marijuana in private	32.8	27.5	26.8	25.4	28.0	28.9	35.4	36.6	37.8	41.6	44.7	43.8	47.6	51.8	51.5	56.0	51.6	52.4	48.0	42.9
Smoking marijuana in public places	63.1	59.1	58.7	59.5	61.8	66.1	67.4	72.8	73.6	75.2	78.2	78.9	79.7	81.3	80.0	81.9	79.8	78.3	77.3	72.5
Taking LSD in private	67.2	65.1	63.3	62.7	62.4	65.8	62.6	67.1	66.7	67.9	70.6	69.0	70.8	71.5	71.6	72.9	68.1	67.2	63.5	63.2
Taking LSD in public places	85.8	81.9	79.3	80.7	81.5	82.8	80.7	82.1	82.8	82.4	84.8	84.9	85.2	86.0	84.4	84.9	83.9	82.2	82.1	80.5
Taking heroin in private	76.3	72.4	69.2	68.8	68.5	70.3	68.8	69.3	69.7	69.8	73.3	71.7	75.0	74.2	74.4	76.4	72.8	71.4	70.7	70.1
Taking heroin in public places	90.1	84.8	81.0	82.5	84.0	83.8	82.4	82.5	83.7	83.4	85.8	85.0	86.2	86.6	85.2	86.7	85.4	83.3	84.5	82.9
Taking amphetamines or sedatives in private [c]	57.2	53.5	52.8	52.2	53.4	54.1	52.0	53.5	52.8	54.4	56.3	56.8	59.1	60.2	61.1	64.5	59.7	60.5	57.4	55.7
Taking amphetamines or sedatives in public places [c]	79.6	76.1	73.7	75.8	77.3	76.1	74.2	75.5	76.7	76.8	78.3	79.1	79.8	80.2	79.2	81.6	79.7	78.5	78.0	76.4
Getting drunk in private	14.1	15.6	18.6	17.4	16.8	16.7	19.6	19.4	19.9	19.7	19.8	18.5	18.6	19.2	20.2	23.0	22.0	24.4	22.1	21.0
Getting drunk in public places	55.7	50.7	49.0	50.3	50.4	48.3	49.1	50.7	52.2	51.1	53.1	52.2	53.2	53.8	52.6	54.6	54.3	54.1	53.6	54.3
Smoking cigarettes in certain specified public places	—	—	42.0	42.2	43.1	42.8	43.0	42.0	40.5	39.2	42.8	45.1	44.4	48.4	44.5	47.3	44.9	47.6	45.9	47.3
Approximate weighted N =	*2,620*	*2,959*	*3,113*	*3,783*	*3,288*	*3,224*	*3,611*	*3,627*	*3,315*	*3,236*	*3,254*	*3,074*	*3,332*	*3,288*	*2,813*	*2,571*	*2,512*	*2,671*	*2,759*	*2,603*

(Years cont.)

(Table continued on next page.)

TABLE 8-7 (cont.)
Trends in 12th Graders' Attitudes Regarding Legality of Drug Use

Do you think that people (who are 18 or older)[b] should be prohibited by law from doing each of the following?	Percentage saying "yes"[a]																				2013-2014 change
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Smoking marijuana in private	44.0	40.4	38.8	39.8	39.3	38.8	39.1	38.4	40.3	41.4	40.7	42.3	38.7	39.3	36.7	32.8	34.2	33.0	32.0	28.5	-3.6 s
Smoking marijuana in public places	72.9	70.0	69.4	72.2	71.5	72.1	68.3	67.6	68.6	69.2	69.6	68.5	69.4	70.2	67.1	62.4	63.8	64.4	61.3	57.0	-4.3 s
Taking LSD in private	64.3	62.0	61.2	64.7	62.6	62.9	63.1	64.2	64.2	64.4	63.7	62.3	63.6	60.9	60.2	56.2	57.0	56.4	57.6	54.0	-3.5
Taking LSD in public places	81.5	79.2	80.3	82.7	80.4	80.4	78.8	79.9	79.1	77.0	77.4	75.0	76.9	74.2	74.8	72.3	73.3	72.8	73.9	71.9	-2.0
Taking heroin in private	72.2	70.8	70.6	73.9	72.9	71.1	70.6	73.6	73.1	72.0	71.3	71.6	72.5	72.0	71.3	70.1	68.8	68.9	71.0	68.4	-2.6
Taking heroin in public places	84.8	82.3	84.3	86.4	84.2	83.9	81.7	83.7	83.2	80.9	82.0	80.1	81.7	80.6	80.5	80.0	79.1	80.6	80.6	78.7	-1.9
Taking amphetamines or sedatives in private[c]	57.5	54.6	54.6	58.5	55.1	56.0	55.9	56.0	55.8‡	52.2	53.6	51.5	54.3	53.0	51.1	50.8	50.2	48.7	48.9	46.2	-2.7
Taking amphetamines or sedatives in public places[c]	77.6	74.3	76.5	77.4	76.1	75.4	74.5	73.6	74.4‡	69.9	72.0	69.5	72.8	71.6	71.1	70.7	68.5	69.8	68.5	67.0	-1.5
Getting drunk in private	21.6	21.4	20.5	20.2	20.5	21.5	22.6	21.0	21.4	22.0	22.5	23.4	21.3	23.2	22.1	20.3	21.4	21.6	21.8	19.5	-2.3
Getting drunk in public places	54.5	52.8	51.7	51.2	52.8	51.9	50.6	48.6	50.1	47.7	48.2	47.3	47.8	49.6	49.7	47.3	49.3	48.8	47.5	47.9	+0.3
Smoking cigarettes in certain specified public places	45.1	43.4	41.3	41.1	43.2	45.1	44.2	43.8	45.5	44.3	46.8	47.0	46.4	45.1	45.4	41.3	42.6	43.0	40.8	39.2	-1.6
Approximate weighted N =	*2,578*	*2,422*	*2,587*	*2,563*	*2,283*	*2,146*	*2,161*	*2,162*	*2,450*	*2,450*	*2,461*	*2,381*	*2,459*	*2,356*	*2,306*	*2,410*	*2,339*	*2,304*	*2,101*	*2,070*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. ' ‡ ' indicates some change in the question. See relevant footnote.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]Answer alternatives were: (1) No, (2) Not sure, and (3) Yes.

[b]The 1975 question asked about people who are 20 or older.

[c]In 2004 the question text was changed from barbiturates to sedatives/barbiturates and the list of examples was changed from downers, goofballs, reds, yellows, etc. to just downers.

These changes likely explain the discontinuity in the 2004 results.

TABLE 8-8
Trends in 12th Graders' Attitudes Regarding Marijuana Laws

(Entries are percentages.)

There has been a great deal of public debate about whether marijuana use should be legal. Which of the following policies would you favor?	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Using marijuana should be entirely legal	27.3	32.6	33.6	32.9	32.1	26.3	23.1	20.0	18.9	18.6	16.6	14.9	15.4	15.1	16.6	15.9	18.0	18.7	22.8	26.8
It should be a minor violation like a parking ticket, but not a crime	25.3	29.0	31.4	30.2	30.1	30.9	29.3	28.2	26.3	23.6	25.7	25.9	24.6	21.9	18.9	17.4	19.2	18.0	18.7	19.0
It should be a crime	30.5	25.4	21.7	22.2	24.0	26.4	32.1	34.7	36.7	40.6	40.8	42.5	45.3	49.2	50.0	53.2	48.6	47.6	43.4	39.4
Don't know	16.8	13.0	13.4	14.6	13.8	16.4	15.4	17.1	18.1	17.2	16.9	16.7	14.8	13.9	14.6	13.6	14.3	15.7	15.1	14.8
If it were legal for people to USE marijuana, should it also be legal to SELL marijuana?																				
No	27.8	23.0	22.5	21.8	22.9	25.0	27.7	29.3	27.4	30.9	32.6	33.0	36.0	36.8	38.8	40.1	36.8	37.8	36.7	33.1
Yes, but only to adults	37.1	49.8	52.1	53.6	53.2	51.8	48.6	46.2	47.6	45.8	43.2	42.2	41.2	39.9	37.9	38.8	41.4	39.5	40.7	41.7
Yes, to anyone	16.2	13.3	12.7	12.0	11.3	9.6	10.5	10.7	10.5	10.6	11.2	10.4	9.2	10.5	9.2	9.6	9.4	9.6	10.1	11.6
Don't know	18.9	13.9	12.7	12.6	12.6	13.6	13.2	13.8	14.6	12.8	13.1	14.4	13.6	12.8	14.1	11.6	12.5	13.1	12.5	13.7
If marijuana were legal to use and legally available, which of the following would you be most likely to do?																				
Not use it, even if it were legal and available	53.2	50.4	50.6	46.4	50.2	53.3	55.2	60.0	60.1	62.0	63.0	62.4	64.9	69.0	70.1	72.9	70.7	72.5	69.0	64.6
Try it	8.2	8.1	7.0	7.1	6.1	6.8	6.0	6.3	7.2	6.6	7.5	7.6	7.3	7.1	6.7	7.0	6.3	7.4	7.3	7.6
Use it about as often as I do now	22.7	24.7	26.8	30.9	29.1	27.3	24.8	21.7	19.8	19.1	17.7	16.8	16.2	13.1	13.0	10.1	11.7	10.2	11.9	14.3
Use it more often than I do now	6.0	7.1	7.4	6.3	6.0	4.2	4.7	3.8	4.9	4.7	3.7	5.0	4.1	4.3	2.4	2.7	3.3	3.2	3.5	4.7
Use it less often than I do now	1.3	1.5	1.5	2.7	2.5	2.6	2.5	2.2	1.5	1.6	1.6	2.0	1.3	1.5	2.1	1.1	1.6	1.0	1.4	1.5
Don't know	8.5	8.1	6.6	6.7	6.1	5.9	6.9	6.0	6.4	6.0	6.5	6.1	6.3	5.0	5.7	6.1	6.4	5.7	7.0	7.3
Approximate weighted N =	*2,600*	*2,970*	*3,110*	*3,710*	*3,280*	*3,210*	*3,600*	*3,620*	*3,300*	*3,220*	*3,230*	*3,080*	*3,330*	*3,277*	*2,812*	*2,570*	*2,515*	*2,672*	*2,768*	*2,597*

(Years cont.)

(Table continued on next page.)

TABLE 8-8 (cont.)
Trends in 12th Graders' Attitudes Regarding Marijuana Laws

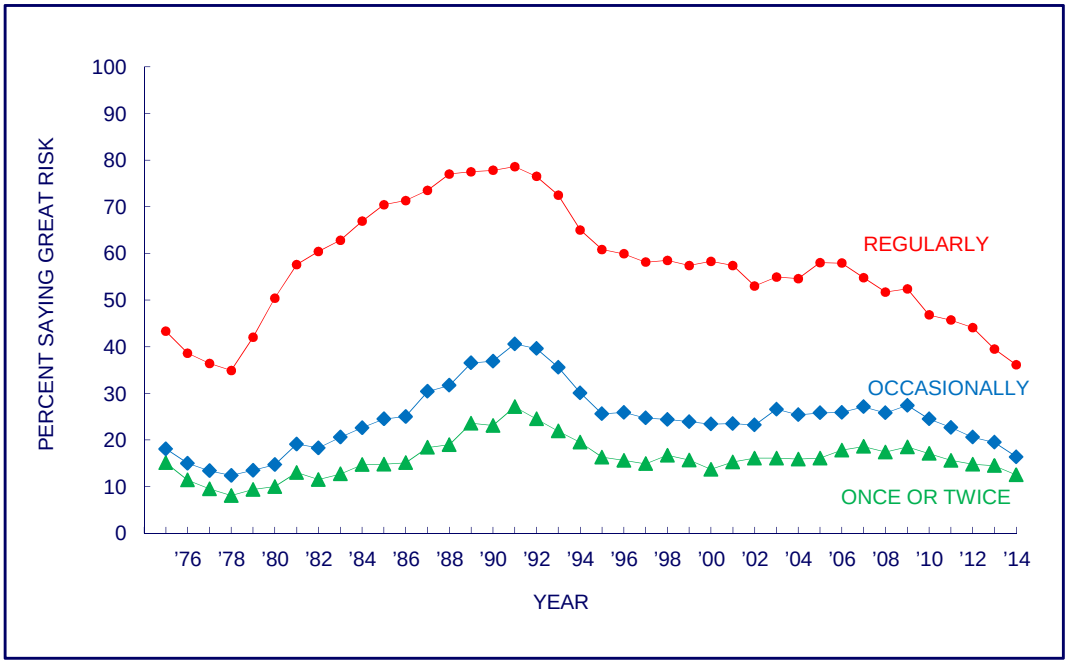
(Entries are percentages.)

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
There has been a great deal of public debate about whether marijuana use should be legal. Which of the following policies would you favor?																				
Using marijuana should be entirely legal	30.4	31.2	30.8	27.9	27.3	31.2	29.2	30.8	29.5	30.5	27.6	27.1	29.3	29.4	31.8	36.2	39.2	39.3	41.5	43.4
It should be a minor violation like a parking ticket, but not a crime	18.0	21.0	20.7	24.3	23.7	23.4	24.5	24.2	25.8	26.5	27.7	27.6	27.8	30.0	28.9	28.6	26.9	26.8	25.0	24.6
It should be a crime	37.3	33.8	34.0	32.6	32.5	30.2	31.1	29.1	29.8	28.5	29.7	31.7	30.2	27.5	26.0	21.8	21.3	21.7	20.8	17.1
Don't know	14.4	13.9	14.5	15.2	16.5	15.2	15.3	15.9	14.9	14.5	15.1	13.6	12.8	13.1	13.3	13.4	12.6	12.2	12.7	14.9
If it were legal for people to USE marijuana, should it also be legal to SELL marijuana?																				
No	32.3	29.4	29.1	30.2	30.2	27.4	30.0	29.1	30.5	28.4	32.3	32.9	29.9	30.5	28.7	28.1	28.1	30.9	28.8	26.8
Yes, but only to adults	43.4	46.7	44.8	42.4	42.9	45.5	43.6	43.6	43.2	45.2	43.0	42.5	45.9	45.9	47.9	48.9	51.0	47.2	51.6	51.3
Yes, to anyone	11.7	11.1	12.5	11.9	12.1	13.4	12.0	13.6	11.6	12.2	11.2	10.8	11.0	10.3	10.5	9.9	10.5	10.3	9.4	8.8
Don't know	12.6	12.8	13.7	15.5	14.7	13.6	14.3	13.7	14.7	14.3	13.5	13.9	13.2	13.3	12.9	13.1	10.3	11.6	10.3	13.0
If marijuana were legal to use and legally available, which of the following would you be most likely to do?																				
Not use it, even if it were legal and available	60.2	59.9	56.4	58.3	59.0	60.3	58.1	58.6	57.9	56.4	60.1	62.5	61.5	60.5	59.9	55.4	54.9	55.8	56.3	52.7
Try it	8.8	8.8	9.1	8.1	9.3	7.3	9.3	8.4	10.6	10.6	8.9	9.7	8.8	8.9	9.8	10.7	9.6	10.6	10.3	10.7
Use it about as often as I do now	17.1	17.3	18.4	17.9	15.2	18.5	16.8	17.2	15.6	17.4	15.2	13.8	15.1	14.8	14.7	16.1	17.6	16.8	15.0	16.7
Use it more often than I do now	4.9	4.8	6.1	5.9	6.5	5.4	6.3	7.1	7.1	6.0	6.1	5.6	5.5	5.5	5.7	7.3	7.3	8.3	8.5	7.7
Use it less often than I do now	1.6	1.6	2.0	2.0	1.9	1.6	2.2	1.7	1.6	1.6	1.8	1.1	1.5	1.4	1.1	1.8	1.7	1.6	1.5	1.0
Don't know	7.4	7.7	7.9	7.8	8.1	7.0	7.3	7.0	7.2	8.0	8.0	7.3	7.6	9.0	8.8	8.8	8.9	7.1	8.5	11.2
Approximate weighted N =	*2,574*	*2,426*	*2,585*	*2,566*	*2,285*	*2,143*	*2,160*	*2,150*	*2,444*	*2,461*	*2,466*	2,383	*2,450*	*2,366*	*2,311*	*2,425*	*2,349*	*2,303*	*2,106*	*2,079*

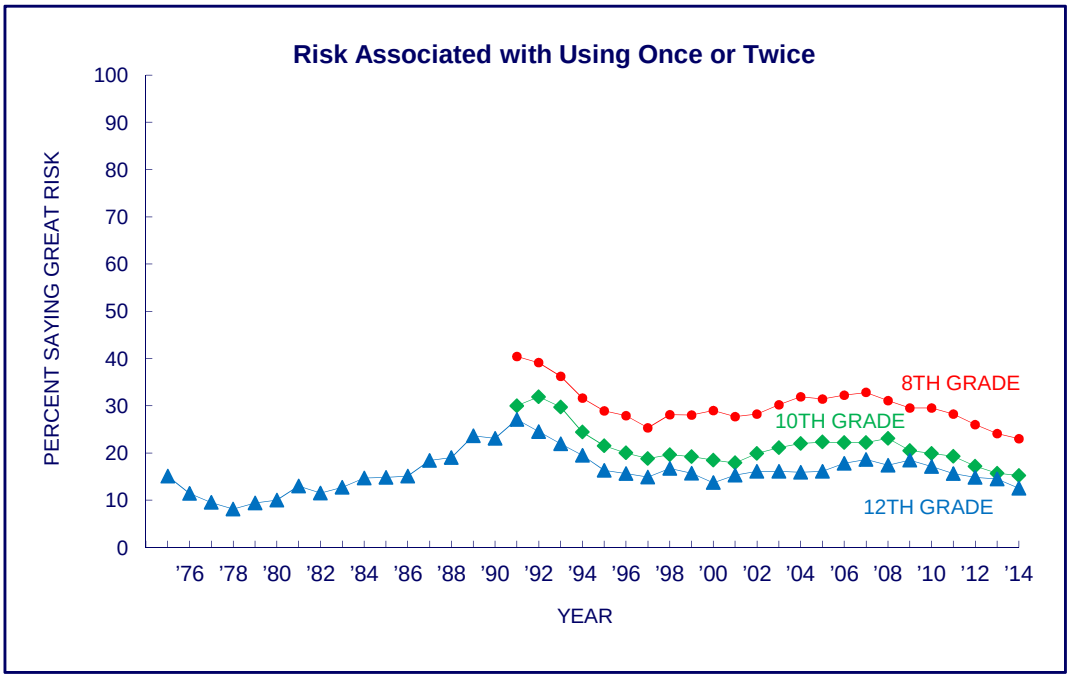
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 8-1a
MARIJUANA
Trends in Perceived Harmfulness for Different Levels of Use in Grades 8, 10, and 12

12th Graders



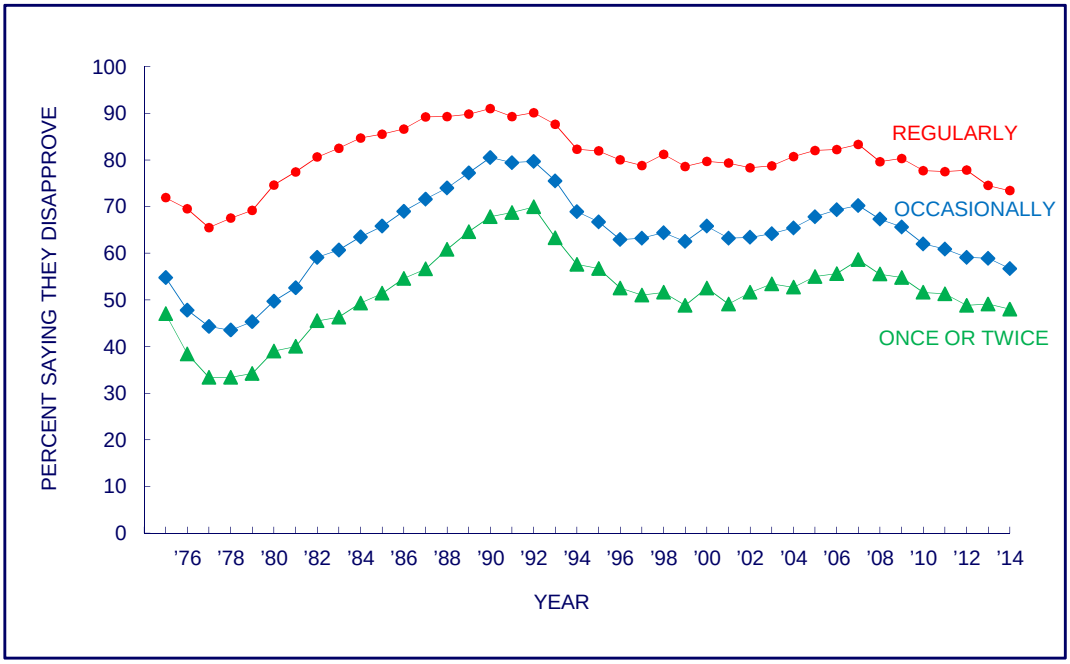
8th, 10th, and 12th Graders



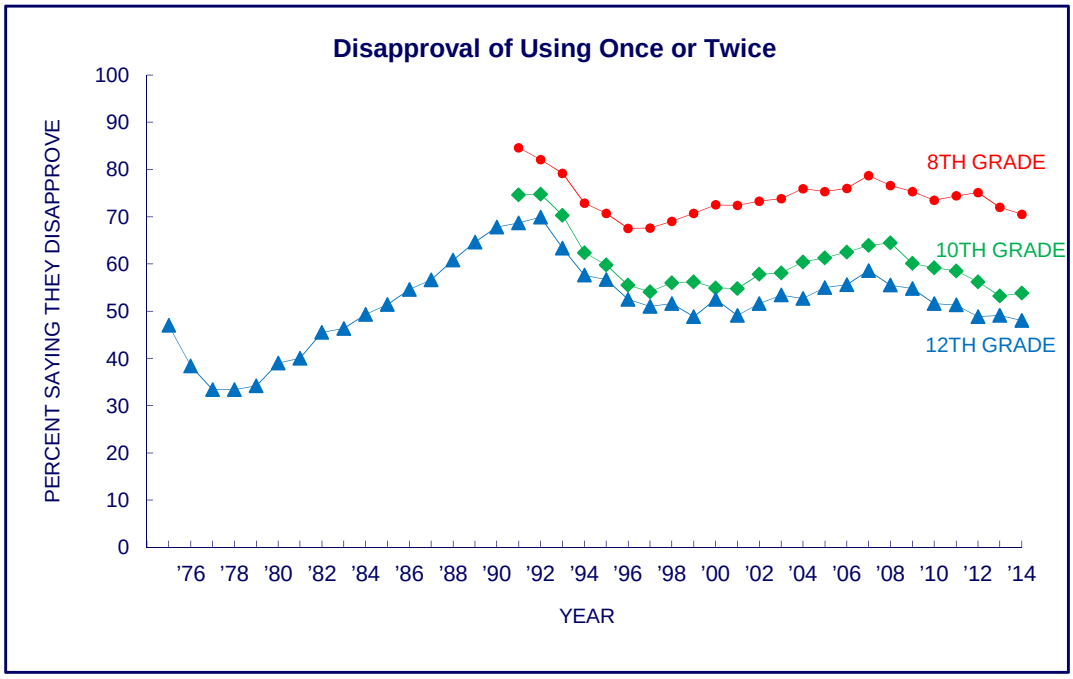
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 8-1b
MARIJUANA
Trends in Disapproval of Different Levels of Use in Grades 8, 10, and 12

12th Graders



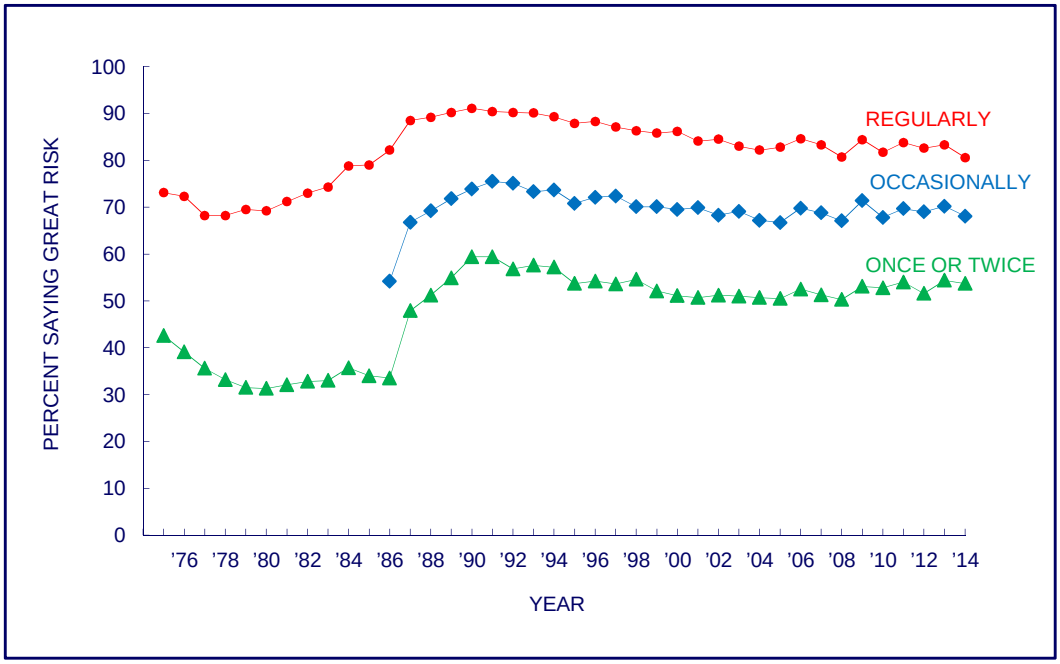
8th, 10th, and 12th Graders



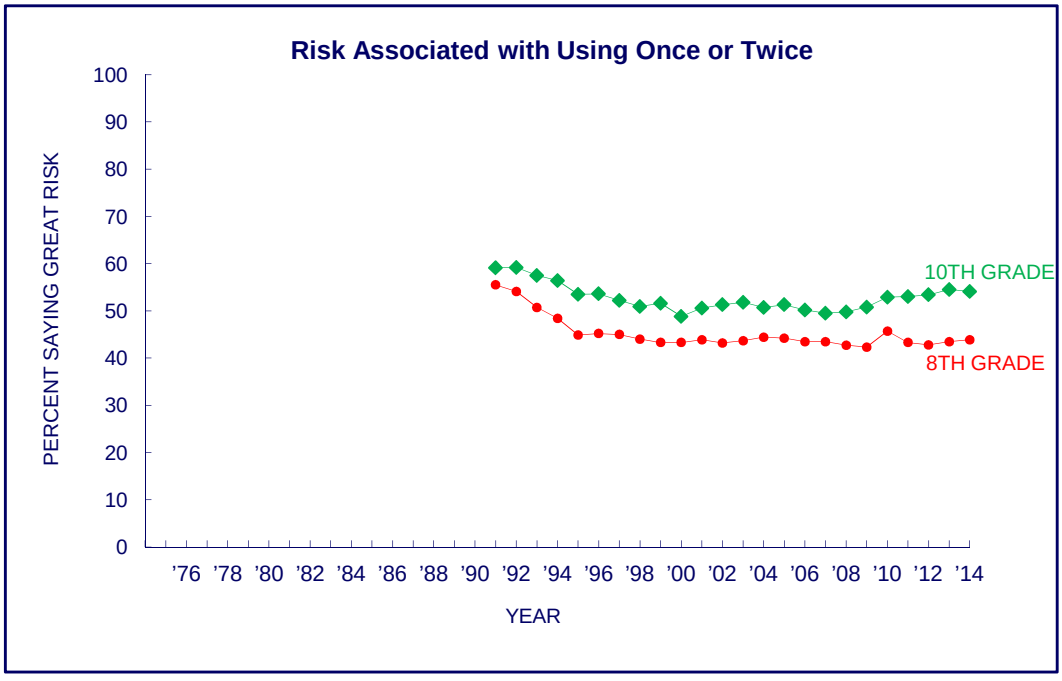
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 8-2a
COCAINE
Trends in Perceived Harmfulness for Different Levels of Use in Grades 8, 10, and 12

12th Graders



8th and 10th Graders

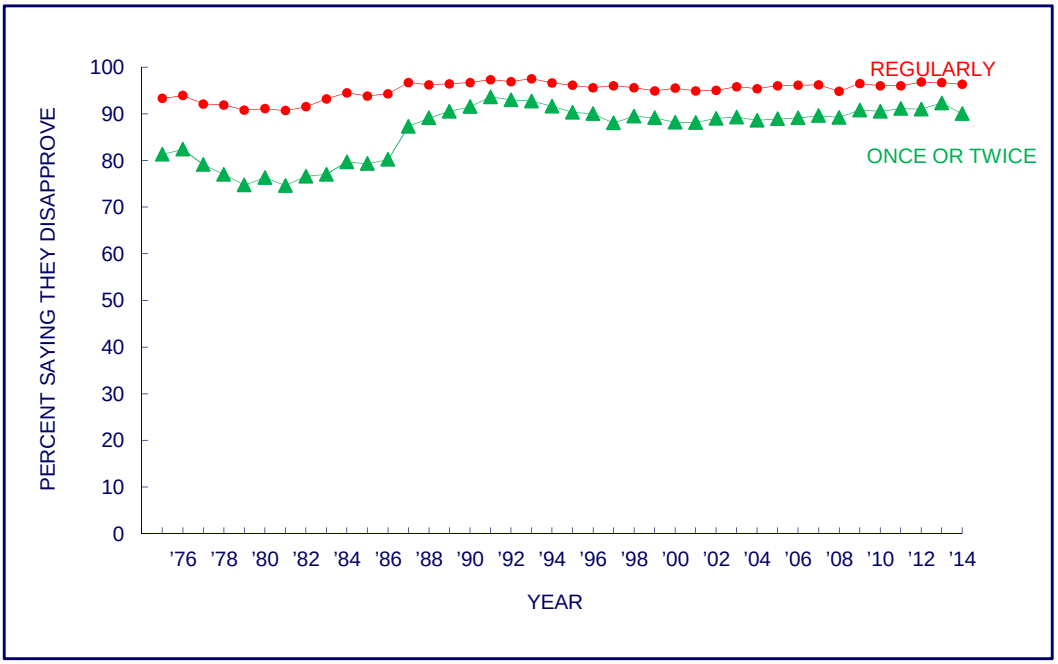


Source. The Monitoring the Future study, the University of Michigan.

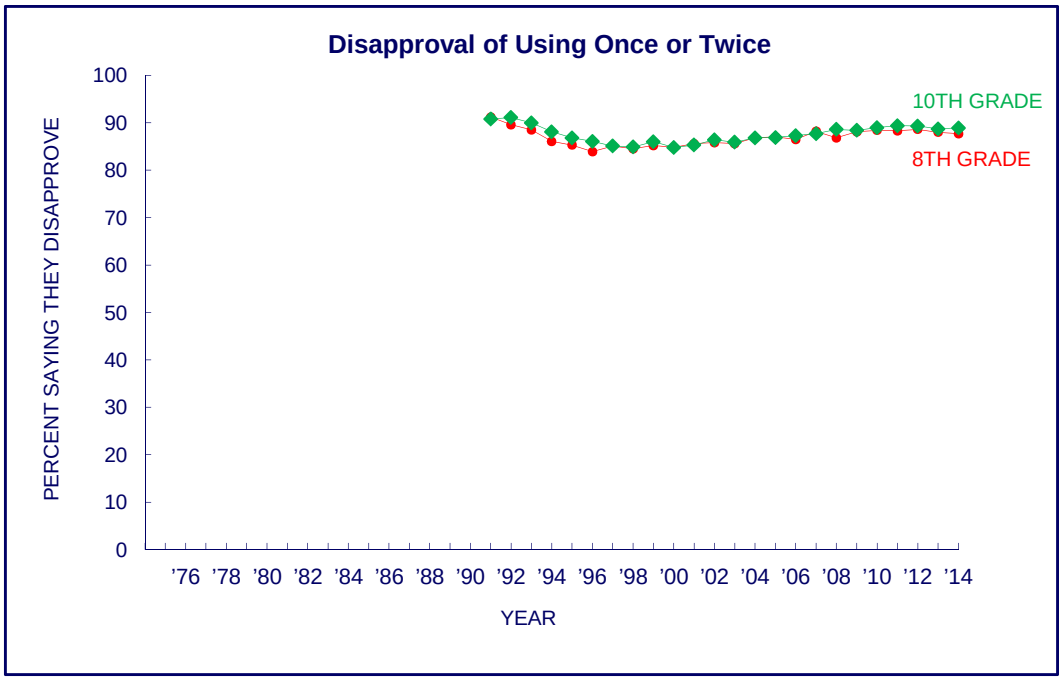
Note. Data presented above for 12th graders pertains to cocaine in general, while the data for 8th and 10th graders pertains specifically to cocaine in powder form.

FIGURE 8-2b
COCAINE
Trends in Disapproval of Different Levels of Use in Grades 8, 10, and 12

12th Graders



8th and 10th Graders

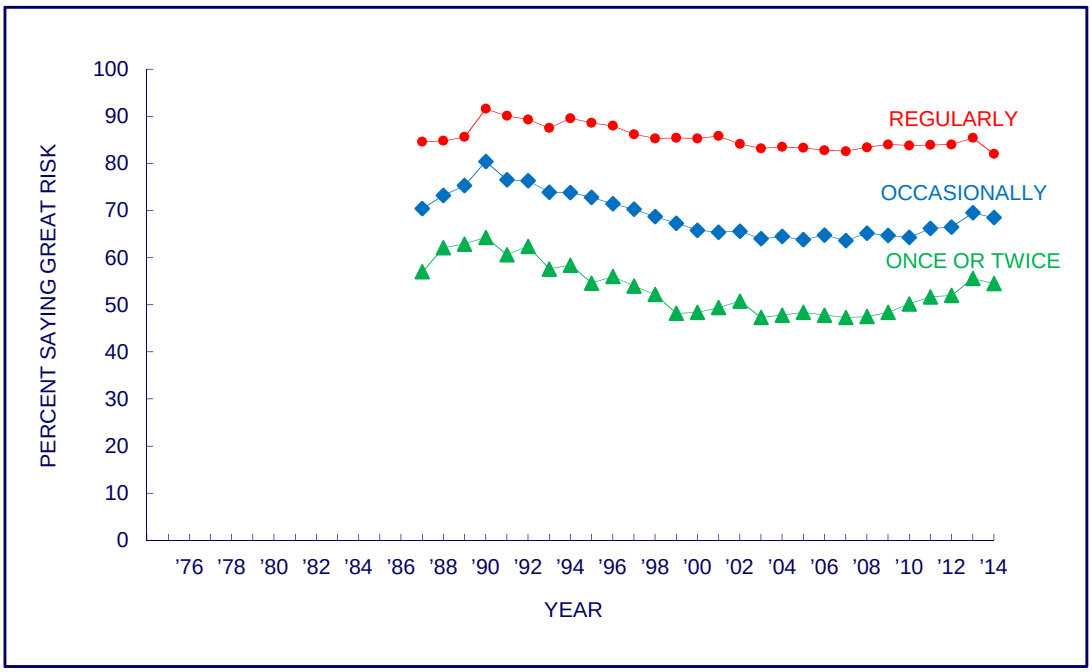


Source. The Monitoring the Future study, the University of Michigan.

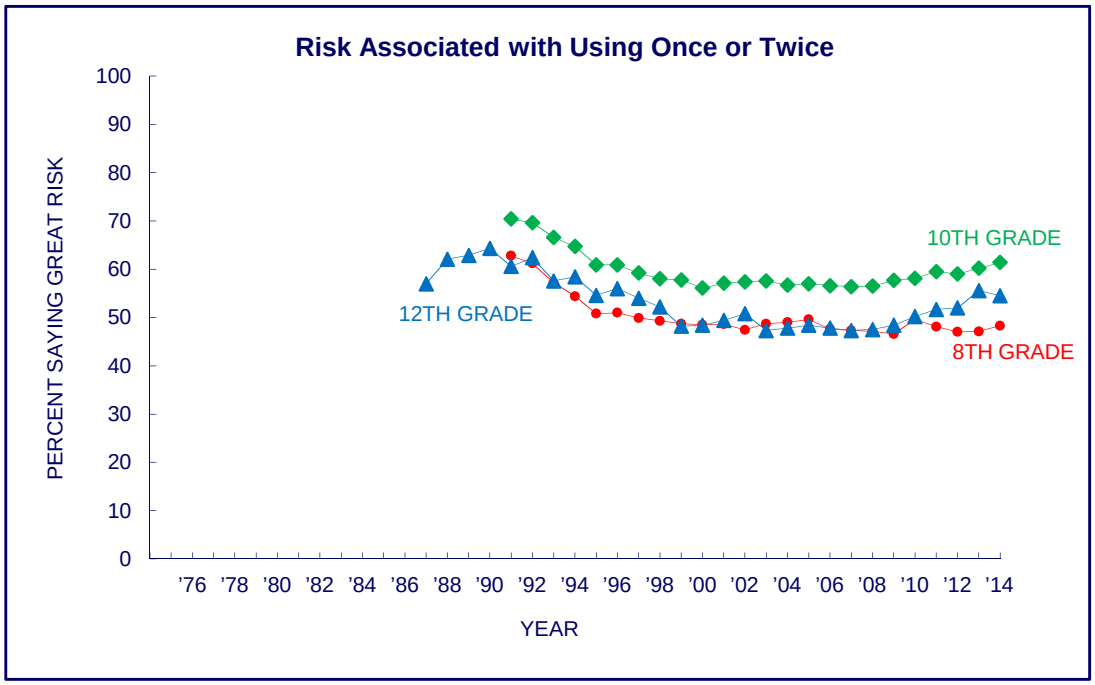
Note. Data presented above for 12th graders pertains to cocaine in general, while the data for 8th and 10th graders pertains specifically to cocaine in powder form.

FIGURE 8-3a
CRACK
Trends in Perceived Harmfulness for Different Levels of Use in Grades 8, 10, and 12

12th Graders



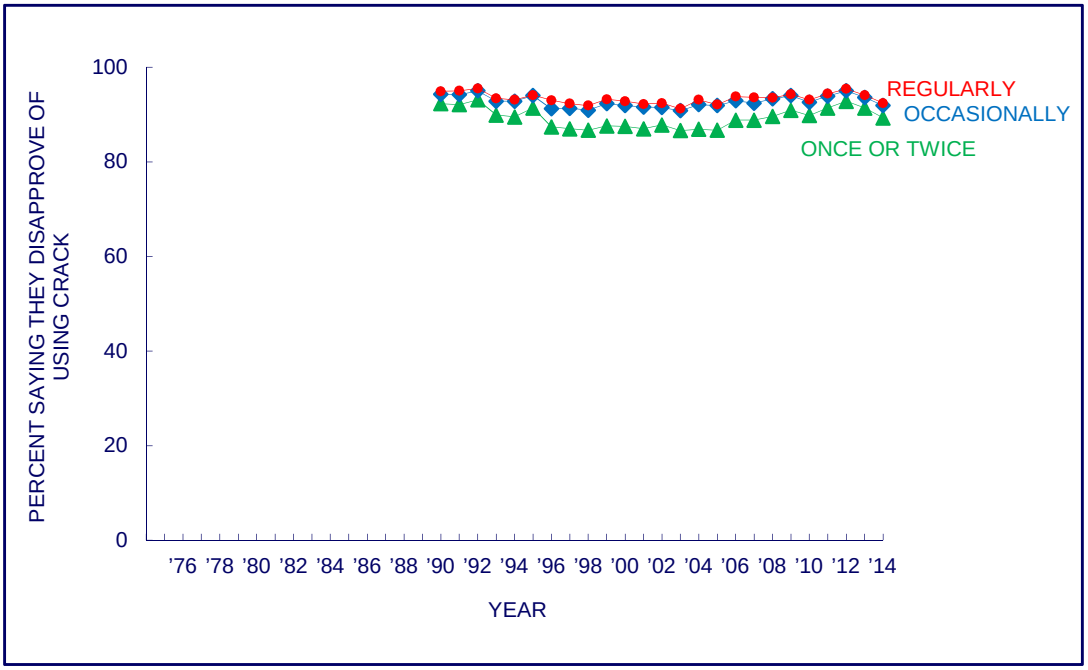
8th, 10th, and 12th Graders



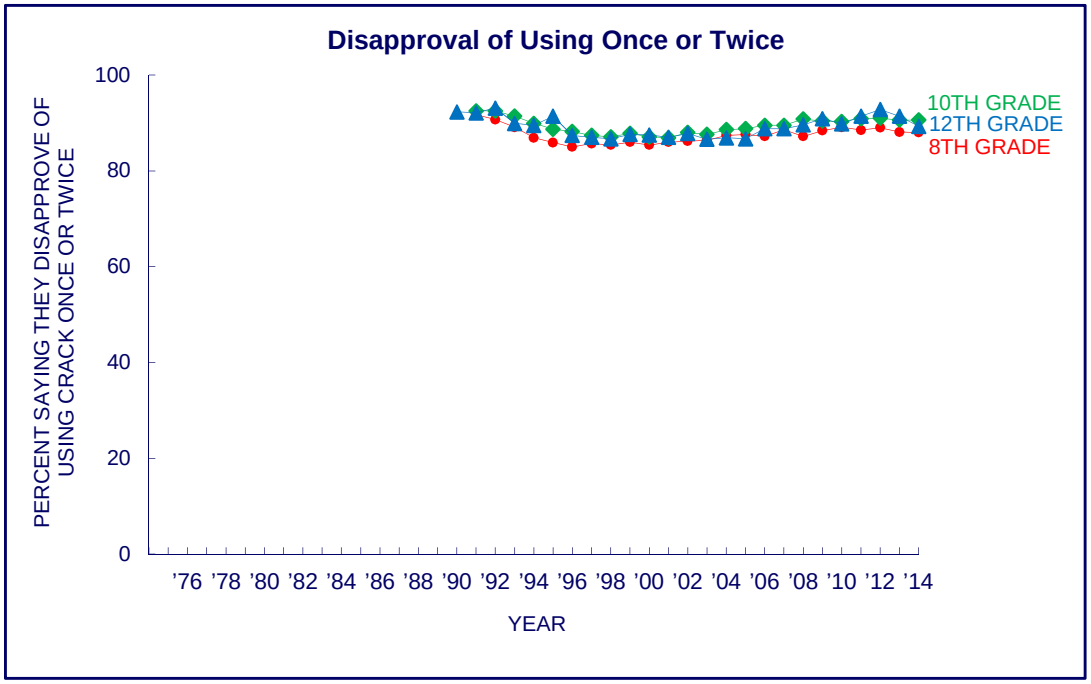
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 8-3b
CRACK
Trends in Disapproval of Different Levels of Use in Grades 8, 10, and 12

12th Graders

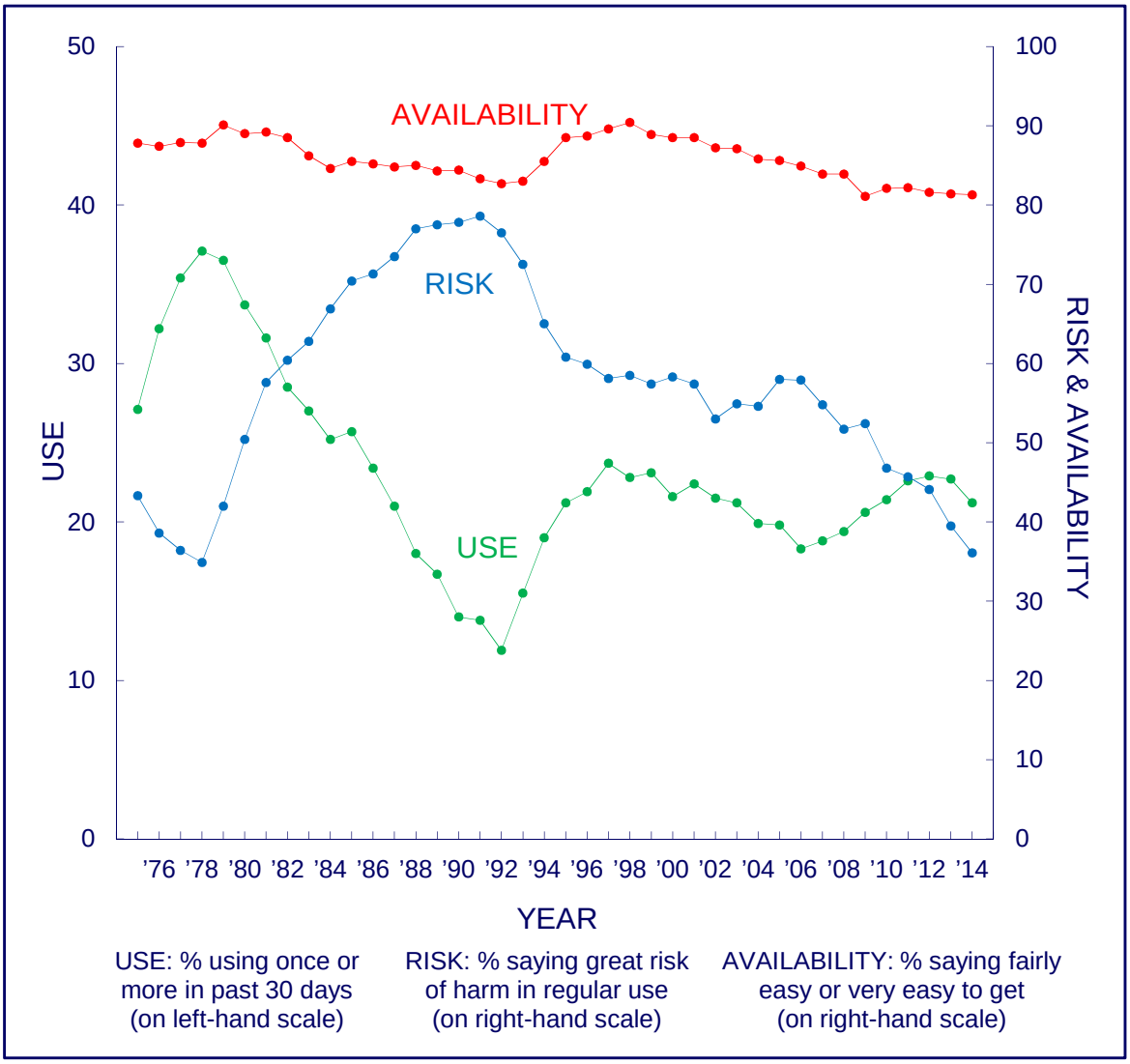


8th, 10th, and 12th Graders



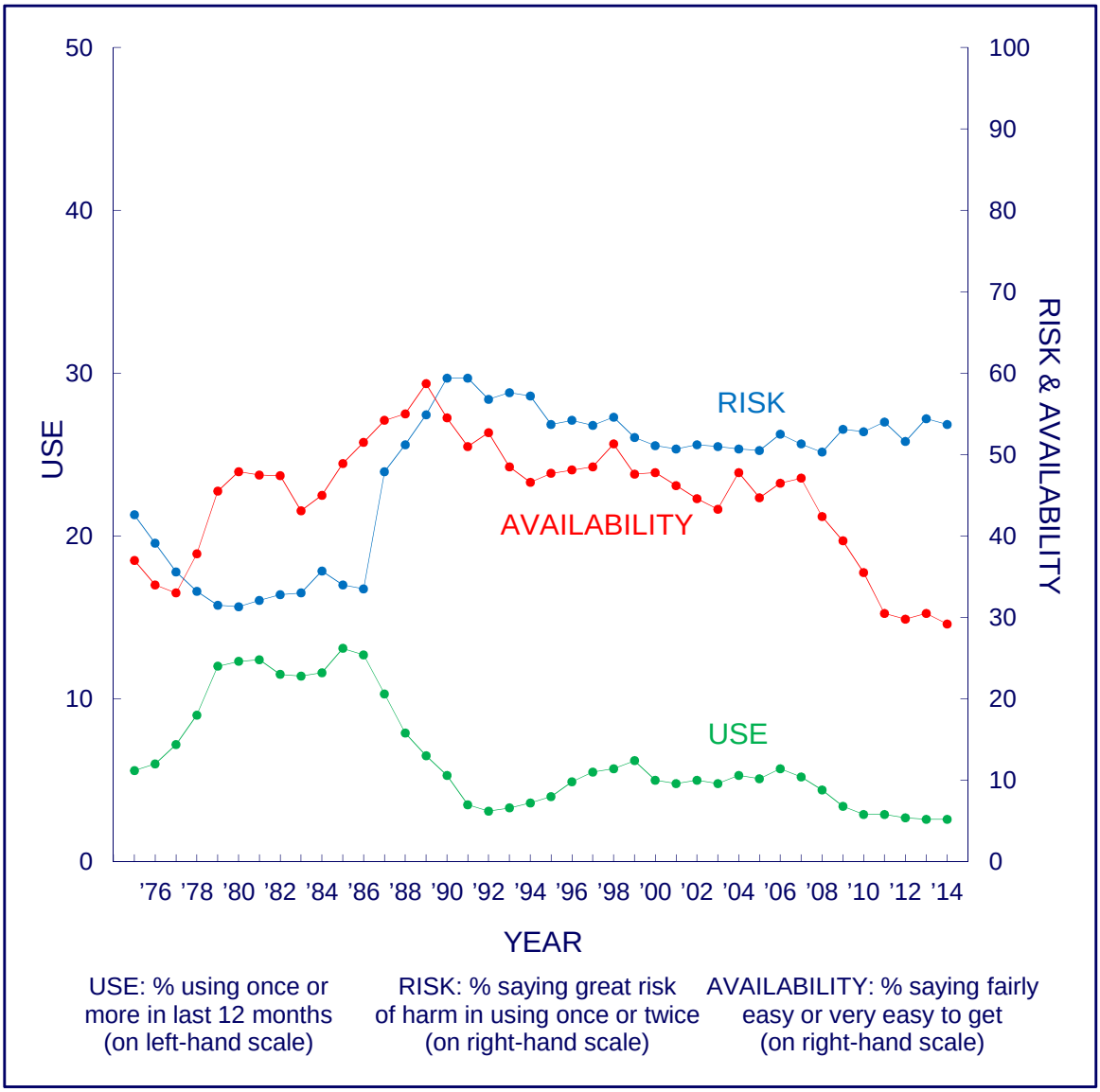
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 8-4
MARIJUANA
Trends in Perceived Availability, Perceived Risk of Regular Use, and Prevalence of Use in Past 30 Days in Grade 12



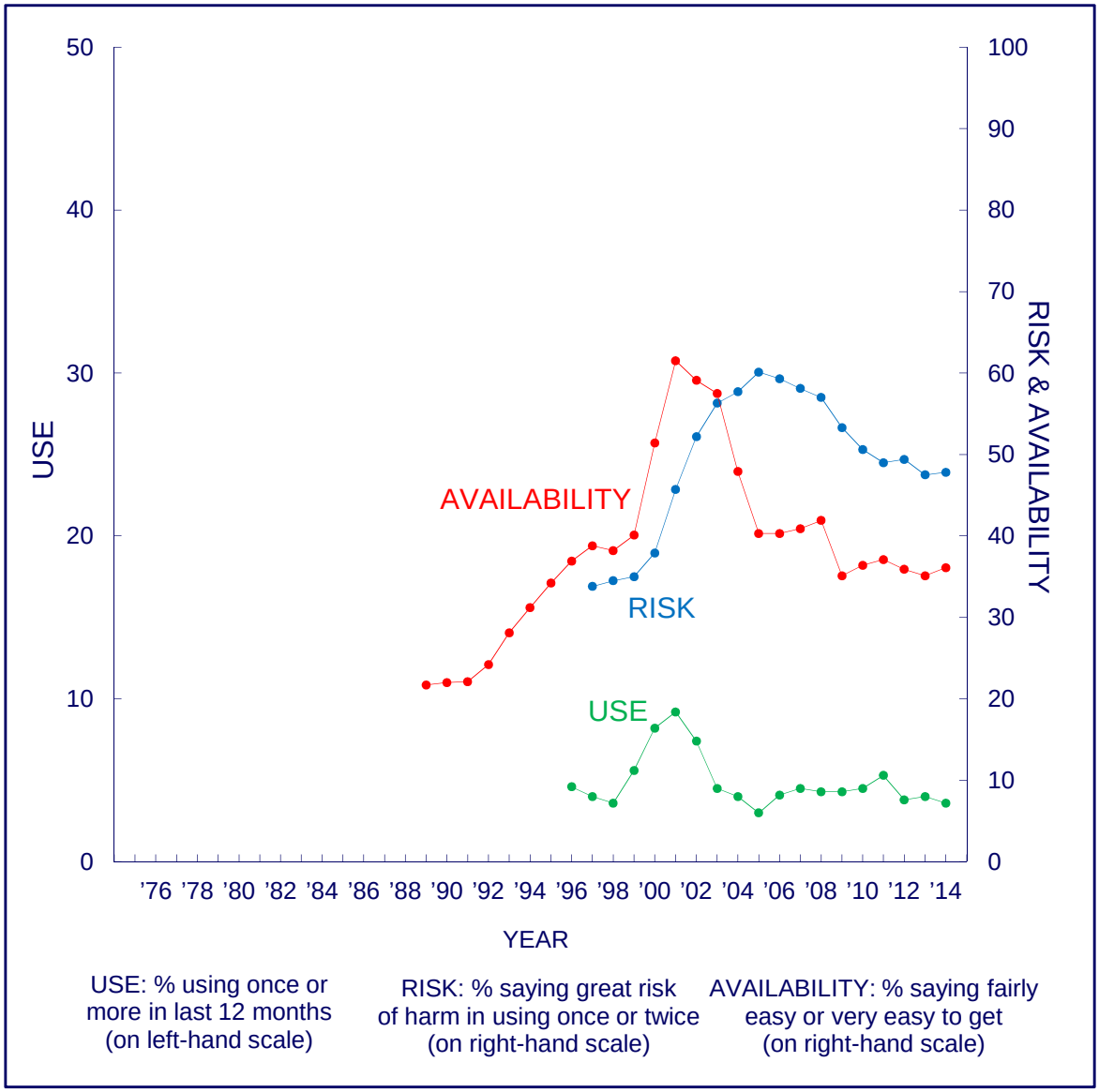
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 8-5
COCAINE
Trends in Perceived Availability, Perceived Risk of Trying, and Prevalence of Use in Last 12 Months in Grade 12



Source. The Monitoring the Future study, the University of Michigan.

FIGURE 8-6
ECSTASY (MDMA)
Trends in Perceived Availability, Perceived Risk of Trying, and Prevalence of Use in Last 12 Months in Grade 12

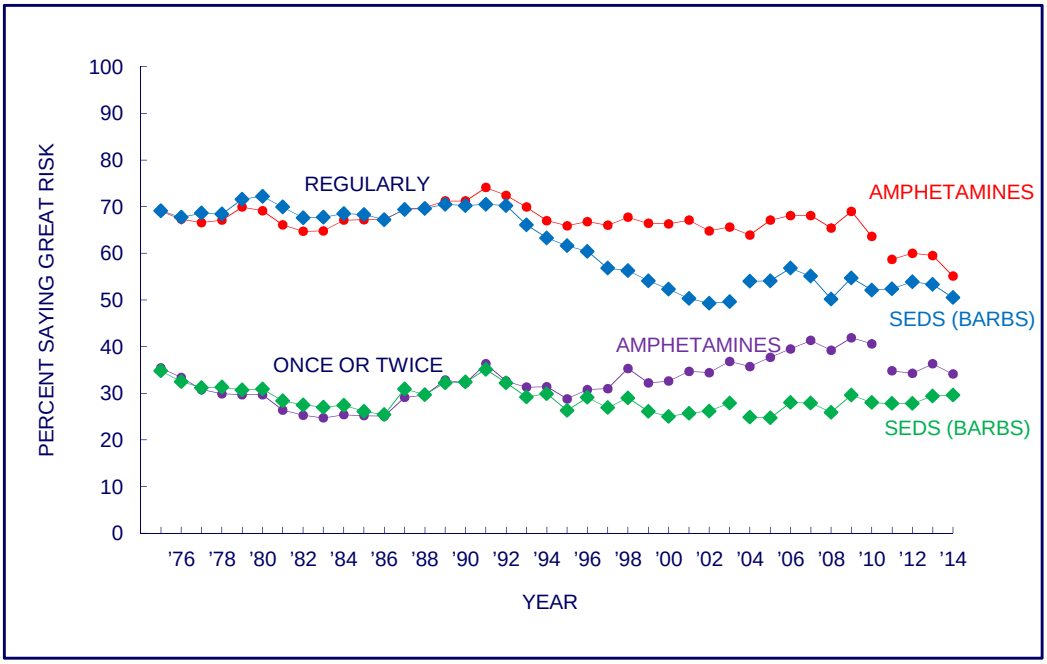


Source. The Monitoring the Future study, the University of Michigan.

FIGURE 8-7a

AMPHETAMINES [a] AND SEDATIVES (BARBITURATES) [b]

Trends in Perceived Harmfulness for Different Levels of Use in Grade 12



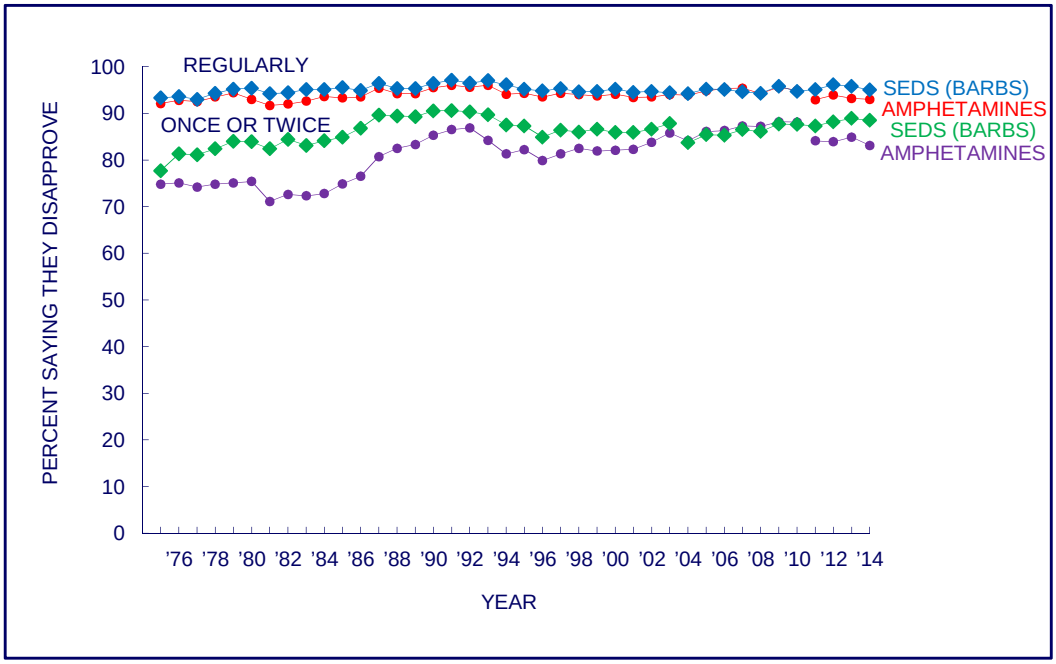
Source. The Monitoring the Future study, the University of Michigan.

Note. Data not available for 8th and 10th graders.

[a]In 2011 the list of examples was changed from uppers, pep pills, bennies, speed to uppers, speed, Adderall, Ritalin, etc. These changes likely explain the discontinuity in the 2011 results.

[b]In 2004 the question text was changed from barbiturates to sedatives/barbiturates and the list of examples was changed from downers, goofballs, reds, yellows, etc. to just downers. These changes likely explain the discontinuity in the 2004 results.

FIGURE 8-7b
AMPHETAMINES [a] AND SEDATIVES (BARBITURATES) [b]
Trends in Disapproval of Different Levels of Use in Grade 12



Source. The Monitoring the Future study, the University of Michigan.

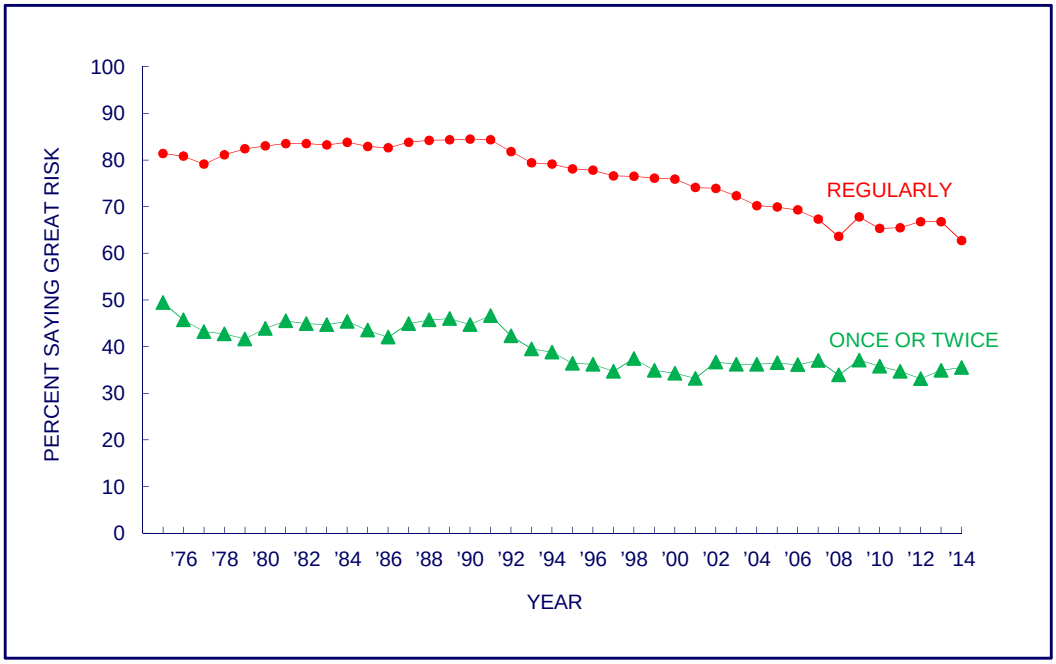
Note. Data not available for 8th and 10th graders.

[a]In 2011 the list of examples was changed from uppers, pep pills, bennies, speed to uppers, speed, Adderall, Ritalin, etc. These changes likely explain the discontinuity in the 2011 results.

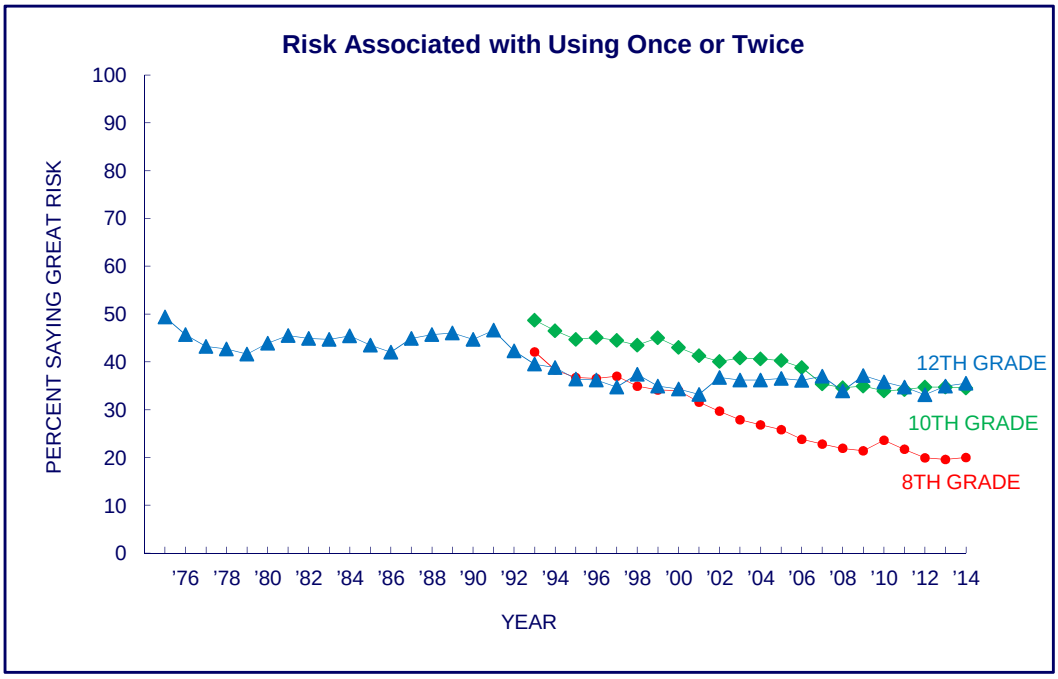
[b]In 2004 the question text was changed from barbiturates to sedatives/barbiturates and the list of examples was changed from downers, goofballs, reds, yellows, etc. to just downers. These changes likely explain the discontinuity in the 2004 results.

FIGURE 8-8a
LSD
Trends in Perceived Harmfulness for Different Levels of Use in Grades 8, 10, and 12

12th Graders



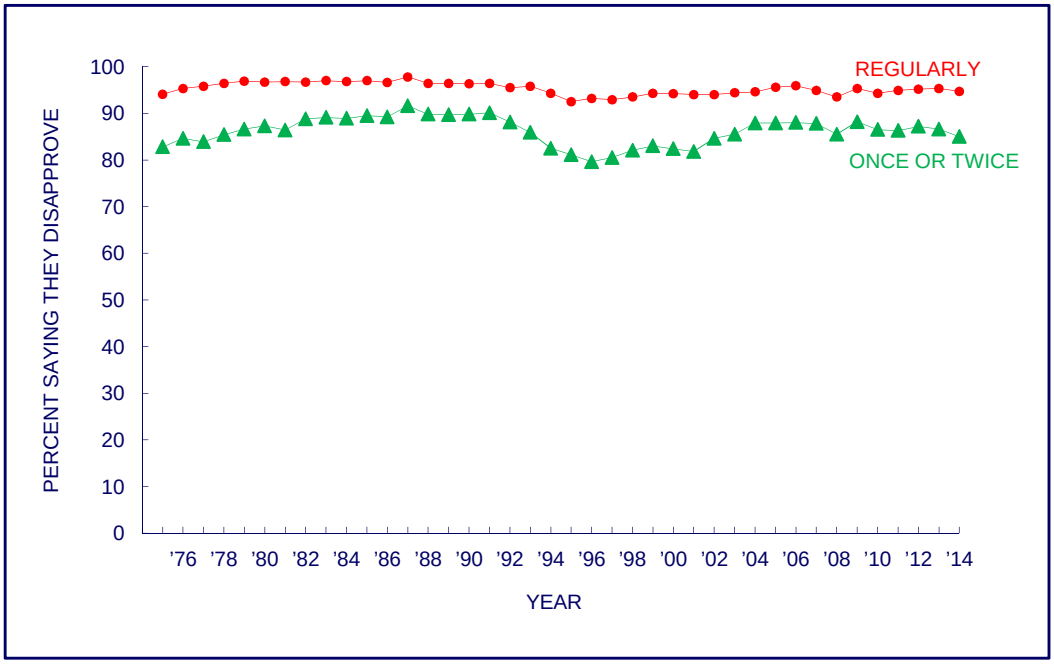
8th, 10th, and 12th Graders



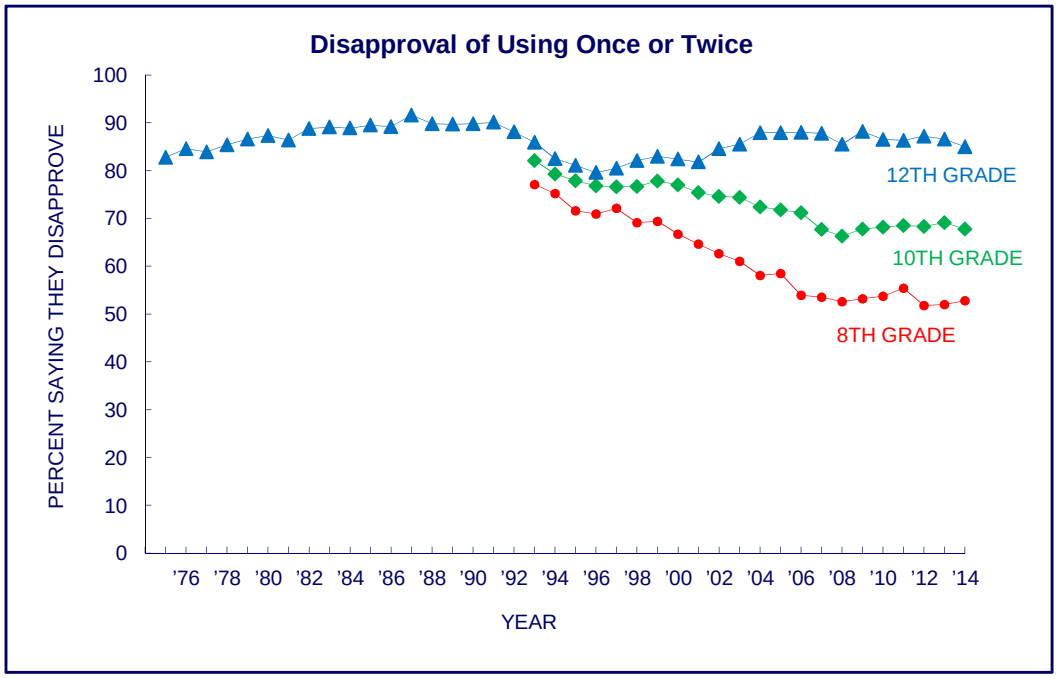
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 8-8b
LSD
Trends in Disapproval of Different Levels of Use in Grades 8, 10, and 12

12th Graders

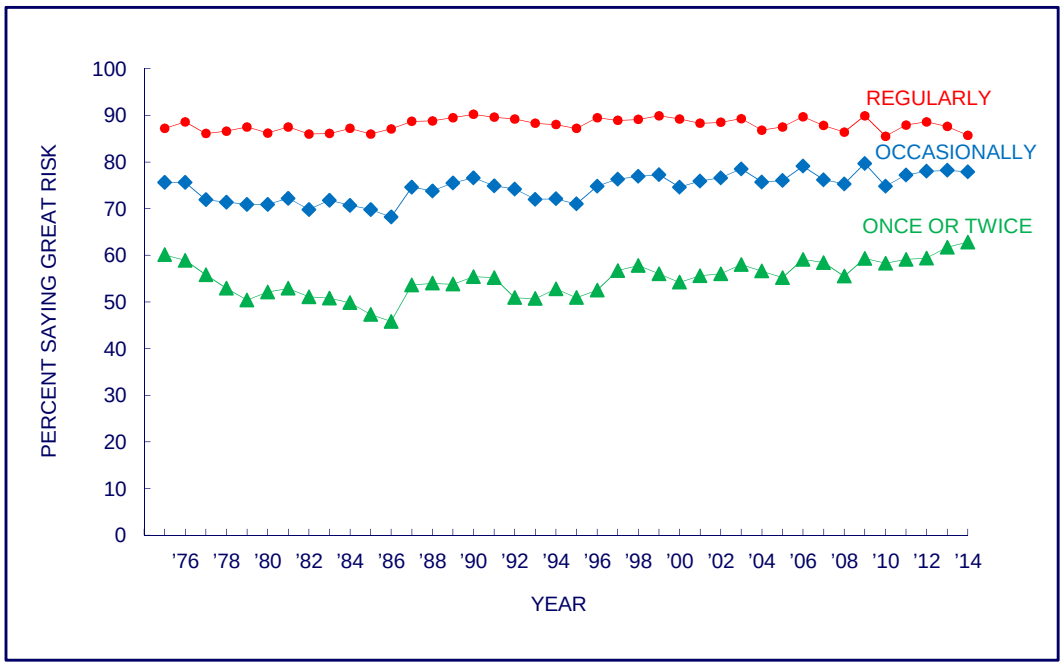


8th, 10th, and 12th Graders



Source. The Monitoring the Future study, the University of Michigan.

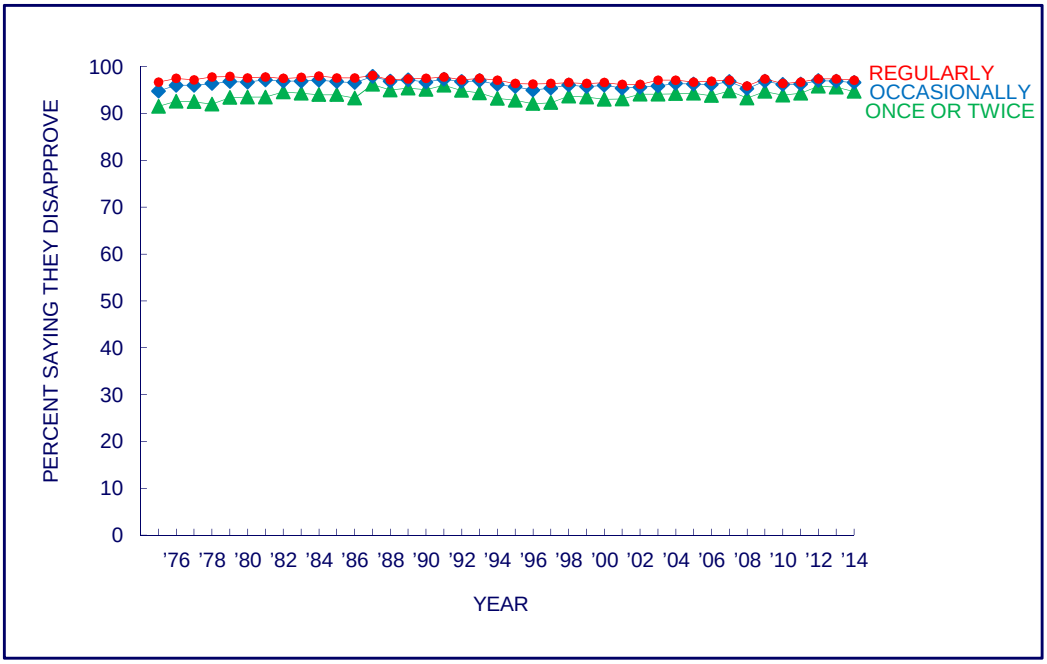
FIGURE 8-9a
HEROIN
Trends in Perceived Harmfulness for Different Levels of Use in Grade 12



Source. The Monitoring the Future study, the University of Michigan.

Note. Data not available for 8th and 10th graders.

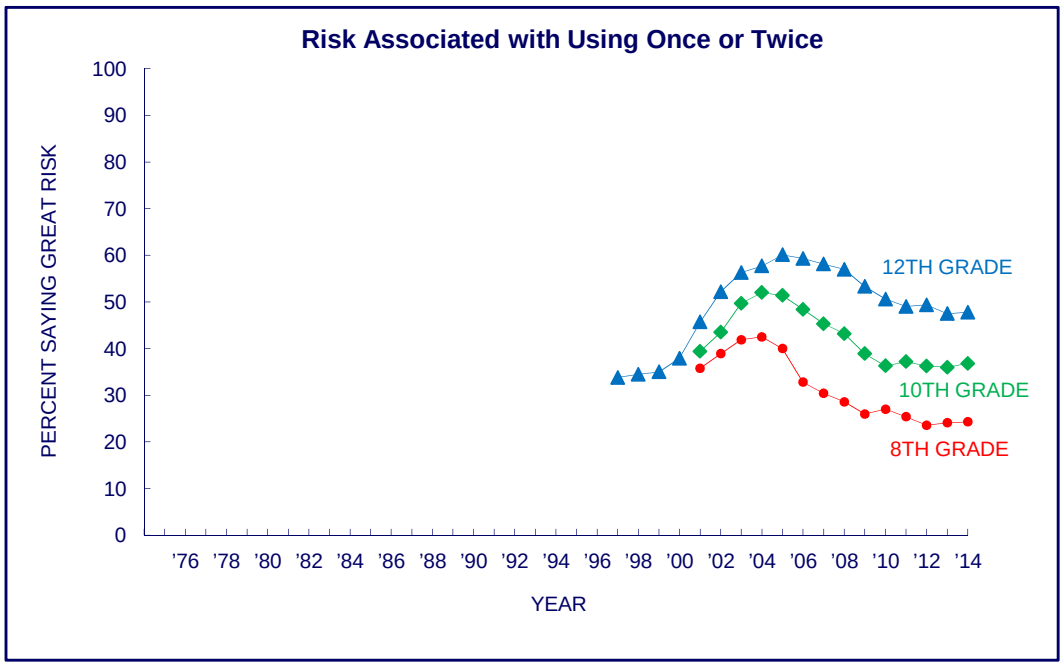
FIGURE 8-9b
HEROIN
Trends in Disapproval of Different Levels of Use in Grade 12



Source. The Monitoring the Future study, the University of Michigan.

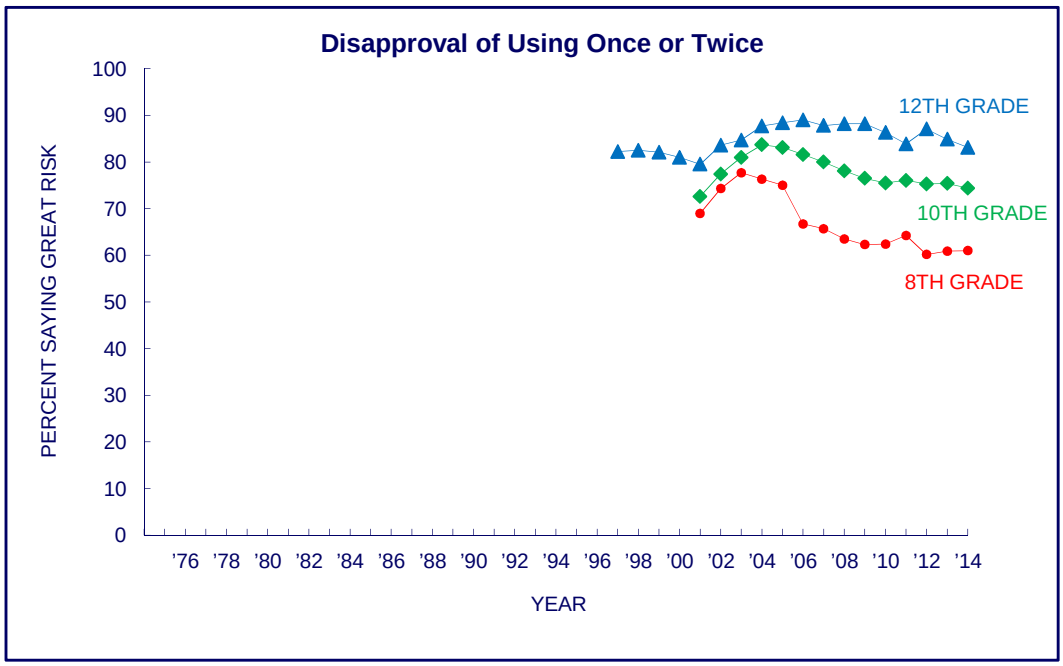
Note. Data not available for 8th and 10th graders.

FIGURE 8-10a
Ecstasy (MDMA)
Trends in Perceived Harmfulness for Experimental Use in Grades 8, 10, and 12



Source. The Monitoring the Future study, the University of Michigan.

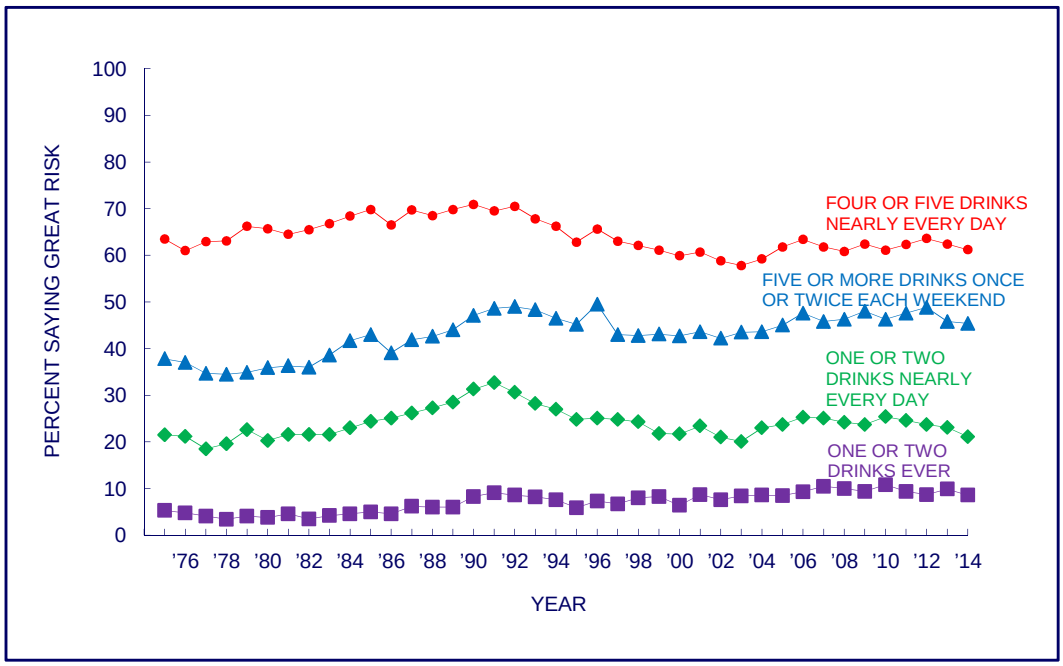
FIGURE 8-10b
Ecstasy (MDMA)
Trends in Disapproval of Experimental Use in Grades 8, 10, and 12



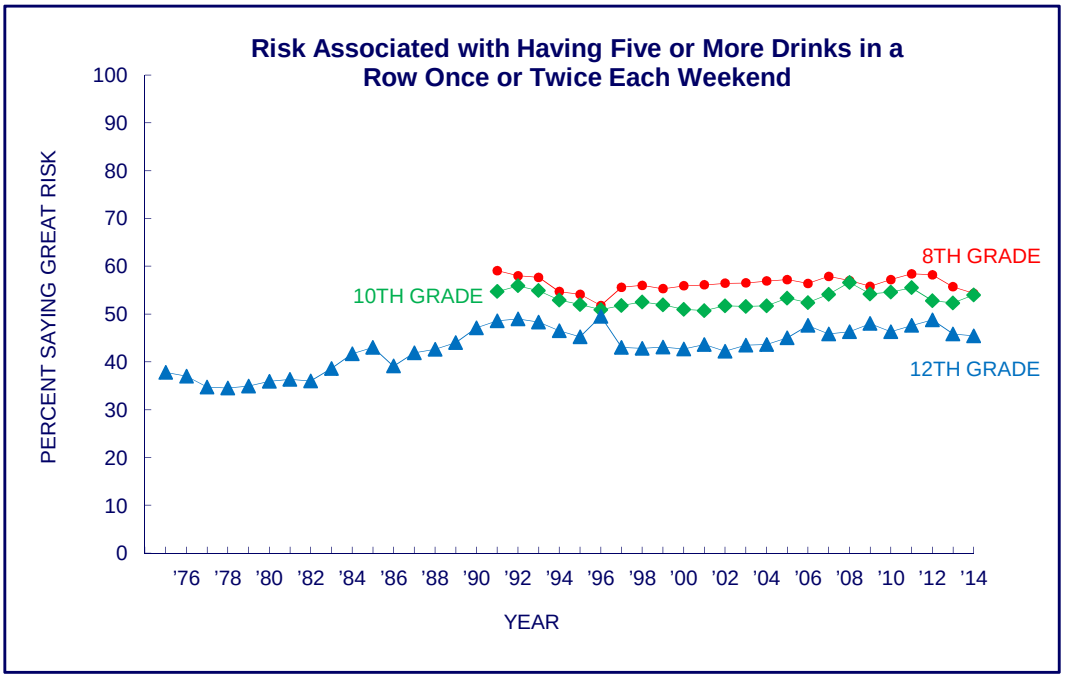
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 8-11a
ALCOHOL
Trends in Perceived Harmfulness for Different Levels of Use in Grades 8, 10, and 12

12th Graders



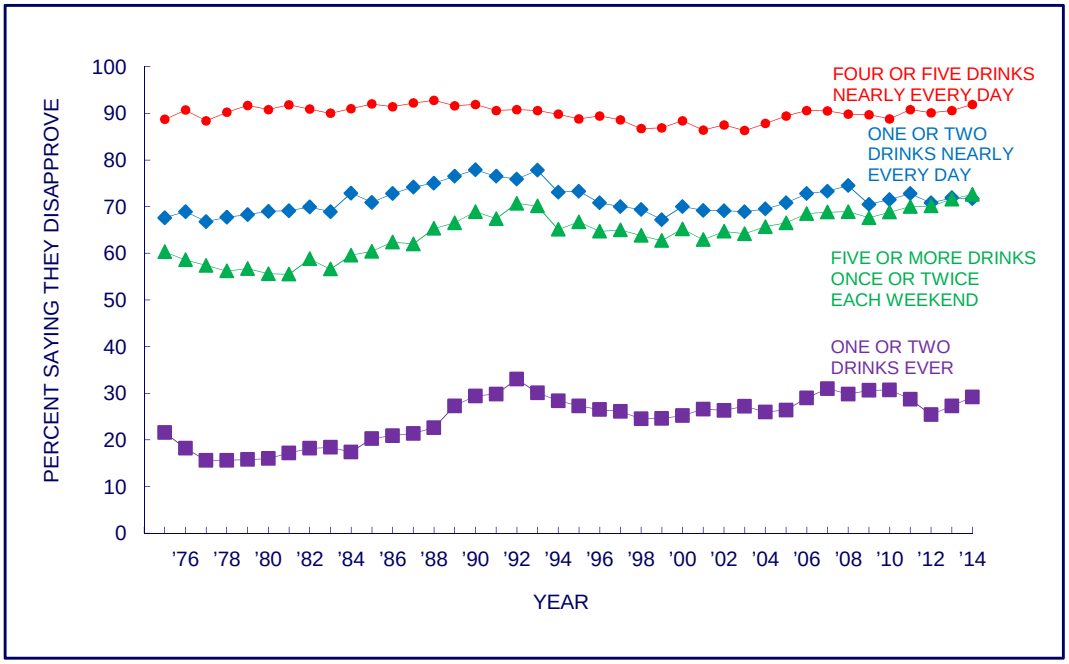
8th, 10th, and 12th Graders



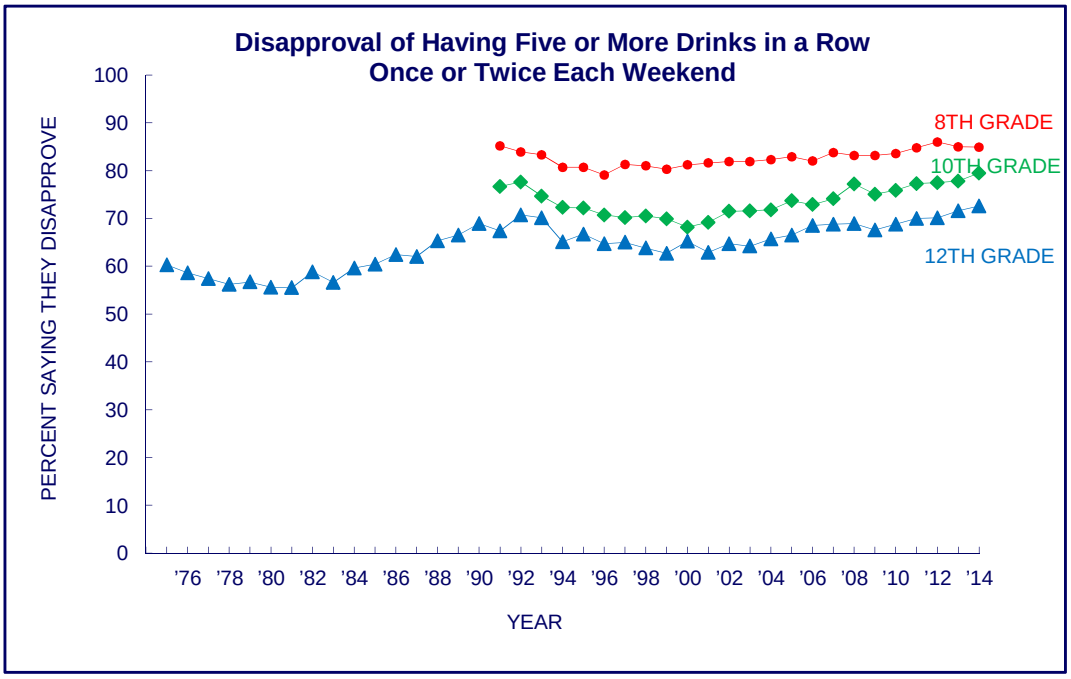
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 8-11b
ALCOHOL
Trends in Disapproval of Different Levels of Use in Grades 8, 10, and 12

12th Graders

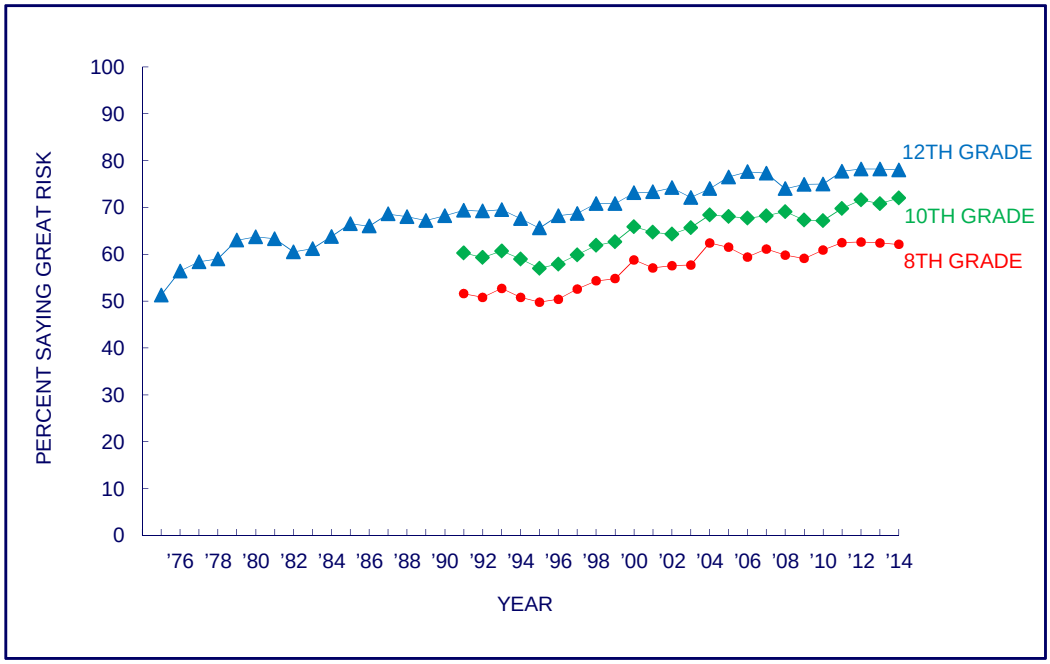


8th, 10th, and 12th Graders



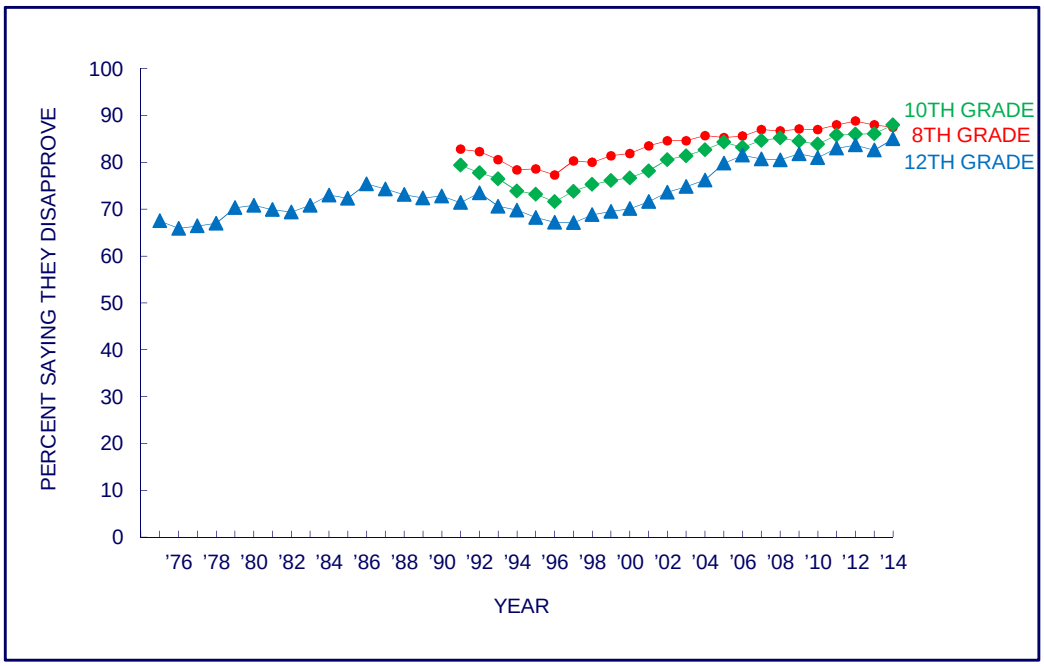
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 8-12a
CIGARETTES
Trends in Perceived Harmfulness of Smoking 1 or More Packs per Day in Grades 8, 10, and 12



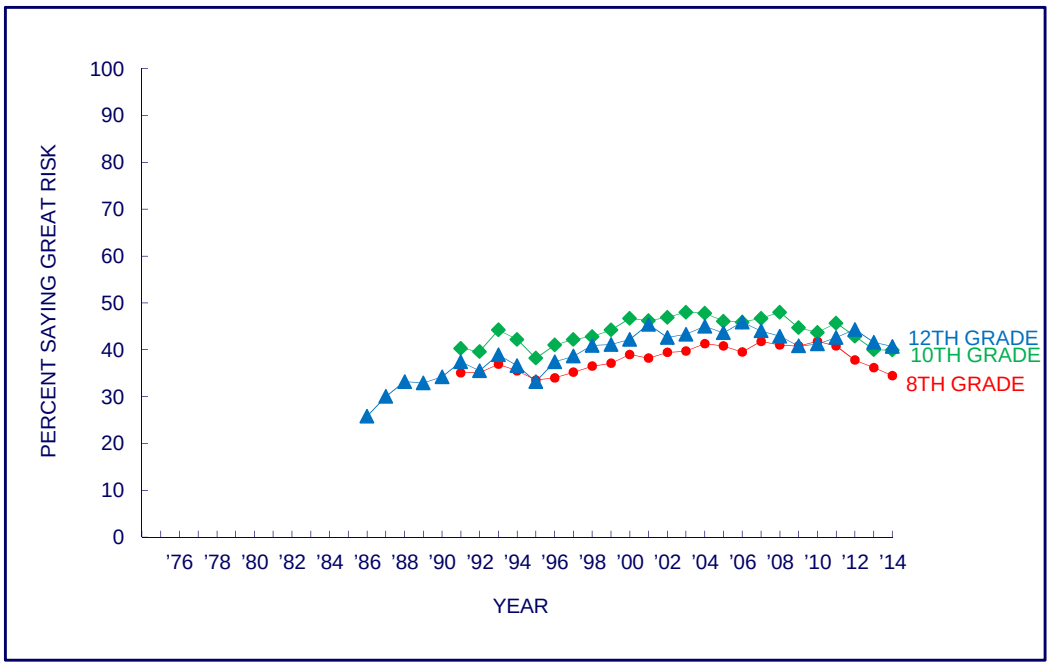
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 8-12b
CIGARETTES
Trends in Disapproval of Smoking 1 or More Packs per Day in Grades 8, 10, and 12



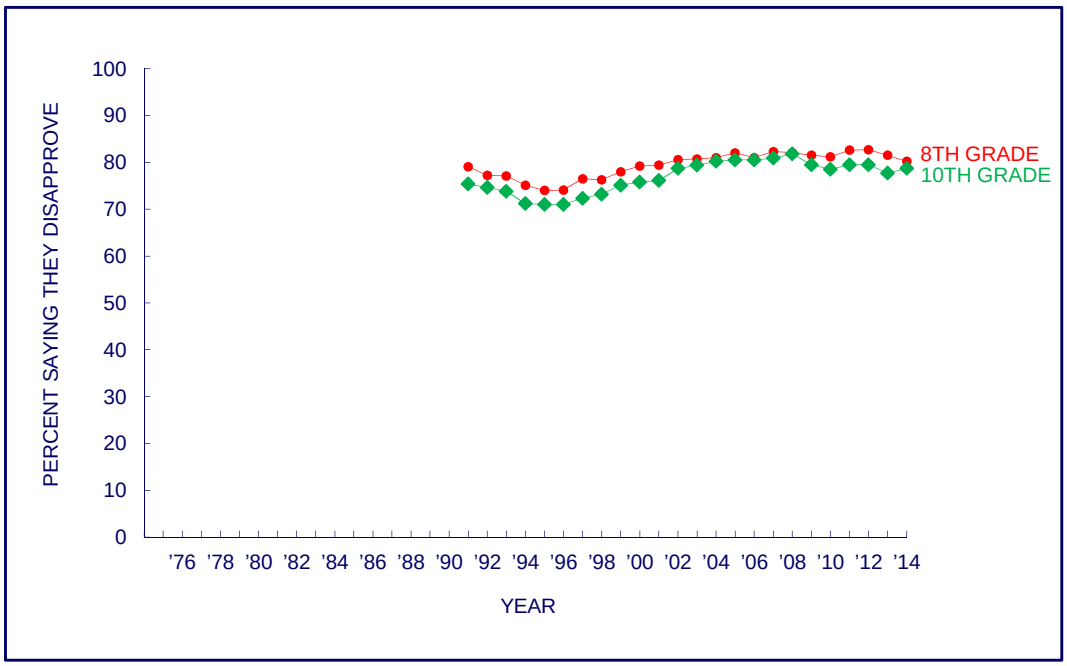
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 8-13a
SMOKELESS TOBACCO
Trends in Perceived Harmfulness of Regular Use in Grades 8, 10, and 12



Source. The Monitoring the Future study, the University of Michigan.

FIGURE 8-13b
SMOKELESS TOBACCO
Trends in Disapproval of Regular Use in Grades 8 and 10



Source. The Monitoring the Future study, the University of Michigan.

Note. Data not available for 12th graders.

Chapter 9

THE SOCIAL CONTEXT

Substance abuse is an individual behavior, but it occurs within a larger social context. In this chapter we consider some of the forces in the social context that may influence attitudes and beliefs about drugs as well as use. For 8th, 10th, and 12th graders, we report the proportions of friends who use drugs and the perceived availability of various drugs. In addition, for 12th graders only, we report measures of friends' perceived disapproval of drug use, and the extent of direct exposure to people using drugs.

Measures of perceived *parental* attitudes were included near the beginning of the study, in 1975–1979, but these measures were dropped because students' responses varied little over time and across drugs. Even at the height of the drug epidemic in 1979, a large majority of 12th graders reported that they believed their parents would disapprove or strongly disapprove of their engaging in any of the drug using behaviors listed in Table 9-1. (The relevant early data on parents are displayed in Figures 9-1a through 9-2b, but are not discussed except in comparison to peer attitudes.) Thus, the data about parental attitudes presented in this chapter are based on those very early results. We have retained them here to illustrate that drug use appears to have been one area in which the perceived position of parents approached unanimity. (Parents of 12th graders in 1975-1979 were much less experienced in drug use than parents of 12th graders today, so it is possible that there would be less unanimity today.)

PERCEIVED ATTITUDES OF FRIENDS: TWELFTH GRADERS

Perceptions of Friends' Attitudes

Since the beginning of the study, a set of questions has asked 12th graders to estimate their friends' attitudes about drug use (see Table 9-1). These questions ask, "*How do you think your close friends feel (or would feel) about you* [using the specified drug at the specified level]?" The questions parallel the questions asked of students about their own attitudes, which are discussed in Chapter 8. Disapproval is defined here as the percent of respondents indicating that their close friends would either "disapprove" or "strongly disapprove" of their using each drug at the specified level. Highlights of the 2014 findings include the following:

- In 2014, overwhelming majorities of 12th graders reported that their friends would disapprove of their even experimenting with ("trying once or twice") ***crack*** (93%) or ***cocaine powder*** (91%). Nearly as many indicated that their friends would disapprove of their trying ***cocaine*** in general (89%), ***LSD*** (85%), or ***amphetamines*** (83%). Presumably, if ***heroin***, ***PCP***, or ***crystal methamphetamine*** (***ice***) were on the list, they too would show very high peer disapproval.

- Half of 12th graders in 2014 (50%) thought their close friends would disapprove of them experimenting with ***marijuana***, and nearly three fourths (70%) reported that their friends would disapprove of them smoking marijuana regularly.

- About five sixths of all 2014 twelfth graders (84%) reported they would face peer disapproval if they ***smoked a pack or more of cigarettes daily***.

- The proportion of 2014 12th graders who anticipated disapproval from friends for alcohol use varied with level of consumption: 66% for ***heavy drinking on weekends***, 74% for consuming ***one or two drinks nearly every day***, and 84% for having ***four or five drinks nearly every day***.

In sum, peer norms among 12th-grade students differ considerably for various drugs and also for varying degrees of involvement with those drugs, but overall they tend to be quite conservative. *The majority of* 12th *graders have friendship circles that do not condone the use of illicit drugs other than marijuana, and half (50%) of* 12th *graders believe that their close friends would disapprove of their even trying marijuana.*

Although these questions are not included in the 8th- and 10th-grade questionnaires, there seems little doubt that these students would have reported peer norms at least as restrictive as the 12th graders, and quite likely more restrictive ones, based on the cross-grade comparisons in levels of personal disapproval (discussed in Chapter 8). Cigarette smoking might be an exception, because there is less personal disapproval at lower grades.

A Comparison of the Attitudes of Parents, Peers, and Twelfth Graders

A comparison of 12th graders' perceptions of drug use disapproval by their friends versus their parents for the classes of 1975 to 1979, the only years for which comparison data are available, shows several relevant findings.

- First, there was rather little variability—between drugs or across years—in students' perceptions of their *parents'* attitudes. As mentioned previously, nearly *all* 12th graders in each year (1975-1979) said their parents would disapprove of *any* of the drug behaviors listed. However, *peer* norms varied considerably from drug to drug and also across time, thus helping to explain the variability in the respondents' own attitudes and use. While parental norms did not show much variance, we emphasize that this is quite different from saying that parental attitudes do not matter, or even that they matter less than peer attitudes.

- Despite differences in how students characterized parents' versus friends' disapproval of drug use in 1975 to 1979, they ranked disapproval of specific drugs similarly for the two groups.

- A comparison with 12th graders' own attitudes regarding drug use reveals that, on average, they were much more in accord with peers than parents, at least in the years in which both were measured (see Figures 9-1a through 9-2b). The differences between 12th graders' own disapproval ratings in 1979 and those attributed to their parents tended to be large, with parents seen as more conservative overall in relation to ***every drug***, licit or illicit. The largest difference occurred in the case of ***marijuana*** experimentation, of which only 34% of 12th graders in 1979 said they disapproved, versus 85% who said their parents would disapprove.

Trends in Perceptions of Friends' Attitudes

A number of important changes in 12th graders' perceptions of peer attitudes has taken place over the life of the study. These shifts are presented graphically in Figures 9-1a through 9-2b. Adjusted trend lines have been used for data collected before 1980. We discovered that the deletion in 1980 of the parental attitude questions, which were located immediately preceding the questions about friends' attitudes, removed what we judged to be an artifactual depression of the ratings of friends' attitudes, a phenomenon known as a *question-context effect*. This effect was particularly evident in the trend lines dealing with friends' disapproval of alcohol use, where otherwise smooth trend lines for peer disapproval showed abrupt upward shifts in 1980. It appears that when questions about parents' attitudes were present, respondents tended to understate peer disapproval in order to emphasize the *difference* between their parents' attitudes and their peers' attitudes. In the adjusted lines, we have attempted to correct for that artifactual depression in the 1975, 1977, and 1979 scores[1] and provide a more accurate picture of the change that took place then. Note that the question-context effect seems to have had more influence on the questions dealing with cigarettes and alcohol than on those dealing with illicit drugs. Aside from this change attributable to question context, a number of real and important changes have occurred in respondent perceptions of their friends' disapproval, as discussed below.

- For each level of ***marijuana*** use—trying once or twice, occasional use, and regular use—perceived disapproval by friends has slightly but consistently decreased over the past several years (Figure 9-1a). For example, 12th-grade students currently report that 50% of their friends disapprove of experimental marijuana use, down from 61% in 2009. This finding suggests that social norms regarding marijuana use among adolescents have been relaxing in recent years. Or, at least, in recent years adolescents *perceive* relaxing social norms, a perception that in itself can have an impact on individual marijuana behavior. Importantly, the recent decline in perceived peer disapproval accompanied the recent increase in self-reported marijuana use but did not precede it.

- In general, throughout the years of the study adolescents' perception of disapproval from their peers has tracked closely with their own personal levels of disapproval. This close tracking is consistent with the general principle that peers exert a substantial influence on adolescent attitudes and beliefs. Looking back from the latest years to earlier ones, personal and peers' disapproval both show: a decline in recent years, a small, overall increase from the late 1990s until the late 2000s, a marked decline during the 1990s relapse, and a substantial increase from the late 1970s to the early 1990s.

- Peer disapproval of ***cocaine*** use has been high and has changed little since 1988 (Figure 9-1b). The proportion of 12th graders who report that their friends disapprove of trying cocaine "once or twice" has been 87% or higher since 1988, and the proportion disapproving of "occasional" cocaine use has been above 90% during the same period. Questions on friends' attitudes about cocaine use were added to the study in 1986. Between

[1] The correction evolved as follows: We assumed that a more accurate estimate of the true change between 1979 and 1980 could be obtained by taking an average of the changes observed in the year prior and the year subsequent, rather than by taking the observed change (which we knew to contain the effect of a change in question context). We thus calculated an *adjusted* 1979–1980 change score by taking an average of one half the 1977–1979 change score (our best estimate of the 1978–1979 change) plus one half the 1980–1981 change score. This estimated change score was then subtracted from the observed change score for 1979–1980, the difference being our estimate of the amount by which peer disapproval of the behavior in question was being understated due to question context prior to 1980. The 1975, 1977, and 1979 observations were then adjusted upward by the amount of that correction factor.

1986 and 1992, the proportion of students saying that their close friends would disapprove of their experimenting with cocaine rose from 80% to 92%. This corresponds to an even larger increase in perceived risk and a precipitous drop in actual use, suggesting that fears of potential harm caused cocaine use to become less acceptable,[2,3] and low levels of acceptability have persisted over the past three decades. (The perception of friends' disapproval of ***crack cocaine,*** first asked about in 1989, closely parallels the findings for cocaine in general, but at slightly higher levels of perceived disapproval.)

- Perceived peer disapproval of trying ***LSD*** once or twice**,** has been above 84% and steady since 2000 (Figure 9-1b). Over the course of the study the level of disapproval has been steady, with the exception of a decline during the 1990's drug relapse, when it dipped down to a nadir of 79% in 1997. It then rebounded and from 1998 through 2006 perceived peer disapproval increased to 90%, while use decreased substantially during that interval. As with most drugs, levels of peer disapproval and personal disapproval track closely over the course of the study.

- As is true for most of the illicit drugs other than marijuana, perceived peer disapproval of trying ***amphetamines*** once or twice has been quite high for the entire life of the study, though there have been some important fluctuations (Figure 9-1c). The level of disapproval in 2014 was 83%, and has gradually declined since 2007, when it was 87%. Disapproval in 2007 was the highest level ever recorded by the study. In previous years peer disapproval followed the common pattern of a decline during the 1990s drug relapse, and an increase beforehand and afterwards. Peer disapproval and personal disapproval have tracked very closely over the life of the study.

- For ***alcohol,*** there are three charts in Figure 9-2a: one for daily use, one for 4-5 drinks nearly every day, and one for weekend binge drinking. Perceived peer disapproval differs considerably for these three behavior patterns. In 2014 the proportion of peers who disapproved of ***weekend binge drinking*** was at the highest level ever recorded by the study and stands at 66%. Disapproval increased to this level from lows of 51% in the early 1980s. This increase was interrupted by a pause and slight decline in levels of disapproval during the 1990s relapse. Prior to the relapse, during the 1983-1992 period, laws mandating an increase in the drinking age were enacted in a number of states, ad campaigns were launched aimed at deterring drinking and driving, and subsequent ad campaigns encouraged the use of designated drivers. Some divergence occurred when 12th graders' own attitudes became less tolerant while perceived peer norms among friends changed more slowly, suggesting some collective ignorance of the extent to which peers had come to disapprove of weekend binge drinking. In general, binge drinking has been in decline among 12th graders during the period of increased peer disapproval and is now at a historic low.

[2] Bachman, J. G., Johnston, L. D., & O'Malley, P. M. (1990). Explaining the recent decline in cocaine use among young adults: Further evidence that perceived risks and disapproval lead to reduced drug use. *Journal of Health and Social Behavior, 31*, 173–184.

[3] Johnston, L. D. (1991). Toward a theory of drug epidemics. In R. L. Donohew, H. Sypher, & W. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp. 93–132). Hillsdale, NJ: Lawrence Erlbaum. Available online at http://monitoringthefuture.org/pubs/chapters/ldj1991theory.pdf.

- The proportion of 12th-grade students who believe that their friends disapprove of ***heavy daily drinking*** has been above 80% and changed little throughout the course of the study (middle panel of Figure 9-2a). Peer disapproval of having ***one or two drinks nearly every day*** (top panel of Figure 9-2a) saw some growth between 1981 and 1990 (from 70% to 79%) but has fallen back some since then, to 74% in 2014.

- Peer disapproval of ***regular cigarette smoking*** is near a historic high. In 2014 the proportion of 12th graders saying that their friends would disapprove of their smoking a pack or more daily was 84.0%, a level second only to the previous year, when its 84.4%. In general, peer disapproval of regular cigarette smoking has steadily increased over the course of the study from a low of 64% in 1975, with an exception of a slight decline during the 1990s relapse. Clearly, smoking became a less acceptable behavior among young people over the life of the study, and this corresponds to a period of considerable decline in adolescent smoking.

Methodological Implications

The very close tracking of *self-reported disapproval* with *reported friends' disapproval*—across all of the drugs about which both variables are asked of 12th graders—suggests that self-reported disapproval gives a very good approximation of perceived peer norms in the aggregate (see Figures 9-1a through 9-2b). This finding is valuable for two reasons: first, it may not be necessary for both to be measured in most surveys (and for that reason we did not include perceptions of peer attitudes in the questionnaires developed for 8th and 10th graders); second, the self-reported disapproval provided by the 8th and 10th graders in this study should serve quite well in the aggregate to reflect perceived peer norms.

FRIENDS' USE OF DRUGS

It is generally acknowledged that peer influences are among the most powerful mechanisms of substance use initiation during adolescence. Much youthful drug use is initiated through a peer social-learning process, and research, including our own, has shown a high correlation between an individual's illicit drug use and that of his or her friends. Such a correlation can, and probably does, reflect several causal patterns: (a) a person with friends who use a drug will be more likely to try the drug; (b) conversely, the individual who is already using a drug will be more likely to introduce friends to the experience; and (c) users are more likely to establish friendships with other people who use (and likewise, nonusers are more likely to form friendships with other nonusers).

Given the importance of exposure to drug use by others, it is useful to monitor students' associations with others taking drugs, as well as their perceptions about the extent to which their friends use drugs. For 12th graders, two sets of questions—each in a different questionnaire form and together covering nearly all categories of drug use addressed in this report—ask students to indicate for each drug (a) how often during the prior 12 months they were around people taking it to get high or for "kicks" (Table 9-2) and, separately, (b) what proportion of their own friends use it (Table 9-5). As would be expected, respondents' answers to these two questions tend to be consistent with the respondents' self-reported drug use; thus, for example, 12th graders who have recently used marijuana are much more likely to report that they have often been around others getting high on marijuana and that most or all of their friends use. For 8th and 10th graders,

questions on the proportion of friends using the various drugs were included in the questionnaires from the beginning of the 8th- and 10th-grade surveys in 1991 (Tables 9-3 and 9-4); the results are discussed below in a separate section. However, in the interest of saving questionnaire space, and because the information about exposure and proportion of friends who use are highly consistent, questions on exposure were not included for 8th and 10th graders.

Exposure to Drug Use by Friends and Others: Twelfth Graders, 2014

A comparison of the aggregated responses about friends' use and about being around people in the prior 12 months who were using various drugs to get high reveals a high degree of correspondence between these two indicators of exposure, even though these two questions appear in separate questionnaire forms. For each drug, the proportion of respondents saying none of their friends use is fairly close to the proportion reporting that during the prior 12 months they have not been around anyone who was using that drug to get high. Similarly, the proportion reporting that most or all of their friends use a given drug bears a rough similarity to the proportion saying they have often been around people getting high on that drug.

- As would be expected, reports of exposure and friends' use closely parallel 12th graders' own use (compare Figures 4-1 and 9-4). It is no surprise that the highest levels of exposure involved ***alcohol***; about four tenths (40%) of the 2014 twelfth graders said they have often been around people using it to get high. What may come as a surprise is that 19% of all 12th graders said that most or all of their friends ***get drunk*** at least once a week. (This large proportion is consistent with the 19% of 12th-grade respondents reporting that they personally had taken five or more drinks in a row at least once during the prior two weeks and the 24% reporting that they had been drunk at least once in the past 30 days.)

- After alcohol, students are exposed next most frequently to ***marijuana*** use (Table 9-2). Almost three fourths of the 2014 twelfth graders (73%) reported having been around people using marijuana during the prior year. Some 29% said they have often been around people using it to get high, and another 22% said they have been exposed occasionally (data not shown). On the question about friends' use, 23% said that most or all of their friends smoke marijuana, and *only 21% of* 12th *graders in 2014 said that none of their friends smoked marijuana.*

- ***Amphetamines***, ***narcotics other than heroin***, and ***hallucinogens other than LSD*** rank next in exposure, with 24%, 21%, and 20%, respectively, of 12th graders reporting some exposure in the prior year. The proportions who said they have at least some friends who use are 25% for amphetamines, 22% for narcotics other than heroin, and 22% for hallucinogens other than LSD.

- For the remaining illicit drugs, *any* exposure to use in the past year ranged from 18% for ***cocaine*** down to 5% for ***heroin*** in 2014.

- One quarter (25%) of 12th graders reported no exposure to ***any illicit drug*** use during the prior year.

- About three-fifths (59%) of 12th graders reported *no* exposure to use of ***any illicit drug other than marijuana*** during the prior year—in other words, fewer than half (41%) had some exposure to use of the other drugs.

- About one in twelve (8.1%) 12th graders reported that *most or all* of their friends smoke ***cigarettes***, and two thirds (66%) reported having at least *some* friends who smoke.

Friends' Use of Drugs: Eighth and Tenth Graders, 2014

While the questions about exposure to use were not included in the 8th- and 10th-grade questionnaires, questions about friends' use were included.

- As would be expected, with few exceptions 10th-grade students are less likely than 12th graders to have friends who use drugs, and 8th graders are less likely still (see Tables 9-3, 9-4, and 9-5). For example, 40% of 8th graders in 2014 said that they have friends who smoke ***marijuana***, compared with 69% of 10th graders and 81% of 12th graders. Still, that means that about four tenths of 8th graders—most of whom are 13 or 14 years old—already have friends who smoke marijuana.

- ***Inhalants*** are one important exception to the typical developmental trend. Consistent with our finding that current inhalant use is more prevalent in 8th grade than in 10th or 12th grades 18% of 8th graders said they have some friends who use inhalants versus 13% of 10th graders and 9% of 12th graders in 2014.

- Exposure to ***alcohol*** use by friends is widespread, with 52% of 8th graders and 81% of 10th graders reporting having friends who use alcohol. In fact, 9% of 8th graders and 32% of 10th graders said that most or all of their friends drink, and the proportions saying that most or all of their friends ***get drunk*** at least once a week are 4% in 8th grade and 12% in 10th grade, compared to 19% of 12th graders.

- Exposure to ***cigarette smoking*** by friends is also very high for these young people, with nearly four tenths (38%) of 8th graders and nearly six tenths (57%) of 10th graders saying they have at least some friends who smoke cigarettes.

- Considerably smaller proportions have friends who use ***smokeless tobacco***: 24% of 8th graders and 43% of 10th graders in 2014.

In sum, today's U.S. adolescents—even those in middle school—have high degrees of exposure to illicit drug use among their peers, whether or not they use illicit drugs themselves. They also have very high levels of exposure to cigarette smoking, drinking, and drunkenness.

TRENDS IN EXPOSURE TO DRUG USE AND FRIENDS' USE OF DRUGS

The extent of exposure to licit and illicit drug use among US adolescents has seen important changes over the past 40 years. Table 9-2 presents long-term trends in reported exposure to the use of various drugs by 12th graders, and Tables 9-3, 9-4, and 9-5 present trends in reported friends'

use of the various drugs for each of the three grades. Figure 9-3 presents a graph of these trends so that long-term patterns are more readily discernible.

Trends in Exposure to Drug Use by Friends and Others: Twelfth Graders

In general, for almost all drugs, exposure to people using drugs moves together with levels of actual use and does not precede it. These results indicate that measures of exposure and friends' use serve as additional indicators of drug use, but generally do not serve as leading predictors of actual use.

Specific Drugs

- In 2014 the proportion of 12th-grade students who report that they have often been around people who were using ***marijuana*** to get high during the past year (29%) is midway between the high set near the beginning of the study in 1978 (39%) and the nadir set at the start of the 1990s drug relapse (16%, see Figure 9-3). This measure trends closely with personal use. Both measures together experienced the same ups and downs over the course of the study: Looking back, they declined in 2014, increased during the late 2000s, increased rapidly during the 1990s drug relapse, declined for more than a decade starting in the 1980s, and increased at the start of the MTF study in the late 1970s.

- In 2014 the proportion of 12th-grade students who report that most or all of their friends use ***marijuana*** (23%) is also about midway between the high set in 1979 (36%) and the nadir set at the start of the 1990s drug relapse (10%, see Figure 9-3). Reported level of friends' use and personal use moved together: they both increased during the late 2000s, increased rapidly during the 1990s drug relapse, declined for more than a decade starting in the 1980s, and increased at the start of the study in the late 1970s.

- The proportion of 12th-grade students who reported that they were often around people who used ***cocaine*** in the last year is near the lowest level ever recorded by the annual surveys (2%, Table 9-2). Together, both levels of friends' use and levels of personal use have shown an overall decline during the late 2000s, increased during the 1990s drug relapse, dropped substantially from the mid-1980s to the start of the 1990s, reached record highs in the early 1980s, and increased during the late 1970s. As seen in marijuana use, reports of friends' use move together with levels of actual use and does not consistently precede it.

- The proportion of 12th-grade students who report that most or all of their friends use cocaine is at a record low in 2014 (0.8%, see Table 9-5). Reported levels of friends' use and levels of own personal use track closely with trends in personal levels of use, but does not precede it.

- The proportion of 12th-grade students who report that they have been around people using ***amphetamines*** to get high in the past year was around 5%, similar to where it had been in 1991 (Table 9-2). In the intervening years both this measure and levels of personal use increased slightly and then decreased. Both also declined by more than 50% from peak

highs in the early 1980s through 1992. Both increased substantially from the beginning of the study to the early 1980s.[4]

- The same, parallel trends are also evident in reported friends' use of amphetamines and actual levels of use, although friends' use of amphetamines shows less variation than exposure to amphetamine use.

- The proportion of 12th-grade students who report that most or all of their friends use ***ecstasy (MDMA)*** has been under 3% for the past decade. Although we did not ask students about their own use of ecstasy (MDMA) until 1996, we did ask about friends' use beginning in 1990. Prevalence of both this measure and actual use is low, and as a result the estimates are somewhat noisy. Nevertheless, both show a levelling since 2005 and both show a substantial spike between 1999 and 2005. (Questions on exposure to people who use ecstasy are not included on the survey).

- The proportion of 12th-grade students who report that most or all of their friends use ***cigarettes*** is at a historic low in 2014 at 8% (Table 9-5). This measure corresponds with own levels of cigarette use. Both show a steady decline and are currently at less half their levels of 1997, both increased during the 1990s drug relapse, and both decreased during the late 1970s. (The survey does not include questions on exposure in the past year to people who have smoked, in part because exposure questions are about drug use to "get high," which is less relevant for cigarette use). In 2014 a significant decline of 2.9 percentage points took place in the proportion of 12th-grade students who reported that most or all of their friends smoked, bringing the level to its historic low.

- The proportion of 12th-grade students who report they were around people who used alcohol to "get high or for 'kicks'" in the past year was 40%, a historic low. This measure trended with reports of their own ***binge drinking***, as both have steadily declined over the forty years of the study.

- The percentage of 12th-grade students who report that their friends got ***drunk*** at least once a week is also at a historic low of 19%. This measure has declined with levels of actual binge drinking since the early 2000s. In prior years the prevalence of binge drinking was higher than the reported percentage of friends who got drunk once a week. Since the mid-1980s the prevalence of binge drinking declined at a faster rate; its level converged with the friends' measure around 1990, and the two have been close ever since.

- The most impressive findings here are that in 2014, less than one fifth (19%) of 12th graders report that most or all of their friends get drunk at least once a week—a historic low—and the same proportion (19%) report binge drinking themselves in the prior two weeks, also a historic low. Just over one in three (36%) say that *none* of their friends get drunk at least once a week – a historic low for the study.

[4]This finding was important because it indicated that a substantial part of the increase observed in self-reported amphetamine use was due to influences other than simply an increase in the use of over-the-counter diet pills or stay-awake pills, which presumably are not used to get high. Obviously, more young people were using stimulants for recreational purposes. Of course, the question still remains of whether the active ingredients in those stimulants really were amphetamines.

***Implications for validity of self-reported usage questions*.** We have noted a high degree of concurrence in the aggregate-level data presented in this report among 12th graders' self-reports of their own drug use, their friends' use, and their own exposure to such use. Drug-to-drug comparisons in any given year across these three measures tend to be highly parallel, as are the changes from year to year.[5] We take this consistency as additional evidence of the validity of the self-report data (and also of the trends in the self-report data), because respondents should have little reason to distort answers about use by unidentified friends or their general exposure to use. The Figures in the 9-3 series illustrate the high degree of cross-time trending for 12th graders between the proportion saying they personally used drugs and both (a) the proportion reporting exposure to others using drugs and (b) the proportion reporting that most or all of their friends used drugs. *We believe that this close correspondence provides persuasive evidence that the changing social acceptability of drug use has not affected the truthfulness of self-reports of use.*

Trends in Friends' Drug Use: Eighth and Tenth Graders

As with 12th graders, data on friends' use among 8th and 10th graders (available since those grades were added to the study in 1991) show trends that are highly consistent with trends in self-reported use. Questions on friends' use are included in all 8th- and 10th-grade questionnnaire forms through 1998 and on three of the four forms beginning in 1999, providing very large sample sizes. Selected trend results for these questions are discussed below, with comparisons to 12th graders when salient, and are presented in Tables 9-3 and 9-4.

- The proportion of 8th and 10th-grade students who report that most or all of their friends use ***marijuana*** is near the upper levels ever recorded by the study. In 2014, among 8th graders this proportion was 10% (compared to a high of 15% in 1996), and in 10th grade it was 25% (compared to a high of 28% set in the previous year). These measures have trended with personal levels of use. All measures increased substantially during the 1990s relapse, retreated from peak levels established in 1996-97 at the end of the 1990s drug relapse, increased again starting in the late 2000s, but dropped between 2013 and 2014.

- The proportions reporting having any friends who use ***inhalants*** is at a record low for both 8th- and 10th-grade students, and levels of use are also at or near record lows. In both grades, reported levels of having any friends who use have trended with own levels of use to the extent that both increased during the 1990s relapse with a peak in 1996-97 and have overall declined since, with some small pauses and increases along the way.

- The prevalence of self-reported ***drunkenness*** and reports that most friends got drunk at least once a week are all at historic lows in 8th and 10th grades in 2014. All four measures have trended together over the course of the study, with increases during the 1990s relapse and a substantial decline since then. Room remains for continued progress, as 58% of 10th-grade students and 27% of 8th-grade students report that they have at least one friend who gets drunk at least once a week.

[5] Those minor instances of noncorrespondence may well result from the larger sampling errors in our estimates of these environmental variables, which are measured on a sample size one fifth or one sixth the size of the self-reported usage measures. They may also result, of course, from a lag between a change in the reality and students' recognition of that change.

- The proportions of 8th- and 10th-grade students who report that most or all of their friends smoke ***cigarettes*** are at historic lows, as are personal levels of smoking in the past 30 days. All four measures have trended together very closely, with all four increasing during the 1990s and reaching a peak in 1996, and thereafter steadily decreasing to reach the lows achieved in 2014.

PERCEIVED AVAILABILITY OF DRUGS

One set of questions in the MTF surveys asks respondents how difficult they think it would be to obtain each of a number of different drugs if they wanted some. The answers range across five categories from "probably impossible" to "very easy."[6] We use the term "perceived availability" in discussing the responses to these questions because it is the person's perception that is being measured. We recognize that availability is multidimensional, and respondents may consider a variety of factors in their answers, including knowing where to get access, the difficulty of getting to an access location, and possibly even the monetary cost. We suspect, however, that for most respondents, what we are measuring is perceived access, with little or no consideration of monetary cost.

While no systematic effort has been undertaken to directly assess the validity of these measures (because such an assessment would involve actual attempts to obtain drugs), we believe the measures do have a rather high level of face validity, particularly because it is the subjective reality of perceived availability being measured. It also seems quite reasonable to assume that, to a considerable extent, perceived availability tracks actual availability. In addition, differences across drugs in reported availability generally correspond to differences in reported prevalence of use, providing further evidence of their validity.

Perceived Availability of Drugs, 2014: All Grades

- Substantial differences were found in perceived availability of the various drugs. In general, the more widely used drugs are reported to be available by higher proportions of the age group, as would be expected (see Tables 9-6, 9-7, and 9-8). Also, older age groups generally perceive drugs to be more available. For example, in 2014, 37% of 8th graders said ***marijuana*** would be fairly easy or very easy to get (which we refer to as "readily available"), versus 67% of 10th graders and 81% of 12th graders. In fact, compared to 8th graders, the proportions of 12th graders indicating that drugs are available to them are two to five times as high for ***other drugs*** included in the study. (On the other hand, 8th graders are only a little less likely to report ***Tranquilizers*** as available.) Both associations are consistent with the notion that availability is largely attained through friendship circles. (A section in Chapter 10 documents where 12th graders obtain prescription drugs that are not medically prescribed, and friends clearly are the leading source.) The differences among age groups may also reflect less willingness and/or motivation on the part of those who deal drugs to establish contact with younger adolescents. Because many ***inhalants***—such as glues, butane, and aerosols—are universally available, we do not ask about their

[6] In the 8th- and 10th-grade questionnaires, an additional answer category of "can't say, drug unfamiliar" is offered; respondents who chose this answer are included in the calculation of percentages. Generally, fewer than 20% of respondents selected this answer.

availability. See Table 9-8 for the full list of drugs included in the questions for 12th graders; a few of these drugs were not asked of the younger students (see Tables 9-6 and 9-7).

- Measures on the availability of ***cigarettes*** are not included in the 12th-grade questionnaires because we have assumed that they are almost universally available to this age group. However, data on this measure are collected from 8th and 10th graders, which clearly show that most perceive cigarettes to be readily available. In 2014, 47% of 8th graders and 69% of 10th graders thought that cigarettes would be fairly easy or very easy for them to get if they wanted some.

- The great majority of teens also see ***alcohol*** as readily available: In 2014, 54% of 8th graders, 75% of 10th graders, and 88% of 12th graders said it would be fairly easy or very easy to get.

- Far fewer 8th graders report that illicit drugs are readily available. Even so, ***marijuana*** was described as readily available by 37% of 8th graders in 2014, followed by amphetamines, ***crack, cocaine powder, and steroids (all at 12%), ecstasy (MDMA, sedatives (barbiturates), and tranquilizers*** (all 10%), narcotics other than heroin and heroin (both 9%), ***crystal methamphetamine*** (***ice***) (8%), ***LSD*** (7%), and ***PCP*** (6%).

- ***Marijuana*** appears to be readily available to the great majority of 12th graders; in 2014, 81% reported that they think it would be very easy or fairly easy to get—nearly twice the number who reported ever having used it (44%).

- There is a fair-sized drop in availability after marijuana; the next most readily available class of drugs for 12th graders is ***amphetamines***, with 45% saying these drugs would be very or fairly easy to get, followed by ***narcotics other than heroin*** (42%).

- Between 20% and 36% of 12th graders perceived ***ecstasy*** (***MDMA***) (36%), ***hallucinogens other than LSD*** (34%), ***cocaine*** (29%), ***sedatives (barbiturates***) and ***LSD*** (both at 26%), ***cocaine powder*** and ***steroids*** (both at 22%), ***and crack*** and ***heroin*** (both at 20%) as readily available.

- ***Crystal methamphetamine*** (***ice***), ***tranquilizers***, and ***PCP*** were reported as readily available by smaller but still substantial minorities of 12th graders in 2014 (14 14%, 14%, and 11%, respectively).

Trends in Perceived Availability for All Grades

Trend data on availability for all grades are presented in Tables 9-6 to 9-8 and are graphed for 12th-grade students in Figures 9-5a through 9-5d. A glance at the four figures will show some substantial fluctuations in the perceived availability of most drugs over the interval covered by the study.

- ***Marijuana*** has been the most consistently available illicit drug and has shown only small variations over the years (see Figure 9-5a). What is most noteworthy is how little change

has occurred in the proportion of 12th graders who say that marijuana is fairly or very easy to get. *By this measure, marijuana has been readily available to the great majority of American* 12th *graders (from 81% to 90%) since 1975*.

- Perceived availability of ***marijuana*** is lower in the younger grades. From 1991 to 2014, 8th-grade availability has varied in the range of 37% and 55%, and 10th grade availability has varied within the range of 65% and 81%. In both 8th and 10th grades perceived availability significantly decreased in 2014, and in 8th-grade availability fell to a historic low of 37% in 2014.

- The percentage of students who reported that it would be "fairly easy" or "very easy" to obtain ***amphetamines*** has declined over the course of the study and is at historic lows in 8th grade (12%) and 10th grade (25%), and near a historic low in 12th grade (45%, Figure 9-5a and Tables 9-6 to 9-8). These lows come despite a question change in 2011 that added Adderall and Ritalin to the list of examples, which slightly increased availability reports in that year and thereafter. In all grades the decline in availability has been consistent over the course of the study with the following exceptions: an increase in the late 1970s among 12th graders (in these early years 8th- and 10th-grade students were not surveyed), and an increase during the 1990s drug relapse in 10th and 12th grades along with a pause in the decline among 8th graders.

- Perceptions of the availability of ***sedatives*** (***barbiturates***) (Tables 9-6 to 9-8 and Figure 9-5b) are at the lowest levels recorded by the study in all grades. Among 12th-grade students the long, declining trend in availability over the course of the study was interrupted twice, once in 1981 when look-alikes were common, and again in 2004 when the question was updated (see footnote in Figure 9-5b). Overall, availability over the course of the study declined by more than half for 12th-grade students, from 68% in 1975 to 26% in 2014 (keeping in mind that the question change in 2004 led to a jump in the availability measure in that year and thereafter). At the same time annual amphetamine use among 12th-grade students also declined by about half.

  In 8th and 10th grades availability has declined overall since first measured in 1992. In 8th grade this decline has been steady, while in 10th grade it was interrupted with a slight, short-lived increase during the 1990s drug relapse. In 2014 the percentage of students who reported it would be "fairly" or "very" easy to get sedatives was 10% in 8th grade (down from 27% in 1992), and in 10th grade it was 17% (down from 38% in 1992).

- In all grades, availability of ***cocaine powder*** and ***crack*** cocaine significantly declined in 2014, and both measures are at historic lows (Figure 9-5a and Tables 9-6 to 9-8). Among 12th-grade students trends in availability resemble an inverted "U." Availability of cocaine increased as use increased through the 1980s, and availability reached a study high of 59% in 1989, the same year study highs were also recorded for availability of the more specific measures of powder cocaine and crack. Importantly, this peak in availability occurred *after* cocaine use peaked in 1985. Because perceived availability increased between 1986 and 1989, we are inclined to discount reduction in supply as an explanation for the significant and important decline in cocaine use observed during that period. As discussed in Chapter 8, the sharp increase in perceived risk for cocaine seems the more compelling

explanation. After 1989 availability of cocaine declined steadily, with an exception of a slight rise during the 1990s drug relapse.

Among 8th- and 10th-grade students availability of cocaine powder and crack increased slightly during the 1990s drug relapse, but otherwise have declined steadily throughout the course of the study. In 2014 the percentage reporting that it would be "fairly" or "very" easy to get cocaine powder or crack in 8th grade was 12% for both (down from a high of 28% in the mid-1990s), and in 10th grade was about 16% for both (down from a high of 37% in the late 1990s). In these grades levels of use of both these drugs have declined by more than half since the late 1990s.

- In 2014 availability of ***tranquilizers*** is at the lowest level ever recorded in all three grades (Figure 9-5b and Tables 9-6 to 9-8). The decline has been particularly steep and steady in 12th grade and by 2014 the proportion who thought tranquilizers were readily available had fallen by eight tenths—from 72% in 1975 to 14% in 2014. Despite this decline in perceived availability, tranquilizer *use* among 12th graders had been slowly rising through most of the 1990s and through 2002, followed by a slight decline in use since. This is another example of changes in availability not being able to explain the trends in use.

  In 8th and 10th grades tranquilizer availability has fallen by about half since it was first measured in 1992, to 10% and 18% in 2014, respectively. From 1991 to 2014 overall tranquilizer use *increased*, again indicating that trends in use are not well explained by availability.

- In 2014 the perceived availability of ***LSD*** was at or near historic lows in all grades (Figure 9-5c and Tables 9-6 to 9-8). In 12th grade reported availability showed a gradual increase from the mid-1980s to a peak in the mid-1990s, after which all this gain receded in the following decade. Outside of these years, availability decreased sharply in the first year of the study and then followed a slight but steady decline over the life of the study. In 2014, 26% of 12th-grade students report ready access to LSD, down from a high of 54% in 1995. In general, attitudes and beliefs—perceived risk and disapproval of LSD use—have not moved in ways that could explain the sharp drop in use that was observed between 2000 and 2003. It seems highly likely that it was this decrease in availability that helped to drive use down.

  In 8th and 10th grades LSD availability increased during the 1990s drug relapse, but has since declined to its record low levels. Availability of ***LSD*** dropped sharply in the early 2000s, coinciding with a steep decline in use among 8th and 10th graders. As stated above, because perceived risk and disapproval did not move in a way that could explain this decline in use, but availability did, we are inclined to believe that a change in availability was driving use in this case.

- The percentage of 12th-grade students who reported it would be "fairly" or "very" easy to obtain ***hallucinogens other than LSD*** in 2014 was 34%, which is down substantially from the high of 49% in 2001, when the question was updated (Figure 9-5c and Tables 9-6 to 9-8). Availability of hallucinogens other than LSD is asked only of 12th-grade students. Trends in this measure followed a fairly similar trajectory to that of LSD from 1975 through

1986, but quite a different one thereafter. From 1986 to 1994 there was only a gradual rise in perceived availability of hallucinogens other than LSD, in contrast to the sharp rise for LSD. From 1995 to 2000, the availability of LSD showed a modest decline (from 54% to 47%), while the availability of other hallucinogens changed very little (from 36% to 35%). While LSD and the other hallucinogens, taken as a set, were about equally available in the late 1970s, LSD availability was substantially higher in the 1990s (note the crossover of the lines between 2000 and 2001). The availability of LSD declined again in 2001 (to 45%), while the availability of other hallucinogens appeared to show a sharp increase, which likely was due in considerable part to a question change. (In 2001 the question text changed from "other psychedelics" to "other hallucinogens," and the term "shrooms" was added to the list of examples. After this change, this class of drugs was actually reported to be slightly more available than LSD.) Since 2001, availability of hallucinogens other than LSD has declined. LSD is now substantially less available than the other hallucinogens taken as a class.

- The portion of 12th-grade students who report they could "fairly" or "very" easily obtain ***ecstasy*** in 2014 is 36%, in between its record high of 62% (in 2001) and record low of 22% (in 1989, the first year it was measured when it was new on the scene, see Figure 9-5d and Tables 9-6 to 9-8). Availability jumped sharply in 2000 to 51% and again in 2001 to 62%—nearly three times the 1991 level—an increase that probably played an important role in the sharp increase in *use* after 1998. In 2002, availability of ecstasy declined for the first time in several years. But while use dropped quite sharply between 2001 and 2003, perceived availability declined only slightly in that interval and did not show a sharp decline until 2004, when it dropped by 10 percentage points. This was followed by another significant decline in perceived availability (eight percentage points) and a nonsignificant decrease in use in 2005. This suggests that a reduction in availability was not key to the important downturn in ecstasy use, though it may have been important to the rise in use; rather, the fall in perceived availability may simply have resulted from fewer 12th graders having friends who were users. In fact, friends' use of ecstasy dropped significantly in 2005.

  Among 8th- and 10th-grade students, availability of ecstasy has declined steadily to levels less than half of what they were in 2001, the first year it was measured in these grades. As with 12th graders, the decline in availability seemed to lag behind the decline in use for this drug, suggesting that use was driving availability and not vice versa.

- The portion of students reporting that they could readily obtain ***PCP*** is at historic lows in all grades, and in 2014 declined significantly in 12th grade (Tables 9-6 to 9-8). Among 12th-grade students, availability has been gradually decreasing since 2000; before that it had hovered around 30% since 1992. Actual use of PCP almost doubled between 1993 and 1996, which is not well explained by trends in availability. For this drug, as for many others, it appears that availability was not the determining factor in the shifts in use.

  In 8th and 10th grades availability of PCP has declined since 2000, before which it held steady. Use of PCP is not measured in these grades.

- In 2014 the percentage of 12th-grade students who reported that they could readily obtain ***heroin*** was 20%, which is close to the level of 24% at the start of the survey in 1975 (Figure 9-5b and Tables 9-6 to 9-8). In the intervening years availability increased to a high of 35% in the mid-1990s, and then steadily declined in the following years to its current level. The stability of heroin *use* during the 1980s and early 1990s, despite a substantial increase in perceived *availability*, is worthy of note. It suggests that availability alone is not sufficient to stimulate use (though it may well affect the consumption pattern of established users). It was not until the 1990s that methods for taking heroin by other than injection began to be widely known, as purity continued to increase, and use substantially increased. The view that these methods (snorting and smoking) were less dangerous probably removed an important deterrent to use for a number of teenagers.

  Among 8th- and 10th-grade students perceived availability of heroin has steadily decreased since 1997, before which it held steady. As with 12th graders, trends in availability are insufficient, by themselves, to explain the increases in heroin use among 8th- and 10th-grade students in the 1990s. This finding would seem at odds with media accounts of heroin being widely available. Our data suggest that this is not the case for adolescents, at least.

- In all grades the availability of ***narcotics other than heroin*** has steadily decreased over the past four years. Unfortunately, the availability question for narcotics other than heroin did not address the issue of changes in the availability of specific drugs within this general class, like OxyContin and Vicodin. Since it seemed quite likely that they had different trends in availability than the class as a whole, the list of drug examples given for narcotics other than marijuana was changed in 2010 to include OxyContin, Vicodin, and Percocet (methadone and opium were dropped from the list). The change in the question wording likely explains the large change seen in the data. For this reason 2009 and 2010 data cannot be compared. However, the downward trend in availability after 2010, when the question was updated, seems to have continued and accelerated a smaller downward trend that was present in the data from 2000 to 2008, before the question was updated. Annual prevalence of use increased from 2000 to 2004 and held steady for the next five years, making availability a poor candidate to explain this trend.

  In 8th and 10th grades availability of narcotics other than heroin has declined since 1997, except for a jump in 2010 that resulted from the update of the question. Prevalence of use is not reported for narcotics other than heroin in these grades.

- Narcotics other than heroin fall into the more general class of ***prescription drugs*** used outside of medical supervision (tranquilizers, sedatives, amphetamines, and narcotics), which have been the subject of particular concern in the past decade as their prevalence rose and then sustained for some years. Substantial efforts to curb their availability to young people include "take-back" programs sponsored by the DEA (see http://www.deadiversion.usdoj.gov/drug_disposal/takeback/) and efforts by various government agencies and private organizations to persuade parents and other family members not to leave any such drugs where adolescents can get them. In addition, the medical and dental communities have been alerted about the potential for the misuse of these drugs. The results reported here, showing a considerable decline in perceived availability of these drugs to adolescents, suggest that these efforts seem to be working.

- As illustrated in Figure 9-5b, ***sedatives*** (***barbiturates***) and ***tranquilizers*** were much more available to 12th graders in 1975 compared to 2014.[7]

- In all grades the availability of ***anabolic steroids*** reached a historic low in 2014 (Figure 9-5d and Table 9-6 to 9-8). A long-term decline that started around 2002 appeared to have ended in 2013 when availability increased in all grades, but the resumption of a decline in 2014 suggests that the change in 2013 was temporary. The scheduling of steroids by the DEA no doubt played a role in this decline in availability. Anabolic steroids were placed on Schedule III of the Controlled Substances Act in 1990 to take effect in early 1991, while the scheduling of the precursor androstenedione went into effect in 2005.

- In 2014 ***crystal methamphetamine*** recorded its lowest levels of availability ever recorded by the study, in all grades (Tables 9-6 to 9-8). The decline among 12th-grade students from 2013 was statistically significant. In all grades a decline began in 2010 that continues today. Annual levels of use (measured only among 12th-grade students) did not decrease during this period, but have been very low (less than 2%) and have little room to decline further.

- The perceived availability of ***cigarettes*** significantly declined both in 8th and 10th grades in 2014, and is now at record lows in both grades. (Availability of cigarettes is not asked of 12th graders, in part because it has been expected to be near 100%). After holding fairly steady at very high levels for some years, perceived availability began to decline modestly after 1996, very likely as a result of increased enforcement of laws prohibiting sale to minors under the Synar Amendment and FDA regulations. Those declines continued among 8th graders, including a significant decrease in 2009; the proportion saying that they could get cigarettes fairly or very easily fell from 77% in 1996 to 56% in 2010, and declined significantly to 47% by 2014. Over the same interval, the decline among 10th graders was from 91% in 1996 to 69% in 2014. These are encouraging changes and suggest that state and local efforts to reduce accessibility to adolescents—particularly younger adolescents—seem to be working.

- Availability of ***alcohol*** among 12th-grade students is at its lowest level recorded since first measured in 1999. However, at 88% it is still very high.

  More substantial changes in the availability of alcohol have taken place among 8th- and 10th-grade students. For 8th graders availability declined from 76% in 1992 to 54% in 2014. For 10th graders availability is down from the peak level of 90% in 1996 to 75% in 2014. This may reflect some success in state and local efforts to reduce access by those who are under age. It is worth noting, however, that even after these declines, alcohol clearly remains available to the majority of teens.

[7] Figure 9-5b shows a sharp increase in the availability of sedatives (barbiturates) in 2004, but this shift likely was caused by a change in question wording.

The Importance of Supply Reduction Versus Demand Reduction

Overall, supply reduction—that is, reducing the availability of drugs—does not appear to have played as major a role as many had assumed in four of the five most important downturns in illicit drug use that have occurred to date, namely, those for ***marijuana***, ***cocaine***, ***crack***, and ***ecstasy*** (see, for example, Figures 8-4, 8-5, and 8-6). In the case of cocaine, perceived availability actually rose during much of the period of downturn in use. (These data are corroborated by data from the Drug Enforcement Administration on trends in the price and purity of cocaine on the streets.[8]) For ***marijuana***, perceived availability has remained very high for 12th graders since 1976, while use dropped substantially from 1979 through 1992 and has fluctuated considerably thereafter. Perceived availability for ecstasy did increase in parallel with increasing use in the 1990s, but the decline phase for use appears to have been driven much more by changing beliefs about the dangers of ecstasy than by any sharp downturn in availability. Similarly, ***amphetamine*** use declined appreciably from 1981 to 1992, with only a modest corresponding change in perceived availability. Finally, until 1995, ***heroin*** use had not risen among 12th graders even though availability had increased substantially.

- What *did* change dramatically were young peoples' beliefs about the dangers of using ***marijuana***, ***cocaine***, ***crack***, and ***ecstasy***. We believe that increases in perceived risk led to a decrease in use directly through their impact on young people's demand for these drugs and indirectly through their impact on personal disapproval and, subsequently, peer norms. Because the perceived risk of ***amphetamine*** use was changing little when amphetamine use was declining substantially (1981–1986), other factors must have helped to account for the decline in demand for that class of drugs—quite conceivably some displacement by cocaine. Because three classes of drugs (marijuana, cocaine, and amphetamines) have shown *different* patterns of change, it is highly unlikely that a general factor (e.g., a broad shift against drug use) can explain their various trends.

- The increase in ***marijuana*** use in the 1990s among 12th graders added more compelling evidence to this interpretation. It was *both* preceded and accompanied by a decrease in perceived risk. (Between 1991 and 1997, the perceived risk of regular marijuana use declined 21 percentage points.) Peer disapproval dropped sharply from 1993 through 1997, *after* perceived risk began to change, consistent with our interpretation that perceived risk can be an important determinant of disapproval as well as of use. Perceived availability remained fairly constant from 1991 to 1993 and then increased seven percentage points through 1998.

- We do think that the expansion in the world supply of ***heroin***, particularly in the 1990s, had the effect of dramatically raising the purity of heroin available on the streets, thus allowing for new means of ingestion. The advent of new forms of heroin, rather than any change in respondents' beliefs about the dangers associated with injecting heroin, very likely contributed to the fairly sharp increase in heroin use in the 1990s. Evidence from this study, showing that a significant portion of the self-reported heroin users in recent years are using by means other than injection, lends credibility to this interpretation. The dramatic decline in ***LSD*** use in the early to mid-2000s is also not explainable by means of

[8] Caulkins, J. P. (1994). *Developing price series for cocaine*. Santa Monica, CA: RAND.

concurrent changes in perceived risk or disapproval; but availability did decline sharply during this period and very likely played a key role in reducing the use of that drug.

We should also note that other factors, such as price, could play an important role for some drugs. Analyses of MTF data have shown, for example, that price probably played an important role in the decline of marijuana use in the 1980s, and in changes in cigarette use in the 1990s.[9,10] However, price does not appear to have the same influence in all periods for all drugs, as the dramatic reduction in cocaine prevalence during the late 1980s took place at the same time that the price of cocaine *decreased*,[11] contrary to the supply/demand model.

[9] Pacula, R. L., Grossman, M., Chaloupka, F. J., O'Malley, P. M., Johnston, L. D., & Farrelly, M. C. (2001). Marijuana and youth. In J. Gruber (Ed.), *Risky behavior among youths: An economic analysis* (pp. 271–326). Chicago: The University of Chicago Press. Also appears as Working Paper No. 7703, National Bureau of Economic Research, Inc. (2000).

[10] Tauras, J. A., O'Malley, P. M., & Johnston, L. D. (2001). *Effects of price and access laws on teenage smoking initiation: A national longitudinal analysis.* (ImpacTeen/Youth, Education, and Society Research Paper No. 1.) Chicago, IL: University of Illinois at Chicago and Ann Arbor, MI: The University of Michigan, Institute for Social Research. Available online at http://www.yesresearch.org/publications/reports/AccessLaws.pdf.

[11] Office of National Drug Control Policy. (2001). *The Price of Illicit Drugs: 1981 through the Second Quarter of 2000*. https://www.whitehouse.gov/sites/default/files/ondcp/policy-and-research/bullet_5.pdf

TABLE 9-1
Trends in Proportion of Friends Disapproving of Drug Use for 12th Graders

How do you think your close friends feel (or would feel) about you . . .	Percentage saying friends disapprove [a]																			
	1975[b]	1976	1977[b]	1978	1979[b]	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Trying marijuana once or twice	44.3	—	41.8	—	40.9	42.6	46.4	50.3	52.0	54.1	54.7	56.7	58.0	62.9	63.7	70.3	69.7	73.1	66.6	62.7
Smoking marijuana occasionally	54.8	—	49.0	—	48.2	50.6	55.9	57.4	59.9	62.9	64.2	64.4	67.0	72.1	71.1	76.4	75.8	79.2	73.8	69.1
Smoking marijuana regularly	75.0	—	69.1	—	70.2	72.0	75.0	74.7	77.6	79.2	81.0	82.3	82.9	85.5	84.9	86.7	85.9	88.0	83.5	80.6
Trying LSD once or twice	85.6	—	86.6	—	87.6	87.4	86.5	87.8	87.8	87.6	88.6	89.0	87.9	89.5	88.4	87.9	87.9	87.3	83.5	83.4
Trying cocaine once or twice	—	—	—	—	—	—	—	—	—	—	—	79.6	83.9	88.1	88.9	90.5	91.8	92.2	91.1	91.4
Taking cocaine occasionally	—	—	—	—	—	—	—	—	—	—	—	87.3	89.7	92.1	92.1	94.2	94.7	94.4	93.7	93.9
Trying crack once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.2	95.0	94.4	94.6	95.1	93.9
Taking crack occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	95.7	96.5	95.7	95.9	96.4	95.3
Trying cocaine powder once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	91.7	93.4	93.3	94.0	94.2	93.2
Taking cocaine powder occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.0	95.0	94.8	94.8	95.2	94.7
Trying an amphetamine once or twice [c]	78.8	—	80.3	—	81.0	78.9	74.4	75.7	76.8	77.0	77.0	79.4	80.0	82.3	84.1	84.2	85.3	85.7	83.2	84.5
Taking one or two drinks nearly every day	67.2	—	71.0	—	71.0	70.5	69.5	71.9	71.7	73.6	75.4	75.9	71.8	74.9	76.4	79.0	76.6	77.9	76.8	75.8
Taking four or five drinks nearly every day	89.2	—	88.1	—	88.5	87.9	86.4	86.6	86.0	86.1	88.2	87.4	85.6	87.1	87.2	88.2	86.4	87.4	87.2	85.2
Having five or more drinks once or twice each weekend	55.0	—	53.4	—	51.3	50.6	50.3	51.2	50.6	51.3	55.9	54.9	52.4	54.0	56.4	59.0	58.1	60.8	58.5	59.1
Smoking one or more packs of cigarettes per day	63.6	—	68.3	—	73.4	74.4	73.8	70.3	72.2	73.9	73.7	76.2	74.2	76.4	74.4	75.3	74.0	76.2	71.8	72.4
Approximate weighted N =	*2,488*	—	*2,615*	—	*2,716*	*2,766*	*3,120*	*3,024*	*2,722*	*2,721*	*2,688*	*2,639*	*2,815*	*2,778*	*2,400*	*2,184*	*2,160*	*2,229*	*2,220*	*2,149*

(Years cont.)

(Table continued on next page.)

TABLE 9-1 (cont.)
Trends in Proportion of Friends Disapproving of Drug Use for 12th Graders

How do you think your close friends feel (or would feel) about you . . .	Percentage saying friends disapprove [a]																				2013–2014 change
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Trying marijuana once or twice	58.1	55.8	53.0	53.8	55.1	58.1	57.6	54.1	58.4	59.5	60.9	62.3	60.4	60.8	61.4	54.9	53.0	52.9	51.2	50.4	-0.8
Smoking marijuana occasionally	65.4	63.1	59.9	60.4	61.6	63.9	64.3	60.3	64.2	65.0	67.6	68.1	65.8	66.3	68.5	61.8	59.4	59.5	57.6	56.2	-1.4
Smoking marijuana regularly	78.9	76.1	74.1	74.7	74.5	76.1	77.8	75.3	77.0	77.3	79.5	79.8	78.3	78.0	79.1	73.8	73.3	72.7	71.2	70.1	-1.2
Trying LSD once or twice	82.6	80.8	79.3	81.7	83.2	84.7	85.5	84.9	87.5	87.3	88.4	89.5	88.4	86.3	87.2	84.5	85.6	85.0	84.9	84.6	-0.4
Trying cocaine once or twice	91.1	89.2	87.3	88.8	88.7	90.2	89.3	89.1	91.2	87.9	89.0	88.7	89.6	88.7	90.2	89.7	89.7	89.2	89.2	88.6	-0.6
Taking cocaine occasionally	93.8	92.5	90.8	92.2	91.8	92.8	92.2	92.2	93.0	91.0	92.3	92.4	93.1	92.0	92.7	91.8	92.9	92.8	92.5	91.4	-1.1
Trying crack once or twice	93.8	93.0	92.3	93.7	93.9	94.6	92.3	93.1	94.5	92.2	92.8	93.5	93.2	93.6	94.5	93.1	93.5	95.1	94.8	92.8	-2.0 s
Taking crack occasionally	96.1	94.7	94.8	96.2	96.0	96.9	95.0	94.7	95.6	94.3	95.5	95.3	95.0	95.4	95.7	94.7	94.7	96.2	95.9	94.5	-1.5
Trying cocaine powder once or twice	93.5	92.1	91.4	91.9	91.8	93.3	91.9	92.3	92.7	90.9	91.1	91.9	91.8	92.4	93.5	92.8	92.4	94.6	94.0	91.1	-2.9 ss
Taking cocaine powder occasionally	95.3	93.6	93.9	94.5	94.0	96.3	93.7	93.8	94.1	92.9	94.1	94.6	93.9	94.2	94.6	94.3	93.7	96.2	95.4	93.6	-1.8 s
Trying an amphetamine once or twice [c]	81.9	80.6	80.4	82.6	83.0	84.1	83.8	83.3	85.9	84.7	86.1	86.7	87.3	87.1	87.0	85.8	84.6	83.7	83.5	83.2	-0.3
Taking one or two drinks nearly every day	72.6	72.9	71.5	72.3	71.7	71.6	73.4	71.6	74.7	72.8	74.0	73.2	74.5	75.2	75.5	75.0	74.9	74.0	75.4	74.0	-1.3
Taking four or five drinks nearly every day	84.1	82.6	82.5	82.8	82.2	82.8	84.4	80.1	83.1	82.9	82.7	83.3	84.8	84.7	84.6	83.4	85.8	84.1	85.8	83.8	-2.0
Having five or more drinks once or twice each weekend	58.0	57.8	56.4	55.5	57.6	57.7	57.8	55.6	60.3	59.4	59.9	60.6	60.0	62.1	63.5	62.0	62.2	62.3	65.2	65.6	+0.3
Smoking one or more packs of cigarettes per day	69.2	69.3	68.5	69.0	71.2	72.6	74.5	75.7	79.2	78.6	81.1	81.2	81.4	82.5	81.6	81.4	81.6	83.2	84.4	84.0	-0.4
Approximate weighted N =	*2,177*	*2,030*	*2,095*	*2,037*	*1,945*	*1,775*	*1,862*	*1,820*	*2,133*	*2,208*	*2,183*	*2,188*	*2,161*	*2,090*	*2,033*	*2,101*	*2,132*	*2,126*	*1,916*	*1,863*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a] Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

[b] These numbers have been adjusted to correct for a lack of comparability of question context among administrations. (See text for discussion.)

[c] In 2011 pep pills and bennies were replaced in the list of examples by Adderall and Ritalin.

TABLE 9-2
Trends in 12th Graders' Exposure to Drug Use

(Entries are percentages.)

During the LAST 12 MONTHS, how often have you been around people who were taking each of the following to get high or for "kicks"?	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Any illicit drug [a]																				
% saying not at all	—	17.4	16.5	15.1	15.0	15.7	17.3	18.6	20.6	22.1	22.3	24.5	26.1	28.7	31.4	32.4	35.8	38.7	33.9	29.2
% saying often	—	34.8	39.0	40.7	40.4	36.3	36.1	31.4	29.8	28.3	27.2	26.3	23.3	20.8	22.0	20.7	18.2	18.0	24.0	29.3
Any illicit drug other than marijuana [a]																				
% saying not at all	—	44.9	44.2	44.7	41.7	41.5	37.4	37.5	40.6	40.2	40.7	44.7	48.3	52.2	52.9	54.6	60.0	58.4	57.4	54.7
% saying often	—	11.8	13.5	12.1	13.7	14.1	17.1	16.6	14.2	14.6	12.9	12.1	10.2	9.6	10.7	9.2	7.9	7.5	9.6	9.4
Marijuana																				
% saying not at all	—	20.5	19.0	17.3	17.0	18.0	19.8	22.1	23.8	25.6	26.5	28.0	29.6	33.0	35.2	36.6	40.4	43.2	39.0	32.8
% saying often	—	32.5	37.0	39.0	38.9	33.8	33.1	28.0	26.1	24.8	24.2	24.0	20.6	17.9	19.5	17.8	16.0	15.6	20.9	27.6
LSD																				
% saying not at all	—	78.8	80.0	81.9	81.9	82.8	82.6	83.9	86.2	87.5	86.8	86.9	87.1	86.6	85.0	85.1	84.3	82.2	79.0	75.8
% saying often	—	2.2	2.0	1.8	2.0	1.4	2.0	1.9	1.4	1.5	1.3	1.6	1.8	1.6	2.2	2.6	2.9	3.0	3.9	4.2
Other hallucinogens [b]																				
% saying not at all	—	76.5	76.7	76.7	77.6	79.6	82.4	83.2	86.9	87.3	87.5	88.2	90.0	91.0	91.2	90.6	90.6	90.3	87.9	86.0
% saying often	—	3.1	3.2	2.9	2.2	2.2	2.0	2.6	1.1	1.7	1.4	1.5	1.2	1.1	1.3	1.2	1.3	1.1	1.9	2.3
Cocaine																				
% saying not at all	—	77.0	73.4	69.8	64.0	62.3	63.7	65.1	66.7	64.4	61.7	62.6	65.1	69.8	69.8	72.3	78.7	80.2	80.8	81.2
% saying often	—	3.0	3.7	4.6	6.8	5.9	6.6	6.6	5.2	6.7	7.1	7.8	5.9	5.1	5.4	4.7	3.4	2.7	2.9	2.5
Heroin																				
% saying not at all	—	91.4	90.3	91.8	92.4	92.6	93.4	92.9	94.9	94.0	94.5	94.0	94.2	94.3	93.5	94.6	94.9	94.6	94.3	92.7
% saying often	—	0.8	1.1	0.9	0.7	0.4	0.6	1.0	0.7	1.1	0.5	1.0	0.9	0.8	1.0	0.5	0.9	0.7	1.1	0.7
Narcotics other than heroin [c]																				
% saying not at all	—	81.9	81.3	81.8	82.0	80.4	82.5	81.5	82.7	82.0	81.6	84.4	85.6	85.2	86.2	85.8	88.7	88.9	87.6	85.1
% saying often	—	1.8	2.4	2.0	1.7	1.7	1.7	2.4	2.2	2.0	1.8	2.1	1.7	1.7	1.7	1.6	1.4	1.3	1.7	1.7
Amphetamines [d]																				
% saying not at all	—	59.6	60.3	60.9	58.1	59.2	50.5	49.8	53.9	55.0	59.0	63.5	68.3	72.1	72.6	71.7	76.4	75.5	75.3	71.8
% saying often	—	6.8	7.9	6.7	7.4	8.3	12.1	12.3	10.1	9.0	6.5	5.8	4.5	4.1	4.7	4.1	3.1	3.0	3.9	4.1
Sedatives (barbiturates) [e]																				
% saying not at all	—	69.0	70.0	73.5	73.6	74.8	74.1	74.3	77.5	78.8	81.1	84.2	86.9	87.6	88.2	86.7	90.0	89.8	88.1	87.0
% saying often	—	4.5	5.0	3.4	3.3	3.4	4.0	4.3	3.0	2.7	1.7	2.1	1.5	1.4	1.7	1.7	1.2	1.1	1.6	1.7
Tranquilizers [f]																				
% saying not at all	—	67.7	66.0	67.5	67.5	70.9	71.0	73.4	76.5	76.9	76.6	80.4	81.6	81.8	84.9	83.7	85.8	87.3	86.2	83.5
% saying often	—	5.5	6.3	4.9	4.3	3.2	4.2	3.5	2.9	2.9	2.2	2.5	2.6	2.2	2.1	1.9	1.4	1.9	1.7	1.8
Alcohol																				
% saying not at all	—	6.0	5.6	5.5	5.2	5.3	6.0	6.0	6.0	6.0	6.0	5.9	6.1	6.9	7.7	6.4	8.3	9.4	8.2	10.0
% saying often	—	57.1	60.8	60.8	61.2	60.2	61.0	59.3	60.2	58.7	59.5	58.0	58.7	56.4	55.5	56.1	54.5	53.1	51.9	54.0
Approximate weighted N =	—	*2,950*	*3,075*	*3,682*	*3,253*	*3,259*	*3,608*	*3,645*	*3,334*	*3,238*	*3,252*	*3,078*	*3,296*	*3,300*	2,795	*2,556*	*2,525*	*2,630*	*2,730*	*2,581*

(Years cont.)

(Table continued on next page.)

TABLE 9-2 (cont.)
Trends in 12th Graders' Exposure to Drug Use

(Entries are percentages.)

During the LAST 12 MONTHS, how often have you been around people who were taking each of the following to get high or for "kicks"?	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014[g]	2013–2014 change
Any illicit drug [a]																					
% saying not at all	24.7	22.0	21.2	22.8	22.1	24.0	23.5	23.5	26.4	25.7	27.0	26.3	29.2	28.1	25.9	24.0	23.4	23.6	24.6	24.8	+0.1
% saying often	32.3	33.8	34.7	33.2	35.6	32.6	33.6	32.6	31.8	30.3	29.9	29.7	27.8	28.6	31.4	33.2	34.6	34.9	32.3	31.3	-1.0
Any illicit drug other than marijuana [a]																					
% saying not at all	52.8	50.3	52.1	52.7	53.5	52.8	50.1	50.7	53.7	51.7	54.1	54.7	54.6	56.2	55.7	52.8	53.4	55.0	55.8	59.0	+3.2
% saying often	11.1	12.1	11.7	9.9	11.7	10.5	11.9	12.6	10.8	11.4	10.6	11.4	10.8	8.2	9.4	10.2	11.5	11.6	9.3	9.7	+0.5
Marijuana																					
% saying not at all	27.3	24.4	23.2	24.5	24.2	26.2	25.1	25.8	28.6	27.8	29.2	28.6	31.6	30.2	28.2	25.8	25.4	24.9	26.3	26.6	+0.2
% saying often	30.7	31.8	32.9	31.4	34.4	30.3	30.8	30.7	30.4	28.0	27.0	27.8	25.1	27.0	29.3	31.3	32.3	32.2	30.6	29.2	-1.4
LSD																					
% saying not at all	73.9	72.4	74.1	76.9	76.4	78.0	78.4	82.8	85.8	87.6	89.2	88.4	87.6	87.9	88.1	85.9	86.5	87.0	86.2	87.1	+0.9
% saying often	6.1	4.7	5.1	3.2	4.1	3.3	2.8	2.6	1.8	1.6	1.5	1.9	1.7	0.8	1.3	1.4	1.4	1.6	1.5	1.5	0.0
Other hallucinogens [b]																					
% saying not at all	84.2	83.4	82.2	84.1	82.3	83.7‡	71.9	73.6	74.2	75.2	75.7	76.2	76.5	76.4	78.0	75.0	76.2	77.3	77.7	80.2	+2.6
% saying often	2.5	2.7	2.8	1.7	2.7	2.1‡	3.6	4.5	3.2	3.2	2.6	4.1	3.0	1.9	2.7	2.2	2.5	2.7	2.4	1.9	-0.4
Cocaine																					
% saying not at all	78.4	75.0	74.4	73.4	74.2	75.8	75.5	75.1	75.2	75.6	74.3	71.8	74.8	75.9	80.0	80.0	80.7	82.6	83.3	82.4	-0.9
% saying often	3.2	4.0	4.2	3.7	4.6	4.6	4.5	5.3	5.0	4.7	4.2	5.4	4.6	3.6	2.6	2.1	2.3	2.8	2.1	2.2	+0.1
Heroin																					
% saying not at all	92.1	91.4	90.9	91.3	91.9	90.9	91.3	91.7	92.7	93.4	92.7	91.1	91.4	93.2	92.7	91.7	93.6	94.0	93.4	94.8	+1.4
% saying often	1.2	1.6	1.2	0.9	1.3	1.5	0.7	1.3	1.2	1.2	0.8	1.7	1.1	0.8	0.8	1.0	1.1	1.3	0.7	0.7	0.0
Narcotics other than heroin [c]																					
% saying not at all	84.5	81.5	79.6	79.3	78.1	78.9	78.4	77.5	78.2	79.7	81.0	81.1	81.1	83.7	83.7‡	69.7	72.5	72.9	77.1	79.1	+2.0
% saying often	2.1	3.4	2.5	2.8	3.9	2.9	3.0	3.8	3.0	3.3	2.6	3.4	3.4	2.1	2.7‡	5.3	5.6	5.7	3.8	3.6	-0.2
Amphetamines [d]																					
% saying not at all	71.9	68.5	69.0	70.1	69.9	70.5	68.5	69.4	72.6	72.8	73.6	73.4	76.2	76.7	76.2	76.4‡	72.0	73.8	74.6	76.3	+1.6
% saying often	4.5	5.6	5.2	4.7	6.3	4.4	6.0	6.4	4.9	5.3	4.1	5.6	4.3	3.0	4.3	3.3‡	6.1	5.7	5.3	5.7	+0.5
Sedatives (barbiturates) [e]																					
% saying not at all	85.5	84.5	83.9	83.9	82.9	83.7	82.9	82.3	85.2‡	78.5	79.6	78.7	81.2	83.3	82.4	81.2	83.8	84.0	85.0	86.6	+1.6
% saying often	2.0	2.9	2.5	2.7	3.8	2.7	2.7	4.6	2.8‡	4.1	3.7	3.9	3.9	2.1	3.4	2.5	3.1	2.9	2.5	2.3	-0.2
Tranquilizers [f]																					
% saying not at all	84.3	82.1	81.1	82.7	81.8	82.3‡	76.2	77.3	79.0	77.9	79.1	78.2	80.7	80.1	80.0	81.8	83.0	82.4	83.6	84.0	+0.4
% saying often	2.3	3.5	3.2	2.8	3.7	3.5‡	4.9	5.8	4.2	4.1	4.5	5.4	4.9	3.7	3.9	2.8	3.4	3.3	3.4	3.4	0.0
Alcohol																					
% saying not at all	8.8	8.5	8.6	7.8	8.2	9.3	9.2	10.5	11.7	12.4	12.6	12.4	13.5	14.3	13.5	14.8	15.0	14.7	15.2	17.9	+2.7 ~
% saying often	54.0	54.5	53.9	54.5	53.5	50.2	52.7	50.8	49.0	48.2	49.1	47.8	46.4	45.4	46.3	45.8	40.7	43.0	41.7	40.3	-1.4
Approximate weighted N =	*2,608*	*2,407*	*2,595*	*2,541*	*2,312*	*2,153*	*2,147*	*2,162*	*2,454*	*2,456*	*2,469*	*2,372*	*2,448*	*2,332*	*2,274*	*2,434*	*2,372*	*2,299*	*2,150*	*2,075*	

(Table continued on next page.)

TABLE 9-2 (cont.)
Trends in 12th Graders' Exposure to Drug Use

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. ' ‡ ' indicates some change in the question. See relevant footnote. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]The data presented here were derived from responses to questions on the drugs included in this table. Any illicit drug includes exposure to any of the drugs presented in this table with the exception of alcohol.

[b]In 2001 the question text was changed from other psychedelics to other hallucinogens and shrooms was added to the list of examples. These changes likely explain the discontinuity in the 2001 results.

[c]In 2010 the list of examples for narcotics other than heroin was changed from methadone and opium to Vicodin, OxyContin, Percocet, etc. This change likely explains the discontinuity in the 2010 results.

[d]In 2011 pep pills and bennies were replaced in the list of examples by Adderall and Ritalin. This change likely explains the discontinuity in the 2011 results.

[e]In 2004 the question text was changed from barbiturates to sedatives/barbiturates and the list of examples was changed from downers, goofballs, reds, yellows, etc. to just downers. These changes likely explain the discontinuity in the 2004 results.

[f]In 2001 for tranquilizers, Xanax was added to the list of examples. This change likely explains the discontinuity in the 2001 results.

[g]In 2014 the phrase 'or for "kicks"' was dropped from the question.

TABLE 9-3
Trends in Friends' Use of Drugs as Estimated by 8th Graders

(Entries are percentages.)

How many of your friends would you estimate . . .	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Smoke marijuana																									
% saying any	21.9	25.1	30.8	41.1	46.1	50.8	50.8	46.7	44.4	42.6	46.1	42.3	40.9	38.3	38.7	38.1	35.6	37.5	39.3	43.8	41.9	41.0	42.4	40.3	-2.1
% saying most or all	3.3	4.1	6.0	10.5	12.7	15.2	13.8	12.6	12.1	10.4	11.4	10.0	9.4	7.8	9.1	8.9	7.7	8.0	9.1	12.1	10.7	11.0	12.0	10.1	-2.0 s
Use inhalants																									
% saying any	20.5	23.1	26.3	29.2	32.1	32.3	32.9	31.9	31.0	29.0	29.3	25.7	27.8	27.4	28.1	28.8	25.8	27.1	27.5	27.5	25.7	22.9	19.9	18.0	-1.9
% saying most or all	2.4	2.9	3.7	4.2	5.0	5.2	4.8	4.5	4.7	4.0	3.9	3.4	4.0	4.0	4.2	4.5	3.6	3.6	4.6	4.0	3.4	3.2	2.6	2.5	-0.1
Take crack																									
% saying any	8.6	10.9	12.5	15.2	17.7	18.5	19.3	19.2	18.5	18.1	18.9	17.4	17.2	15.8	16.7	17.0	15.2	16.1	15.8	16.6	15.1	14.3	12.8	11.0	-1.9
% saying most or all	0.9	1.0	1.3	1.6	1.6	2.0	1.8	1.9	1.9	1.6	2.0	1.6	1.7	1.7	1.7	1.8	1.6	1.4	1.7	1.8	1.5	1.4	1.4	1.2	-0.2
Take cocaine powder																									
% saying any	8.4	10.7	12.1	14.3	16.2	17.4	17.6	17.1	16.7	16.1	16.3	14.8	14.9	13.8	15.0	15.6	13.4	14.6	13.2	14.4	12.8	12.5	11.3	10.0	-1.4
% saying most or all	0.9	1.1	1.3	1.7	1.6	1.7	1.6	2.0	1.8	1.6	1.8	1.7	1.6	1.6	1.5	1.8	1.5	1.4	1.6	1.5	1.4	1.2	1.1	1.2	+0.1
Take heroin																									
% saying any	6.1	7.3	8.9	10.3	11.6	12.0	12.2	11.8	11.4	10.9	11.2	10.5	10.2	9.4	9.8	10.3	8.9	9.3	9.5	10.1	9.2	8.1	7.9	7.1	-0.7
% saying most or all	0.7	0.9	0.9	1.3	1.3	1.4	1.2	1.3	1.3	1.1	1.4	1.3	1.0	1.2	1.1	1.1	1.1	1.1	1.2	1.1	1.2	0.9	0.9	1.0	+0.2
Drink alcoholic beverages																									
% saying any	72.1	76.4	75.7	77.0	75.9	77.1	75.8	74.6	73.4	72.7	72.3	68.1	65.4	65.9	63.9	64.7	63.7	64.1	62.8	63.7	59.8	57.2	54.7	51.7	-3.0
% saying most or all	21.0	23.7	25.5	27.4	27.5	28.8	25.9	25.0	24.9	23.6	22.7	20.1	19.6	19.3	17.6	19.1	17.6	17.9	17.8	18.0	15.3	13.9	11.8	9.4	-2.4
Get drunk at least once a week																									
% saying any	42.8	48.0	48.0	50.3	48.7	51.2	48.3	47.6	48.7	46.6	45.5	42.3	40.6	39.8	38.4	40.5	39.5	39.3	38.3	39.9	34.8	33.2	30.8	26.9	-3.9 s
% saying most or all	7.2	8.4	9.0	10.6	9.9	10.9	9.3	8.8	9.6	9.1	8.6	7.4	7.7	7.1	6.6	6.6	6.6	6.2	6.9	6.9	5.6	5.1	4.4	3.7	-0.6
Smoke cigarettes																									
% saying any	67.7	72.4	73.8	76.1	76.1	78.1	76.9	75.2	70.9	67.9	64.2	58.6	56.0	54.0	52.2	51.7	49.7	49.6	49.5	51.6	47.3	43.9	41.8	38.3	-3.6
% saying most or all	11.8	14.4	16.7	19.0	20.5	22.5	19.7	19.4	16.4	13.0	10.6	9.0	8.9	8.1	7.5	7.5	6.1	5.7	5.7	6.3	5.1	4.5	3.9	3.0	-0.9
Use smokeless tobacco																									
% saying any	36.5	37.5	37.3	38.6	37.8	37.9	34.5	32.7	30.0	28.0	27.3	24.5	25.1	24.9	23.3	25.5	24.6	25.1	26.7	27.4	26.7	23.9	23.1	23.7	+0.5
% saying most or all	3.8	4.2	3.8	4.8	4.7	5.1	3.5	3.5	3.5	2.6	2.9	2.5	2.9	3.0	2.5	2.7	2.6	2.7	3.4	3.3	3.2	2.4	2.5	2.3	-0.2
Approximate weighted N =	*16,000*	*16,600*	*16,500*	*15,800*	*15,300*	*16,100*	*16,100*	*16,000*	*10,100*	*10,000*	*9,700*	*9,200*	*10,400*	*10,500*	*10,400*	*10,200*	*9,900*	*9,600*	*9,200*	*9,600*	*10,200*	*9,400*	*9,000*	*8,700*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. In 2000, this set of questions was removed from one of the four forms in which it appeared, which resulted in a slight adjustment in the average change scores that year. To correct for this, although this set of questions was asked in all four forms in 1999, the data presented here for 1999 are from only the three forms in which the questions are still asked. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

TABLE 9-4
Trends in Friends' Use of Drugs as Estimated by 10th Graders

(Entries are percentages.)

How many of your friends would you estimate . . .	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Smoke marijuana																									
% saying any	48.3	45.9	52.7	63.4	68.5	73.5	73.4	70.4	70.5	70.6	72.8	69.6	68.0	66.2	66.2	66.3	66.4	64.6	67.6	70.9	70.9	70.7	71.9	69.4	-2.5
% saying most or all	7.9	8.0	11.2	18.0	21.3	26.4	25.0	23.5	23.3	22.4	23.8	23.3	21.8	19.2	19.5	18.5	17.8	18.9	22.0	23.9	25.6	26.2	27.8	25.1	-2.8
Use inhalants																									
% saying any	17.3	17.8	21.1	23.6	25.3	25.7	23.7	22.8	21.4	20.6	21.4	19.3	18.8	18.4	18.7	20.6	21.2	21.1	19.7	20.2	18.1	15.3	14.9	12.6	-2.3 s
% saying most or all	1.4	1.5	1.8	2.0	2.1	2.2	2.2	2.5	2.1	2.2	1.8	2.1	1.9	1.7	2.0	2.2	2.1	2.2	2.0	2.1	1.7	1.5	1.6	1.4	-0.2
Take crack																									
% saying any	13.2	13.2	15.1	17.3	19.8	21.4	22.0	22.2	21.2	21.1	21.4	21.0	19.3	18.7	19.6	20.5	20.1	19.4	18.4	19.1	17.0	15.4	14.4	12.4	-1.9 s
% saying most or all	0.8	0.7	0.9	1.0	1.2	1.2	1.5	1.7	1.6	1.5	1.5	1.8	1.5	1.4	1.5	1.3	1.5	1.4	1.2	1.5	1.1	1.1	1.2	1.2	0.0
Take cocaine powder																									
% saying any	14.7	14.1	15.4	17.3	19.7	21.7	22.5	23.0	21.0	21.2	20.9	20.5	18.5	19.0	19.8	20.9	21.2	20.2	18.6	18.5	16.7	15.6	14.9	12.9	-2.0
% saying most or all	0.8	0.8	0.8	1.1	1.3	1.4	1.7	2.0	1.9	1.7	1.5	2.0	1.5	1.4	1.5	1.6	1.5	1.4	1.4	1.4	1.0	1.1	1.3	1.0	-0.3
Take heroin																									
% saying any	7.8	8.1	9.3	10.5	11.1	11.7	11.8	11.5	10.7	10.1	11.4	10.3	9.9	9.0	9.8	10.1	9.9	10.6	10.0	10.6	9.1	8.8	7.8	7.0	-0.9
% saying most or all	0.6	0.6	0.7	0.6	0.8	0.7	0.9	1.0	1.0	0.8	0.9	1.2	1.0	0.8	1.0	0.9	0.9	1.1	1.1	0.9	0.6	0.8	0.9	0.8	-0.1
Drink alcoholic beverages																									
% saying any	92.9	91.3	91.8	92.8	92.2	92.4	92.2	91.4	91.4	92.0	91.3	89.4	87.5	87.7	88.0	88.1	88.2	87.0	87.5	87.8	85.9	84.9	83.9	80.5	-3.4 sss
% saying most or all	49.6	48.2	49.9	50.3	50.7	53.4	50.7	50.1	50.3	52.0	50.2	45.7	44.9	44.5	43.9	46.2	44.7	41.3	42.1	42.0	38.2	39.3	36.8	31.9	-4.9 ss
Get drunk at least once a week																									
% saying any	75.1	72.6	74.5	76.9	75.3	76.7	76.2	74.9	75.9	77.3	76.4	73.1	72.1	71.1	71.1	72.8	73.5	70.1	70.4	69.7	66.4	66.3	63.4	58.0	-5.4 ss
% saying most or all	19.3	18.6	20.2	20.3	20.6	23.1	21.8	21.2	22.8	23.5	22.4	19.9	20.9	19.0	18.3	20.5	19.7	16.1	16.8	16.0	15.2	15.9	14.4	12.3	-2.1
Smoke cigarettes																									
% saying any	81.2	82.0	85.4	86.3	88.0	89.3	88.1	87.1	85.4	84.6	82.7	77.2	75.1	73.9	73.6	72.5	72.1	70.7	71.3	72.7	70.2	66.5	62.6	57.2	-5.4 sss
% saying most or all	18.2	18.7	22.8	24.7	27.8	32.8	29.3	27.8	25.9	21.2	19.3	15.8	14.2	13.4	12.6	13.0	11.8	10.5	11.4	11.8	10.2	8.9	7.3	5.8	-1.5
Use smokeless tobacco																									
% saying any	53.1	53.1	57.5	58.4	57.9	55.0	52.0	47.5	44.8	42.3	45.5	41.8	38.6	37.6	41.5	45.3	44.5	41.6	45.6	48.8	47.1	44.2	45.1	42.6	-2.5
% saying most or all	7.5	7.3	7.7	7.6	7.3	6.0	6.4	5.8	4.7	4.6	5.2	5.2	4.4	4.5	5.6	5.8	5.1	4.8	5.7	7.3	5.5	6.0	6.1	6.1	0.0
Approximate weighted N =	*14,300*	*14,000*	*14,600*	*15,000*	*16,100*	*14,800*	*14,700*	*14,400*	*8,700*	*9,100*	*9,000*	*9,100*	*10,100*	*10,500*	*10,400*	*10,500*	*10,300*	*9,700*	*10,300*	*9,900*	*9,700*	*9,700*	*8,400*	*8,400*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. In 2000, this set of questions was removed from one of the four forms in which it appeared, which resulted in a slight adjustment in the average change scores that year. To correct for this, although this set of questions was asked in all four forms in 1999, the data presented here for 1999 are from only the three forms in which the questions are still asked. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

TABLE 9-5
Trends in Friends' Use of Drugs as Estimated by 12th Graders

(Entries are percentages.)

How many of your friends would you estimate . . .	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Take any illicit drug [a]																				
% saying any	85.8	84.6	86.9	87.5	89.0	87.5	85.4	86.3	82.6	81.0	82.4	82.2	81.7	79.1	76.9	71.0	69.1	67.3	71.0	78.3
% saying most or all	31.9	31.7	33.2	36.3	37.0	32.5	29.8	26.5	23.8	20.9	22.7	21.5	18.6	15.8	15.7	11.6	11.7	12.0	15.5	20.3
Take any illicit drug other than marijuana [a]																				
% saying any	66.7	55.5	57.5	56.4	61.3	62.4	63.3	64.7	61.2	61.3	61.8	63.3	62.4	56.5	56.2	50.1	46.3	47.1	48.7	53.7
% saying most or all	10.6	8.9	7.7	8.5	10.4	11.1	11.9	10.9	11.0	10.3	10.4	10.3	9.2	6.9	7.7	5.1	4.6	5.3	7.1	7.1
Smoke marijuana																				
% saying any	83.0	82.9	85.9	86.1	87.6	86.4	83.0	84.4	80.3	77.7	79.5	79.2	78.4	75.3	72.5	68.3	65.8	63.1	67.4	75.6
% saying most or all	30.3	30.6	32.3	35.3	35.5	31.3	27.7	23.8	21.7	18.3	19.8	18.2	15.8	13.6	13.4	10.1	10.0	10.3	13.9	18.9
Use inhalants																				
% saying any	24.3	18.6	18.9	20.0	19.1	17.8	16.5	18.4	16.1	19.3	21.2	22.4	24.7	20.8	22.1	20.0	19.2	22.2	23.7	26.5
% saying most or all	1.1	1.1	1.0	1.1	1.1	1.2	0.9	1.3	1.1	1.1	1.5	2.0	1.9	1.2	1.9	1.0	0.7	1.8	1.8	2.0
Use nitrites																				
% saying any	—	—	—	—	21.6	19.0	17.4	17.5	14.5	15.0	15.6	18.0	18.3	13.6	13.3	10.4	8.9	9.0	10.7	10.0
% saying most or all	—	—	—	—	1.9	1.3	1.2	0.9	0.7	1.2	1.0	1.2	1.3	0.7	0.9	0.6	0.4	0.7	0.7	0.8
Take LSD																				
% saying any	36.5	30.6	31.9	29.9	28.9	28.1	28.5	27.8	24.0	23.9	24.4	24.5	25.3	24.1	25.2	25.0	23.4	28.1	31.3	34.1
% saying most or all	2.7	2.8	3.0	2.0	1.9	1.8	2.2	2.4	1.4	2.0	1.5	1.8	1.6	1.5	2.4	1.9	1.7	2.4	3.8	4.2
Take other hallucinogens [b]																				
% saying any	41.2	30.3	31.4	29.2	28.2	28.2	26.3	25.6	22.1	21.3	22.0	22.3	21.7	17.8	18.1	15.9	15.1	17.0	19.3	21.4
% saying most or all	4.7	3.0	2.8	2.0	2.2	2.2	2.1	1.9	1.6	1.9	1.4	1.3	1.2	0.9	1.4	1.0	0.8	1.0	1.7	2.2
Take PCP																				
% saying any	—	—	—	—	27.8	22.2	17.2	17.3	14.2	14.2	15.9	16.1	15.5	13.5	14.7	13.0	12.0	12.7	15.6	15.5
% saying most or all	—	—	—	—	1.7	1.6	0.9	0.9	1.1	1.1	1.2	1.2	1.1	0.8	1.2	0.5	0.5	0.9	1.9	1.2
Take ecstasy (MDMA)																				
% saying any	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.4	11.9	10.7	12.8	15.9
% saying most or all	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.2	1.7	2.1	1.2	1.7
Take cocaine																				
% saying any	33.6	28.8	30.1	33.2	38.9	41.6	40.1	40.7	37.6	38.9	43.8	45.6	43.7	37.7	37.4	31.7	26.8	26.3	24.5	26.1
% saying most or all	3.4	3.2	3.6	4.0	6.0	6.1	6.3	4.9	5.1	5.1	5.8	6.2	5.1	3.4	3.7	2.1	1.5	1.5	2.1	1.5
Take crack																				
% saying any	—	—	—	—	—	—	—	—	—	—	—	—	27.4	25.4	26.1	19.2	17.6	17.8	17.9	20.0
% saying most or all	—	—	—	—	—	—	—	—	—	—	—	—	2.2	1.1	2.1	0.6	0.6	0.7	0.9	1.0
Take cocaine powder																				
% saying any	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.3	24.6	19.8	19.7	18.1	20.7
% saying most or all	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.3	2.5	1.8	2.0	1.6	1.9
Approximate weighted N =	*2,640*	*2,697*	*2,788*	*3,247*	*2,933*	*2,987*	*3,307*	*3,303*	*3,095*	*2,945*	*2,971*	*2,798*	*2,948*	*2,961*	*2,587*	*2,361*	*2,339*	*2,373*	*2,410*	*2,337*

(Years cont.)

(Table continued on next page.)

TABLE 9-5 (cont.)
Trends in Friends' Use of Drugs as Estimated by 12th Graders

(Entries are percentages.)

How many of your friends would you estimate . . .	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Take any illicit drug [a]																					
% saying any	78.6	80.6	83.4	84.6	82.0	82.0	82.8	81.8	80.7	81.2	79.8	78.8	77.7	80.1	79.2	80.4	81.7	78.9	80.8	80.8	0.0
% saying most or all	21.7	23.8	23.7	25.9	25.5	24.5	25.2	23.1	23.5	23.0	20.2	20.9	21.7	21.3	22.4	25.4	29.1	26.4	26.7	24.6	-2.1
Take any illicit drug other than marijuana [a]																					
% saying any	53.7	54.5	55.1	55.6	51.2	52.5	55.0	54.3	50.0	51.4	51.3	51.0	50.0	49.3	49.4	53.7	49.9	48.9	45.4	43.7	-1.7
% saying most or all	7.7	8.9	7.0	8.9	7.4	7.4	7.0	6.1	6.7	7.3	6.7	5.3	6.5	5.3	5.6	7.1	6.5	5.5	4.3	5.1	+0.9
Smoke marijuana																					
% saying any	76.1	78.0	81.4	83.2	80.7	80.5	81.2	79.4	78.9	79.5	77.4	76.4	74.8	78.2	77.2	79.7	80.6	77.7	80.2	79.3	-0.9
% saying most or all	20.7	22.2	22.5	23.8	24.2	23.2	24.0	21.4	21.7	21.1	17.9	19.6	19.2	19.9	20.9	23.6	27.3	25.0	25.7	23.4	-2.4
Use inhalants																					
% saying any	27.5	27.2	27.4	25.9	21.6	23.5	22.2	21.0	17.5	17.9	18.1	19.0	17.9	18.0	18.0	19.0	16.4	12.3	12.1	9.4	-2.7 s
% saying most or all	2.0	2.4	1.9	2.7	1.8	1.4	1.4	1.2	1.1	1.2	2.0	1.2	1.6	1.1	0.9	1.8	1.4	0.9	1.1	0.7	-0.4
Use nitrites																					
% saying any	10.7	11.2	11.9	12.9	10.9	11.0	11.9	11.2	8.5	9.4	9.1	8.1	7.7	7.3	7.7	—	—	—	—	—	—
% saying most or all	0.8	0.8	0.7	1.0	0.7	1.0	0.6	0.8	1.0	1.2	1.0	0.5	0.7	0.5	0.2	—	—	—	—	—	—
Take LSD																					
% saying any	36.9	37.9	36.5	36.8	32.2	31.9	32.2	28.6	21.9	23.5	19.5	18.7	18.3	20.9	21.3	22.3	22.5	21.3	17.7	18.0	+0.2
% saying most or all	4.8	5.0	3.7	4.7	3.9	3.1	2.9	1.7	1.9	1.5	1.5	0.8	1.2	1.1	1.1	1.5	1.4	1.3	1.2	1.2	0.0
Take other hallucinogens [b]																					
% saying any	23.8	26.4	26.3	27.4	22.5	24.0‡	35.4	33.6	30.1	31.9	31.0	30.1	30.1	29.4	30.5	32.3	31.8	29.5	26.9	22.0	-4.8 ss
% saying most or all	2.2	2.3	2.6	3.1	2.4	2.4‡	2.9	2.3	2.4	2.6	2.2	1.7	1.7	1.8	1.6	2.0	2.1	2.0	1.6	1.6	0.0
Take PCP																					
% saying any	18.3	20.3	19.7	20.2	16.8	17.5	19.1	17.2	13.6	11.8	10.1	10.6	9.4	9.4	9.3	—	—	—	—	—	—
% saying most or all	1.2	1.3	1.4	1.6	1.5	1.7	1.3	1.0	1.5	1.1	1.0	0.5	0.8	0.5	0.5	—	—	—	—	—	—
Take ecstasy (MDMA)																					
% saying any	20.7	24.2	27.7	24.5	26.7	37.3	41.9	38.0	34.2	28.9	23.1	23.1	23.6	24.7	23.5	25.9	27.5	26.8	25.6	24.3	-1.3
% saying most or all	2.8	3.0	2.6	2.5	2.7	4.8	5.2	3.7	2.7	3.2	2.5	1.9	2.1	2.4	2.2	2.1	2.7	2.7	1.8	2.3	+0.5
Take cocaine																					
% saying any	24.8	28.1	28.5	31.2	27.8	27.2	27.1	26.8	23.8	29.3	28.1	29.7	29.7	25.2	24.0	22.9	18.8	18.1	18.8	17.9	-1.0
% saying most or all	2.0	2.2	2.0	3.2	2.9	2.0	1.7	1.7	2.4	2.3	2.3	1.9	2.1	1.2	1.8	1.4	1.0	0.8	1.1	0.8	-0.4
Take crack																					
% saying any	19.2	21.6	22.2	24.4	19.0	21.4	23.4	21.5	18.7	22.5	22.9	22.3	21.8	19.1	18.8	15.2	12.1	10.4	10.3	9.0	-1.3
% saying most or all	1.1	0.9	1.1	1.7	1.5	1.4	0.8	0.8	1.4	1.6	1.6	1.0	1.3	1.1	1.1	1.5	0.9	0.8	0.9	0.8	-0.1
Take cocaine powder																					
% saying any	19.2	22.8	24.8	22.9	22.0	21.3	20.1	22.4	23.2	25.4	23.2	22.8	22.3	22.6	19.1	17.6	15.9	17.4	15.6	15.4	-0.2
% saying most or all	1.7	1.9	2.0	1.9	1.9	1.8	1.5	1.9	1.9	3.3	1.7	1.7	1.8	1.5	1.5	1.0	1.6	1.5	1.2	1.8	+0.5
Approximate weighted N =	*2,379*	*2,156*	*2,292*	*2,313*	*2,060*	*1,838*	*1,923*	*1,968*	*2,233*	*2,271*	*2,266*	*2,217*	*2,253*	*2,125*	*2,110*	*2,195*	*2,208*	*2,144*	*1,973*	*1,920*	

(List of drugs continued)

TABLE 9-5 (cont.)
Trends in Friends' Use of Drugs as Estimated by 12th Graders

(Entries are percentages.)

How many of your friends would you estimate . . .	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	(Years cont.)
Take heroin																					
% saying any	15.2	13.6	12.9	14.3	12.9	13.0	12.5	13.2	12.0	13.0	14.5	15.3	13.9	12.4	14.0	11.4	11.4	13.2	13.3	14.3	
% saying most or all	0.7	0.8	0.7	0.9	0.5	1.0	0.5	0.7	0.8	0.8	0.9	1.1	0.9	0.7	1.1	0.4	0.4	0.7	1.1	1.0	
Take other narcotics [c]																					
% saying any	28.8	24.1	23.7	23.2	23.1	22.4	23.1	23.9	20.8	21.4	22.8	21.8	23.2	19.2	19.2	17.2	13.7	14.9	16.1	18.5	
% saying most or all	2.1	2.2	1.7	1.4	1.5	1.7	1.5	1.4	1.4	1.6	1.4	1.8	1.4	1.2	1.4	0.9	0.5	1.1	1.2	1.0	
Take amphetamines [d]																					
% saying any	51.0	42.2	41.3	40.7	40.7	43.9	48.8	50.6	46.1	45.1	43.3	41.8	39.5	33.4	33.5	28.7	24.3	24.3	27.5	28.1	
% saying most or all	5.9	5.6	4.1	4.7	4.3	4.8	6.4	5.4	5.1	4.5	3.4	3.4	2.6	1.9	2.6	1.9	1.3	1.3	2.0	1.8	
Take crystal methamphetamine (ice)																					
% saying any	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.1	10.2	8.9	9.4	11.8	
% saying most or all	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.7	1.0	1.5	1.2	1.5	
Take sedatives (barbiturates) [e]																					
% saying any	45.0	36.3	34.7	32.5	30.7	30.5	31.1	31.3	28.3	26.6	27.1	25.6	24.3	19.7	20.3	17.4	14.8	16.4	17.8	18.2	
% saying most or all	4.3	3.5	3.0	2.3	2.1	2.6	2.1	1.8	1.7	1.7	1.6	1.4	1.1	1.1	1.4	0.6	0.5	0.6	1.0	1.1	
Take quaaludes																					
% saying any	31.7	27.0	28.3	27.0	27.7	32.5	35.0	35.5	29.7	26.1	26.0	23.5	22.0	17.1	16.6	14.3	12.0	13.1	14.2	14.2	
% saying most or all	3.0	1.8	2.9	2.2	2.8	3.6	3.6	2.6	2.6	1.7	1.3	1.6	1.0	1.0	1.3	0.8	0.5	0.8	1.1	1.1	
Take tranquilizers [f]																					
% saying any	45.6	36.3	37.8	34.8	32.0	29.7	29.5	29.9	26.7	26.6	25.8	24.2	23.3	19.9	18.0	14.9	13.5	14.6	15.5	16.5	
% saying most or all	3.5	3.1	2.7	1.8	2.0	1.9	1.4	1.1	1.2	1.5	1.2	1.3	1.0	0.7	1.5	0.5	0.4	0.7	0.9	0.9	
Drink alcoholic beverages																					
% saying any	96.7	95.1	94.4	94.9	95.4	96.1	94.7	95.7	95.5	94.6	94.6	95.6	95.4	95.7	95.1	92.0	91.2	90.5	88.9	90.1	
% saying most or all	68.4	64.7	66.2	68.9	68.5	68.9	67.7	69.7	69.0	66.6	66.0	68.0	71.8	68.1	67.1	60.5	58.6	56.9	57.0	59.6	
Get drunk at least once a week																					
% saying any	82.4	80.7	81.0	82.0	83.3	83.1	81.8	83.1	83.9	81.5	82.5	84.7	85.6	84.4	82.8	79.2	79.8	79.9	79.2	81.4	
% saying most or all	30.1	26.6	27.6	30.2	32.0	30.1	29.4	29.9	31.0	29.6	29.9	31.8	31.3	29.6	31.1	27.5	29.7	28.6	27.6	28.4	
Smoke cigarettes																					
% saying any	95.2	93.7	93.7	93.1	92.1	90.6	88.5	88.3	87.0	86.0	87.0	87.8	88.3	87.7	86.5	84.9	85.7	84.4	84.8	88.1	
% saying most or all	41.5	36.7	33.9	32.2	28.6	23.3	22.4	24.1	22.4	19.2	22.8	21.5	21.0	20.2	23.1	21.4	21.8	21.4	25.0	25.3	
Take steroids																					
% saying any	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.9	24.7	21.5	19.0	18.1	
% saying most or all	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.8	1.0	1.7	0.9	1.2	
Approximate weighted N =	*2,640*	*2,697*	*2,788*	*3,247*	*2,933*	*2,987*	*3,307*	*3,303*	*3,095*	*2,945*	*2,971*	*2,798*	*2,948*	*2,961*	*2,587*	*2,361*	*2,339*	*2,373*	*2,410*	*2,337*	

(Table continued on next page.)

TABLE 9-5 (cont.)
Trends in Friends' Use of Drugs as Estimated by 12th Graders

(Entries are percentages.)

How many of your friends would you estimate . . .	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Take heroin																					
% saying any	14.5	15.6	15.6	16.5	12.7	14.9	13.1	12.9	10.3	12.7	13.1	12.8	12.9	11.2	12.7	12.4	10.2	7.7	8.5	7.9	-0.6
% saying most or all	1.1	0.9	0.8	1.3	1.0	1.1	0.9	0.7	0.9	0.9	1.1	0.8	1.4	0.7	0.9	1.3	0.6	0.6	0.6	0.5	0.0
Take other narcotics [c]																					
% saying any	19.5	21.8	22.2	24.8	22.9	23.1	24.0	27.5	21.6	24.6	21.4	23.0	20.7	20.6	21.5‡	36.3	31.0	28.5	25.8	22.0	-3.8 s
% saying most or all	1.6	1.5	1.4	2.9	1.8	2.0	2.0	2.1	2.4	2.4	1.9	1.9	2.6	1.3	1.9‡	3.8	2.6	1.8	1.9	1.8	-0.2
Take amphetamines [d]																					
% saying any	30.3	32.2	32.7	33.8	30.8	32.9	33.2	34.4	28.1	31.4	28.8	29.0	27.4	27.3	30.0	31.1	31.3	30.5	25.7	25.0	-0.7
% saying most or all	2.0	2.8	2.4	3.4	2.8	3.1	2.2	2.4	2.1	2.9	2.2	2.0	2.4	1.8	2.0	2.9	2.2	2.4	2.2	2.9	+0.7
Take crystal methamphetamine (ice)																					
% saying any	12.9	15.9	18.6	16.8	15.7	16.9	17.0	17.5	16.2	17.8	14.3	13.4	11.9	10.9	9.4	9.2	8.9	9.6	8.9	8.2	-0.7
% saying most or all	1.7	1.5	2.3	2.1	1.1	2.0	1.6	2.0	1.8	3.0	1.9	1.2	0.8	1.4	1.5	1.0	1.3	1.5	1.0	1.5	+0.5
Take sedatives (barbiturates) [e]																					
% saying any	17.8	21.6	20.4	22.8	20.9	21.6	22.1	25.3	18.1‡	25.2	22.3	22.5	20.8	19.8	21.0	23.5	21.1	17.3	15.5	14.2	-1.3
% saying most or all	1.4	1.6	1.1	2.5	1.4	1.7	1.1	1.7	1.9‡	2.0	1.8	1.3	1.6	1.3	1.3	1.5	1.3	1.5	1.2	1.1	-0.1
Take quaaludes																					
% saying any	15.5	18.1	16.1	17.4	15.5	16.2	17.8	18.0	14.2	16.6	13.6	13.4	13.6	11.2	14.3	—	—	—	—	—	—
% saying most or all	1.3	1.7	1.1	2.0	1.4	1.4	1.2	1.2	1.2	1.6	1.3	1.3	1.6	0.8	1.1	—	—	—	—	—	—
Take tranquilizers [f]																					
% saying any	15.8	18.1	17.9	19.7	16.4	19.4	18.6	21.2	17.2	18.3	16.9	15.3	15.5	15.0	15.8	16.1	13.9	13.3	11.7	10.1	-1.6
% saying most or all	1.1	1.4	0.8	2.3	1.3	2.1	1.3	1.6	1.5	1.7	1.6	1.2	1.8	1.2	1.5	1.4	0.8	0.8	1.0	1.3	+0.3
Drink alcoholic beverages																					
% saying any	90.9	89.6	90.7	91.2	90.2	89.8	89.2	88.0	87.9	87.8	87.2	86.0	85.1	85.2	83.7	83.9	82.6	82.0	82.0	79.7	-2.3
% saying most or all	56.4	56.4	60.9	61.0	58.2	57.2	59.2	53.7	53.1	53.9	55.3	52.4	52.0	51.6	50.5	51.4	50.3	49.4	46.9	46.2	-0.7
Get drunk at least once a week																					
% saying any	78.9	78.5	82.4	81.1	81.5	79.5	79.6	78.3	77.3	79.0	78.7	77.4	75.5	76.2	76.2	73.5	71.9	68.9	69.9	64.2	-5.7 ss
% saying most or all	27.4	29.0	30.9	31.7	30.1	32.4	32.7	28.3	27.1	27.6	28.5	27.7	27.0	25.2	24.4	23.7	23.8	21.2	20.7	18.5	-2.2
Smoke cigarettes																					
% saying any	87.9	88.3	89.9	89.5	89.3	87.2	86.8	85.4	83.3	83.7	81.8	81.4	77.1	78.4	79.6	78.0	75.4	74.3	72.1	66.4	-5.8 ss
% saying most or all	27.5	30.4	34.4	33.9	31.1	28.2	25.0	23.0	19.6	20.6	16.7	15.8	16.4	13.9	14.1	14.9	14.1	12.2	11.0	8.1	-2.9 s
Take steroids																					
% saying any	19.5	17.9	18.9	18.3	20.0	19.8	21.7	21.6	21.1	22.8	19.1	19.8	20.1	19.4	19.3	16.4	16.0	18.7	17.4	15.7	-1.7
% saying most or all	1.3	0.8	1.7	1.4	0.9	1.9	1.2	1.5	1.5	2.6	1.5	0.9	1.2	1.3	1.5	1.7	1.1	1.8	1.5	1.7	+0.2
Approximate weighted N =	*2,379*	*2,156*	*2,292*	*2,313*	*2,060*	*1,838*	*1,923*	*1,968*	*2,233*	*2,271*	*2,266*	*2,217*	*2,253*	*2,125*	*2,110*	*2,195*	*2,208*	*2,144*	*1,973*	*1,920*	

(Table continued on next page.)

TABLE 9-5 (cont.)
Trends in Friends' Use of Drugs as Estimated by 12th Graders

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. ' ‡ ' indicates some change in the question. See relevant footnote.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]These estimates were derived from responses to the questions listed. Any illicit drug includes all drugs listed except ecstasy (MDMA), cocaine powder, crystal methamphetamine (ice), alcohol, get drunk, cigarettes, and steroids. PCP and the nitrites were not included from 1975 to 1978. Crack was not included from 1975 to 1986. Methaqualone was not included beginning in 2010.

[b]In 2001 the question text was changed from other psychedelics to other hallucinogens, and shrooms was added to the list of examples. These changes likely explain the discontinuity in the 2001 results.

[c]In 2010 the list of examples for narcotics other than heroin was changed from methadone and opium to Vicodin, OxyContin, Percocet, etc. This change likely explains the discontinuity in the 2010 results.

[d]In 2011 pep pills and bennies were replaced in the list of examples by Adderall and Ritalin.

[e]In 2004 the question text was changed from barbiturates to sedatives/barbiturates and the list of examples was changed from downers, goofballs, reds, yellows, etc. to just downers. These changes likely explain the discontinuity in the 2004 results.

[f]In 2001 for tranquilizers, Xanax was added to the list of examples. This change likely explains the discontinuity in the 2001 results.

TABLE 9-6
Trends in Availability of Drugs as Perceived by 8th Graders

How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Percentage saying fairly easy or very easy to get [a]																								2013–2014 change
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Marijuana	—	42.3	43.8	49.9	52.4	54.8	54.2	50.6	48.4	47.0	48.1	46.6	44.8	41.0	41.1	39.6	37.4	39.3	39.8	41.4	37.9	36.9	39.1	36.9	-2.2 s
LSD	—	21.5	21.8	21.8	23.5	23.6	22.7	19.3	18.3	17.0	17.6	15.2	14.0	12.3	11.5	10.8	10.5	10.9	10.0	10.0	9.3	7.5	7.4	6.9	-0.5
PCP [b]	—	18.0	18.5	17.7	19.0	19.6	19.2	17.5	17.1	16.0	15.4	14.1	13.7	11.4	11.0	10.5	9.5	10.1	9.1	8.0	7.9	6.7	5.8	5.5	-0.3
Ecstasy (MDMA) [b]	—	—	—	—	—	—	—	—	—	—	23.8	22.8	21.6	16.6	15.6	14.5	13.4	14.1	13.1	12.9	12.0	9.6	9.5	10.1	+0.6
Crack	—	25.6	25.9	26.9	28.7	27.9	27.5	26.5	25.9	24.9	24.4	23.7	22.5	20.6	20.8	20.9	19.7	20.2	18.6	17.9	15.7	14.4	13.7	12.0	-1.7 s
Cocaine powder	—	25.7	25.9	26.4	27.8	27.2	26.9	25.7	25.0	23.9	23.9	22.5	21.6	19.4	19.9	20.2	19.0	19.5	17.8	16.6	14.9	14.1	13.5	11.9	-1.6 s
Heroin	—	19.7	19.8	19.4	21.1	20.6	19.8	18.0	17.5	16.5	16.9	16.0	15.6	14.1	13.2	13.0	12.6	13.3	12.0	11.6	9.9	9.4	10.0	8.6	-1.4 s
Narcotics other than Heroin [b,c]	—	19.8	19.0	18.3	20.3	20.0	20.6	17.1	16.2	15.6	15.0	14.7	15.0	12.4	12.9	13.0	11.7	12.1	11.8‡	14.6	12.3	10.6	9.7	9.2	-0.5
Amphetamines [d]	—	32.2	31.4	31.0	33.4	32.6	30.6	27.3	25.9	25.5	26.2	24.4	24.4	21.9	21.0	20.7	19.9	21.3	20.2	19.6‡	15.0	13.4	12.8	12.1	-0.6
Crystal methamphetamine (ice) [b]	—	16.0	15.1	14.1	16.0	16.3	15.7	16.0	14.7	14.9	13.9	13.3	14.1	11.9	13.5	14.5	12.1	12.8	11.9	10.9	9.6	8.8	8.5	7.7	-0.8
Sedatives (barbiturates)	—	27.4	26.1	25.3	26.5	25.6	24.4	21.1	20.8	19.7	20.7	19.4	19.3	18.0	17.6	17.3	16.8	17.5	15.9	15.3	12.6	11.1	10.6	10.0	-0.6
Tranquilizers	—	22.9	21.4	20.4	21.3	20.4	19.6	18.1	17.3	16.2	17.8	16.9	17.3	15.8	14.8	14.4	14.4	15.4	14.1	13.7	12.0	10.5	10.4	9.8	-0.6
Alcohol	—	76.2	73.9	74.5	74.9	75.3	74.9	73.1	72.3	70.6	70.6	67.9	67.0	64.9	64.2	63.0	62.0	64.1	61.8	61.1	59.0	57.5	56.1	54.4	-1.7 s
Cigarettes	—	77.8	75.5	76.1	76.4	76.9	76.0	73.6	71.5	68.7	67.7	64.3	63.1	60.3	59.1	58.0	55.6	57.4	55.3	55.5	51.9	50.7	49.9	47.2	-2.6 ss
Steroids	—	24.0	22.7	23.1	23.8	24.1	23.6	22.3	22.6	22.3	23.1	22.0	21.7	19.7	18.1	17.1	17.0	16.8	15.2	14.2	13.3	12.5	12.9	11.8	-1.2
Approximate weighted N =		*8,355*	*16,775*	*16,119*	*15,496*	*16,318*	*16,482*	*16,208*	*15,397*	*15,180*	*14,804*	*13,972*	*15,583*	*15,944*	*15,730*	*15,502*	*15,043*	*14,482*	*13,989*	*14,485*	*15,233*	*14,235*	*13,605*	*13,208*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. ' ‡ ' indicates some change in the question. See relevant footnote for that drug.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a] Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, (5) Very easy, and (6) Can't say, drug unfamiliar.

[b] Beginning in 1993, data based on one of two of forms; *N* is one half of *N* indicated. Beginning in 2014 data based on one sixth of *N* indicated.

[c] In 2010 the list of examples for narcotics other than heroin was changed from methadone, opium to Vicodin, OxyContin, Percocet, etc. This change likely explains the discontinuity in the 2010 results.

[d] In 2011 the list of examples for amphetamines was changed from uppers, pep pills, bennies, speed to uppers, speed, Adderall, Ritalin, etc. These changes likely explain the discontinuity in the 2012 results.

TABLE 9-7
Trends in Availability of Drugs as Perceived by 10th Graders

How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Percentage saying fairly easy or very easy to get [a]																								2013–2014 change
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Marijuana	—	65.2	68.4	75.0	78.1	81.1	80.5	77.9	78.2	77.7	77.4	75.9	73.9	73.3	72.6	70.7	69.0	67.4	69.3	69.4	68.4	68.8	69.7	66.9	-2.7 ss
LSD	—	33.6	35.8	36.1	39.8	41.0	38.3	34.0	34.3	32.9	31.2	26.8	23.1	21.6	20.7	19.2	19.0	19.3	17.8	18.3	16.6	14.9	16.3	14.8	-1.5
PCP [b]	—	23.7	23.4	23.8	24.7	26.8	24.8	23.9	24.5	25.0	21.6	20.8	19.4	18.0	18.1	15.8	15.4	14.4	13.4	12.6	12.0	10.2	9.4	8.3	-1.1
Ecstasy (MDMA) [b]	—	—	—	—	—	—	—	—	—	—	41.4	41.0	36.3	31.2	30.2	27.4	27.7	26.7	25.6	25.7	24.8	21.0	20.7	20.1	-0.6
Crack	—	33.7	33.0	34.2	34.6	36.4	36.0	36.3	36.5	34.0	30.6	31.3	29.6	30.6	31.0	29.9	29.0	27.2	23.9	22.5	19.7	18.4	17.1	15.1	-2.1 ss
Cocaine powder	—	35.0	34.1	34.5	35.3	36.9	37.1	36.8	36.7	34.5	31.0	31.8	29.6	31.2	31.5	30.7	30.0	28.2	24.7	22.6	20.6	19.2	18.3	16.4	-1.9 s
Heroin	—	24.3	24.3	24.7	24.6	24.8	24.4	23.0	23.7	22.3	20.1	19.9	18.8	18.7	19.3	17.4	17.3	17.2	15.0	14.5	13.2	11.9	11.9	10.9	-1.0
Narcotics other than Heroin [b,c]	—	26.9	24.9	26.9	27.8	29.4	29.0	26.1	26.6	27.2	25.8	25.4	23.5	23.1	23.6	22.2	21.5	20.3	18.8‡	28.7	25.0	24.3	22.5	18.8	-3.6 ss
Amphetamines [d]	—	43.4	46.4	46.6	47.7	47.2	44.6	41.0	41.3	40.9	40.6	39.6	36.1	35.7	35.6	34.7	33.3	32.0	31.8	32.6‡	28.5	27.3	26.5	25.2	-1.3
Crystal methamphetamine (ice) [b]	—	18.8	16.4	17.8	20.7	22.6	22.9	22.1	21.8	22.8	19.9	20.5	19.0	19.5	21.6	20.8	18.8	15.8	14.0	13.3	11.8	10.7	10.0	9.8	-0.2
Sedatives (barbiturates)	—	38.0	38.8	38.3	38.8	38.1	35.6	32.7	33.2	32.4	32.8	32.4	28.8	30.0	29.7	29.9	28.2	26.9	25.5	24.9	22.0	20.2	18.3	16.7	-1.6 ~
Tranquilizers	—	31.6	30.5	29.8	30.6	30.3	28.7	26.5	26.8	27.6	28.5	28.3	25.6	25.6	25.4	25.1	24.9	24.1	22.3	21.6	20.8	19.7	18.3	17.5	-0.9
Alcohol	—	88.6	88.9	89.8	89.7	90.4	89.0	88.0	88.2	87.7	87.7	84.8	83.4	84.3	83.7	83.1	82.6	81.1	80.9	80.0	77.9	78.2	77.2	75.3	-1.9 s
Cigarettes	—	89.1	89.4	90.3	90.7	91.3	89.6	88.1	88.3	86.8	86.3	83.3	80.7	81.4	81.5	79.5	78.2	76.5	76.1	75.6	73.6	72.9	71.4	69.0	-2.4 ss
Steroids	—	37.6	33.6	33.6	34.8	34.8	34.2	33.0	35.9	35.4	33.1	33.2	30.6	29.6	29.7	30.2	27.7	24.5	20.8	20.3	18.8	18.0	17.2	16.5	-0.6
Approximate weighted N =		*7,014*	*14,652*	*15,192*	*16,209*	*14,887*	*14,856*	*14,423*	*13,112*	*13,690*	*13,518*	*13,694*	*15,255*	*15,806*	*15,636*	*15,804*	*15,511*	*14,634*	*15,451*	*14,827*	*14,509*	*14,628*	*12,601*	*12,574*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. ' ‡ ' indicates some change in the question. See relevant footnote for that drug.
Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, (5) Very easy, and (6) Can't say, drug unfamiliar.

[b]Beginning in 1993, data based on one of two forms; *N* is one half of *N* indicated. Beginning in 2014 data based on one sixth of N indicated.

[c]In 2010 the list of examples for narcotics other than heroin was changed from methadone, opium to Vicodin, OxyContin, Percocet, etc. This change likely explains the discontinuity in the 2010 results.

[d]In 2011 the list of examples for amphetamines was changed from uppers, pep pills, bennies, speed to uppers, speed, Adderall, Ritalin, etc. These changes likely explain the discontinuity in the 2011 results.

TABLE 9-8
Trends in Availability of Drugs as Perceived by 12th Graders

How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Percentage saying fairly easy or very easy to get [a]																			
	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Marijuana	87.8	87.4	87.9	87.8	90.1	89.0	89.2	88.5	86.2	84.6	85.5	85.2	84.8	85.0	84.3	84.4	83.3	82.7	83.0	85.5
Amyl/butyl nitrites	—	—	—	—	—	—	—	—	—	—	—	—	23.9	25.9	26.8	24.4	22.7	25.9	25.9	26.7
LSD	46.2	37.4	34.5	32.2	34.2	35.3	35.0	34.2	30.9	30.6	30.5	28.5	31.4	33.3	38.3	40.7	39.5	44.5	49.2	50.8
Some other hallucinogen [b]	47.8	35.7	33.8	33.8	34.6	35.0	32.7	30.6	26.6	26.6	26.1	24.9	25.0	26.2	28.2	28.3	28.0	29.9	33.5	33.8
PCP	—	—	—	—	—	—	—	—	—	—	—	—	22.8	24.9	28.9	27.7	27.6	31.7	31.7	31.4
Ecstasy (MDMA)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.7	22.0	22.1	24.2	28.1	31.2
Cocaine	37.0	34.0	33.0	37.8	45.5	47.9	47.5	47.4	43.1	45.0	48.9	51.5	54.2	55.0	58.7	54.5	51.0	52.7	48.5	46.6
Crack	—	—	—	—	—	—	—	—	—	—	—	—	41.1	42.1	47.0	42.4	39.9	43.5	43.6	40.5
Cocaine powder	—	—	—	—	—	—	—	—	—	—	—	—	52.9	50.3	53.7	49.0	46.0	48.0	45.4	43.7
Heroin	24.2	18.4	17.9	16.4	18.9	21.2	19.2	20.8	19.3	19.9	21.0	22.0	23.7	28.0	31.4	31.9	30.6	34.9	33.7	34.1
Some other narcotic (including methadone) [c]	34.5	26.9	27.8	26.1	28.7	29.4	29.6	30.4	30.0	32.1	33.1	32.2	33.0	35.8	38.3	38.1	34.6	37.1	37.5	38.0
Amphetamines [d]	67.8	61.8	58.1	58.5	59.9	61.3	69.5	70.8	68.5	68.2	66.4	64.3	64.5	63.9	64.3	59.7	57.3	58.8	61.5	62.0
Crystal methamphetamine (ice)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.1	24.3	26.0	26.6	25.6
Sedatives (barbiturates) [e]	60.0	54.4	52.4	50.6	49.8	49.1	54.9	55.2	52.5	51.9	51.3	48.3	48.2	47.8	48.4	45.9	42.4	44.0	44.5	43.3
Tranquilizers	71.8	65.5	64.9	64.3	61.4	59.1	60.8	58.9	55.3	54.5	54.7	51.2	48.6	49.1	45.3	44.7	40.8	40.9	41.1	39.2
Alcohol	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.7	46.8	44.8	42.9
Approximate weighted N =	*2,627*	*2,865*	*3,065*	*3,598*	*3,172*	*3,240*	*3,578*	*3,602*	*3,385*	*3,269*	*3,274*	*3,077*	*3,271*	*3,231*	*2,806*	*2,549*	*2,476*	*2,586*	*2,670*	*2,526*

→ (Years cont.)

(Table continued on next page.)

TABLE 9-8 (cont.)
Trends in Availability of Drugs as Perceived by 12th Graders

How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Percentage saying "fairly easy" or "very easy" to get [a]																				
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Marijuana	88.5	88.7	89.6	90.4	88.9	88.5	88.5	87.2	87.1	85.8	85.6	84.9	83.9	83.9	81.1	82.1	82.2	81.6	81.4	81.3	0.0
Amyl/butyl nitrites	26.0	23.9	23.8	25.1	21.4	23.3	22.5	*22.3*	19.7	20.0	19.7	18.4	18.1	16.9	15.7	—	—	—	—	—	—
LSD	53.8	51.3	50.7	48.8	44.7	46.9	44.7	39.6	33.6	33.1	28.6	29.0	28.7	28.5	26.3	25.1	25.1	27.6	24.5	25.9	+1.4
Some other hallucinogen [b]	35.8	33.9	33.9	35.1	29.5	34.5‡	48.5	47.7	47.2	49.4	45.0	43.9	43.7	42.8	40.5	39.5	38.3	37.8	36.6	33.6	-3.1
PCP	31.0	30.5	30.0	30.7	26.7	28.8	27.2	25.8	21.9	24.2	23.2	23.1	21.0	20.6	19.2	18.5	17.2	14.2	15.3	11.1	-4.2 ss
Ecstasy (MDMA) [c]	34.2	36.9	38.8	38.2	40.1	51.4	61.5	59.1	57.5	47.9	40.3	40.3	40.9	41.9	35.1	36.4	37.1	35.9	35.1	36.1	+1.1
Cocaine	47.7	48.1	48.5	51.3	47.6	47.8	46.2	44.6	43.3	47.8	44.7	46.5	47.1	42.4	39.4	35.5	30.5	29.8	30.5	29.2	-1.3
Crack	41.9	40.7	40.6	43.8	41.1	42.6	40.2	38.5	35.3	39.2	39.3	38.8	37.5	35.2	31.9	26.1	24.0	22.0	24.6	20.1	-4.5 ss
Cocaine powder	43.8	44.4	43.3	45.7	43.7	44.6	40.7	40.2	37.4	41.7	41.6	42.5	41.2	38.9	33.9	29.0	26.4	25.1	28.4	22.3	-6.1 sss
Heroin	35.1	32.2	33.8	35.6	32.1	33.5	32.3	29.0	27.9	29.6	27.3	27.4	29.7	25.4	27.4	24.1	20.8	19.9	22.1	20.2	-1.9
Some other narcotic (including methadone) [d]	39.8	40.0	38.9	42.8	40.8	43.9	40.5	44.0	39.3	40.2	39.2	39.6	37.3	34.9	36.1‡	54.2	50.7	50.4	46.5	42.2	-4.3 s
Amphetamines [e]	62.8	59.4	59.8	60.8	58.1	57.1	57.1	57.4	55.0	55.4	51.2	52.9	49.6	47.9	47.1	44.1‡	47.0	45.4	42.7	44.5	+1.7
Crystal methamphetamine (ice)	27.0	26.9	27.6	29.8	27.6	27.8	28.3	28.3	26.1	26.7	27.2	26.7	25.1	23.3	22.3	18.3	17.1	14.5	17.2	13.7	-3.5 s
Sedatives (barbiturates) [f]	42.3	41.4	40.0	40.7	37.9	37.4	35.7	36.6	35.3‡	46.3	44.4	43.8	41.7	38.8	37.9	36.8	32.4	28.7	27.9	26.3	-1.6
Tranquilizers	37.8	36.0	35.4	36.2	32.7	33.8	33.1	32.9	29.8	30.1	25.7	24.4	23.6	22.4	21.2	18.4	16.8	14.9	15.0	14.4	-0.7
Alcohol	—	—	—	—	95.0	94.8	94.3	94.7	94.2	94.2	93.0	92.5	92.2	92.2	92.1	90.4	88.9	90.6	89.7	87.6	-2.1
Steroids	45.5	40.3	41.7	44.5	44.6	44.8	44.4	45.5	40.7	42.6	39.7	41.1	40.1	35.2	30.3	27.3	26.1	25.0	28.5	22.0	-6.6 sss
Approximate weighted N =	*2,552*	*2,340*	*2,517*	*2,520*	*2,215*	*2,095*	*2,120*	*2,138*	*2,391*	*2,169*	*2,161*	*2,131*	*2,420*	*2,276*	*2,243*	*2,395*	*2,337*	*2,280*	*2,092*	*2,066*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. ' ‡ ' indicates some change in the question. See relevant footnote for that drug.
Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a] Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, and (5) Very easy.

[b] In 2001 the question text was changed from other psychedelics to other hallucinogens and shrooms was added to the list of examples. These changes likely explain the discontinuity in the 2001 results.

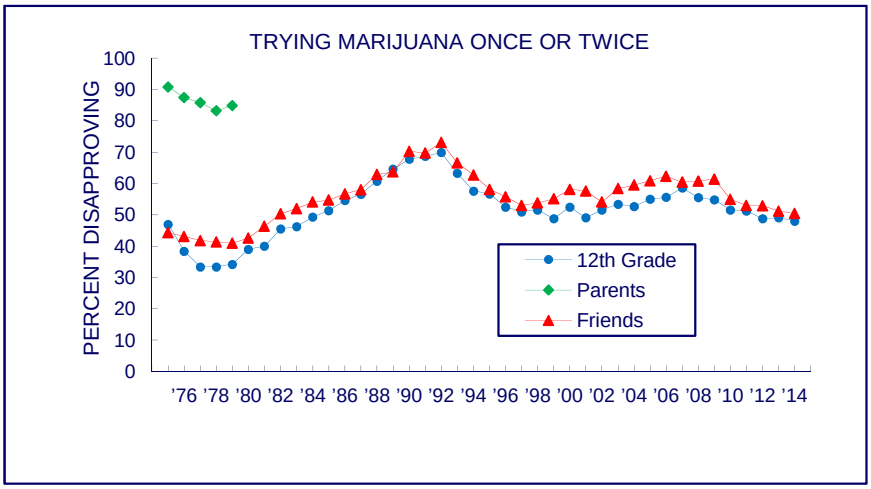
[c] Beginning in 2014 "molly" was added to the question on availability of Ecstasy (MDMA).

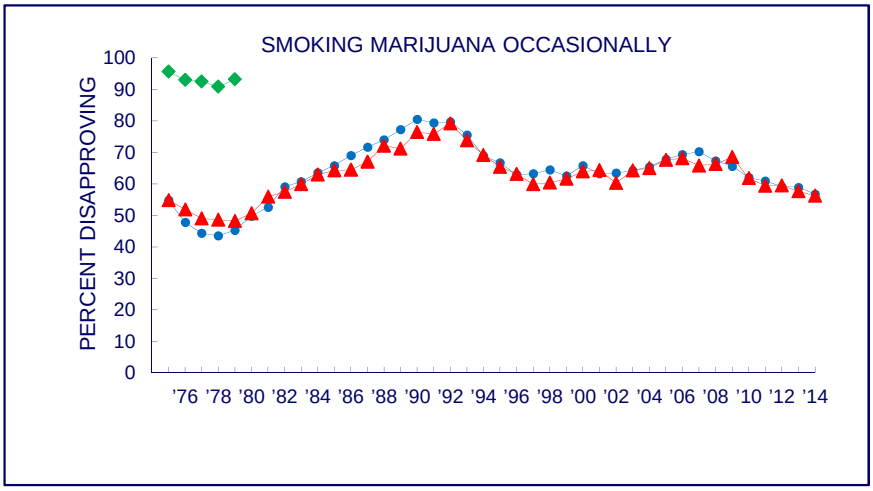
[d] In 2010 the list of examples for narcotics other than heroin was changed from methadone, opium to Vicodin, OxyContin, Percocet, etc. This change likely explains the discontinuity in the 2010 results.

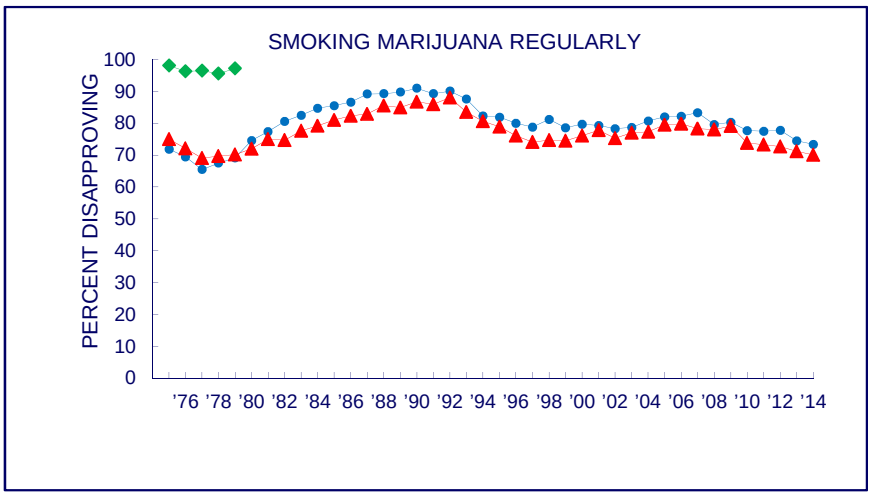
[e] In 2011 the list of examples was changed from uppers, pep pills, bennies, speed to uppers, speed, Adderall, Ritalin, etc. These changes likely explain the discontinuity in the 2011 results.

[f] In 2004 the question text was changed from barbiturates to sedatives/barbiturates and the list of examples was changed from downers, goofballs, reds, yellows, etc. to just downers. These changes likely explain the discontinuity in the 2004 results.

FIGURE 9-1a
MARIJUANA
Trends in Disapproval
12th Graders, Parents, and Friends



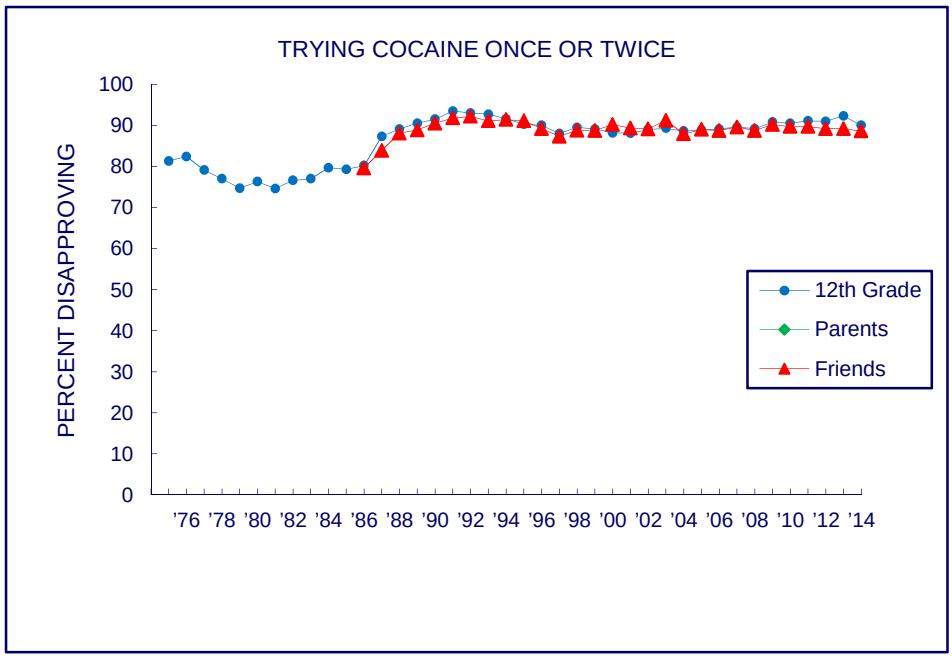


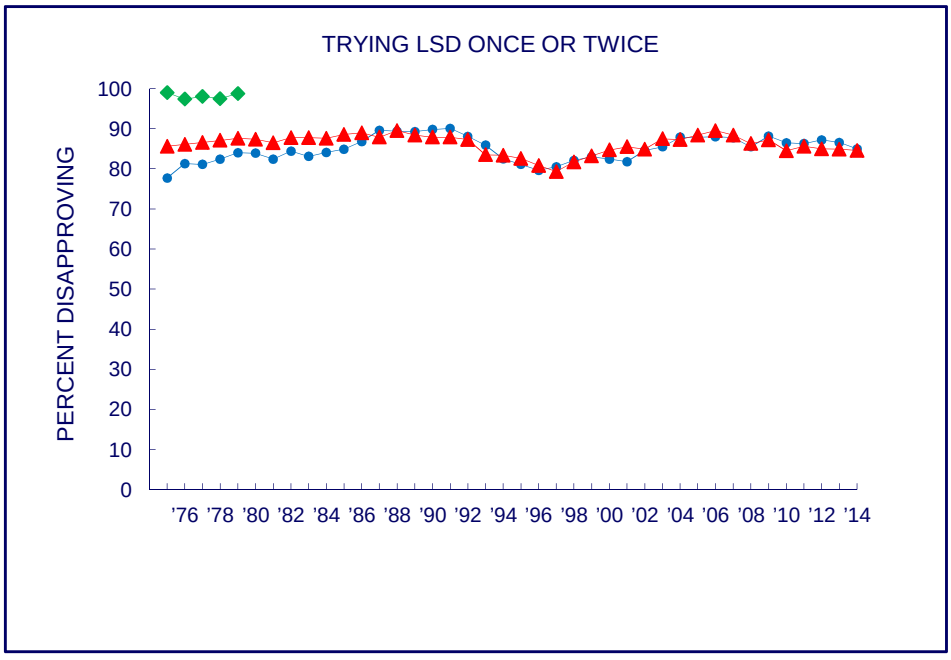


Source. The Monitoring the Future study, the University of Michigan.

Note. The 1975, 1977, and 1979 points indicating the percentage of 12th graders who said their friends would disapprove have been adjusted to compensate for lack of comparability of question context between administration years.

FIGURE 9-1b
COCAINE AND LSD
Trends in Disapproval
12th Graders, Parents, and Friends

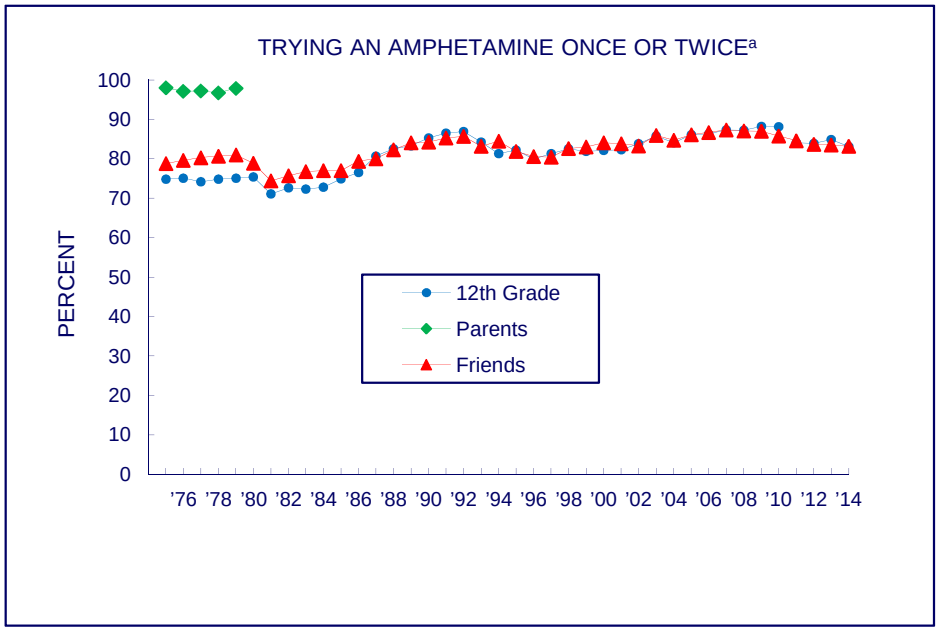


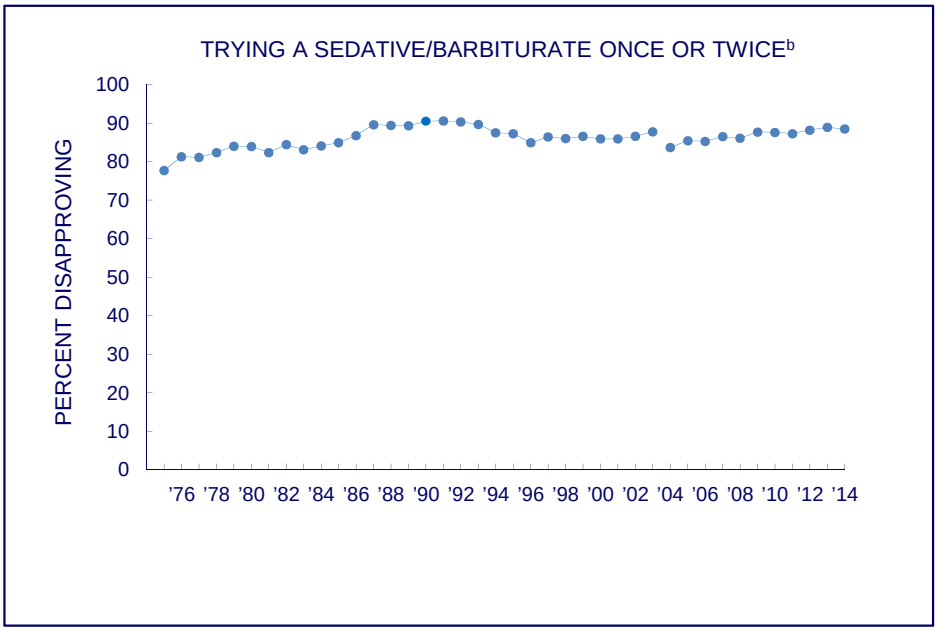


Source. The Monitoring the Future study, the University of Michigan.

Note. The 1975, 1977, and 1979 points indicating the percentage of 12th graders who said their friends would disapprove have been adjusted to compensate for lack of comparability of question text between administration years.

FIGURE 9-1c
AMPHETAMINES AND SEDATIVES (BARBITURATES)
Trends in Disapproval
12th Graders, Parents, and Friends





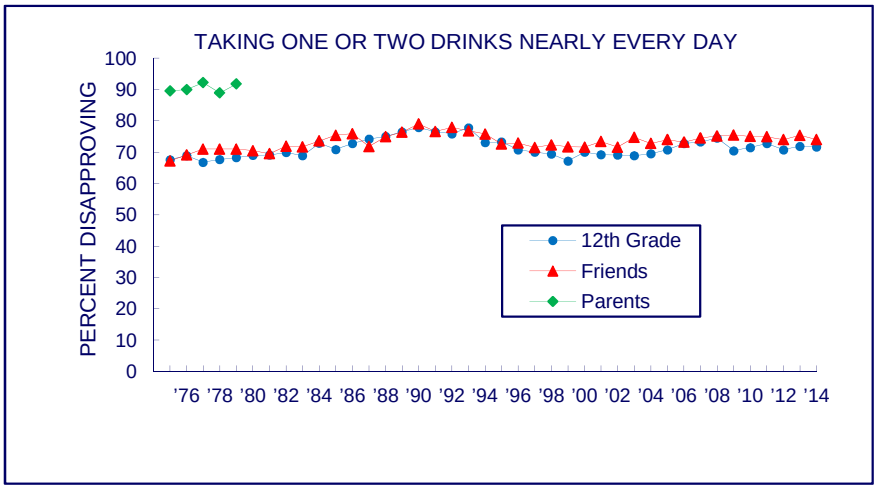
Source. The Monitoring the Future study, the University of Michigan.

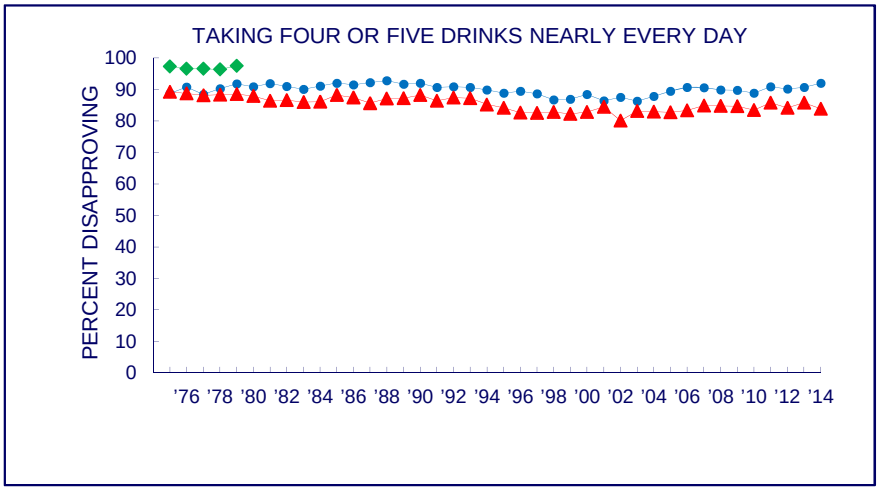
Note. The 1975, 1977, and 1979 points indicating the percentage of 12th graders who said their friends would disapprove have been adjusted to compensate for lack of comparability of question text between administration years.

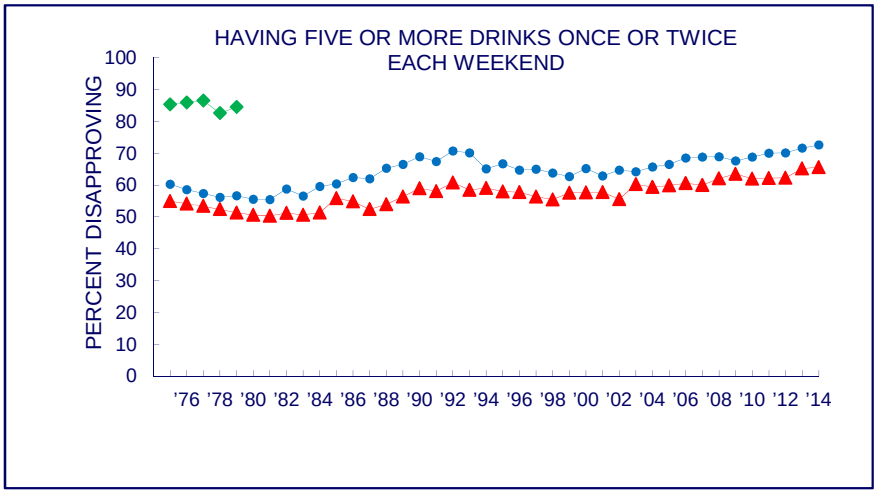
[a]For 12th graders only: In 2011 the list of examples was changed from uppers, pep pills, bennies, speed to uppers, speed, Adderall, Ritalin, etc. These changes likely explain the discontinuity in the 2011 results.

[b]In 2004 the question text was changed from barbiturates to sedatives/barbiturates, and the list of examples was changed from downers, goofballs, reds, yellows, etc. to just downers. These changes likely explain the discontinuity in the 2004 results.

FIGURE 9-2a
ALCOHOL
Trends in Disapproval
12th Graders, Parents, and Friends



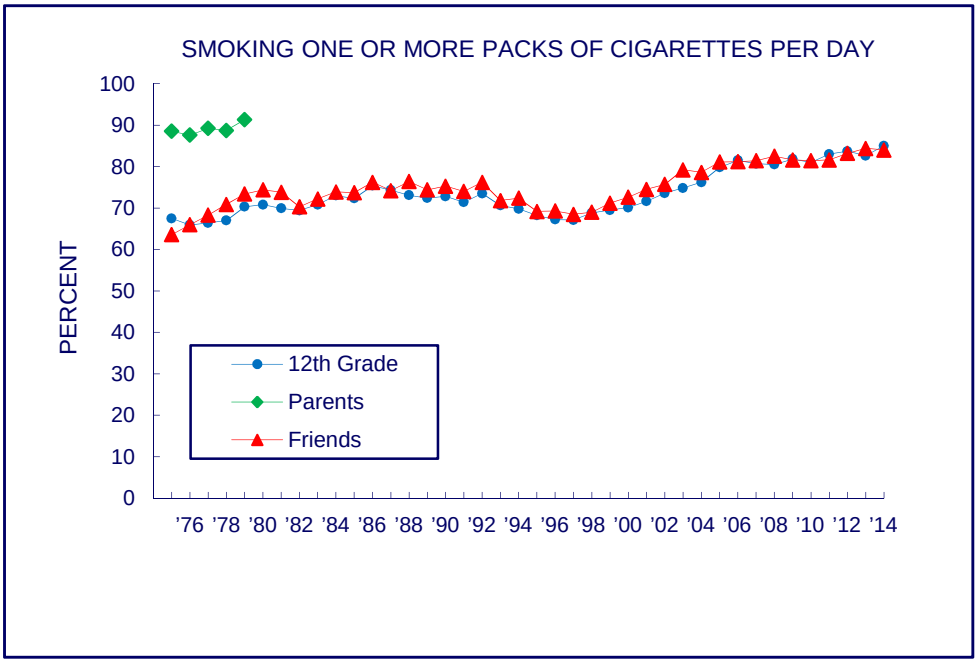




Source. The Monitoring the Future study, the University of Michigan.

Note. The 1975, 1977, and 1979 points indicating the percentage of 12th graders who said their friends would disapprove have been adjusted to compensate for lack of comparability of question context between administration years.

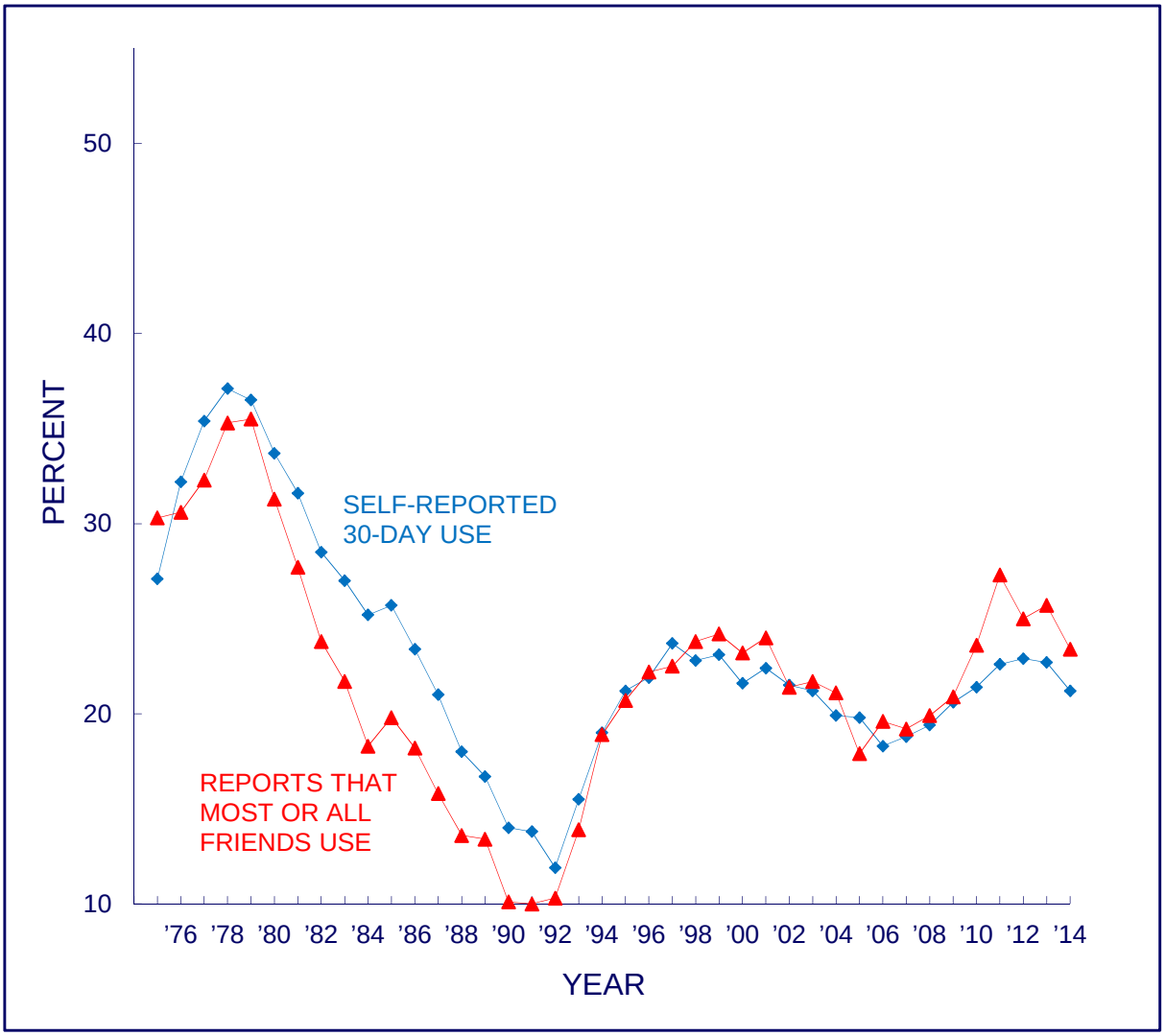
FIGURE 9-2b
CIGARETTES
Trends in Disapproval
12th Graders, Parents, and Friends



Source. The Monitoring the Future study, the University of Michigan.

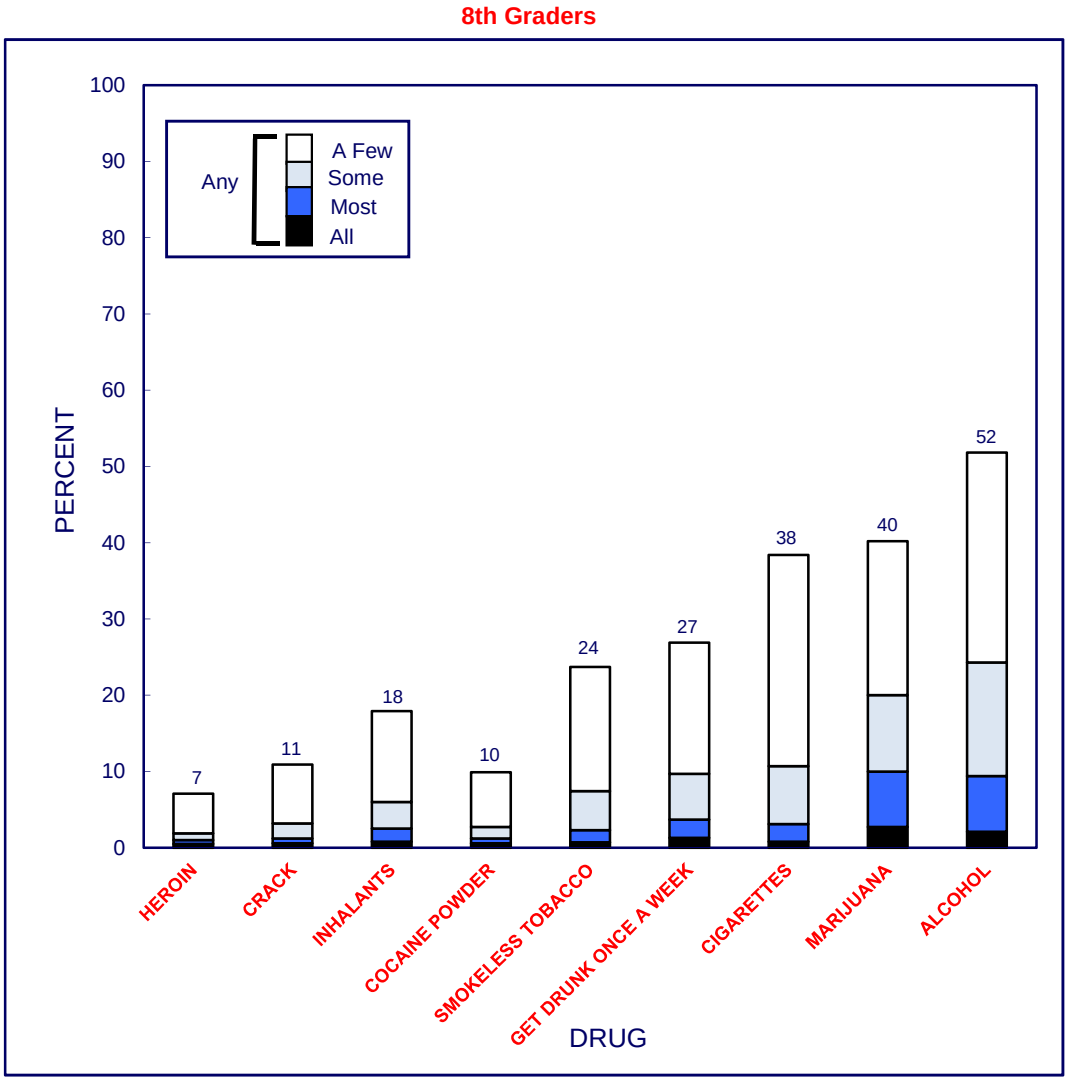
Note. The 1975, 1977, and 1979 points indicating the percentage of 12th graders who said their friends would disapprove have been adjusted to compensate for lack of comparability of question text between administration years.

FIGURE 9-3
MARIJUANA
Trends in 30-Day Prevalence and Friends' Use in Grade 12



Source. The Monitoring the Future study, the University of Michigan.

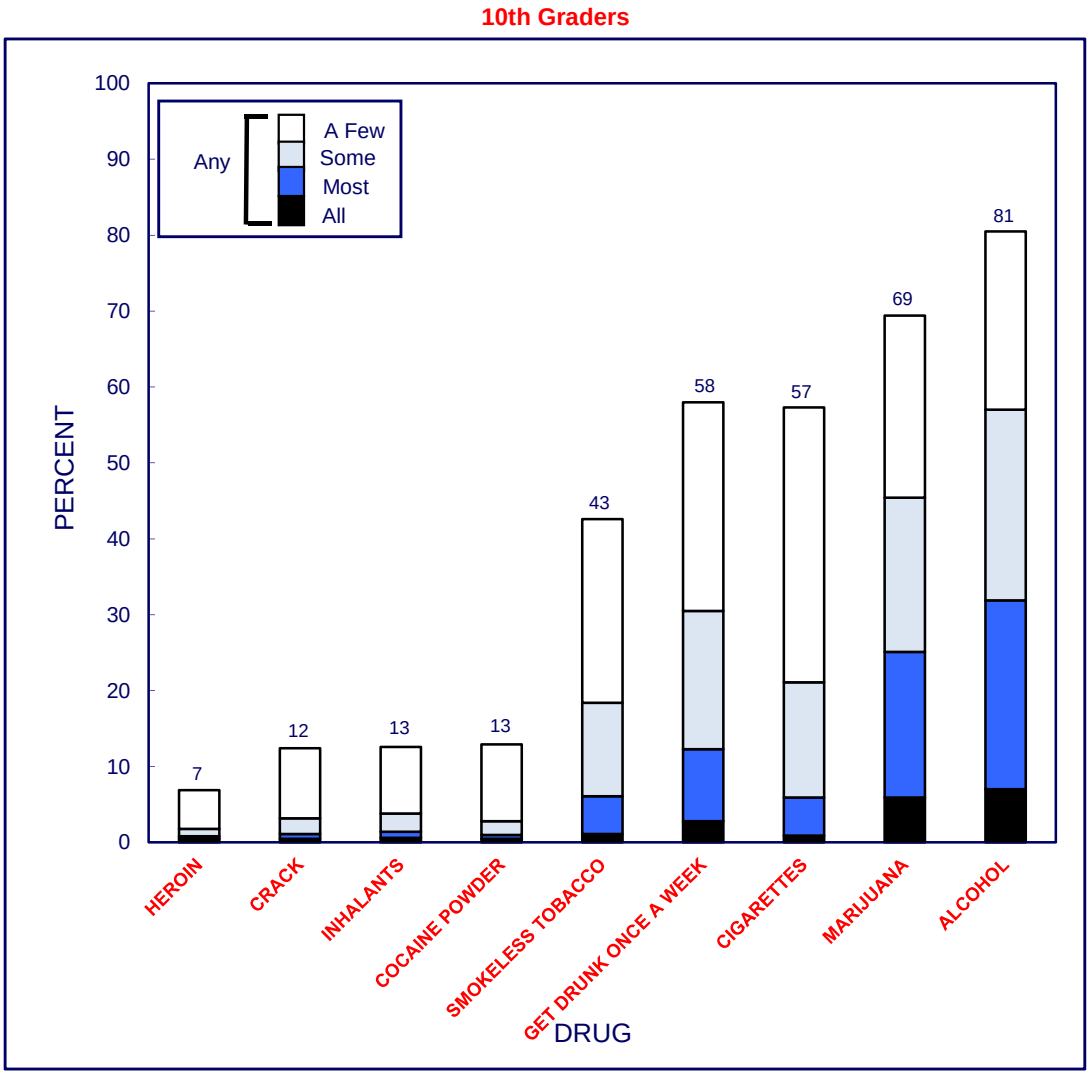
FIGURE 9-4
Proportion of Friends Using Each Drug as Estimated by 8th, 10th, and 12th Graders, 2014



Source. The Monitoring the Future study, the University of Michigan.

(Figure continued on next page.)

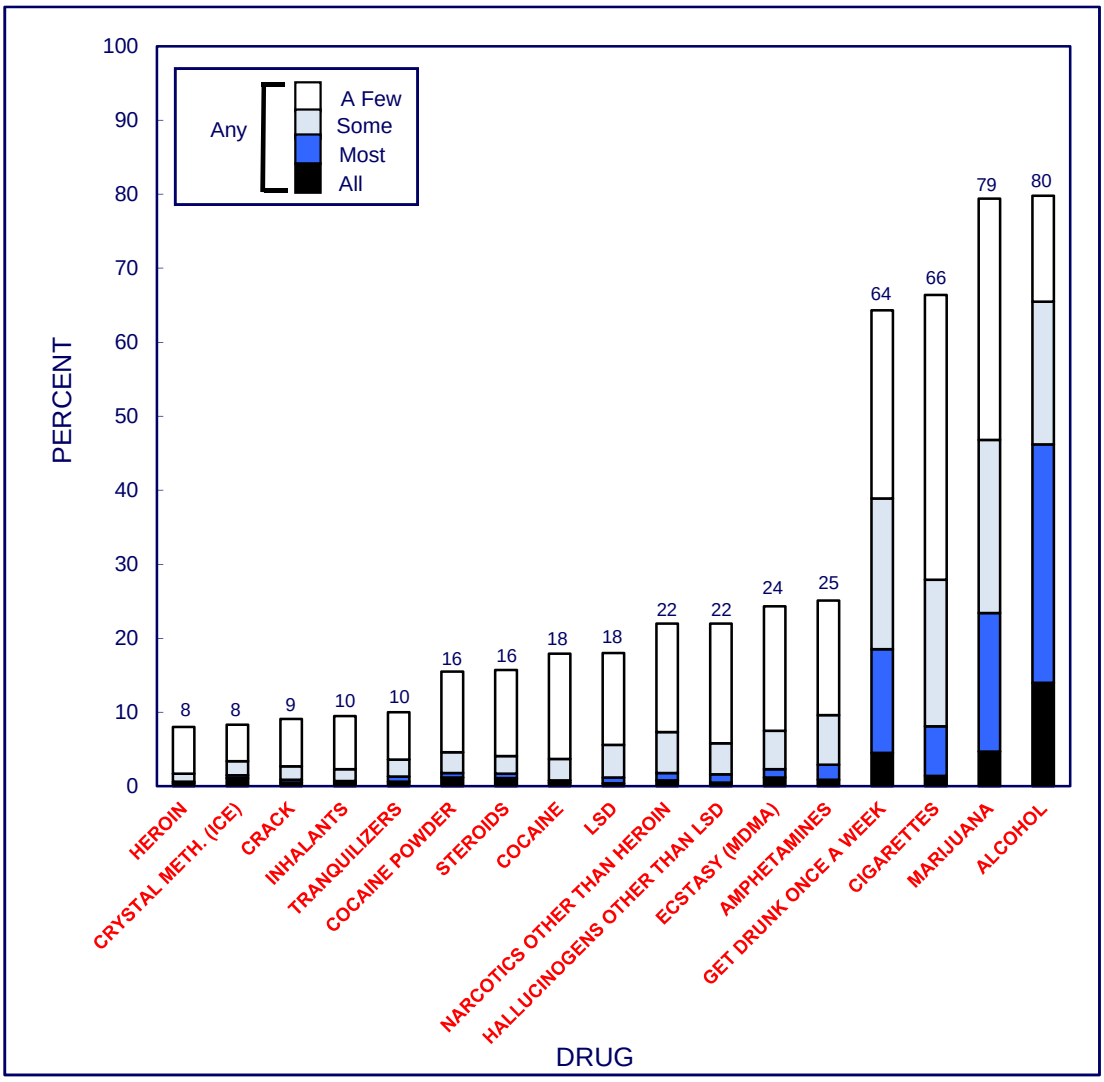
FIGURE 9-4 (cont.)
Proportion of Friends Using Each Drug as Estimated by 8th, 10th, and 12th Graders, 2014



Source. The Monitoring the Future study, the University of Michigan.

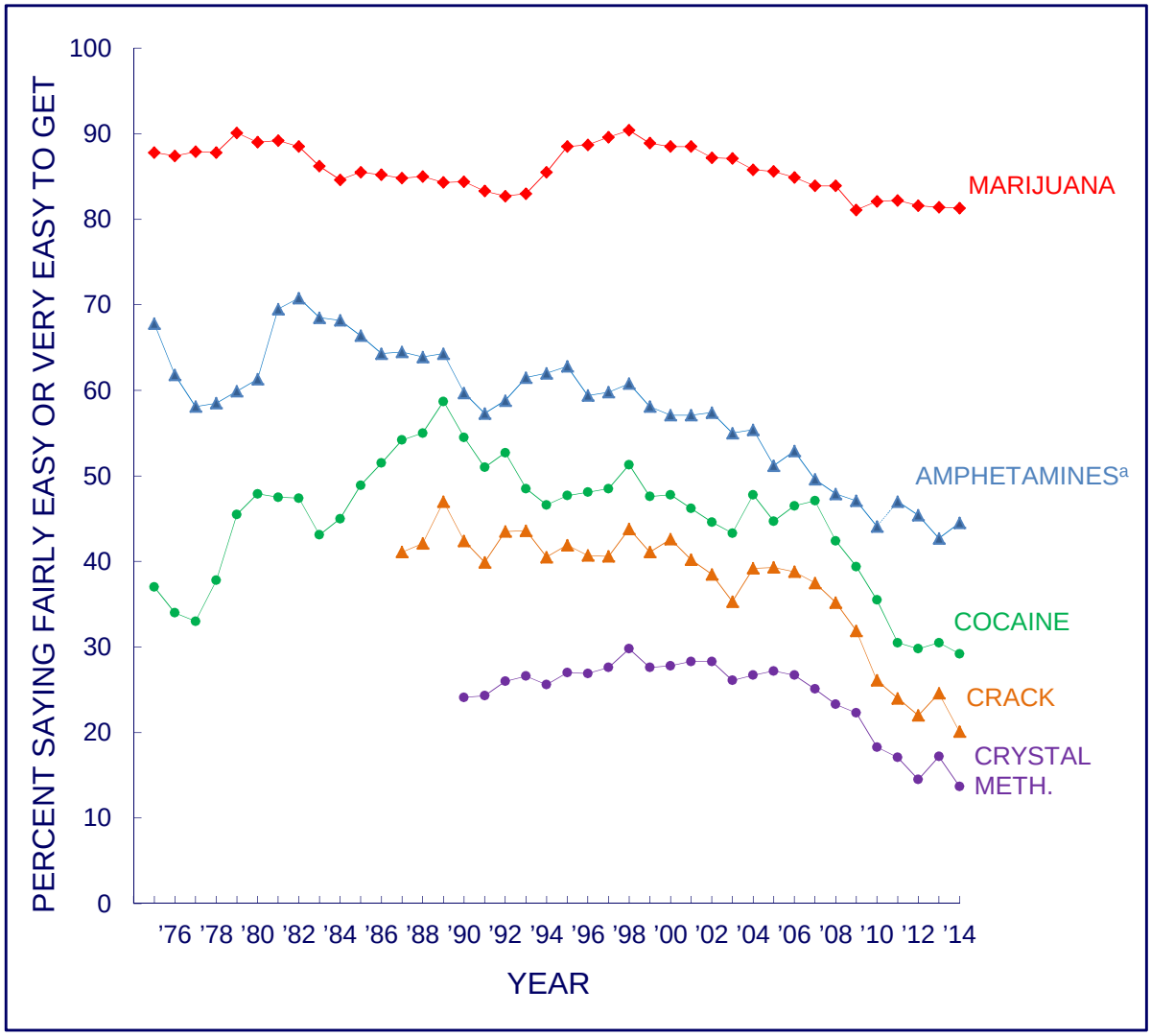
(Figure continued on next page.)

FIGURE 9-4 (cont.)
Proportion of Friends Using Each Drug as Estimated by 8th, 10th, and 12th Graders, 2014



Source. The Monitoring the Future study, the University of Michigan.

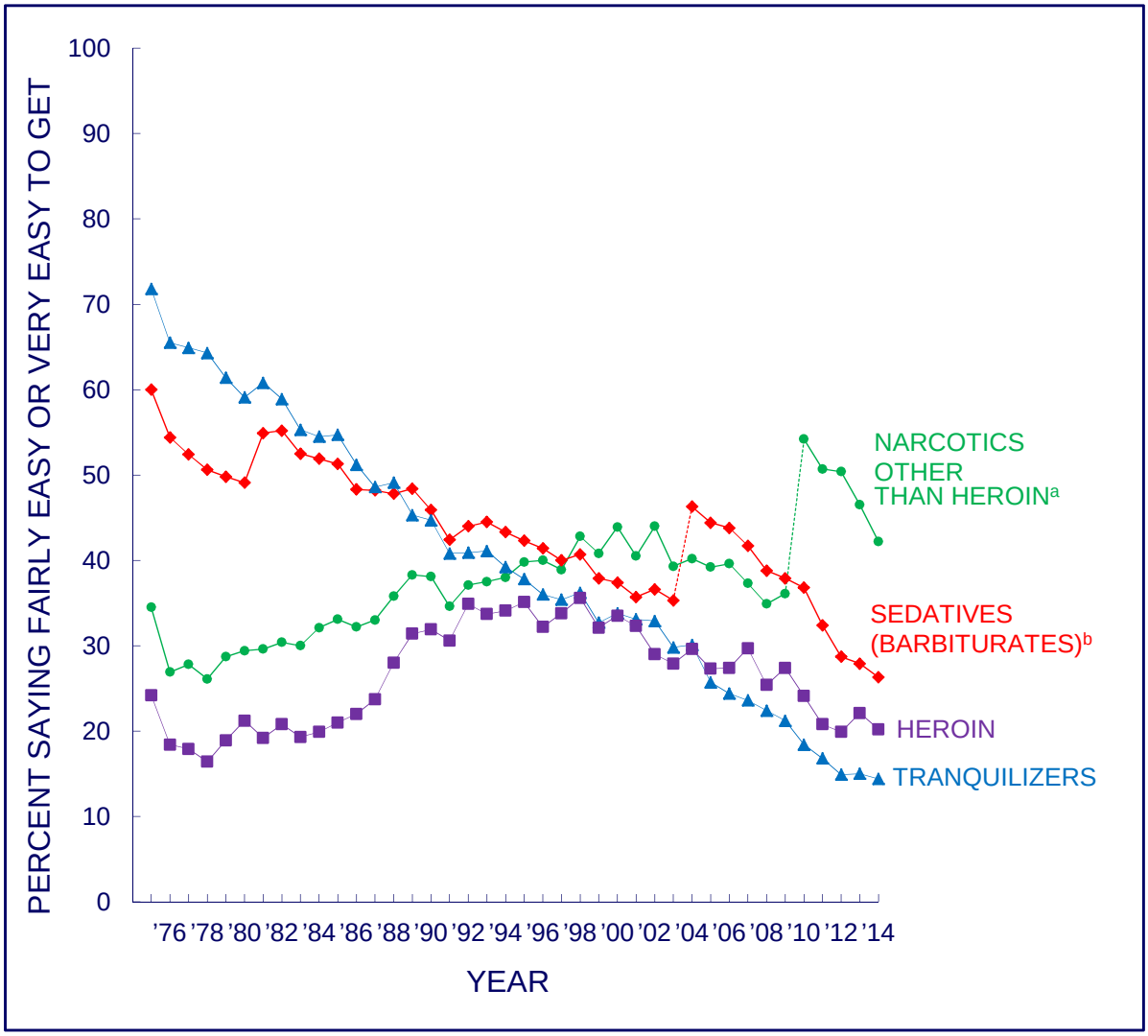
FIGURE 9-5a
Various Drugs: Trends in Perceived Availability in Grade 12



Source. The Monitoring the Future study, the University of Michigan.

[a]For 12th graders only: In 2011 the list of examples was changed from uppers, pep pills, bennies, speed to uppers, speed, Adderall, Ritalin, etc. These changes likely explain the discontinuity in the 2011 results.

FIGURE 9-5b
Various Drugs: Trends in Perceived Availability in Grade 12



Source. The Monitoring the Future study, the University of Michigan.

[a]In 2010 the list of examples for narcotics other than heroin was changed from methadone, opium to Vicodin, OxyContin, Percocet, etc. This change likely explains the discontinuity in the 2010 results.

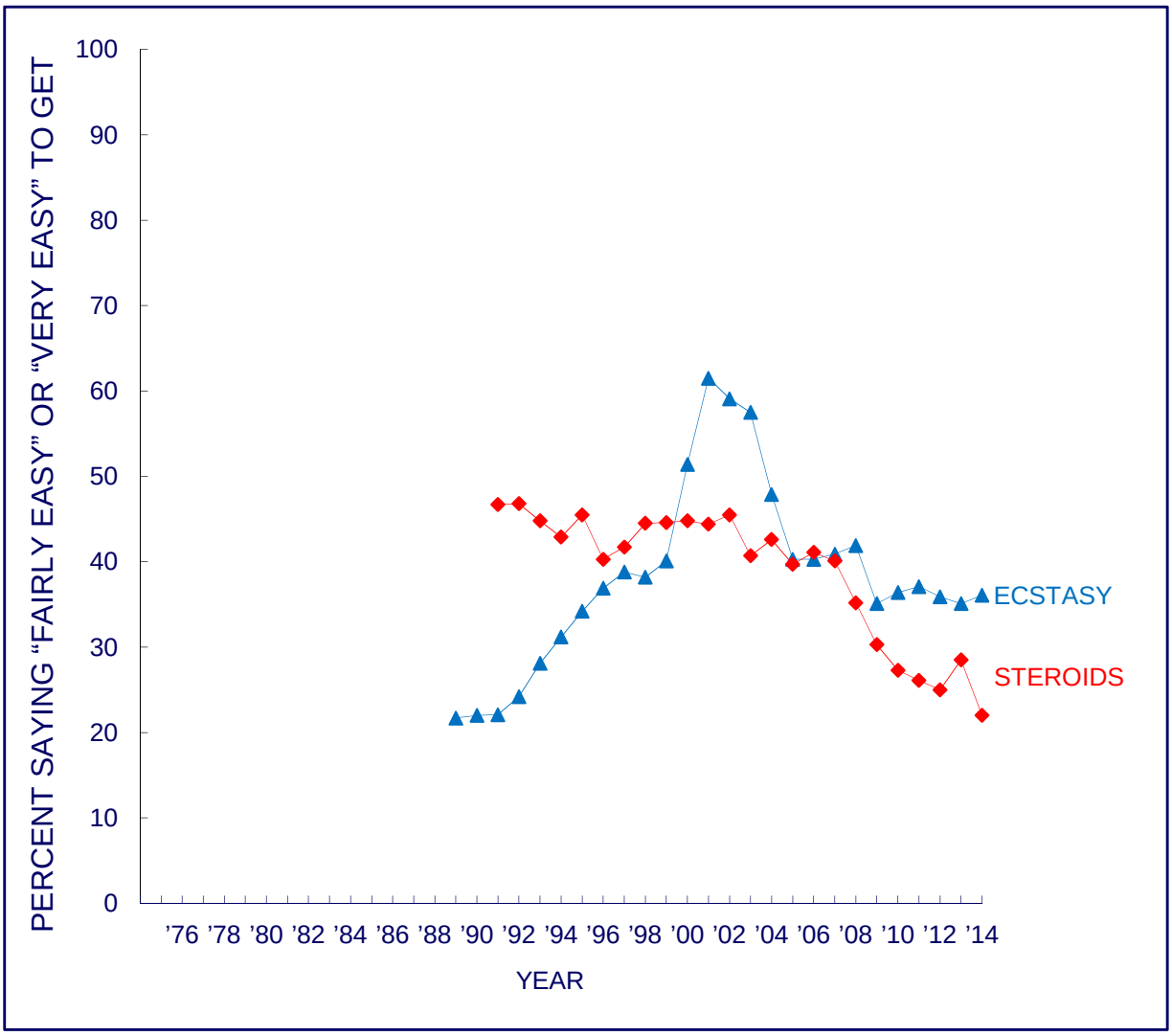
[b]In 2004 the question text was changed from barbiturates to sedatives/barbiturates, and the list of examples was changed from downers, goofballs, reds, yellows, etc. to just downers. These changes likely explain the discontinuity in the 2004 results.

FIGURE 9-5c
LSD AND HALLUCINOGENS OTHER THAN LSD
Trends in Perceived Availability in Grade 12

Source. The Monitoring the Future study, the University of Michigan.

[a]In 2001 the question text was changed from other psychedelics to other hallucinogens, and shrooms was added to the list of examples. These changes likely explain the discontinuity in the 2001 results.

FIGURE 9-5d
ECSTASY (MDMA) AND STEROIDS
Trends in Perceived Availability in Grade 12



Source. The Monitoring the Future study, the University of Michigan.

Chapter 10

NONPRESCRIPTION, PRESCRIPTION, AND PERFORMANCE-ENHANCING DRUGS; LONG-TERM DAILY MARIJUANA USE; AND OTHER PUBLICATIONS FROM THE STUDY

In this chapter we present original findings not published elsewhere on the following special topics.

- The percentages of 12th graders who use three classes of *nonprescription* stimulants—diet pills, stay-awake pills, and look-alikes.
- The percentages of 12th graders who report using *any* of the types of *prescription* drugs *without* a doctor's orders.
- The various sources through which 12th graders obtain prescription drugs used without a doctor's orders.
- The extent of use by 8th, 10th, and 12th graders of prescription stimulants under medical supervision for the treatment of attention deficit hyperactivity disorder (ADHD).
- The extent of use by 8th, 10th, and 12th graders of three substances taken to enhance performance or physique—anabolic steroids, androstenedione, and creatine.
- Levels of use by 12th graders of marijuana on a daily basis over an extended period of time.

This chapter also contains synopses of recent journal articles and other publications from the study. A complete listing of all study publications, including abstracts and in many cases full text, is available on the MTF website at www.monitoringthefuture.org.

THE USE OF NONPRESCRIPTION STIMULANTS

As discussed earlier in this volume, stimulant use reported by 12th graders reached peak levels between 1979 and 1981. We had reason to believe that much of that increase was attributable to the use of nonprescription stimulants of two general types—look-alike drugs (pseudoamphetamines, usually sold by mail order, which look like and often have names that sound like real amphetamines) and over-the-counter stimulants (primarily diet pills and stay-awake pills). These drugs usually contained caffeine, ephedrine, and/or phenylpropanolamine as active ingredient(s).

Prompted by this development, in 1982 we introduced new questions in some of the 12th-grade questionnaire forms to more accurately assess the use of amphetamines, look-alikes, diet pills, and stay-awake pills of the nonprescription variety. For example, in one of the randomly distributed 12th-grade questionnaire forms, respondents were asked to indicate on how many occasions (if any) they had taken nonprescription diet pills such as Dietac, Dexatrim, and Prolamine (a) in their

lifetime, (b) in the prior 12 months, or (c) in the prior 30 days. The timeframes correspond to the standard usage questions asked for nearly all drugs. Similar questions were asked about the use of nonprescription stay-awake pills, such as No-Doz, Vivarin, Wake, and Caffedrine, and the look-alike stimulants. (The look-alikes are described at some length in the actual question.)

In three of the five 12th-grade questionnaire forms used in 1982 and 1983 (and in all questionnaire forms thereafter), respondents were also asked about their use of prescription amphetamines outside of medically prescribed use, with explicit instructions to exclude the use of over-the-counter and look-alike drugs. These data have been collected only from 12th-grade respondents.[1]

Prevalence of Use in 2014 among Twelfth Graders

Tables 10-1a, 10-1b, and 10-1c contain the 2014 prevalence-of-use levels for nonprescription stimulants.

- As can be seen, in 2014 a substantial proportion of 12th-grade students (9.1%) have used over-the-counter ***diet pills*** in their lifetime, and 3.6% have used them in just the prior month.

- ***Stay-awake pills*** are used by about half as many in 2014: 4.5% of 12th graders have used in their lifetime, while the monthly prevalence is 1.7%.

- Fewer students indicate use of ***look-alikes*** (2.2% lifetime and 0.7% monthly prevalence). It is possible that some proportion of those who think they are using real amphetamines are actually using look-alikes.

- Higher proportions report taking actual ***amphetamines*** outside of medically prescribed use, with prevalence at 12.1% lifetime and 3.8% monthly.

Subgroup Differences among Twelfth Graders

- Subgroups are defined by gender, college plans, region, population size, parental education, and race/ethnicity. Also considered are subgroups by type of drug use, such as students who use illicit drugs.

- Tables 10-1a through 10-1c show the prevalence data for these drug classes for *males and females* separately. Use of over-the-counter ***diet pills*** was dramatically higher among females than males until about 2009, after which the gap diminished somewhat as use among females declined. Absolute prevalence levels for 12th graders in 2014 are still fairly high with 13% of females and 5% of males reporting any lifetime use. Past month use is 4.5% for females and 2.4% for males. For all other types of stimulants, levels of use for males and females have been, and remain, fairly close.

[1] In 1983, a revised question on amphetamine use was used to try to get respondents to omit use of over-the-counter stimulants from their answers. It yielded prevalence estimates about one quarter to one third lower than those yielded by the original version of the question, indicating that, indeed, some distortion in the unadjusted estimates occurred as a result of respondents including some nonprescription stimulant use in their answers. However, little or no such distortion should have occurred in recent years, in part because of the refined questions, but also due to the considerable decline in use of diet pills and look-alikes, as is discussed later.

- Annual prevalence of diet pills does not consistently differ much by *college plans*, *region*, *population density*, or *parental education* (see Tables 10-2a through 10-2c). The main exception is that the non-college-bound tend to use look-alike stimulants more than the college-bound seniors do.

- Consistent with *racial/ethnic differences* observed over time on many drugs, African-American 12th graders are lower than Whites in their use of all three types of ***over-the-counter stimulants***. Hispanic 12th graders generally have tended to be in the middle, though in 2010 through 2013 they showed the highest prevalence of use for diet pills (in 2014 Whites were highest) and in 2012 and 2013 Hispanics also had the highest levels of use of stay-awake pills (in 2014 Hispanics tied with Whites for highest level of use).

- The use of all ***nonprescription stimulants*** is substantially higher among 12th graders who use illicit drugs than among those who do not. (See Table 10-3.) For example, only 1.5% of 12th graders who have abstained from any illicit drug use report ever having used a ***stay-awake*** stimulant, compared to 2.4% of those who report having used only marijuana, and 14.2% of those who report having used some illicit drug other than marijuana (usually in addition to marijuana). We already know that use of illicit drugs is correlated with use of alcohol and cigarettes.[2] These findings show that the constellation of correlated substance-using behaviors also includes use of over-the-counter psychoactive substances.

Trends in Use among Twelfth Graders

- In 2014 all three classes of ***over-the-counter stimulants*** were at or near the lowest ever levels recorded by the study.

- Annual prevalence of ***look-alikes*** is at a historic low in 2014 at 1.4% (Table 10-1c). From 1982 onward the trend in look-alikes resembles the trend for illicit drug use during the same period. Annual prevalence declined from 10.8% in 1982 to 5.2% in 1991, followed by a period of some increase during the 1990s drug relapse (to 6.8% in 1995), stabilization, and some decline again after 2001, to its low of 1.4% in 2014 (see Table 10-1c). Most of the initial decline in use occurred among those who had used illicit drugs other than marijuana—the group primarily involved in the use of look-alikes. Further, that group was a shrinking proportion of the total.

- The proportion of 12th grade students who use nonprescription ***diet pills*** in the past year was 6.4% in 2014, and has slowly crept up from its lowest-ever level of 4.3% in 2010 (Table 10-1a). Today's levels are more than two-thirds lower than their peaks of 21% in 1982, when diet pills were first included on the survey. After 1982 prevalence fell quickly over the next ten years to 8% in 1993; this was a particularly positive development because nearly all of these diet pills contained phenylpropanolamine, which the Food and Drug Administration has since determined to have health risks for the user.[3] Nearly all the

[2] Johnston, L.D. (2003). Alcohol and illicit drugs: The role of risk perceptions. In D. Romer (Ed.), *Reducing adolescent risk: Toward an integrated approach* (pp. 56–74). Thousand Oaks, CA: Sage. Available at http://www.monitoringthefuture.org/pubs/chapters/ldj2003.pdf.

[3] We expressed our concern years ago about the large number of adolescent females taking this drug, about which so little was known. The widespread use of creatine among young males raises similar concern today.

decline occurred among the group who had used illicit drugs other than marijuana. Use stabilized through the mid-1990s at around 9.4%, rose after 1998 to reach 15.1% in 2002, and then declined to a nadir of 4.3% in 2010. Prevalence has been increasing slightly for the past four years.

- Annual prevalence of ***stay-awake pills*** was near a historic low among 12th grade students in 2014 and stood at 3.5%, only slightly higher than the lowest-ever level of 3.2%, reached in both 2010 and 2013 (Table 10-1b). These levels are far lower than the peak of 27% in 1998. Since 1988 prevalence of stay-awake pills has gradually declined with no periods of sustained increases. This long-standing decrease in prevalence, as well as an increase that took place before 1998, was observed most strongly among illicit drug users.

Subgroup Differences in Trends among Twelfth Graders

- Trends in ***stay-awake pills*** vary little across the demographic subgroups (defined by gender, college plans, region, population size, parental education, and race/ethnicity). All subgroups showed similarly large increases from 1982 to 1988 in their use of ***stay-awake pills***. Then, between 1988 and 1992 annual prevalence decreased for all subgroups except for one of the parental education groups, and the decrease was rather slight in the Midwest region. After 1992, use stabilized in virtually all subgroups until the 1999 decline, which also occurred broadly. Since then, use has continued to decline in most subgroups, although sometimes unevenly.

- For ***diet pills***, subgroup trends generally parallel the overall trend across time, at least until 2012. Diet pill use among girls has tended to run from two to four times as high as among boys. Girls now have an annual prevalence of 8.6%— more than twice the level for boys (3.7%). There was a substantial decline in both groups from 2002 to 2010, but there has been a slight uptick since then.

- Subgroup trends in the use of ***look-alikes*** also generally parallel the overall trends. Use among all subgroups has declined some since recent peaks in 2001 or 2002.

INDEX OF NONMEDICAL USE OF ANY PRESCRIPTION DRUG AMONG TWELFTH GRADERS

Because we believe that the answers given by 8th and 10th grade students regarding their use of sedatives or other narcotics may not be entirely accurate, we report here only data for 12th graders who report using *any* of the prescription drugs that we cover—***amphetamines***, ***sedatives*** (***barbiturates***), ***tranquilizers***, and ***narcotics other than heroin***. Trends since 2005 in the proportion of 12th graders who report using any of these four classes of psychotherapeutic drugs without a doctor's orders are presented in Table 10-4 for the annual prevalence period.

Nonmedical use of any prescription drug decreased in 2014 for lifetime, annual, and 30-day use (with statistically significant decreases for lifetime and annual use), and all three levels of use are at the lowest levels recorded by the survey (Tables 2-1 to 2-3 in Chapter 2). These record lows come despite the fact that updates to the questions increased prevalence levels in 2013. In 2014 prevalence was 19.9%, 13.9%, and 6.4% for lifetime, annual, and 30-day use, respectively,

indicating that a substantial portion of adolescents still use prescription drugs nonmedically. The declines in 2014 are a new, welcome development, as levels of nonmedical prescription use remained stubbornly high in previous years.

Table 10-4 shows trend data since 2005 for annual prevalence of nonmedical use of any prescription drug by *demographic subgroups*. Males are only slightly more likely than females to use one or more of these drugs—a consistent finding across time. Another consistent finding is that college-bound students are less likely to use these drugs outside of medical supervision compared to those who are not college bound. There are no consistent differences by region of the country. Prevalence does not show large or consistent differences among the three levels of population density. Prevalence also does not vary much by parental education, except that the lowest stratum tends to have a slightly lower prevalence than the others, in part because of its racial/ethnic makeup.[4]

Differences across the three racial/ethnic groups are substantial, with annual usage levels among Whites nearly half again as high as among African-Americans, and 20% higher than Hispanics (Table 10-4). While use continued to decline among Whites in 2014, it stayed steady among African-American 12th graders, which has narrowed the race/ethnic gap.

SOURCES OF CERTAIN PRESCRIPTION DRUGS

The misuse of prescription drugs—that is, their use outside of a physician's supervision—reemerged as a problem in the 1990s and into the 2000s, as is documented in Chapter 5. It was also an issue in the late 1970s and early 1980s. To understand the sources of such drugs, in 2007 we added a set of questions to one of the six randomly distributed 12th-grade questionnaire forms asking about how these drugs were obtained. Respondents who indicated that in the prior 12 months they used ***tranquilizers***, for example, were branched to a set of more detailed questions about their tranquilizer use. One of those new questions asked them to indicate where they got the tranquilizers by marking all that apply out of a pre-specified set of answers. Similar measures were introduced for ***narcotics other than heroin*** (most of which are analgesics) and ***amphetamines***. (Sources of ***sedatives (barbiturates)*** were not asked.)

The 2007 and 2008 answers that were offered told a compelling story and in 2009 it became possible to include a more detailed set of answer categories. The original set of categories asked about obtaining a drug from "a friend or a relative." The expanded set of answer categories asks first about obtaining a drug from a friend, and then separately about obtaining a drug from a relative. These detailed answer categories have added substantial information about where these students obtain selected drugs. The detailed categories are also presented in combined form to enable comparisons to 2007–2008 data.

[4] Bachman, J.G., O'Malley, P.M., Johnston, L.D., Schulenberg, J.E., & Wallace, J.M., Jr. (2011). Racial/ethnic differences in the relationship between parental education and substance use among U.S. 8th-, 10th-, and 12th-grade students: Findings from the Monitoring the Future project. *Journal of Studies on Alcohol and Drugs* 72(2):279-85.

The questions about source of tranquilizers, amphetamines, and narcotics other than heroin appear on only one questionnaire form and are asked only of past-year users of each drug; thus, there are limited numbers of cases. Table 10-5 provides the responses, with 2007–2008 data combined and 2009–2014 data combined in order to increase sample size and provide more stable estimates. Note that for the 2007 and 2008 combined data the weighted numbers of cases range between 226 and 361 for each of the drugs presented. For the 2009 through 2014 combined detailed data the weighted numbers of cases range from 518 to 792. Hence, the confidence intervals around the estimates are fairly wide.

One interesting finding is that the distribution of sources is similar for the three different types of psychotherapeutic drugs. For the 2009–2014 combined data, the most common source is "given for free by friend or relative," indicated by 57% to 64% of users for each of the three drugs. Another common source is "bought from friend or relative," ranging from 32% to 43% for each. Taking the drug from a friend or relative without asking (i.e., stealing it) was reported by 10%–20%.

The expanded and more specific sets of responses in Table 10-5, which separate friends from family as sources, show that "given for free by a friend" and "bought from a friend" are the two most common methods for obtaining amphetamines and tranquilizers. For all three drugs "given or bought from friends" is considerably more frequently mentioned than "given for free by a relative" or "bought from a relative." *Clearly the informal peer network is a major source of these drugs for adolescents, far more common a source than any family network.*

"From a prescription I had" is a relatively common source for narcotic drugs at 35%, similar to "bought from a friend" at 32%. "From a drug dealer/stranger" is not a common source for amphetamine users (20%) tranquilizer user (23%), or narcotic users (17%).

The least likely sources are "bought from a relative" and "bought on the Internet." The Internet is mentioned as a source by only 5.5% of the users of amphetamines, 4.5% of the users of tranquilizers, and 1.4% of the users of narcotics other than heroin. This may be in part because young people this age are usually living at home and do not want to risk their parents intercepting a shipped package containing illicitly purchased drugs. The Internet may well be an important source for older people, especially those who sell these drugs.

Not all of the answers are similar across drugs, however. While obtaining the drug "from a prescription I had" is mentioned by 35% of past-year users for narcotics other than heroin, it is mentioned by only 14% of the amphetamine users and 14% of the tranquilizer users.

DRUGS USED IN THE TREATMENT OF ADHD

Attention deficit hyperactivity disorder, or ADHD, is a chronic condition that is usually diagnosed in childhood or adolescence and can persist into adulthood. ADHD symptoms—inattention and hyperactive, impulsive behavior—have been treated for some years with prescribed ***stimulant drugs***, often amphetamines. Such drugs have included Ritalin and more recently Adderall and Concerta, among others. ***Nonstimulant medications*** are now also in use and are sometimes prescribed when stimulants have proven ineffective or not well tolerated. One of these is Strattera, which was approved by the FDA in 2003.

How extensive is the use of stimulant drugs for treating ADHD, and what are the characteristics of the children receiving them? To what extent are the nonstimulant drugs like Strattera, Provigil, and others being used for the same therapeutic purposes, and is the use of these two different classes of drugs—stimulants and nonstimulants—changing over time? These are among the questions that prompted us to add a section on the use of these drugs to some questionnaire forms in all three grades. Tables 10-6 through 10-8 provide the relevant introduction and questions verbatim. The introduction to the question set is intended to orient respondents to the purposes for which these medications are prescribed and to distinguish between the stimulant and nonstimulant therapeutic drugs. Four questions follow—three about stimulant drugs and one about nonstimulant drugs. For the stimulant drugs, respondents are asked (a) whether they use them now or have used them in the past under a doctor's orders for ADHD; (b) at what age they began such use; and (c) for about how long they have actually taken them. Due to space limitations, only one question is asked about whether they now use them under a doctor's orders or have done so in the past. Lifetime and current prevalence of each type of drug, as well as the proportion of students who use either or both of them, are shown at the bottom of the table.

Prevalence of Use under Medical Supervision

Tables 10-6 through 10-8 show the proportion of students in each of the three grade levels who, in 2014, have taken either stimulant and/or nonstimulant drugs for the treatment of ***ADHD*** under a doctor's care.

- Lifetime prevalence for using *either type* of drug under medical supervision was 11.2%, 11.3%, and 12.6% in grades 8, 10, and 12, respectively, in 2014. Thus, about one in every eight or nine 8th-, 10th- and 12th-grade student has received medication for ADHD at some time.

- Lifetime prevalence for ***stimulant*** drugs like Ritalin was 7.2%, 6.8%, and 9.0% for the three grades in 2014.

- In 2014 lifetime prevalence for ***nonstimulant*** drugs like Strattera was somewhat lower at 4.8%, 5.8%, and 5.6% for 8th, 10th, and 12th grades, respectively.

- Current prevalence (as indicated by the answer, "I take them now") for the use of *either type* of drug—stimulants or nonstimulants—was 4.6%, 4.8%, and 5.5% in grades 8, 10, and 12, respectively, in 2014. Thus, roughly one in every twenty students in the lower grades is currently taking prescribed medication for ADHD, and one in every eighteen students in 12th grade is doing so.

- Current prevalence for ***stimulant*** ADHD drugs in 2014 for the three grades was 3.2%, 3.4%, and 3.8%, respectively; for ***nonstimulant*** drugs it was lower, at 1.2%, 1.4%, and 2.2%.

- Thus lifetime experience with ***nonstimulant*** drugs for treatment of ADHD is only modestly lower than it is for ***stimulant drugs***, but current prevalence is considerably lower for the nonstimulant drugs.

- Note that the last column in each of these three tables (10-6 through 10-8) gives the prevalence and answer distributions based on respondents in all ten years combined (2005–2014), and they tell a similar story.

Trends in Use under Medical Supervision

Tables 10-6 through 10-8 also show trends since 2005 in the use of stimulant- and/or nonstimulant drugs for the treatment of ***ADHD***.

- Lifetime prevalence for taking *either* a ***stimulant*** or ***nonstimulant*** drug for the treatment of ADHD—shown at the bottom of each table—declined very slightly among 8th and 10th graders between 2005 and 2014 from 14% to 11% in both grades. There was very little change among 12th graders, from 12.4% to 12.6%. Trends for *current* prevalence of either class of drugs also show slight declines for 8th graders (from 6.1% in 2005 to 4.6% in 2014) and 10th graders (from 5.6% to 4.8%), whereas there has been some increase among 12th graders (from 4.5% to 5.5%).

- Lifetime prevalence for ***stimulant*** ADHD drugs appears to have declined modestly since 2005 in the lower grades. For example, lifetime prevalence for 8th graders was 8.3% in 2005 and 7.2% in 2014, while for 10th graders lifetime prevalence was 8.7% to 6.8% over the same interval. *Current* use in grades 8 and 10 has changed rather little, but has increased very slightly in 12th grade (from 2.9% in 2005 to 3.8% in 2014).

- Lifetime and current prevalence of taking ***nonstimulant*** ADHD drugs declined between 2005 and 2014 in 8th and 10th grades, but held fairly steady in 12th grade.

Subgroup Differences

Tables 10-9 through 10-14 provide prevalence and trend data for several demographic subgroups. They also contain a column of data for 2005–2014 combined to help compensate for the limited numbers of cases available. Given the lack of much change in the overall trends, we will rely on the combined statistics in this section as providing the most reliable evidence of subgroup differences. Several findings stand out:

- *Gender*: Males are considerably more likely than females to receive ***any medication*** (stimulant or nonstimulant) for ADHD. This holds for both lifetime and current prevalence in each grade, with the single exception that among 12th graders, females are slightly more likely than males to report current use of ***nonstimulant drugs*** (1.8% vs. 1.7%, respectively, for 2005–2014 combined current use).

- *College plans*: For 2005–2014 combined, students who say that they do not plan to complete four years of college are more likely to receive ***any medication*** for ADHD, either ***stimulant*** or ***nonstimulant*** drugs. This has held generally for lifetime and current prevalence in each grade.

- *Region*: In general, there are not large regional differences in the prevalence of prescribed ADHD medication either in lifetime or current use, but the West generally has had the lowest reported current rates (for the combined score) of using either ***stimulant*** or ***nonstimulant*** drugs in the upper grades.

- *Population density*: Medication rates do not appear to vary systematically by population density.

- *Parents' education*: We use the average education level of parents as a proxy for socioeconomic status (SES). *Lifetime* prevalence of receiving any ADHD medication, and for both subclasses of ADHD drugs, tends to be slightly negatively correlated with family SES in 8th grade and slightly positively correlated in 10th and 12th grades. *Current* use at 10th and 12th grades also appears to be positively correlated with SES for stimulant ADHD drugs. Current use of either type of ADHD medication tends to be higher in the upper SES groups in all three grades. To the extent that children from high-SES families tend to be treated more for ADHD than others, it probably reflects that those families are more likely to receive professional assessment and treatment.

- *Race/ethnicity*: There are some important differences in ADHD treatment related to student race/ethnicity. In general, White students are considerably more likely to have been treated with prescription ADHD drugs at each grade than African-American or Hispanic students. Current use of ***either subclass*** of drugs is also substantially higher among White students than among African-American or Hispanic students in all three grades, with the exception that these differences are not very great for nonstimulant drugs in grades 10 and 12. In the all three grades, African Americans and Hispanics have lifetime levels of use that are roughly equivalent to each other. However, in 8th grade, Hispanics have a somewhat lower level than African Americans in current use of each class of drugs and of any ADHD drug, while in 10th and 12th grades there is little difference in their use. As to why White students are more likely to be treated with ADHD drugs than African-American and Hispanic students, it again may well be due to White families being more likely to get access to, or being able to afford, professional assessment and treatment.

PERFORMANCE-ENHANCING SUBSTANCES: ANDRO AND CREATINE

In order to better understand the sharp increase in teen steroid use that we observed in the late 1990s, we added a single tripwire question in 2001 about the frequency of use of ***androstenedione*** (or "andro," a precursor to anabolic steroids) because it is used for many of the same purposes as anabolic steroids. A small minority of respondents report use of both steroids and andro, thus introducing the possibility of some double counting of events in the two questions; however, the majority of use is not overlapping. The 2014 levels of use for andro are 0.4%, 0.9%, and 1.1% in grades 8, 10, and 12, respectively. Use tends to be higher among males: Their prevalence rates are 0.4%, 1.1%, and 2.0%, respectively, compared with 0.4%, 0.7%, and 0.3% for females. It should be noted that androstenedione was scheduled by the Drug Enforcement Administration in early 2005, making its sale and possession no longer legal.

We also examined teens' use of another substance used for performance and physical enhancement—***creatine***. This substance is not a hormone or a drug, but a nutrient found in the skeletal muscle of most animals. Creatine is used to enhance performance capacity, reduce the recovery time of muscles, and increase muscle mass. It is readily available over the counter, which undoubtedly helps to explain the high levels of use we have found among teens. The annual prevalence of use in 2014 was 1.6%, 6.0%, and 10.0% in grades 8, 10, and 12, respectively. Again, the use rates are substantially higher for males: 2.9%, 11.0%, and 18.5% in grades 8, 10, and 12, respectively, versus 0.5%, 1.3%, and 2.0% for females. Considering that the long-term effects of using this substance have not been well researched, the levels of use—especially by males—are worrisomely high.

Tables 10-15a through 10-16c present overall and subgroup trend data on the annual use of andro and creatine since 2001, when these substances were first included in the study. ***Andro*** use declined between 2001 and 2014 for all three grades: from 1.1% to 0.4% among 8th graders, from 2.2% to 0.9% among 10th graders, and from 3.0% to 1.1% among 12th graders. (As mentioned above, androstenedione was scheduled by the Drug Enforcement Administration in early 2005.)

Creatine use was also down from 2001—when it was first measured—through 2005 in all three grades, but since 2005 there have actually been some increases in annual prevalence in all three grades. In 2014 annual prevalence of use was at a record low for 8th grade students (1.6%) but was up some since 2005 in grades 10 and 12. Levels of use for creatine are far lower among females than males, while the gender difference is more modest for andro. Generally, use of both drugs has been somewhat lower among those planning to go to college than among those who are not.

Because there is some *overlap* in the reporting of anabolic ***steroids*** and ***androstenedione***, it seems useful to examine how many teens are using either drug. Tables 10-17a through 10-17c present trend data on the use of andro only, use of steroids only, use of both, and use of either or both. The annual prevalence for the use of ***either drug*** (***or both***) among males in 2014 is 0.9%, 1.8%, and 3.2% for 8th, 10th, and 12th grades, respectively. In other words, about 1 in every 31 twelfth-grade males used steroids and/or andro in the prior year. However, these percentages are all substantially lower than they were in 2001.

DAILY USE OF MARIJUANA BY TWELFTH GRADERS

In earlier reports, we summarized a number of findings regarding daily marijuana users, including what characteristics they are likely to have, how use changes after high school for different subgroups, and what daily users see as the negative consequences of their use.[5] Beginning in 1982, a special question segment was included in one 12th-grade questionnaire form to secure more detailed measurement of individual patterns of daily marijuana use. Respondents were asked whether at any time during their lives they had ever used marijuana on a daily or near-daily basis for at least a month and, if so, (a) how recently they had done so, (b) when they first had done so,

[5] For the original reports, see the following: Johnston, L.D. (1981). Characteristics of the daily marijuana user. In R. DeSilva, R. Dupont, & G. Russell (Eds.), *Treating the marijuana dependent person* (pp. 12–15). New York: The American Council on Marijuana. http://monitoringthefuture.org/pubs/chapters/mj81.pdf. Also see Johnston, L. D. (1982). A review and analysis of recent changes in marijuana use by American young people. In *Marijuana: The national impact on education* (pp. 8–13). New York: The American Council on Marijuana. http://monitoringthefuture.org/pubs/chapters/mj82.pdf.

and (c) how many total months they had smoked marijuana daily, cumulating over their lifetime. The results of our analyses of these more in-depth data on marijuana use follow.

Lifetime Prevalence of Daily Marijuana Use

- ***Current daily marijuana use***, defined as use on 20 or more occasions in the last 30 days, has fluctuated widely since the study began, as we know from the trend data presented in Chapter 5. Among 12th-grade respondents, it rose from 6.0% in 1975 to 10.7% in 1978, declined to 1.9% by 1992, and then began to increase again. Current daily use reached 6.6% in 2011, the highest prevalence seen in three decades (i.e., since 1981; Table 5-4). In 2014 daily use of marijuana was at 5.8%.

- Using the questions on duration of daily use, we have found that, since 1982, the ***lifetime prevalence of daily marijuana use for a month or more*** has been far higher than current daily marijuana use. For example, among 12th graders in 2014, 14% reported using marijuana daily for at least a month at some point in their lives, which is more than twice as high as the 5.8% reporting current daily use.

Very likely this ratio has changed dramatically over the life of the study as a result of the large secular trends in daily use. It would be inaccurate to extrapolate, for example, that the lifetime prevalence of daily use for the class of 1978 was three to four times their 10.7% current use figure for that year. (In fact, an analysis of follow-up panel data for the class of 1978 confirms this assertion.)

Using data collected in 1989 from follow-up panels combining the graduating classes of 1976 through 1988 (ages 19–31 in 1989) we found a lifetime prevalence of daily marijuana use of 20%. Approximately one fourth of the older portion of that group—graduates from the classes of 1976 through 1979—indicated having been daily marijuana users for a month or more at some time in their lives. Thus, experience with daily use of marijuana was widespread in the cohorts that passed through late adolescence in the peak years of the drug epidemic. In 2014 these cohorts would range in age from about 53 to 56. *Volume II* in this monograph series provides more detailed information on the drug use history and current use of these and other adult age groups.

Grade of First Daily Marijuana Use

Daily marijuana use can begin at quite a young age. Of the 2014 twelfth graders who reported being daily marijuana users for a month or more at some time in their lives (i.e., 14% of the sample), 62% (or 8.5% of all 12th graders) began that pattern of use *before* 10th grade. Different graduating classes show disparate age-associated patterns of onset, depending on the secular trends and, to a lesser degree, cohort effects that were occurring. The percentages of all 12th graders in 2014 that started daily marijuana use in each grade level are presented in Table 10-18. It shows that a substantial proportion began such daily marijuana use in grades 7 through 9, with the incidence rate remaining fairly high in grades 10 and 11 and declining by 12th grade.

Recency of Daily Marijuana Use

Three in four (75%) of those 12th graders in 2014 who reported *ever* having been daily marijuana users for at least a one-month interval reported using marijuana that frequently in the prior year,

while about one fourth (25%) said they last used marijuana that frequently about two or more years ago. Thus the pattern of heavy use tends to be one that sustains at least into late adolescence.

Two out of five (40%) of all 12th graders in 2014 who said they had *ever* been daily marijuana users for a month or more classified themselves as having used it daily or almost daily during the past 30 days (5.5% of the entire sample). Our operational definition of current daily users on the standard prevalence and frequency-of-use questions (i.e., 20 or more occasions of use in the last 30 days) yields a 5.8% level in 2014, very close to the 5.5% level based on the respondents' own definition. (These two rates have generally been quite close across the years.)

Subgroup Differences in Daily Marijuana Use

- There is a ***gender*** difference in the proportion of 12th graders in 2014 who report ever having been daily marijuana users for a month or more (16% for males and 11% for females; Table 10-19a). Long-term duration of daily use is somewhat higher for males, with 0.6% of males saying they smoked marijuana that heavily for three or more years vs. 0.3% of females saying the same (Table 10-18).

- Whether or not the student has ***college plans*** is strongly related to several marijuana use characteristics. Of those 12th graders planning four years of college, 10% have used marijuana daily at some time, compared with 23% of those without such plans. In addition, the college-bound users show a distinctly shorter cumulative duration of daily use, and a lower proportion of them used marijuana daily during the past month. Also, among daily users, non-college-bound 12th graders have an earlier age of onset (see Table 10-18) and a higher level of long-term heavy use of three or more years.

    - In 2014, the four ***regions*** of the country show lifetime prevalence of daily marijuana use between 11% and 16%.

    - The differences in lifetime daily marijuana use associated with ***population density*** have generally been fairly small; in 2014 the range was only 13% to 14%.

Trends in Use of Marijuana on a Daily Basis

- Table 10-19a presents trend data on ***lifetime daily marijuana use*** for a month or more. Prevalence in 2014 (14%) is about midway between the high of 21% (set in 1982, when first measured by the survey) and the low of 8% (set in 1992, before the 1990s drug relapse). Before 2011 prevalence hovered at around 16% since 1996, then rose in 2011 and 2012 along with current daily use, before declining some in the past two years. In a pattern seen with many other drugs, prevalence increased considerably during the 1990s relapse (from 1992 to 1997) and had decreased considerably prior to the relapse.

- Prior to the 1990s drug relapse, the decline in ***lifetime daily marijuana use for a month or more*** between 1982 and 1992 was similar among males (from 20% to 8%) and females (from 18% to 8%). The absolute drop was larger among the non-college-bound (23% to 11%) than among the college-bound (14% to 6%), although the proportional drop (just about half) was not. In the turnaround that began in 1993, most of the increase appears to have occurred among the males and the non-college-bound (who are at 16% and 23%,

respectively, in 2014). Trends for regions and population density levels have generally paralleled the total sample trends, though in recent years use has increased most in large metropolitan areas and least in nonmetropolitan areas (Table 10-19a). All subgroups showed some decrease in 2014.

- ***Daily prevalence of marijuana use for a month or more*** prior to 10th grade (see Table 10-19b for totals and subgroup trends) has ranged between 8% and 10% since 2002, and in 2014 stood at 9%. In prior years, it increased during the 1990s drug relapse, and decreased before the relapse to a record low of 5% for the class of 1993.

OTHER MTF PUBLICATIONS

MTF results are reported in a number of other types of publications, in particular peer-reviewed journals. Selected articles published in the past year or in press as of this writing are summarized below. Further details, as well as a more complete listing, may be found under "Publications" on the MTF website, www.monitoringthefuture.org.

Trends in use of and attitudes toward marijuana among youth before and after decriminalization: The case of California 2007-2013[6]

This article examines decriminalization as a risk factor for future increases in youth marijuana acceptance and use. Specifically, it examines marijuana-related behaviors and attitudes of 8th, 10th, and 12th graders in California as compared to other U.S. states during the years before and after California passed legislation in 2010 to decriminalize marijuana. The analysis indicates that in 2012 and afterwards California 12th graders as compared to their peers in other states became (a) 25% more likely to have used marijuana in the past 30 days, (b) 20% less likely to perceive regular marijuana use as a great health risk, (c) 20% less likely to strongly disapprove of regular marijuana use, and (d) about 60% more likely to expect to be using marijuana five years in the future. These results provide empirical evidence to support concerns that decriminalization may be a risk factor for future increases in youth marijuana use and acceptance. At this point it is too soon to tell whether these more tolerant behaviors and attitudes toward marijuana persist with future cohorts of 12th grade students or, instead, reflect a cohort effect—a question MTF will be able to address in the coming years.

Trends and timing of cigarette smoking uptake among U.S. young adults: Survival analysis using annual national cohorts from 1976-2005[7]

This study measured changes over time in cigarette smoking uptake prevalence and timing during young adulthood (ages 19-26), and associations between time-invariant/-varying characteristics and uptake prevalence/timing. The analyses used discrete-time survival modeling of data collected from the longitudinal panels in the Monitoring the Future surveys, based on the

[6] Miech, R.A., Johnston, L.D., O'Malley, P.M., Bachman, J.G., Schulenberg, J.E., & Patrick, M.E. (2015). Trends in use of and attitudes toward marijuana among youth before and after decriminalization: The case of California 2007-2013. *International Journal of Drug Policy*, *26*(4), 336-344. PubMed ID: 25662893. doi:10.15288/jsad.2015.76.346

[7] Terry-McElrath, Y. M., & O'Malley, P. M. (2015). Trends and timing of cigarette smoking uptake among U.S. young adults: Survival analysis using annual national cohorts from 1976-2005. *Addiction*. Advance online publication. PubMed PMID: 25825236. doi:10.1111/add.12926

graduating classes from 1976-2005 and participating in four follow-up surveys (through modal age 25/26). A total of 10,758 individuals reporting no lifetime smoking when first surveyed as high school seniors. The percentage of young adults moving from non-smoker to experimental smoking (β 0.11, SE 0.04, p=0.005) or occasional smoking (β 0.17, SE 0.03, p=<0.001) increased significantly across graduating classes; the percentage moving from non-smoker to regular smoker remained stable. All forms of smoking uptake were most likely to occur at age 19/20, but uptake prevalence at older ages increased over time (e.g., cohort year predicting occasional uptake at modal age 25/26 adjusted hazard odds ratio [AHOR] 1.04, p=0.002). Time-invariant/-varying characteristics had unique associations with the timing of various forms of smoking uptake (e.g., at modal age 21/22), currently attending college increased occasional uptake risk (AHOR 2.11, p=<0.001) but decreased regular uptake risk (AHOR 0.69, p=.026). The authors concluded that young adult occasional and experimental smoking uptake increased in the United States for non-smoking high school seniors graduating from 1976 to 2005.

Relationship between school administrators' reports of parental involvement in school and students' substance use: A national study[8]

This study examines the relationship between student substance use and school-level parental involvement as reported by administrators. Questionnaires were administered to school administrators and 111,652 students in 1,011 U.S. schools cycling out of the Monitoring the Future study. Hierarchical logistic regression analyses conducted on 1998–2003 data from students and administrators indicate significantly lower prevalence of alcohol use among 8th graders in schools where administrators reported high parental involvement. Overall, administrators' reports of high parental involvement were unrelated to prevalence of substance use among 10th graders and were associated with higher prevalence of alcohol use among 12th graders. Implications and limitations are discussed, along with suggestions for future research.

Alcohol mixed with energy drink use among U.S. 12th-grade students: Prevalence, correlates, and associations with unsafe driving[9]

The consumption of alcohol mixed with energy drinks (AmED) is a risky drinking behavior, most commonly studied using college samples. We know little about rates of AmED use and its associations with other risk behaviors, including unsafe driving, among high school students. This study examined the prevalence and correlates of AmED use among high school seniors in the United States. Nationally representative analytic samples included 6,498 12th-grade students who completed Monitoring the Future surveys in 2012 and 2013. Focal measures included AmED use, sociodemographic characteristics, academic and social factors, other substance use, and unsafe driving (i.e., tickets/warnings and accidents) after alcohol consumption. Approximately one in four students (24.8%) reported AmED use during the past 12 months. Rates of AmED use were highest among males and white students. Using multivariable logistic regression models controlling for sociodemographic characteristics, results indicate that students who cut class, spent more evenings out for fun and recreation, and reported binge drinking, marijuana use, and illicit drug use had a greater likelihood of AmED use. AmED use was also associated with greater odds

[8] Kumar, R., O'Malley, P. M., & Johnston, L. D. (2014). Relationship between school administrators' reports of parental involvement in school and students' substance use: A national study. *Journal of Child and Adolescent Substance Abuse, 23*(5), 269-281, doi:10.1080/1067828X.2013.869131

[9] Martz, M. E., Patrick, M. E., & Schulenberg, J. E. (2015). Alcohol mixed with energy drink use among U.S. 12th-grade students: Prevalence, correlates, and associations with unsafe driving. *Journal of Adolescent Health*, *56*(5), 557-563. doi:10.1016/j.jadohealth.2015.01.019.

of alcohol-related unsafe driving, even after controlling for sociodemographic, academic, and social factors and other substance use. AmED use among 12th-grade students is common and associated with certain sociodemographic, academic, social, and substance use factors. AmED use is also related to alcohol-related unsafe driving, which is a serious public health concern.

Depressive symptoms, conduct problems, and risk for polysubstance use among adolescents: Results from US national surveys[10]

Polysubstance use in adolescence is a known precursor to chronic substance misuse. Identifying risk factors for polysubstance use is necessary to inform its prevention. The present study examined the association of elevated levels of multiple mental health symptoms with adolescents' engagement in polysubstance use (past month use of alcohol, cigarettes, and marijuana). In a US national sample of 8th, 10th, and 12th grade students from Monitoring the Future study, we estimated probability of polysubstance use associated with high levels of depressive symptoms (DS), conduct problems (CP), or both. DS and CP, alone and particularly in combination, were associated with drastically elevated probability of polysubstance use. Adolescents with high levels of both DS and CP had the highest probability of polysubstance use. Among 8th and 10th graders, probability of polysubstance use associated with co-occurring mental health problems was significantly higher for girls than boys.

Nonmedical use of prescription opioids during the transition to adulthood: A multi-cohort national longitudinal study[11]

The purpose of this study was to examine non-medical use of prescription opioids (NMUPO) patterns during the transition from adolescence to adulthood, and assess individual characteristics and other substance use behaviors associated with longitudinal patterns of NMUPO. Nationally representative samples of high school seniors in the United States from the Monitoring the Future study (wave 1: modal age 18 years) were followed longitudinally across three biennial follow-up waves (waves 2, 3 and 4: modal ages 19/20, 21/22 and 23/24 years). Data were collected via self-administered questionnaires to high school seniors and young adults. The longitudinal sample consisted of 27,268 individuals in 30 cohorts (high school senior years 1976–2005) who participated in all four waves. Primary constructs included self-reports of NMUPO and other substance use behaviors. We found that approximately 11.6% [95% confidence interval (CI) = 11.2%, 12.0%] of the sample reported past-year NMUPO in at least one of the four waves. Among those who reported past-year NMUPO in at least one wave, 69.0% (67.6%, 70.4%), 20.5% (19.3%, 21.7%), 7.8% (7.1%, 8.6%) and 2.7% (2.3%, 3.1%) reported NMUPO at one, two, three and four waves, respectively. Several wave 1 variables were associated with greater odds of multiple waves of NMUPO and individuals who reported more waves of NMUPO had greater odds of other substance use behaviors. In conclusion, although most non-medical use of prescription opioids among 18-year-olds in the United States appears to be non-continuing, approximately one-third of the sample reporting non-medical use of prescription opioids appear to continue use beyond age 18 and have elevated odds of other substance use behaviors at ages 23/24.

[10] Maslowsky, J., Schulenberg, J. E., O'Malley, P. M., & Kloska, D. D. (2014). Depressive symptoms, conduct problems, and risk for polysubstance use among adolescents: Results from US national surveys. *Mental Health and Substance Use*, *7*(2), 157-169. doi:10.1080/17523281.2013.786750. PMC3932991.

[11] McCabe, S. E., Schulenberg, J. E., O'Malley, P. M., Patrick, M. E., & Kloska, D. D. (2014). Nonmedical use of prescription opioids during the transition to adulthood: A multi-cohort national longitudinal study. *Addiction*, *109*(1), 102–110. doi:10.1111/add.12347. PMC3930150

Partnership transitions and antisocial behavior in young adulthood: A within-person, multi-cohort analysis[12]

This study examines the effects of young adult transitions into marriage and cohabitation on criminal offending and substance use, and whether those effects changed since the 1970s, as marriage rates declined and cohabitation rates rose dramatically. It also examines whether any beneficial effects of cohabitation depend on marriage intentions. Using multi-cohort national panel data from the Monitoring the Future (N = 15,875) study, we estimated fixed effects models relating within-person changes in marriage and cohabitation to changes in criminal offending and substance use. We found that marriage predicts lower levels of criminal offending and substance use, but the effects of cohabitation are limited to substance use outcomes and to engaged cohabiters. There were no cohort differences in the associations of marriage and cohabitation with criminal offending, and no consistent cohort differences in their associations with substance use. There was little evidence of differences in effects by gender or parenthood. In conclusion, young adults are increasingly likely to enter romantic partnership statuses that do not appear as effective in reducing antisocial behavior. Although cohabitation itself does not reduce antisocial behavior, engagement might. Future research should examine the mechanisms behind these effects, and why nonmarital partnerships reduce substance use and not crime.

Competitive sports participation in high school and subsequent substance use in young adulthood: Assessing differences based on level of contact[13]

The objective of this study was to examine how participation in different types of competitive sports (based on level of contact) during high school is associated with substance use 1 to 4 years after the 12th grade. The analysis uses nationally representative samples of 12th graders from the Monitoring the Future Study who were followed 1 to 4 years after the 12th grade. The longitudinal sample consisted of 970 12th graders from six recent cohorts (2006-2011). The analyses, which controlled for 12th grade substance use, school difficulties, time with friends, and sociodemographic characteristics, found that respondents who participated in at least one competitive sport during the 12th grade had greater odds of binge drinking during the past two weeks (AOR = 2.04; 95% CI = 1.43, 2.90) 1 to 4 years after the 12th grade, when compared to their peers who did not participate in sports during their 12th grade year. Moreover, respondents who participated in high-contact sports (i.e., football, ice hockey, lacrosse, and wrestling) had greater odds of binge drinking (AOR = 1.80; 95% CI = 1.18, 2.72) and engaging in marijuana use during the past 30 days (AOR = 1.81; 95% CI = 1.12, 2.93) 1 to 4 years after the 12th grade when compared to their peers who did not participate in these types of sports during their 12th grade year. Accordingly, the findings indicate important distinctions in sport participation experiences on long-term substance use risk that can help inform potential interventions among young athletes.

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[12] Siennick, S. E., Staff, J., Osgood, D. W., Schulenberg, J. E., Bachman, J. G., & VanEseltine, M. (2014). Partnership transitions and antisocial behavior in young adulthood: A within-person, multi-cohort analysis. *Journal of Research in Crime and Delinquency*, *51*(6), 735-758. doi:10.1177/0022427814529977. PMC4254826

[13] Veliz, P., Zarrett, N., McCabe, S.E., Kloska, D.D., & Schulenberg, J.E. (in press). Competitive sports participation in high school and subsequent substance use in young adulthood: Assessing differences based on level of contact. *International Review for the Sociology of Sport.*

Predicting young adult degree attainment by late adolescent marijuana use[14]

This article assesses whether infrequent and frequent marijuana use at age 19/20 predicts receipt of educational degrees by the mid 20s, independent of confounding age 18 adolescent risk factors. Data were from the Monitoring the Future study, an annual nationally-representative survey of high school seniors followed into adulthood. Thirteen cohorts (1990 to 2002) of high school seniors were followed longitudinally to their mid 20s (n=4,925; 54% female). We used logistic regression and propensity score matching with successive inclusion of age 18 risk factors and substance use to compare age 19/20 frequent marijuana users (6+ occasions in past 30 days) to non-users, frequent users to infrequent users (1 to 6 occasions), and infrequent users to non-users on their likelihood of degree attainment by the mid 20s. Frequent marijuana users were less likely than infrequent users and non-users to earn Bachelor's degrees, even after controlling for a host of age 18 risk factors (e.g., family socioeconomic background, academic performance, educational expectations, truancy). However, these differences were reduced in magnitude to statistical non-significance when we controlled for age 18 substance use. Across analyses, the proportion reaching this educational milestone did not differ significantly between infrequent users and non-users. Results support a growing body of work suggesting that frequent marijuana use predicts a lower likelihood of post-secondary educational attainment, and this difference may originate during secondary school.

The great sleep recession: Changes in sleep duration among US adolescents, 1991-2012[15]

Average nightly sleep times precipitously decline from childhood through adolescence. There is increasing concern that historical shifts also occur in overall adolescent sleep time. Data were drawn from Monitoring the Future, a yearly, nationally representative cross-sectional survey of adolescents in the United States from 1991 to 2012 (N = 272 077) representing birth cohorts from 1973 to 2000. Adolescents were asked how often they get >=7 hours of sleep and how often they get less sleep than they should. Age-period-cohort models were estimated. Adolescent sleep generally declined over 20 years; the largest change occurred between 1991-1995 and 1996-2000. Age-period-cohort analyses indicate adolescent sleep is best described across demographic subgroups by an age effect, with sleep decreasing across adolescence, and a period effect, indicating that sleep is consistently decreasing, especially in the late 1990s and early 2000s. There was also a cohort effect among some subgroups, including male subjects, white subjects, and those in urban areas, with the earliest cohorts obtaining more sleep. Girls were less likely to report getting >=7 hours of sleep compared with boys, as were racial/ethnic minorities, students living in urban areas, and those of low socioeconomic status (SES). However, racial/ethnic minorities and adolescents of low SES were more likely to self-report adequate sleep, compared with white subjects and those of higher SES. Declines in self-reported adolescent sleep across the last 20 years are concerning. Mismatch between perceptions of adequate sleep and actual reported sleep times for racial/ethnic minorities and adolescents of low SES are additionally concerning and suggest that health education and literacy approaches may be warranted.

[14] Maggs, J. L., Staff, J., Kloska, D. D., Patrick, M. E., O'Malley, P. M., & Schulenberg, J. E. (in press May 2015). Predicting young adult degree attainment by late adolescent marijuana use. *Journal of Adolescent Health*. Method D Journal - In Process

[15] Keyes, K. M., Maslowsky, J., Hamilton, A., & Schulenberg, J. (2015). The great sleep recession: Changes in sleep duration among US adolescents, 1991-2012. *Pediatrics, 135*(3), 460-468. doi:10.1542/peds.2014-2707. PMCID: 4338325

Longitudinal associations between smoking and depressive symptoms among adolescent girls[16]

Adolescence is an important period for initiation of smoking and manifestation of depression, which are often comorbid. Researchers have examined associations between depressive symptoms and smoking to elucidate whether those with increased depressive symptoms smoke more to self-medicate, whether those who smoke experience increased subsequent depressive symptoms, or both. Collectively, there have been mixed findings; however, studies have been limited by (1) cross-sectional or short-term longitudinal data or (2) the use of methods that test associations, or only one direction in the associations, rather than a fully-reciprocal model to examine directionality. This study examined the associations between smoking and depressive symptoms in a sample of adolescent girls using latent dual change scores to model (1) the effect of smoking on change in depressive symptoms, and simultaneously (2) the effect of depressive symptoms on change in smoking across ages 11-20. Data were from a cohort-sequential prospective longitudinal study (N = 262). Girls were enrolled by age cohort (11, 13, 15, and 17 years) and were primarily White (61 %) or African American (31 %). Data were restructured by age. Every 6 months, girls reported depressive symptoms and cigarette use. Results indicated that controlling for sociodemographic characteristics, higher levels of smoking predicted a greater increase in depressive symptoms across adolescence. These findings suggest that a higher level of cigarette smoking does contribute to more depressive symptoms, which has implications for prevention of depression and for intervention and future research.

Estimating and interpreting latent variable interactions: A tutorial for applying the latent moderated structural equations method[17]

Latent variables are common in psychological research. Research questions involving the interaction of two variables are likewise quite common. Methods for estimating and interpreting interactions between latent variables within a structural equation modeling framework have recently become available. The latent moderated structural equations (LMS) method is one that is built into Mplus software. The potential utility of this method is limited by the fact that the models do not produce traditional model fit indices, standardized coefficients, or effect sizes for the latent interaction, which renders model fitting and interpretation of the latent variable interaction difficult. This article compiles state-of-the-science techniques for assessing LMS model fit, obtaining standardized coefficients, and determining the size of the latent interaction effect in order to create a tutorial for new users of LMS models. The recommended sequence of model estimation and interpretation is demonstrated via a substantive example and a Monte Carlo simulation. Finally, extensions of this method are discussed, such as estimating quadratic effects of latent factors and interactions between latent slope and intercept factors, which hold significant potential for testing and advancing developmental theories.

[16] Beal, S. J., Negriff, S., Dorn, L. D., Pabst, S., & Schulenberg, J. (2014). Longitudinal associations between smoking and depressive symptoms among adolescent girls. *Prevention Science, 15*(4), 506-515. doi:10.1007/s11121-013-0402-x. PMCID: 3800222

[17] Maslowsky, J., Jager, J., & Hemken, D. (2014). Estimating and interpreting latent variable interactions: A tutorial for applying the latent moderated structural equations method. *International Journal of Behavioral Development, 39*(1), 87-96. doi:10.1177/0165025414552301. NIHMSID: 625186

A review of studies of drinking patterns in the United States since 1940[18]

This article reviews changes in drinking patterns in the general U.S. population since the first appearance of the Quarterly Journal of Studies on Alcohol in June 1940. Contents of the three iterations of the journal (Quarterly Journal of Studies on Alcohol, Journal of Studies on Alcohol, and Journal of Studies on Alcohol and Drugs) were reviewed along with additional prominent key articles on the subject known to the author. Early articles in the field tended to focus on alcoholics and alcoholism, usually with a biological emphasis. The earliest "scientific investigation" of drinking patterns that appeared in iterations of JSAD reported data based on a survey in 1946, and the earliest report of trends in drinking patterns compared the 1946 data with data from 1963. Since then, there have been numerous evaluations of drinking patterns in the general U.S. population. There have been major changes over the past 75 years in the manner in which drinking patterns are measured and summarized. Perhaps the biggest change was the introduction of probability sampling. Additional major changes continue to occur, responding to technological changes (e.g., the use of computers, cell phones, and broadband connections) in how people interact with their environment.

The Great Recession and recent employment trends among secondary students in the United States[19]

The Great Recession had substantial effects on the labor market in the United States, as elsewhere. To what extent did secondary students' employment decline during this time? Which students are leaving the labor market? Are reductions in employment concentrated in particular jobs? To answer these questions, we use data from the Monitoring the Future study, an ongoing study of secondary students in the United States. More specifically, we examine recent trends in teenage employment using 6 cohorts each of 8th, 10th, and 12th graders (from 2006 to 2011, spanning before, during and after the Great Recession). Results show a gradual decline in school year employment since 2006, including the years after the official end of the recession. Employment during the school year is especially low among 8th and 10th graders, Hispanic and non-Hispanic Black youth, and students from disadvantaged backgrounds (based upon parental education), though the recent drop in work has varied little by population subgroups. The decline in employment is, however, concentrated among the oldest students, and working intensely (over 20 hours per week) has dropped more than working moderate hours. Students are more likely to babysit and do lawn work and less likely to hold jobs in office, clerical, and sales positions than in years past. These patterns and recent shifts in job type suggest some degree of job replacement by older workers.

OTHER DATA ON CORRELATES AND TRENDS

Hundreds of correlates of drug use, without accompanying interpretation, may be found in MTF's series of annual volumes entitled *Monitoring the Future: Questionnaire Responses from the*

[18] O'Malley, P. M. (2014). A review of studies of drinking patterns in the United States since 1940. *Journal of Studies on Alcohol and Drugs, 75*(Suppl 17), 18-25. PMC Journal - In Process; PMID24565308

[19] Staff, J., Kirkpatrick Johnson, M., Patrick, M., & Schulenberg, J. (2014). The Great Recession and recent employment trends among secondary students in the United States. *Longitudinal and Life Course Studies, 5*(2), 173-188. doi:10.14301/llcs.v5i2.275. PMCID: 4311406

Nation's High School Seniors. For each year since 1975, a separate volume presents univariate and selected bivariate distributions on *all* questions asked of 12th graders. A host of variables dealing explicitly with drugs—many of them not covered here—are contained in that series. Bivariate tables are provided for *all* questions asked of high school seniors each year distributed against an index of lifetime illicit drug involvement, making it possible to examine the relationships between hundreds of potential risk factors and illicit drug use. It is available on the MTF website (www.monitoringthefuture.org) under "Publications" and then "Reference Volumes." In addition, interested users can use the online interface at the National Addiction and HIV Data Archive Program (sponsored in part by the National Institute on Drug Abuse) to produce cross-tabulations for variables of interest, available at https://www.icpsr.umich.edu/rpxlogin.

A special cross-time reference index is contained in each volume of *Monitoring the Future: Questionnaire Responses from the Nation's High School Seniors* to facilitate locating the same question across different years. One can thus derive *trend* data on approximately 1,500–2,000 variables for the entire 12th-grade samples or for important subgroups (based on gender, race, region, college plans, and drug involvement). These volumes can also be helpful to analysts using the publicly available MTF data archive at the Inter-university Consortium of Political and Social Research.

As mentioned in Appendix D, an annual occasional paper[20] presents trends in both *graphic* and *tabular* form for the various subgroups for each of the many drug classes. It covers all years for all three grades in which data have been collected. It is available on the MTF website.

WEBSITE

Any reader wishing to obtain more information on the study, or to check for recent findings and publications, may go to the MTF website at www.monitoringthefuture.org. Prior to publication in this monograph series, many recent MTF findings on substance use trends and related attitudes and beliefs are posted on the website in two forms: (1) a pair of press releases issued in mid-December of the year in which the data were collected; and (2) an *Overview of Key Findings* monograph posted at the end of the following January.

[20] Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2015). *Demographic subgroup trends among young adults in the use of various licit and illicit drugs 1975-2014* (Monitoring the Future Occasional Paper No. 83). Ann Arbor, MI: Institute for Social Research, University of Michigan. Available at http://monitoringthefuture.org/pubs/occpapers/mtf-occ83.pdf

TABLE 10-1a
Nonprescription Diet Pills
Trends in Lifetime, Annual, and 30-Day Prevalence of Use by Gender in Grade 12 [a]

(Entries are percentages.)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Lifetime																	
Total	29.6	31.4	29.7	28.7	26.6	25.5	21.5	19.9	17.7	17.2	15.0	14.8	14.9	15.6	16.0	16.6	15.7
Males	16.5	17.4	14.8	14.8	13.1	12.4	9.4	9.1	7.8	5.9	6.4	5.6	4.5	6.1	5.5	8.1	6.4
Females	42.2	44.8	43.1	41.5	39.7	38.3	32.6	30.2	28.3	28.1	23.2	23.3	23.7	23.9	25.5	24.5	25.7
Annual																	
Total	20.5	20.5	18.8	16.9	15.3	13.9	12.2	10.9	10.4	8.8	8.4	8.0	9.3	9.8	9.3	9.8	9.6
Males	10.7	10.6	9.2	9.0	6.9	6.4	4.9	4.3	4.3	3.0	4.3	3.2	2.5	3.5	3.7	4.9	4.3
Females	29.5	30.0	27.5	24.4	23.2	21.1	18.8	17.2	16.7	14.2	12.2	12.3	14.9	15.1	14.1	14.6	15.4
30-Day																	
Total	9.8	9.5	9.9	7.3	6.5	5.8	5.1	4.8	4.3	3.7	4.0	3.8	4.2	3.8	4.3	4.6	4.8
Males	5.0	4.0	4.8	3.7	3.2	2.7	1.8	2.3	1.9	1.4	1.9	1.9	1.3	1.1	2.3	2.3	2.2
Females	14.0	13.7	14.2	10.7	9.6	8.9	8.3	7.0	6.7	5.5	5.8	4.9	6.4	5.7	5.8	7.0	7.6

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Lifetime																	
Total	17.1	16.6	17.1	21.0	17.9	15.6	13.7	13.0	10.4	10.5	9.5	7.2	7.7	7.7	8.1	9.1	+1.0
Males	6.5	7.2	8.3	9.8	9.3	8.8	7.8	7.0	5.1	6.1	4.3	3.3	5.2	4.4	4.0	4.5	+0.5
Females	26.5	26.4	23.6	29.3	24.7	21.6	18.3	18.3	14.3	14.5	14.6	10.5	9.5	10.6	11.6	12.9	+1.3
Annual																	
Total	10.2	11.1	11.8	15.1	13.0	10.7	10.0	9.4	6.7	7.2	6.1	4.3	4.9	5.5	5.3	6.4	+1.1
Males	4.0	4.9	6.2	8.1	6.9	6.5	6.0	5.7	3.4	4.2	3.0	2.4	3.0	3.7	2.6	3.7	+1.1
Females	15.7	17.2	15.6	20.0	17.5	14.1	13.2	12.5	9.2	9.9	9.3	6.0	6.1	7.0	7.3	8.6	+1.3
30-Day																	
Total	5.4	5.8	6.3	9.2	6.5	5.6	4.4	5.3	3.8	3.7	2.6	2.1	2.4	3.4	2.4	3.6	+1.2
Males	2.6	2.1	3.7	4.7	3.2	3.9	2.1	3.1	1.8	2.2	1.6	1.7	1.8	2.5	1.2	2.4	+1.3
Females	7.8	9.4	8.0	12.2	8.7	6.8	5.9	7.1	5.0	5.0	3.4	2.4	2.5	4.2	3.3	4.5	+1.3

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]Data based on one form. The total *N* each year for 1982–1989 is approximately 3,300. The total *N* each year for 1990–1998 is approximately 2,600. Beginning in 1999, the total *N* each year is approximately 2,200.

TABLE 10-1b
Stay-Awake Pills
Trends in Lifetime, Annual, and 30-Day Prevalence of Use by Gender in Grade 12 [a]

(Entries are percentages.)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Lifetime																	
Total	19.1	20.4	22.7	26.3	31.5	37.4	37.4	36.3	37.0	37.0	35.6	30.5	31.3	31.2	30.5	31.0	29.6
Males	20.2	22.3	23.2	28.0	32.0	34.8	38.0	37.7	35.3	36.0	34.4	30.4	30.2	29.0	27.4	27.3	29.0
Females	16.9	18.2	21.7	24.9	31.3	39.4	36.7	35.1	39.2	37.9	37.3	30.1	32.2	32.3	32.1	34.5	30.1
Annual																	
Total	11.8	12.3	13.9	18.2	22.2	25.2	26.4	23.0	23.4	22.2	20.4	19.1	20.7	20.3	19.0	19.7	19.0
Males	12.8	13.8	15.4	19.7	22.3	25.5	27.6	24.8	22.3	22.3	20.9	19.7	20.3	19.7	18.2	17.4	19.5
Females	10.0	10.5	12.5	17.0	22.2	25.0	25.2	21.7	24.5	22.0	20.2	17.6	20.4	20.1	18.7	21.0	18.0
30-Day																	
Total	5.5	5.3	5.8	7.2	9.6	9.2	9.8	8.5	7.3	6.8	7.2	7.0	6.3	7.3	7.5	7.8	7.4
Males	6.0	5.5	6.2	7.7	9.5	9.3	11.0	10.0	7.1	7.6	7.8	7.9	5.9	6.3	8.0	6.7	8.7
Females	4.7	4.5	5.5	6.7	9.3	9.1	8.6	6.9	7.3	5.5	6.5	5.5	5.8	7.1	6.1	8.2	5.8

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Lifetime																	
Total	25.5	23.0	25.6	22.5	19.8	18.4	15.8	14.8	12.3	9.6	7.6	6.4	6.3	5.9	5.2	4.5	-0.7
Males	23.3	21.4	25.2	19.2	16.1	16.3	14.5	14.8	11.4	7.7	8.0	6.9	5.4	5.9	4.9	3.6	-1.4
Females	26.9	24.0	26.0	24.5	22.4	20.0	15.9	14.5	13.1	10.9	6.9	5.9	6.8	5.7	5.4	4.7	-0.7
Annual																	
Total	15.7	15.0	17.3	14.9	12.5	11.8	10.4	10.0	7.6	6.3	4.8	3.2	3.9	3.8	3.2	3.5	+0.3
Males	14.5	14.0	17.8	13.9	9.3	11.1	9.4	10.2	7.8	5.2	5.9	3.2	2.8	3.9	2.9	2.8	-0.1
Females	15.9	15.9	16.5	14.6	14.3	12.3	10.3	9.4	7.1	7.0	3.5	3.1	4.6	3.8	3.4	3.6	+0.2
30-Day																	
Total	6.8	7.3	7.2	5.8	5.0	4.5	4.2	4.2	3.3	2.6	2.3	1.6	2.2	1.9	1.5	1.7	+0.2
Males	5.0	6.8	6.8	5.6	3.2	5.1	3.6	4.3	3.8	2.3	2.8	1.7	1.8	1.6	1.1	1.3	+0.2
Females	7.4	7.3	7.3	5.6	5.9	3.8	4.5	3.5	2.5	3.1	1.6	1.4	2.2	2.1	1.9	1.5	-0.4

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]Data based on one form. The total *N* each year for 1982–1989 is approximately 3,300. The total *N* each year for 1990–1998 is approximately 2,600. Beginning in 1999, the total *N* each year is approximately 2,200.

TABLE 10-1c
Look-Alikes
Trends in Lifetime, Annual, and 30-Day Prevalence of Use by Gender in Grade 12 [a]

(Entries are percentages.)

	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Lifetime																	
Total	15.1	14.8	15.3	14.2	12.7	11.9	11.7	10.5	10.7	8.9	10.1	10.5	10.3	11.6	10.7	10.8	9.4
Males	13.6	14.2	14.1	14.1	12.3	10.9	10.4	10.1	11.6	8.3	11.0	10.1	9.0	10.8	10.0	10.6	9.4
Females	15.1	14.4	15.2	13.8	12.6	12.3	12.1	10.2	9.9	8.8	9.3	10.4	11.2	10.6	10.3	10.7	8.9
Annual																	
Total	10.8	9.4	9.7	8.2	6.9	6.3	5.7	5.6	5.6	5.2	5.4	6.2	6.0	6.8	6.5	6.4	5.7
Males	9.5	9.2	9.7	8.3	6.5	6.4	4.2	6.1	6.6	4.9	6.2	6.4	5.9	7.0	5.7	7.2	6.0
Females	10.7	8.6	8.5	7.8	6.7	6.0	6.3	5.0	4.6	4.7	4.5	5.4	5.7	5.4	6.0	5.5	5.0
30-Day																	
Total	5.6	5.2	4.4	3.6	3.4	2.7	2.7	2.4	2.3	2.1	2.4	2.7	2.4	3.0	3.1	2.7	2.7
Males	4.0	4.5	4.5	3.8	3.4	2.4	1.7	2.3	2.6	2.0	2.5	2.0	2.5	3.0	2.6	2.7	3.1
Females	5.2	5.4	3.8	3.1	3.0	2.7	3.0	2.2	1.8	1.8	2.2	2.9	2.0	2.1	2.7	2.6	2.0

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Lifetime																	
Total	9.2	10.0	9.8	9.6	8.6	8.1	7.4	5.7	4.6	5.2	4.3	2.6	3.5	2.9	2.7	2.2	-0.5
Males	7.2	11.3	9.4	9.1	7.6	7.2	7.1	5.1	3.6	4.7	3.8	2.6	3.3	2.8	2.5	1.8	-0.7
Females	9.7	8.0	9.3	9.3	8.7	8.3	6.6	5.8	5.1	5.2	4.7	2.3	3.1	2.4	2.8	2.1	-0.7
Annual																	
Total	5.0	5.8	7.1	6.6	5.4	5.0	4.2	3.7	2.8	3.1	2.6	1.7	2.2	2.1	1.7	1.4	-0.3
Males	4.6	7.0	7.3	6.8	5.2	4.3	3.9	3.3	2.5	2.5	2.3	1.7	2.1	2.1	1.6	0.9	-0.7
Females	4.4	4.3	6.6	5.9	5.1	5.2	3.8	3.8	2.6	3.2	2.8	1.4	2.0	1.9	1.7	1.5	-0.3
30-Day																	
Total	2.4	2.6	3.3	2.8	2.4	2.5	1.9	2.3	1.1	1.6	1.0	0.8	1.2	0.8	0.7	0.7	0.0
Males	1.9	3.1	3.0	2.8	2.2	2.7	1.4	2.3	1.1	1.5	0.9	0.9	1.2	0.8	0.7	0.6	-0.1
Females	2.0	1.7	2.8	2.3	2.1	2.1	1.7	2.2	0.9	1.5	1.0	0.9	0.8	0.7	0.6	0.5	-0.2

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]Data based on one form. The total *N* each year for 1982–1989 is approximately 3,300. The total *N* each year for 1990–1998 is approximately 2,600. Beginning in 1999, the total *N* each year is approximately 2,200.

TABLE 10-2a
Nonprescription Diet Pills
Trends in Annual Prevalence of Use by Subgroups in Grade 12

Percentage who used in last 12 months

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Approximate weighted N =	—	—	—	—	—	—	—	*17,700*	*16,300*	*15,900*	*16,000*	*15,200*	*16,300*	*16,300*	*16,700*	*15,200*	*15,000*	*15,800*	*16,300*	*15,400*
Total	—	—	—	—	—	—	—	20.5	20.5	18.8	16.9	15.3	13.9	12.2	10.9	10.4	8.8	8.4	8.0	9.3
Gender																				
Male	—	—	—	—	—	—	—	10.7	10.6	9.2	9.0	6.9	6.4	4.9	4.3	4.3	3.0	4.3	3.2	2.5
Female	—	—	—	—	—	—	—	29.6	30.0	27.5	24.4	23.2	21.1	18.8	17.2	16.7	14.2	12.2	12.3	15.0
College Plans																				
None or under 4 years	—	—	—	—	—	—	—	23.3	21.4	18.2	20.7	16.1	14.9	13.1	11.9	13.2	8.9	10.5	9.7	10.8
Complete 4 years	—	—	—	—	—	—	—	17.5	19.0	18.8	14.7	15.0	13.3	11.7	10.9	9.7	8.6	8.0	7.3	9.3
Region																				
Northeast	—	—	—	—	—	—	—	19.1	18.5	18.4	16.5	14.9	14.3	10.5	10.4	11.5	5.7	6.3	7.6	8.6
Midwest	—	—	—	—	—	—	—	24.6	23.3	20.2	19.2	16.6	15.0	13.7	15.0	11.1	10.7	9.3	8.4	11.8
South	—	—	—	—	—	—	—	18.2	19.2	19.6	14.9	13.9	13.1	12.0	9.3	10.0	9.0	7.7	9.2	8.9
West	—	—	—	—	—	—	—	18.9	21.1	15.8	17.3	16.4	13.5	12.1	8.7	8.9	8.8	10.3	5.4	7.4
Population Density																				
Large MSA	—	—	—	—	—	—	—	19.7	18.7	17.3	17.1	15.0	13.0	12.1	10.3	7.4	7.7	7.4	7.3	8.5
Other MSA	—	—	—	—	—	—	—	20.0	22.8	18.6	17.1	15.6	13.7	12.4	10.9	11.2	9.2	8.4	6.8	9.9
Non-MSA	—	—	—	—	—	—	—	21.7	19.2	20.5	16.5	15.2	15.2	11.9	11.7	11.7	9.1	9.2	10.5	9.1
Parental Education [a]																				
1.0–2.0 (Low)	—	—	—	—	—	—	—	19.5	15.9	19.2	14.6	12.0	13.5	13.4	9.5	5.1	9.4	10.6	6.9	11.0
2.5–3.0	—	—	—	—	—	—	—	21.6	21.3	18.2	17.8	15.6	13.1	12.0	9.9	12.3	8.6	8.9	8.9	11.0
3.5–4.0	—	—	—	—	—	—	—	20.6	20.2	20.6	18.0	16.6	14.5	11.5	11.8	9.2	8.2	7.9	7.8	10.6
4.5–5.0	—	—	—	—	—	—	—	19.3	22.4	17.4	16.8	15.0	15.9	12.0	10.4	12.0	9.3	6.6	8.0	8.5
5.5–6.0 (High)	—	—	—	—	—	—	—	21.0	22.3	19.1	17.1	15.7	11.6	13.6	13.4	12.2	8.5	8.2	6.2	5.3
Race/Ethnicity (2-year average) [b]																				
White	—	—	—	—	—	—	—	—	23.2	22.2	20.4	18.4	16.3	14.7	13.4	12.5	11.0	9.8	9.2	9.7
African American	—	—	—	—	—	—	—	—	6.6	8.1	6.4	5.5	7.5	6.9	4.3	2.9	3.5	3.0	4.5	6.1
Hispanic	—	—	—	—	—	—	—	—	11.6	12.6	14.8	10.8	7.8	7.9	9.6	9.8	5.6	4.6	7.1	7.1

(Table continued on next page.)

TABLE 10-2a (cont.)
Nonprescription Diet Pills
Trends in Annual Prevalence of Use by Subgroups in Grade 12

Percentage who used in last 12 months

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change	
Approximate weighted N =	*15,400*	*14,300*	*15,400*	*15,200*	*13,600*	*12,800*	*12,800*	*12,900*	*14,600*	*14,600*	*14,700*	*14,200*	*14,500*	*14,000*	*13,700*	*14,400*	*14,100*	*13,700*	*12,600*	*12,400*		
Total	9.8	9.3	9.8	9.6	10.2	11.1	11.8	15.1	13.0	10.7	10.0	9.4	6.7	7.2	6.1	4.3	4.9	5.5	5.3	6.4	+1.1	
Gender																						
Male	3.5	3.7	4.9	4.3	4.0	4.9	6.2	8.1	6.9	6.5	6.0	5.7	3.4	4.2	3.0	2.4	3.0	3.7	2.6	3.7	+1.1	
Female	15.1	14.1	14.6	15.4	15.7	17.2	15.6	20.0	17.5	14.1	13.2	12.5	9.2	9.9	9.3	6.0	6.1	7.0	7.3	8.6	+1.3	
College Plans																						
None or under 4 years	11.5	10.8	12.0	10.7	9.1	10.0	9.4	17.8	13.9	10.4	11.5	12.1	4.4	10.2	9.4	4.3	6.1	5.2	5.2	12.0	+6.8	sss
Complete 4 years	9.3	8.6	9.2	10.1	10.4	11.5	11.6	13.8	12.6	10.5	9.3	8.6	7.1	6.8	5.6	4.5	4.4	5.5	4.8	5.0	+0.2	
Region																						
Northeast	8.2	10.1	8.1	8.6	8.6	8.0	12.8	16.7	11.6	11.9	9.1	12.0	7.2	6.3	4.6	3.5	3.2	4.8	5.7	8.1	+2.4	
Midwest	11.8	9.5	10.2	10.4	10.4	12.6	15.5	14.4	14.4	9.1	10.0	9.9	7.4	8.0	6.0	5.4	5.8	4.3	5.8	6.4	+0.6	
South	10.8	9.4	11.5	10.1	11.2	12.9	9.9	16.7	13.6	10.5	10.4	9.2	6.9	6.5	6.8	3.8	4.7	7.4	6.0	6.5	+0.6	
West	6.3	7.9	7.8	8.6	9.3	9.3	8.6	12.4	11.7	12.2	10.1	6.5	5.3	8.0	6.6	4.7	5.4	4.8	3.3	4.6	+1.3	
Population Density																						
Large MSA	10.7	8.5	9.4	9.5	9.0	8.3	12.3	13.9	12.5	9.8	7.9	8.0	4.8	6.8	5.2	3.9	4.2	6.1	5.7	4.4	-1.2	
Other MSA	8.9	9.3	8.7	9.1	9.5	11.5	11.5	13.6	10.8	11.5	10.7	9.9	7.4	7.0	5.8	5.0	4.3	5.6	4.7	7.2	+2.5	
Non-MSA	10.1	10.0	12.3	11.0	12.6	13.6	11.7	19.8	17.7	10.3	11.1	10.3	8.3	7.9	8.0	3.1	7.3	4.6	6.1	7.1	+0.9	
Parental Education [a]																						
1.0–2.0 (Low)	8.9	8.3	14.4	11.8	9.9	9.8	5.6	12.7	15.8	7.0	10.5	6.9	5.8	7.4	5.9	4.4	5.5	8.9	5.9	6.1	+0.2	
2.5–3.0	10.9	8.5	10.5	8.9	11.1	13.1	15.0	17.7	13.8	14.1	11.1	13.3	8.8	7.8	8.2	4.6	4.7	4.5	6.9	6.1	-0.8	
3.5–4.0	11.5	9.7	8.8	9.9	10.5	11.6	14.1	15.6	11.1	10.7	10.2	9.0	6.0	7.5	5.9	5.0	6.0	4.9	5.4	7.9	+2.5	
4.5–5.0	7.5	8.8	10.7	11.6	11.2	12.7	9.0	14.8	11.5	9.0	8.9	8.6	5.0	8.7	4.9	3.7	4.7	5.7	3.1	6.3	+3.2	ss
5.5–6.0 (High)	9.2	8.4	9.4	9.6	7.4	7.4	7.9	8.5	13.4	10.1	7.5	6.4	7.4	3.0	6.5	4.9	2.7	3.7	3.4	4.2	+0.8	
Race/Ethnicity (2-year average) [b]																						
White	10.9	10.9	10.8	11.2	11.2	11.8	12.9	14.8	15.4	13.1	11.3	10.7	9.3	8.1	7.2	4.8	4.3	4.9	4.8	5.6	+0.8	
African American	5.3	4.3	5.3	4.9	4.2	5.5	6.5	5.5	4.6	4.8	4.5	4.2	3.2	2.5	3.4	4.4	3.0	3.3	3.6	4.3	+0.7	
Hispanic	7.5	7.0	8.2	9.3	9.8	10.0	9.1	13.2	12.7	7.9	7.5	7.7	4.9	5.2	7.2	6.4	5.5	5.6	5.6	5.1	-0.5	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. See Table D-S3 for the number of subgroup cases. See appendix B for definition of variables in table. Data based on one of five forms in 1982–1988; *N* is one fifth of *N* indicated in Table D-S3. Beginning in 1989, data based on one of six forms; *N* is one sixth of *N* indicated in Table D-S3.

Caution: ***Limited sample sizes (see Notes above). Use caution in interpreting subgroup trends.***

[a]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables.

[b]To derive percentages for each racial/ethnic subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates. For the data beginning in 2005, see appendix B for details on how race/ethnicity is defined.

TABLE 10-2b
Stay-Awake Pills
Trends in Annual Prevalence of Use by Subgroups in Grade 12

Percentage who used in last 12 months

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Approximate weighted N =	—	—	—	—	—	—	—	*17,700*	*16,300*	*15,900*	*16,000*	*15,200*	*16,300*	*16,300*	*16,700*	*15,200*	*15,000*	*15,800*	*16,300*	*15,400*
Total	—	—	—	—	—	—	—	11.8	12.3	13.9	18.2	22.3	25.2	26.4	23.0	23.4	22.2	20.4	19.2	20.7
Gender																				
Male	—	—	—	—	—	—	—	12.8	13.8	15.4	19.7	22.3	25.5	27.6	24.8	22.3	22.3	20.9	19.7	20.3
Female	—	—	—	—	—	—	—	10.0	10.5	12.5	17.0	22.2	25.0	25.2	21.7	24.5	22.0	20.2	17.6	20.4
College Plans																				
None or under 4 years	—	—	—	—	—	—	—	11.4	10.8	12.5	15.5	18.1	23.1	23.3	21.8	22.9	21.0	20.5	18.6	20.1
Complete 4 years	—	—	—	—	—	—	—	10.5	12.6	14.0	20.4	24.9	26.5	27.5	24.1	24.1	22.3	21.0	18.7	20.6
Region																				
Northeast	—	—	—	—	—	—	—	9.6	9.5	11.9	18.2	20.4	26.4	23.8	18.4	22.0	18.3	18.2	20.2	21.2
Midwest	—	—	—	—	—	—	—	15.1	16.8	16.3	18.4	24.5	26.8	27.5	29.1	28.4	31.8	25.7	22.0	26.2
South	—	—	—	—	—	—	—	9.6	10.7	12.0	13.3	19.8	20.9	25.6	20.4	20.6	16.1	17.6	18.7	20.2
West	—	—	—	—	—	—	—	13.5	11.5	16.0	25.6	25.5	28.9	28.9	24.0	22.9	23.4	20.0	14.9	13.7
Population Density																				
Large MSA	—	—	—	—	—	—	—	11.5	11.1	12.2	17.7	19.0	25.6	23.2	20.9	19.0	16.7	15.2	16.7	18.4
Other MSA	—	—	—	—	—	—	—	12.4	14.5	14.0	19.1	24.1	24.1	27.7	22.9	25.1	25.3	21.2	19.8	21.1
Non-MSA	—	—	—	—	—	—	—	11.3	10.5	15.4	17.4	22.1	27.0	27.4	25.2	24.5	21.7	23.4	19.9	22.3
Parental Education [a]																				
1.0–2.0 (Low)	—	—	—	—	—	—	—	8.8	8.2	8.3	10.9	12.0	15.0	17.1	18.1	15.3	14.9	16.2	11.0	16.6
2.5–3.0	—	—	—	—	—	—	—	10.6	10.1	13.9	15.5	19.5	22.8	22.5	21.6	23.2	20.2	22.8	19.0	18.1
3.5–4.0	—	—	—	—	—	—	—	12.6	13.5	13.5	21.3	26.5	30.0	28.4	26.0	25.6	23.9	22.4	18.6	21.6
4.5–5.0	—	—	—	—	—	—	—	13.2	15.3	16.1	24.0	23.7	29.9	30.3	24.0	28.0	25.1	20.0	21.1	24.4
5.5–6.0 (High)	—	—	—	—	—	—	—	13.0	16.7	18.0	20.2	28.7	24.9	32.3	25.1	22.3	25.8	17.8	20.2	18.4
Race/Ethnicity (2-year average) [b]																				
White	—	—	—	—	—	—	—	—	13.6	15.0	18.7	23.7	27.7	30.4	29.8	27.7	27.4	25.8	24.0	23.7
African American	—	—	—	—	—	—	—	—	2.0	3.0	3.6	4.4	5.5	6.2	6.0	6.4	5.1	3.5	3.5	3.6
Hispanic	—	—	—	—	—	—	—	—	5.7	8.3	8.4	9.7	13.8	15.6	16.5	14.1	11.6	11.9	13.3	14.2

(Years cont.)

(Table continued on next page.)

TABLE 10-2b (cont.)
Stay-Awake Pills
Trends in Annual Prevalence of Use by Subgroups in Grade 12

Percentage who used in last 12 months

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Approximate weighted N =	*15,400*	*14,300*	*15,400*	*15,200*	*13,600*	*12,800*	*12,800*	*12,900*	*14,600*	*14,600*	*14,700*	*14,200*	*14,500*	*14,000*	*13,700*	*14,400*	*14,100*	*13,700*	*12,600*	*12,400*	
Total	20.3	19.0	19.7	19.0	15.7	15.0	17.3	14.9	12.5	11.8	10.4	10.0	7.6	6.3	4.8	3.2	3.9	3.8	3.2	3.5	+0.3
Gender																					
Male	19.7	18.2	17.4	19.5	14.5	14.0	17.8	13.9	9.3	11.1	9.4	10.2	7.8	5.2	5.9	3.2	2.8	3.9	2.9	2.8	-0.1
Female	20.1	18.7	21.0	18.0	15.9	15.9	16.5	14.6	14.3	12.3	10.3	9.4	7.1	7.0	3.5	3.1	4.6	3.8	3.4	3.6	+0.2
College Plans																					
None or under 4 years	21.1	18.2	21.8	18.5	14.3	15.5	18.9	16.1	14.3	13.0	11.2	9.1	9.5	9.5	3.9	3.0	5.1	4.4	3.0	4.4	+1.4
Complete 4 years	19.7	18.3	19.1	18.4	15.1	14.7	16.5	14.0	11.9	11.4	9.3	9.8	7.1	5.3	4.7	3.3	3.6	3.5	2.9	3.3	+0.4
Region																					
Northeast	18.4	22.5	19.1	17.6	16.0	10.2	14.7	13.9	10.9	14.0	8.0	8.3	5.7	6.7	5.6	3.0	2.7	3.0	4.0	2.6	-1.4
Midwest	24.2	19.8	23.8	22.0	17.3	19.3	24.4	18.9	12.9	12.3	13.4	14.1	10.9	6.6	6.1	3.1	4.2	3.1	3.1	4.2	+1.1
South	18.8	17.5	20.1	18.8	15.6	13.8	15.4	13.5	11.6	9.7	11.0	9.7	7.4	5.9	4.6	3.3	2.8	4.2	2.7	3.9	+1.3
West	19.1	16.5	13.3	16.8	13.3	16.3	12.4	13.2	14.9	12.5	8.0	7.0	6.3	6.2	3.0	3.2	6.2	4.5	3.4	2.8	-0.6
Population Density																					
Large MSA	18.9	14.4	15.5	15.3	9.6	11.0	15.7	11.9	9.2	8.3	7.4	7.7	5.3	7.2	4.9	2.8	3.9	2.5	2.6	2.0	-0.6
Other MSA	19.3	20.2	18.4	21.1	18.4	15.2	14.3	14.7	12.6	13.6	11.7	10.2	8.9	5.0	4.4	3.8	3.8	4.1	3.3	3.9	+0.6
Non-MSA	23.6	20.7	26.8	18.9	17.3	19.3	24.3	19.3	16.5	12.2	11.4	12.7	8.3	8.1	5.9	2.3	4.1	5.1	3.7	4.6	+0.9
Parental Education [a]																					
1.0–2.0 (Low)	13.2	11.5	18.2	11.7	7.9	7.3	15.3	8.9	10.3	5.9	4.2	6.1	3.7	6.0	3.3	1.8	3.5	6.5	2.8	3.8	+0.9
2.5–3.0	18.1	19.0	21.0	16.5	13.4	15.1	17.1	13.4	12.0	13.9	9.7	9.0	9.5	6.7	4.7	1.6	4.3	4.7	3.1	2.0	-1.0
3.5–4.0	24.3	17.4	17.6	19.9	18.3	17.0	20.3	16.5	11.4	13.5	12.8	11.4	7.6	7.4	3.7	3.9	5.1	3.3	4.8	3.2	-1.6
4.5–5.0	20.4	23.2	20.2	20.3	15.6	16.7	16.2	14.9	12.7	11.3	9.7	10.0	6.2	4.9	4.5	3.3	3.1	3.3	2.0	3.5	+1.6
5.5–6.0 (High)	17.3	17.4	19.3	22.6	14.9	13.4	13.6	15.7	14.5	11.4	8.3	8.9	9.7	5.4	5.7	5.5	2.9	2.4	2.3	6.2	+3.9
Race/Ethnicity (2-year average) [b]																					
White	23.9	23.3	23.1	23.2	20.7	18.2	19.9	19.5	16.0	14.2	12.8	11.6	10.6	8.4	6.3	4.4	3.8	4.0	3.6	3.3	-0.3
African American	4.8	4.4	5.3	6.2	3.6	3.0	4.2	3.2	2.2	1.9	2.3	2.6	1.2	1.2	3.0	3.3	2.0	2.2	2.3	2.1	-0.2
Hispanic	12.3	9.5	9.6	10.1	12.3	11.8	10.6	12.3	9.4	5.6	5.7	6.9	5.2	4.4	4.4	2.7	2.7	4.5	4.0	3.3	-0.8

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. See Table D-S3 for the number of subgroup cases. See appendix B for definition of variables in table.
Data based on one of five forms in 1982–1988; *N* is one fifth of *N* indicated in Table D-S3. Beginning in 1989, data based on one of six forms; *N* is one sixth of *N* indicated in Table D-S3.

Caution: ***Limited sample sizes (see Notes above). Use caution in interpreting subgroup trends.***

[a]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables.

[b]To derive percentages for each racial/ethnic subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates. For the data beginning in 2005, see appendix B for details on how race/ethnicity is defined.

TABLE 10-2c
Look-Alikes
Trends in Annual Prevalence of Use by Subgroups in Grade 12

Percentage who used in last 12 months

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Approximate weighted N =	—	—	—	—	—	—	—	*17,700*	*16,300*	*15,900*	*16,000*	*15,200*	*16,300*	*16,300*	*16,700*	*15,200*	*15,000*	*15,800*	*16,300*	*15,400*
Total	—	—	—	—	—	—	—	10.8	9.4	9.7	8.2	6.9	6.3	5.7	5.6	5.6	5.2	5.4	6.2	6.0
Gender																				
Male	—	—	—	—	—	—	—	9.5	9.2	9.7	8.3	6.5	6.4	4.2	6.1	6.6	4.9	6.2	6.4	5.9
Female	—	—	—	—	—	—	—	10.7	8.7	8.5	7.8	6.7	6.0	6.3	5.0	4.6	4.7	4.5	5.5	5.7
College Plans																				
None or under 4 years	—	—	—	—	—	—	—	13.6	11.9	11.2	10.0	10.0	8.1	7.0	8.0	7.9	7.2	4.4	7.6	7.0
Complete 4 years	—	—	—	—	—	—	—	7.1	6.1	7.0	6.5	4.8	4.9	3.8	4.6	4.4	3.9	5.4	5.5	5.7
Region																				
Northeast	—	—	—	—	—	—	—	9.3	9.0	10.7	9.0	7.4	4.6	4.9	4.0	3.8	4.4	4.9	4.4	4.6
Midwest	—	—	—	—	—	—	—	14.5	12.3	10.9	9.0	7.6	7.6	7.3	8.5	7.3	8.2	7.1	8.4	8.7
South	—	—	—	—	—	—	—	9.8	7.7	9.0	7.3	5.6	6.1	5.5	4.7	6.0	4.5	4.7	6.2	5.1
West	—	—	—	—	—	—	—	7.4	7.9	7.6	7.7	7.7	6.9	4.7	4.6	4.4	3.1	4.4	4.6	5.0
Population Density																				
Large MSA	—	—	—	—	—	—	—	10.2	9.5	10.2	6.1	7.1	4.4	4.3	3.3	3.0	3.3	3.0	4.7	5.3
Other MSA	—	—	—	—	—	—	—	10.8	10.0	9.4	9.2	6.3	6.4	6.4	5.9	6.0	6.0	4.7	7.3	6.0
Non-MSA	—	—	—	—	—	—	—	11.2	8.4	9.6	8.6	7.8	8.2	5.9	7.2	7.3	5.4	8.7	5.5	6.7
Parental Education [a]																				
1.0–2.0 (Low)	—	—	—	—	—	—	—	9.8	7.2	9.9	9.0	6.1	5.7	6.3	4.6	3.1	6.6	4.3	4.9	8.2
2.5–3.0	—	—	—	—	—	—	—	11.4	9.8	9.9	8.3	6.9	6.9	5.2	5.7	6.3	5.1	5.3	7.5	6.5
3.5–4.0	—	—	—	—	—	—	—	10.3	9.5	9.6	8.8	8.0	6.3	5.7	5.9	5.9	5.1	6.6	6.5	4.4
4.5–5.0	—	—	—	—	—	—	—	10.4	8.3	6.1	5.9	5.9	6.7	4.5	5.4	5.9	4.7	4.0	5.6	7.1
5.5–6.0 (High)	—	—	—	—	—	—	—	6.9	6.7	8.1	7.9	4.3	4.6	4.3	5.3	4.7	2.5	5.4	3.0	4.0
Race/Ethnicity (2-year average) [b]																				
White	—	—	—	—	—	—	—	—	10.9	10.3	9.8	8.3	7.1	6.3	6.1	6.4	6.2	6.1	6.6	7.0
African American	—	—	—	—	—	—	—	—	2.0	2.4	2.4	2.2	2.7	2.7	2.6	2.1	1.5	1.7	1.6	1.4
Hispanic	—	—	—	—	—	—	—	—	6.1	7.0	5.8	3.8	3.0	3.2	3.5	3.4	2.2	1.6	5.3	5.8

(Years cont.)

(Table continued on next page.)

TABLE 10-2c (cont.)
Look-Alikes
Trends in Annual Prevalence of Use by Subgroups in Grade 12

Percentage who used in last 12 months

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Approximate weighted N =	*15,400*	*14,300*	*15,400*	*15,200*	*13,600*	*12,800*	*12,800*	*12,900*	*14,600*	*14,600*	*14,700*	*14,200*	*14,500*	*14,000*	*13,700*	*14,400*	*14,100*	*13,700*	*12,600*	*12,600*	
Total	6.8	6.5	6.4	5.7	5.0	5.8	7.1	6.6	5.4	5.0	4.2	3.7	2.8	3.1	2.6	1.7	2.2	2.1	1.7	1.4	-0.3
Gender																					
Male	7.0	5.7	7.2	6.0	4.6	7.0	7.3	6.8	5.2	4.3	3.9	3.3	2.5	2.5	2.3	1.7	2.1	2.1	1.6	0.9	-0.7
Female	5.4	6.0	5.5	5.0	4.4	4.3	6.6	5.9	5.1	5.2	3.8	3.8	2.6	3.2	2.8	1.4	2.0	1.9	1.7	1.5	-0.3
College Plans																					
None or under 4 years	7.5	7.0	10.1	6.2	5.2	8.4	9.9	8.7	6.7	6.2	7.0	5.7	5.1	7.1	2.0	2.9	3.8	4.0	2.3	2.3	0.0
Complete 4 years	6.2	5.5	4.9	4.8	4.4	4.9	5.7	5.7	4.6	4.2	2.9	2.8	2.2	2.1	2.4	1.4	1.7	1.7	1.6	1.2	-0.4
Region																					
Northeast	5.6	6.3	5.6	6.5	5.1	5.3	7.5	5.9	5.8	4.6	2.6	3.3	1.9	3.2	2.0	0.7	2.0	1.6	0.8	0.8	+0.1
Midwest	8.5	7.9	7.7	6.2	4.8	6.8	8.4	7.3	5.0	4.2	4.9	4.2	3.7	3.4	3.6	2.2	3.0	2.7	3.1	1.5	-1.6
South	5.8	5.6	6.7	5.0	6.7	6.2	6.7	6.3	5.0	6.6	5.4	4.1	2.4	2.0	2.0	2.0	1.7	2.7	1.3	1.5	+0.2
West	7.3	6.3	5.1	6.0	1.9	4.7	5.8	6.9	6.1	3.4	2.6	2.7	3.3	4.4	2.8	1.7	2.3	1.1	1.4	1.5	+0.1
Population Density																					
Large MSA	7.2	5.4	4.5	6.1	3.0	3.7	6.8	4.5	4.4	3.3	2.9	4.8	1.6	4.0	2.7	1.7	1.7	1.8	1.3	1.2	-0.1
Other MSA	6.0	5.4	4.8	6.2	5.7	6.2	6.2	7.3	5.5	5.7	4.5	2.7	3.1	2.7	2.9	2.0	2.5	1.7	1.7	1.7	0.0
Non-MSA	7.6	9.2	11.7	4.3	5.9	7.6	9.4	8.2	6.5	5.6	5.1	3.9	3.8	3.2	1.6	1.1	2.2	3.7	2.2	1.0	-1.2
Parental Education [a]																					
1.0–2.0 (Low)	6.5	3.2	7.0	3.3	4.7	5.7	5.2	8.5	8.0	4.5	2.9	5.8	4.7	2.0	2.6	0.6	2.1	3.8	2.3	1.7	-0.6
2.5–3.0	5.3	6.7	7.1	5.5	7.3	5.7	8.2	5.5	4.6	6.4	4.4	4.1	2.9	4.1	4.0	1.3	2.8	3.3	1.7	1.3	-0.4
3.5–4.0	9.5	5.4	7.4	5.0	3.4	5.2	6.8	7.6	4.4	4.8	5.1	3.4	3.1	3.6	1.6	2.1	1.9	1.4	2.3	1.4	-0.9
4.5–5.0	4.9	6.7	5.8	6.2	5.0	7.5	7.2	5.6	5.1	4.7	3.2	3.2	1.9	2.3	2.3	1.4	1.7	1.9	0.8	0.9	+0.1
5.5–6.0 (High)	4.3	6.3	2.8	6.1	3.1	5.5	4.5	2.2	5.4	2.4	2.8	1.0	1.0	1.3	2.3	1.9	2.3	0.0	2.1	2.6	+0.5
Race/Ethnicity (2-year average) [b]																					
White	7.2	7.1	7.6	7.4	6.0	5.9	7.0	7.2	6.5	5.6	4.9	4.4	3.7	3.4	2.9	2.2	2.1	2.4	2.3	1.6	-0.7
African American	1.9	1.4	0.9	0.9	1.0	1.2	1.9	1.8	0.7	0.8	1.1	1.2	1.2	1.3	1.6	1.3	0.8	1.3	1.1	1.3	+0.1
Hispanic	3.6	3.9	3.6	3.4	3.4	4.6	7.1	8.1	5.5	3.2	3.2	3.3	2.5	2.0	2.6	1.8	1.4	1.7	1.4	1.5	+0.1

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. '—' indicates data not available. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. See Table D-S3 for the number of subgroup cases. See appendix B for definition of variables in table.
Data based on one of five forms in 1982–1988; *N* is one fifth of *N* indicated in Table D-S3. Beginning in 1989, data based on one of six forms; *N* is one sixth of *N* indicated in Table D-S3.

Caution: ***Limited sample sizes (see Notes above). Use caution in interpreting subgroup trends.***

[a]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables.

[b]To derive percentages for each racial/ethnic subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates. For the data beginning in 2005, see appendix B for details on how race/ethnicity is defined.

TABLE 10-3
Percentage of 12th Graders in Each Category of an Illicit Drug Use Index Who Have Tried Various Over-the-Counter Stimulants
2014

(Entries are percentages.)

	Lifetime Illicit Drug Use Groupings		
Their lifetime use of . . .	No Use	Used Marijuana Only	Used Other Illicit Drugs
Diet pills	4.5 [a]	8.6	22.0
Stay-awake pills	1.5	2.4	14.2
Look-alikes	0.3	0.7	9.0
Approximate weighted N =	*925*	*466*	*402*

Source. The Monitoring the Future study, the University of Michigan.

[a]This means that, of those who have never used an illicit drug, 4.5% have used a diet pill at least once.

TABLE 10-4

Any Prescription Drug [a] without Medical Supervision

Trends in Annual Prevalence of Use by Subgroups in Grade 12

(Entries are percentages.)

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Approx. weighted N =	*14,700*	*14,200*	*14,500*	*14,000*	*13,700*	*13,700*	*13,700*	*13,600*	*12,600*	*12,400*	
Total	17.1	16.8	15.8	15.4	14.4	15.0	15.2	14.8	15.9	13.9	-2.0 ss
Gender											
Male	18.2	17.0	16.4	16.3	16.1	16.1	15.9	15.5	16.5	14.2	-2.3
Female	15.7	16.3	14.8	14.4	13.5	13.7	14.0	13.7	14.6	13.0	-1.6
College Plans											
None or under 4 years	22.2	22.3	21.7	20.9	18.6	20.0	22.3	16.7	21.1	16.4	-4.7 s
Complete 4 years	15.8	15.2	14.3	14.1	13.9	13.8	13.7	14.0	14.7	13.0	-1.7 s
Region											
Northeast	15.5	17.4	15.8	15.2	14.7	15.1	13.3	12.4	14.6	11.7	-2.9
Midwest	18.9	16.1	16.5	15.0	17.3	15.0	15.9	15.6	17.0	14.3	-2.7
South	17.9	17.4	16.3	16.1	14.3	15.6	14.3	13.5	16.1	15.1	-1.0
West	15.2	16.2	14.1	15.0	12.8	14.0	17.2	17.0	15.5	13.3	-2.2
Population Density											
Large MSA	15.5	16.9	15.0	13.3	13.6	14.9	14.1	15.8	15.9	12.3	-3.6 s
Other MSA	18.0	16.5	15.7	15.7	15.3	15.5	15.9	14.7	16.8	15.9	-0.9
Non-MSA	17.4	17.5	17.1	17.3	15.4	14.1	15.0	13.2	13.5	11.2	-2.3
Parental Education [b]											
1.0–2.0 (Low)	11.8	15.7	13.7	13.2	11.5	11.9	13.2	13.3	13.6	12.1	-1.5
2.5–3.0	18.1	17.2	16.4	15.3	15.6	15.6	15.1	16.1	16.9	14.7	-2.2
3.5–4.0	18.9	18.2	16.2	16.3	15.5	16.3	16.1	15.5	16.3	13.7	-2.6 s
4.5–5.0	17.4	16.6	15.9	15.2	15.7	14.6	14.6	14.6	16.6	13.9	-2.7 s
5.5–6.0 (High)	15.0	15.5	14.8	15.1	13.5	14.1	15.5	13.0	15.2	14.8	-0.4
Race/Ethnicity (2-year average) [c]											
White	—	19.8	19.3	18.9	18.2	17.8	17.8	17.5	17.2	15.5	-1.7
African American	—	6.1	5.8	5.7	5.7	7.3	7.5	6.5	10.1	10.2	+0.1
Hispanic	—	12.8	11.9	10.3	10.1	9.9	10.3	10.9	11.9	12.4	+0.5

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001.
' — ' indicates data not available. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. See Table D-S3 for the number of subgroup cases.
See appendix B for definition of variables in table.

[a]The use of any prescription drug includes use of any of the following: amphetamines, sedatives (barbiturates), narcotics other than heroin, or tranquilizers …without a doctor telling you to use them. In 2013 the question wording for amphetamines was changed in three of the 12th grade questionnaires. 2013 data are based on the three changed forms only. N is three sixths of N indicated. Data for any prescription drug use are affected by these changes and have been handled in a parallel manner.

[b]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables.

[c]To derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates. See appendix B for details on how race/ethnicity is defined.

TABLE 10-5
Source of Prescription Drugs [a]
among Those Who Used in Last Year
Grade 12, 2007–2014

(Entries are percentages.)

Where did you get the [insert drug name here] you used without a doctor's orders during the past year? (Mark all that apply.)	Amphetamines		Tranquilizers		Narcotics other than Heroin	
	2007–2008	2009–2014	2007–2008	2009–2014	2007–2008	2009–2014
Bought on Internet	4.6	5.5	2.4	4.5	2.3	1.4
Took from friend/relative without asking	19.6	9.6	21.1	18.6	24.2	19.6
Took from a friend	—	4.1	—	4.7	—	4.0
Took from a relative	—	7.7	—	16.5	—	18.0
Given for free by friend or relative	58.2	59.6	59.8	64.4	50.5	56.9
Given for free by a friend	—	55.9	—	53.7	—	49.9
Given for free by a relative	—	9.0	—	20.1	—	15.0
Bought from friend or relative	45.0	42.8	44.1	37.4	37.1	32.3
Bought from a friend	—	42.3	—	36.5	—	31.7
Bought from a relative	—	2.1	—	4.6	—	3.6
From a prescription I had	15.1	14.3	18.4	13.8	40.2	35.1
Bought from drug dealer/stranger	26.7	19.6	24.2	22.6	18.6	17.1
Other method	17.8	12.5	7.5	9.0	8.5	10.1
Weighted N =	*261*	*730*	*226*	*518*	*361*	*792*

Source. The Monitoring the Future study, the University of Michigan.

Note. ' — ' indicates data not available.

[a]In 2009, the response categories were expanded to differentiate between friends and relatives.

TABLE 10-6
Trends in Use of ADHD Drugs in Grade 8

(Entries are percentages.)

The next questions are about drugs that doctors sometimes prescribe for people who have problems concentrating on one task at a time (attention deficit disorder), or with being too active or too disruptive (hyperactive), or both (ADHD). Stimulant-type drugs (i.e., amphetamine, methylphenidate, and pemoline) are prescribed for these conditions. These drugs include Ritalin, Adderall, Concerta, Metadate, Dexedrine, Focalin, Cylert, and others.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined
Have you ever taken any of these stimulant-type prescription drugs under a doctor's supervision for these conditions? (Do not count drugs that are not stimulant-type, like Strattera, Wellbutrin, Provigil, Tenex, or Tofranil)											
No	91.7	90.7	91.7	91.9	92.2	91.8	92.4	92.3	92.9	92.8	92.0
Yes, in the past, but not now	4.5	5.9	5.2	4.7	4.2	4.8	4.3	4.2	3.7	4.0	4.6
Yes, I take them now	3.9	3.5	3.1	3.5	3.7	3.4	3.3	3.5	3.4	3.2	3.4
Weighted N	*5,015*	*5,058*	*4,882*	*4,635*	*4,491*	*4,703*	*4,909*	*4,465*	*4,275*	*4,153*	*46,586*
How old were you when you first took one of these stimulant-type drugs under a doctor's supervision? [as a percent of current users]											
1–4 years old	13.3	13.4	9.6	15.3	13.8	14.8	16.2	15.4	14.4	18.1	14.3
5–9	30.6	32.2	40.8	33.7	39.2	34.2	34.5	32.2	34.2	35.5	34.6
10–14	55.2	52.8	48.5	48.3	44.6	48.8	48.0	50.5	49.6	44.7	49.4
15+ years old	1.0	1.6	1.1	2.7	2.5	2.2	1.3	2.0	1.9	1.7	1.8
Weighted N	*420*	*476*	*407*	*385*	*352*	*379*	*381*	*349*	*309*	*308*	*3,766*
Altogether, for about how many years have you actually taken such drugs under a doctor's supervision? [as a percent of current users]											
Less than 1 year	30.9	34.7	34.5	33.7	31.7	33.6	34.3	30.6	31.1	34.8	33.1
1 year	10.9	11.8	8.3	11.0	6.1	10.4	9.7	10.9	10.1	11.1	10.1
2 years	14.8	14.7	12.1	14.6	12.7	12.9	10.6	14.1	15.2	14.3	13.6
3–5 years	21.6	18.4	25.1	22.3	22.8	18.6	20.1	20.5	22.0	18.5	21.0
6–9 years	12.6	11.7	12.4	11.0	16.0	14.5	13.8	13.5	12.6	12.3	13.0
10 or more years	9.3	8.8	7.7	7.4	10.6	10.0	11.4	10.4	9.0	9.1	9.3
Weighted N	*412*	*473*	*410*	*388*	*344*	*381*	*381*	*350*	*307*	*302*	*3,748*
Have you ever taken a non-stimulant-type prescription drug under a doctor's supervision for these conditions (like Strattera, Wellbutrin, Provigil, Tenex, or Tofranil)?											
No	83.5	81.3	82.0	81.8	82.0	83.7	83.3	83.8	84.1	84.8	83.0
Yes, in the past, but not now	4.6	5.3	4.3	4.1	4.0	3.9	4.2	3.4	3.3	3.2	4.1
Yes, I take them now	2.0	1.7	1.2	1.4	1.0	1.2	1.3	1.1	1.2	1.1	1.3
Don't know	10.0	11.7	12.5	12.7	13.0	11.2	11.3	11.7	11.4	10.9	11.6
Weighted N	*4,968*	*5,048*	*4,855*	*4,594*	*4,475*	*4,704*	*4,886*	*4,483*	*4,274*	*4,168*	*46,455*
Lifetime Prevalence Stimulant-Type Drugs	8.3	9.3	8.3	8.1	7.8	8.2	7.6	7.7	7.1	7.2	8.0
Lifetime Prevalence Non-Stimulant-Type Drugs	7.3	7.9	6.3	6.3	5.8	5.8	6.1	5.1	5.1	4.8	6.1
Lifetime Prevalence Either Stimulant-Type or Non-Stimulant-Type Drugs	13.7	15.8	13.4	13.1	12.8	12.8	12.4	11.6	11.5	11.2	12.9
Current Prevalence Stimulant-Type Drugs	3.9	3.5	3.1	3.5	3.7	3.4	3.3	3.5	3.4	3.2	3.4
Current Prevalence Non-Stimulant-Type Drugs	2.2	1.9	1.4	1.6	1.2	1.4	1.5	1.2	1.4	1.2	1.5
Current Prevalence Either Stimulant-Type or Non-Stimulant-Type Drugs	6.1	5.2	4.5	5.1	4.9	4.7	4.9	4.7	5.0	4.6	5.0

Source. The Monitoring the Future study, the University of Michigan.

Note. For the non-stimulant-type drugs, the don't know response category has been treated as missing data.

TABLE 10-7
Trends in Use of ADHD Drugs in Grade 10

(Entries are percentages.)

The next questions are about drugs that doctors sometimes prescribe for people who have problems concentrating on one task at a time (attention deficit disorder), or with being too active or too disruptive (hyperactive), or both (ADHD). Stimulant-type drugs (i.e. amphetamine, methylphenidate, and pemoline) are prescribed for these conditions. These drugs include Ritalin, Adderall, Concerta, Metadate, Dexedrine, Focalin, Cylert, and others.

	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined
Have you ever taken any of these stimulant-type prescription drugs under a doctor's supervision for these conditions? (Do not count drugs that are not stimulant-type, like Strattera, Wellbutrin, Provigil, Tenex, or Tofranil)											
No	91.3	91.5	91.6	92.2	91.8	91.4	92.8	92.0	91.7	93.2	91.9
Yes, in the past, but not now	5.3	5.7	5.6	4.9	4.9	5.5	4.4	4.2	4.6	3.4	4.9
Yes, I take them now	3.4	2.8	2.8	2.9	3.3	3.1	2.8	3.8	3.7	3.4	3.2
Weighted N	*5,092*	*5,210*	*5,124*	*4,830*	*5089*	*4861*	*4754*	*4,709*	*4,105*	*4,113*	*47,887*
How old were you when you first took one of these stimulant-type drugs under a doctor's supervision? [as a percent of current users]											
1–4 years old	8.0	6.4	11.7	8.1	7.8	9.4	8.5	6.2	10.9	8.6	8.5
5–9	32.2	30.8	27.8	29.6	21.9	27.6	29.0	31.1	26.1	26.3	28.4
10–14	39.5	41.4	42.5	34.7	46.6	40.6	39.6	41.8	45.1	39.3	41.2
15+ years old	20.4	21.4	18.0	27.6	23.7	22.4	22.9	20.9	17.9	25.8	22.0
Weighted N	*446*	*444*	*424*	*378*	*412*	*416*	*344*	*380*	*346*	*285*	*3,875*
Altogether, for about how many years have you actually taken such drugs under a doctor's supervision? [as a percent of current users]											
Less than 1 year	32.9	34.7	34.4	34.0	34.2	32.6	32.9	26.3	34.5	31.6	32.9
1 year	10.2	10.6	9.4	9.3	11.2	8.7	7.7	9.4	11.8	6.8	9.6
2 years	11.7	14.4	13.3	12.7	13.7	13.5	14.8	14.4	10.9	15.9	13.5
3–5 years	20.2	16.8	19.6	20.9	20.6	21.0	21.4	22.9	20.2	22.2	20.5
6–9 years	16.6	13.5	15.9	10.6	8.5	15.5	14.8	14.3	13.4	9.7	13.4
10 or more years	8.4	10.0	7.4	12.4	11.8	8.6	8.5	12.6	9.2	13.8	10.1
Weighted N	*443*	*442*	*419*	*374*	*415*	*417*	*340*	*377*	*348*	*281*	*3,856*
Have you ever taken a non-stimulant-type prescription drug under a doctor's supervision for these conditions (like Strattera, Wellbutrin, Provigil, Tenex, or Tofranil)?											
No	84.8	85.0	86.0	85.8	85.2	87.1	86.3	87.4	88.0	86.0	86.1
Yes, in the past, but not now	5.6	5.5	4.8	4.7	4.5	4.2	4.7	3.6	3.4	4.0	4.5
Yes, I take them now	2.1	2.2	1.4	1.6	1.8	1.5	1.2	1.2	1.2	1.3	1.6
Don't know	7.5	7.3	7.8	8.0	8.5	7.2	7.8	7.9	7.5	8.8	7.8
Weighted N	*5,092*	*5,189*	*5,091*	*4,805*	*5059*	*4847*	*4726*	*4,709*	*4,102*	*4,109*	*47,729*
Lifetime Prevalence Stimulant-Type Drugs	8.7	8.5	8.4	7.8	8.2	8.6	7.2	8.0	8.3	6.8	8.1
Lifetime Prevalence Non-Stimulant-Type Drugs	8.3	8.3	6.7	6.8	6.8	6.1	6.4	5.2	4.9	5.8	6.6
Lifetime Prevalence Either Stimulant-Type or Non-Stimulant-Type Drugs	14.3	14.2	12.9	12.8	13.0	12.7	12.0	12.0	11.7	11.3	12.7
Current Prevalence Stimulant-Type Drugs	3.4	2.8	2.8	2.9	3.3	3.1	2.8	3.8	3.7	3.4	3.2
Current Prevalence Non-Stimulant-Type Drugs	2.3	2.3	1.6	1.7	1.9	1.6	1.3	1.3	1.3	1.4	1.7
Current Prevalence Either Stimulant-Type or Non-Stimulant-Type Drugs	5.6	4.8	4.2	4.5	5.0	4.6	4.2	5.1	5.0	4.8	4.8

Sour The Monitoring the Future study, the University of Michigan.

Note. For the non-stimulant-type drugs, the don't know response category has been treated as missing data.

TABLE 10-8
Trends in Use of ADHD Drugs in Grade 12
(Entries are percentages.)

The next questions are about drugs that doctors sometimes prescribe for people who have problems concentrating on one task at a time (attention deficit disorder), or with being too active or too disruptive (hyperactive), or both (ADHD). Stimulant-type drugs (i.e. amphetamine, methylphenidate, and pemoline) are prescribed for these conditions. These drugs include Ritalin, Adderall, Concerta, Metadate, Dexedrine, Focalin, Cylert, and others.

	2005 [a]	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined [b]
Have you ever taken any of these stimulant-type prescription drugs under a doctor's supervision for these conditions? (Do not count drugs that are not stimulant-type, like Strattera, Wellbutrin, Provigil, Tenex, or Tofranil)											
No	91.5	92.2	92.4	91.4	91.8	91.7	91.6	91.0	90.4	91.0	91.5
Yes, in the past, but not now	5.7	5.5	5.0	5.7	5.3	5.3	5.0	5.2	5.2	5.3	5.3
Yes, I take them now	2.9	2.3	2.6	2.9	2.9	3.0	3.3	3.8	4.4	3.8	3.2
Weighted N	*2,263*	*4,477*	*4,507*	*4,328*	*4244*	*4341*	*4,397*	*4,371*	*3,920*	*3,822*	*40,670*
How old were you when you first took one of these stimulant-type drugs under a doctor's supervision? [as a percent of current users]											
1–4 years old	9.1	6.0	4.9	5.3	8.2	6.1	6.3	7.3	7.3	9.4	7.0
5–9	32.0	23.6	34.2	26.6	29.7	27.4	30.1	26.6	24.5	29.9	28.4
10–14	30.2	32.4	30.1	37.0	30.7	31.4	35.1	30.0	31.7	28.6	31.7
15+ years old	28.7	38.0	30.7	31.1	31.4	35.1	28.6	36.1	36.6	32.1	32.9
Weighted N	*191*	*348*	*338*	*372*	*348*	*359*	*362*	*396*	*370*	*347*	*3,431*
Altogether, for about how many years have you actually taken such drugs under a doctor's supervision? [as a percent of current users]											
Less than 1 year	31.1	27.7	25.8	23.5	24.1	23.3	24.1	25.4	25.2	23.8	25.4
1 year	11.5	11.6	8.9	8.1	11.5	8.4	9.5	10.9	8.9	11.8	10.1
2 years	13.3	14.6	16.8	16.9	13.9	19.7	13.9	15.7	9.5	12.0	14.6
3–5 years	18.7	24.3	21.6	26.1	22.7	25.9	27.0	17.4	26.9	22.4	23.2
6–9 years	13.6	12.1	15.0	14.2	11.9	12.8	11.3	16.5	16.0	13.9	13.8
10 or more years	11.8	9.7	12.0	11.3	16.0	9.9	14.2	14.2	13.4	16.1	12.9
Weighted N	*190*	*347*	*339*	*373*	*349*	*366*	*367*	*398*	*375*	*348*	*3,452*
Have you ever taken a non-stimulant-type prescription drug under a doctor's supervision for these conditions (like Strattera, Wellbutrin, Provigil, Tenex, or Tofranil)?											
No	89.4	89.7	88.4	89.0	89.9	88.0	88.3	88.1	89.7	88.1	88.9
Yes, in the past, but not now	4.4	4.3	5.0	4.2	3.7	4.2	3.7	3.8	3.4	3.2	4.0
Yes, I take them now	1.5	1.5	1.6	1.8	1.4	2.2	1.8	1.7	1.7	2.1	1.7
Don't know	4.7	4.5	5.0	4.9	5.0	5.6	6.3	6.4	5.2	6.6	5.4
Weighted N	*2,215*	*4,408*	*4,464*	*4,273*	*4194*	*4283*	*4,354*	*4,342*	*3,921*	*3,795*	*40,249*
Lifetime Prevalence Stimulant-Type Drugs	8.5	7.8	7.6	8.6	8.2	8.3	8.4	9.0	9.6	9.0	8.5
Lifetime Prevalence Non-Stimulant-Type Drugs	6.2	6.1	7.0	6.4	5.4	6.7	5.8	5.9	5.4	5.6	6.1
Lifetime Prevalence Either Stimulant-Type or Non-Stimulant-Type Drugs	12.4	11.7	12.1	13.1	11.0	12.7	12.2	12.7	13.2	12.6	11.8
Current Prevalence Stimulant-Type Drugs	2.9	2.3	2.6	2.9	2.9	3.0	3.3	3.8	4.4	3.8	3.2
Current Prevalence Non-Stimulant-Type Drugs	1.6	1.6	1.7	1.9	1.5	2.3	1.9	1.8	1.8	2.2	1.8
Current Prevalence Either Stimulant-Type or Non-Stimulant-Type Drugs	4.5	3.7	4.1	4.4	4.3	5.2	5.1	5.5	6.0	5.5	4.5

Source. The Monitoring the Future study, the University of Michigan.

Note. For the non-stimulant-type drugs, the don't know response category has been treated as missing data.

[a]Data from Form 4 omitted in 2005 due to an error in the skip pattern in the questionnaire.

[b]Due to an error in the questionnaire, Form 4 data for 2005 were double-weighted to produce this estimate.

TABLE 10-9
Trends in Lifetime Use of Prescribed ADHD Drugs by Subgroups in Grade 8

	Stimulant-Type Drugs											Non-Stimulant-Type Drugs											Either Stimulant- or Non-Stimulant-Type Drugs										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined
No. of Lifetime Users=	*415*	*474*	*407*	*373*	*351*	*385*	*373*	*342*	*303*	*300*	*3,723*	*329*	*356*	*265*	*252*	*226*	*244*	*266*	*201*	*194*	*179*	*2,510*	*617*	*711*	*563*	*524*	*499*	*525*	*541*	*460*	*435*	*414*	*5,288*
Approx. weighted N=	*5,000*	*5,100*	*4,900*	*4,600*	*4,500*	*4,700*	*4,900*	*4,500*	*4,300*	*4,200*	*46,700*	*4,500*	*4,500*	*4,200*	*4,000*	*3,900*	*4,200*	*4,300*	*4,000*	*3,800*	*3,700*	*41,100*	*4,500*	*4,500*	*4,200*	*4,000*	*3,900*	*4,100*	*4,300*	*4,000*	*3,800*	*3,700*	*41,000*
Total	8.3	9.3	8.3	8.1	7.8	8.2	7.6	7.7	7.1	7.2	8.0	7.3	7.9	6.3	6.3	5.8	5.8	6.1	5.1	5.1	4.8	6.1	13.7	15.8	13.4	13.1	12.8	12.8	12.4	11.6	11.5	11.2	12.9
Gender																																	
Male	9.3	11.2	9.4	9.9	9.2	9.3	8.6	9.1	8.8	7.9	9.3	7.6	8.7	6.7	6.8	6.5	6.6	6.7	5.2	5.7	6.1	6.7	14.9	18.0	14.8	14.7	14.5	14.5	13.7	13.3	13.6	12.7	14.5
Female	7.2	7.4	7.3	6.5	6.8	7.1	6.4	6.4	5.4	6.7	6.7	7.0	6.8	5.9	5.7	5.1	4.9	5.4	4.9	4.4	3.6	5.4	12.4	13.2	12.1	11.5	11.4	11.3	10.9	10.0	9.4	9.9	11.3
College Plans																																	
None or under 4 years	14.4	16.6	10.8	10.8	7.7	11.1	11.3	10.3	12.4	12.2	12.1	11.1	12.9	8.1	7.3	8.9	8.8	11.7	8.8	11.5	7.7	9.9	20.6	24.2	17.9	17.1	15.8	17.2	18.8	16.7	21.5	17.2	19.0
Complete 4 years	7.6	8.6	8.0	7.8	7.9	7.9	7.2	7.5	6.7	6.9	7.6	6.9	7.4	6.0	6.2	5.5	5.4	5.7	4.9	4.6	4.6	5.8	12.9	14.9	12.9	12.7	12.6	12.4	11.9	11.3	10.8	10.8	12.4
Region																																	
Northeast	7.8	7.9	7.2	9.0	8.5	6.3	6.0	5.6	7.1	7.2	7.2	7.4	6.0	4.3	5.1	6.1	4.6	5.0	4.2	4.7	5.6	5.4	12.9	12.0	10.6	13.7	14.3	9.9	11.0	9.7	11.0	11.5	11.7
Midwest	8.5	8.6	8.8	6.7	7.0	8.9	8.2	7.6	6.7	7.1	7.8	6.9	8.8	7.6	6.7	5.3	6.2	5.5	5.5	3.8	4.7	6.1	14.2	15.3	14.7	12.5	11.6	13.8	12.0	11.4	10.0	11.0	12.7
South	9.3	10.2	9.3	9.9	9.5	8.9	7.5	9.4	8.8	7.7	9.1	7.9	7.5	6.6	7.2	5.8	6.4	7.0	5.7	5.6	5.1	6.5	15.1	16.5	14.7	15.0	14.2	14.1	13.2	13.9	13.6	11.8	14.3
West	6.7	9.7	6.8	6.6	5.6	7.4	8.4	6.0	4.6	6.7	6.9	6.5	9.3	5.3	5.3	6.0	5.0	6.2	4.1	6.0	4.0	5.8	11.3	17.8	11.3	10.8	11.0	11.6	12.7	8.9	10.0	10.1	11.6
Population Density																																	
Large MSA	7.2	7.6	7.1	7.2	6.5	7.2	7.5	6.4	6.1	6.4	7.0	5.3	7.8	4.5	6.0	4.0	5.3	5.6	4.4	4.3	4.3	5.2	11.4	14.1	11.1	12.3	10.1	11.3	11.9	10.6	10.1	9.8	11.4
Other MSA	10.0	10.3	9.0	9.32	8.2	8.9	7.7	8.1	7.1	8.2	8.7	8.0	7.8	7.7	6.7	6.8	6.6	6.7	4.7	5.3	5.4	6.6	15.7	16.2	14.7	14.3	14.2	14.3	13.2	11.7	11.4	12.5	13.9
Non-MSA	6.9	10.0	8.5	7.0	8.6	7.9	7.6	8.7	8.4	6.4	8.0	8.6	8.4	5.9	5.9	5.8	4.4	5.7	6.9	5.9	4.3	6.3	13.1	17.6	13.9	11.6	13.2	11.4	11.7	13.1	13.7	10.3	13.1
Parental Education [a]																																	
1.0–2.0 (Low)	12.1	12.0	9.0	11.2	11.0	7.2	8.6	7.7	4.2	4.9	8.9	8.7	8.1	4.5	7.0	7.7	7.1	9.1	8.0	5.4	3.4	6.9	18.8	17.8	12.6	17.5	17.0	13.9	15.3	12.5	8.6	7.8	14.2
2.5–3.0	7.9	10.6	9.1	7.8	7.5	8.9	8.0	8.8	6.0	7.2	8.3	9.6	6.7	7.4	5.5	6.0	5.8	6.2	4.4	4.4	4.1	6.2	14.3	16.3	15.6	11.9	12.9	13.9	13.0	12.4	9.4	10.6	13.2
3.5–4.0	9.7	7.9	8.7	6.8	8.0	7.3	8.4	7.4	8.3	7.4	8.0	8.1	10.1	6.5	6.4	5.5	5.4	7.1	5.9	6.4	5.9	6.8	15.7	16.2	14.2	12.6	12.6	11.7	14.0	12.1	13.4	11.5	13.5
4.5–5.0	6.9	9.0	7.5	8.6	7.5	8.3	7.1	7.8	7.8	7.6	7.8	5.5	8.0	5.6	6.9	5.0	5.2	5.3	5.0	4.1	4.8	5.6	11.3	15.5	11.7	13.3	12.0	12.5	11.3	12.0	11.5	11.9	12.3
5.5–6.0 (High)	8.2	8.5	8.8	9.7	8.1	9.2	6.9	6.2	6.7	6.6	7.9	6.6	5.4	6.6	6.3	7.1	5.9	5.4	4.6	5.5	5.1	5.8	13.0	13.4	13.5	14.8	13.7	13.7	11.5	9.6	11.8	11.1	12.6
Race/Ethnicity																																	
White	9.0	9.6	9.5	8.8	9.3	8.8	7.9	8.4	8.2	8.4	8.8	7.8	7.7	7.5	7.1	6.3	5.4	5.9	5.0	4.9	5.4	6.4	14.5	15.9	15.5	14.4	14.4	13.3	13.0	12.3	12.3	13.2	14.0
African American	6.8	5.9	5.7	7.6	6.8	7.3	5.5	6.8	6.3	5.7	6.4	5.6	6.4	3.5	5.1	4.5	5.4	5.8	3.7	4.3	4.0	4.9	11.5	10.5	8.3	11.2	11.4	11.5	9.2	9.7	10.6	8.9	10.3
Hispanic	6.2	8.4	6.5	6.8	5.3	6.2	8.1	4.6	3.6	6.2	6.2	5.7	7.1	3.4	4.0	5.4	6.5	6.7	5.2	5.0	4.3	5.3	10.1	14.0	9.5	10.0	10.8	11.4	13.0	8.3	8.0	9.1	10.4

Source. The Monitoring the Future study, the University of Michigan.

Note. For the non-stimulant-type drugs, the don't know response category has been treated as missing data.

[a]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables.

TABLE 10-10
Trends in Current Use [a] of Prescribed ADHD Drugs by Subgroups in Grade 8

	Stimulant-Type Drugs											Non-Stimulant-Type Drugs											Either Stimulant- or Non-Stimulant-Type Drugs										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined
No. of Current Users=	*195*	*179*	*152*	*161*	*167*	*160*	*164*	*155*	*146*	*133*	*1,611*	*99*	*86*	*59*	*64*	*47*	*59*	*63*	*48*	*53*	*45*	*622*	*275*	*234*	*189*	*204*	*191*	*193*	*213*	*186*	*187*	*169*	*2,040*
Approx. weighted N=	*5,000*	*5,100*	*4,900*	*4,600*	*4,500*	*4,700*	*4,900*	*4,500*	*4,300*	*4,200*	*46,700*	*4,500*	*4,500*	*4,200*	*4,000*	*3,900*	*4,200*	*4,300*	*4,000*	*3,800*	*3,700*	*41,100*	*4,500*	*4,500*	*4,200*	*4,000*	*3,900*	*4,100*	*4,300*	*4,000*	*3,800*	*3,700*	*41,000*
Total	3.9	3.5	3.1	3.5	3.7	3.4	3.3	3.5	3.4	3.2	3.4	2.2	1.9	1.4	1.6	1.2	1.4	1.5	1.2	1.4	1.2	1.5	6.1	5.2	4.5	5.1	4.9	4.7	4.9	4.7	5.0	4.6	5.0
Gender																																	
Male	4.7	4.8	4.0	4.5	4.6	3.7	4.3	4.6	4.0	4.0	4.3	2.4	2.3	1.6	1.7	1.2	1.5	1.9	1.1	1.6	2.0	1.7	7.1	6.9	5.6	6.3	5.9	5.0	6.3	5.8	5.7	6.1	6.1
Female	3.0	2.1	2.2	2.4	3.0	3.1	2.4	2.5	2.8	2.6	2.6	1.9	1.5	1.3	1.5	1.1	1.3	0.9	1.1	1.0	0.6	1.2	5.0	3.3	3.3	3.9	4.1	4.4	3.5	3.6	4.0	3.4	3.9
College Plans																																	
None or under 4 years	4.9	6.0	3.9	3.6	3.0	5.0	2.3	4.1	5.5	2.6	4.2	2.5	3.8	1.3	3.1	1.6	2.1	3.9	1.6	4.2	1.1	2.6	7.1	8.6	5.3	6.9	4.6	6.5	6.3	5.5	9.0	3.7	6.5
Complete 4 years	3.7	3.2	3.0	3.4	3.7	3.3	3.4	3.4	3.3	3.3	3.4	2.1	1.7	1.4	1.5	1.1	1.3	1.2	1.2	1.2	1.3	1.4	5.9	4.8	4.4	4.9	4.9	4.5	4.8	4.7	4.7	4.8	4.9
Region																																	
Northeast	4.2	3.0	3.1	3.1	5.0	2.1	2.6	2.9	3.8	2.9	3.3	2.4	2.5	1.1	1.8	1.0	1.1	1.1	1.5	1.3	0.6	1.5	6.2	5.0	4.1	4.8	6.1	3.5	4.1	4.4	5.0	3.7	4.7
Midwest	4.4	3.1	3.3	2.7	2.7	3.8	4.0	4.1	3.6	3.8	3.6	2.0	2.7	1.9	1.7	0.7	1.8	1.7	1.3	0.7	1.5	1.6	6.9	5.2	5.5	4.8	3.6	5.3	5.8	5.3	4.7	5.3	5.2
South	3.7	4.1	3.3	4.8	4.3	3.9	3.1	4.4	3.9	3.5	3.9	2.2	1.6	1.5	1.8	1.3	1.4	1.4	1.2	1.8	1.3	1.6	5.9	5.7	4.6	6.5	5.7	5.3	4.7	5.6	5.9	5.1	5.5
West	3.3	3.0	2.5	2.4	2.7	3.0	3.7	1.7	2.1	2.3	2.7	2.0	1.3	0.8	1.2	1.5	1.0	1.4	1.0	1.7	1.2	1.3	5.6	4.4	3.5	3.6	4.2	3.8	5.0	2.8	3.8	3.7	4.1
Population Density																																	
Large MSA	3.7	2.5	2.7	3.8	4.0	3.0	3.2	3.0	3.4	2.5	3.2	1.4	1.7	0.9	1.9	1.0	1.2	1.3	1.3	1.4	1.1	1.3	5.5	4.1	3.9	5.4	4.9	4.1	4.9	4.7	5.0	3.9	4.6
Other MSA	4.5	4.1	3.0	3.3	3.8	3.8	3.4	4.0	3.4	3.9	3.7	2.3	2.1	1.9	1.5	1.4	1.6	1.7	1.2	1.5	1.4	1.7	6.7	5.8	4.7	5.1	5.3	5.4	5.2	5.2	5.0	5.4	5.4
Non-MSA	3.0	3.6	3.9	3.3	3.0	3.0	3.4	3.0	3.7	2.7	3.3	2.9	1.9	1.1	1.6	0.9	1.1	1.2	0.9	1.2	1.0	1.4	5.7	5.6	5.0	4.6	4.1	3.9	4.4	3.8	5.0	3.9	4.6
Parental Education [b]																																	
1.0–2.0 (Low)	4.3	3.9	2.8	3.1	3.5	2.2	2.0	2.5	1.9	2.0	2.8	2.8	1.2	1.2	1.3	2.1	1.1	1.7	0.4	0.7	0.9	1.3	7.0	4.5	3.7	4.9	4.7	3.3	3.7	2.9	2.9	2.9	4.0
2.5–3.0	3.2	3.7	3.1	2.2	3.2	2.8	3.0	3.6	2.6	2.8	3.0	2.4	1.4	1.1	0.9	0.5	0.7	1.4	0.8	1.0	0.5	1.1	5.3	5.0	4.5	3.0	3.9	3.6	4.5	4.3	3.8	3.4	4.2
3.5–4.0	3.7	2.7	2.5	2.5	3.3	3.3	2.9	3.1	3.3	3.6	3.1	2.3	2.8	0.9	1.9	0.4	1.2	1.7	1.0	1.9	2.4	1.7	6.1	5.3	3.4	4.4	4.1	4.3	4.7	4.2	5.1	5.8	4.8
4.5–5.0	3.9	2.9	3.2	4.2	3.6	3.3	3.9	3.6	4.0	3.8	3.6	1.8	1.8	1.8	1.6	1.9	1.6	1.3	2.0	1.3	1.2	1.6	5.9	4.5	4.7	5.8	5.6	4.7	5.2	5.8	5.3	5.5	5.3
5.5–6.0 (High)	4.7	4.0	3.9	5.8	5.3	4.1	3.5	3.5	3.8	3.1	4.1	2.3	1.5	2.2	2.3	1.2	1.6	1.4	1.4	2.0	0.9	1.7	7.1	5.3	6.2	8.4	6.2	6.1	5.3	4.5	6.1	4.3	5.9
Race/Ethnicity																																	
White	4.7	3.7	3.7	4.3	4.9	4.2	4.1	4.6	4.1	4.4	4.2	2.5	2.0	1.9	1.8	1.3	1.5	1.6	1.3	1.1	1.4	1.7	7.4	5.4	5.5	6.4	6.2	5.7	6.0	6.0	5.5	6.0	6.0
African American	1.5	2.7	1.7	3.3	2.1	1.5	2.2	2.5	2.8	2.7	2.3	1.3	1.3	0.6	1.3	0.9	2.2	0.9	1.1	1.6	1.1	1.2	2.7	3.9	2.4	4.4	3.1	3.2	2.9	3.4	4.7	3.9	3.5
Hispanic	2.4	2.7	1.2	1.5	1.5	1.9	2.1	1.2	1.3	1.4	1.7	1.0	1.0	0.6	0.9	0.4	0.5	1.5	0.6	1.2	1.2	0.9	3.2	3.5	1.9	2.4	2.2	2.5	3.6	1.8	2.5	2.8	2.6

Source. The Monitoring the Future study, the University of Michigan.

Note. For the non-stimulant-type drugs, the don't know response category has been treated as missing data.

[a] Current use are those reporting "Yes, I take them now."

[b] Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables.

TABLE 10-11
Trends in Lifetime Use of Prescribed ADHD Drugs by Subgroups in Grade 10

	Stimulant-Type Drugs											Non-Stimulant-Type Drugs											Either Stimulant- or Non-Stimulant-Type Drugs										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined
No. of Lifetime Users=	*470*	*442*	*428*	*374*	*418*	*421*	*343*	*377*	*343*	*278*	*3,895*	*390*	*398*	*315*	*299*	*313*	*275*	*278*	*224*	*187*	*217*	*2,896*	*672*	*682*	*606*	*563*	*598*	*572*	*527*	*522*	*444*	*421*	*5,607*
Approx. weighted N=	*5,400*	*5,200*	*5,100*	*4,800*	*5,100*	*4,900*	*4,800*	*4,700*	*4,100*	*4,100*	*48,200*	*4,700*	*4,800*	*4,700*	*4,400*	*4,600*	*4,500*	*4,400*	*4,300*	*3,800*	*3,700*	*43,900*	*4,700*	*4,800*	*4,700*	*4,400*	*4,600*	*4,500*	*4,400*	*4,400*	*3,800*	*3,700*	*44,000*
Total	8.7	8.5	8.4	7.8	8.2	8.6	7.2	8.0	8.3	6.8	8.1	8.3	8.3	6.7	6.8	6.8	6.1	6.4	5.2	4.9	5.8	6.6	14.3	14.2	12.9	12.8	13.0	12.7	12.0	12.0	11.7	11.3	12.7
Gender																																	
Male	10.4	9.2	9.6	9.3	9.1	10.0	8.1	8.8	10.9	8.3	9.4	9.5	9.2	8.0	7.4	8.9	6.6	6.7	6.4	5.7	7.1	7.6	16.5	15.2	15.1	14.8	15.5	14.1	13.2	13.8	14.6	13.8	14.7
Female	6.9	7.7	7.4	6.4	7.3	7.2	6.4	7.2	5.7	5.3	6.8	7.0	7.5	5.2	6.2	4.8	5.5	6.2	4.1	4.0	4.5	5.5	12.0	12.9	10.8	10.9	10.5	11.3	11.0	10.3	8.7	8.8	10.8
College Plans																																	
None or under 4 years	12.6	14.7	10.6	13.3	14.4	12.8	10.2	11.7	11.7	12.5	12.5	12.6	10.1	9.5	10.5	14.0	10.1	10.6	11.2	7.1	8.7	10.5	19.2	20.9	16.6	20.1	20.9	19.3	16.7	17.7	15.9	19.6	18.7
Complete 4 years	8.2	7.6	8.1	7.2	7.6	8.2	6.9	7.6	8.0	6.1	7.6	7.7	8.0	6.3	6.3	6.1	5.6	5.9	4.5	4.7	5.4	6.1	13.6	13.2	12.4	11.8	12.2	11.9	11.5	11.4	11.2	10.3	12.0
Region																																	
Northeast	9.1	6.4	7.0	6.8	7.5	7.4	6.1	8.0	9.2	6.2	7.4	8.6	8.8	6.5	6.1	7.0	5.7	7.2	5.3	4.7	5.2	6.6	14.3	11.8	12.2	11.4	11.5	11.8	12.0	12.2	12.5	10.2	12.0
Midwest	8.0	7.9	8.6	8.9	9.9	10.3	9.0	6.7	9.1	7.8	8.6	6.9	7.4	6.8	7.7	7.7	5.9	6.7	3.8	4.8	6.8	6.5	12.8	12.9	13.7	14.5	14.2	13.3	13.6	9.6	12.4	13.4	13.0
South	10.2	10.8	9.3	8.7	9.7	9.9	8.8	10.5	9.2	8.6	9.6	10.6	9.6	7.2	8.2	7.2	7.0	6.6	6.1	5.0	6.1	7.5	17.6	17.8	13.2	14.2	15.2	14.7	13.5	15.3	12.4	13.2	14.8
West	6.8	7.6	8.0	6.4	5.2	5.8	3.6	6.0	6.0	3.5	5.9	6.6	7.0	6.1	4.6	5.4	5.3	5.1	5.2	5.1	4.7	5.5	11.3	12.0	12.3	10.2	10.0	9.5	7.9	9.8	9.6	7.0	10.0
Population Density																																	
Large MSA	7.5	7.5	6.8	6.7	8.5	8.1	6.4	6.9	8.2	5.8	7.3	6.0	7.2	6.1	4.3	6.2	6.1	5.1	5.3	5.5	5.0	5.7	12.0	12.3	11.2	10.3	12.8	11.7	10.8	11.4	11.8	9.6	11.4
Other MSA	9.4	9.2	9.2	7.3	8.3	8.7	7.3	8.7	8.2	6.9	8.4	9.2	8.4	6.5	7.1	7.5	5.7	6.8	4.9	4.8	5.6	6.7	15.5	15.1	13.7	12.3	13.6	12.9	12.0	12.1	11.5	11.2	13.1
Non-MSA	8.6	8.5	9.0	10.5	7.7	9.3	8.1	8.1	8.8	8.1	8.7	9.3	9.7	8.2	9.6	6.4	6.8	7.4	5.6	4.4	7.6	7.6	14.7	14.7	13.9	17.4	12.0	13.6	13.6	12.6	12.0	14.4	13.9
Parental Education [a]																																	
1.0–2.0 (Low)	6.6	8.7	8.0	5.8	7.3	9.0	5.4	7.2	7.8	4.0	7.0	8.2	10.5	6.6	5.1	7.0	6.2	6.3	7.5	5.6	4.7	6.7	11.9	16.0	11.5	9.6	12.7	12.6	11.0	12.3	11.4	7.2	11.6
2.5–3.0	8.6	9.0	8.8	8.2	7.9	10.6	8.3	9.6	8.5	5.2	8.6	8.7	7.6	6.0	8.3	6.9	6.5	7.7	4.3	4.3	5.7	6.7	15.0	14.6	12.6	14.0	12.3	14.5	14.4	12.5	11.6	9.8	13.3
3.5–4.0	8.2	9.8	7.7	8.3	7.6	8.4	7.5	6.9	9.3	7.0	8.1	7.4	9.7	7.4	7.1	5.3	6.4	5.6	5.3	5.8	7.1	6.8	12.9	16.1	12.8	14.0	11.1	12.6	11.5	11.2	12.8	12.5	12.8
4.5–5.0	8.7	7.4	8.8	7.6	8.5	7.9	7.0	8.4	8.5	6.8	8.0	9.1	7.4	6.3	7.4	7.2	5.5	5.9	5.9	4.4	4.5	6.5	14.8	12.2	13.5	13.2	13.5	11.8	11.2	13.0	11.8	10.5	12.6
5.5–6.0 (High)	10.0	8.0	8.8	7.9	10.3	8.8	6.0	8.4	8.9	8.6	8.6	8.6	8.3	6.3	5.1	7.8	6.4	6.8	4.0	5.7	6.3	6.6	15.9	13.5	12.6	10.7	15.6	13.5	11.1	11.6	12.3	13.3	13.1
Race/Ethnicity																																	
White	10.3	9.3	9.5	8.9	9.0	9.8	8.4	8.9	10.1	7.9	9.2	9.5	9.3	7.2	7.5	7.3	6.5	7.0	5.3	5.4	6.5	7.3	16.5	15.6	14.3	14.4	13.9	13.9	13.4	13.0	13.8	13.0	14.3
African American	4.2	6.4	7.0	5.1	4.6	7.9	5.6	5.7	6.0	5.3	5.7	4.2	5.4	4.6	3.9	5.4	7.0	2.8	3.7	4.2	6.2	4.7	7.6	10.5	10.3	7.8	9.0	12.1	7.7	9.0	9.4	9.3	9.2
Hispanic	6.0	5.2	5.6	4.0	6.6	5.3	4.8	7.1	3.3	4.2	5.2	4.7	5.1	4.1	5.8	5.6	4.0	7.4	5.3	3.5	3.5	4.9	9.1	8.2	8.7	8.4	11.2	8.2	10.7	10.3	5.0	7.0	8.7

Source. The Monitoring the Future study, the University of Michigan.

Note. For the non-stimulant-type drugs, the don't know response category has been treated as missing data.

[a]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables.

TABLE 10-12
Trends in Current Use [a] of Prescribed ADHD Drugs by Subgroups in Grade 10

	Stimulant-Type Drugs											Non-Stimulant-Type Drugs											Either Stimulant- or Non-Stimulant-Type Drugs										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined
No. of Current Users=	*184*	*146*	*143*	*139*	*168*	*152*	*134*	*180*	*152*	*141*	*1,538*	*108*	*110*	*75*	*75*	*87*	*72*	*55*	*55*	*50*	*52*	*740*	*263*	*230*	*197*	*198*	*230*	*207*	*184*	*220*	*189*	*178*	*2,097*
Approx. weighted N=	*5,400*	*5,200*	*5,100*	*4,800*	*5,100*	*4,900*	*4,800*	*4,700*	*4,100*	*4,100*	*48,200*	*4,700*	*4,800*	*4,700*	*4,400*	*4,600*	*4,500*	*4,400*	*4,300*	*3,800*	*3,700*	*43,900*	*4,700*	*4,800*	*4,700*	*4,400*	*4,600*	*4,500*	*4,400*	*4,300*	*3,800*	*3,700*	*43,900*
Total	3.4	2.8	2.8	2.9	3.3	3.1	2.8	3.8	3.7	3.4	3.2	2.3	2.3	1.6	1.7	1.9	1.6	1.3	1.3	1.3	1.4	1.7	5.6	4.8	4.2	4.5	5.0	4.6	4.2	5.1	5.0	4.8	4.8
Gender																																	
Male	4.1	3.5	3.2	3.4	3.6	4.1	3.0	4.4	4.8	4.2	3.8	2.6	2.7	1.8	1.9	2.2	2.1	1.3	1.6	1.2	1.9	2.0	6.4	5.6	4.8	5.2	5.7	5.8	4.5	5.8	6.3	5.9	5.6
Female	2.7	2.1	2.5	2.4	3.1	2.1	2.7	3.4	2.5	2.7	2.6	1.9	2.0	1.4	1.4	1.5	1.2	1.3	0.9	1.2	1.0	1.4	4.5	3.9	3.7	3.8	4.3	3.2	4.0	4.5	3.6	3.7	3.9
College Plans																																	
None or under 4 years	4.8	4.1	3.5	3.2	6.9	4.7	3.3	2.4	5.0	6.1	4.4	4.4	2.6	2.5	1.8	4.4	3.5	2.8	2.3	2.5	1.0	2.9	8.7	6.2	5.4	4.8	9.9	7.7	6.2	3.9	7.5	7.7	6.8
Complete 4 years	3.2	2.6	2.7	2.9	3.0	2.9	2.8	4.0	3.6	3.1	3.1	2.0	2.2	1.4	1.6	1.7	1.4	1.0	1.2	1.2	1.4	1.5	5.2	4.5	4.0	4.4	4.5	4.2	4.0	5.2	4.7	4.4	4.5
Region																																	
Northeast	3.3	1.9	2.4	2.9	2.1	2.7	2.9	3.3	5.8	3.3	3.0	3.1	2.6	1.6	1.6	2.9	1.4	1.0	1.4	2.0	1.2	2.0	6.0	3.8	4.0	4.3	4.4	4.0	4.1	4.8	7.4	4.6	4.7
Midwest	3.5	2.9	3.1	3.9	5.2	3.3	3.1	4.1	4.5	3.7	3.7	2.2	2.2	2.3	2.6	2.5	1.2	1.3	0.7	1.1	1.7	1.8	5.7	4.7	5.1	6.2	7.3	4.1	4.5	4.6	5.6	5.3	5.3
South	4.2	3.4	3.5	2.9	4.1	3.6	3.5	5.3	3.3	4.3	3.8	2.2	2.5	1.4	1.9	1.4	2.4	1.3	1.7	1.1	1.9	1.8	6.2	5.7	4.6	4.8	5.5	6.0	4.9	7.2	4.5	5.9	5.6
West	2.0	2.5	2.0	2.1	1.4	2.5	1.4	1.8	2.0	2.0	2.0	1.8	2.0	1.0	0.7	1.2	1.1	1.4	1.1	1.3	0.5	1.2	3.9	4.2	2.9	2.6	2.4	3.4	2.9	2.9	3.3	2.7	3.1
Population Density																																	
Large MSA	2.9	2.5	2.2	3.2	3.4	3.3	3.2	3.4	4.6	3.7	3.2	1.5	1.9	1.5	0.9	2.3	2.1	1.2	1.3	1.5	1.2	1.6	4.6	4.0	3.2	4.1	5.5	4.9	4.5	4.8	5.8	4.9	4.6
Other MSA	3.9	3.0	3.1	2.7	3.2	2.9	2.5	4.1	3.4	3.1	3.2	2.7	2.7	1.6	1.9	2.0	1.2	1.0	1.3	1.5	1.5	1.8	6.4	5.4	4.8	4.3	5.0	4.2	3.8	5.2	5.0	4.5	4.9
Non-MSA	3.1	2.6	3.1	3.2	3.4	3.2	3.0	3.9	3.3	3.5	3.2	2.3	2.2	1.7	2.2	1.2	1.8	1.9	1.2	0.8	1.6	1.7	4.9	4.4	4.2	5.5	4.3	5.0	4.8	5.3	4.0	5.3	4.8
Parental Education [b]																																	
1.0–2.0 (Low)	2.6	3.6	1.8	1.7	1.5	1.4	1.8	1.9	1.4	1.1	1.9	1.4	3.2	2.5	1.2	1.3	1.5	1.5	0.5	1.4	0.7	1.5	3.5	5.7	3.6	2.6	2.3	3.0	3.5	2.3	2.7	1.7	3.1
2.5–3.0	2.7	1.7	2.1	3.1	2.7	3.2	3.1	4.0	3.1	2.1	2.8	1.6	1.5	0.6	1.8	1.9	1.6	1.4	1.0	0.8	0.6	1.3	4.2	3.2	2.8	4.6	4.4	4.7	4.7	5.1	3.7	2.8	4.0
3.5–4.0	3.7	3.4	3.1	2.3	2.9	3.5	1.8	4.3	3.2	3.1	3.1	2.5	2.5	1.5	1.4	1.0	2.0	1.2	0.9	2.2	2.0	1.7	5.9	5.1	4.5	3.7	3.8	5.3	3.1	5.2	5.3	5.1	4.7
4.5–5.0	2.9	2.6	2.9	2.8	3.6	2.9	3.6	3.6	4.5	3.4	3.2	2.9	2.6	1.7	2.2	2.7	1.4	1.3	1.8	0.9	1.5	1.9	5.6	4.9	4.5	5.0	5.8	4.2	4.9	5.2	5.6	4.8	5.0
5.5–6.0 (High)	5.1	3.1	3.3	4.2	5.5	4.6	3.4	4.1	6.1	6.2	4.6	2.2	2.5	2.0	1.6	2.8	1.6	1.0	1.9	1.4	1.4	1.9	7.6	5.3	5.1	5.2	8.1	5.7	4.7	6.1	7.5	7.7	6.3
Race/Ethnicity																																	
White	4.5	3.2	3.4	3.6	3.9	3.7	3.5	4.5	5.0	4.4	3.9	2.5	2.7	1.9	1.9	2.1	1.8	1.4	1.2	1.4	1.7	1.9	6.8	5.4	5.1	5.4	5.6	5.2	5.0	5.8	6.5	5.9	5.7
African American	0.8	1.6	2.2	1.5	1.0	1.4	2.4	3.2	1.2	0.9	1.6	1.8	1.7	0.7	0.7	0.7	1.4	0.7	0.9	2.3	1.1	1.2	2.6	2.6	2.9	2.4	1.8	2.9	3.3	4.3	3.6	2.0	2.8
Hispanic	1.0	1.6	1.1	1.1	2.0	1.3	1.3	2.1	0.8	1.0	1.3	1.2	1.4	0.3	1.9	1.2	0.9	1.2	1.4	0.1	0.4	1.0	2.2	2.3	1.3	2.4	3.2	2.1	2.5	3.1	1.0	1.6	2.2

Source. The Monitoring the Future study, the University of Michigan.

Note. For the non-stimulant-type drugs, the don't know response category has been treated as missing data.

[a]Current user are those reporting "Yes, I take them now."

[b]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables.

TABLE 10-13
Trends in Lifetime Use of Prescribed ADHD Drugs by Subgroups in Grade 12

	Stimulant-Type Drugs											Non-Stimulant-Type Drugs											Either Stimulant- or Non-Stimulant-Type Drugs										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined
No. of Lifetime Users=	*213*	*351*	*342*	*370*	*344*	*357*	*369*	*394*	*375*	*346*	*3,461*	*130*	*256*	*294*	*262*	*216*	*268*	*238*	*240*	*199*	*200*	*2,304*	*260*	*491*	*508*	*537*	*440*	*508*	*497*	*518*	*487*	*448*	*4,695*
Approx. weighted N=	*2,500*	*4,500*	*4,500*	*4,300*	*4,200*	*4,300*	*4,400*	*4,400*	*3,900*	*3,800*	*40,800*	*2,100*	*4,200*	*4,200*	*4,100*	*4,000*	*4,000*	*4,100*	*4,100*	*3,700*	*3,500*	*38,000*	*2,100*	*4,200*	*4,200*	*4,100*	*4,000*	*4,000*	*4,100*	*4,100*	*3,700*	*3,600*	*38,100*
Total	8.5	7.8	7.6	8.6	8.2	8.3	8.4	9.0	9.6	9.1	8.5	6.2	6.1	7.0	6.4	5.4	6.7	5.8	5.9	5.4	5.6	6.1	12.4	11.7	12.1	13.1	11.0	12.7	12.2	12.7	13.2	12.6	12.4
Gender																																	
Male	12.0	10.2	10.1	10.3	8.7	9.8	10.3	10.5	10.9	9.7	10.3	7.0	6.1	8.3	7.0	6.5	7.7	6.4	5.8	7.1	6.0	6.7	15.8	13.2	15.7	14.6	13.0	14.7	14.3	14.4	15.5	13.5	14.5
Female	5.3	5.4	4.9	7.0	6.5	6.3	6.4	7.4	7.9	8.0	6.5	5.0	5.7	5.6	6.5	4.0	5.6	5.2	5.6	3.8	4.8	5.2	8.8	9.6	8.6	11.5	9.1	10.1	9.9	10.8	10.6	11.0	10.0
College Plans																																	
None or under 4 years	12.3	11.1	10.8	13.6	13.4	11.2	13.2	11.4	12.7	12.4	12.2	9.2	7.6	9.4	9.9	6.7	9.0	8.0	8.1	6.3	7.4	8.2	16.7	16.3	15.7	18.8	17.3	16.1	17.4	16.6	16.3	16.9	16.8
Complete 4 years	7.8	7.0	6.9	7.5	7.2	7.6	7.4	8.4	8.8	8.1	7.6	5.3	5.8	6.4	5.5	5.0	6.1	5.2	5.4	4.9	5.0	5.5	11.3	10.6	11.2	11.2	10.6	11.8	11.0	11.8	12.2	11.4	11.3
Region																																	
Northeast	8.8	9.8	7.8	9.5	7.4	7.7	8.3	8.0	6.7	7.4	8.2	6.0	5.9	7.6	8.0	5.1	4.9	5.4	6.5	5.5	6.5	6.1	13.1	13.8	12.2	14.2	11.2	11.1	12.0	13.1	10.5	12.0	12.3
Midwest	9.3	6.0	7.8	8.5	8.9	9.6	8.9	9.0	9.1	9.6	8.6	5.8	5.5	7.1	6.8	6.1	8.4	5.0	6.3	5.6	6.9	6.3	12.7	9.7	12.5	12.0	12.9	14.7	12.3	12.9	12.5	13.7	12.5
South	9.2	9.5	8.5	8.4	10.3	9.1	9.2	10.3	10.8	11.3	9.6	7.6	7.4	7.6	5.2	5.7	7.0	6.8	5.8	5.9	6.2	6.5	13.9	14.0	13.3	12.3	14.0	13.6	13.0	13.0	14.8	14.7	13.7
West	6.2	5.2	5.5	8.3	4.5	5.8	6.7	8.2	10.2	6.1	6.7	4.5	4.4	5.1	6.7	4.4	5.7	5.6	5.3	4.3	3.0	4.9	8.6	8.1	9.2	12.5	7.2	10.3	10.9	12.0	13.2	8.5	10.1
Population Density																																	
Large MSA	7.1	8.7	8.5	10.2	7.1	7.2	7.5	9.8	10.6	8.1	8.5	5.1	6.1	6.9	6.6	5.6	7.3	5.4	6.1	5.3	6.7	6.1	10.4	12.6	12.4	14.5	10.9	12.4	10.6	13.4	13.9	12.3	12.3
Other MSA	9.9	7.1	7.6	8.6	8.1	9.4	9.8	9.1	9.9	9.3	8.9	7.9	6.2	7.3	6.3	5.0	6.2	6.3	6.2	4.7	5.5	6.2	14.6	11.1	12.6	12.5	11.2	13.3	14.1	13.2	13.3	12.6	12.9
Non-MSA	7.5	7.8	6.3	6.9	9.7	7.0	6.4	7.7	7.6	9.7	7.6	3.8	5.8	6.3	6.4	6.2	7.2	5.5	4.9	7.0	4.6	5.8	9.9	11.6	10.5	10.6	14.2	11.8	9.8	10.5	11.8	12.9	11.3
Parental Education [a]																																	
1.0–2.0 (Low)	7.7	7.0	5.8	5.4	7.5	8.5	6.9	5.9	10.4	8.6	7.4	5.2	4.3	5.5	6.6	6.0	5.1	4.9	5.8	4.7	6.2	5.4	10.1	10.3	9.5	10.7	11.1	11.5	10.4	9.7	13.1	12.1	10.9
2.5–3.0	7.1	8.4	6.3	6.5	6.5	7.2	7.1	9.6	8.8	8.1	7.5	4.1	6.2	5.7	6.4	3.4	6.1	4.5	4.8	5.2	4.5	5.1	10.0	12.5	10.8	10.1	8.9	10.5	10.0	12.5	12.2	11.6	10.9
3.5–4.0	9.0	6.2	7.6	10.3	8.1	8.8	7.8	8.7	9.2	8.5	8.4	7.6	5.9	6.9	7.0	5.2	6.6	5.9	5.6	4.8	5.0	6.1	13.6	10.4	12.2	14.4	11.8	13.1	11.7	12.5	12.4	11.4	12.4
4.5–5.0	8.1	8.5	7.2	8.3	8.4	8.6	8.7	9.1	9.3	8.6	8.5	6.8	6.4	8.1	4.7	6.5	7.9	6.5	6.1	6.2	5.7	6.5	12.1	12.3	12.2	11.2	12.8	14.4	13.0	12.8	13.4	12.5	12.6
5.5–6.0 (High)	11.3	8.7	11.2	10.2	11.1	8.2	10.7	11.1	12.4	12.2	10.7	6.4	6.8	7.8	7.5	6.4	6.6	6.8	7.0	6.3	8.5	7.0	15.3	12.2	15.2	15.2	14.9	13.4	14.9	14.8	17.0	17.5	14.9
Race/Ethnicity																																	
White	9.3	8.6	8.4	10.0	9.8	9.1	10.1	10.7	10.7	10.2	9.6	6.5	6.8	7.9	6.7	6.0	7.3	6.5	5.6	6.1	6.0	6.6	13.3	12.7	13.4	13.8	13.8	14.3	14.5	14.4	14.6	14.0	13.9
African American	5.5	5.2	3.9	5.2	6.1	6.7	5.8	7.3	6.4	7.7	5.9	5.7	4.0	5.7	4.2	5.5	6.0	5.0	6.9	4.1	7.0	5.4	8.4	8.1	8.0	8.0	9.9	10.7	8.9	10.8	9.4	11.6	9.3
Hispanic	5.9	6.1	5.4	5.6	4.7	6.8	5.4	5.5	6.2	5.2	5.7	4.6	3.9	4.2	5.2	3.9	5.1	5.3	4.9	3.7	3.7	4.4	9.1	9.0	8.4	9.4	6.8	9.6	8.2	8.1	8.7	8.2	8.5

Source. The Monitoring the Future study, the University of Michigan.

Notes. Data for 2005 based on Form 5 only. For the non-stimulant-type drugs, the don't know response category has been treated as missing data.

[a]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables.

TABLE 10-14
Trends in Current Use [a] of Prescribed ADHD Drugs by Subgroups in Grade 12

	Stimulant-Type Drugs											Non-Stimulant-Type Drugs											Either Stimulant- or Non-Stimulant-Type Drugs										
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2005–2014 Combined
No. of Current Users=	*73*	*104*	*117*	*125*	*122*	*129*	*147*	*166*	*171*	*144*	*1,297*	*34*	*67*	*71*	*78*	*60*	*92*	*77*	*73*	*67*	*79*	*698*	*95*	*155*	*172*	*180*	*172*	*208*	*207*	*221*	*222*	*195*	*1,828*
Approx. weighted N=	*2,500*	*4,500*	*4,500*	*4,300*	*4,200*	*4,300*	*4,400*	*4,400*	*3,900*	*3,800*	*40,800*	*2,100*	*4,200*	*4,200*	*4,100*	*4,000*	*4,000*	*4,100*	*4,100*	*3,700*	*3,500*	*38,000*	*2,100*	*4,200*	*4,200*	*4,100*	*4,000*	*4,000*	*4,100*	*4,000*	*3,700*	*3,500*	*37,900*
Total	2.9	2.3	2.6	2.9	2.9	3.0	3.3	3.8	4.4	3.8	3.2	1.6	1.6	1.7	1.9	1.5	2.3	1.9	1.8	1.8	2.2	1.8	4.5	3.7	4.1	4.4	4.3	5.2	5.1	5.5	6.0	5.5	4.8
Gender																																	
Male	4.1	2.6	3.7	3.0	2.6	3.6	3.5	3.9	4.5	3.4	3.4	1.3	1.4	1.3	1.1	1.5	2.3	1.7	1.6	2.4	2.2	1.7	5.5	3.9	5.2	3.9	3.9	5.8	5.2	5.5	6.5	5.1	5.0
Female	1.8	2.0	2.0	2.6	3.2	2.5	3.2	3.8	4.2	4.0	2.9	1.6	1.8	1.6	2.2	1.6	2.3	1.9	2.0	1.3	2.2	1.8	3.4	3.5	3.4	4.6	4.5	4.6	4.9	5.4	5.6	5.7	4.5
College Plans																																	
None or under 4 ye	5.3	2.4	3.6	3.3	1.8	3.9	3.9	3.4	5.1	3.4	3.7	2.9	0.8	2.5	2.2	1.5	3.2	3.3	2.7	1.7	3.6	2.4	8.2	3.2	5.9	5.2	3.1	6.5	6.9	5.8	6.9	6.3	5.8
Complete 4 years	2.5	2.3	2.4	2.9	3.0	2.9	3.2	3.8	4.2	3.8	3.1	1.2	1.7	1.6	1.9	1.5	2.1	1.5	1.6	1.6	1.9	1.7	3.7	3.7	3.8	4.4	4.3	4.9	4.6	5.3	5.7	5.2	4.5
Region																																	
Northeast	3.5	3.0	2.7	3.2	2.0	3.2	3.3	3.1	3.1	3.6	3.1	2.5	1.5	2.4	3.9	1.1	1.9	2.8	1.5	2.2	2.2	2.2	6.3	4.1	4.7	5.9	3.0	5.0	6.3	4.8	5.1	5.5	5.0
Midwest	2.7	2.0	3.3	2.9	2.7	4.0	4.6	5.0	3.7	4.5	3.5	1.6	1.5	1.7	2.0	1.9	2.8	1.5	2.5	1.6	2.7	2.0	4.0	3.5	5.0	4.5	4.5	6.7	6.3	7.2	5.0	6.1	5.2
South	2.7	2.6	2.8	2.8	4.3	3.3	3.2	3.7	5.4	4.8	3.5	1.5	1.9	1.9	1.1	1.9	2.4	2.3	1.4	2.1	2.3	1.9	4.2	4.2	4.5	3.9	5.8	5.4	4.9	4.8	7.4	6.6	5.1
West	3.0	1.6	1.2	2.9	1.6	1.4	2.3	3.1	4.5	1.6	2.3	0.8	1.1	0.8	1.8	0.7	1.9	1.1	1.8	1.3	1.8	1.3	4.0	2.7	2.1	4.5	2.3	3.3	3.3	4.8	5.7	3.2	3.6
Population Density																																	
Large MSA	2.3	2.2	2.9	3.7	2.9	2.7	3.0	3.9	5.0	3.5	3.2	1.4	1.9	1.7	2.4	1.8	1.7	1.9	1.8	2.6	2.4	1.9	3.5	3.7	4.5	5.7	4.5	4.3	4.6	5.6	6.9	5.4	4.8
Other MSA	3.5	2.4	2.4	2.9	2.7	3.5	4.5	4.5	4.9	3.9	3.5	1.9	1.3	2.1	1.7	1.2	2.5	2.0	2.1	1.3	2.5	1.9	5.6	3.6	4.2	4.3	3.7	6.0	6.4	6.3	6.2	5.7	5.2
Non-MSA	2.3	2.3	2.4	2.1	3.1	2.3	1.2	2.0	2.3	3.9	2.4	1.0	1.5	1.1	1.9	1.7	2.7	1.6	1.1	1.9	1.5	1.6	3.5	3.8	3.4	3.5	4.9	4.4	2.6	3.0	4.3	5.3	3.8
Parental Education [b]																																	
1.0–2.0 (Low)	2.2	1.0	1.4	1.9	1.3	2.6	2.8	2.5	3.7	1.9	2.2	0.3	2.2	1.0	2.2	1.3	3.3	1.8	2.3	2.2	3.8	2.1	2.7	3.3	2.3	4.2	2.3	5.1	4.8	3.7	5.7	4.8	3.9
2.5–3.0	2.0	1.4	2.4	1.9	1.6	2.3	2.2	3.2	4.1	2.9	2.4	1.5	0.9	1.5	1.9	0.9	2.2	1.6	1.6	1.8	1.7	1.5	3.7	2.0	3.8	3.2	2.5	4.4	3.6	4.8	5.7	4.4	3.8
3.5–4.0	2.9	2.1	2.4	2.8	2.8	3.2	3.6	3.2	3.9	2.8	3.0	2.4	1.3	1.9	1.8	1.4	2.4	1.6	1.8	1.3	1.7	1.8	5.0	3.3	4.1	4.1	3.9	5.2	5.3	5.0	5.1	4.2	4.5
4.5–5.0	3.3	3.2	2.1	3.6	3.0	2.9	3.6	4.2	4.3	4.2	3.4	1.7	1.6	1.6	1.5	2.1	2.3	2.2	1.6	1.7	2.4	1.9	5.0	4.6	3.7	4.8	4.8	5.4	5.6	5.7	5.8	5.7	5.1
5.5–6.0 (High)	3.8	3.0	4.3	3.8	5.9	4.7	4.8	6.5	6.9	8.0	5.0	0.9	2.8	2.3	2.7	1.2	1.8	1.6	2.1	2.8	2.8	2.0	4.8	5.3	6.2	6.5	7.4	6.5	6.3	8.3	9.9	11.0	7.0
Race/Ethnicity																																	
White	3.3	2.8	2.9	3.6	3.4	3.9	4.8	4.8	4.8	4.6	3.8	1.7	1.7	1.8	1.9	1.5	2.6	2.2	1.6	1.8	2.3	1.9	4.9	4.3	4.6	5.1	4.7	6.4	6.9	6.4	6.5	6.1	5.5
African American	0.0	1.4	0.9	1.5	1.1	1.7	1.0	2.8	2.8	1.8	1.5	2.3	1.6	1.9	2.0	0.6	2.1	1.7	2.1	1.5	3.2	1.9	2.4	2.2	2.8	3.3	1.8	3.9	2.6	3.9	4.3	4.2	3.1
Hispanic	1.3	0.8	0.9	1.4	1.8	1.9	1.5	1.5	1.9	2.0	1.5	1.2	1.1	1.6	0.9	1.7	1.6	0.6	2.2	1.9	1.7	1.5	2.7	2.0	2.4	2.3	3.2	3.0	2.0	3.3	3.3	3.7	2.8

Source. The Monitoring the Future study, the University of Michigan.

Notes. Data for 2005 based on Form 5 only. For the non-stimulant-type drugs, the don't know response category has been treated as missing data.

[a] Current use are those reporting "Yes, I take them now."

[b] Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables.

TABLE 10-15a
Androstenedione
Trends in Annual Prevalence of Use by Subgroups in Grade 8

	Percentage who used in last 12 months														2013–2014
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	change
Approximate weighted N =	*16,200*	*15,100*	*16,500*	*17,000*	*16,800*	*16,500*	*16,100*	*15,700*	*15,000*	*15,300*	*16,000*	*15,100*	*14,600*	*14,600*	
Total	1.1	1.2	1.0	0.9	0.6	1.0	0.9	0.9	0.8	0.9	0.6	0.6	0.7	0.4	-0.3
Gender															
Male	1.3	1.7	1.2	1.2	1.0	1.4	0.9	1.3	1.1	1.1	0.5	0.7	0.9	0.4	-0.5
Female	1.0	0.8	0.8	0.5	0.3	0.5	0.8	0.5	0.6	0.8	0.5	0.3	0.6	0.4	-0.2
College Plans															
None or under 4 years	4.2	5.0	2.9	3.6	2.2	4.6	1.1	3.1	3.4	2.7	1.7	1.7	2.5	1.1	-1.4
Complete 4 years	0.8	0.8	0.8	0.6	0.4	0.6	0.8	0.7	0.6	0.7	0.5	0.6	0.6	0.3	-0.3
Region															
Northeast	0.6	1.3	0.9	0.6	0.5	1.5	0.5	0.5	0.3	1.2	0.5	0.0	1.0	0.0	-1.0
Midwest	1.1	1.7	1.0	1.2	0.3	0.9	0.4	0.8	0.4	0.9	0.6	0.0	0.7	0.2	-0.5
South	1.6	1.0	1.2	0.8	1.2	0.6	1.2	1.2	0.9	1.0	0.6	1.4	0.6	0.6	0.0
West	0.8	0.8	0.6	0.9	0.1	1.3	0.9	1.0	1.4	0.7	0.7	0.5	0.5	0.4	-0.1
Population Density															
Large MSA	1.1	0.8	0.9	0.6	0.5	0.8	0.5	1.0	0.4	0.5	0.1	0.9	0.6	0.4	-0.2
Other MSA	1.2	1.3	0.9	0.9	0.7	1.3	1.2	1.0	0.6	1.4	1.0	0.6	0.5	0.3	-0.2
Non-MSA	0.9	1.7	1.3	1.2	0.8	0.7	0.7	0.8	1.7	0.5	0.7	0.2	1.2	0.4	-0.8
Parental Education [a]															
1.0–2.0 (Low)	1.3	1.7	1.1	2.2	0.8	1.3	1.1	2.6	3.1	2.0	1.6	0.6	0.9	0.7	-0.2
2.5–3.0	0.8	1.9	1.9	0.7	1.3	1.5	0.8	0.9	0.4	0.5	1.1	0.2	0.5	0.5	0.0
3.5–4.0	1.6	1.0	0.9	1.3	0.6	0.9	0.8	0.7	1.1	1.0	0.7	0.6	0.7	0.2	-0.6
4.5–5.0	1.0	0.9	0.6	0.7	0.2	0.7	0.6	0.7	0.4	0.9	0.3	0.5	0.9	0.7	-0.2
5.5–6.0 (High)	1.2	0.9	0.7	0.2	0.3	0.6	0.8	1.2	0.5	0.6	*	1.0	0.7	0.1	-0.6
Race/Ethnicity (2-year average) [b]															
White	—	1.1	1.1	0.8	0.5	0.5	0.6	0.6	0.5	0.5	0.5	0.4	0.2	0.2	0.0
African American	—	0.7	0.5	0.6	0.8	0.9	1.3	1.4	1.1	1.0	0.9	1.1	1.5	0.7	-0.7
Hispanic	—	1.4	1.3	1.6	1.4	1.2	1.4	1.6	1.6	2.1	1.8	1.4	1.3	0.9	-0.5

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. ' * ' indicates less than 0.05% but greater than 0%. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. See Table D-S1 for the number of subgroup cases. See appendix B for definition of variables in table. Data based on one of four forms; *N* is one third of *N* indicated in Table D-S1.

Caution: ***Limited sample sizes (see Notes above). Use caution in interpreting subgroup trends.***

[a]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables.

[b]To derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates. For the data beginning in 2005, see appendix B for details on how race/ethnicity is defined.

TABLE 10-15b
Androstenedione
Trends in Annual Prevalence of Use by Subgroups in Grade 10

	Percentage who used in last 12 months														2013–2014
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	change
Approximate weighted N =	*14,000*	*14,300*	*15,800*	*16,400*	*16,200*	*16,200*	*16,100*	*15,100*	*15,900*	*15,200*	*14,900*	*15,000*	*12,900*	*13,000*	
Total	2.2	1.9	1.7	1.1	0.9	0.9	0.6	0.9	1.1	1.0	0.8	0.9	0.9	0.9	0.0
Gender															
Male	3.5	2.2	2.5	1.6	1.4	1.7	0.9	1.3	1.7	1.3	0.9	1.3	1.4	1.1	-0.3
Female	0.9	1.6	0.9	0.5	0.4	0.2	0.2	0.6	0.5	0.6	0.7	0.5	0.4	0.7	+0.3
College Plans															
None or under 4 years	3.9	3.5	4.0	2.8	1.9	3.3	1.6	1.4	4.1	3.6	2.2	1.5	2.9	3.1	+0.2
Complete 4 years	1.9	1.7	1.3	0.9	0.8	0.5	0.4	0.8	0.8	0.7	0.6	0.8	0.6	0.6	0.0
Region															
Northeast	2.1	1.8	1.6	1.2	1.0	1.4	0.5	0.7	1.2	1.1	0.9	0.8	0.6	0.8	+0.2
Midwest	1.7	1.4	1.4	1.2	0.7	0.8	0.3	0.9	1.0	1.4	1.1	1.1	0.8	0.7	-0.1
South	2.8	2.4	2.0	1.3	1.3	0.7	0.9	0.9	1.3	0.6	0.7	1.0	1.2	1.0	-0.1
West	1.9	1.9	1.7	0.6	0.7	0.9	0.5	0.9	0.9	1.0	0.4	0.6	1.0	1.0	+0.1
Population Density															
Large MSA	2.6	1.4	1.4	1.0	0.9	0.8	0.8	0.9	1.1	1.2	0.8	1.1	0.8	0.8	0.0
Other MSA	1.9	2.2	1.7	1.0	0.8	0.8	0.5	0.9	1.4	0.7	0.6	0.8	0.7	0.7	0.0
Non-MSA	2.4	2.0	2.1	1.6	1.2	1.3	0.5	0.7	0.7	1.2	1.1	0.9	1.6	1.6	+0.1
Parental Education [a]															
1.0–2.0 (Low)	3.6	3.4	1.8	1.4	1.5	2.1	1.0	0.6	1.3	2.3	0.9	1.4	2.6	0.3	-2.2 s
2.5–3.0	1.7	1.9	1.0	0.8	0.9	0.6	0.9	1.0	1.8	1.5	1.1	1.4	1.6	0.6	-1.1
3.5–4.0	3.4	1.7	1.9	1.0	0.6	0.8	0.5	0.9	1.3	0.7	1.0	0.8	0.9	1.3	+0.4
4.5–5.0	1.7	1.3	2.0	1.0	1.0	1.0	0.7	1.0	0.5	0.2	0.3	0.7	0.1	0.8	+0.8
5.5–6.0 (High)	1.4	2.5	1.6	1.0	0.8	0.7	0.1	0.6	1.1	1.5	0.5	0.3	0.3	0.5	+0.2
Race/Ethnicity (2-year average) [b]															
White	—	1.7	1.4	1.1	1.0	0.8	0.6	0.6	0.7	0.7	0.6	0.7	0.7	0.8	+0.1
African American	—	1.9	2.2	1.8	0.9	1.0	1.2	1.2	0.9	1.5	1.6	0.7	0.9	0.9	0.0
Hispanic	—	2.6	2.3	1.6	0.6	0.8	0.8	0.8	1.4	1.4	1.4	1.3	1.0	0.9	-0.1

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available.
Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.
See Table D-S2 for the number of subgroup cases. See appendix B for definition of variables in table. Data based on one of four forms;
N is one third of *N* indicated in Table D-S2.

Caution: ***Limited sample sizes (see Notes above). Use caution in interpreting subgroup trends.***

[a]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables.

[b]To derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates. For the data beginning in 2005, see appendix B for details on how race/ethnicity is defined.

TABLE 10-15c
Androstenedione
Trends in Annual Prevalence of Use by Subgroups in Grade 12

	Percentage who used in last 12 months														2013–2014
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	change
Approximate weighted N =	*12,800*	*12,900*	*14,600*	*14,600*	*14,700*	*14,200*	*14,500*	*14,000*	*13,700*	*14,400*	*14,100*	*13,700*	*12,600*	*12,400*	
Total	3.0	2.5	2.5	2.1	1.7	1.1	0.9	1.3	1.1	1.5	0.7	1.0	0.7	1.1	+0.4
Gender															
Male	5.3	4.7	4.6	3.7	2.7	1.6	1.2	1.7	1.9	2.3	1.3	1.3	1.0	2.0	+0.9
Female	0.7	0.4	0.2	0.6	0.5	0.3	0.4	0.7	0.3	0.7	0.1	0.6	0.3	0.3	0.0
College Plans															
None or under 4 years	4.3	4.0	3.6	2.9	2.3	2.0	1.7	2.3	2.5	3.1	0.7	1.7	1.6	2.3	+0.7
Complete 4 years	2.5	2.1	2.1	1.7	1.4	0.7	0.7	1.0	0.8	1.2	0.7	0.8	0.4	0.7	+0.3
Region															
Northeast	3.1	2.8	2.7	2.1	1.5	1.2	0.9	0.6	1.0	1.8	1.2	1.3	0.7	1.3	+0.6
Midwest	3.4	2.4	2.3	2.1	2.0	0.6	1.1	1.0	1.7	2.0	0.4	0.7	0.8	1.6	+0.8
South	2.8	2.6	2.4	2.2	1.9	1.1	1.1	2.0	1.0	1.0	1.1	1.6	0.9	1.2	+0.3
West	2.9	2.1	3.0	1.8	1.2	1.5	0.3	1.2	0.6	1.5	0.3	0.6	0.4	0.4	0.0
Population Density															
Large MSA	3.0	2.4	1.1	1.5	1.5	1.1	0.7	0.6	0.9	1.6	0.5	1.2	0.6	1.1	+0.6
Other MSA	3.3	2.0	3.1	2.8	1.7	1.0	1.0	2.0	1.4	1.6	0.8	1.0	0.9	1.2	+0.3
Non-MSA	2.7	3.4	3.4	1.5	1.9	1.1	0.9	0.8	0.7	1.1	0.9	1.0	0.6	0.9	+0.3
Parental Education [a]															
1.0–2.0 (Low)	1.5	3.5	2.3	3.4	3.4	1.3	1.2	1.7	2.5	2.2	2.5	1.5	2.4	1.3	-1.1
2.5–3.0	3.7	3.1	2.5	1.8	1.7	1.2	1.1	1.7	1.0	1.4	0.7	0.8	0.6	1.9	+1.3
3.5–4.0	2.9	2.7	3.8	1.9	2.3	1.2	0.5	0.9	1.0	1.7	0.6	0.7	0.6	0.8	+0.2
4.5–5.0	3.2	2.0	1.5	2.2	1.1	1.0	1.4	1.5	1.0	1.1	0.5	1.4	0.4	0.9	+0.5
5.5–6.0 (High)	1.9	1.4	1.5	1.4	0.8	0.5	0.2	0.3	0.7	1.0	0.6	0.6	0.4	0.4	0.0
Race/Ethnicity (2-year average) [b]															
White	—	3.0	2.7	2.3	1.8	1.2	0.8	0.9	1.1	1.3	1.1	0.7	0.6	0.6	0.0
African American	—	0.7	1.2	2.0	2.5	1.5	1.1	1.6	1.5	1.6	1.6	1.2	1.7	1.6	-0.1
Hispanic	—	3.2	3.0	2.6	1.9	2.0	1.2	0.7	1.1	1.4	1.0	1.1	1.2	0.9	-0.3

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available.
Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.
See Table D-S3 for the number of subgroup cases. See appendix B for definition of variables in table. Data based on two of six forms;
N is two sixths of *N* indicated in Table D-S3.

Caution: ***Limited sample sizes (see Notes above). Use caution in interpreting subgroup trends.***

[a]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables.

[b]To derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates. For the data beginning in 2005, see appendix B for details on how race/ethnicity is defined.

TABLE 10-16a
Creatine
Trends in Annual Prevalence of Use by Subgroups in Grade 8

	Percentage who used in last 12 months														2013–2014
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	change
Approximate weighted N =	*16,200*	*15,100*	*16,500*	*17,000*	*16,800*	*16,500*	*16,100*	*15,700*	*15,000*	*15,300*	*16,000*	*15,100*	*14,600*	*14,600*	
Total	2.7	2.3	2.3	1.9	1.3	2.2	2.0	2.0	1.9	1.9	1.9	1.9	2.0	1.6	-0.4
Gender															
Male	4.8	3.9	3.6	3.3	2.3	3.9	3.2	3.2	3.2	3.7	3.3	2.9	3.3	2.9	-0.3
Female	0.9	0.9	1.1	0.6	0.4	0.6	0.9	0.7	0.7	0.4	0.6	0.8	0.9	0.5	-0.4
College Plans															
None or under 4 years	6.0	6.0	4.6	4.7	3.4	5.6	2.6	5.0	5.3	3.0	3.6	3.0	2.4	3.5	+1.1
Complete 4 years	2.4	1.9	2.1	1.6	1.0	1.8	1.9	1.7	1.6	1.8	1.8	1.8	2.0	1.5	-0.5
Region															
Northeast	1.4	2.1	1.6	1.5	0.8	2.2	1.2	0.8	1.7	2.3	1.2	1.0	2.2	0.8	-1.3
Midwest	3.4	2.7	3.0	1.7	1.2	2.7	2.2	1.7	2.1	2.6	2.2	1.7	1.0	2.2	+1.2
South	3.8	2.6	2.5	2.3	1.9	1.8	2.4	2.7	1.8	1.6	1.7	2.5	2.5	1.4	-1.1
West	1.2	1.7	1.4	1.7	0.7	2.4	1.8	1.8	1.8	1.5	2.5	1.7	2.3	1.8	-0.5
Population Density															
Large MSA	2.3	2.3	1.4	1.5	0.8	1.9	1.0	2.0	1.2	1.4	1.2	2.0	2.3	0.8	-1.4 s
Other MSA	2.8	1.9	2.6	2.2	1.7	2.3	2.5	1.8	2.0	2.4	2.2	1.9	1.7	1.5	-0.2
Non-MSA	3.0	3.3	2.8	1.8	1.2	2.4	2.5	2.3	2.5	1.7	2.5	1.8	2.3	2.9	+0.6
Parental Education [a]															
1.0–2.0 (Low)	3.7	2.6	1.6	2.6	2.2	2.1	1.9	3.6	3.8	0.7	2.3	0.7	1.8	0.7	-1.1
2.5–3.0	1.8	2.7	1.7	1.6	1.8	2.0	1.4	1.9	1.5	1.7	3.8	1.6	3.0	1.4	-1.6
3.5–4.0	3.5	1.6	2.8	2.4	1.4	2.7	3.1	2.4	2.8	2.4	1.6	2.1	1.5	1.9	+0.4
4.5–5.0	2.8	3.1	2.6	1.8	0.8	2.2	1.9	1.0	1.6	2.0	1.3	2.3	1.9	1.6	-0.3
5.5–6.0 (High)	3.1	1.9	3.1	1.4	1.0	2.1	2.1	2.3	1.0	2.2	1.6	2.3	2.6	2.1	-0.6
Race/Ethnicity (2-year average) [b]															
White	—	2.7	2.6	2.3	1.6	1.7	2.2	2.0	2.0	2.1	2.1	2.0	1.8	2.0	+0.1
African American	—	1.0	0.9	1.1	1.3	1.4	1.7	2.1	2.0	2.0	1.8	1.7	2.0	1.4	-0.6
Hispanic	—	2.3	1.8	1.6	1.4	1.4	1.7	1.8	1.7	1.6	2.2	2.3	1.9	1.5	-0.4

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available.
Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.
See Table D-S1 for the number of subgroup cases. See appendix B for definition of variables in table. Data based on one of four forms;
N is one third of *N* indicated in Table D-S1.

Caution: ***Limited sample sizes (see Notes above). Use caution in interpreting subgroup trends.***

[a]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables.

[b]To derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates. For the data beginning in 2005, see appendix B for details on how race/ethnicity is defined.

TABLE 10-16b
Creatine
Trends in Annual Prevalence of Use by Subgroups in Grade 10

	Percentage who used in last 12 months														2013–2014 change
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Approximate weighted N =	*14,000*	*14,300*	*15,800*	*16,400*	*16,200*	*16,200*	*16,100*	*15,100*	*15,900*	*15,200*	*14,900*	*15,000*	*12,900*	*13,000*	
Total	7.9	7.6	5.8	5.3	5.1	6.5	6.1	5.8	6.0	6.0	7.1	6.8	5.7	6.0	+0.3
Gender															
Male	14.7	13.1	10.7	9.8	9.3	12.0	11.7	11.5	11.5	11.0	13.7	13.1	10.9	11.0	0.0
Female	1.7	2.1	1.4	0.9	1.0	1.0	0.8	0.9	1.0	1.0	0.9	1.0	0.8	1.3	+0.5
College Plans															
None or under 4 years	10.3	10.3	10.1	7.2	5.5	8.3	9.1	6.6	9.2	7.8	10.9	8.3	6.5	9.9	+3.4
Complete 4 years	7.5	7.1	5.2	5.0	5.1	6.2	5.7	5.7	5.7	5.9	6.8	6.7	5.6	5.5	-0.1
Region															
Northeast	5.4	6.2	5.8	5.5	4.8	6.8	5.7	3.8	4.5	5.6	5.9	6.2	6.4	5.6	-0.9
Midwest	6.6	6.4	6.1	5.5	4.4	4.9	5.3	6.2	6.2	5.7	8.3	7.4	4.9	8.0	+3.0
South	10.8	9.1	5.9	6.0	6.3	7.7	7.3	5.9	7.2	7.2	7.4	7.8	6.1	5.9	-0.2
West	7.2	7.6	5.6	3.7	4.6	6.4	5.9	6.7	5.4	5.1	6.2	5.1	5.2	4.4	-0.8
Population Density															
Large MSA	6.6	7.0	3.7	4.3	2.9	5.3	4.7	4.4	4.6	5.5	4.9	5.6	4.5	5.7	+1.2
Other MSA	8.1	7.5	6.4	5.2	5.9	7.4	6.7	6.2	7.2	6.3	7.5	7.3	5.8	6.0	+0.2
Non-MSA	9.1	8.5	7.6	7.0	6.3	6.3	7.1	6.8	5.5	6.4	9.6	7.3	6.8	6.4	-0.4
Parental Education [a]															
1.0–2.0 (Low)	5.6	5.0	5.7	3.2	3.4	5.2	3.4	3.0	4.7	5.3	3.6	3.9	4.7	3.9	-0.8
2.5–3.0	8.1	7.8	4.9	5.7	5.2	5.4	7.1	4.7	6.2	5.9	6.6	6.6	7.6	5.3	-2.3
3.5–4.0	10.2	7.6	7.8	5.2	4.8	6.7	6.6	6.9	7.4	6.4	7.4	6.8	6.0	7.1	+1.2
4.5–5.0	7.1	8.8	5.8	5.2	5.8	7.0	6.4	6.9	5.7	6.6	9.2	8.1	5.3	6.3	+1.0
5.5–6.0 (High)	7.1	7.9	5.3	5.8	5.9	7.8	5.7	5.0	5.1	6.3	7.0	6.5	4.7	6.0	+1.2
Race/Ethnicity (2-year average) [b]															
White	—	8.4	7.6	6.3	5.8	6.2	7.1	6.8	6.6	6.5	6.9	7.7	6.9	6.6	-0.2
African American	—	3.0	3.0	3.5	3.9	4.5	3.4	3.4	3.5	4.3	5.5	4.2	3.9	4.6	+0.7
Hispanic	—	9.4	8.4	5.7	4.0	4.7	3.7	3.9	4.8	5.0	5.8	6.2	5.9	4.4	-1.4

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available.
Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.
See Table D-S2 for the number of subgroup cases. See appendix B for definition of variables in table. Data based on one of four forms;
N is one third of *N* indicated in Table D-S2.

Caution: ***Limited sample sizes (see Notes above). Use caution in interpreting subgroup trends.***

[a]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables.

[b]To derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates. For the data beginning in 2005, see appendix B for details on how race/ethnicity is defined.

TABLE 10-16c
Creatine
Trends in Annual Prevalence of Use by Subgroups in Grade 12

	Percentage who used in last 12 months														2013–2014
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	change
Approximate weighted N =	*12,800*	*12,900*	*14,600*	*14,600*	*14,700*	*14,200*	*14,500*	*14,000*	*13,700*	*14,400*	*14,100*	*13,700*	*12,600*	*12,400*	
Total	11.7	8.5	8.3	8.1	8.1	7.8	8.0	8.3	9.1	9.2	8.6	9.5	9.3	10.0	+0.7
Gender															
Male	22.1	16.8	15.9	15.9	15.6	15.1	15.3	15.7	18.0	17.7	16.1	17.9	17.7	18.5	+0.8
Female	2.0	1.5	1.4	1.0	0.9	1.0	1.3	1.5	1.3	1.2	1.0	1.1	1.2	2.0	+0.8
College Plans															
None or under 4 years	11.7	9.3	9.5	8.5	9.8	9.8	7.8	9.8	9.2	11.1	9.8	8.7	11.1	10.8	-0.3
Complete 4 years	11.4	8.4	7.9	7.7	7.6	7.3	8.0	7.8	9.0	8.7	8.4	9.5	8.9	9.6	+0.7
Region															
Northeast	10.9	9.1	7.9	9.0	6.5	6.8	7.1	8.6	9.3	9.3	8.1	7.6	9.3	9.6	+0.2
Midwest	12.4	8.1	8.8	7.3	9.0	8.4	9.3	8.7	10.4	9.9	10.5	11.8	10.2	11.9	+1.6
South	11.4	7.6	8.0	8.3	9.1	7.7	8.3	8.0	8.5	8.7	8.4	7.7	8.9	9.1	+0.2
West	11.8	9.9	8.7	7.9	6.8	8.1	6.8	8.1	8.4	9.1	7.4	10.5	8.9	10.1	+1.2
Population Density															
Large MSA	10.2	7.7	6.6	6.9	8.9	7.4	6.4	5.6	8.5	8.4	10.2	9.0	7.7	8.3	+0.6
Other MSA	12.5	9.0	8.5	8.8	7.2	7.1	9.0	9.1	9.6	9.5	7.4	9.7	9.8	10.7	+0.9
Non-MSA	11.9	8.7	10.2	8.2	9.0	9.7	8.1	9.4	8.9	9.3	9.1	9.8	10.6	10.6	0.0
Parental Education [a]															
1.0–2.0 (Low)	8.0	8.2	5.0	5.9	8.0	5.4	4.8	5.5	5.3	7.4	6.8	5.9	7.4	6.1	-1.3
2.5–3.0	11.8	8.6	9.2	5.6	7.9	6.8	7.7	7.5	8.3	10.7	7.9	8.9	7.1	9.0	+1.8
3.5–4.0	13.0	8.5	9.6	9.2	9.5	8.4	7.7	9.3	9.0	9.5	8.9	11.0	8.9	10.9	+1.9
4.5–5.0	11.7	9.0	7.4	9.8	8.0	9.5	9.9	8.4	11.8	9.1	10.3	10.8	12.7	11.3	-1.4
5.5–6.0 (High)	11.7	8.1	8.1	8.7	7.6	6.7	7.7	9.1	9.8	8.8	7.9	8.6	9.2	10.9	+1.7
Race/Ethnicity (2-year average) [b]															
White	—	11.2	9.2	8.9	9.0	9.0	8.9	9.5	10.5	10.6	10.3	10.4	10.7	11.4	+0.7
African American	—	3.3	4.5	5.7	5.6	4.6	4.8	4.5	4.4	5.9	5.4	4.5	5.5	5.9	+0.4
Hispanic	—	9.8	8.0	6.5	6.5	6.7	6.2	5.8	6.6	7.6	7.1	7.4	8.3	6.5	-1.8

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available.
Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.
See Table D-S3 for the number of subgroup cases. See appendix B for definition of variables in table. Data based on two of six forms;
N is two sixths of *N* indicated in Table D-S3.

Caution: ***Limited sample sizes (see Notes above). Use caution in interpreting subgroup trends.***

[a]Parental education is an average score of mother's education and father's education reported on the following scale: (1) Completed grade school or less, (2) Some high school, (3) Completed high school, (4) Some college, (5) Completed college, (6) Graduate or professional school after college. Missing data were allowed on one of the two variables.

[b]To derive percentages for each racial subgroup, data for the specified year and the previous year have been combined to increase subgroup sample sizes and thus provide more stable estimates. For the data beginning in 2005, see appendix B for details on how race/ethnicity is defined.

TABLE 10-17a
Steroids and Androstenedione
Trends in Annual Prevalence of Use by Gender in Grade 8

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Total															
% reporting using steroids but not androstenedione	1.2	1.0	1.2	0.9	0.8	0.7	0.7	0.6	0.5	0.3	0.6	0.5	0.4	0.5	0.0
% reporting using androstenedione but not steroids	0.7	0.6	0.7	0.7	0.4	0.8	0.7	0.6	0.5	0.7	0.5	0.5	0.6	0.3	-0.3
% reporting using both	0.4	0.6	0.3	0.2	0.2	0.2	0.1	0.3	0.3	0.3	0.2	0.1	0.2	0.1	-0.1
% reporting using either or both	2.3	2.2	2.2	1.8	1.4	1.6	1.5	1.5	1.2	1.2	1.2	1.1	1.2	0.8	-0.3
Males															
% reporting using steroids but not androstenedione	1.8	1.0	1.4	1.1	0.9	0.9	0.9	0.6	0.6	0.4	0.8	0.6	0.5	0.5	0.0
% reporting using androstenedione but not steroids	0.8	0.8	0.8	1.0	0.6	1.1	0.7	0.8	0.6	0.8	0.3	0.5	0.7	0.2	-0.4 s
% reporting using both	0.5	0.9	0.4	0.2	0.3	0.3	0.2	0.6	0.4	0.3	0.2	0.2	0.2	0.2	-0.1
% reporting using either or both	3.1	2.7	2.6	2.2	1.9	2.3	1.9	2.0	1.7	1.5	1.3	1.3	1.4	0.9	-0.5
Females															
% reporting using steroids but not androstenedione	0.7	0.8	0.9	0.8	0.7	0.5	0.4	0.4	0.3	0.1	0.4	0.3	0.4	0.4	+0.1
% reporting using androstenedione but not steroids	0.6	0.4	0.6	0.3	0.2	0.4	0.8	0.3	0.4	0.6	0.5	0.3	0.5	0.4	-0.1
% reporting using both	0.4	0.4	0.2	0.2	0.2	0.1	*	0.1	0.2	0.2	0.1	0.0	0.1	0.0	-0.1
% reporting using either or both	1.6	1.6	1.7	1.3	1.0	1.0	1.2	0.9	0.8	0.9	0.9	0.6	0.9	0.8	-0.1
Approximate weighted Ns															
Total	*4,710*	*4,470*	*5,080*	*5,180*	*5,110*	*5,110*	*4,930*	*4,710*	*4,550*	*4,750*	*4,940*	*4,570*	*4,880*	*4,870*	
Males	*2,170*	*2,060*	*2,340*	*2,510*	*2,440*	*2,470*	*2,360*	*2,270*	*2,110*	*2,170*	*2,280*	*2,160*	*2,340*	*2,260*	
Females	*2,450*	*2,300*	*2,640*	*2,580*	*2,600*	*2,570*	*2,500*	*2,350*	*2,370*	*2,490*	*2,590*	*2,320*	*2,380*	*2,410*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' * ' indicates less than 0.05% but greater than 0%. Any apparent inconsistency between the total who used either substance or both substances and the sum of those who used only steroids, those who used only androstenedione, and those who used both is due to rounding. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

TABLE 10-17b
Steroids and Androstenedione
Trends in Annual Prevalence of Use by Gender in Grade 10

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Total															
% reporting using steroids but not androstenedione	1.5	1.5	1.2	1.1	1.1	0.9	0.8	0.6	0.5	0.6	0.7	0.4	0.6	0.5	-0.1
% reporting using androstenedione but not steroids	1.6	1.3	1.2	0.7	0.7	0.6	0.4	0.5	0.9	0.6	0.5	0.5	0.7	0.6	-0.1
% reporting using both	0.6	0.7	0.5	0.5	0.2	0.3	0.2	0.4	0.3	0.4	0.2	0.4	0.2	0.3	+0.1
% reporting using either or both	3.7	3.5	2.9	2.2	2.0	1.8	1.4	1.4	1.6	1.5	1.4	1.4	1.5	1.4	-0.1
Males															
% reporting using steroids but not androstenedione	2.4	2.2	1.5	1.5	1.4	1.2	1.3	0.9	0.7	1.0	1.1	0.7	0.9	0.7	-0.2
% reporting using androstenedione but not steroids	2.6	1.2	1.7	0.9	1.0	1.0	0.6	0.7	1.3	0.9	0.5	0.7	1.0	0.7	-0.3
% reporting using both	0.9	1.0	0.8	0.8	0.4	0.7	0.4	0.6	0.5	0.3	0.3	0.6	0.4	0.4	0.0
% reporting using either or both	5.8	4.4	4.0	3.1	2.8	2.9	2.2	2.1	2.4	2.2	2.0	2.0	2.3	1.8	-0.5
Females															
% reporting using steroids but not androstenedione	0.8	0.8	1.0	0.7	0.6	0.5	0.4	0.3	0.3	0.2	0.3	0.2	0.4	0.4	0.0
% reporting using androstenedione but not steroids	0.7	1.3	0.8	0.3	0.3	0.2	0.2	0.4	0.5	0.2	0.5	0.4	0.3	0.6	+0.3
% reporting using both	0.3	0.3	0.2	0.2	0.1	0.0	0.1	0.2	*	0.3	0.1	0.1	0.1	0.1	+0.1
% reporting using either or both	1.7	2.4	1.9	1.2	1.0	0.6	0.6	0.9	0.8	0.7	0.9	0.7	0.8	1.1	+0.3
Approximate weighted Ns															
Total	*4,410*	*4,450*	*4,950*	*5,180*	*5,110*	*5,230*	*5,130*	*4,820*	*5,080*	*4,920*	*4,760*	*4,760*	*4,300*	*4,330*	
Males	*2,040*	*2,210*	*2,340*	*2,430*	*2,460*	*2,580*	*2,460*	*2,200*	*2,380*	*2,370*	*2,290*	*2,250*	*2,040*	*2,080*	
Females	*2,310*	*2,180*	*2,550*	*2,680*	*2,580*	*2,610*	*2,610*	*2,570*	*2,650*	*2,490*	*2,400*	*2,430*	*2,160*	*2,130*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' * ' indicates less than 0.05% but greater than 0%. Any apparent inconsistency between the total who used either substance or both substances and the sum of those who used only steroids, those who used only androstenedione, and those who used both is due to rounding. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

TABLE 10-17c
Steroids and Androstenedione
Trends in Annual Prevalence of Use by Gender in Grade 12

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change
Total															
% reporting using steroids but not androstenedione	1.5	1.8	1.1	1.4	0.6	1.2	1.1	1.1	0.9	1.0	0.8	0.8	1.3	0.9	-0.3
% reporting using androstenedione but not steroids	2.1	1.8	1.5	1.0	0.8	0.5	0.5	0.9	0.5	1.1	0.3	0.6	0.5	0.6	+0.1
% reporting using both	0.9	0.7	1.1	1.1	0.9	0.6	0.4	0.4	0.6	0.4	0.4	0.5	0.2	0.5	+0.3 s
% reporting using either or both	4.5	4.3	3.6	3.5	2.3	2.2	2.0	2.4	2.0	2.5	1.6	1.8	2.0	2.1	+0.1
Males															
% reporting using steroids but not androstenedione	2.7	2.7	1.2	1.6	1.0	1.8	1.8	1.5	1.5	1.7	1.0	0.9	1.9	1.3	-0.6
% reporting using androstenedione but not steroids	4.2	3.6	2.6	2.1	1.2	0.7	0.7	0.7	1.0	1.5	0.5	0.5	0.7	1.2	+0.5
% reporting using both	1.1	1.1	2.0	1.6	1.6	1.0	0.5	1.0	1.0	0.8	0.8	0.8	0.3	0.8	+0.4 s
% reporting using either or both	8.0	7.3	5.8	5.3	3.8	3.4	3.0	3.2	3.4	4.0	2.3	2.2	2.9	3.2	+0.4
Females															
% reporting using steroids but not androstenedione	0.5	1.1	1.0	1.1	0.3	0.6	0.5	0.4	0.1	0.3	0.5	0.5	0.7	0.5	-0.2
% reporting using androstenedione but not steroids	0.1	0.2	0.1	*	0.3	0.2	0.2	0.7	*	0.7	0.1	0.4	0.3	0.1	-0.2
% reporting using both	0.6	0.2	0.1	0.7	0.1	0.1	0.1	0.0	0.3	*	*	0.1	0.0	0.2	+0.2
% reporting using either or both	1.2	1.5	1.2	1.6	0.7	0.9	0.8	1.1	0.5	1.0	0.6	1.1	1.0	0.8	-0.2
Approximate weighted Ns															
Total	*1,850*	*1,840*	*2,080*	*2,210*	*2,140*	*2,170*	*2,180*	*2,090*	*1,990*	*2,050*	*2,170*	*2,070*	*2,100*	*2,070*	
Males	*870*	*810*	*990*	*960*	*990*	*1,010*	*980*	*930*	*920*	*930*	*1,030*	*1,000*	*980*	*940*	
Females	*980*	*1,030*	*1,090*	*1,170*	*1,080*	*1,100*	*1,130*	*1,080*	*1,020*	*1,050*	*1,070*	*990*	*1,010*	*1,010*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' * ' indicates less than 0.05% but greater than 0%. Any apparent inconsistency between the total who used either substance or both substances and the sum of those who used only steroids, those who used only androstenedione, and those who used both is due to rounding. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

TABLE 10-18
Daily Marijuana Use
Responses to Selected Questions by Subgroups in Grade 12, 2014

Thinking back over your whole life, has there ever been a period when you used marijuana or hashish on a daily, or almost daily, basis for at least a month?	Total	Gender		4-Year College Plans		Region				Population Density		
		Male	Female	No	Yes	Northeast	Midwest	South	West	Large MSA	Other MSA	Non-MSA
No	86.3	84.5	89.1	77.2	89.7	84.1	88.7	87.2	84.4	86.2	86.0	87.0
Yes	13.7	15.5	10.9	22.9	10.3	15.9	11.3	12.8	15.6	13.8	14.0	13.0
How old were you when you first smoked marijuana or hashish that frequently?												
Grade 6 or earlier	1.1	1.0	1.0	2.3	0.6	0.5	1.3	1.2	1.4	0.9	1.5	0.4
Grade 7 or 8	4.0	4.8	3.0	4.4	3.5	5.8	2.6	4.2	3.5	3.4	4.3	4.3
Grade 9 (Freshman)	3.6	3.5	3.3	5.8	2.5	4.1	2.3	3.0	5.2	4.9	3.3	2.4
Grade 10 (Sophomore)	2.6	3.2	1.7	5.3	1.7	2.4	2.3	2.6	3.0	2.2	2.7	2.8
Grade 11 (Junior)	1.7	1.7	1.5	2.9	1.3	1.9	2.3	1.5	1.1	1.6	1.2	2.9
Grade 12 (Senior)	0.8	1.3	0.4	2.2	0.6	1.3	0.6	0.3	1.4	0.8	1.0	0.4
Never used daily	86.3	84.5	89.1	77.2	89.7	84.1	88.7	87.2	84.4	86.2	86.0	87.0
How recently did you use marijuana or hashish on a daily, or almost daily, basis for at least a month?												
During the past month	5.5	6.0	4.5	8.9	4.0	5.9	5.2	5.2	5.9	4.9	6.1	4.8
2 months ago	1.1	1.7	0.8	2.2	0.9	2.2	1.5	0.7	0.7	1.4	1.0	1.2
3 to 9 months ago	2.1	2.1	1.5	4.7	1.1	2.7	1.2	2.1	2.6	2.5	2.0	1.9
About 1 year ago	1.6	2.1	1.2	2.6	1.2	2.0	1.1	1.1	2.5	1.8	1.4	2.1
About 2 years ago	2.1	2.4	1.5	2.3	1.9	1.4	1.7	2.1	2.9	2.5	1.9	2.0
3 or more years ago	1.3	1.3	1.3	2.1	1.2	1.8	0.6	1.5	1.1	0.6	1.7	1.0
Never used daily	86.3	84.5	89.1	77.2	89.7	84.1	88.7	87.2	84.4	86.2	86.0	87.0
Over your whole lifetime, during how many months have you used marijuana or hashish on a daily or near-daily basis?												
Less than 3 months	12.2	13.4	9.9	18.6	9.4	13.7	10.2	11.5	13.5	12.2	12.3	11.7
3 to 9 months	0.4	0.5	0.3	1.3	0.2	0.5	0.3	0.4	0.5	0.4	0.4	0.3
About 1 year	0.3	0.6	0.1	0.9	0.2	0.4	0.2	0.3	0.5	0.3	0.4	0.3
About 1 and 1/2 years	0.2	0.2	0.2	0.6	0.1	0.4	0.1	0.2	0.3	0.2	0.3	0.1
About 2 years	0.1	0.1	0.1	0.3	0.1	0.2	0.1	0.1	0.2	0.2	0.1	0.1
About 3 to 5 years	0.2	0.3	0.1	0.7	0.1	0.3	0.2	0.2	0.4	0.2	0.3	0.1
6 or more years	0.3	0.3	0.2	0.5	0.1	0.4	0.2	0.2	0.2	0.2	0.2	0.3
Never used daily	86.3	84.5	89.1	77.2	89.7	84.1	88.7	87.2	84.4	86.2	86.0	87.0
Approximate weighted N =	*2,000*	*890*	*970*	*320*	*1,500*	*390*	*400*	*750*	*460*	*560*	*1,000*	*410*

Source. The Monitoring the Future study, the University of Michigan.

Note. Entries are percentages that sum vertically to 100%. ' * ' indicates less than 0.05% but greater than 0%.

TABLE 10-19a
Daily Marijuana Use for a Month or More in Lifetime
Trends by Subgroups in Grade 12 [a]

	Percentage ever using daily for at least a month																															2013–2014 change
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Total	20.5	16.8	16.3	15.6	14.9	14.7	12.8	11.5	10.0	9.0	8.4	9.6	11.3	12.1	15.7	18.8	18.0	17.9	17.0	18.0	15.5	16.4	17.8	14.5	16.6	15.7	15.1	14.9	15.5	17.4	18.2	15.8	13.7	-2.1
Gender																																		
Male	20.1	18.1	17.2	17.7	16.6	16.2	14.8	12.7	10.6	10.5	8.3	10.7	13.3	12.9	18.7	19.7	19.5	18.5	18.8	20.3	17.2	17.1	19.9	15.8	17.0	17.5	15.3	16.8	17.4	20.4	21.6	18.4	15.5	-2.9
Female	18.0	13.5	12.9	12.0	11.6	12.2	9.6	9.7	7.9	6.4	7.5	7.2	8.5	7.9	10.7	15.2	13.9	14.4	13.7	13.8	11.7	12.5	12.3	11.1	13.3	12.6	12.8	10.7	11.5	12.0	11.9	11.7	10.9	-0.8
College Plans																																		
None or under 4 years	22.5	20.3	18.9	19.6	17.2	18.0	14.5	15.3	12.8	11.5	11.2	11.6	16.1	14.2	21.5	22.6	22.1	22.1	19.1	22.8	20.5	22.2	24.5	20.0	24.8	21.8	23.4	18.6	21.9	26.4	28.0	24.3	22.9	-1.4
Complete 4 years	13.8	10.5	10.7	10.6	11.0	11.1	9.8	9.1	7.4	6.5	5.9	7.7	8.6	9.2	11.9	14.9	13.4	14.2	13.7	13.8	11.7	11.9	13.4	11.4	12.2	13.3	11.0	11.8	12.5	13.9	14.1	12.5	10.3	-2.3
Region																																		
Northeast	25.1	20.4	24.1	20.9	21.5	17.0	13.1	14.6	10.4	10.3	8.7	12.0	12.2	12.8	21.3	24.6	22.7	17.9	19.8	23.4	20.7	20.8	19.5	15.5	17.7	19.0	19.7	14.2	16.0	18.6	17.6	17.5	15.9	-1.6
Midwest	21.1	15.9	12.8	16.3	11.3	12.7	10.3	13.4	10.8	8.4	8.0	9.3	11.0	13.6	14.6	16.5	16.1	14.3	13.8	18.4	16.3	15.0	17.9	16.6	16.3	17.1	13.8	17.0	15.4	15.9	15.7	14.5	11.3	-3.2
South	15.7	12.7	14.0	8.9	11.3	11.9	10.9	8.1	8.7	7.4	5.9	8.3	11.8	11.2	12.7	14.9	15.6	19.1	14.7	12.7	14.6	15.5	18.6	15.8	17.1	14.2	13.3	15.9	14.8	17.5	16.7	14.2	12.8	-1.4
West	20.8	21.4	17.6	18.5	18.3	19.7	19.0	12.3	11.0	11.3	13.4	10.4	10.2	10.6	17.0	23.0	20.6	20.4	21.9	21.2	11.7	15.4	14.3	8.9	15.2	13.9	15.6	11.2	16.4	17.8	23.2	18.2	15.6	-2.6
Population Density																																		
Large MSA	23.8	20.0	19.4	18.1	17.0	16.7	14.0	10.6	8.3	7.2	8.4	8.6	10.3	13.9	15.3	18.8	18.0	16.3	18.4	19.7	15.2	14.0	17.0	13.7	18.7	14.2	18.3	13.8	16.6	18.6	20.2	16.8	13.8	-3.0
Other MSA	20.3	18.2	16.6	16.0	14.9	15.0	14.9	12.4	11.7	11.1	8.9	10.2	13.6	11.3	18.2	20.1	19.7	19.2	18.3	17.5	15.1	19.0	19.5	14.6	14.2	16.2	13.5	15.4	16.5	17.1	18.2	16.3	14.0	-2.2
Non-MSA	17.9	12.6	13.2	12.8	13.2	12.2	7.6	10.4	8.2	7.1	7.6	9.6	8.4	11.2	11.6	16.2	14.4	17.1	13.0	17.1	16.8	14.8	15.5	15.3	18.2	16.8	14.8	15.1	11.5	16.1	14.9	13.3	13.0	-0.3

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]Data based on one form. The total *N* each year for 1982–1989 is approximately 3,300. The total *N* each year for 1990–1998 is approximately 2,600. The total *N* each year for 1999–2002 is approximately 2,200. Beginning in 2003, the total *N* each year is approximately 2,400.

TABLE 10-19b
Daily Marijuana Use for a Month or More Prior to 10th Grade
Trends by Subgroups in Grade 12 [a]

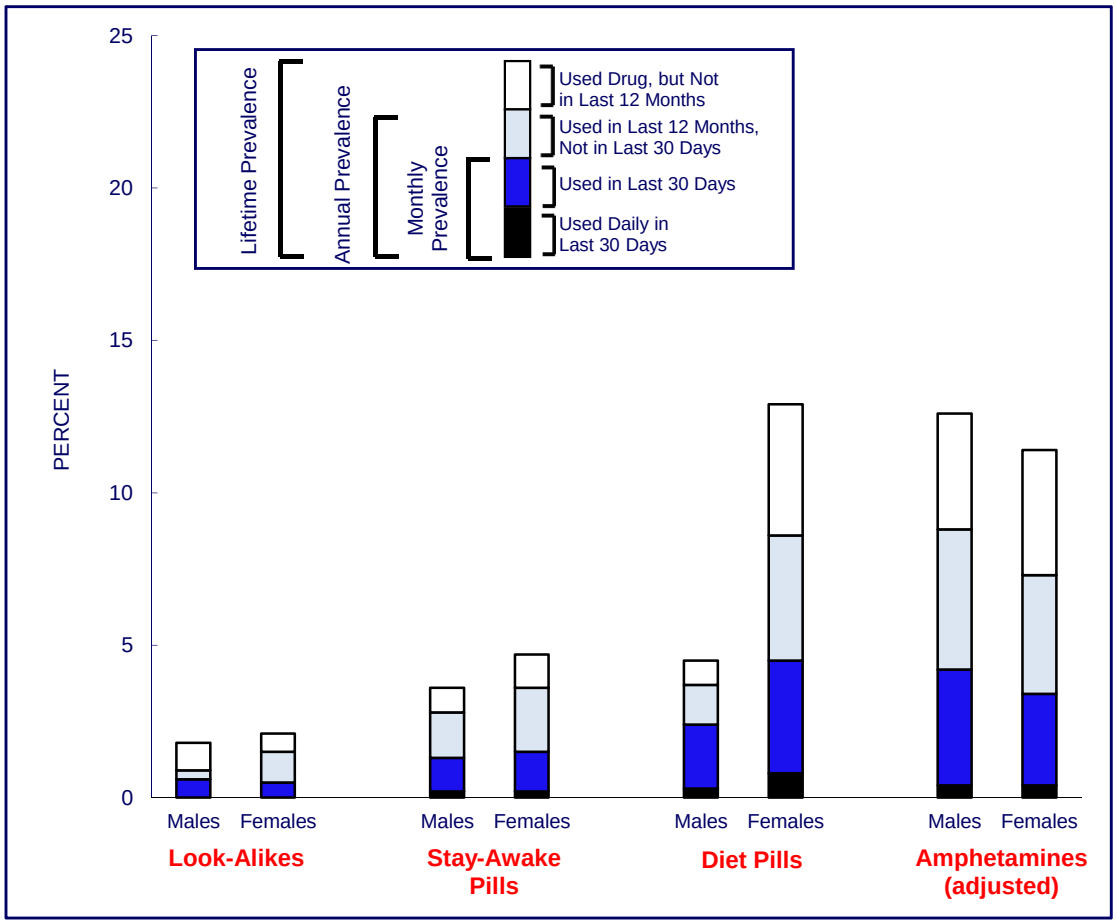
	Percentage reporting first such use prior to 10th grade																															2013–2014 change
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Total	13.1	11.1	10.9	8.8	8.5	8.9	7.8	7.6	6.7	6.4	5.6	5.2	5.5	5.5	7.8	9.7	10.1	10.7	10.8	11.4	10.1	10.1	9.8	8.1	9.9	9.8	8.9	9.0	9.2	9.9	9.7	8.1	8.7	+0.6
Gender																																		
Male	12.9	12.1	11.8	9.8	8.7	10.2	8.4	8.4	6.9	7.4	5.6	5.5	6.1	5.8	9.6	9.6	11.4	10.0	10.9	11.9	11.5	9.5	11.1	8.7	9.7	10.8	7.9	10.3	9.6	11.0	11.3	9.5	9.2	-0.2
Female	11.5	8.3	8.0	6.5	6.6	7.1	6.6	6.0	4.9	4.4	5.0	4.1	4.4	3.4	4.9	8.1	8.0	8.8	9.0	9.3	7.3	7.8	5.3	5.6	7.2	7.9	8.3	5.8	7.6	7.0	6.5	6.0	7.3	+1.3
College Plans																																		
None or under 4 years	14.2	13.5	12.3	11.8	10.7	11.4	11.0	11.6	9.0	8.7	7.8	6.3	6.7	6.7	11.0	11.0	16.9	12.2	12.7	15.1	15.8	14.0	12.5	12.4	16.7	15.2	13.5	14.2	14.6	17.9	14.9	12.3	12.5	+0.2
Complete 4 years	8.2	6.5	6.6	5.5	5.2	6.4	5.3	5.1	4.6	4.3	3.8	4.2	4.4	4.2	5.8	7.9	7.1	8.1	7.9	8.5	7.3	6.7	6.6	5.7	6.2	7.9	6.3	6.5	7.1	7.3	7.2	6.2	6.6	+0.4
Region																																		
Northeast	17.3	11.9	17.2	12.9	10.3	10.3	9.0	10.7	6.5	8.2	4.8	6.3	5.2	6.6	8.3	13.3	12.7	8.8	13.2	13.8	13.3	12.1	12.1	11.2	10.7	10.7	11.8	8.2	9.3	11.7	11.1	9.3	10.4	+1.1
Midwest	13.3	12.4	8.4	9.1	7.3	7.7	6.0	7.6	6.7	4.9	4.7	5.5	5.8	6.2	8.9	8.2	9.6	7.8	8.3	9.9	10.1	9.5	9.0	6.8	9.5	11.4	8.6	8.7	9.5	7.7	7.8	6.8	6.2	-0.6
South	9.3	8.3	8.5	5.0	6.4	7.4	6.3	5.4	6.2	5.1	4.4	4.3	6.6	4.5	5.8	7.5	8.0	13.2	8.8	9.2	9.8	10.3	9.3	9.4	10.1	9.8	8.2	11.6	8.9	9.8	8.4	8.2	8.4	+0.3
West	12.6	13.9	12.1	8.9	11.2	11.7	11.9	8.1	8.0	8.6	9.8	5.1	3.2	5.0	10.1	12.3	12.1	11.6	14.6	15.3	8.0	8.4	8.8	4.6	9.1	7.6	8.3	5.9	9.4	11.1	12.4	8.6	10.1	+1.5
Population Density																																		
Large MSA	15.6	13.7	12.4	12.0	9.6	11.8	8.1	6.0	5.9	5.4	5.7	5.5	4.6	6.0	9.2	10.0	9.3	9.7	12.2	12.7	9.4	8.0	9.8	7.5	10.4	7.7	10.3	8.2	10.8	9.2	9.9	8.5	9.2	+0.8
Other MSA	12.5	12.0	11.5	8.3	8.4	8.8	9.6	8.1	8.1	7.7	5.8	5.3	6.9	5.5	8.3	9.8	11.4	11.4	12.0	11.8	10.4	11.2	11.1	7.4	8.4	10.1	8.1	8.8	9.6	10.4	9.6	8.5	9.1	+0.6
Non-MSA	11.7	8.2	8.5	6.6	7.6	6.4	4.3	7.6	4.3	5.3	5.3	4.8	4.2	4.8	5.6	9.4	8.6	10.8	7.2	9.2	10.7	10.7	7.2	10.1	11.9	12.4	9.3	10.5	6.0	9.7	9.6	6.8	7.0	+0.2

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. Any apparent inconsistency between this table and Table 10-18 is due to rounding.

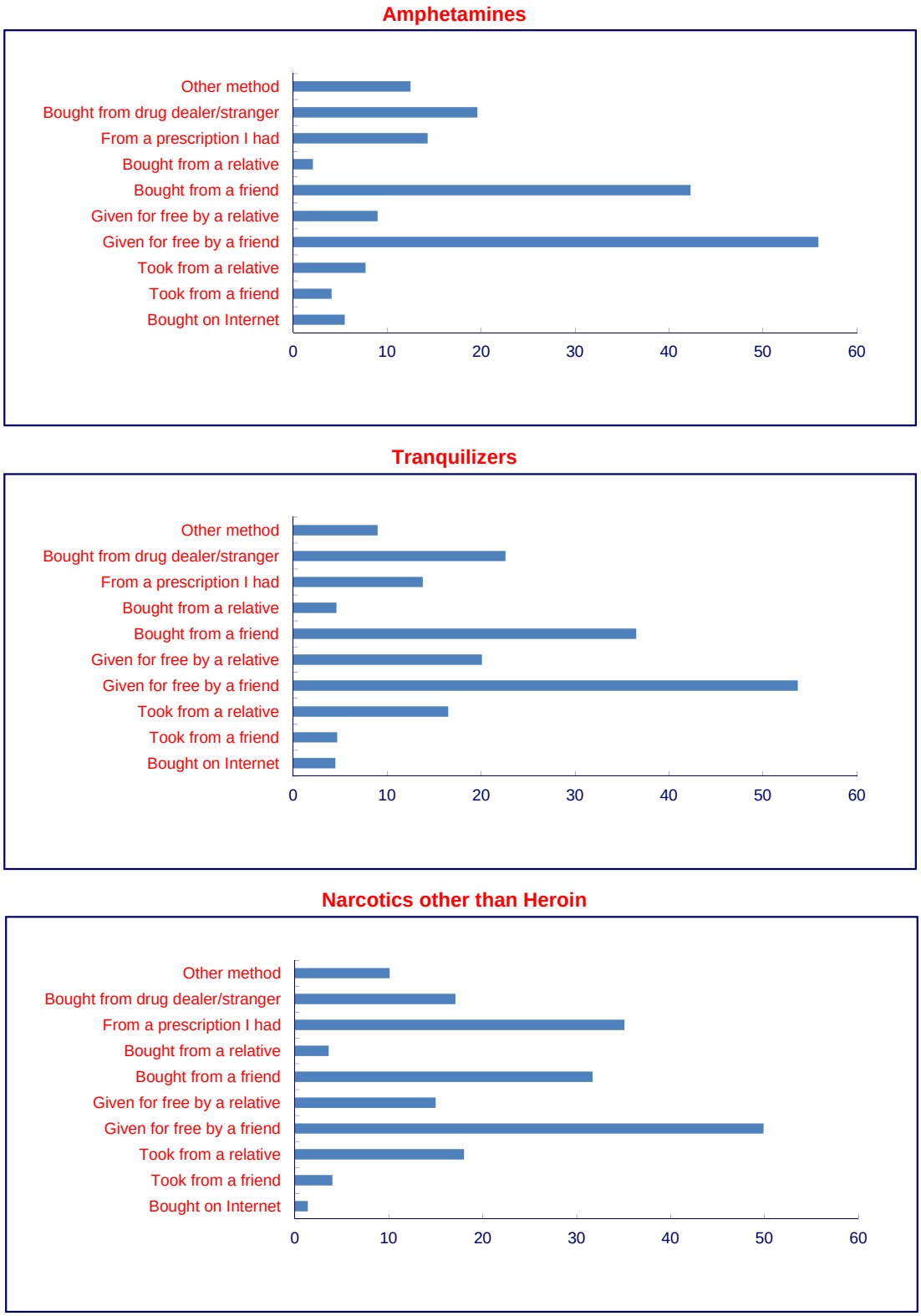
[a]The approximate *N* prior to 1990 is 3,300; data based on one of five forms. Beginning in 1990, the approximate *N* is 2,500; data based on one of six forms.

FIGURE 10-1
AMPHETAMINES AND NONPRESCRIPTION STIMULANTS
Prevalence and Recency of Use by Gender in Grade 12
2014



Source. The Monitoring the Future study, the University of Michigan.

FIGURE 10-2
Source of Prescription Drugs
among Those Who Used in Past Year
Grade 12, 2009–2014



Source. The Monitoring the Future study, the University of Michigan.

Note. Respondents were instructed to check all answers that apply.

Appendix A

PREVALENCE AND TREND ESTIMATES ADJUSTED FOR ABSENTEES AND DROPOUTS

To what extent do the MTF prevalence and trend estimates derived from 12th graders represent trends among all young people in the same class or age cohort, *including* those who have dropped out of school by senior year? To answer this question, we published an extensive chapter in 1985[1] and have since continued to estimate the degree to which MTF data accurately represent the entire class cohort. In this appendix we summarize the main points relevant to sample coverage.

We begin by noting that two segments of the entire age cohort are missing from the 12th-grade data: (a) those who are still enrolled in school but are absent the day of data collection (absentees), and (b) those who have left school and are not likely to complete high school (dropouts). Since refusal rates are negligible, absentees including dropouts constitute virtually all of the nonrespondents shown in the response rate in Table 3-1, or about 20% of all 12th graders (18% of the entire age cohort). U.S. Census data indicate that dropouts comprised approximately 15% of the class/age cohort through most of the life of the study, until about 2002. Since then, there has been a gradual decline, dropping to a little over 8% in 2014.[2]

The methods we use to estimate prevalence for these two missing segments are summarized briefly here. Then, the effects of adding the two segments to the calculation of the overall prevalence estimates are presented, along with the impact on the trends. Two illicit drugs are highlighted for illustrative purposes: marijuana, the most prevalent of the illicit drugs, and cocaine, one of the more dangerous and less prevalent drugs. Estimates for 12th graders are presented for both lifetime and 30-day prevalence of each drug.

CORRECTIONS FOR EIGHTH AND TENTH GRADES

Potential underestimation is likely higher among 12th graders than among 8th and 10th graders, because the rates of dropping out and absenteeism are lower for 8th and 10th grades than for 12th grade. With respect to dropping out, only very few members of an age cohort have ceased attending school by grade 8, when most are age 13 or 14. In fact, Census data suggest that less than 2% would have dropped out at this stage. Most 10th graders are age 15 or 16, and Census data indicate that only a small proportion (less than 5%) would have dropped out by then.[3] Thus,

[1] Johnston, L. D., & O'Malley, P. M. (1985). Issues of validity and population coverage in student surveys of drug use. In B. A. Rouse, N. J. Casual, & L. G. Richards (Eds.), *Self-report methods of estimating drug use: Meeting current challenges to validity* (NIDA Research Monograph No. 57 (ADM) 85-1402). Washington, DC: U.S. Government Printing Office.

[2] U.S. Census Bureau (various years). *Current population reports, Series P-20*, [various numbers]. Washington, DC: U.S. Government Printing Office. Available at http://www.census.gov/cps/data/cpstablecreator.html.

[3] According to the *Statistical Abstract of the United States 2012* (p. 148), in 2009 the proportion of the U.S. civilian noninstitutionalized population enrolled in school was 98.2% among 7- to 13-year-olds and 98.0% among 14- to 15-year-olds. The proportion drops to 94.6% for 16- to 17-year-olds combined, but there is probably a considerable difference between age 16 and age 17 because state laws often require attendance through age

any correction for the missing dropouts should be negligible at 8th grade and quite small at 10th grade.

While absentees comprise 18% of the 12th graders who should be in school, they comprise only 12% of 10th graders and 10% of 8th graders in 2014 (see Table 3-1). Thus, the prevalence estimate adjustments that would result from corrections for this missing segment would also be considerably less for 8th and 10th graders than for 12th graders.

In sum, the modest corrections in estimates for levels of substance use, which we show next to the results from the corrections for dropouts and absentees at the 12th-grade level, set outer limits for what would be found at 8th and 10th grade. In fact, it is clear that the corrections would be considerably smaller at 10th grade and far smaller at 8th grade. For this reason, and because the corrections described below for 12th graders turn out to be modest ones, we have not estimated comparable corrections for 8th and 10th graders.

THE EFFECTS OF MISSING ABSENTEES

In order to assess the effects of excluding absentees on the estimates of 12th-grade drug use, we included a question asking students how many days of school they had missed in the previous four weeks. Using this variable, we can place individuals into different strata as a function of how often they tend to be absent from school. For example, all students who had been absent 50% of the time could form one stratum. Assuming that absence on the particular day of administration is a fairly random event, we can give the actual survey participants in this stratum a double weight to represent all students in their stratum, including the ones who happen to be absent that particular day. Those who say they were absent two thirds of the time would get a weight of three to represent themselves plus the two thirds in their stratum who were not there on the day of the administration, and so forth. Using this method, we found that absentees as a group have appreciably higher-than-average usage levels for all licit and illicit drugs. However, in an analysis of 2014 data, we found that the omission of absentees did not depress prevalence estimates in any of the drugs by more than 2.6 percentage points, because absentees represent such a small proportion of the total target sample. Considering that a substantial proportion of those who are absent are likely absent for reasons unrelated to drug use—such as illness, participation in extracurricular activities, and community service and field trips—it may be surprising to see even these differences. In any case, from a policy or public perspective, these small corrections would appear to be of little or no significance. (The correction in 2014 across all 22 drugs in lifetime prevalence averaged only 1.02 percentage points.) Further, such corrections should have virtually no effect on cross-time trend estimates unless the rate of absenteeism has changed appreciably, and we find no evidence in our data that it has. (See Table 3-1.)

16. Eighth graders in the spring of the school year are mostly (and about equally) 13 and 14 years old, while 10th graders are mostly (and about equally) 15 and 16 years old. Thus, extrapolating from these data, we estimate that less than 2% of 8th graders and less than 5% of 10th graders are dropouts. Derived from the U.S. Census Bureau's *Statistical Abstract of the United States: 2012* (131st Edition), Washington, DC: U.S. Census Bureau. Available at http://www.census.gov/prod/2011pubs/12statab/educ.pdf.

THE EFFECTS OF MISSING DROPOUTS

Unfortunately, we cannot derive corrections from 12th-grade data to impute drug use prevalence for dropouts directly, because we have no completely appropriate stratum from which we have sampled. We believe, based on our own previous research as well as the work of others, that dropouts generally have substantially higher prevalence of use estimates for all classes of drugs compared to the estimates of individuals who remain in school. Alternatively, dropouts may be similar to the absentees (which we showed above as not being all that different from attenders in their drug use); indeed, one definition of dropouts would be those who are 100% absent from school for a defined period.

Until 2003, we estimated the proportions who fail to complete high school to be approximately 15%; Figure A-1 displays the high school completion rate for the years 1972 through 2014 based on Census data. As the figure indicates, completion (and dropout) rates were quite constant through 2002 for persons 20–24 years old. (Younger age brackets are less appropriate to use because they include some young people who are still enrolled in high school.) However, since 2002, completion rates have gradually increased, reaching 91.9% in 2014 (i.e., a dropout rate of 8.1%). MTF surveys probably include some small proportion of the dropouts estimated in this way, because the surveys of 12th graders take place a few months *before* graduation, and not everyone will graduate. On the other hand, perhaps 1–2% of the age group that the U.S. Census Bureau shows as having a diploma actually left high school before completing 12th grade, then earned a Certificate of General Education Development (GED), and thus may not be covered by MTF samples. (Elliott and Voss reported this result for less than 2% of the sample in their follow-up study of 2,617 9th graders in California who were followed through their high school years.)[4] So these two factors probably cancel each other out. Thus, we used 15% as our estimate of the proportion of an age cohort not covered through 2002; and, since then, we have used the gradually decreasing annual proportion as reported by the U.S. Census Bureau.

Extrapolation Methods

To estimate the drug usage levels for dropouts, we have used two quite different approaches. The first was based on extrapolations from 12th graders participating in the MTF study. Using this method, we developed estimates under three different assumptions about the difference between dropouts and 12th-grade respondents, namely that this difference was (a) equivalent to the difference between absentees and 12th-grade respondents, (b) 1.5 times that difference, and (c) twice that difference. The last assumption we would consider rather extreme.

The second general method involved using the best national data then available on drug use among dropouts—namely the National Survey on Drug Use and Health (NSDUH, formerly the National Household Surveys on Drug Abuse, or NHSDA).[5] While these surveys have rather small

[4] Elliott, D., & Voss, H. L. (1974). *Delinquency and dropout.* Lexington, MA: Lexington Books.

[5] Fishburne, P. M., Abelson, H. I., & Cisin, I. (1980). *National Survey on Drug Abuse: Main findings, 1979* (NIDA (ADM) 80-976). Washington, DC: U.S. Government Printing Office; Miller, J. D., et al. (1983). *National Survey on Drug Abuse: Main findings, 1982* (NIDA (ADM) 83-1263). Washington, DC: U.S. Government Printing Office. See also Substance Abuse and Mental Health Services Administration (1995). *National Household Survey on Drug Abuse: Main findings 1992* (DHHS Publication No. (SMA) 94-3012). Rockville, MD: Substance Abuse and Mental Health Services Administration. See also Office of Applied Studies, Substance Abuse and Mental Health Services Administration (2003). *Results from the 2002 National Survey on Drug Use and Health: National findings* (DHHS Publication No. SMA 03-3836, NHSDA Series H-22). Rockville, MD: Substance Abuse and Mental Health Services Administration, Office of Applied Studies.

samples of dropouts in the relevant age range in any single year, they should at least provide unbiased estimates for dropouts still in the household population. Further, by pooling multiple years of data together it is possible to derive more stable estimates of the drug use levels of dropouts.

Using the first assumption—that dropouts are just like absentees—we found that no prevalence estimate was changed by more than four percentage points over the estimate based on 2014 12th graders only, even with the *simultaneous* correction for both absentees and dropouts. (The method for calculating levels of use for absentees is described in the previous section.) The largest correction involved getting drunk, with lifetime prevalence rising from just under 50% to 53%. Even under the most extreme assumption—which results in exceptionally high prevalence levels for dropouts on all drugs, for example, 85% lifetime prevalence for getting drunk—the overall correction in any of the prevalence figures for any drug remained less than 5.0 absolute percentage points. Again, getting drunk showed the biggest correction (4.8%, this in lifetime prevalence, raising it from 50% uncorrected to 54% with corrections for both absentees and dropouts). As expected, the biggest *proportional* change occurred for the drugs with low prevalence at the very deviant end of the drug-using spectrum, such as crack, heroin, and methamphetamine, which we would expect to be most associated with truancy and dropping out.

The second method of estimating drug use among dropouts involved comparing NHSDA data on dropouts with MTF data from those remaining in school. We originally conducted secondary analyses of the archived data from the 1977 and 1979 National Household Surveys. (Analyses using more recent NSDUH data are shown in the next section.) Analyses were restricted to the age range 17 to 19, since about 95% of MTF 12th graders fall in this range. Of course, the numbers of NHSDA cases in this category are small. The 1977 NHSDA survey included only 46 dropouts and 175 enrolled 12th graders in this age group. In the 1979 survey, 92 dropouts and 266 12th graders were included.

For marijuana, NHSDA estimated differences between dropouts and 12th graders at a level at or below the *least* extreme assumption made in the previous method (in which dropouts are assumed to have the same drug-use levels as absentees). While reassuring, we believe these household samples underrepresented the more drug-prone dropouts to some degree. Thus we concluded that estimates closer to those made under the second assumption may be more realistic—that is, that dropouts are likely to deviate from participating 12th graders by 1.5 times the amount that absentees deviate from them.

We should note that there are a number of reasons for dropping out, many of which bear no relationship to drug use, including economic hardship and certain learning disabilities and health problems. At the national level, the extreme groups such as those in jail or without a permanent residence are undoubtedly a very small proportion of the total age group, and probably a very small proportion of all dropouts as well. Thus, regardless of their levels of drug use, their inclusion would not influence the overall prevalence estimates by a very large amount except in the case of the rarest events—in particular, heroin use. We do believe that in the case of heroin use—particularly regular use—it is probably impossible to get an entirely accurate estimate even with the corrections used in this report. The same may be true for crack cocaine and methamphetamine. For the remaining drugs, we conclude that our estimates based on participating 12th graders, though

somewhat low, are nevertheless good approximations for the age group as a whole. And, of course, the samples are drawn to be representative of students in school.

Effects of Omitting Dropouts in Trend Estimates

Whether the omission of dropouts affects the estimates of *trends* in prevalence is a separate question, however, from the degree to which it affects absolute estimates at a given point in time. The relevant issues parallel those discussed earlier regarding the possible effects on trends of omitting the absentees. Most important is the question of whether the rate of dropping out has changed appreciably, because a substantial change would mean that 12th graders studied in different years would represent noncomparable segments of the whole class/age cohort. The official government data provided in Figure A-1 indicate a quite stable rate of dropping out from 1972 to 2002, followed by a modest decline since then.

One possible reason that 12th graders' trend data might deviate from trends for the entire age cohort (including dropouts) would be dropouts showing trends that differed from 12th-grade trends; even then, because of their small numbers, dropouts would have to show dramatically different trends to change the whole age group trend. No hypothesis offered for such a differential shift among dropouts has been convincing, at least to the present authors.

One hypothesis occasionally voiced was that more teens were being expelled from school, or voluntarily leaving school, because of their drug use, and that this explained the downturn in the use of many drugs being reported by MTF in the 1980s. However, it is hard to reconcile this hypothesis with the virtually flat (or, if anything, slightly declining) dropout rates during this period. Further, the reported prevalence of some drugs (e.g., alcohol and narcotics other than heroin) remained remarkably stable throughout those years, and the prevalence of others rose (cocaine until 1987, and amphetamines until 1981). These facts are inconsistent with the hypothesis that there had been an increased rate of departure by the most drug-prone. Certainly, more teens leaving school in the 1980s had drug problems than was true in the 1960s. (So did more of those who stayed in.) However, they still seem likely to be very much the same segment of the population, given the degree of association that exists between drug use, deviance, and problem behaviors in general. In recent years, with a small decline in dropping out, one might predict an increase in observed usage levels among 12th graders since 2002; this assumes, of course, that everything else was equal, and also that the higher retention rate involved some staying in school who were more likely to be drug users. In fact, however, there actually was a pattern of decline in the years immediately after 2002, most likely because everything else did not remain equal.

FURTHER EXPLORATION OF CORRECTIONS FOR DROPOUTS

Additional information on the effects of dropout exclusion comes from a 2013 NSDUH report focusing specifically on the prevalence of drug use among high school dropouts from 2002–2010.[6] Table A-1 presents estimates based on the results from this report. At least two findings are worth noting. First, for all drugs examined, except cigarettes, the prevalence for dropouts is less than two times the prevalence among grade students, which is within the range used in our estimates

[6] Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. (February 12, 2013). *The NSDUH Report: Substance Use among 12th Grade Aged Youths by Dropout Status.* Rockville, MD.

above (based on 1.5 to 2 times the prevalence of *absentees*). For cigarettes, the past-month prevalence is two and a half times greater among dropouts. Second, because the dropout population is not large, taking into account its higher drug prevalence does not result in substantial changes in prevalence estimates. For all drugs analyzed, the absolute difference in prevalence estimates with and without accounting for dropouts is less than 2 percentage points. The exception is cigarette use, for which the difference in the prevalence estimate with dropouts is 4.5 points higher than it is without dropouts.

Table A-2 compares the total population prevalence estimates for MTF derived using the two quite different methods discussed earlier in this appendix. The first method shows the estimates that result when we use the procedure that provided the data shown in Figure A-2, in which the prevalence among dropouts is assumed to be higher than 12th graders present by 1.5 times the difference between 12th graders present on the day of the survey and 12th graders absent that day. Column 2 in Table A-2 is calculated by reweighting the data for absenteeism and calculating the estimated prevalence among absentees. The prevalence among dropouts (Column 4) is estimated by assuming that they differ from 12th graders present by a factor 1.5 times greater than the difference between 12th graders present and 12th graders absent. The data in Columns 1 and 2 are combined in appropriate proportion to derive estimated prevalence among 12th graders present plus absentees (Column 3). The data in Columns 1, 2, and 4 are then combined in appropriate proportions to derive prevalence estimates for the entire class cohort (shown in Column 5). (For 2013, the percentage of dropouts is estimated at 8.1% and the percentage of 12th graders absent is estimated at 18% [based on data in Table 3-1])

The second method for estimating prevalence among dropouts (Column 9) and the entire class cohort (Column 10) is based on the estimated prevalence from MTF 12th graders present and 12th graders absent. We then adjust for the missing dropout segment by assuming that the difference between NSDUH 12th graders and NSDUH dropouts (Column 8) is the best estimate of the difference between dropouts and nondropouts (Column 10).

The data in Columns 6 and 7 are prevalence levels reported by the 2013 NSDUH 12th graders and dropouts ages 17–18, and Column 8 shows the algebraic difference. This absolute "bias" is treated as an estimate of the difference between 12th graders (present plus absent) versus dropouts, and is then applied to the estimated prevalence based on MTF data of 12th graders present plus absent (Column 3) to derive an estimate of the prevalence among dropouts (Column 9). MTF estimates for nondropouts turn out to be higher than those from NSDUH, thus causing MTF dropout estimates to be higher also. Finally, the data in Columns 3 and 9 are combined in appropriate proportion to derive estimates presented in Column 10 for the entire class cohort.

Note that the estimated prevalence among dropouts based on NSDUH data are not very different from the estimates derived using the 1.5 factor (compare Columns 9 and 4). Consequently, the total estimates given in Column 10 turn out to be highly similar to those in Column 5. This similarity suggests that the estimates of corrections for dropouts that we have been providing, based on earlier data, are quite reasonable. In fact, based on all of the NSDUH data, they may actually be conservatively high.

Finally, an additional piece of information relative to the comparison of drug use levels among students who stay in school versus dropouts comes from Fagan and Pabon (1990),[7] who reported some comparison data between high school students and dropouts from six inner-city neighborhoods. About 1,000 male students and 1,000 female students were compared with 255 male dropouts and 143 female dropouts. Although dropouts were generally more delinquent and more involved with substance use, there was also a great deal of variability by specific class of substances. As would be generally expected, marijuana use was lower among students compared to dropouts. On the other hand, psychedelic use, as well as use of tranquilizers and barbiturates, was *higher* among students. Amphetamine use was lower among male students but higher among female students compared to dropouts of the same gender. Similarly, cocaine use was lower among male students but higher among female students compared to dropouts. Surprisingly, students of both genders reported more heroin use than did dropouts. Inhalant use did not differ significantly between students and dropouts. This study does not support the usual assumption that dropouts invariably use drugs more than students do.

EXAMPLES OF REVISED ESTIMATES FOR TWO DRUGS

Figure A-2 provides the prevalence and trend estimates of marijuana and cocaine, for both the lifetime and 30-day prevalence periods, showing (a) the original estimates based on *participating* 12th *graders* only; (b) the empirically derived, revised estimates based on *all 12th graders*, including the absentees; and (c) estimates for the *entire class/age cohort* (developed using the assumption described above—namely, that drug use prevalence for dropouts differs from the drug use prevalence for participating 12th graders by 1.5 times the amount that the drug use prevalence for absentees does). Estimates were calculated separately for each year, thus taking into account any differences from year to year in the participation or absentee rates. The dropout rate was taken as a constant 15% of the age group through 2002, then at the rates observed each year through 2012.

As Figure A-2 illustrates, any differences in the *slopes* of the trend lines between the original and revised estimates are extremely small. The prevalence estimates are higher, of course, but not dramatically so, and certainly not enough to have any serious policy implications. As stated earlier, the corrections for 8th- and 10th-grade samples should be considerably less than for 12th grade, and there is no reason to think that absentee or dropout rates at those levels have changed since 1991 in any way that could have changed the trend data. Therefore, we have confidence that the trends that have appeared for the in-school populations represented in this study are very similar to those that would pertain if the entire age cohorts had been the universes from which we sampled.

SUMMARY AND CONCLUSIONS

While we believe that the prevalence of drug use for the entire age cohort is somewhat underestimated in the MTF results, due to the omission of dropouts from the universe of the study, the degree of underestimation appears rather limited for most drugs; more importantly, trend

[7] Fagan, J., & Pabon, E. (1990). Contributions of delinquency and substance use to school dropout among inner-city youths. *Youth & Society, 21,* 306–354.

estimates seem rather little affected. Short of having good trend data gathered directly from dropouts, who, fortunately, appear to constitute a shrinking proportion of the total age group, we cannot close the case definitively. Nevertheless, the available evidence argues strongly against alternative hypotheses—a conclusion also reached by the members of the 1982 NIDA technical review on this subject and reflected in the abstract of the review:[8] "The analyses provided in this report show that failure to include these two groups (absentees and dropouts) does not substantially affect the estimates of the incidence and prevalence of drug use."

[8] Clayton, R. R., & Voss, H. L. (1982). *Technical review on drug abuse and dropouts.* Rockville, MD: National Institute on Drug Abuse.

TABLE A-1
Past Month Substance Uses among 12th Grade Aged Youths, by Dropout Status, NSDUH 2002-2010 (Combined)

	Dropouts[a]	In School	Combined	Abs Diff
Alcohol	41.6	35.3	36.1	**0.8**
Binge Alcohol	32.3	23.8	24.9	**1.1**
Any Illicit	31.4	18.2	19.9	**1.7**
Marijuana	27.3	15.3	16.9	**1.6**
NM Prescription Drug	9.5	5.1	5.7	**0.6**
Cigarettes	56.8	22.4	26.9	**4.5**

[a] size of dropouts estimated to be 13.2% of 12th grade class

Note: For these years NSDUH estimates that dropouts are 13.2% the size of the the 12th grade class

TABLE A-2
Comparison of 2013 Monitoring the Future Seniors, NSDUH Seniors, and NSDUH Dropouts

	MTF Seniors	NSDUH Seniors*	NSDUH Dropouts 17–18**
Marijuana			
Lifetime	45.5	36.49	57.48
30-Day	22.7	16.37	29.57
Cocaine			
Lifetime	4.5	3.37	13.99
30-Day	1.1	0.25	0.88

Source. The Monitoring the Future study, the University of Michigan and the National Survey on Drug Use and Health.

TABLE A-3
Estimated Prevalence Rates for Marijuana and Cocaine, 2013, Based on Data from Monitoring the Future and The National Survey on Drug Use and Health

	1	2	3	4	5	6	7	8	9	10
	Monitoring the Future					NSDUH			MTF/NSDUH Combined	
	Seniors Present [a]	Seniors Absent [b]	Seniors Absent & Present [c]	Dropouts [d]	Total [e]	Seniors [f]	Dropouts (Ages 17–18 [g])	Difference [h]	Dropouts [i]	Total [j]
Marijuana										
Lifetime	45.5	58.6	47.8	65.2	49.5	36.5	57.5	21.0	68.8	49.8
30-Day	22.7	32.1	24.4	36.8	25.6	16.4	29.6	13.2	37.6	25.6
Cocaine										
Lifetime	4.5	8.9	5.3	11.1	5.9	3.4	14.0	10.6	15.9	6.3
30-Day	1.1	2.6	1.4	3.4	1.5	0.3	0.9	0.6	2.0	1.4

Source. The Monitoring the Future study, the University of Michigan and the National Survey on Drug Use and Health.

[a]Estimates based on all MTF seniors who completed questionnaires.

[b]Estimated prevalence among seniors who were absent (using data from seniors who were present, as explained in text).

[c]Estimated prevalence among seniors present plus seniors who were absent.

[d]Estimated prevalence among dropouts, based on assumptions described in text.

[e]Estimated prevalence among seniors present, seniors who were absent, and same-age dropouts.

[f]Estimates based on all NSDUH respondents who were high school seniors.

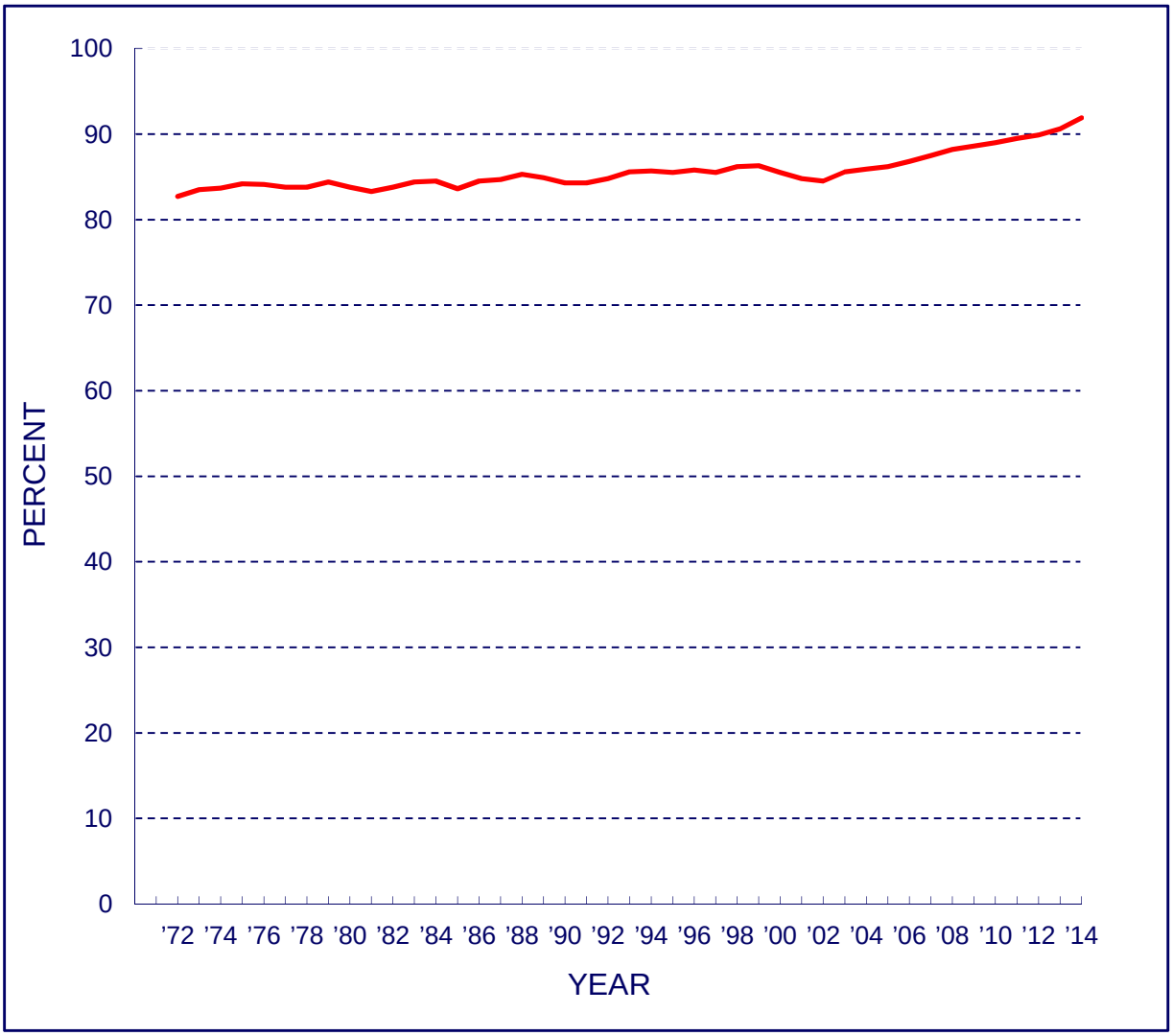
[g]Estimates based on all NSDUH respondents, 17–18 years old, who were not attending school, had not graduated, and had not received a GED.

[h]The difference between all NSDUH seniors and dropouts; this is considered a valid estimate of the population difference between all seniors and dropouts, resulting in an estimated prevalence among dropouts.

[i]Combines estimated use among all MTF seniors (absent and present) plus the estimated population difference between all NSDUH seniors and dropouts, resulting in an estimated prevalence among dropouts.

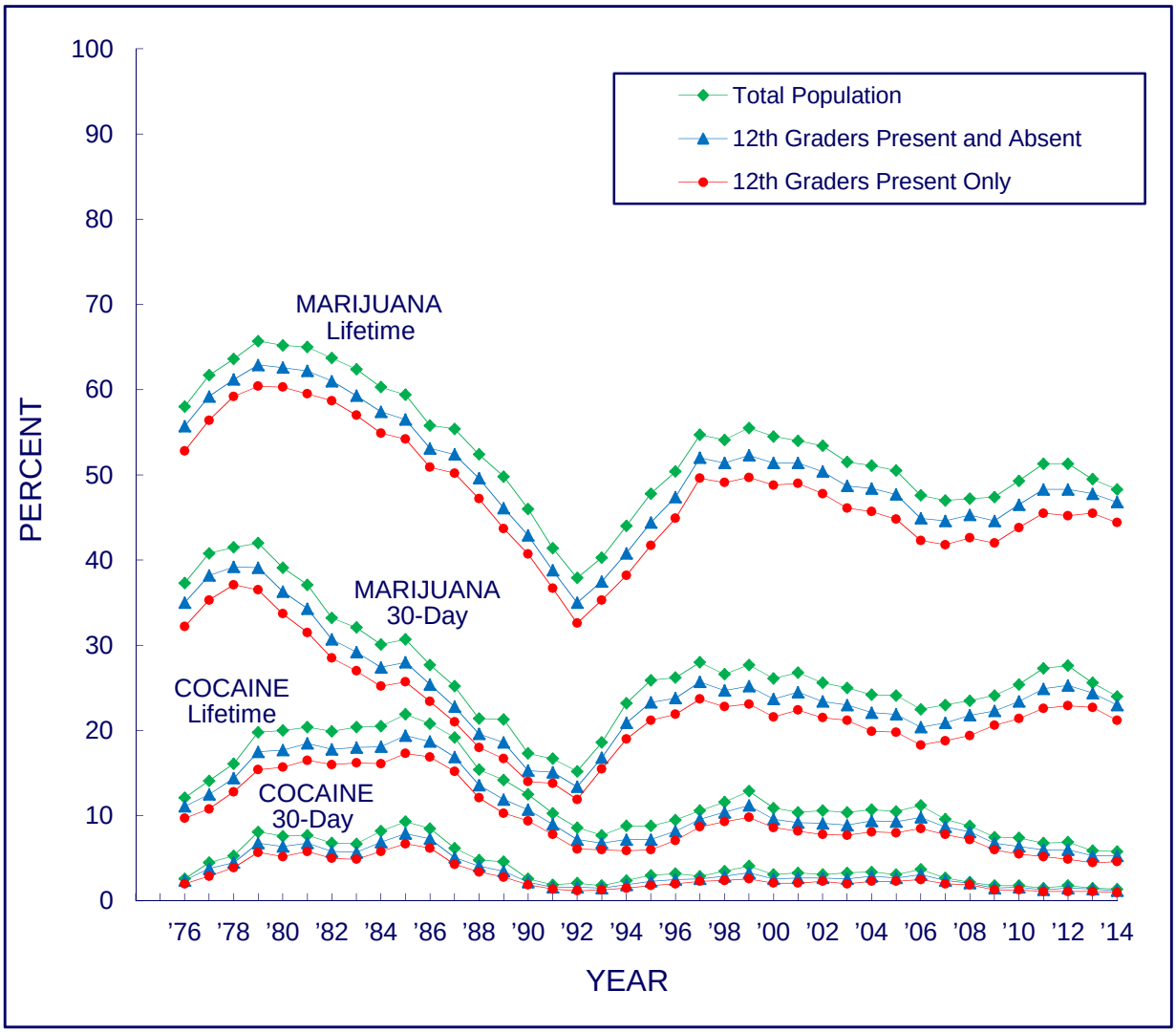
[j]Weighted combined estimate of prevalence, using estimates for MTF seniors (absent and present), and estimates of prevalence among MTF and NSDUH dropouts combined.

FIGURE A-1
High School Completion by 20- to 24-Year-Olds



Source. U.S. Census Bureau, Current Populations Survey, published and unpublished data.

FIGURE A-2
Estimates of Prevalence and Trends for the Entire Age/Class Cohort (Adjusting for Absentees and Dropouts) for 12th Graders



Source. The Monitoring the Future study, the University of Michigan.

Appendix B

DEFINITION OF BACKGROUND AND DEMOGRAPHIC SUBGROUPS

The following are brief definitions of the background and demographic subgroups explored in the Monitoring the Future (MTF) national survey of 8th, 10th, and 12th graders' attitudes toward and use of drugs (including alcohol and tobacco). Additional information on subgroup trends, such as the tables and figures depicting subgroup trends from the 2014 MTF study, can be found in Occasional Paper 83.[1] (Note: All case counts provided in the tables are based on weighted *N*s.)

Total: The total sample of respondents in a given year based on weighted cases (set to equal the total number of actual cases).

Gender: ***Male and female.*** Respondents are asked "What is your sex?" Those with missing data on the question are omitted from the data presented by gender.

College Plans: Respondents are asked how likely it is that they will graduate from a four-year college program. College plans groupings are defined as follows:

None or under four years. Respondents who indicate they "definitely won't" or "probably won't" graduate from a four-year college program. (Note that, among those who do not expect to complete a four-year college program, a number still expect to get some postsecondary education.)

Complete four years. Respondents who indicate they "definitely will" or "probably will" graduate from a four-year college program.

Those not answering the college plans question are omitted from both groupings.

Region: Region of the country in which the respondent's school is located. There are four mutually exclusive regions in the US based on Census Bureau categories, defined as follows:

Northeast. Census classifications of New England and Middle Atlantic states consist of Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania.

Midwest. Census classifications of East North Central and West North Central states consist of Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas.

South. Census classifications of South Atlantic, East South Central, and West South Central states consist of Delaware, Maryland, District of Columbia, Virginia,

[1] Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2015). *Demographic subgroup trends among young adults in the use of various licit and illicit drugs 1975-2014* (Monitoring the Future Occasional Paper No. 83). Ann Arbor, MI: Institute for Social Research, University of Michigan, 530 pp. Available at http://monitoringthefuture.org/pubs/occpapers/mtf-occ83.pdf

West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas.

West. Census classifications of Mountain and Pacific states consist of Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, and California (Alaska and Hawaii are also included in this Census region, but are not included in the MTF study).

Population Density: Population density of the area in which the schools are located. There are three mutually exclusive groups into which schools have been placed in a given year based on populations density (which has been variously defined over time by the U.S. Bureau of the Census, as described below). The 1975–1985 samples were based on the 1970 Census; in 1986, one half of the sample was based on the 1970 Census and the other half was based on the 1980 Census. In 1987 through 1993, all samples were based on the 1980 Census; in 1994, half of the sample was based on the 1980 Census and half on the 1990 Census. Starting in 2006 until 2013, each first-year half-sample of schools comes from a sample design that utilizes 2000 Census counts as the measure of size for first-stage units. Counts from the 2010 Census will be used for the samples beginning in 2014.

The three levels of population density were defined in terms of Standard Metropolitan Statistical Area (SMSA) designations through 1985, and then changed to the new Census Bureau classifications of Metropolitan Statistical Areas (MSAs). Except in the New England states, an MSA is a county or group of contiguous counties that contain at least one city of 50,000 inhabitants or more, or twin cities with a combined population of at least 50,000. In the New England states, MSAs consisted of towns and cities instead of counties until 1994, after which New England Consolidated Metropolitan Areas (NECMAs) were used to define MSAs. Each MSA must include at least one central city, and the complete title of an MSA identifies the central city or cities. For the complete description of the criteria used in defining MSAs, see the Office of Management and Budget publication, *Metropolitan Statistical Areas, 1990* (NTIS-PB90-214420), Washington, D.C. The population living in an MSA is designated as the metropolitan population. The levels of population density used in MTF include those described here:

Large MSA. These were the 12 largest SMSAs as of the 1970 Census and were used for the 1975–1985 samples: New York, Los Angeles, Chicago, Philadelphia, Detroit, San Francisco, Washington, Boston, Pittsburgh, St. Louis, Baltimore, and Cleveland. As of the 1980 Census, the Large MSA group consisted of the 16 largest MSAs in the nation. This new structure was used for the 1986–1994 samples. These 16 MSAs include all of those mentioned above except Cleveland, plus Dallas-Fort Worth, Houston, Nassau-Suffolk, Minneapolis-St. Paul, and Atlanta.

A new sample design was developed based on the 1990 Census, beginning with the first-year half-sample of schools chosen in 1994. In the 1990s sample, only the

eight largest MSAs are represented with certainty at all three grade levels; 16 other large MSAs are divided into pairs, with half randomly assigned to both the 8th- and 12th-grade samples and the other half assigned to the 10th-grade sample. The eight largest MSAs are New York, Los Angeles, Chicago, Philadelphia PA-NJ, Detroit, Washington DC-MD-VA, Dallas-Ft. Worth, and Boston. The other 16 large MSAs are Houston, Atlanta, Seattle-Tacoma, Minneapolis MN-WI, St. Louis MO-IL, San Diego, Baltimore, Pittsburgh, Phoenix, Oakland, Cleveland, Miami, Newark, Denver, San Francisco, and Kansas City MO-KS.

Other MSAs. This category consists of all other MSAs, as defined by the Census, except those listed previously.

Non-MSAs. This category consists of all areas not designated as MSAs—in other words, they do not contain a town (or twin cities) of at least 50,000 inhabitants. The population living outside of MSAs constitutes the nonmetropolitan population.

Parental Education: This is an average of mother's education and father's education based on the respondents' answers about the highest level of education achieved by each parent, using the following scale: (1) completed grade school or less, (2) some high school, (3) completed high school, (4) some college, (5) completed college, and (6) graduate or professional school after college. Missing data were allowed for one of the two parents. The respondent was instructed, "If you were raised mostly by foster parents, stepparents, or others, answer for them. For example, if you have both a stepfather and a natural father, answer for the one that was most important in raising you."

Race/ Ethnicity: From 1975 through 2004, respondents were asked "How do you describe yourself?" and presented with a list of various racial/ethnic categories. A general instruction told them to select the *one* best response for each question. In 2005 the instructions in half of the questionnaire forms were revised in order to be more consistent with the guidelines of the Office of Management and Budget for assessing race/ethnicity. In the changed forms, respondents were presented with a list of racial/ethnic categories and instructed to "select one or more responses." An examination of the data showed that relatively few respondents (about 6% in 2005 and about 6.6% of the sample in 2014) selected more than one racial/ethnic category. Because some survey questions appear in only one or a few forms, there was some variation in the version of the race/ethnicity question upon which the 2005 data were based. Based on the analyses we have examined, we do not believe these different permutations make any appreciable difference in the results. In 2006 and thereafter the revised instruction was used in all forms. Those checking multiple racial/ethnic groups or one of the other specified groups are omitted from the reporting on race/ethnicity in this volume because of the small numbers of cases.

White/Caucasian. Consists of those respondents who describe themselves as White or Caucasian in 1975–2004. In 2005 the unchanged questionnaire forms were treated in a similar manner. For the revised question in 2005 and for all forms in

2006 and beyond, those checking only White and no other racial/ethnic group were categorized as White.

African American. Consists of those respondents who in 1975–1990 describe themselves as Black or Afro-American or who, in 1991–2004, describe themselves as Black or African American. In 2005 the unchanged questionnaire forms were treated in a similar manner; for the revised question in 2005 and for all forms in 2006 and beyond, only those checking Black or African American and no other racial ethnic group were categorized as African American.

Hispanic. Consists of those respondents who in 1975–1990 describe themselves as Mexican American or Chicano, or Puerto Rican or other Latin American. After 1990 this group includes those respondents who describe themselves as Mexican American or Chicano, Cuban American, Puerto Rican American, or other Latin American. The term "Puerto Rican American" was shortened to "Puerto Rican" after 1994. In 2005 the unchanged questionnaire forms were treated in a similar manner; the changed forms in 2005 and for all forms in 2006 and beyond, only those checking Mexican American or Chicano, Cuban American, Puerto Rican, or Other Hispanic or Latino and no other racial/ethnic group were categorized as Hispanic.

Appendix C

ESTIMATION OF SAMPLING ERRORS

This appendix provides some guidance for those who wish to calculate confidence intervals around the percentage estimates reported in this volume, or to assess the statistical significance of differences between percentage estimates.

All percentages reported in this volume are estimates of the response percentage that would have been obtained if, instead of using a sample survey, we had surveyed all 8th-, 10th-, or 12th-grade students throughout the coterminous United States. Because we surveyed only a sample, and not the entire population, there are sampling errors associated with each estimate. For any particular percentage resulting from a sample survey, we cannot know exactly how much error has resulted from sampling, but we can make reasonably good estimates of confidence intervals—ranges within which the true population value is very likely to fall. The word "true" in this context refers to the value that would be found if we had surveyed the total population; this concept of true population value does not take account of biases that might occur due to refusals, intentional or unintentional distortion of responses, faulty question wording, and other factors.

CALCULATING CONFIDENCE INTERVALS

The most straightforward types of samples, from a statistical standpoint at least, are simple random samples.[1] In such samples, the confidence limits for a proportion are influenced by the size of the sample, or particular subsample, under consideration and also by the value of the proportion. (Although the estimates in this volume are expressed as percentages, this appendix generally deals with the equivalent proportion, for ease of presentation.)

The ***standard error***[2] of a proportion p based on a simple random sample of n cases is equal to

$$\sqrt{p(1.0-p)/n}\,. \qquad (1)$$

With a large number of cases, a symmetrical ***confidence interval*** around p would be approximated by

$$p \pm z\sqrt{p(1.0-p)/n}\,. \qquad (2)$$

where z is the appropriate value from the z-distribution. For a 95% confidence interval, for example, $z = 1.96$.

[1] A simple random sample is one in which each element is selected independently of, and with the same probability as, all other elements in the universe of elements from which the sample is drawn.

[2] The standard error of an estimate is a measure of sampling error, defined as the standard deviation of the sampling distribution of the statistic. It is used to construct the confidence interval around an estimate.

Many of the proportions presented in this volume represent rare events, with values being close to zero. At those low values, a more appropriate confidence interval would be asymmetric. A more exact calculation for confidence intervals, which will usually produce asymmetric confidence limits, is[3]

$$\frac{n}{n+z^2}\left[p+\frac{z^2}{2n}\pm z\sqrt{\frac{p(1-p)}{n}+\frac{z^2}{4n^2}}\right] . \qquad (3)$$

Significance of Difference between Two Proportions

In addition to estimating the sampling error around a single proportion, we often wish to test the significance of a difference between two proportions, such as the difference between the proportion of marijuana users among male students as compared to among female students. The following formula produces a statistic that can be referred to as a ***standard normal distribution***:

$$z=\frac{p_1-p_2}{\sqrt{p_e(1-p_e)\dfrac{n_1+n_2}{n_1n_2}}} . \qquad (4)$$

Assuming reasonably large numbers of cases, where

$$p_e=\frac{n_1p_1+n_2p_2}{n_1+n_2} \qquad (5)$$

and p_e is the estimated population proportion, p_1 is the observed proportion (of users) in the first group, p_2 is the observed proportion in the second group, n_1 is the number of cases in the first group, and n_2 is the number of cases in the second group.

DESIGN EFFECTS IN COMPLEX SAMPLES

Formulas 1–5 are appropriate only for simple random samples. In complex samples such as those used in the MTF surveys, it is also necessary to take into account the effect that the sampling design has on the size of standard errors. (A complex sample is any sample that is not a simple random sample.)

The MTF sample design incorporates stratification, clustering, and differential weighting to adjust for differential probabilities of selection. These design elements influence sampling error. While stratification tends to heighten the precision of a sample compared with a simple random sample of the same size (usually reducing the sampling error), the effects of clustering and weighting reduce precision (usually increasing the sampling error). The net result is that complex sample designs almost always result in increased sampling error (but usually result in more efficient

[3] Formula 6.11.1, page 240, in Hays, W. L. (1988). *Statistics* (4th ed.). New York: Holt, Rinehart, & Winston.

samples in all other respects). Therefore, it is not appropriate to apply the standard, simple random sampling formulas to such complex samples in order to obtain estimates of sampling errors.

Methods exist to correct for this underestimation. Kish (1965, p. 258)[4] defines a correction term called the ***design effect*** (DEFF), where

$$DEFF = \frac{actual\ sampling\ variance}{variance\ expected\ from\ a\ random\ sample} \quad . \qquad (6)$$

Thus, if the actual sampling variance in a complex sample is four times as large as the expected sampling variance from a simple random sample with the same number of cases, the DEFF is 4.0. Because confidence intervals are proportionate to the square root of variance, the confidence intervals for such a sample would be twice as large (because the square root of 4 is 2) as the confidence interval for a simple random sample with the same number of cases. If an estimate of design effect is available, one of the simplest correction procedures to follow is to divide the actual numbers of cases by the design effect (thereby depreciating the actual number to its equivalent value in simple random sample terms) and then employ the standard statistical procedures that are available for application to simple random samples. Thus, for example, if the design effect for a sample of 16,000 were 4.0, then one could divide the 16,000 by 4.0, and the result, 4,000, could be entered as the value of *n* in statistical tables and formulas designed for use with simple random samples. In short, the strategy involves dividing the actual number of cases by the appropriate DEFF in order to get a "simple random sampling equivalent *n*" or, more simply, an "effective *n*" for use in statistical procedures designed for random samples.

Estimating Design Effects

In principle, every different statistic resulting from a complex sample can have its own design effect and, in fact, different statistics in the same sample may have quite different design effects. However, it is not feasible to compute every design effect, nor would it be feasible to report every one. Moreover,

> Sampling errors computed from survey samples are themselves usually subject to great sampling variability . . . . Sampling theory, and experience with many and repeated computations, teach us not to rely on the precision of individual results, even when these are based on samples with large numbers of elements. (Kish, Groves, & Krotki, 1976, p. 19).[5]

Thus, in practice, design effects are averaged across a number of statistics, and these average values are used to estimate the design effects for other statistics based on the same sample. Sometimes a single design effect is applied to all estimates in a given study. This is usually an oversimplification. In MTF, a rather extensive exploration of design effects revealed a number of

[4] Kish, L. (1965). *Survey sampling*. New York: John Wiley.

[5] Kish, L., Groves, R. M., & Krotki, K. P. (1976). *Sampling errors for fertility surveys* (Occasional Paper Series No. 17). Voorburg, The Netherlands: International Statistical Institute.

systematic differences. These systematic differences have to do with the particular measures being examined, the subgroups involved, and the question of whether a trend over time is being considered. Thus, we provide here a more elaborated set of estimates of design effects that vary along these several dimensions.[6]

Factors Affecting Design Effects

Design effects are systematically related to two factors: the amount of clustering and the average cluster size. (Each MTF school can be considered a cluster of cases, or students.) Specifically,

$$DEFF = 1 + \rho(\tilde{n} - 1) \qquad (7)$$

(Kish, 1965, section 5, p. 162; Kalton, 1983, p. 31)[7] where $\tilde{n}$ is the average cluster size and ρ is the intraclass correlation coefficient measuring the degree of cluster homogeneity. Note that the equality is approximate.

An important consequence of this relationship is that subgroups such as male or female that are typically represented within all clusters (i.e., all schools) have a lower average cluster size. All (or virtually all) of the schools in the sample have both male and female students. Thus, each of these subgroups is spread more or less evenly across the full number of clusters (schools). Because each of these subgroups includes approximately half of the total sample, the average number of cases per cluster is about half as large as for the total sample, and this leads to a smaller design effect than is found for the total sample. (There is usually not much difference in ρ, the measure of cluster homogeneity.) Other subgroups involving college plans or parental education are also distributed across all clusters (although not as evenly as gender), and thus are subject to the same phenomenon of smaller design effects because of the smaller number of cases per cluster. This is in contrast to the situation with subgroups such as region of the country, each of which will normally have the same average cluster size as the total sample from the whole country—but considerably fewer clusters. The former type of subgroup (*cross-class*) will usually have a lower design effect, while the latter (*segregated*) will usually have a design effect similar to the overall. In MTF, cross-class subgroups include gender, college plans, and parental education. Segregated subgroups include region and population density. Race/ethnicity is a mixed case in that there tends to be substantial clustering of various racial/ethnic groups by school. Consequently, design effects for minority racial/ethnic subgroups tend to be somewhat higher than average, though this tendency is not always evidenced. Because such a high proportion of respondents in most schools are White, the associated design effects for them tend to be similar to the overall design effects.

As an empirical generalization, we have observed that design effects tend to be related to the actual prevalence of substance use (or *p* value). Thus, rarely used substances such as heroin typically have low design effects, while more commonly used substances such as cigarettes, alcohol, and marijuana typically have high design effects. Also, the design effect associated with the estimate of lifetime prevalence of any given substance is usually greater than (or equal to) the design effect associated with annual prevalence of that substance, which is in turn greater than the design effect

[6] All design effects were estimated using the Taylor series expansion method.

[7] Kalton, G. (1983). *Introduction to survey sampling*. Beverly Hills: Sage Publications.

for monthly prevalence. This tendency would imply that 8th-grade design effects would typically be lower than those for 10th grade, which would be lower than 12th grade (because prevalence levels are usually greater in the upper grades). However, 8th-grade schools tend to be socioeconomically more homogenous than high schools, because they tend to draw from smaller geographic areas; this makes 8th-grade schools more homogenous with respect to drug use, leading to larger design effects. The combination of factors generally leads to slightly lower design effects for the lower grade levels.

Design Effects for Differences between Two Proportions

Trends between two nonadjacent years. A trend over an interval greater than one year (e.g., a comparison between 2000 and 2005) is basically a comparison between estimates from two independent samples. Therefore, the design effects for a single estimated proportion are appropriate. The relevant design effects for nonadjacent years are presented in Tables C-2a through C-2g.

Trends between adjacent years. One of MTF's central purposes is to monitor trends over time; indeed, the study procedures have been standardized across years insofar as possible in order to provide the opportunity for sensitive measurement of change. One factor designed to produce an added degree of consistency from one year to the next is the use of each school for two data collections, meaning that for any two successive years, half of the sample of schools is the same. This ensures a good deal of consistency in the sampling and clustering of the sample from one year to the next. As a result, when one-year comparisons are made between adjacent years, the design effects for the trend estimate are appreciably smaller than if completely independent samples of schools had been drawn each year. In other words, the samples in adjacent years are not independent; on the contrary, there is a considerable degree of covariance between them. This covariance, or partial matching, reduces the design effect for differences observed between adjacent years, compared to what they would have been with totally independent samples.

In order to estimate the extent of "shrinkage" in the design effect when the samples from two adjacent years are being compared, we calculated about 95 DEFFs for adjacent one-year trend data where we had prevalence data for the same grade/drug combinations. The relationship between the two sets of DEFFs (prevalence vs. one-year trend) was found to be approximately linear, with a product-moment correlation of .88 for DEFFs (and .89 for the square root of DEFF). This seemed sufficiently high to justify simply estimating the linear relation, predicting the trend DEFF from the prevalence DEFF, and using that to estimate the one-year trend DEFF for all measures. The resulting design effects are given in Tables C-1a through C-1g.

Comparisons between subgroups within a single year. We examined a variety of design effects involving comparisons between subgroups based on gender, college plans, and parental education. A considerable simplification was achieved when we noted that generally, the average DEFF values for subgroup comparisons were quite similar to the average DEFF values for one-year trends.

With respect to segregated variables like region and population density, the subgroup samples are essentially independent; therefore, the prevalence design effects are appropriate for comparisons

among these subgroups. Design effects for subgroup comparisons within a single year are provided in Tables C-3a through C-3g.

Differentiating design effects by drug classes. Our exploration of design effects led us to the conclusion that various groups of drugs tended to have very similar values. Thus, the following groupings of drugs, which seem to have similar design effects within group, were created for the purpose of simplification:

(a) An index of use of any illicit drug other than marijuana
(b) An index of use of any illicit drug; an index of use of any illicit drug including inhalants; and marijuana
(c) Hallucinogens, LSD, cocaine, and other cocaine (i.e., not crack)
(d) Nitrites, PCP, crack, heroin (with and without a needle), methamphetamine, crystal methamphetamine (ice), methaqualone, over-the-counter cough and cold medicines, Rohypnol, GHB, ketamine, steroids, salvia, provigil, tobacco using a hookah, small cigars, dissolvable tobacco products, and bath salts (synthetic stimulants)
(e) Hallucinogens other than LSD, ecstasy (MDMA), narcotics other than heroin, OxyContin, Ritalin, sedatives (barbiturates), tranquilizers, flavored alcoholic beverages, alcoholic beverages with caffeine or energy drink, bidis, kreteks, androstenedione, creatine, Adderall, synthetic marijuana, snus, and prescription drugs
(f) Inhalants, Vicodin, and amphetamines
(g) Alcohol (including use of alcohol and getting drunk), cigarettes, and smokeless tobacco

Design effects were found to be generally similar for all drugs contained within each grouping, but somewhat different across groupings. Therefore, each table of design effects (Tables C-1, C-2, and C-3) has seven parts corresponding to each of these seven drug groupings (i.e., parts a through g).

In general, intervals of use (lifetime, last 12 months, last 30 days, daily) are distinguished. For some substances, though, the variation by interval was slight enough to ignore.

With regard to calculating estimates for subgroups, on both logical and empirical grounds, there seemed little reason to distinguish among the "segregated groups"—total sample, and groups defined by region and population density. The average cluster size should be about the same, and there should not be much variation in the degree to which drug use clusters by school within these categories. Some variation was evident empirically, but it did not appear to be systematic. Thus, these groups are assigned equal design effects.

Separate design effect values are provided for estimates of use (prevalence) among the three grade levels (8, 10, 12) for subgroups defined by gender (males, females), college plans (planning to complete four years, not planning to complete four years), parental education (five levels), and race/ethnicity (African American, White, Hispanic). In some cases, particularly for the less prevalent drugs where design effects are very low, the estimated design effects do not vary by group.

Estimates of design effects are provided for one-year trends. For trends across nonadjacent years, the standard design effects for prevalence are appropriate. Estimates of design effects are also provided separately for comparisons of subgroups within a given year.

DETERMINING AN EFFECTIVE *n*

Tables C-1 through C-3 provide estimates of design effects that can be used to shrink the weighted numbers of cases given in each table in this volume to an effective *n*, which is appropriate for use in standard formulas in calculating sampling errors, confidence intervals, and statistical significance of differences in proportions. The tables are in three sets: Tables C-1a through C-1g are appropriately used for a one-year trend across adjacent years, Tables C-2a through C-2g are for a single prevalence or a comparison across nonadjacent years, and Tables C-3a through C-3g are for a comparison between subgroups in a single year. (Adjacent years differ from nonadjacent years in that half of the schools are part of both years' samples.)

To access the appropriate table, the reader should determine whether the design effect is needed for a one-year trend (Table C-1), a single prevalence or a comparison of prevalence across nonadjacent years (Table C-2), or a subgroup comparison within a year (Table C-3); and which substance is involved (a–g).Within the table, the reader needs to determine which subgroup (or total sample), grade level, and interval of use are involved. Then, the appropriate design effect can be referenced and used to deflate the weighted number of cases to arrive at an effective n. *This effective* n *would be used in Formulas 1 to 5, given previously.*

As an example, suppose one wished to compare the 30-day prevalence of marijuana use for the total 8th-grade sample in 2013 with the same measure in 2014. Table 2-3 indicates that prevalence was 7.0% in 2013 and 6.5% in 2014, with a sample of 14,000 cases each year. Table C-1b shows that an appropriate design effect for 8th-grade 30-day marijuana use is 3.2. Each year's *n* would be divided by 3.2, producing an effective *n* of 4,375 in each year. These effective *n*s should be used in Formula 4, given earlier in this appendix, to test whether the difference in proportions between the two years is statistically significant.

A Special Note on Racial/Ethnic Subgroups

As noted earlier in this volume, the prevalence estimates for racial/ethnic subgroups are reported only for two-year averages, instead of single years, because of limited sample sizes and a higher degree of clustering. The design effects for prevalence levels across racial/ethnic subgroups provided in Tables C-2a through C-2g are appropriately applied to the number of cases provided for the two years combined. In calculating a one-year trend between the two most recent prevalence figures, however, one is in effect taking a trend between a prevalence based on data from the most recent single year, and a prevalence based on data from a single year two years prior to the most recent year. For example, comparing the estimate based on combined 1994 and 1995 data with the combined 1993 and 1994 data is equivalent to comparing 1993 and 1995, because the 1994 observed value is contained in both data points and therefore cancels itself out. The design effects for trends provided in Tables C-1a through C-1g are therefore appropriately applied to one half of the number of cases provided in each table for the combined years. In 2005, a shift in question wording was begun for the question regarding race/ethnicity. In half of the questionnaire forms, a

new version of the question was introduced. That new version was used in all forms beginning in 2006. In the previous version of the question, the respondent was asked to choose only one of the answer alternatives, whereas in the new version the respondent is allowed to make multiple choices. For example, one might choose both African American and Mexican American. Because so few respondents provided multiple responses, we have treated those as missing data in this volume. We believe that the change has had minimal impact on the subgroup substance use estimates and on the design effects associated with race/ethnicity.

A NOTE ON INTERPRETATION OF DIFFERENCES AND STATISTICAL SIGNIFICANCE

This appendix provides the reader with procedures to assess the statistical significance of differences over time or between groups. In the text of this report, we frequently comment on particular differences over time or between groups in terms of drug use. In general, our conclusions are based to a considerable extent on *patterns* of cross-time changes rather than on the statistical significance of any single comparison. That is, we assess the overall pattern of evidence, rather than any single finding, to assess the likely validity of the finding.

There are at least five types of patterns that we inspect:

1. ***Replication across grades***. Because the annual samples of 8th-, 10th-, and 12th-grade students are three *completely independent samples*, one pattern that we look for is the similarity or contrast in changes that occur in the three groups. Although there is no requirement that changes occur similarly in all three groups, to the extent that a change is similar (or at least not inconsistent), we are more confident in its validity.

2. ***Replication across subgroups***. To the extent that a change has occurred across a broad range of subgroups, we are more confident of its validity. For example, if an increase in use occurs among males and females, among non-college-bound and college-bound, in different regions of the country, etc., we would be more inclined to accept the change as reflecting an underlying reality.

3. ***Replication across half-samples***. Because half of the schools remain the same from one year to the next, any changes across a one-year interval can be examined for the half-sample that has remained constant. In other words, the data are examined for only the schools that provide data for both years. This removes any differences that may have occurred due simply to different schools being included.

4. ***Consistency across several years***. Although each year's report emphasizes the changes in the most recent year, we pay careful attention to trends across longer time intervals. For example, when we observe a third or fourth consecutive year of consistent change in one direction, we are more inclined to accept the validity of the general trend, even if none of the changes in any of the one-year intervals was statistically significant.

5. ***Replication across different variables***. Another type of replication or validation involves examining trends in different variables that would be expected to covary. For example, we have observed that perceived risk of harm associated with use of a specific substance tends to covary (negatively) with actual use of the substance. Similarly, we would expect reports of friends' use of specific substances to covary (positively) with reports of respondents' own use. To the extent that different variables covary in the expected manner, we would be more confident in interpreting the results.

Although we do not always discuss all of these various contributions to our confidence, we do generally assess them prior to making interpretations.

TABLE C-1a
Design Effects for 1-Year Trends in Prevalence of Use

			ANY ILLICIT DRUG OTHER THAN MARIJUANA		
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	3.9	3.3	2.6	1.2
	10th Grade	4.3	3.6	2.7	1.2
	12th Grade	4.9	4.4	3.3	1.7
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	2.8	2.5	2.2	1.3
	10th Grade	3.1	2.7	2.4	1.2
	12th Grade	3.2	2.9	2.4	1.7
Female	8th Grade	3.1	2.8	2.1	1.2
	10th Grade	3.3	2.9	2.2	1.1
	12th Grade	3.5	3.3	2.8	1.6
College Plans					
None or under 4 years	8th Grade	2.0	1.9	1.6	1.2
	10th Grade	2.2	2.1	1.8	1.4
	12th Grade	2.1	1.9	1.6	1.5
Complete 4 years	8th Grade	3.5	2.8	2.3	1.2
	10th Grade	4.1	3.3	2.5	1.1
	12th Grade	4.4	3.8	3.0	1.7
Parental Education					
Any stratum	8th Grade	2.1	2.0	1.6	1.1
	10th Grade	2.2	2.0	1.7	1.2
	12th Grade	2.4	2.2	1.7	1.4
Racial/Ethnic Group					
White	8th Grade	4.0	3.8	2.9	1.4
	10th Grade	4.9	4.3	3.0	1.5
	12th Grade	4.2	4.0	2.9	2.0
African American	8th Grade	2.7	2.0	1.5	1.2
	10th Grade	3.0	2.6	1.9	1.3
	12th Grade	3.7	3.3	3.0	1.6
Hispanic	8th Grade	3.8	2.7	2.0	1.5
	10th Grade	4.5	2.9	1.8	1.3
	12th Grade	5.0	4.0	3.0	2.0

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-1b
Design Effects for 1-Year Trends in Prevalence of Use

		ANY ILLICIT DRUG, ANY ILLICIT DRUG INCLUDING INHALANTS, AND MARIJUANA			
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	4.1	3.5	3.2	1.4
	10th Grade	5.0	4.3	3.4	1.5
	12th Grade	6.9	6.6	5.4	2.8
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	2.4	2.4	2.4	1.5
	10th Grade	3.4	3.0	3.0	1.5
	12th Grade	3.8	3.4	3.0	2.7
Female	8th Grade	3.4	3.0	2.4	1.3
	10th Grade	4.0	3.4	2.7	1.1
	12th Grade	4.6	4.6	4.5	2.6
College Plans					
None or under 4 years	8th Grade	2.3	2.3	2.0	1.3
	10th Grade	2.8	2.8	2.7	2.0
	12th Grade	2.4	2.4	2.1	2.1
Complete 4 years	8th Grade	3.3	2.4	2.4	1.5
	10th Grade	5.1	4.0	3.2	1.1
	12th Grade	6.1	5.3	4.5	3.0
Parental Education					
Any stratum	8th Grade	2.1	2.1	1.9	1.1
	10th Grade	2.5	2.3	2.2	1.4
	12th Grade	3.0	2.8	2.3	1.9
Racial/Ethnic Group					
White	8th Grade	4.5	4.4	4.1	1.9
	10th Grade	7.2	5.8	4.5	2.1
	12th Grade	5.0	5.0	4.2	3.7
African American	8th Grade	3.0	2.1	1.3	1.1
	10th Grade	4.0	4.0	2.6	1.5
	12th Grade	6.0	6.0	6.0	2.5
Hispanic	8th Grade	2.6	2.6	2.1	2.0
	10th Grade	4.9	3.0	1.6	1.5
	12th Grade	5.0	4.8	3.5	2.5

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-1c
Design Effects for 1-Year Trends in Prevalence of Use

		HALLUCINOGENS (UNADJUSTED AND ADJUSTED), LSD, COCAINE, AND OTHER COCAINE			
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	4.3	3.5	2.5	1.1
	10th Grade	4.3	3.5	2.5	1.1
	12th Grade	4.3	3.5	2.5	1.1
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	3.2	2.8	2.4	1.1
	10th Grade	3.2	2.8	2.4	1.1
	12th Grade	3.2	2.8	2.4	1.1
Female	8th Grade	3.2	2.8	2.0	1.1
	10th Grade	3.2	2.8	2.0	1.1
	12th Grade	3.2	2.8	2.0	1.1
College Plans					
None or under 4 years	8th Grade	2.0	1.9	1.4	1.1
	10th Grade	2.0	1.9	1.4	1.1
	12th Grade	2.0	1.9	1.4	1.1
Complete 4 years	8th Grade	4.2	3.2	2.4	1.1
	10th Grade	4.2	3.2	2.4	1.1
	12th Grade	4.2	3.2	2.4	1.1
Parental Education					
Any stratum	8th Grade	2.1	1.9	1.5	1.1
	10th Grade	2.1	1.9	1.5	1.1
	12th Grade	2.1	1.9	1.5	1.1
Racial/Ethnic Group					
White	8th Grade	4.2	3.8	2.8	1.2
	10th Grade	4.2	3.8	2.8	1.2
	12th Grade	4.2	3.8	2.8	1.2
African American	8th Grade	1.4	1.4	1.3	1.2
	10th Grade	1.4	1.4	1.3	1.2
	12th Grade	1.4	1.4	1.3	1.2
Hispanic	8th Grade	6.1	3.3	2.3	1.2
	10th Grade	6.1	3.3	2.3	1.2
	12th Grade	6.1	3.3	2.3	1.2

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-1d
Design Effects for 1-Year Trends in Prevalence of Use

		NITRITES, PCP, CRACK COCAINE, HEROIN (INCLUDING HEROIN WITH AND WITHOUT A NEEDLE), METHAMPHETAMINE, CRYSTAL METHAMPHETAMINE (ICE), METHAQUALONE, OVER-THE-COUNTER COUGH/COLD MEDICINES, ROHYPNOL, GHB, KETAMINE, STEROIDS, SALVIA, PROVIGIL, TOBACCO USING A HOOKAH, SMALL CIGARS, DISSOLVABLE TOBACCO PRODUCTS, AND BATH SALTS (SYNTHETIC STIMULANTS)			
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	1.9	1.3	1.3	1.1
	10th Grade	1.9	1.3	1.3	1.1
	12th Grade	1.9	1.3	1.3	1.1
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	1.3	1.3	1.3	1.1
	10th Grade	1.3	1.3	1.3	1.1
	12th Grade	1.3	1.3	1.3	1.1
Female	8th Grade	1.9	1.5	1.3	1.1
	10th Grade	1.9	1.5	1.3	1.1
	12th Grade	1.9	1.5	1.3	1.1
College Plans					
None or under 4 years	8th Grade	1.4	1.4	1.4	1.1
	10th Grade	1.4	1.4	1.4	1.1
	12th Grade	1.4	1.4	1.4	1.1
Complete 4 years	8th Grade	1.5	1.3	1.1	1.1
	10th Grade	1.5	1.3	1.1	1.1
	12th Grade	1.5	1.3	1.1	1.1
Parental Education					
Any stratum	8th Grade	1.3	1.3	1.3	1.1
	10th Grade	1.3	1.3	1.3	1.1
	12th Grade	1.3	1.3	1.3	1.1
Racial/Ethnic Group					
White	8th Grade	1.6	1.5	1.4	1.2
	10th Grade	1.6	1.5	1.4	1.2
	12th Grade	1.6	1.5	1.4	1.2
African American	8th Grade	1.8	1.8	1.8	1.2
	10th Grade	1.8	1.8	1.8	1.2
	12th Grade	1.8	1.8	1.8	1.2
Hispanic	8th Grade	2.0	1.6	1.5	1.2
	10th Grade	2.0	1.6	1.5	1.2
	12th Grade	2.0	1.6	1.5	1.2

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-1e
Design Effects for 1-Year Trends in Prevalence of Use

		HALLUCINOGENS OTHER THAN LSD, ECSTASY (MDMA), NARCOTICS OTHER THAN HEROIN, OXYCONTIN, RITALIN, SEDATIVES (BARBITURATES), TRANQUILIZERS, FLAVORED ALCOHOLIC BEVERAGES, ALCOHOLIC BEVERAGE WITH CAFFEINE OR ENERGY DRINK, BIDIS, KRETEKS, ANDROSTENEDIONE, CREATINE, ADDERALL, SYNTHETIC MARIJUANA, SNUS, AND PRESCRIPTION DRUGS			
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	2.4	2.2	1.5	1.1
	10th Grade	2.4	2.2	1.5	1.1
	12th Grade	2.4	2.2	1.5	1.1
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	2.1	2.1	1.6	1.1
	10th Grade	2.1	2.1	1.6	1.1
	12th Grade	2.1	2.1	1.6	1.1
Female	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
College Plans					
None or under 4 years	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
Complete 4 years	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
Parental Education					
Any stratum	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
Racial/Ethnic Group					
White	8th Grade	2.5	2.5	1.9	1.2
	10th Grade	2.5	2.5	1.9	1.2
	12th Grade	2.5	2.5	1.9	1.2
African American	8th Grade	1.5	1.5	1.4	1.2
	10th Grade	1.5	1.5	1.4	1.2
	12th Grade	1.5	1.5	1.4	1.2
Hispanic	8th Grade	1.6	1.4	1.3	1.2
	10th Grade	1.6	1.4	1.3	1.2
	12th Grade	1.6	1.4	1.3	1.2

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-1f
Design Effects for 1-Year Trends in Prevalence of Use

		INHALANTS, VICODIN, AND AMPHETAMINES (UNADJUSTED AND ADJUSTED)			
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	3.5	3.0	2.1	1.1
	10th Grade	3.5	3.0	2.1	1.1
	12th Grade	3.5	3.0	2.1	1.1
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	2.7	2.4	1.9	1.1
	10th Grade	2.7	2.4	1.9	1.1
	12th Grade	2.7	2.4	1.9	1.1
Female	8th Grade	2.7	2.7	1.9	1.1
	10th Grade	2.7	2.7	1.9	1.1
	12th Grade	2.7	2.7	1.9	1.1
College Plans					
None or under 4 years	8th Grade	1.9	1.5	1.3	1.1
	10th Grade	1.9	1.5	1.3	1.1
	12th Grade	1.9	1.5	1.3	1.1
Complete 4 years	8th Grade	3.0	2.7	2.0	1.1
	10th Grade	3.0	2.7	2.0	1.1
	12th Grade	3.0	2.7	2.0	1.1
Parental Education					
Any stratum	8th Grade	2.0	1.9	1.4	1.1
	10th Grade	2.0	1.9	1.4	1.1
	12th Grade	2.0	1.9	1.4	1.1
Racial/Ethnic Group					
White	8th Grade	3.3	3.2	1.8	1.2
	10th Grade	3.3	3.2	1.8	1.2
	12th Grade	3.3	3.2	1.8	1.2
African American	8th Grade	3.6	2.4	1.8	1.2
	10th Grade	3.6	2.4	1.8	1.2
	12th Grade	3.6	2.4	1.8	1.2
Hispanic	8th Grade	2.6	2.3	1.5	1.2
	10th Grade	2.6	2.3	1.5	1.2
	12th Grade	2.6	2.3	1.5	1.2

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-1g
Design Effects for 1-Year Trends in Prevalence of Use

		ALCOHOL AND BEEN DRUNK [a]		CIGARETTES AND SMOKELESS TOBACCO	
		Lifetime, Last 12 Months, Last 30 Days, 5+/2 Weeks	Daily	Lifetime, Last 30 Days, Daily	Half Pack or More per Day
SEGREGATED GROUPS					
Total Sample [b]					
	8th Grade	3.7	1.3	3.8	3.0
	10th Grade	3.7	1.3	3.8	3.0
	12th Grade	3.7	1.3	3.8	3.0
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	2.4	1.3	2.3	2.0
	10th Grade	2.4	1.3	2.3	2.0
	12th Grade	2.4	1.3	2.3	2.0
Female	8th Grade	3.1	1.3	3.6	2.6
	10th Grade	3.1	1.3	3.6	2.6
	12th Grade	3.1	1.3	3.6	2.6
College Plans					
None or under 4 years	8th Grade	2.1	1.3	2.0	2.0
	10th Grade	2.1	1.3	2.0	2.0
	12th Grade	2.1	1.3	2.0	2.0
Complete 4 years	8th Grade	3.2	1.3	3.2	2.3
	10th Grade	3.2	1.3	3.2	2.3
	12th Grade	3.2	1.3	3.2	2.3
Parental Education					
Any stratum	8th Grade	2.0	1.3	2.1	1.9
	10th Grade	2.0	1.3	2.1	1.9
	12th Grade	2.0	1.3	2.1	1.9
Racial/Ethnic Group					
White	8th Grade	3.6	1.4	3.7	2.6
	10th Grade	3.6	1.4	3.7	2.6
	12th Grade	3.6	1.4	3.7	2.6
African American	8th Grade	4.5	1.4	2.4	1.4
	10th Grade	4.5	1.4	2.4	1.4
	12th Grade	4.5	1.4	2.4	1.4
Hispanic	8th Grade	3.0	1.4	2.7	1.9
	10th Grade	3.0	1.4	2.7	1.9
	12th Grade	3.0	1.4	2.7	1.9

Source. The Monitoring the Future study, the University of Michigan.

[a]See Table C-1e for flavored alcoholic beverages.

[b]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-2a
Design Effects for (a) Prevalence of Use or (b) a Change in Prevalence of Use Across Nonadjacent Years

		ANY ILLICIT DRUG OTHER THAN MARIJUANA			
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	5.6	4.6	3.3	1.3
	10th Grade	6.2	5.0	3.4	1.4
	12th Grade	7.2	6.4	4.6	2.0
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	3.6	3.2	2.6	1.4
	10th Grade	4.1	3.5	3.0	1.4
	12th Grade	4.4	3.7	3.0	2.0
Female	8th Grade	4.2	3.7	2.4	1.3
	10th Grade	4.5	3.9	2.6	1.2
	12th Grade	4.9	4.6	3.6	1.9
College Plans					
None or under 4 years	8th Grade	2.3	2.2	1.8	1.3
	10th Grade	2.7	2.5	2.2	1.5
	12th Grade	2.4	2.3	1.9	1.6
Complete 4 years	8th Grade	4.8	3.6	2.8	1.4
	10th Grade	5.9	4.5	3.2	1.2
	12th Grade	6.4	5.3	4.0	2.1
Parental Education					
Any stratum	8th Grade	2.4	2.2	1.8	1.2
	10th Grade	2.6	2.3	2.0	1.3
	12th Grade	2.9	2.6	2.0	1.5
Racial/Ethnic Group					
White	8th Grade	5.0	4.8	3.6	1.8
	10th Grade	6.1	5.3	3.8	1.9
	12th Grade	5.2	5.0	3.7	2.5
African American	8th Grade	3.3	2.5	1.8	1.5
	10th Grade	3.8	3.3	2.4	1.6
	12th Grade	4.6	4.1	3.8	2.0
Hispanic	8th Grade	4.7	3.4	2.5	1.8
	10th Grade	5.7	3.6	2.3	1.6
	12th Grade	5.0	4.0	3.0	2.0

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-2b
Design Effects for (a) Prevalence of Use or (b) a Change in Prevalence of Use Across Nonadjacent Years

		ANY ILLICIT DRUG, ANY ILLICIT DRUG INCLUDING INHALANTS, AND MARIJUANA			
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	5.8	4.8	4.3	1.6
	10th Grade	7.5	6.2	4.7	1.7
	12th Grade	10.7	10.2	8.1	3.6
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	3.0	3.0	3.0	1.8
	10th Grade	4.6	4.0	4.0	1.7
	12th Grade	5.4	4.6	4.0	3.5
Female	8th Grade	4.6	4.0	2.9	1.4
	10th Grade	5.7	4.6	3.5	1.1
	12th Grade	6.8	6.7	6.5	3.3
College Plans					
None or under 4 years	8th Grade	2.7	2.7	2.2	1.5
	10th Grade	3.7	3.7	3.4	2.2
	12th Grade	3.0	3.0	2.5	2.5
Complete 4 years	8th Grade	4.5	3.0	3.0	1.7
	10th Grade	7.6	5.7	4.3	1.1
	12th Grade	9.3	8.0	6.6	3.9
Parental Education					
Any stratum	8th Grade	2.5	2.4	2.0	1.2
	10th Grade	3.1	2.8	2.6	1.6
	12th Grade	4.0	3.6	2.8	2.0
Racial/Ethnic Group					
White	8th Grade	5.6	5.5	5.1	2.4
	10th Grade	9.0	7.3	5.6	2.6
	12th Grade	6.3	6.3	5.3	4.6
African American	8th Grade	3.8	2.6	1.6	1.4
	10th Grade	5.0	5.0	3.3	1.9
	12th Grade	7.5	7.5	7.5	3.1
Hispanic	8th Grade	3.3	3.3	2.6	2.5
	10th Grade	6.1	3.8	2.0	1.9
	12th Grade	5.0	4.8	4.0	3.0

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-2c
Design Effects for (a) Prevalence of Use or (b) a Change in Prevalence of Use Across Nonadjacent Years

		HALLUCINOGENS (UNADJUSTED AND ADJUSTED), LSD, COCAINE, AND OTHER COCAINE			
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	6.2	4.9	3.2	1.2
	10th Grade	6.2	4.9	3.2	1.2
	12th Grade	6.2	4.9	3.2	1.2
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	4.3	3.7	2.9	1.2
	10th Grade	4.3	3.7	2.9	1.2
	12th Grade	4.3	3.7	2.9	1.2
Female	8th Grade	4.4	3.6	2.2	1.2
	10th Grade	4.4	3.6	2.2	1.2
	12th Grade	4.4	3.6	2.2	1.2
College Plans					
None or under 4 years	8th Grade	2.2	2.0	1.6	1.2
	10th Grade	2.2	2.0	1.6	1.2
	12th Grade	2.2	2.0	1.6	1.2
Complete 4 years	8th Grade	6.0	4.4	3.0	1.2
	10th Grade	6.0	4.4	3.0	1.2
	12th Grade	6.0	4.4	3.0	1.2
Parental Education					
Any stratum	8th Grade	2.4	2.1	1.7	1.2
	10th Grade	2.4	2.1	1.7	1.2
	12th Grade	2.4	2.1	1.7	1.2
Racial/Ethnic Group					
White	8th Grade	5.3	4.8	3.5	1.5
	10th Grade	5.3	4.8	3.5	1.5
	12th Grade	5.3	4.8	3.5	1.5
African American	8th Grade	1.8	1.8	1.6	1.5
	10th Grade	1.8	1.8	1.6	1.5
	12th Grade	1.8	1.8	1.6	1.5
Hispanic	8th Grade	7.6	4.1	2.9	1.5
	10th Grade	7.6	4.1	2.9	1.5
	12th Grade	7.6	4.1	2.9	1.5

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-2d
Design Effects for (a) Prevalence of Use or (b) a Change in Prevalence of Use Across Nonadjacent Years

		NITRITES, PCP, CRACK COCAINE, HEROIN (INCLUDING HEROIN WITH AND WITHOUT A NEEDLE), METHAMPHETAMINE, CRYSTAL METHAMPHETAMINE (ICE), METHAQUALONE, OVER-THE-COUNTER COUGH/COLD MEDICINES, ROHYPNOL, GHB, KETAMINE, STEROIDS, SALVIA, PROVIGIL, TOBACCO USING A HOOKAH, SMALL CIGARS, DISSOLVABLE TOBACCO PRODUCTS, AND BATH SALTS (SYNTHETIC STIMULANTS)			
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	2.0	1.5	1.5	1.2
	10th Grade	2.0	1.5	1.5	1.2
	12th Grade	2.0	1.5	1.5	1.2
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	1.4	1.4	1.4	1.2
	10th Grade	1.4	1.4	1.4	1.2
	12th Grade	1.4	1.4	1.4	1.2
Female	8th Grade	2.1	1.7	1.5	1.2
	10th Grade	2.1	1.7	1.5	1.2
	12th Grade	2.1	1.7	1.5	1.2
College Plans					
None or under 4 years	8th Grade	1.6	1.6	1.6	1.2
	10th Grade	1.6	1.6	1.6	1.2
	12th Grade	1.6	1.6	1.6	1.2
Complete 4 years	8th Grade	1.7	1.4	1.2	1.2
	10th Grade	1.7	1.4	1.2	1.2
	12th Grade	1.7	1.4	1.2	1.2
Parental Education					
Any stratum	8th Grade	1.4	1.4	1.4	1.2
	10th Grade	1.4	1.4	1.4	1.2
	12th Grade	1.4	1.4	1.4	1.2
Racial/Ethnic Group					
White	8th Grade	2.0	1.9	1.8	1.5
	10th Grade	2.0	1.9	1.8	1.5
	12th Grade	2.0	1.9	1.8	1.5
African American	8th Grade	2.3	2.3	2.3	1.5
	10th Grade	2.3	2.3	2.3	1.5
	12th Grade	2.3	2.3	2.3	1.5
Hispanic	8th Grade	2.5	2.0	1.9	1.5
	10th Grade	2.5	2.0	1.9	1.5
	12th Grade	2.5	2.0	1.9	1.5

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-2e
Design Effects for (a) Prevalence of Use or (b) a Change in Prevalence of Use Across Nonadjacent Years

		HALLUCINOGENS OTHER THAN LSD, ECSTASY (MDMA), NARCOTICS OTHER THAN HEROIN, OXYCONTIN, RITALIN, SEDATIVES (BARBITURATES), TRANQUILIZERS, FLAVORED ALCOHOLIC BEVERAGES, ALCOHOLIC BEVERAGE WITH CAFFEINE OR ENERGY DRINK, BIDIS, KRETEKS, ANDROSTENEDIONE, CREATINE, ADDERALL, SYNTHETIC MARIJUANA, SNUS, AND PRESCRIPTION DRUGS			
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	2.9	2.6	1.7	1.2
	10th Grade	2.9	2.6	1.7	1.2
	12th Grade	2.9	2.6	1.7	1.2
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	2.4	2.4	1.9	1.2
	10th Grade	2.4	2.4	1.9	1.2
	12th Grade	2.4	2.4	1.9	1.2
Female	8th Grade	2.2	1.9	1.4	1.2
	10th Grade	2.2	1.9	1.4	1.2
	12th Grade	2.2	1.9	1.4	1.2
College Plans					
None or under 4 years	8th Grade	2.2	1.9	1.4	1.2
	10th Grade	2.2	1.9	1.4	1.2
	12th Grade	2.2	1.9	1.4	1.2
Complete 4 years	8th Grade	2.2	1.9	1.4	1.2
	10th Grade	2.2	1.9	1.4	1.2
	12th Grade	2.2	1.9	1.4	1.2
Parental Education					
Any stratum	8th Grade	2.2	1.9	1.4	1.2
	10th Grade	2.2	1.9	1.4	1.2
	12th Grade	2.2	1.9	1.4	1.2
Racial/Ethnic Group					
White	8th Grade	3.1	3.1	2.4	1.5
	10th Grade	3.1	3.1	2.4	1.5
	12th Grade	3.1	3.1	2.4	1.5
African American	8th Grade	1.9	1.9	1.8	1.5
	10th Grade	1.9	1.9	1.8	1.5
	12th Grade	1.9	1.9	1.8	1.5
Hispanic	8th Grade	2.0	1.8	1.6	1.5
	10th Grade	2.0	1.8	1.6	1.5
	12th Grade	2.0	1.8	1.6	1.5

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-2f
Design Effects for (a) Prevalence of Use or (b) a Change in Prevalence of Use Across Nonadjacent Years

		INHALANTS, VICODIN, AND AMPHETAMINES (UNADJUSTED AND ADJUSTED)			
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	4.8	4.0	2.4	1.2
	10th Grade	4.8	4.0	2.4	1.2
	12th Grade	4.8	4.0	2.4	1.2
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	3.4	2.9	2.0	1.2
	10th Grade	3.4	2.9	2.0	1.2
	12th Grade	3.4	2.9	2.0	1.2
Female	8th Grade	3.5	3.4	2.1	1.2
	10th Grade	3.5	3.4	2.1	1.2
	12th Grade	3.5	3.4	2.1	1.2
College Plans					
None or under 4 years	8th Grade	2.1	1.8	1.5	1.2
	10th Grade	2.1	1.8	1.5	1.2
	12th Grade	2.1	1.8	1.5	1.2
Complete 4 years	8th Grade	4.0	3.5	2.3	1.2
	10th Grade	4.0	3.5	2.3	1.2
	12th Grade	4.0	3.5	2.3	1.2
Parental Education					
Any stratum	8th Grade	2.3	2.1	1.6	1.2
	10th Grade	2.3	2.1	1.6	1.2
	12th Grade	2.3	2.1	1.6	1.2
Racial/Ethnic Group					
White	8th Grade	4.1	4.0	2.3	1.5
	10th Grade	4.1	4.0	2.3	1.5
	12th Grade	4.1	4.0	2.3	1.5
African American	8th Grade	4.5	3.0	2.3	1.5
	10th Grade	4.5	3.0	2.3	1.5
	12th Grade	4.5	3.0	2.3	1.5
Hispanic	8th Grade	3.3	2.9	1.9	1.5
	10th Grade	3.3	2.9	1.9	1.5
	12th Grade	3.3	2.9	1.9	1.5

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-2g
Design Effects for (a) Prevalence of Use or (b) a Change in Prevalence of Use Across Nonadjacent Years

		ALCOHOL AND BEEN DRUNK [a]		CIGARETTES AND SMOKELESS TOBACCO	
		Lifetime, Last 12 Months, Last 30 Days, 5+/2 Weeks	Daily	Lifetime, Last 30 Days, Daily	Half Pack or More per Day
SEGREGATED GROUPS					
Total Sample [b]					
	8th Grade	5.2	1.4	5.4	3.9
	10th Grade	5.2	1.4	5.4	3.9
	12th Grade	5.2	1.4	5.4	3.9
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	2.9	1.4	2.8	2.2
	10th Grade	2.9	1.4	2.8	2.2
	12th Grade	2.9	1.4	2.8	2.2
Female	8th Grade	4.2	1.4	5.1	3.3
	10th Grade	4.2	1.4	5.1	3.3
	12th Grade	4.2	1.4	5.1	3.3
College Plans					
None or under 4 years	8th Grade	2.5	1.4	2.3	2.2
	10th Grade	2.5	1.4	2.3	2.2
	12th Grade	2.5	1.4	2.3	2.2
Complete 4 years	8th Grade	4.3	1.4	4.3	2.7
	10th Grade	4.3	1.4	4.3	2.7
	12th Grade	4.3	1.4	4.3	2.7
Parental Education					
Any stratum	8th Grade	2.3	1.4	2.4	2.0
	10th Grade	2.3	1.4	2.4	2.0
	12th Grade	2.3	1.4	2.4	2.0
Racial/Ethnic Group					
White	8th Grade	4.5	1.8	4.6	3.3
	10th Grade	4.5	1.8	4.6	3.3
	12th Grade	4.5	1.8	4.6	3.3
African American	8th Grade	5.6	1.8	3.0	1.8
	10th Grade	5.6	1.8	3.0	1.8
	12th Grade	5.6	1.8	3.0	1.8
Hispanic	8th Grade	3.8	1.8	3.4	2.4
	10th Grade	3.8	1.8	3.4	2.4
	12th Grade	3.8	1.8	3.4	2.4

Source. The Monitoring the Future study, the University of Michigan.

[a]See Table C-2e for flavored alcoholic beverages.

[b]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-3a
Design Effects for Subgroup Comparisons within Any Single Year

		ANY ILLICIT DRUG OTHER THAN MARIJUANA			
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	5.6	4.6	3.3	1.3
	10th Grade	6.2	5.0	3.4	1.4
	12th Grade	7.2	6.4	4.6	2.0
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	2.8	2.5	2.2	1.3
	10th Grade	3.1	2.7	2.4	1.2
	12th Grade	3.2	2.9	2.4	1.7
Female	8th Grade	3.1	2.8	2.1	1.2
	10th Grade	3.3	2.9	2.2	1.1
	12th Grade	3.5	3.3	2.8	1.6
College Plans					
None or under 4 years	8th Grade	2.0	1.9	1.6	1.2
	10th Grade	2.2	2.1	1.8	1.4
	12th Grade	2.1	1.9	1.6	1.5
Complete 4 years	8th Grade	3.5	2.8	2.3	1.2
	10th Grade	4.1	3.3	2.5	1.1
	12th Grade	4.4	3.8	3.0	1.7
Parental Education					
Any stratum	8th Grade	2.1	2.0	1.6	1.1
	10th Grade	2.2	2.0	1.7	1.2
	12th Grade	2.4	2.2	1.7	1.4
Racial/Ethnic Group					
White	8th Grade	3.6	3.4	2.8	1.8
	10th Grade	4.2	3.8	2.9	1.9
	12th Grade	3.7	3.6	2.8	2.2
African American	8th Grade	2.6	2.5	1.8	1.5
	10th Grade	2.9	2.6	2.4	1.6
	12th Grade	3.4	3.1	2.9	2.0
Hispanic	8th Grade	3.4	2.7	2.5	1.8
	10th Grade	4.0	2.8	2.3	1.6
	12th Grade	5.7	4.9	2.9	2.4

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-3b
Design Effects for Subgroup Comparisons within Any Single Year

		ANY ILLICIT DRUG, ANY ILLICIT DRUG INCLUDING INHALANTS, AND MARIJUANA			
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	5.8	4.8	4.3	1.6
	10th Grade	7.5	6.2	4.7	1.7
	12th Grade	10.7	10.2	8.1	3.6
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	2.4	2.4	2.4	1.5
	10th Grade	3.4	3.0	3.0	1.5
	12th Grade	3.8	3.4	3.0	2.7
Female	8th Grade	3.4	3.0	2.4	1.3
	10th Grade	4.0	3.4	2.7	1.1
	12th Grade	4.6	4.6	4.5	2.6
College Plans					
None or under 4 years	8th Grade	2.3	2.3	2.0	1.3
	10th Grade	2.8	2.8	2.7	2.0
	12th Grade	2.4	2.4	2.1	2.1
Complete 4 years	8th Grade	3.3	2.4	2.4	1.5
	10th Grade	5.1	4.0	3.2	1.1
	12th Grade	6.1	5.3	4.5	3.0
Parental Education					
Any stratum	8th Grade	2.1	2.1	1.9	1.1
	10th Grade	2.5	2.3	2.2	1.4
	12th Grade	3.0	2.8	2.3	1.9
Racial/Ethnic Group					
White	8th Grade	4.0	3.9	3.7	2.1
	10th Grade	5.9	4.9	4.0	2.2
	12th Grade	4.3	4.3	3.7	3.4
African American	8th Grade	2.9	2.2	1.6	1.4
	10th Grade	3.6	3.6	2.6	1.9
	12th Grade	5.0	5.0	5.0	2.5
Hispanic	8th Grade	2.6	2.6	2.2	2.1
	10th Grade	4.2	2.9	2.0	1.9
	12th Grade	9.4	9.2	4.5	3.2

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-3c
Design Effects for Subgroup Comparisons within Any Single Year

		HALLUCINOGENS (UNADJUSTED AND ADJUSTED), LSD, COCAINE, AND OTHER COCAINE			
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	6.2	4.9	3.2	1.2
	10th Grade	6.2	4.9	3.2	1.2
	12th Grade	6.2	4.9	3.2	1.2
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	3.2	2.8	2.4	1.1
	10th Grade	3.2	2.8	2.4	1.1
	12th Grade	3.2	2.8	2.4	1.1
Female	8th Grade	3.2	2.8	2.0	1.1
	10th Grade	3.2	2.8	2.0	1.1
	12th Grade	3.2	2.8	2.0	1.1
College Plans					
None or under 4 years	8th Grade	2.0	1.9	1.4	1.1
	10th Grade	2.0	1.9	1.4	1.1
	12th Grade	2.0	1.9	1.4	1.1
Complete 4 years	8th Grade	4.2	3.2	2.4	1.1
	10th Grade	4.2	3.2	2.4	1.1
	12th Grade	4.2	3.2	2.4	1.1
Parental Education					
Any stratum	8th Grade	2.1	1.9	1.5	1.1
	10th Grade	2.1	1.9	1.5	1.1
	12th Grade	2.1	1.9	1.5	1.1
Racial/Ethnic Group					
White	8th Grade	3.7	3.4	2.7	1.5
	10th Grade	3.7	3.4	2.7	1.5
	12th Grade	3.7	3.4	2.7	1.5
African American	8th Grade	1.8	1.8	1.6	1.5
	10th Grade	1.8	1.8	1.6	1.5
	12th Grade	1.8	1.8	1.6	1.5
Hispanic	8th Grade	5.1	3.1	2.4	1.5
	10th Grade	5.1	3.1	2.4	1.5
	12th Grade	5.1	3.1	2.4	1.5

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-3d
Design Effects for Subgroup Comparisons within Any Single Year

		NITRITES, PCP, CRACK COCAINE, HEROIN (INCLUDING HEROIN WITH AND WITHOUT A NEEDLE), METHAMPHETAMINE, CRYSTAL METHAMPHETAMINE (ICE), METHAQUALONE, OVER-THE-COUNTER COUGH/COLD MEDICINES, ROHYPNOL, GHB, KETAMINE, STEROIDS, SALVIA, PROVIGIL, TOBACCO USING A HOOKAH, SMALL CIGARS, DISSOLVABLE TOBACCO PRODUCTS, AND BATH SALTS (SYNTHETIC STIMULANTS)			
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	2.0	1.5	1.5	1.2
	10th Grade	2.0	1.5	1.5	1.2
	12th Grade	2.0	1.5	1.5	1.2
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	1.3	1.3	1.3	1.1
	10th Grade	1.3	1.3	1.3	1.1
	12th Grade	1.3	1.3	1.3	1.1
Female	8th Grade	1.9	1.5	1.3	1.1
	10th Grade	1.9	1.5	1.3	1.1
	12th Grade	1.9	1.5	1.3	1.1
College Plans					
None or under 4 years	8th Grade	1.4	1.4	1.4	1.1
	10th Grade	1.4	1.4	1.4	1.1
	12th Grade	1.4	1.4	1.4	1.1
Complete 4 years	8th Grade	1.5	1.3	1.1	1.1
	10th Grade	1.5	1.3	1.1	1.1
	12th Grade	1.5	1.3	1.1	1.1
Parental Education					
Any stratum	8th Grade	1.3	1.3	1.3	1.1
	10th Grade	1.3	1.3	1.3	1.1
	12th Grade	1.3	1.3	1.3	1.1
Racial/Ethnic Group					
White	8th Grade	2.0	1.9	1.8	1.5
	10th Grade	2.0	1.9	1.8	1.5
	12th Grade	2.0	1.9	1.8	1.5
African American	8th Grade	2.0	2.0	2.0	1.5
	10th Grade	2.0	2.0	2.0	1.5
	12th Grade	2.0	2.0	2.0	1.5
Hispanic	8th Grade	2.1	2.0	1.9	1.5
	10th Grade	2.1	2.0	1.9	1.5
	12th Grade	2.1	2.0	1.9	1.5

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-3e
Design Effects for Subgroup Comparisons within Any Single Year

		HALLUCINOGENS OTHER THAN LSD, ECSTASY (MDMA), NARCOTICS OTHER THAN HEROIN, OXYCONTIN, RITALIN, SEDATIVES (BARBITURATES), TRANQUILIZERS, FLAVORED ALCOHOLIC BEVERAGES, ALCOHOLIC BEVERAGE WITH CAFFEINE OR ENERGY DRINK, BIDIS, KRETEKS, ANDROSTENEDIONE, CREATINE, ADDERALL, SYNTHETIC MARIJUANA, SNUS, AND PRESCRIPTION DRUGS			
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	2.9	2.6	1.7	1.2
	10th Grade	2.9	2.6	1.7	1.2
	12th Grade	2.9	2.6	1.7	1.2
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	2.1	2.1	1.6	1.1
	10th Grade	2.1	2.1	1.6	1.1
	12th Grade	2.1	2.1	1.6	1.1
Female	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
College Plans					
None or under 4 years	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
Complete 4 years	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
Parental Education					
Any stratum	8th Grade	2.0	1.6	1.3	1.1
	10th Grade	2.0	1.6	1.3	1.1
	12th Grade	2.0	1.6	1.3	1.1
Racial/Ethnic Group					
White	8th Grade	2.5	2.5	2.1	1.5
	10th Grade	2.5	2.5	2.1	1.5
	12th Grade	2.5	2.5	2.1	1.5
African American	8th Grade	1.9	1.9	1.8	1.5
	10th Grade	1.9	1.9	1.8	1.5
	12th Grade	1.9	1.9	1.8	1.5
Hispanic	8th Grade	2.0	1.8	1.6	1.5
	10th Grade	2.0	1.8	1.6	1.5
	12th Grade	1.2	1.8	1.6	1.5

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-3f
Design Effects for Subgroup Comparisons within Any Single Year

		INHALANTS, VICODIN, AND AMPHETAMINES (UNADJUSTED AND ADJUSTED)			
		Lifetime	Last 12 Months	Last 30 Days	Daily
SEGREGATED GROUPS					
Total Sample [a]					
	8th Grade	4.8	4.0	2.4	1.2
	10th Grade	4.8	4.0	2.4	1.2
	12th Grade	4.8	4.0	2.4	1.2
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	2.7	2.4	1.9	1.1
	10th Grade	2.7	2.4	1.9	1.1
	12th Grade	2.7	2.4	1.9	1.1
Female	8th Grade	2.7	2.7	1.9	1.1
	10th Grade	2.7	2.7	1.9	1.1
	12th Grade	2.7	2.7	1.9	1.1
College Plans					
None or under 4 years	8th Grade	1.9	1.5	1.3	1.1
	10th Grade	1.9	1.5	1.3	1.1
	12th Grade	1.9	1.5	1.3	1.1
Complete 4 years	8th Grade	3.0	2.7	2.0	1.1
	10th Grade	3.0	2.7	2.0	1.1
	12th Grade	3.0	2.7	2.0	1.1
Parental Education					
Any stratum	8th Grade	2.0	1.9	1.4	1.1
	10th Grade	2.0	1.9	1.4	1.1
	12th Grade	2.0	1.9	1.4	1.1
Racial/Ethnic Group:					
White	8th Grade	3.1	3.0	2.0	1.5
	10th Grade	3.1	3.0	2.0	1.5
	12th Grade	3.1	3.0	2.0	1.5
African American	8th Grade	3.3	2.4	2.0	1.5
	10th Grade	3.3	2.4	2.0	1.5
	12th Grade	3.3	2.4	2.0	1.5
Hispanic	8th Grade	2.6	2.4	1.9	1.5
	10th Grade	2.6	2.4	1.9	1.5
	12th Grade	2.6	2.4	1.9	1.5

Source. The Monitoring the Future study, the University of Michigan.

[a]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

TABLE C-3g
Design Effects for Subgroup Comparisons within Any Single Year

		ALCOHOL AND BEEN DRUNK [a]		CIGARETTES AND SMOKELESS TOBACCO	
		Lifetime, Last 12 Months, Last 30 Days, 5+/2 Weeks	Daily	Lifetime, Last 30 Days, Daily	Half Pack or More per Day
SEGREGATED GROUPS					
Total Sample: [b]					
	8th Grade	5.2	1.4	5.4	3.9
	10th Grade	5.2	1.4	5.4	3.9
	12th Grade	5.2	1.4	5.4	3.9
CROSS-CLASS GROUPS					
Gender					
Male	8th Grade	2.4	1.3	2.3	2.0
	10th Grade	2.4	1.3	2.3	2.0
	12th Grade	2.4	1.3	2.3	2.0
Female	8th Grade	3.1	1.3	3.6	2.6
	10th Grade	3.1	1.3	3.6	2.6
	12th Grade	3.1	1.3	3.6	2.6
College Plans					
None or under 4 years	8th Grade	2.1	1.3	2.0	2.0
	10th Grade	2.1	1.3	2.0	2.0
	12th Grade	2.1	1.3	2.0	2.0
Complete 4 years	8th Grade	3.2	1.3	3.2	2.3
	10th Grade	3.2	1.3	3.2	2.3
	12th Grade	3.2	1.3	3.2	2.3
Parental Education					
Any stratum	8th Grade	2.0	1.3	2.1	1.9
	10th Grade	2.0	1.3	2.1	1.9
	12th Grade	2.0	1.3	2.1	1.9
Racial/Ethnic Group					
White	8th Grade	3.3	1.8	3.4	2.6
	10th Grade	3.3	1.8	3.4	2.6
	12th Grade	3.3	1.8	3.4	2.6
African American	8th Grade	4.0	1.8	2.4	1.8
	10th Grade	4.0	1.8	2.4	1.8
	12th Grade	4.0	1.8	2.4	1.8
Hispanic	8th Grade	2.9	1.8	2.7	2.1
	10th Grade	2.9	1.8	2.7	2.1
	12th Grade	2.9	1.8	2.7	2.1

Source. The Monitoring the Future study, the University of Michigan.

[a]See Table C-3e for flavored alcoholic beverages.

[b]Any region (Northeast, Midwest, South, and West) and any population density stratum (Large MSA, Other MSA, and Non-MSA).

Appendix D

TRENDS BY SUBGROUP: SUPPLEMENTAL TABLES FOR SECONDARY SCHOOL STUDENTS

Trends in subgroup data for the 1975–2014 Monitoring the Future (MTF) results containing 8th, 10th, and 12th graders' use of drugs and alcohol are presented in tables and figures in Occasional Paper 83.[1] The trends observed span all major classes of drugs for population subgroups defined by gender, college plans, region, population density, parental education, and race/ethnicity.

Due to the sheer quantity of information such trend tables generate for each prevalence measure (e.g., lifetime, annual, 30-day, daily), we have selected only the prevalence periods that seem most useful for understanding subgroup differences below. Thus, for most drugs, we include only annual prevalence; rates for additional prevalence periods are provided for alcohol, cigarettes, and smokeless tobacco because of their more frequent use. The numbers of cases that go with the data in the figures may be found in the complete set of tables that are included below.

The subgroups distinguished in the tables in Occasional Paper 83 are used throughout this volume and defined in Appendix B. The reader should note that *two-year moving averages* are given for the three major racial/ethnic groups included in order to reduce fluctuations in the trends due to random sampling differences. A footnote in each table describes the procedure used to obtain the presented data. A question about race/ethnicity identification was changed in 2005 in half of the questionnaire forms, allowing respondents to select multiple categories of race/ethnicity rather than just one (see the previous section for more details). In 2006, the remaining questionnaire forms were changed in a like manner. However, we believe that this change has had little effect on the results because so few respondents selected more than one of the categories offered.

For nearly all drugs we provide one table showing the subgroup trends (since 1991) for 8th graders, a second table of trends (since 1991) for 10th graders and a third table showing the longer-term trends (since 1975) for 12th graders. However, for two of the drugs—sedatives (barbiturates) and narcotics other than heroin—the 8th- and 10th-grade data have been omitted, as they have been throughout this volume, because we are less certain about the validity of the answers provided by those younger students. Specifically, we believe that they often fail to omit nonprescription substances. Usage questions for a few other drugs are simply not asked of 8th and 10th graders; thus only 12th-grade tables are presented.

Sample sizes should be taken into account when interpreting the importance of any changes observed. The numbers provided in the tables assume that all respondents in a given grade were asked about their use of the drug. Some of the drugs were not contained in all questionnaire forms, meaning that the subgroup and total numbers must be adjusted accordingly. The "Notes" section at the bottom of each table will indicate if only a fraction of the total sample received the question.

[1] Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (2015). *Demographic subgroup trends among young adults in the use of various licit and illicit drugs 1975-2014* (Monitoring the Future Occasional Paper No. 83). Ann Arbor, MI: Institute for Social Research, University of Michigan. Available at http://monitoringthefuture.org/pubs/occpapers/mtf-occ83.pdf

Occasional Paper 83 also includes graphic presentations of the trends presented in the tables for the various demographic subgroups. These figures use color to help distinguish the various subgroups and improve readability.

TABLE D-S1
Approximate Weighted *N*s by Subgroups in Grade 8

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	17,500	18,600	18,300	17,300	17,500	17,800	18,600	18,100	16,700	16,700	16,200	15,100	16,500	17,000	16,800	16,500	16,100	15,700	15,000	15,300	16,000	15,100	14,600	14,600
Gender																								
Male	8,600	8,800	8,600	8,300	8,100	8,400	8,600	8,600	7,800	7,900	7,500	7,000	7,600	8,100	8,000	7,800	7,800	7,600	7,100	7,100	7,600	7,200	7,000	6,800
Female	8,600	9,300	9,200	8,600	8,700	8,800	9,300	8,900	8,400	8,300	8,300	7,600	8,400	8,500	8,400	8,200	7,900	7,600	7,400	7,800	7,900	7,400	7,100	7,200
College Plans																								
None or under 4 years	2,300	2,400	2,100	2,000	1,900	2,200	1,900	1,800	1,700	1,600	1,600	1,300	1,600	1,600	1,600	1,500	1,300	1,200	1,100	1,200	1,100	980	900	1,000
Complete 4 years	14,600	15,400	15,400	14,700	14,800	14,800	15,800	15,600	14,500	14,500	14,100	13,400	14,500	15,000	14,800	14,600	14,400	14,000	13,500	13,800	14,500	13,700	13,300	13,000
Region																								
Northeast	3,000	3,700	3,900	3,400	3,100	3,200	3,400	3,300	3,000	2,800	2,900	2,800	3,200	3,200	3,200	2,900	2,400	2,600	2,500	2,500	2,900	2,800	2,500	2,400
Midwest	5,300	5,300	4,700	4,200	4,300	4,600	4,100	4,300	4,200	4,300	4,000	4,000	4,100	4,000	3,700	3,500	3,600	3,400	3,400	3,700	3,400	3,200	3,400	3,200
South	6,300	6,200	6,400	6,300	6,600	6,300	7,200	6,600	6,100	6,300	5,900	5,400	6,300	6,300	6,300	6,300	6,400	5,600	5,700	5,600	6,200	5,800	5,400	5,600
West	2,900	3,400	3,300	3,400	3,500	3,700	3,900	3,900	3,400	3,300	3,400	2,900	2,900	3,500	3,600	3,800	3,700	4,100	3,400	3,500	3,500	3,300	3,300	3,400
Population Density																								
Large MSA	4,500	5,700	5,500	4,400	5,200	5,200	5,000	4,800	4,800	4,900	4,700	4,500	4,900	5,000	5,400	5,400	5,000	5,100	4,500	4,600	5,400	5,200	4,800	4,700
Other MSA	8,400	8,300	8,800	8,300	7,800	8,400	9,000	8,800	7,900	7,900	7,500	6,900	7,700	7,900	7,400	7,300	7,800	7,500	7,300	7,500	7,300	6,900	6,800	6,800
Non-MSA	4,600	4,600	4,000	4,600	4,500	4,200	4,600	4,500	4,000	3,900	4,000	3,700	3,900	4,100	4,000	3,800	3,300	3,100	3,200	3,200	3,300	3,000	3,000	3,100
Parental Education																								
1.0–2.0 (Low)	1,400	1,700	1,700	1,600	1,500	1,500	1,500	1,300	1,300	1,300	1,300	1,100	1,100	1,200	1,400	1,400	1,400	1,300	1,200	1,400	1,300	1,300	1,400	1,300
2.5–3.0	4,400	4,600	4,500	4,100	3,900	4,300	4,000	3,900	3,800	3,700	3,400	3,200	3,400	3,400	3,400	3,300	3,100	2,800	2,700	2,800	2,700	2,500	2,400	2,400
3.5–4.0	4,100	4,300	4,300	4,200	4,000	4,100	4,300	4,100	3,800	3,900	4,000	3,500	3,700	4,000	3,700	3,800	3,700	3,500	3,300	3,400	3,500	3,000	2,900	3,100
4.5–5.0	4,100	4,100	4,100	3,900	3,900	3,900	4,500	4,500	4,000	3,900	3,900	3,800	4,200	4,300	4,200	4,000	3,900	4,100	3,900	3,800	4,100	3,900	3,900	3,600
5.5–6.0 (High)	2,200	2,300	2,300	2,200	2,300	2,200	2,600	2,700	2,200	2,200	2,100	2,100	2,400	2,500	2,600	2,300	2,300	2,300	2,100	2,200	2,700	2,600	2,400	2,300
Race/Ethnicity (2-year average) [a]																								
White	—	21,900	22,000	20,900	19,800	20,200	21,400	21,300	19,800	18,900	18,600	17,600	18,400	20,400	20,500	19,500	18,300	17,300	16,400	16,000	16,700	16,300	14,800	13,100
African American	—	4,200	4,800	5,500	5,600	5,300	4,700	4,900	5,000	4,800	4,500	4,500	4,400	3,900	3,800	4,000	3,900	4,000	4,100	4,000	3,700	3,500	3,500	4,100
Hispanic	—	3,400	3,600	4,000	4,000	4,000	4,200	4,100	4,100	4,000	4,100	3,900	3,400	3,200	3,600	4,700	5,400	5,100	4,700	5,000	5,200	5,200	5,500	5,700

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' — ' indicates data not available. See appendix B for definition of variables in table.

Caution: **The *N*s in this table are based on the entire sample at each grade level. Some drug use questions are asked only in some of the questionnaire forms rather than in all, in which case these *N*s need to be adjusted appropriately. Look under Notes in each table to see if only a fraction of the sample was asked about that drug. If there is no such indication, the entire sample received the question.**

[a] *N*s for each racial subgroup represent the combination of the specified year and the previous year. Data have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-S3 (cont.)

TABLE D-S2
Approximate Weighted *N*s by Subgroups in Grade 10

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	14,800	14,800	15,300	15,800	17,000	15,600	15,500	15,000	13,600	14,300	14,000	14,300	15,800	16,400	16,200	16,200	16,100	15,100	15,900	15,200	14,900	15,000	12,900	13,000
Gender																								
Male	7,200	7,000	7,300	7,700	8,300	7,500	7,400	7,100	6,300	6,800	6,600	6,900	7,500	7,900	7,900	7,900	7,800	7,000	7,600	7,200	7,200	7,200	6,100	6,200
Female	7,400	7,400	7,800	7,900	8,400	7,800	7,800	7,700	7,000	7,200	7,100	7,100	8,000	8,300	8,000	8,000	7,900	7,700	8,000	7,700	7,400	7,500	6,500	6,400
College Plans																								
None or under 4 years	2,600	2,400	2,500	2,700	2,500	2,300	2,200	2,200	1,900	1,900	1,900	2,000	2,100	1,900	1,800	1,800	1,800	1,600	1,500	1,600	1,500	1,300	1,300	1,200
Complete 4 years	11,900	12,000	12,400	12,800	14,200	13,000	13,000	12,500	11,500	12,100	11,900	12,100	13,400	14,300	14,100	14,100	14,000	13,200	14,100	13,400	13,200	13,400	11,400	11,500
Region																								
Northeast	2,700	3,000	2,900	3,100	3,300	3,100	3,300	3,100	3,000	2,800	2,700	2,600	3,400	3,600	3,500	3,200	3,200	2,800	3,400	3,000	2,600	2,900	2,400	2,500
Midwest	3,700	3,800	4,800	4,700	4,400	3,900	3,900	3,600	3,100	3,700	4,100	3,700	4,000	4,600	4,500	4,300	3,900	3,600	3,700	3,700	3,800	3,800	3,200	3,000
South	4,900	5,000	4,900	5,200	6,100	5,600	5,500	5,200	4,700	5,000	5,000	5,100	4,900	4,900	5,000	5,300	5,100	4,800	5,200	5,200	5,100	4,900	4,100	4,400
West	3,500	3,000	2,700	2,800	3,200	3,000	2,800	3,100	2,800	2,800	2,200	2,900	3,500	3,300	3,200	3,400	3,900	3,900	3,600	3,300	3,400	3,400	3,200	3,100
Population Density																								
Large MSA	3,400	3,700	3,500	4,100	4,700	4,300	4,300	4,300	3,700	4,000	3,900	4,300	4,900	5,000	4,900	5,100	5,200	4,700	5,200	5,200	4,900	4,700	3,800	4,500
Other MSA	7,400	7,300	7,600	7,500	8,200	7,500	7,300	7,000	6,700	6,700	6,700	6,800	7,800	7,800	7,600	7,900	7,600	7,300	7,300	6,600	6,600	7,100	6,400	6,000
Non-MSA	4,000	3,800	4,200	4,200	4,100	3,800	3,900	3,700	3,200	3,600	3,400	3,200	3,100	3,600	3,700	3,200	3,300	3,100	3,400	3,400	3,400	3,200	2,700	2,500
Parental Education																								
1.0–2.0 (Low)	1,300	1,300	1,300	1,300	1,200	1,100	1,300	1,300	1,100	1,200	1,200	1,300	1,200	1,300	1,100	1,100	1,200	1,300	1,300	1,400	1,200	1,100	1,100	1,100
2.5–3.0	3,900	3,900	4,100	4,100	4,100	3,600	3,700	3,700	3,200	3,200	3,200	3,300	3,500	3,400	3,200	3,200	3,300	3,000	3,000	3,000	3,000	2,600	2,400	2,300
3.5–4.0	3,900	3,900	4,100	4,300	4,600	4,300	4,100	4,000	3,600	3,700	3,700	3,700	4,200	4,200	4,100	4,300	4,400	3,800	4,000	3,800	3,900	3,800	3,100	3,100
4.5–5.0	3,500	3,400	3,500	3,700	4,000	3,900	3,700	3,500	3,300	3,500	3,400	3,500	3,900	4,300	4,400	4,500	4,300	4,000	4,300	3,900	3,800	4,100	3,500	3,600
5.5–6.0 (High)	1,800	1,700	1,700	1,800	2,300	1,900	1,900	1,800	1,700	1,900	1,800	1,700	2,100	2,400	2,400	2,300	2,100	2,000	2,400	2,200	2,000	2,500	2,000	2,100
Race/Ethnicity (2-year average) [a]																								
White	—	19,600	20,700	22,000	22,900	22,400	20,900	19,800	18,400	18,200	18,600	18,000	18,500	19,900	20,400	21,100	20,800	18,300	17,900	18,400	17,600	17,600	16,000	13,900
African American	—	3,900	3,600	3,300	3,300	3,100	3,200	3,600	3,600	3,100	2,800	3,400	4,600	4,600	4,300	3,900	3,400	3,600	3,600	3,400	3,200	3,100	2,900	2,900
Hispanic	—	2,600	2,700	2,800	2,900	3,000	3,200	3,500	3,200	3,100	3,400	3,600	3,600	3,500	3,500	3,300	3,800	4,500	4,500	4,600	4,500	4,100	4,100	4,300

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' — ' indicates data not available. See appendix B for definition of variables in table.

Caution: **The *N*s in this table are based on the entire sample at each grade level. Some drug use questions are asked only in some of the questionnaire forms rather than in all, in which case these *N*s need to be adjusted appropriately. Look under Notes in each table to see if only a fraction of the sample was asked about that drug. If there is no such indication, the entire sample received the question.**

[a] *N*s for each racial subgroup represent the combination of the specified year and the previous year. Data have been combined to increase subgroup sample sizes and thus provide more stable estimates.

TABLE D-S3 (cont.)

TABLE D-S3
Approximate Weighted *N*s by Subgroups in Grade 12

	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Total	9,400	15,400	17,100	17,800	15,500	15,900	17,500	17,700	16,300	15,900	16,000	15,200	16,300	16,300	16,700	15,200	15,000	15,800	16,300	15,400
Gender																				
Male	4,300	6,900	7,100	8,500	7,500	7,500	8,400	8,500	7,800	7,600	7,600	7,100	7,700	7,700	8,000	7,700	7,400	7,400	7,500	6,900
Female	5,200	7,000	7,600	9,000	8,000	7,800	8,600	8,600	8,000	7,800	8,000	7,700	8,200	8,200	8,300	7,100	7,200	7,900	8,200	8,000
College Plans																				
None or under 4 years	—	6,500	6,700	8,100	6,800	6,300	6,700	7,200	6,300	5,900	5,600	5,100	5,000	4,700	4,800	4,200	4,000	3,700	3,700	3,400
Complete 4 years	—	6,800	7,200	8,600	8,000	8,500	9,700	9,200	8,800	8,900	9,300	9,100	10,300	10,600	11,000	10,100	10,300	11,200	11,600	11,100
Region																				
Northeast	2,200	3,400	3,700	4,400	3,800	3,600	4,100	4,600	3,900	3,200	3,700	3,600	3,500	3,200	3,200	3,300	2,800	2,800	2,700	2,700
Midwest	2,900	4,500	4,600	5,200	4,800	4,700	5,300	5,200	4,600	4,500	4,400	4,300	4,400	4,300	4,500	4,200	4,000	4,400	4,600	4,000
South	3,000	4,300	4,600	6,000	4,800	4,800	5,300	5,300	5,200	5,300	4,900	4,700	5,200	5,600	6,100	5,000	5,100	5,600	5,800	5,700
West	1,400	2,200	2,200	2,500	2,600	2,700	2,800	2,600	2,600	2,900	3,000	2,600	3,200	3,200	2,900	2,700	3,100	3,000	3,200	3,000
Population Density																				
Large MSA	2,100	3,700	4,000	4,600	4,000	3,900	4,500	4,800	4,200	4,100	4,200	3,700	4,200	4,400	4,000	3,800	3,600	3,600	3,700	4,300
Other MSA	4,000	5,700	6,200	8,000	6,800	6,700	7,100	7,300	6,800	6,900	6,900	7,000	8,000	7,700	8,800	7,700	7,200	8,200	7,800	7,100
Non-MSA	3,400	5,000	4,900	5,500	5,200	5,200	5,900	5,600	5,300	4,900	4,900	4,500	4,100	4,200	3,900	3,700	4,200	4,000	4,800	4,000
Parental Education																				
1.0–2.0 (Low)	1,700	2,200	2,600	3,100	2,500	2,300	2,400	2,700	2,200	1,900	1,800	1,800	1,700	1,600	1,700	1,600	1,500	1,400	1,600	1,400
2.5–3.0	3,000	4,300	5,400	6,200	5,600	5,300	5,800	5,900	5,500	5,100	5,100	4,600	4,500	4,500	4,600	4,300	4,100	4,100	4,300	3,700
3.5–4.0	1,600	2,500	3,200	4,000	3,600	3,600	4,200	4,200	3,900	4,000	4,000	3,800	4,300	4,400	4,500	4,100	4,200	4,600	4,500	4,300
4.5–5.0	1,100	1,600	2,200	2,800	2,600	2,700	3,100	2,900	2,800	2,900	3,000	2,900	3,400	3,500	3,500	3,100	3,100	3,400	3,600	3,500
5.5–6.0 (High)	440	710	1,100	1,200	1,200	1,300	1,500	1,300	1,200	1,400	1,500	1,500	1,800	1,900	1,700	1,600	1,500	1,700	1,700	1,800
Race/Ethnicity (2-year average) [a]																				
White	—	—	23,400	26,500	27,500	25,600	26,300	27,300	26,200	24,700	24,200	23,600	23,800	24,200	24,000	23,400	21,900	21,500	22,000	21,800
African American	—	—	3,300	3,700	3,500	3,500	4,000	4,000	3,900	4,000	4,000	3,500	3,200	3,600	3,900	3,500	3,200	3,900	4,200	3,600
Hispanic	—	—	890	1,000	940	740	930	1,300	1,300	1,200	1,200	1,500	1,900	2,100	2,400	2,500	2,400	2,600	2,900	3,100

(Years cont.)

(Table continued on next page.)

TABLE D-S3 (cont.)
Approximate Weighted *N*s by Subgroups in Grade 12

	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Total	15,400	14,300	15,400	15,200	13,600	12,800	12,800	12,900	14,600	14,600	14,700	14,200	14,500	14,000	13,700	14,400	14,100	13,700	12,600	12,400
Gender:																				
Male	7,200	6,700	7,100	7,100	6,300	5,800	5,800	5,800	6,600	6,800	6,800	6,600	6,500	6,400	6,300	6,700	6,800	6,600	5,900	5,700
Female	7,800	7,100	7,700	7,500	6,700	6,400	6,500	6,600	7,400	7,200	7,300	7,100	7,400	6,900	6,700	7,100	6,700	6,600	6,100	6,100
College Plans																				
None or under 4 years	3,300	2,600	3,200	3,100	2,800	2,600	2,500	2,400	2,800	2,800	2,600	2,500	2,400	2,300	2,100	2,100	2,100	2,100	2,200	2,000
Complete 4 years	11,200	10,800	11,000	11,100	10,200	9,300	9,600	9,700	11,100	11,000	11,300	11,000	11,300	10,800	10,800	11,300	11,200	10,900	9,700	9,600
Region																				
Northeast	2,800	3,000	3,300	2,800	2,500	2,500	2,400	2,500	3,100	3,100	2,900	2,600	2,700	2,400	2,600	2,700	2,400	2,300	2,200	2,400
Midwest	4,300	3,800	4,100	3,800	3,600	3,100	3,700	3,300	3,600	3,800	3,600	3,500	3,200	3,500	3,500	3,200	3,400	3,600	3,100	2,500
South	5,400	5,100	5,300	5,700	4,900	4,500	4,100	4,300	4,900	5,000	5,200	5,200	5,500	5,000	4,800	5,400	5,100	4,400	4,300	4,700
West	2,900	2,400	2,700	2,900	2,600	2,700	2,600	2,800	3,000	2,700	3,000	2,900	3,100	3,100	2,800	3,100	3,200	3,400	3,000	2,800
Population Density																				
Large MSA	4,400	3,400	4,100	4,300	3,800	3,800	3,800	4,000	4,600	4,200	4,300	4,700	4,700	3,700	3,900	4,200	4,300	4,300	3,800	3,500
Other MSA	7,000	7,000	7,500	7,500	6,200	5,800	5,800	5,900	6,500	6,800	7,000	6,200	6,600	7,100	6,900	7,300	6,900	6,700	6,200	6,300
Non-MSA	4,000	3,900	3,800	3,400	3,600	3,200	3,200	3,000	3,500	3,600	3,400	3,300	3,200	3,200	2,900	2,900	2,900	2,700	2,600	2,600
Parental Education																				
1.0–2.0 (Low)	1,200	1,100	1,300	1,200	960	860	1,000	980	1,200	1,000	1,100	1,100	1,100	1,200	1,400	1,400	1,200	1,200	1,200	1,200
2.5–3.0	3,700	3,300	3,600	3,700	3,200	3,000	2,900	2,800	3,400	3,400	3,200	3,100	3,200	3,000	2,900	3,000	2,800	2,800	2,500	2,400
3.5–4.0	4,400	3,800	4,100	4,300	3,900	3,600	3,600	3,800	4,200	4,000	3,900	4,000	4,200	3,900	3,700	4,000	3,900	3,700	3,500	3,400
4.5–5.0	3,700	3,500	3,500	3,300	3,200	3,100	3,200	3,100	3,400	3,600	3,600	3,600	3,600	3,500	3,300	3,500	3,600	3,600	3,300	3,200
5.5–6.0 (High)	1,800	2,100	2,100	2,000	1,800	1,600	1,600	1,500	1,800	2,000	2,100	1,900	1,800	1,700	1,600	1,600	1,900	1,800	1,500	1,300
Race/Ethnicity (2-year average) [a]																				
White	21,600	20,700	19,800	20,200	19,500	17,700	16,200	16,300	17,800	19,600	19,600	18,600	18,200	17,300	16,300	16,400	16,500	16,300	15,600	14,100
African American	3,300	3,200	3,600	3,700	3,400	3,300	3,100	2,900	3,000	3,200	3,000	3,000	3,200	3,500	3,100	3,000	3,400	3,200	2,700	2,800
Hispanic	2,700	2,600	2,800	3,000	2,500	2,200	2,600	3,100	3,100	2,800	2,900	3,500	3,700	4,000	4,400	4,500	4,000	3,700	3,900	4,000

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' — ' indicates data not available. See appendix B for definition of variables in table.

Caution: **The *N*s in this table are based on the entire sample at each grade level. Some drug use questions are asked only in some of the questionnaire forms rather than in all, in which case these *N*s need to be adjusted appropriately. Look under Notes in each table to see if only a fraction of the sample was asked about that drug. If there is no such indication, the entire sample received the question.**

[a] *N*s for each racial subgroup represent the combination of the specified year and the previous year. Data have been combined to increase subgroup sample sizes and thus provide more stable estimates. See appendix B for details on how race/ethnicity is defined.

Appendix E

TRENDS IN SPECIFIC SUBCLASSES OF HALLUCINOGENS, AMPHETAMINES, TRANQUILIZERS, NARCOTIC DRUGS OTHER THAN HEROIN, AND SEDATIVES

In one of the six questionnaire forms administered to 12th graders, respondents who answer that they used ***amphetamines*** in the prior 12 months are then asked a small set of additional questions about that use. One question asks, "What amphetamines have you taken during the last year without a doctor's orders? (Mark all that apply.)" A specified list of amphetamines (i.e., Ritalin, Adderall, Concerta, etc.) is provided, along with an additional category labeled "Other" and one labeled "Don't know the name of some amphetamines I have used."[1]

For each of four other classes of drugs (***hallucinogens other than LSD***, ***tranquilizers***, ***narcotics other than heroin***, and ***sedatives*** [***barbiturates***]) a parallel set of additional questions is asked of those who report using each drug class during the prior 12 months. As with other questions, respondents are asked to check the specific drugs that they used. All of the detailed drug questions are included in the same 12th-grade questionnaire form.

Answers to the detailed questions about the five drug classes are provided in this appendix in Tables E-1 to E-5, covering the 39-year interval from 1976 to 2014. Because these questions are contained in only one of the six 12th-grade questionnaire forms (one of five in earlier years), the number of cases on which the estimates are based is lower than for most prevalence estimates in this volume. The relevant numbers of cases are provided in the bottom row of each table; the reader is cautioned that in some years, when annual prevalence is particularly low, the case counts are low.

We provide one other caution to the reader in interpreting the results. For some of the drug classes, the absolute prevalence may be an underestimate. This occurs because some users of a particular subclass may not realize that the substance (e.g., peyote) is actually a subclass of the more general class (in this case, hallucinogens other than LSD), even though all the subclasses are listed in the introduction to the question set. Such respondents, therefore, may not indicate use on the general question, which means they would never get to the branching question about using the subclass drug. Thus, they would not be counted among the users.

In the relevant 12th-grade questionnaire form, we go to some length to state both the full list of common street names, as well as the proper names, for the drugs in the general class *before* asking about whether they used the general class of drugs in the prior 12 months. However, because several of the drugs in the subclass lists (PCP, methamphetamine, crystal methamphetamine, Ritalin, OxyContin, and Vicodin) have also been included on a different questionnaire form in tripwire questions,[2] we have been able to determine that those questions usually yield higher levels

[1] The original question lists all subclasses of the general class. For example, the question regarding amphetamine use contains the text, "They include the following drugs: Dexedrine, Ritalin, Adderall, Concerta, Methamphetamine." A list of common street names is also given to help define the drug class for the respondent. In theory, respondents know that they would answer positively about having taken the general class of drug if they used any of the subclasses, even if they did not know in advance that the subclass belonged to the more general class.

[2] A tripwire question is a single non-branching question that, for reasons of questionnaire space economy, asks only about frequency of use in the prior 12 months.

of use when asked directly than when a branching question precedes them. For example, the 2003 prevalence rates for PCP use among 12th graders shows such a pattern. The 2003 annual prevalence for PCP generated by a single question about PCP use asked of all 12th graders was 1.3%, whereas the estimate was 0.9% when the drug was treated as a subcategory of hallucinogens other than LSD.[3]

Despite the potential for underestimation of *prevalence* when using branching questions, we still think such questions are helpful for discerning long-term *trends* in use. To stay with the PCP example, both the tripwire questions about PCP use and the branching question that treats PCP as a subcategory of hallucinogens other than LSD have shown very similar trends since 1979, when they were first available for comparison. Both measures showed a substantial decline in PCP use from 1979 through the mid-1980s, followed by a period of stability in use at low levels, then a modest increase in use in the 1990s until 1996, when use leveled. Thus if we only had the results from the branching question available, we would have obtained quite an accurate picture of the trend story, even though we would have been underestimating the absolute prevalence to some degree.

We conclude that the data for the other specific drug classes should also provide a fair approximation of the trends. The majority of such prevalence data probably underestimates the true prevalence, however.

Note on hallucinogens: In 2001 we changed the question wording in the branching question about use of hallucinogens other than LSD, replacing the older term "psychedelics" with the more current term "hallucinogens." That same year the term "shrooms," a common street name for hallucinogenic mushrooms or psilocybin, was added to the list of examples. We believe that these methodological changes had the effect of increasing the reported prevalence; thus, the 2000–2001 change for the various classes of hallucinogens other than LSD in Table E-1 should not be mistaken for a real change in use.

Note on psychotherapeutics: The pharmaceutical products that are part of each of these classes of psychotherapeutic drugs change over the years. Therefore, the lists of drugs are updated periodically as some drugs fall out of favor or are withdrawn from the market and others are introduced.

Note on amphetamines: Ritalin has been one of the drugs listed under the general class of amphetamines, though it is not formally an amphetamine. It is a stimulant, like amphetamine, and it is a medically indicated treatment for attention deficit hyperactivity disorder (ADHD). The issue of its diversion for other uses received increasing attention in the 1990s. For that reason, we added a separate tripwire question about its use in the 2001 survey. As with PCP, we find that the prevalence reported in response to a stand-alone question tends to be higher than that reported under a branching question. Annual Ritalin prevalence in 2014 among 12th graders was 1.8% with the newer tripwire question, compared to 1.3% with the branching question.

[3] This may be an atypical case; proper classification of PCP is quite ambiguous—it is actually an animal tranquilizer with hallucinogenic effects. We suspected some years ago that students were not categorizing PCP as a hallucinogen other than LSD, even though it was given in the list of examples for that question. That suspicion was what originally led us to ask separate questions about its use.

We believe that the trend results based on the branching question tell a reasonably accurate story about the pattern of change for Ritalin use, despite the difference in the absolute prevalence. However, since 2001 we have based our prevalence estimates for Ritalin primarily on the tripwire question.

In 2007, Preludin and Dexamyl (amphetamines with substantially decreased usage rates) were deleted to make room for Adderall and Concerta (which had become increasingly popular).

In 2011, Benzedrine and Methedrine, as well as the street term Bennies, were dropped from the list of examples for the general use of amphetamines question due to very low levels of use. In the follow-up questions asking about use of specific amphetamines, Benzedrine and Methedrine were deleted from the list of specific drugs. In 2013, Vyvanse—another drug used in the treatment of ADHD—was added to the list.

Note on sedatives (barbiturates): This class of drugs was originally referred to as "barbiturates" because barbiturates tended to predominate among the sedative medications. As more nonbarbiturate sedatives came into common use, we changed all relevant survey questions to refer to "sedatives." There was also a major interruption in the time series; as prevalence of sedative use became consistently low, the sedative use branching questions were dropped after 1989 to make space for other questions. The series was resumed in 2007 because the sedative problem had made a comeback. Some older sedatives (including Nembutal, Luminal, Desbutal, Amytal, and Adrenocal) were dropped from the list of specific drugs and some newer ones (including Ambien, Lunesta, and Sonata) were added. In 2013, Tuinal was dropped and Dalmane, Restoril, Halcion, Intermezzo, and Zolpimist were added to the list of sedatives.

Note on tranquilizers: In 2001, Xanax was added to the list of tranquilizers. In 2007, the list of drugs in the tranquilizer category was updated. Five seldom-used drugs were dropped (Equanil, meprobamate, Atarax, Tranxene, and Vistaril) and three more commonly used drugs were added (Soma, Ativan, and Klonopin).

Note on narcotics other than heroin: Because there had been considerable public comment on the diversion of OxyContin and Vicodin, in 2002 we added tripwire questions for these drugs in questionnaire forms different from the form containing the branching questions on the use of specific narcotics other than heroin. Once again, the absolute prevalence levels obtained for these drugs turned out to be higher on these stand-alone questions, asked of all respondents on that questionnaire form, than those obtained from the branching questions. In 2013 the annual prevalence of OxyContin was estimated to be 3.6% in the tripwire question versus 2.2% in the branching question, while that of Vicodin was estimated to be 5.3% in the tripwire question versus only 2.6% in the branching question. Note also that another of the narcotic drugs introduced onto the list in 2002, Percocet, has shown an annual prevalence rate similar to that for OxyContin. In 2007, Ultram was added to the list of narcotic drugs, and Dilaudid was dropped. In 2013, Tramadol, MS Contin, Suboxone, Roxycodone, Tylox, and Hydrocodone (Lortab, Lorcet, Norco) were added.

TABLE E-1
SPECIFIC HALLUCINOGENS OTHER THAN LSD: Trends in Annual Prevalence of Use for All Seniors [a]

What hallucinogens other than LSD [b] have you taken during the last year?	Percentage of ALL SENIORS using drug indicated in last 12 months																		
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Mescaline	5.1	5.0	5.0	4.1	4.8	3.7	3.5	2.7	3.0	2.3	2.1	1.6	0.8	0.9	0.6	0.6	0.6	0.8	0.5
Peyote	1.8	1.4	1.5	1.1	1.1	0.9	0.6	0.6	0.6	0.5	0.4	0.5	0.3	0.4	0.9	0.1	0.5	0.6	0.6
Psilocybin (shrooms) [b]	1.7	1.0	1.3	1.0	1.5	1.6	0.9	0.7	0.7	0.6	0.9	0.6	0.9	0.3	0.7	0.3	0.2	0.5	0.5
PCP	2.9	3.3	4.5	4.2	3.5	2.2	1.4	1.5	1.2	0.9	0.8	1.0	0.6	0.4	0.8	0.5	0.6	0.7	0.9
Concentrated THC	5.6	5.7	5.3	4.6	2.6	2.1	1.5	1.4	0.9	1.1	0.8	1.0	0.7	0.4	0.4	0.4	0.2	0.5	0.4
Other	3.3	3.7	3.4	3.9	2.9	2.7	1.9	1.5	1.5	1.3	0.9	0.9	0.7	0.9	0.9	0.6	1.0	0.8	0.7
Don't know the names of some I have used	1.2	1.3	1.5	1.6	1.2	1.2	1.1	1.2	0.9	1.0	0.7	0.7	0.5	0.3	0.5	0.4	0.3	0.4	0.6
Approximate weighted N =	*2,800*	*3,000*	*3,500*	*3,100*	*3,100*	*3,400*	*3,500*	*3,200*	*3,100*	*3,100*	*3,000*	*3,200*	*3,200*	*2,700*	*2,500*	*2,500*	*2,600*	*2,600*	*2,500*

(Years cont.)

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' ‡ ' indicates some change in the question. See relevant footnote.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]These are the estimated prevalence-of-use rates for the entire population of seniors, not just those who answered that they had used the more general class of drugs.

[b]In 2001, the question asking about the prevalence of use of specific hallucinogens other than LSD was changed in several ways: (1) the wording of the screening question was changed from psychedelics other than LSD to hallucinogens other than LSD; (2) in the list of examples given in the screening question, psilocybin was expanded to shrooms or psilocybin; and (3) the specific question about psilocybin was expanded to shrooms or psilocybin. The inclusion of the term shrooms elicited a higher reported level of use in response to both the general category and the specific drug psilocybin. This question change likely explains some of the discontinuity in the 2000–2001 results.

(Table continued on next page.)

TABLE E-1 (cont.)
SPECIFIC HALLUCINOGENS OTHER THAN LSD: Trends in Annual Prevalence of Use for All Seniors [a]

What hallucinogens other than LSD [b] have you taken during the last year?	Percentage of ALL SENIORS using drug indicated in last 12 months																				2013–2014 change
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Mescaline	1.1	1.2	0.8	1.3	0.9	1.3	0.9	0.8	0.5	0.6	0.7	0.4	0.4	0.4	0.5	0.7	0.6	0.5	0.2	0.2	0.0
Peyote	0.7	0.9	0.8	0.2	0.8	0.2	0.9	0.6	0.6	0.7	0.7	0.6	0.5	0.4	0.4	0.7	0.8	0.5	0.2	0.2	0.0
Psilocybin (shrooms) [b]	0.9	1.4	1.1	1.4	1.2	1.4‡	4.9	4.0	4.6	5.7	4.4	3.6	4.5	3.8	4.3	3.7	3.8	4.4	2.8	2.6	-0.3
PCP	1.2	1.1	0.9	0.8	1.1	1.2	0.9	1.0	0.9	1.0	0.7	0.6	0.7	0.5	0.6	1.0	0.7	0.9	0.3	0.4	+0.2
Concentrated THC	0.9	1.5	1.2	1.1	1.3	0.9	1.3	0.8	0.9	1.3	0.8	0.9	1.0	1.3	1.2	1.1	1.2	1.5	1.0	1.3	+0.3
Other	1.3	1.8	1.9	2.2	1.9	2.4	1.6	1.2	1.6	1.4	1.4	1.2	1.3	1.8	1.2	1.6	1.9	1.1	0.9	0.7	-0.2
Don't know the names of some I have used	0.8	0.8	1.2	1.2	1.0	0.8	0.9	0.4	0.4	0.7	0.6	0.6	0.4	0.4	0.8	0.8	0.6	0.6	0.3	0.3	0.0
Approximate weighted N =	*2,500*	*2,300*	*2,500*	*2,500*	*2,200*	*2,100*	*2,100*	*2,100*	*2,400*	*2,400*	*2,400*	*2,300*	*2,400*	*2,300*	*2,300*	*2,300*	*2,300*	*2,200*	*2,000*	*2,000*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' ‡ ' indicates some change in the question. See relevant footnote.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]These are the estimated prevalence-of-use rates for the entire population of seniors, not just those who answered that they had used the more general class of drugs.

[b]In 2001, the question asking about the prevalence of use of specific hallucinogens other than LSD was changed in several ways: (1) the wording of the screening question was changed from psychedelics other than LSD to hallucinogens other than LSD; (2) in the list of examples given in the screening question, psilocybin was expanded to shrooms or psilocybin; and (3) the specific question about psilocybin was expanded to shrooms or psilocybin. The inclusion of the term shrooms elicited a higher reported level of use in response to both the general category and the specific drug psilocybin. This question change likely explains some of the discontinuity in the 2000–2001 results.

TABLE E-2
SPECIFIC AMPHETAMINES: Trends in Annual Prevalence of Use for All Seniors [a]

What amphetamines have you taken during the last year without a doctor's orders?	Percentage of ALL SENIORS using drug indicated in last 12 months																		
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Benzedrine	3.5	4.1	3.7	3.1	3.2	3.6	2.9	1.6	1.7	1.9	1.4	1.1	0.5	0.7	0.6	0.1	0.2	0.3	0.6
Dexedrine	2.9	3.5	3.7	4.0	4.0	5.1	2.8	1.4	1.6	1.2	0.9	0.6	0.4	0.6	0.5	0.3	0.2	0.2	0.5
Methedrine	3.4	4.2	3.9	4.7	4.4	5.6	4.7	3.2	3.0	2.9	2.0	1.5	1.2	0.7	0.5	0.3	0.4	0.4	0.5
Ritalin	0.5	0.7	0.6	0.4	0.6	0.7	0.5	0.3	0.3	0.4	0.3	0.3	0.3	0.4	0.5	0.1	0.1	0.4	1.0
Preludin [b]	0.6	1.0	1.1	1.3	1.1	1.7	0.8	0.6	0.5	0.4	0.3	0.1	0.2	0.3	0.1	0.1	0.1	0.1	0.3
Dexamyl [b]	1.3	1.5	1.1	1.3	1.3	1.1	1.2	0.6	0.9	0.6	0.8	0.5	0.4	0.3	0.2	0.1	0.2	0.3	0.5
Adderall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Concerta	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vyvanse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methamphetamine	1.9	2.3	2.3	2.4	2.7	3.7	2.8	1.8	2.1	2.0	1.5	1.3	1.2	0.6	0.6	0.8	0.4	0.6	0.6
Crystal methamphetamine (ice)	—	—	—	—	—	—	—	—	—	—	—	—	—	1.2	0.8	1.2	1.1	1.1	1.4
Other	4.6	5.9	6.5	6.4	6.4	7.6	4.6	4.2	4.3	3.3	3.7	2.6	1.5	2.1	1.6	1.2	1.5	2.0	2.3
Don't know the names of some I have used	6.8	7.2	6.8	7.5	8.7	11.1	9.2	8.4	8.1	7.0	5.3	4.4	3.3	2.9	2.9	2.3	1.9	2.2	2.1
Approximate weighted N =	*2,700*	*2,900*	*3,400*	*3,100*	*3,000*	*3,400*	*3,400*	*3,200*	*3,100*	*3,100*	*3,000*	*3,200*	*3,200*	*2,700*	*2,500*	*2,500*	*2,600*	*2,600*	*2,500*

(Years cont.)

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. ' * ' indicates less than 0.05% but greater than 0%.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a] These are the estimated prevalence-of-use rates for the entire population of seniors, not just those who answered that they had used the more general class of drugs.

[b] In 2007 for the list of amphetamines, Preludin and Dexamyl were replaced with Adderall and Concerta.

[c] In 2013 "(Methylphenidate)" was added to Concerta.

(Table continued on next page.)

TABLE E-2 (cont.)
SPECIFIC AMPHETAMINES: Trends in Annual Prevalence of Use for All Seniors [a]

What amphetamines have you taken during the last year without a doctor's orders?	Percentage of ALL SENIORS using drug indicated in last 12 months																				2013–2014 change
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013[d]	2014[d]	
Benzedrine	0.2	0.3	0.2	0.3	0.3	0.2	0.3	0.6	0.2	0.8	0.4	0.2	0.5	0.4	0.4	0.2	—	—	—	—	—
Dexedrine	0.4	0.3	0.9	0.6	0.6	0.6	0.8	1.0	0.7	1.3	0.6	0.3	0.4	0.3	0.2	0.3	0.2	0.5	0.4	0.3	-0.1
Methedrine	0.3	0.3	0.5	0.3	0.3	0.3	0.5	0.2	0.2	0.4	0.6	0.2	0.2	0.0	0.1	0.2	—	—	—	—	—
Ritalin	0.8	1.2	2.8	2.8	2.4	2.2	2.4	2.6	2.3	3.9	2.3	2.3	1.7	1.5	1.3	1.5	2.0	1.9	2.0	1.3	-0.7
Preludin [b]	0.1	0.5	0.2	0.3	0.2	*	0.2	0.1	0.1	0.2	0.2	0.1	—	—	—	—	—	—	—	—	—
Dexamyl [b]	0.2	0.4	0.3	0.4	0.2	0.2	0.5	0.2	0.1	0.5	0.3	0.3	—	—	—	—	—	—	—	—	—
Adderall	—	—	—	—	—	—	—	—	—	—	—	—	2.8	3.2	3.3	3.5	5.1	4.0	4.1	4.0	-0.1
Concerta[c]	—	—	—	—	—	—	—	—	—	—	—	—	0.8	0.9	0.8	1.0	1.0	0.9	0.6	0.4	-0.2
Vyvanse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.3	1.6	+0.2
Methamphetamine	0.7	0.7	1.1	1.3	0.9	0.9	1.5	1.3	1.9	1.5	1.5	1.1	1.2	0.5	0.6	0.6	0.4	0.4	0.3	0.4	+0.1
Crystal methamphetamine (ice)	1.6	1.5	1.8	2.5	1.8	1.9	2.1	2.1	1.7	2.0	1.2	1.3	1.1	0.4	0.2	0.5	0.4	0.3	0.3	0.3	-0.1
Other	2.0	2.3	2.5	3.1	2.6	2.9	2.7	3.2	3.2	3.4	2.5	3.4	1.4	1.5	1.1	0.8	2.0	1.4	0.6	0.7	+0.1
Don't know the names of some I have used	2.6	2.3	2.8	3.1	2.5	2.1	2.2	2.3	2.3	2.9	1.7	1.6	1.4	1.2	0.9	1.0	0.7	0.6	0.7	1.0	+0.3
Approximate weighted N =	*2,500*	*2,300*	*2,500*	*2,500*	*2,200*	*2,100*	*2,000*	*2,100*	*2,400*	*2,400*	*2,400*	*2,300*	*2,400*	*2,300*	*2,300*	*2,300*	*2,300*	*2,200*	*2,000*	*2,000*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. ' * ' indicates less than 0.05% but greater than 0%.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]These are the estimated prevalence-of-use rates for the entire population of seniors, not just those who answered that they had used the more general class of drugs.

[b]In 2007 for the list of amphetamines, Preludin and Dexamyl were replaced with Adderall and Concerta.

[c]In 2013 "(Methylphenidate)" was added to Concerta.

[d]In 2013 the general amphetamine use question wording was changed slightly in the 12th grade questionnaires; Vyvanse was also added to the list of examples in this form. In 2014 the same form was changed; 'or other stimulant drug' was added to the question text and to the 'don't know' response.

TABLE E-3
SPECIFIC TRANQUILIZERS: Trends in Annual Prevalence of Use for All Seniors [a]

Percentage of ALL SENIORS using drug indicated in last 12 months

→ (Years cont.)

What tranquilizers have you taken during the last year without a doctor's orders?	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Librium	2.6	2.9	2.4	2.1	1.8	2.0	0.9	1.2	0.5	0.8	0.7	0.7	0.3	0.2	0.2	0.2	0.1	0.1	*
Valium	5.3	6.9	6.0	5.9	5.3	5.5	3.5	3.2	2.9	3.5	2.8	2.9	2.2	1.7	1.6	1.2	1.6	1.6	1.6
Miltown [b]	0.2	0.3	0.1	0.3	0.1	0.2	0.1	0.1	0.1	0.1	0.0	0.1	0.0	0.1	0.1	0.0	*	0.0	0.0
Xanax	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Equanil [c]	0.4	0.4	0.7	0.4	0.4	0.2	0.1	0.2	0.1	0.3	0.1	0.1	0.1	0.0	0.1	0.1	*	0.1	*
Meprobamate [c]	0.6	0.2	0.4	0.3	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.2	*	0.1	0.2	*	0.1	0.0	0.1
Soma	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Serax	0.2	0.2	0.1	0.2	0.1	0.2	*	0.1	0.2	0.1	0.2	0.1	0.0	0.1	0.2	0.0	0.2	*	*
Atarax [c]	0.2	0.1	0.1	0.2	0.1	0.3	0.1	0.1	0.1	0.2	0.2	0.2	*	*	0.1	0.1	0.1	0.1	0.0
Tranxene [c]	0.2	0.3	0.3	0.5	0.3	0.2	0.2	0.3	0.2	0.3	0.2	0.2	0.1	0.1	0.1	0.1	0.2	*	*
Vistaril [c]	0.1	0.2	0.4	0.3	0.3	0.3	0.1	0.1	0.2	0.4	0.2	0.1	0.0	*	0.3	0.0	*	*	0.1
Ativan	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Klonopin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Don't know the names of some I have used	3.0	2.7	2.7	1.9	2.3	1.6	1.3	1.7	1.4	1.7	2.0	1.3	0.9	1.0	1.5	1.1	0.7	1.3	0.9
Approximate weighted N =	*2,700*	*2,900*	*3,400*	*3,100*	*3,000*	*3,300*	*3,400*	*3,200*	*3,100*	*3,100*	*3,000*	*3,100*	*3,200*	*2,700*	*2,500*	*2,400*	*2,600*	*2,600*	*2,500*

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. ' * ' indicates less than 0.05% but greater than 0%.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a] These are the estimated prevalence-of-use rates for the entire population of seniors, not just those who answered that they had used the more general class of drugs.

[b] In 2001 for the list of tranquilizers, Miltown was replaced with Xanax.

[c] In 2007 for the list of tranquilizers, Equanil, meprobamate, Atarax, Tranxene, and Vistaril were replaced with Soma, Ativan, and Klonopin.

(Table continued on next page.)

TABLE E-3 (cont.)
SPECIFIC TRANQUILIZERS: Trends in Annual Prevalence of Use for All Seniors [a]

What tranquilizers have you taken during the last year without a doctor's orders?	Percentage of ALL SENIORS using drug indicated in last 12 months																				2013–2014 change
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Librium	0.3	0.3	0.2	0.3	0.4	0.2	0.4	0.3	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.5	0.2	*	0.2	*	-0.1
Valium	1.3	1.5	2.0	2.0	2.7	2.6	2.8	2.8	2.8	3.1	3.1	2.3	2.4	1.9	1.9	1.9	1.6	1.1	1.4	1.0	-0.3
Miltown [b]	0.0	0.1	*	*	0.2	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Xanax	—	—	—	—	—	—	1.9	2.6	2.7	2.7	2.3	2.8	3.3	3.3	3.6	3.7	2.8	3.1	2.6	3.4	+0.8
Equanil [c]	*	0.2	0.2	0.1	0.1	0.2	0.1	0.4	*	0.1	*	*	—	—	—	—	—	—	—	—	—
Meprobamate [c]	0.2	0.1	0.3	0.1	0.1	*	0.1	0.1	0.1	0.2	0.1	0.1	—	—	—	—	—	—	—	—	—
Soma	—	—	—	—	—	—	—	—	—	—	—	—	1.3	1.4	0.7	1.4	0.4	1.0	0.4	0.3	-0.1
Serax	*	0.2	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.2	0.1	*	0.1	*	*	0.4	0.1	0.2	0.2	0.1	-0.1
Atarax [c]	*	*	0.1	0.0	0.1	0.2	0.1	0.1	0.2	0.1	0.3	0.2	—	—	—	—	—	—	—	—	—
Tranxene [c]	0.1	0.1	0.1	0.1	0.3	0.1	0.1	0.1	*	0.1	0.1	0.1	—	—	—	—	—	—	—	—	—
Vistaril [c]	0.1	0.1	0.2	0.1	0.1	0.1	0.3	0.3	0.2	0.1	0.2	0.3	—	—	—	—	—	—	—	—	—
Ativan	—	—	—	—	—	—	—	—	—	—	—	—	0.2	0.4	0.4	0.4	0.5	0.3	0.2	0.2	0.0
Klonopin	—	—	—	—	—	—	—	—	—	—	—	—	1.2	1.3	1.5	1.7	0.8	1.3	1.0	0.4	-0.5
Other	—	—	—	—	—	—	—	1.9	1.4	2.4	1.4	1.4	1.3	1.4	0.8	1.5	0.9	0.5	0.6	0.7	+0.2
Don't know the names of some I have used	1.1	1.3	1.5	1.5	1.4	1.4	1.9	1.2	1.0	1.0	1.3	0.9	0.5	0.9	0.3	0.6	0.9	0.4	0.4	0.2	-0.1
Approximate weighted N =	*2,500*	*2,300*	*2,500*	*2,500*	*2,200*	*2,000*	*2,000*	*2,100*	*2,400*	*2,400*	*2,300*	*2,300*	*2,400*	*2,300*	*2,300*	*2,300*	*2,300*	*2,200*	*2,000*	*2,000*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. ' * ' indicates less than 0.05% but greater than 0%.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]These are the estimated prevalence-of-use rates for the entire population of seniors, not just those who answered that they had used the more general class of drugs.

[b]In 2001 for the list of tranquilizers, Miltown was replaced with Xanax.

[c]In 2007 for the list of tranquilizers, Equanil, meprobamate, Atarax, Tranxene, and Vistaril were replaced with Soma, Ativan, and Klonopin.

TABLE E-4

SPECIFIC NARCOTICS OTHER THAN HEROIN: Trends in Annual Prevalence of Use for All Seniors [a]

What narcotics other than heroin have you taken during the last year without a doctor's orders?	Percentage of ALL SENIORS using drug indicated in last 12 months																		
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Methadone	0.6	0.4	0.9	0.9	0.8	0.7	0.4	0.6	0.5	0.5	0.5	0.3	0.1	*	0.5	*	0.3	0.2	0.1
Opium	2.7	2.4	2.6	3.0	2.8	2.4	1.6	1.2	1.5	1.4	1.5	1.3	0.9	0.9	0.7	0.8	0.5	0.4	0.6
Morphine	0.6	0.8	0.7	0.8	1.0	1.1	0.7	0.8	0.8	0.9	0.7	0.4	0.6	0.2	0.7	0.4	0.4	0.2	0.3
Codeine	2.5	2.3	3.0	3.4	3.8	4.2	2.6	2.5	3.3	3.3	3.0	2.5	2.2	1.7	2.2	1.8	2.5	1.7	1.6
Demerol	0.7	0.6	1.1	0.9	1.2	1.4	0.9	0.9	0.7	0.9	1.0	0.8	0.7	0.4	0.7	0.5	0.9	0.8	0.6
Paregoric [b]	0.4	0.3	0.3	0.2	0.4	0.2	0.1	0.3	0.1	0.1	0.1	0.1	*	0.1	0.1	0.1	0.2	0.0	*
Talwin [b]	0.1	0.1	0.1	0.2	0.3	0.1	0.3	0.2	0.3	0.1	0.1	0.1	*	*	0.1	0.0	0.0	0.0	0.1
Laudanum [b]	0.1	0.0	0.2	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.1	0.1	*	*	0.1	0.0	*	*	*
OxyContin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vicodin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Percocet	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Percodan	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dilaudid [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ultram	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tramadol	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
MS Contin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Suboxone	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Roxycodone	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tylox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hydrocodone (Lortab, Lorcet, Norco)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	0.5	0.5	1.4	0.8	0.7	0.6	0.5	0.6	0.4	0.6	0.5	0.4	0.4	0.5	0.5	0.2	0.5	0.3	0.6
Don't know the names of some I have used	1.1	1.0	0.6	0.9	0.8	0.6	0.7	0.3	0.6	0.6	0.4	0.3	0.5	0.2	0.5	0.3	0.1	0.5	0.4
Approximate weighted N =	*2,700*	*2,800*	*3,400*	*3,000*	*3,000*	*3,300*	*3,400*	*3,100*	*3,000*	*3,100*	*2,900*	*3,100*	*3,100*	*2,600*	*2,500*	*2,400*	*2,500*	*2,600*	*2,500*

(Years cont.)

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. ' * ' indicates less than 0.05% but greater than 0%.
Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a] These are the estimated prevalence-of-use rates for the entire population of seniors, not just those who answered that they had used the more general class of drugs.

[b] In 2002 for the list of narcotics other than heroin, paregoric, Talwin, and laudanum were replaced with OxyContin, Vicodin, Percocet, Percodan, and Dilaudid.

[c] In 2007 for the list of narcotics other than heroin, Dilaudid was replaced with Ultram.

(Table continued on next page.)

TABLE E-4 (cont.)
SPECIFIC NARCOTICS OTHER THAN HEROIN: Trends in Annual Prevalence of Use for All Seniors [a]

What narcotics other than heroin have you taken during the last year without a doctor's orders?	Percentage of ALL SENIORS using drug indicated in last 12 months																				2013–2014 change
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Methadone	0.1	*	0.4	0.3	0.8	0.7	0.7	0.9	0.4	0.9	0.8	1.2	0.8	0.9	1.2	0.9	0.7	1.0	0.2	0.2	-0.1
Opium	1.0	1.1	1.8	2.0	1.7	2.1	2.1	2.1	2.4	2.2	1.6	1.2	1.0	1.0	1.1	1.0	0.4	0.9	0.5	0.3	-0.2
Morphine	0.3	0.6	1.0	1.0	1.2	1.2	1.4	1.5	1.8	2.1	2.1	1.5	1.8	1.9	1.5	1.6	1.4	1.7	1.2	1.2	0.0
Codeine	1.0	2.6	2.5	3.0	3.1	3.7	2.8	4.4	4.1	4.6	4.3	3.4	4.2	3.4	4.0	3.7	3.4	3.5	2.6	2.3	-0.3
Demerol	0.4	1.0	1.2	1.1	1.5	0.9	1.2	1.4	0.9	1.3	1.2	1.4	1.0	0.8	0.7	0.7	0.7	0.5	0.2	0.1	-0.1
Paregoric [b]	0.1	*	0.0	0.0	*	0.0	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Talwin [b]	0.0	0.0	0.0	0.1	*	0.0	0.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Laudanum [b]	0.1	*	0.1	0.0	0.1	0.1	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—
OxyContin	—	—	—	—	—	—	—	1.6	2.0	2.8	3.2	2.8	3.0	3.7	3.5	3.7	3.2	3.0	2.2	2.2	0.0
Vicodin	—	—	—	—	—	—	—	4.1	4.1	5.2	4.5	4.2	5.8	5.7	4.6	4.6	4.3	4.3	2.6	1.9	-0.7
Percocet	—	—	—	—	—	—	—	1.9	3.1	2.9	2.5	2.2	3.2	2.9	3.3	2.8	2.5	2.7	1.5	1.6	+0.1
Percodan	—	—	—	—	—	—	—	0.6	0.7	0.6	0.6	0.3	0.5	0.1	0.4	0.3	0.3	0.5	0.1	*	-0.1
Dilaudid [c]	—	—	—	—	—	—	—	0.1	0.1	0.3	0.1	0.2	—	—	—	—	—	—	—	—	—
Ultram	—	—	—	—	—	—	—	—	—	—	—	—	0.4	0.3	0.1	0.5	0.3	0.4	0.3	0.0	-0.3 s
Tramadol	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	0.6	-0.3
MS Contin	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*	0.1	0.0
Suboxone	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.2	0.1	-0.1
Roxycodone	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.3	0.3	0.0
Tylox	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.0	*	0.0
Hydrocodone (Lortab, Lorcet, Norco)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.9	2.9	0.0
Other	0.3	0.7	0.6	1.2	1.6	1.4	0.9	1.6	1.8	1.7	1.6	2.0	1.5	1.5	0.7	1.4	1.4	1.5	0.8	0.7	-0.1
Don't know the names of some I have used	0.3	0.4	0.5	0.8	0.6	0.6	0.5	0.7	0.4	0.5	0.4	1.1	0.7	0.8	0.6	0.9	0.3	0.4	0.4	0.6	+0.2
Approximate weighted N =	*2,400*	*2,300*	*2,400*	*2,400*	*2,200*	*2,000*	*2,000*	*2,100*	*2,400*	*2,300*	*2,300*	*2,300*	*2,400*	*2,300*	*2,300*	*2,200*	*2,200*	*2,100*	*2,000*	*1,900*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. ' * ' indicates less than 0.05% but greater than 0%.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]These are the estimated prevalence-of-use rates for the entire population of seniors, not just those who answered that they had used the more general class of drugs.

[b]In 2002 for the list of narcotics other than heroin, paregoric, Talwin, and laudanum were replaced with OxyContin, Vicodin, Percocet, Percodan, and Dilaudid.

[c]In 2007 for the list of narcotics other than heroin, Dilaudid was replaced with Ultram.

TABLE E-5
SPECIFIC SEDATIVES: Trends in Annual Prevalence of Use for All Seniors [a,b]

What sedatives have you taken during the last year without a doctor's orders?	Percentage of ALL SENIORS using drug indicated in last 12 months																		
	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Phenobarbital	2.7	2.4	2.2	1.8	1.6	1.8	1.2	1.0	0.8	1.0	0.7	0.6	0.3	0.2	—	—	—	—	—
Seconal	3.2	2.9	2.4	2.0	1.1	1.3	1.3	0.8	0.7	0.8	0.5	0.4	0.3	0.0	—	—	—	—	—
Dalmane	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Restoril	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Halcion	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tuinal	1.8	1.7	0.8	1.3	0.9	0.9	0.4	0.4	0.4	0.3	0.5	0.2	0.2	*	—	—	—	—	—
Nembutal	0.9	1.0	0.9	0.8	0.7	0.7	0.5	0.3	0.2	0.4	0.4	0.3	0.1	0.1	—	—	—	—	—
Luminal	0.6	0.9	0.7	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.2	0.2	0.2	0.2	—	—	—	—	—
Desbutal	0.2	0.3	0.5	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.1	0.1	0.2	0.1	—	—	—	—	—
Amytal	0.6	0.8	0.5	0.3	0.4	0.5	0.4	0.4	0.2	0.4	0.4	0.2	0.3	0.1	—	—	—	—	—
Adrenocal	0.3	0.3	0.4	0.2	0.3	0.2	0.1	0.2	0.2	0.3	0.2	0.1	0.1	0.1	—	—	—	—	—
Ambien	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Lunesta	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sonata	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Intermezzo	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Zolpimist	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other	3.2	3.2	3.5	2.7	2.2	2.2	1.5	1.5	1.0	1.2	1.2	0.8	0.7	0.7	—	—	—	—	—
Don't know the names of some I have used	3.8	3.0	3.1	2.8	2.3	2.3	2.4	2.2	2.2	1.9	1.5	1.5	1.1	0.8	—	—	—	—	—
Approximate weighted N =	*2,700*	*2,900*	*3,400*	*3,100*	*3,000*	*3,300*	*3,400*	*3,200*	*3,100*	*3,100*	*3,000*	*3,100*	*3,100*	*2,700*	—	—	—	—	—

(Years cont.)

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. ' * ' indicates less than 0.05% but greater than 0%.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]These are the estimated prevalence-of-use rates for the entire population of seniors, not just those who answered that they had used the more general class of drugs.

[b]This question set was dropped in 1990, as sedative use had become quite low, to make room for other questions. Because of a rise in sedative use since then, it was reintroduced in 2007, and some new drugs were included in the listing.

[c]In 2013 Tuinal was dropped from the list of sedatives (barbiturates).

(Table continued on next page.)

TABLE E-5 (cont.)
SPECIFIC SEDATIVES
Trends in Annual Prevalence of Use for All Seniors [a,b]

What sedatives have you taken during the last year without a doctor's orders?	Percentage of ALL SENIORS using drug indicated in last 12 months																				2013–2014 change
	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Phenobarbital	—	—	—	—	—	—	—	—	—	—	—	—	0.1	0.1	0.1	0.4	0.3	0.2	0.1	*	-0.1
Seconal	—	—	—	—	—	—	—	—	—	—	—	—	0.1	0.1	0.0	0.2	0.2	0.0	0.0	0.1	+0.1
Dalmane	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	0.0	-0.1
Restoril	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	*	-0.1
Halcion	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	0.0	-0.1
Tuinal[c]	—	—	—	—	—	—	—	—	—	—	—	—	0.1	*	0.0	0.2	0.1	0.2	—	—	—
Nembutal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Luminal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Desbutal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amytal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Adrenocal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ambien	—	—	—	—	—	—	—	—	—	—	—	—	1.5	1.1	1.4	1.5	1.5	1.3	0.9	1.2	+0.4
Lunesta	—	—	—	—	—	—	—	—	—	—	—	—	0.8	0.8	0.7	0.8	0.4	0.5	0.2	0.3	+0.1
Sonata	—	—	—	—	—	—	—	—	—	—	—	—	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.0	-0.2
Intermezzo	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.1	0.0	-0.1 ss
Zolpimist	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.2	0.1	-0.2 sss
Other	—	—	—	—	—	—	—	—	—	—	—	—	2.1	1.9	1.6	1.7	1.6	1.6	1.2	0.8	-0.4 sss
Don't know the names of some I have used	—	—	—	—	—	—	—	—	—	—	—	—	0.7	0.8	0.8	0.9	0.7	1.0	1.0	1.3	+0.3 sss
Approximate weighted N =	—	—	—	—	—	—	—	—	—	—	—	—	*2,400*	*2,300*	*2,300*	*2,300*	*2,300*	*2,200*	*2,000*	*1,900*	

Source. The Monitoring the Future study, the University of Michigan.

Notes. Level of significance of difference between the two most recent classes: s = .05, ss = .01, sss = .001. ' — ' indicates data not available. ' * ' indicates less than 0.05% but greater than 0%.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]These are the estimated prevalence-of-use rates for the entire population of seniors, not just those who answered that they had used the more general class of drugs.

[b]This question set was dropped in 1990, as sedative use had become quite low, to make room for other questions. Because of a rise in sedative use since then, it was reintroduced in 2007, and some new drugs were included in the listing.

[c]In 2013 Tuinal was dropped from the list of sedatives (barbiturates).

Appendix F

TRENDS IN DRUG USE FOR THREE GRADES COMBINED

This appendix presents tables and figures showing usage trends of the various drugs covered in this monograph, in which the data from grades 8, 10, and 12 have been combined. (Data for all three grades were first gathered in 1991, so the tables cover the interval 1991–2014.) These combined figures have been requested in the past, presumably for simplicity. However, by collapsing the three grades, some important distinctions are lost. For example, inflections either up or down in use have sometimes occurred first among 8th graders and then radiated up the age spectrum on a lagged basis; such cohort effects are masked by combining the data across age and grade. But for those seeking an easier way of summarizing the overall trend results, this simplification may be useful at times.

Figures F-1 through F-9 show general shifts occurring for most of the drugs under study in MTF, both licit and illicit. These trends have been presented in more detail and discussed at length in Chapter 5.

Tables F-1 through F-4 provide the numerical estimates that underlie the figures. The averages across grades in the use of each drug are calculated using a weighting procedure that takes into account the estimated number of students in the 48 contiguous states who are enrolled in each of the three grade levels each year. The original sampling weights used at each grade level to correct for unequal probabilities of selection within grade have been retained.

These tables also show the absolute change in use between the most recent year and the recent peak level observed for each drug, along with the statistical significance of that change. The proportional change since that recent peak is also provided in the far right-hand column. Most of these changes are highly statistically significant, in part because the sample sizes are so large.

It should be noted that two important classes of drugs on which MTF routinely reports are not included in these figures, because usable data are available only from 12th graders—***narcotics other than heroin*** (taken as a class) and ***sedatives*** (barbiturates). The 12th-grade trend data for these drugs may be found in Chapters 2 and 5. Several other drugs on which we lack data on the lower grades are also missing here.

TABLE F-1
Trends in Lifetime Prevalence of Use of Various Drugs for Grades 8, 10, and 12 Combined

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change	Peak year–2014 change: Absolute change	Peak year–2014 change: Proportional change (%) [a]	Low year–2014 change: Absolute change	Low year–2014 change: Proportional change
Any Illicit Drug[b]	30.4	29.8	32.1	35.7	38.9	42.2	**43.3**	42.3	41.9	41.0	40.9	39.5	37.5	36.4	35.7	34.0	32.7	32.6	33.2	34.4	34.7	34.1	36.0	34.9	-1.1	-8.4 sss	-19.4	+2.3 ss	+7.2
Any Illicit Drug other than Marijuana[b]	19.7	19.7	21.2	22.0	23.6	*24.2*	24.0	23.1	22.7	22.1‡	**23.2**	21.1	19.8	19.3	18.6	18.2	17.7	16.8	16.5	16.8	16.1	15.5	16.8	15.8	-1.0	-7.3 sss	-31.7	+0.4	+2.4
Any Illicit Drug including Inhalants[b]	36.8	36.3	38.8	41.9	44.9	47.4	**48.2**	47.4	46.9	46.2	45.5	43.7	41.9	41.3	41.0	39.3	38.0	37.9	37.9	38.8	38.7	37.9	39.3	37.9	-1.4	-10.2 sss	-21.2	—	—
Marijuana/Hashish	22.7	21.1	23.4	27.8	31.6	35.6	**37.8**	36.5	36.4	35.3	35.3	34.0	32.4	31.4	30.8	28.9	27.9	27.9	29.0	30.4	31.0	30.7	32.0	30.5	-1.4 s	-7.2 sss	-19.1	+2.7 ss	+9.6
Inhalants	17.0	16.9	18.2	18.6	**19.4**	19.1	18.6	18.1	17.5	16.4	15.3	13.6	13.4	13.7	14.1	13.7	13.5	13.1	12.5	12.1	10.6	10.0	8.9	8.8	-0.1	-10.6 sss	-54.8	—	—
Hallucinogens	6.1	6.3	7.0	7.7	8.9	10.0	*10.2*	9.5	9.0	8.5‡	**9.2**	7.6	6.9	6.3	5.9	5.7	5.8	5.6	5.3	5.8	5.7	5.0	5.0	4.3	-0.7 s	-4.8 sss	-52.7	—	—
LSD	5.5	5.7	6.5	6.9	8.1	8.9	**9.1**	8.3	7.9	7.2	6.5	5.0	3.7	3.0	2.6	2.5	2.6	2.7	2.5	2.8	2.7	2.5	2.6	2.4	-0.2	-6.7 sss	-73.4	—	—
Hallucinogens other than LSD	2.4	2.5	2.7	3.6	3.9	4.8	*4.9*	4.8	4.4	4.5‡	**6.7**	6.0	5.8	5.6	5.4	5.2	5.1	4.8	4.7	5.0	4.9	4.3	4.1	3.5	-0.6 ss	-3.2 sss	-47.6	—	—
Ecstasy (MDMA)[c]	—	—	—	—	—	4.9	5.2	4.5	5.3	7.2	**8.0**	6.9	5.4	4.7	4.0	4.3	4.5	4.1	4.6	5.5	5.5	4.6	4.7	3.5	-1.2 s	-4.5 sss	-56.3	—	—
Cocaine	4.6	4.0	4.1	4.5	5.1	6.0	6.6	7.0	**7.2**	6.5	5.9	5.7	5.3	5.5	5.5	5.3	5.2	4.8	4.2	3.8	3.4	3.3	3.1	2.9	-0.2	-4.3 sss	-59.8	—	—
Crack	2.0	1.9	2.0	2.5	2.8	3.2	3.4	**3.8**	**3.8**	3.5	3.2	3.2	2.9	2.9	2.8	2.6	2.5	2.2	2.0	1.9	1.6	1.5	1.5	1.3	-0.1	-2.5 sss	-65.7	—	—
Other cocaine	4.1	3.5	3.6	3.9	4.2	5.2	5.9	6.1	**6.3**	5.6	5.1	4.8	4.5	4.7	4.7	4.7	4.6	4.1	3.7	3.4	3.1	2.9	2.7	2.5	-0.2	-3.8 sss	-60.0	—	—
Heroin	1.1	1.3	1.3	1.6	1.9	2.1	2.1	**2.2**	**2.2**	2.1	1.7	1.7	1.5	1.5	1.5	1.4	1.4	1.3	1.4	1.4	1.2	1.0	1.0	0.9	-0.1	-1.3 sss	-58.8	—	—
With a needle	—	—	—	—	1.1	1.2	1.1	1.1	**1.3**	1.0	0.9	0.9	0.9	0.9	0.9	0.9	0.8	0.8	0.8	0.9	0.8	0.6	0.7	0.7	+0.1	-0.6 sss	-43.8	+0.1	+9.9
Without a needle	—	—	—	—	1.3	1.7	1.7	1.6	1.6	**1.8**	1.3	1.3	1.3	1.2	1.1	1.0	1.0	0.9	0.9	1.0	0.9	0.7	0.7	0.6	-0.1	-1.2 sss	-68.3	—	—
Amphetamines[b]	12.9	12.5	13.8	14.3	15.2	**15.5**	15.2	14.5	14.0	13.5	13.9	13.1	11.8	11.2	10.3	10.1	9.5	8.6	8.6	8.9	8.6	8.3	10.5	9.7	-0.8 s	-5.8 sss	-37.6	+1.4 sss	+16.8
Methamphetamine	—	—	—	—	—	—	—	—	**6.5**	6.2	5.8	5.3	5.0	4.5	3.9	3.4	2.5	2.5	2.2	2.2	1.8	1.6	1.5	1.4	-0.1	-5.1 sss	-78.5	—	—
Tranquilizers	5.5	5.3	5.4	5.5	5.8	6.5	6.6	6.9	*7.0*	6.9‡	**7.9**	**7.9**	7.3	7.1	6.8	7.0	6.7	6.3	6.5	6.6	6.0	5.8	5.2	5.3	0.0	-2.6 sss	-33.2	0.0	+0.7
Alcohol	*80.1*	79.2‡	68.4	68.4	68.2	68.4	**68.8**	67.4	66.4	66.6	65.5	62.7	61.7	60.5	58.6	57.0	56.3	55.1	54.6	53.6	51.5	50.0	48.4	46.4	-2.0 ss	-22.3 sss	-32.5	—	—
Been drunk	**46.3**	44.9	44.6	44.3	44.5	45.1	45.7	44.0	43.7	44.0	43.4	40.5	38.9	39.4	38.4	37.6	36.6	35.1	35.9	34.2	32.5	32.8	31.7	29.2	-2.4 sss	-17.0 sss	-36.8	—	—
Flavored alcoholic beverages	—	—	—	—	—	—	—	—	—	—	—	—	—	**54.7**	**54.7**	53.1	51.3	49.3	47.9	46.7	44.5	42.7	41.1	38.8	-2.3 s	-15.9 sss	-29.0	—	—
Cigarettes	53.5	53.0	54.0	54.6	55.8	**57.8**	57.4	56.0	54.5	51.8	49.1	44.2	40.8	39.6	37.4	35.0	33.3	31.3	31.2	30.9	28.7	27.0	25.6	22.9	-2.7 sss	-34.9 sss	-60.3	—	—
Smokeless Tobacco	—	26.2	25.6	**26.3**	26.0	25.7	22.7	21.1	19.4	17.9	16.6	15.2	14.1	13.6	13.8	13.3	12.9	12.3	13.5	14.5	13.8	13.5	12.8	12.1	-0.7	-14.2 sss	-54.1	—	—
Steroids	1.9	1.8	1.8	2.1	2.1	1.8	2.1	2.3	2.8	3.0	**3.3**	**3.3**	3.0	2.5	2.1	2.0	1.8	1.6	1.5	1.5	1.5	1.4	1.5	1.4	0.0	-1.8 sss	-56.6	—	—

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' – ' indicates data not available. ' ‡ ' indicates a change in the question text. When a question change occurs, peak levels after that change are used to calculate the peak year to current year difference.

Values in bold equal peak levels since 1991. Values in italics equal peak level before wording change. Underlined values equal lowest level since recent peak level.

Level of significance of difference between classes: s = .05, ss = .01, sss = .001.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]The proportional change is the percent by which the most recent year deviates from the peak year [or the low year] for the drug in question. So, if a drug was at 20% prevalence in the peak year and declined to 10% prevalence in the most recent year, that would reflect a proportional decline of 50%.

[b]In 2013, for the questions on the use of amphetamines, the text was changed on two of the questionnaire forms for 8th and 10th graders and four of the questionnaire forms for 12th graders. This change also impacted the any illicit drug indices. Data presented here include only the changed forms beginning in 2013.

[c]In 2014, for the questions on the use of ecstasy, the text was changed on one of the questionnaire forms for 8th, 10th, and 12th graders. Data presented here for 2014 include only the unchanged forms.

TABLE F-2

Trends in Annual Prevalence of Use of Various Drugs for Grades 8, 10, and 12 Combined

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change	Peak year–2014 change: Absolute change	Peak year–2014 change: Proportional change (%) [a]	Low year–2014 change: Absolute change	Low year–2014 change: Proportional change
Any Illicit Drug[c]	20.2	19.7	23.2	27.6	31.0	33.6	**34.1**	32.2	31.9	31.4	31.8	30.2	28.4	27.6	27.1	25.8	24.8	24.9	25.9	27.3	27.6	27.1	28.6	27.2	-1.4	-6.9 sss	-20.2	+2.4 ss	+9.5
Any Illicit Drug other than Marijuana[c]	12.0	12.0	13.6	14.6	16.4	*17.0*	16.8	15.8	15.6	15.3‡	**16.3**	14.6	13.7	13.5	13.1	12.7	12.4	11.9	11.6	11.8	11.3	10.8	11.4	10.9	-0.5	-5.4 sss	-33.0	+0.1	+0.9
Any Illicit Drug including Inhalants[c]	23.5	23.2	26.7	31.1	34.1	36.6	**36.7**	35.0	34.6	34.1	34.3	32.3	30.8	30.1	30.1	28.7	27.6	27.6	28.5	29.7	29.8	29.0	30.5	28.5	-2.0 s	-8.2 sss	-22.4	+0.9	+3.1
Marijuana/Hashish	15.0	14.3	17.7	22.5	26.1	29.0	**30.1**	28.2	27.9	27.2	27.5	26.1	24.6	23.8	23.4	22.0	21.4	21.5	22.9	24.5	25.0	24.7	25.8	24.2	-1.6 s	-5.9 sss	-19.6	+2.8 sss	+13.2
Synthetic marijuana	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**8.0**	**6.4**	4.8	-1.6 sss	-3.2 sss	-40.0	–	–
Inhalants	7.6	7.8	8.9	9.6	**10.2**	9.9	9.1	8.5	7.9	7.7	6.9	6.1	6.2	6.7	7.0	6.9	6.4	6.4	6.1	6.0	5.0	4.5	3.8	3.6	-0.2	-6.6 sss	-64.7	–	–
Hallucinogens	3.8	4.1	4.8	5.2	6.6	*7.2*	6.9	6.3	6.1	5.4‡	**6.0**	4.5	4.1	4.0	3.9	3.6	3.8	3.8	3.5	3.8	3.7	3.2	3.1	2.8	-0.3	-3.2 sss	-53.1	–	–
LSD	3.4	3.8	4.3	4.7	5.9	**6.3**	6.0	5.3	5.3	4.5	4.1	2.4	1.6	1.6	1.5	1.4	1.7	1.9	1.6	1.8	1.8	1.6	1.6	1.7	+0.1	-4.7 sss	-73.9	+0.2	+17.6
Hallucinogens other than LSD	1.3	1.4	1.7	2.2	2.7	*3.2*	*3.2*	3.1	2.9	2.8‡	**4.0**	3.7	3.6	3.6	3.4	3.3	3.3	3.2	3.0	3.3	3.1	2.7	2.5	2.1	-0.3 s	-1.9 sss	-47.0	–	–
Ecstasy (MDMA)[d]	–	–	–	–	–	3.1	3.4	2.9	3.7	5.3	**6.0**	4.9	3.1	2.6	2.4	2.7	3.0	2.9	3.0	3.8	3.7	2.5	2.8	2.2	-0.6 sss	-3.8 sss	-63.4	—	—
Salvia	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3.5	**3.6**	2.7	2.3	1.4	-0.9 sss	-2.2 sss	-61.3	—	—
Cocaine	2.2	2.1	2.3	2.8	3.3	4.0	4.3	**4.5**	**4.5**	3.9	3.5	3.7	3.3	3.5	3.5	3.5	3.4	2.9	2.5	2.2	2.0	1.9	1.8	1.6	-0.1	-2.8 sss	-63.2	—	—
Crack	1.0	1.1	1.2	1.5	1.8	2.0	2.1	**2.4**	2.2	2.1	1.8	2.0	1.8	1.7	1.6	1.5	1.5	1.3	1.2	1.1	1.0	0.9	0.8	0.7	-0.1	-1.6 sss	-68.7	—	—
Other cocaine	2.0	1.8	2.0	2.3	2.8	3.4	3.7	3.7	**4.0**	3.3	3.0	3.1	2.8	3.1	3.0	3.1	2.9	2.6	2.1	1.9	1.7	1.7	1.5	1.5	-0.1	-2.5 sss	-63.3	—	—
Heroin	0.5	0.6	0.6	0.9	1.2	**1.3**	**1.3**	1.2	**1.3**	**1.3**	0.9	1.0	0.8	0.9	0.8	0.8	0.8	0.8	0.8	0.8	0.7	0.6	0.6	0.5	0.0	-0.8 sss	-58.7	—	—
With a needle	–	–	–	–	**0.7**	**0.7**	**0.7**	**0.7**	**0.7**	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.4	0.4	0.4	+0.1	-0.2 ss	-34.8	—	—
Without a needle	–	–	–	–	0.9	0.9	1.0	0.9	1.0	**1.1**	0.7	0.7	0.6	0.7	0.7	0.6	0.7	0.6	0.5	0.6	0.5	0.4	0.4	0.3	0.0	-0.8 sss	-70.1	—	—
OxyContin	–	–	–	–	–	–	–	–	–	–	–	2.7	3.2	3.3	3.4	3.5	3.5	3.4	**3.9**	3.8	3.4	2.9	2.9	2.4	-0.5 s	-1.5 sss	-38.4	—	—
Vicodin	–	–	–	–	–	–	–	–	–	–	–	6.0	**6.6**	5.8	5.7	6.3	6.2	6.1	6.5	5.9	5.1	4.3	3.7	3.0	-0.7	-3.6 sss	-54.2	—	—
Amphetamines[c]	7.5	7.3	8.4	9.1	10.0	**10.4**	10.1	9.3	9.0	9.2	9.6	8.9	8.0	7.6	7.0	6.8	6.5	5.8	5.9	6.2	5.9	5.6	7.0	6.6	-0.4	-3.8 sss	-36.3	+0.9 ss	+16.8
Ritalin	–	–	–	–	–	–	–	–	–	–	**4.2**	3.8	3.5	3.6	3.3	3.5	2.8	2.6	2.5	2.2	2.1	1.7	1.7	1.5	-0.2	-2.7 sss	-64.0	—	—
Adderall	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4.3	**4.5**	4.1	4.4	4.4	4.1	-0.3	-0.5 s	-10.3	—	—
Methamphetamine	–	–	–	–	–	–	–	–	**4.1**	3.5	3.4	3.2	3.0	2.6	2.4	2.0	1.4	1.3	1.3	1.3	1.2	1.0	1.0	0.8	-0.2	-3.3 sss	-80.8	—	—
Bath salts (synthetic stimulants)	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**0.9**	**0.9**	0.8	-0.2	-0.2	-18.8	—	—
Tranquilizers	2.8	2.8	2.9	3.1	3.7	4.1	4.1	4.4	4.4	*4.5*‡	**5.5**	5.3	4.8	4.8	4.7	4.6	4.5	4.3	4.5	4.4	3.9	3.7	3.3	3.4	+0.1	-2.1 sss	-38.4	+0.1	+2.1
OTC Cough/Cold Medicines	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**5.4**	5.0	4.7	5.2	4.8	4.4	4.4	4.0	3.2	-0.8 sss	-2.1 sss	-39.9	—	—
Rohypnol	–	–	–	–	–	*1.1*	*1.1*	*1.1*	0.8	0.7	0.9‡	0.8	0.8	**0.9**	0.8	0.7	0.8	0.7	0.6	0.8	0.9	0.7	0.6	0.5	-0.1	-0.4 sss	-45.7	—	—
GHB[b]	–	–	–	–	–	–	–	–	–	**1.4**	1.2	1.2	1.2	1.1	0.8	0.9	0.7	0.9	0.9	0.8	0.8	–	–	–	–	–	–	–	–
Ketamine [b]	–	–	–	–	–	–	–	–	–	**2.0**	1.9	**2.0**	1.7	1.3	1.0	1.1	1.0	1.2	1.3	1.2	1.2	–	–	–	–	–	–	–	–
Alcohol	67.4	66.3‡	59.7	60.5	60.4	60.9	**61.4**	59.7	59.0	59.3	58.2	55.3	54.4	54.0	51.9	50.7	50.2	48.7	48.4	47.4	45.3	44.3	42.8	40.7	-2.1 ss	-20.6 sss	-33.6	—	—
Been drunk	35.8	34.3	34.3	35.0	35.9	36.7	**36.9**	35.5	36.0	35.9	35.0	32.1	31.2	32.5	30.8	30.7	29.7	28.1	28.7	27.1	25.9	26.4	25.4	23.6	-1.9 ss	-13.3 sss	-36.1	—	—
Flavored alcoholic beverages	–	–	–	–	–	–	–	–	–	–	–	–	–	**44.5**	43.9	42.4	40.8	39.0	37.8	35.9	33.7	32.5	31.3	29.4	-1.8 s	-15.1 sss	-33.8	—	—
Alcoholic beverages containing caffeine	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**19.7**	18.6	16.6	14.3	-2.3	-5.4 sss	-27.3	—	—
Dissolvable tobacco products	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**1.4**	**1.4**	1.2	-0.2	-0.2	-13.1	—	—
Snus	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	**5.6**	4.8	4.1	-0.7 s	-1.5 sss	-27.2	—	—
Steroids	1.2	1.1	1.0	1.2	1.3	1.1	1.2	1.3	1.7	1.9	**2.0**	**2.0**	1.7	1.6	1.3	1.3	1.1	1.1	1.0	0.9	0.9	0.9	0.9	0.9	0.0	-1.1 sss	-55.4	—	—

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' – ' indicates data not available. ' ‡ ' indicates a change in the question text. When a question change occurs, peak levels after that change are used to calculate the peak year to current year difference.

Values in bold equal peak levels since 1991. Values in italics equal peak level before wording change. Underlined values equal lowest level since recent peak level.

Level of significance of difference between classes: s = .05, ss = .01, sss = .001.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]The proportional change is the percent by which the most recent year deviates from the peak year [or the low year] for the drug in question. So, if a drug was at 20% prevalence in the peak year and declined to 10% prevalence in the most recent year, that would reflect a proportional decline of 50%.

[b]Question was discontinued among 8th and 10th graders in 2012.

[c]In 2013, for the questions on the use of amphetamines, the text was changed on two of the questionnaire forms for 8th and 10th graders and four of the questionnaire forms for 12th graders. This change also impacted the any illicit drug indices. Data presented here include only the changed forms beginning in 2013.

[d]In 2014, for the questions on the use of ecstasy, the text was changed on one of the questionnaire forms for 8th, 10th, and 12th graders. Data presented here for 2014 include only the unchanged forms.

TABLE F-3
Trends in 30-Day Prevalence of Use of Various Drugs for Grades 8, 10, and 12 Combined

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change	Peak year–2014 change: Absolute change	Peak year–2014 change: Proportional change (%) [a]	Low year–2014 change: Absolute change	Low year–2014 change: Proportional change
Any Illicit Drug[b]	10.9	10.5	13.3	16.8	18.6	**20.6**	20.5	19.5	19.5	19.2	19.4	18.2	17.3	16.2	15.8	14.9	14.8	14.6	15.8	16.7	17.0	16.8	17.3	16.5	-0.8	-4.1 sss	-20.0	+1.9 ss	+12.7
Any Illicit Drug other than Marijuana[b]	5.4	5.5	6.5	7.1	*8.4*	*8.4*	*8.4*	8.2	7.9	8.0‡	**8.2**	7.7	7.1	7.0	6.7	6.4	6.4	5.9	5.7	5.7	5.7	5.2	5.4	5.4	0.0	-2.7 sss	-33.4	+0.3	+5.0
Any Illicit Drug including Inhalants[b]	13.0	12.5	15.4	18.9	20.7	**22.4**	22.2	21.1	21.1	21.0	20.8	19.5	18.6	17.5	17.5	16.5	16.5	16.1	17.3	18.0	18.3	17.6	18.4	17.3	-1.1	-5.1 sss	-22.7	+1.2	+7.3
Marijuana/Hashish	8.3	7.7	10.2	13.9	15.6	17.7	**17.9**	16.9	16.9	16.3	16.6	15.3	14.8	13.6	13.4	12.5	12.4	12.5	13.8	14.8	15.2	15.1	15.6	14.4	-1.2 s	-3.5 sss	-19.6	+2.0 sss	+16.5
Synthetic Marijuana																								4.8	—	—	—	—	—
Inhalants	3.2	3.3	3.8	4.0	**4.3**	3.9	3.7	3.4	3.3	3.2	2.8	2.7	2.7	2.9	2.9	2.7	2.6	2.6	2.5	2.4	2.1	1.7	1.5	1.4	-0.2	-3.0 sss	-68.5	—	—
Hallucinogens	1.5	1.6	1.9	2.2	*3.1*	2.7	3.0	2.8	2.5	2.0‡	**2.3**	1.7	1.5	1.5	1.5	1.3	1.4	1.4	1.3	1.4	1.3	1.1	1.1	1.0	-0.1	-1.2 sss	-54.4	—	—
LSD	1.3	1.5	1.6	1.9	**2.8**	2.1	2.4	2.3	2.0	1.4	1.5	0.7	0.6	0.6	0.6	0.6	0.6	0.7	0.5	0.7	0.7	0.5	0.6	0.6	0.0	-2.1 sss	-77.2	+0.1	+15.1
Hallucinogens other than LSD	0.5	0.5	0.7	1.0	1.0	*1.2*	*1.2*	*1.2*	1.1	1.1‡	**1.4**	**1.4**	1.2	1.3	1.2	1.1	1.1	1.1	1.0	1.2	1.0	0.9	0.8	0.7	-0.1	-0.7 sss	-49.8	—	—
Ecstasy (MDMA)[c]	—	—	—	—	—	1.5	1.3	1.2	1.6	**2.4**	**2.4**	1.8	1.0	0.9	0.9	1.0	1.1	1.2	1.2	1.5	1.4	0.8	1.0	0.8	-0.2 ss	-1.5 sss	-65.6	—	—
Cocaine	0.8	0.9	0.9	1.2	1.5	1.7	1.8	**1.9**	**1.9**	1.7	1.5	1.6	1.4	1.6	1.6	1.6	1.4	1.3	1.0	0.9	0.8	0.8	0.8	0.7	-0.1	-1.2 sss	-63.0	—	—
Crack	0.4	0.5	0.5	0.7	0.8	0.9	0.8	**1.0**	0.9	0.9	0.9	**1.0**	0.8	0.8	0.8	0.7	0.7	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.0	-0.6 sss	-62.7	—	—
Other cocaine	0.7	0.7	0.8	1.1	1.2	1.3	1.5	1.6	**1.7**	1.4	1.3	1.3	1.2	1.4	1.3	1.4	1.1	1.1	0.8	0.8	0.7	0.7	0.6	0.6	-0.1	-1.1 sss	-66.1	—	—
Heroin	0.2	0.3	0.3	0.4	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	**0.6**	0.4	0.5	0.4	0.5	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.0	-0.2 sss	-38.9	—	—
With a needle	—	—	—	—	0.3	**0.4**	0.3	**0.4**	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.3	+0.1	-0.1	-25.6	+0.1	+25.5
Without a needle	—	—	—	—	0.4	0.4	**0.5**	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.0	-0.2 sss	-50.5	—	—
Amphetamines[b]	3.0	3.3	3.9	4.0	4.5	**4.8**	4.5	4.3	4.2	4.5	4.7	4.4	3.9	3.6	3.3	3.0	3.2	2.6	2.7	2.7	2.8	2.5	3.2	3.2	0.0	-1.6 sss	-34.8	+0.7 sss	—
Methamphetamine	—	—	—	—	—	—	—	—	**1.5**	**1.5**	1.4	**1.5**	1.4	1.1	0.9	0.7	0.5	0.7	0.5	0.6	0.5	0.5	0.4	0.3	-0.1	-1.2 sss	-78.4	—	—
Tranquilizers	1.1	1.1	1.1	1.3	1.6	1.7	1.7	1.9	1.9	*2.1*‡	2.3	**2.4**	2.2	2.1	2.1	2.1	2.0	1.9	1.9	1.9	1.7	1.5	1.5	1.5	0.0	-0.9 sss	-38.4	—	—
Alcohol	*39.8*	38.4‡	36.3	37.6	37.8	**38.8**	38.6	37.4	37.2	36.6	35.5	33.3	33.2	32.9	31.4	31.0	30.1	28.1	28.4	26.8	25.5	25.9	24.3	22.6	-1.7 ss	-16.2 sss	-41.7	—	—
Been drunk	19.2	17.8	18.2	19.3	20.3	20.4	**21.2**	20.4	20.6	20.3	19.7	17.4	17.7	18.1	17.0	17.4	16.5	14.9	15.2	14.6	13.5	14.7	13.5	11.9	-1.6 ss	-9.3 sss	-43.7	—	—
Flavored alcoholic beverages	—	—	—	—	—	—	—	—	—	—	—	—	—	**23.0**	21.6	21.7	20.4	18.6	17.9	17.0	15.2	14.9	14.0	12.9	-1.1 s	-10.2 sss	-44.2	—	—
Cigarettes	20.7	21.2	23.4	24.7	26.6	**28.3**	**28.3**	27.0	25.2	22.6	20.2	17.7	16.6	16.1	15.3	14.4	13.6	12.6	12.7	12.8	11.7	10.6	9.6	8.0	-1.6 sss	-20.3 sss	-71.8	—	—
Smokeless Tobacco	—	9.2	9.1	**9.7**	9.6	8.5	8.0	7.0	6.3	5.8	6.1	5.2	5.3	5.1	5.3	5.1	5.2	4.9	6.0	6.5	5.9	5.6	5.7	5.4	-0.3	-4.3 sss	-44.3	+0.5	+10.8
E-cigarettes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.9	—	—	—	—	—
Large Cigars	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.9	—	—	—	—	—
Flavored Little Cigars	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.4	—	—	—	—	—
Regular Little Cigars	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.5	—	—	—	—	—
Steroids	0.6	0.6	0.6	0.7	0.6	0.5	0.7	0.7	0.9	0.9	0.9	**1.0**	0.9	0.9	0.7	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.5	-0.1	-0.5 sss	-52.0	—	—

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' – ' indicates data not available. ' ‡ ' indicates a change in the question text. When a question change occurs, peak levels after that change are used to calculate the peak year to current year difference.

Values in bold equal peak levels since 1991. Values in italics equal peak level before wording change. Underlined values equal lowest level since recent peak level.

Level of significance of difference between classes: s = .05, ss = .01, sss = .001.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a] The proportional change is the percent by which the most recent year deviates from the peak year [or the low year] for the drug in question. So, if a drug was at 20% prevalence in the peak year and declined to 10% prevalence in the most recent year, that would reflect a proportional decline of 50%.

[b] In 2013, for the questions on the use of amphetamines, the text was changed on two of the questionnaire forms for 8th and 10th graders and four of the questionnaire forms for 12th graders. This change also impacted the any illicit drug indices. Data presented here include only the changed forms beginning in 2013.

[c] In 2014, for the questions on the use of ecstasy, the text was changed on one of the questionnaire forms for 8th, 10th, and 12th graders. Data presented here for 2014 include only the unchanged forms.

TABLE F-4
Trends in Daily Prevalence of Use of Selected Drugs for Grades 8, 10, and 12 Combined

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2013–2014 change	Peak year–2014 change: Absolute change	Peak year–2014 change: Proportional change (%) [a]	Low year–2014 change: Absolute change	Low year–2014 change: Proportional change
Marijuana	0.9	0.9	1.2	2.1	2.7	3.2	3.4	3.4	3.5	3.5	**3.7**	3.5	3.4	3.0	2.9	2.8	2.7	2.8	2.8	3.4	3.6	3.6	3.7	3.3	-0.4 ss	-0.4 s	-10.4	+0.6 sss	+21.1
Alcohol	*1.7*	1.6‡	2.0	1.8	1.9	2.0	2.1	**2.2**	2.0	1.7	2.0	1.9	1.7	1.5	1.5	1.5	1.6	1.4	1.3	1.4	1.0	1.2	1.1	1.0	-0.1	-1.2 sss	-56.4	—	—
5+ drinks in a row in last 2 weeks	20.0	19.0	19.5	20.3	21.1	**21.9**	**21.9**	21.5	21.7	21.2	20.4	18.9	18.6	18.8	17.5	17.4	17.2	15.5	16.1	14.9	13.6	14.3	13.2	11.7	-1.5 sss	-10.3 sss	-46.7	—	—
Been drunk	0.4	0.4	0.5	0.6	0.7	0.7	**0.9**	0.8	**0.9**	0.8	0.7	0.6	0.7	0.7	0.6	0.7	0.6	0.6	0.5	0.6	0.5	0.6	0.5	0.5	-0.1	-0.4 sss	-47.8	—	—
Cigarettes	12.4	11.9	13.5	14.0	15.5	16.8	**16.9**	15.4	15.0	13.4	11.6	10.2	9.3	9.0	8.0	7.6	7.1	6.4	6.4	6.4	5.7	5.2	4.7	3.6	-1.1 sss	-13.3 sss	-78.6	—	—
1/2 pack+/day	6.5	6.1	6.9	7.2	7.9	**8.7**	8.6	7.9	7.6	6.4	5.7	4.9	4.5	4.1	3.7	3.4	3.0	2.7	2.6	2.5	2.1	1.9	1.8	1.4	-0.4 ss	-7.4 sss	-84.2	—	—
Smokeless tobacco	—	**3.0**	2.7	2.9	2.5	2.3	2.5	2.1	1.7	1.9	2.0	1.4	1.6	1.7	1.6	1.5	1.6	1.6	1.8	2.1	1.8	1.9	1.7	1.8	+0.1	-1.1 ss	-38.3	+0.4	+26.0

Source. The Monitoring the Future study, the University of Michigan.

Notes. ' – ' indicates data not available. ' ‡ ' indicates a change in the question text. When a question change occurs, peak levels after that change are used to calculate the peak year to current year difference.

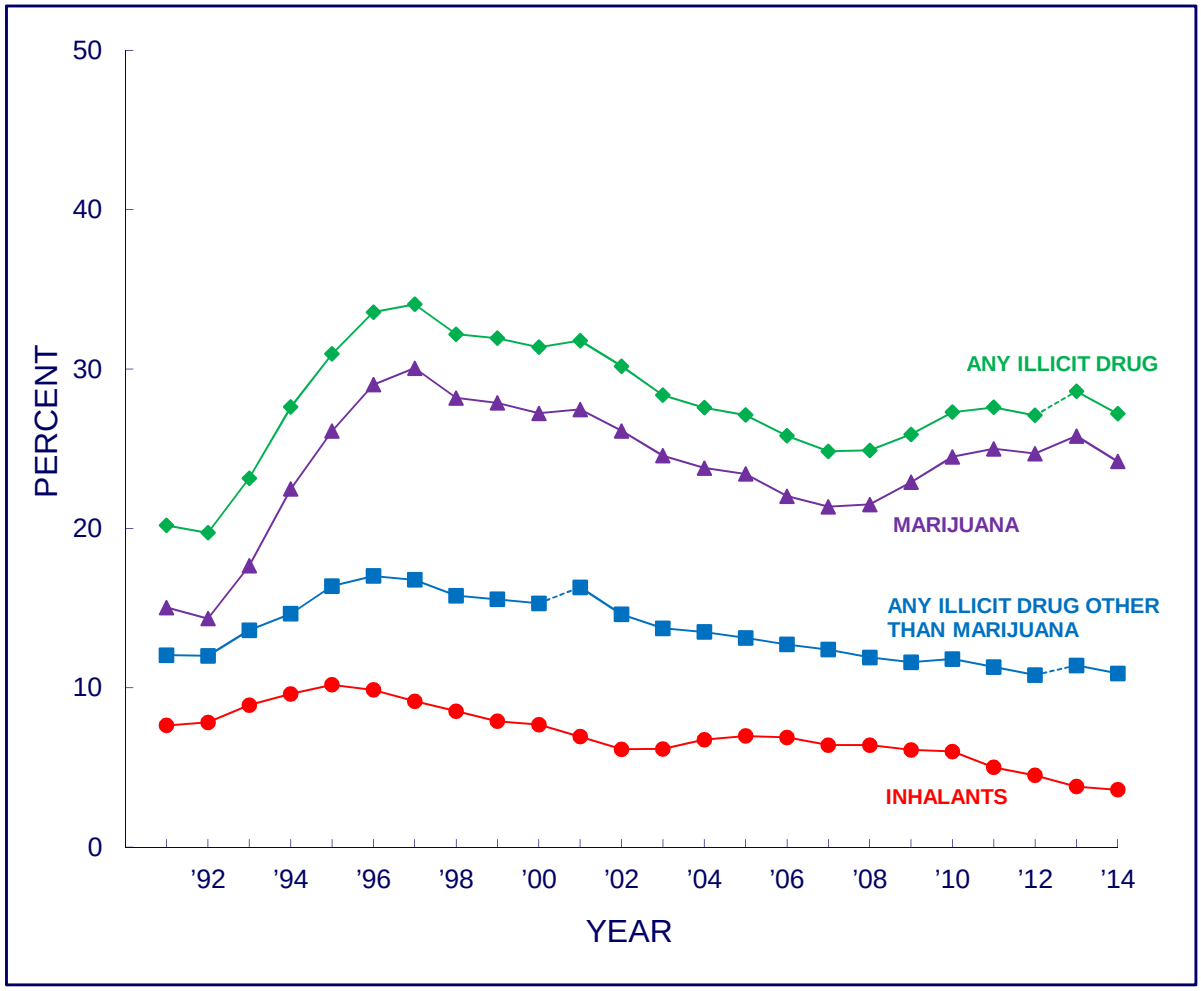
Values in bold equal peak levels since 1991. Values in italics equal peak level before wording change. Underlined values equal lowest level since recent peak level.

Level of significance of difference between classes: s = .05, ss = .01, sss = .001.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

[a]The proportional change is the percent by which the most recent year deviates from the peak year [or the low year] for the drug in question. So, if a drug was at 20% prevalence in the peak year and declined to 10% prevalence in the most recent year, that would reflect a proportional decline of 50%.

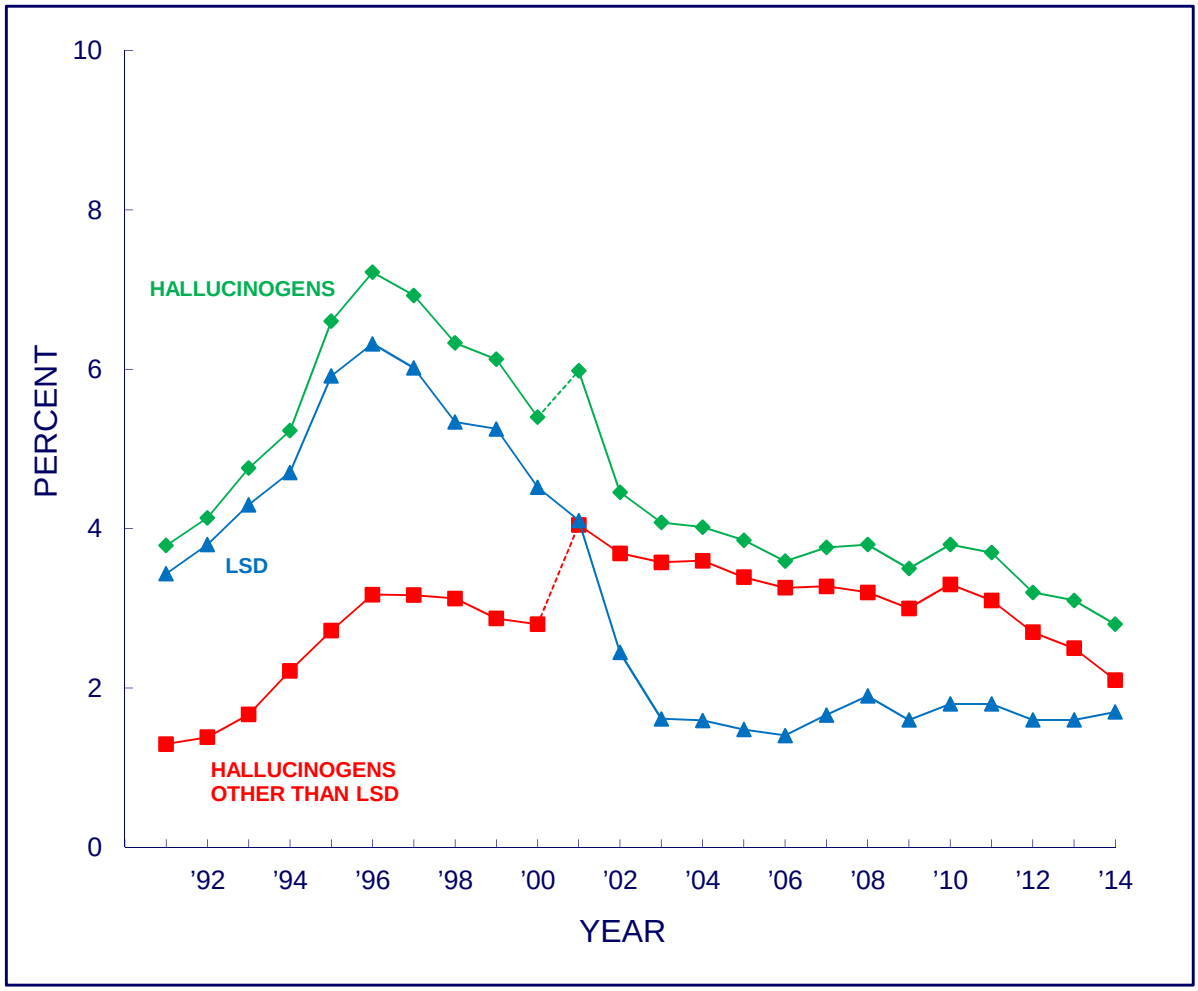
FIGURE F-1
ANY ILLICIT DRUG, MARIJUANA, AND INHALANTS
Trends in Annual Prevalence
for Grades 8, 10, and 12 Combined



Source. The Monitoring the Future study, the University of Michigan.

Notes. A dashed line indicates a change in the question text between the years it connects.
In 2001, revised sets of questions on other hallucinogen and tranquilizer use were introduced. Data for any illicit drug other than marijuana are slightly affected by these changes. In 2013, a revised set of questions on amphetamine use were introduced. Data for any illicit drug and any illicit drug other than marijuana were affected by this change.

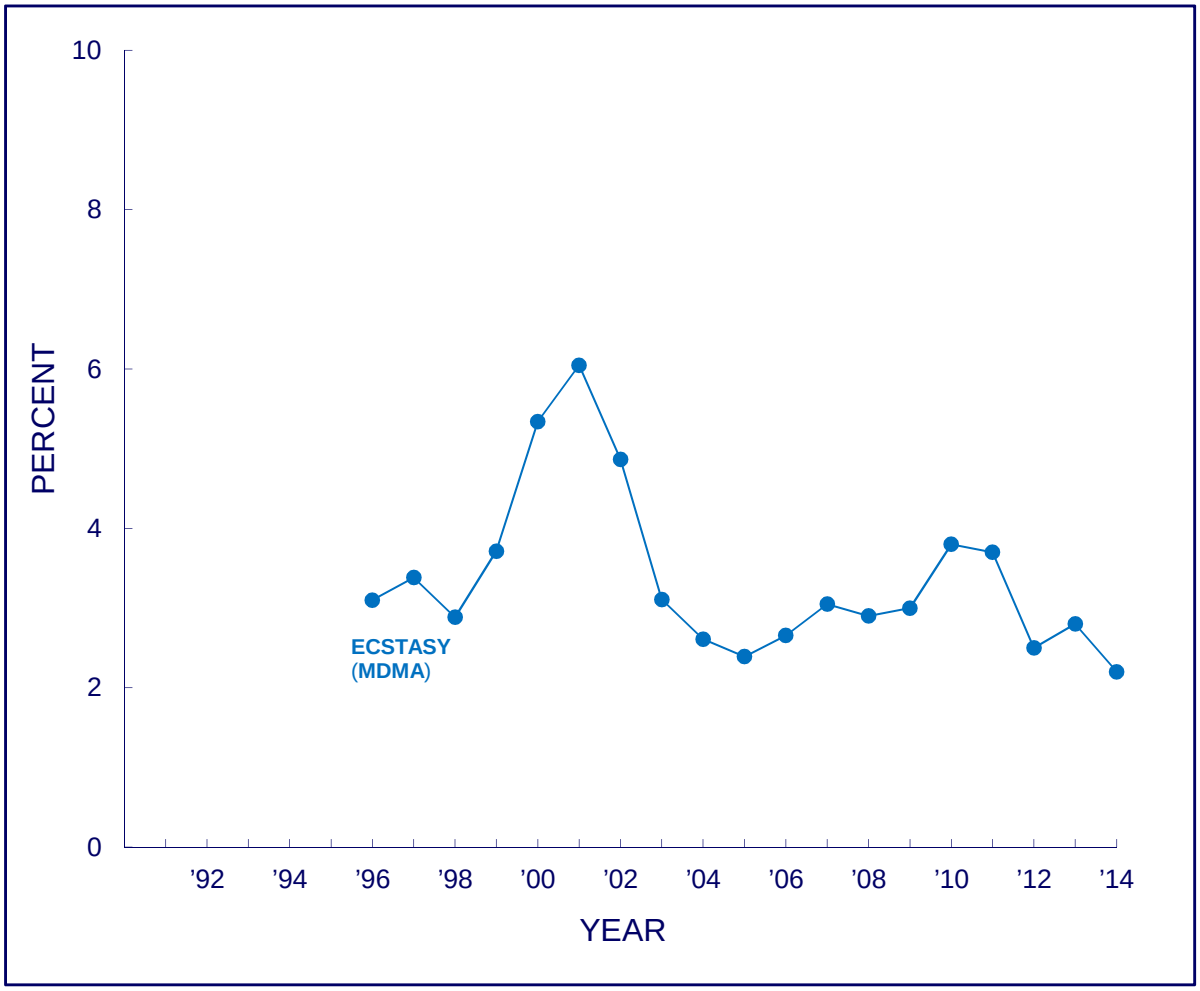
FIGURE F-2
HALLUCINOGENS
Trends in Annual Prevalence for Grades 8, 10, and 12 Combined



Source. The Monitoring the Future study, the University of Michigan.

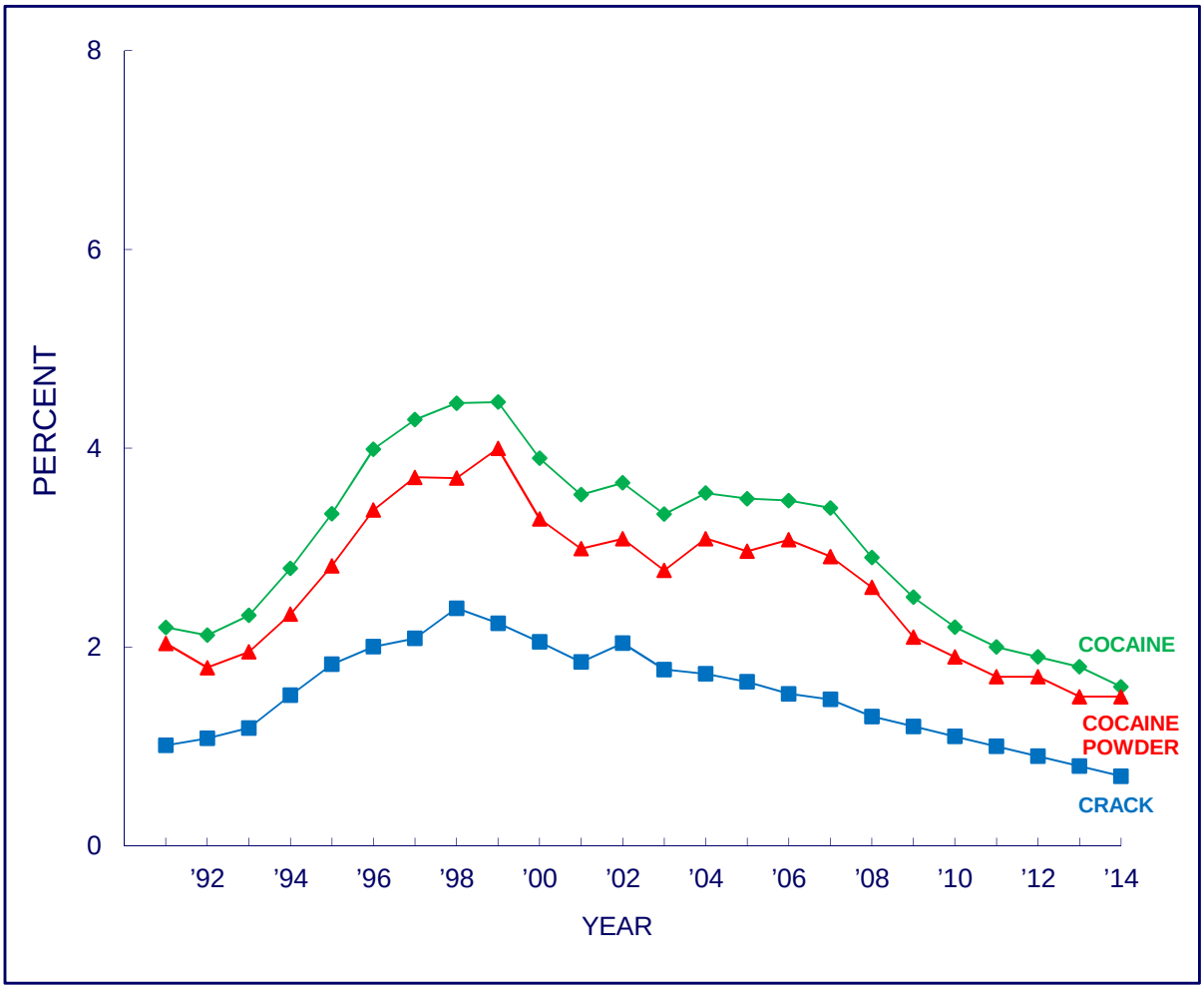
Notes. A dashed line indicates a change in the question text between the years it connects.
Beginning in 2001, a revised set of questions on other hallucinogens was introduced in which shrooms was added to the list of examples. Data for hallucinogens were also affected by this change. From 2001 on, data points are based on the revised questions.

FIGURE F-3
ECSTASY (MDMA)
Trends in Annual Prevalence for Grades 8, 10, and 12 Combined



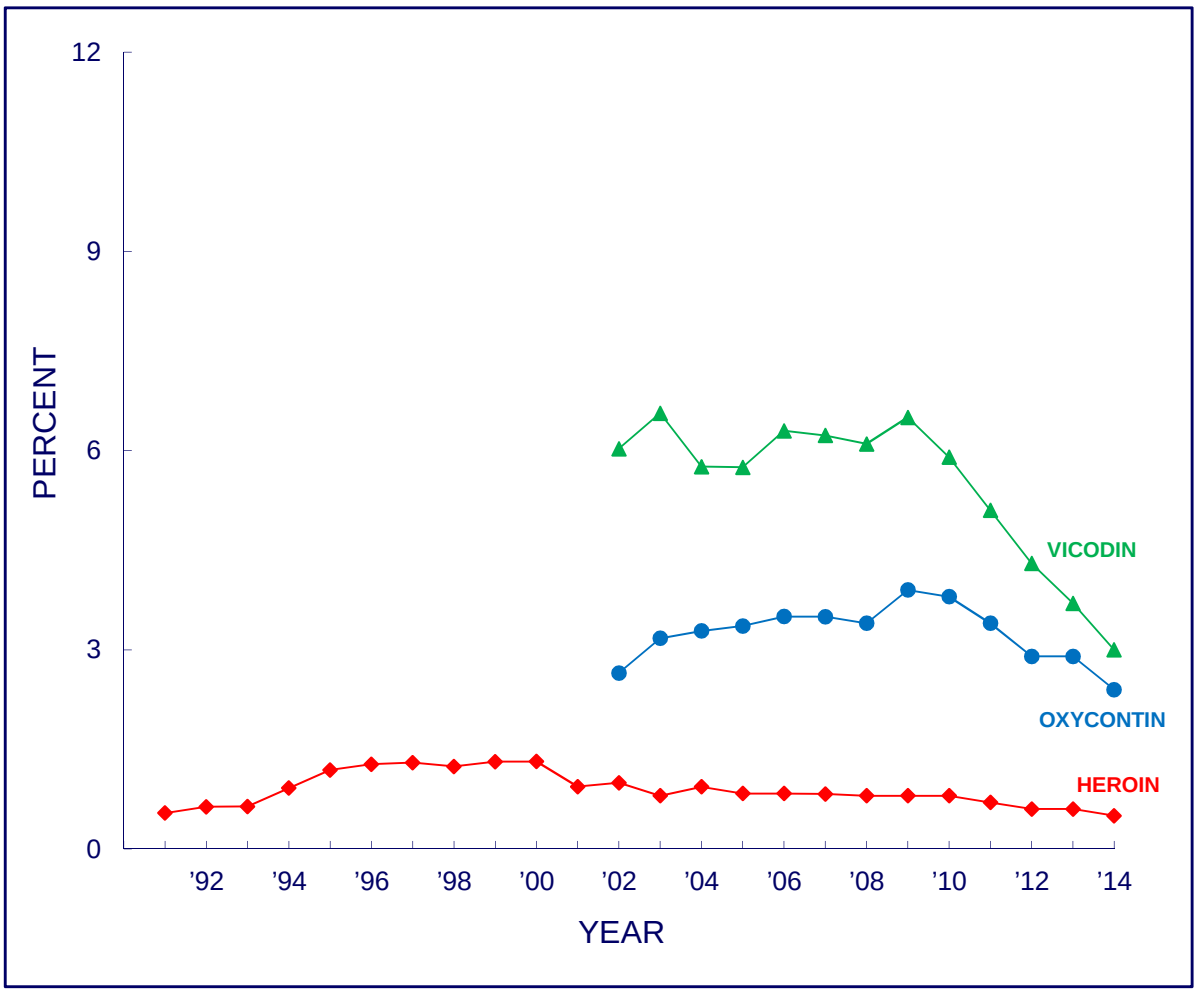
Source. The Monitoring the Future study, the University of Michigan.

FIGURE F-4
COCAINE AND CRACK
Trends in Annual Prevalence for Grades 8, 10, and 12 Combined



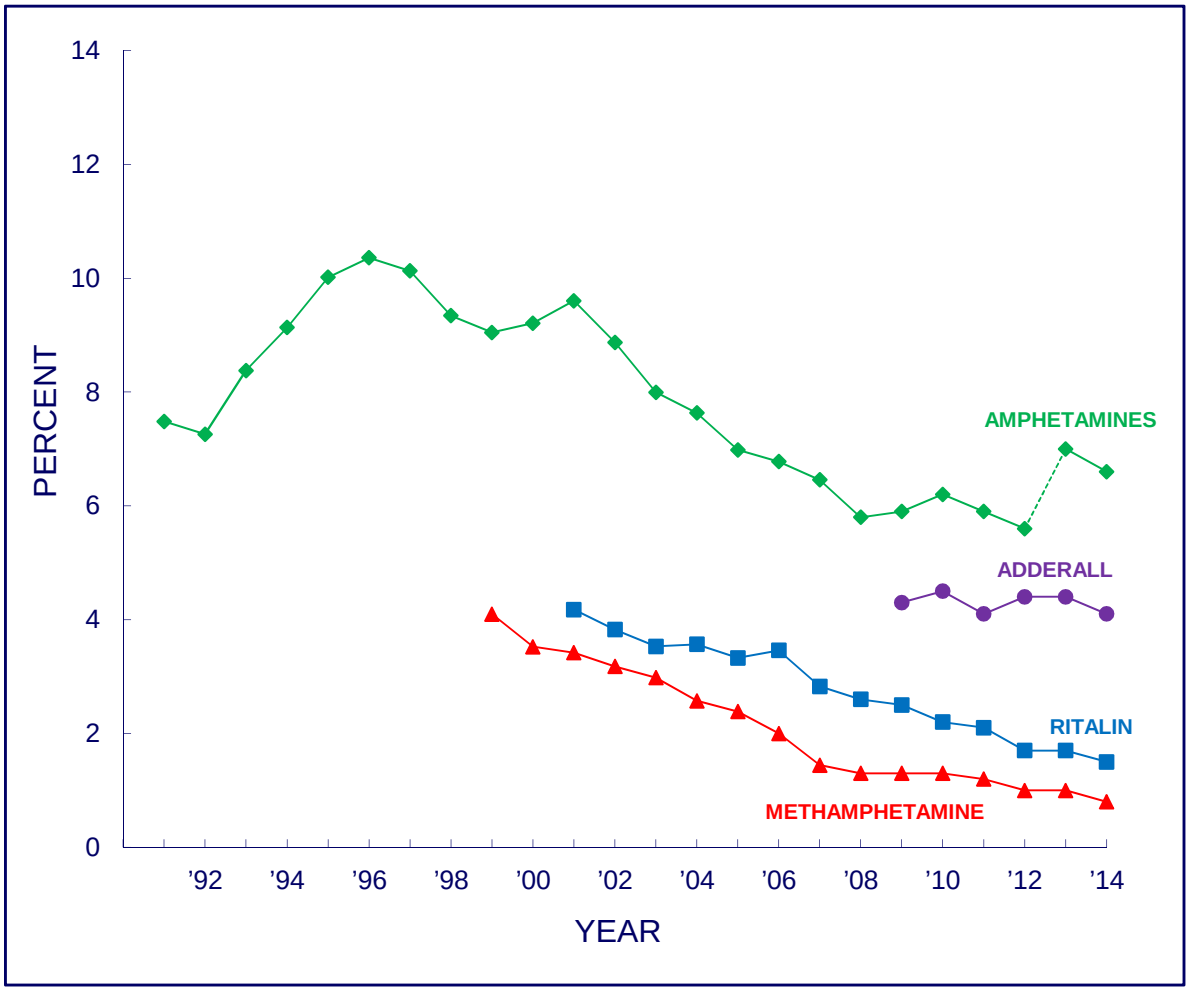
Source. The Monitoring the Future study, the University of Michigan.

FIGURE F-5
HEROIN AND NARCOTICS OTHER THAN HEROIN
Trends in Annual Prevalence for Grades 8, 10, and 12 Combined



Source. The Monitoring the Future study, the University of Michigan.

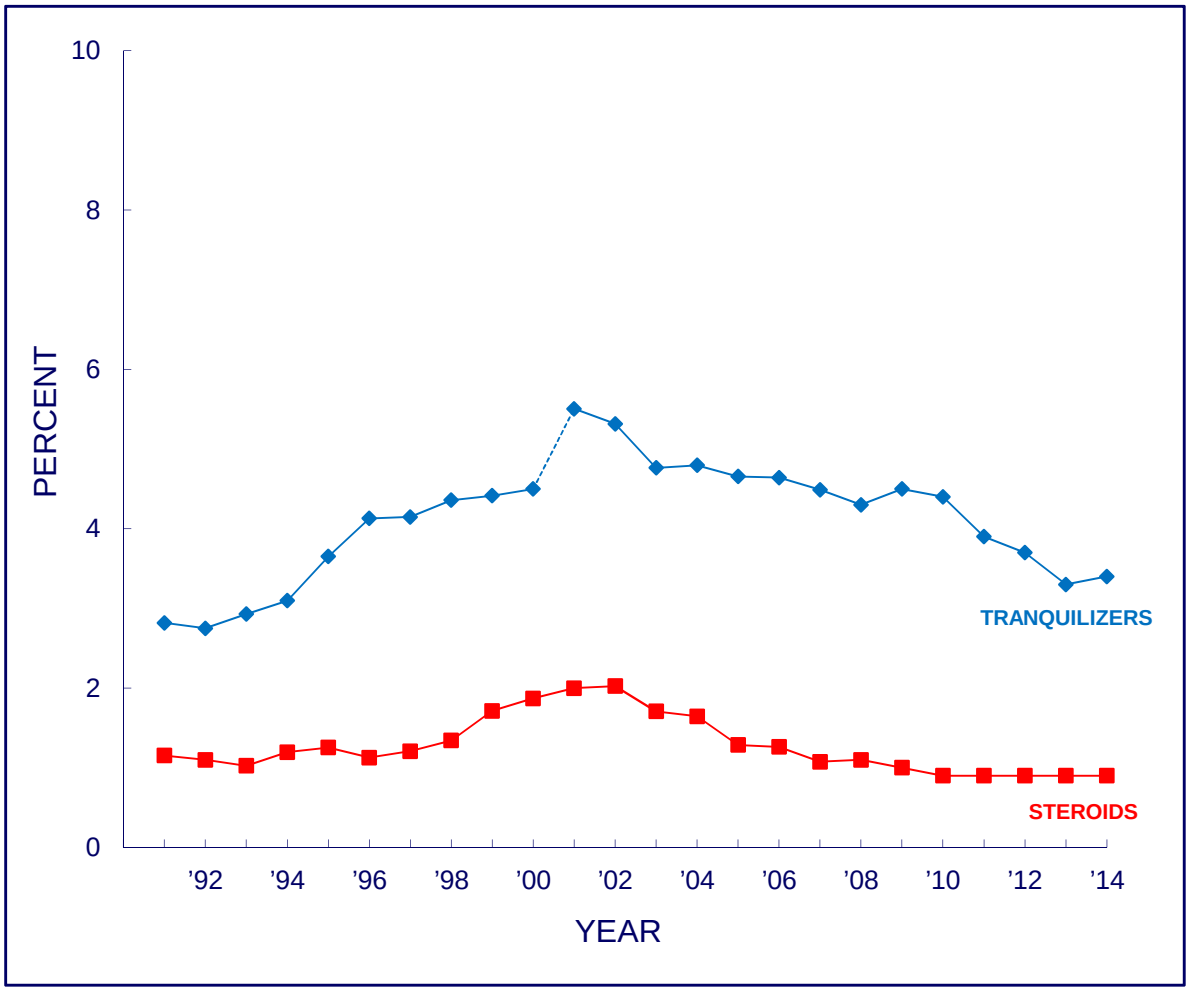
FIGURE F-6
STIMULANT DRUGS
Trends in Annual Prevalence for Grades 8, 10, and 12 Combined



Source. The Monitoring the Future study, the University of Michigan.

Notes. A dashed line indicates a change in the question text between the years it connects. Beginning in 2013, a revised set of questions on use of amphetamines was introduced. From 2013 on, data points are based on the revised questions.

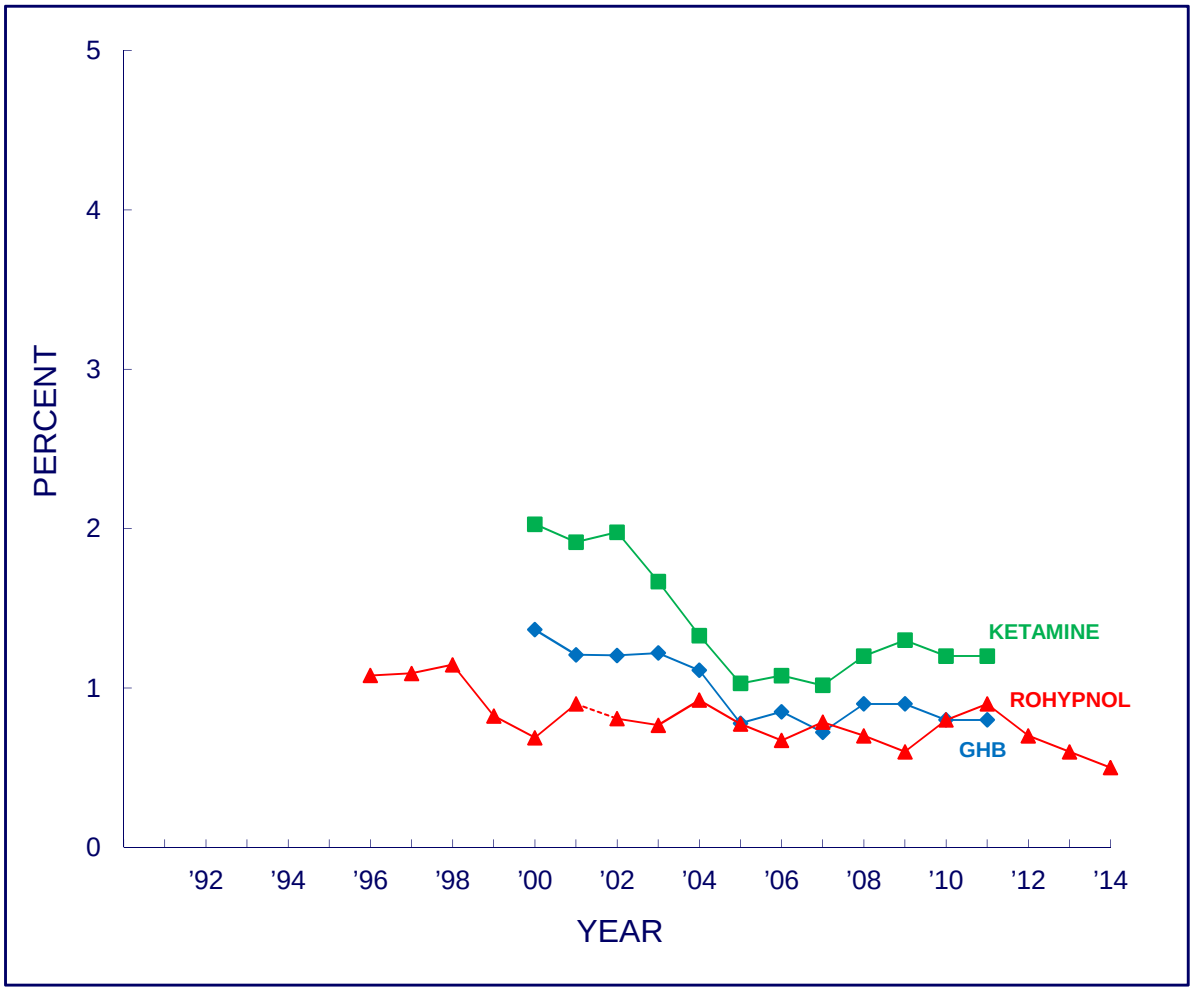
FIGURE F-7
TRANQUILIZERS AND STEROIDS
Trends in Annual Prevalence for Grades 8, 10, and 12 Combined



Source. The Monitoring the Future study, the University of Michigan.

Notes. A dashed line indicates a change in the question text between the years it connects. Beginning in 2001, a revised set of questions on use of tranquilizers was introduced in which Xanax replaced Miltown in the list of examples. From 2001 on, data points are based on the revised questions.

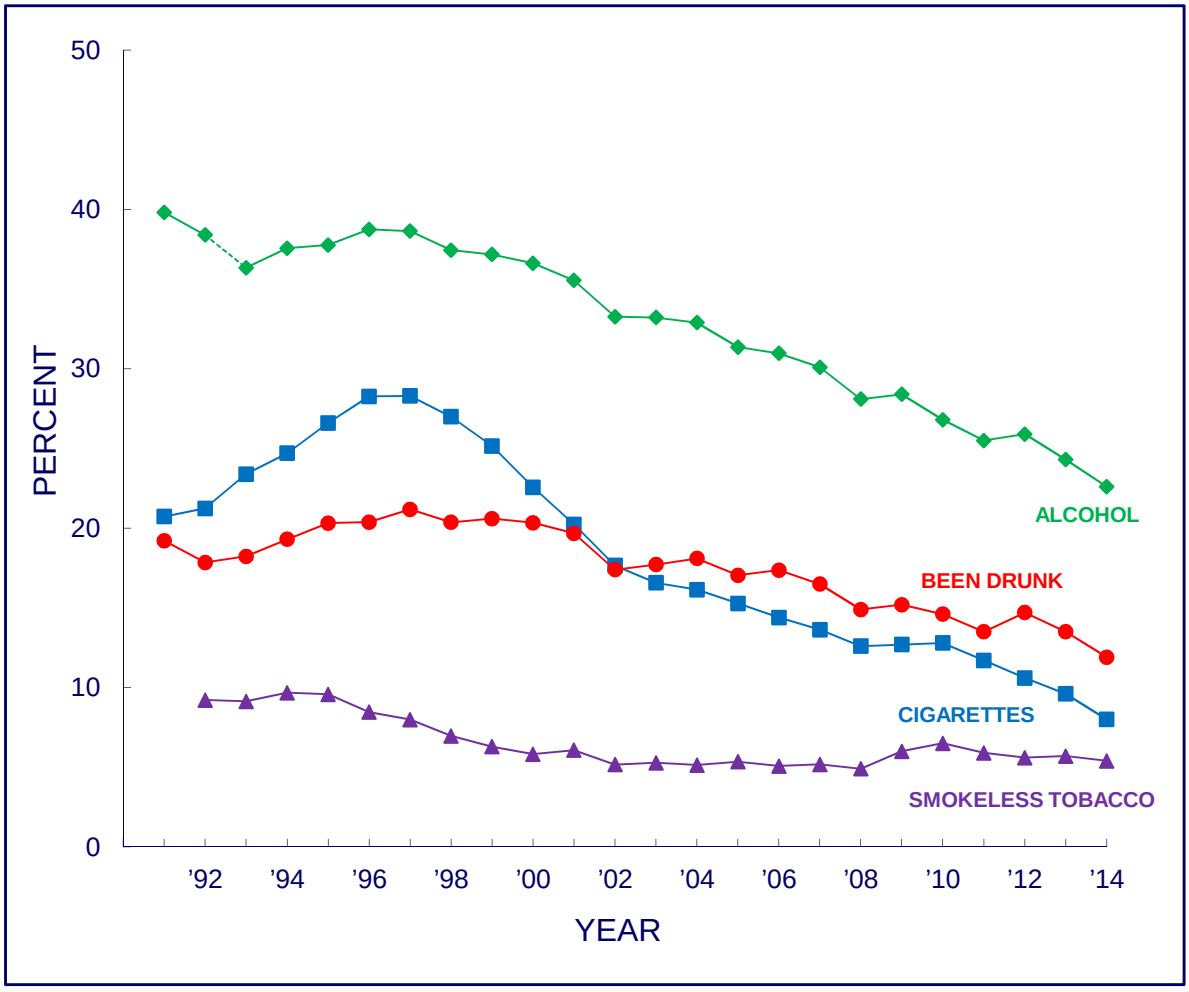
FIGURE F-8
CLUB DRUGS
Trends in Annual Prevalence for Grades 8, 10, and 12 Combined



Source. The Monitoring the Future study, the University of Michigan.

Notes. A dashed line indicates a change in the question text between the years it connects. Beginning in 2002, for 12th graders only, the lifetime and 30-day questions on Rohypnol were eliminated from the questionnaire. As a result, the 2001 and 2002 data are not entirely comparable because of the change in context of the question about annual use. Questions on use of GHB and Ketamine were discontinued in 2012.

FIGURE F-9
ALCOHOL AND TOBACCO
Trends in 30-Day Prevalence for Grades 8, 10, and 12 Combined



Source. The Monitoring the Future study, the University of Michigan.

Notes. A dashed line indicates a change in the question text between the years it connects. Beginning in 1993, a revised set of questions on use of alcohol was introduced in which a drink was defined as more than just a few sips. From 1993 on, data points are based on the revised questions.

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The University of Michigan
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