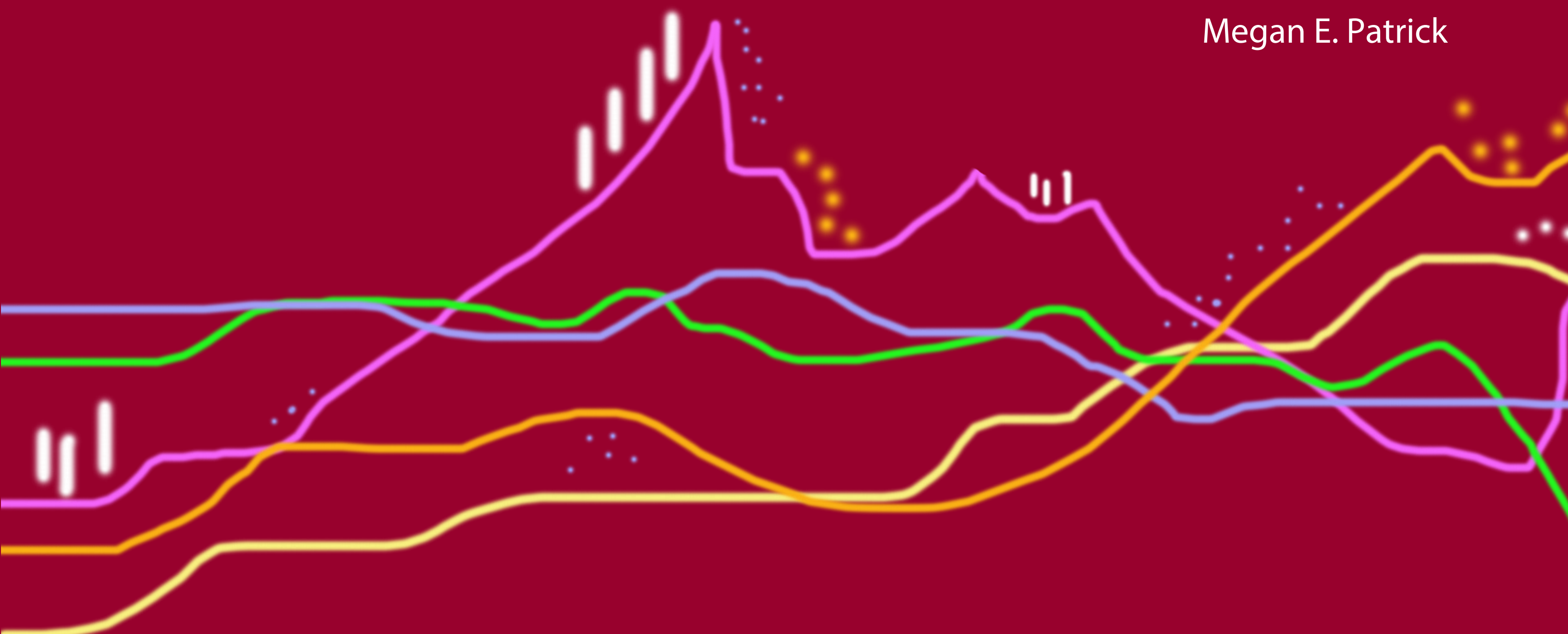
MONITORING *the* FUTURE

NATIONAL SURVEY RESULTS
ON DRUG USE
1975-2017

2017
Volume II

College Students & Adults Ages 19–55

John E. Schulenberg
Lloyd D. Johnston
Patrick M. O'Malley
Jerald G. Bachman
Richard A. Miech
Megan E. Patrick



Sponsored by The National Institute on Drug Abuse at The National Institutes of Health

MONITORING THE FUTURE

NATIONAL SURVEY RESULTS ON DRUG USE, 1975–2017

Volume II

College Students and Adults Ages 19-55

by

John E. Schulenberg, Ph.D.
Lloyd D. Johnston, Ph.D.
Patrick M. O'Malley, Ph.D.
Jerald G. Bachman, Ph.D.
Richard A. Miech, Ph.D.
Megan E. Patrick, Ph.D.

The University of Michigan
Institute for Social Research

Sponsored by:
The National Institute on Drug Abuse
National Institutes of Health

This publication was written by the principal investigators and staff of the Monitoring the Future project at the Institute for Social Research, the University of Michigan, under Research Grant No. R01 DA 001411 and R01 DA 016575 from the National Institute on Drug Abuse.

Recommended Citation

Schulenberg, J. E., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Miech, R. A. & Patrick, M. E. (2018). *Monitoring the Future national survey results on drug use, 1975–2017: 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.html#monographs

Institute for Social Research
The University of Michigan
Ann Arbor, Michigan
Published July 2018

ABBREVIATED CONTENTS*

Click on any item below (in blue) to go directly to that page.

*See next page for Detailed Contents.

DETAILED CONTENTS

Click on any item below (in blue) to go directly to that page.

DETAILED CONTENTS (continued)

DETAILED CONTENTS (continued)

LIST OF TABLES

Click on any item below (in blue) to go directly to that page.

LIST OF TABLES (continued)

LIST OF TABLES (continued)

LIST OF FIGURES

Click on any item below (in blue) to go directly to that page.

LIST OF FIGURES (continued)

LIST OF FIGURES (continued)

LIST OF FIGURES (continued)

LIST OF FIGURES (continued)

LIST OF FIGURES (continued)

LIST OF FIGURES (continued)

LIST OF FIGURES (continued)

LIST OF FIGURES (continued)

Chapter 1

INTRODUCTION

The present volume presents new 2017 findings from the U.S. national Monitoring the Future (MTF) follow-up study concerning substance use among the nation's college students and adults from ages 19 through 55. We report 2017 prevalence estimates on numerous illicit and licit substances, examine how substance use differs across this age span, and show how substance use and related behaviors and attitudes have changed over the past four decades. MTF, now in its 44th year, is a research program conducted at the University of Michigan's Institute for Social Research under a series of investigator-initiated, competing research grants from the National Institute on Drug Abuse – one of the National Institutes of Health. The integrated MTF study comprises several ongoing series of annual surveys of nationally representative samples of 8th and 10th grade students (begun in 1991), 12th grade students (begun in 1975), and high school graduates followed into adulthood (begun in 1976).

We report the results of the repeated cross-sectional surveys of all high school graduating classes since 1976 as we follow them into their adult years (as discussed in Chapter 3, these cross-sections come from longitudinal data). Segments of the general adult population represented in these follow-up surveys include:

- U.S. college students,
- their age-peers who are not attending college, sometimes called the "forgotten half,"[1]
- all young adult high school graduates of modal ages 19 to 30 (or 19-28 for trend estimates), to whom we refer as the "young adult" sample, and
- high school graduates at the specific later modal ages of 35, 40, 45, 50, and 55.

This volume emphasizes historical and developmental changes in substance use and related attitudes and beliefs occurring at these age strata.

The follow-up surveys have been conducted by mail on representative subsamples of the previous participants from each high school senior class. This volume presents data from the 1977 through 2017 follow-up surveys of the graduating high school classes of 1976 through 2016, as these respondents have progressed into adulthood. The oldest MTF respondents, from the classes of 1976-80, have been surveyed through age 55 in 2013-2017, 37 years after their graduation.

Other monographs in this series include the *Overview of Key Findings*,[2] which presents early results from the secondary school surveys; *Volume I*,[3] which provides an in-depth look at the secondary school

---

[1] Halperin S. *The forgotten half revisited: American youth and young families, 1988-2008.* Washington DC: American Youth Policy Forum; 1998. http://www.aypf.org/resources/the-forgotten-half-revisited-american-youth-and-young-families-1988-2008/

[2] Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2018). *Monitoring the Future national survey results on drug use, 1975-2017: Overview, key findings on adolescent drug use.* Ann Arbor, MI: Institute for Social Research, The University of Michigan.

[3] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2018). *Monitoring the Future national survey results on drug use, 1975–2017: Volume I, Secondary school students*. Ann Arbor, MI: Institute for Social Research, The University of Michigan.

secondary school survey results; and the *HIV/AIDS monograph*,[4] drawn from the follow-up surveys of 21- to 40-year-olds, which focuses on risk and protective behaviors related to the transmission of HIV/AIDS. This year's *Overview* and *Volume I* are currently available on the MTF website[5]; the *HIV/AIDS monograph* will be published in mid-October, 2018.

In this volume, we first set the stage by providing a summary (in Chapter 2) of key findings from the integrated MTF study, including 8th , 10th, and 12th graders, college students, and young adults. Chapter 3 (which also is Chapter 3 in *Volume 1*) outlines the integrated study's design and procedures. Chapter 4 provides prevalence estimates, and Chapter 5 provides historical trends, for drug use at ages 18 through 55. Chapter 6 concerns prevalence and trends in attitudes and beliefs about drug use for young adults. Chapter 7 covers the social context of drug use in terms of peer norms and use, as well as perceived availability of drugs. Chapters 8 and 9 provide prevalence estimates and historical trends, respectively, for college students and their same age peers. Chapter 10 (which also is Chapter 10 in *Volume I*) provides a summary of recent publications from the integrated MTF study.

SURVEYS OF YOUNG ADULTS AND ADULTS AGES 35, 40, 45, 50, AND 55

The current young adult sample consists of representative samples from each graduating class from 2005 to 2016, all surveyed in 2017 and corresponding to modal ages 19 through 30. College students are included as part of this young adult sample. The MTF study design calls for annual follow-up surveys of each high school class cohort through modal age 30, based on high school seniors being assumed to be modal age 18. Each individual participates in a follow-up survey only every two years, but a representative sample of people in each individual's graduating class is obtained every year because each cohort's follow-up sample is split into two random samples that are surveyed in alternate years. Thus, participants at modal ages 19-30 are surveyed biennially. Subsequent surveys are conducted at five-year intervals starting at age 35. In 2017 the graduating classes of 2005-2016 received biennial young adult surveys, and the classes of 1980, 1985, 1990, 1995, and 2000 were sent the age-55, age-50, age-45, age-40, and age-35 questionnaires, respectively.

In this volume, we reweight respondent data to adjust for the effects of panel attrition on measures such as drug use, using post-stratification procedures described in Chapter 3 in the section on panel retention. We are less able to adjust for the absence of students who drop out of high school and who are not included in the original 12th grade sample. Because nearly all college students have completed high school, the omission of high school dropouts should have almost no effect on population estimates for the college students, but this omission does affect the estimates for entire age groups. Therefore, the reader is advised that the omission of about 7% to 15% of each cohort who have dropped out of high school likely means that drug use estimates given here for the various age bands are somewhat low for the age group as a whole. Fortunately, high school dropout rates continue to decline. US Census data indicate that dropout comprised approximately 15% of the class/age cohort through most of the life of the study, until about 2002. Since then, there has

[4] Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., Patrick, M. E. & Miech R. A. (2017). *HIV/AIDS: Risk & protective behaviors among adults ages 21 to 40 in the U.S., 2004–2016.* Ann Arbor, MI: Institute for Social Research, The University of Michigan.

[5] Please visit http://monitoringthefuture.org/pubs.html#monographs to access the full text of these monographs.

been a gradual decline, dropping to a little over 7% in 2017.[6] The proportional effect of missing dropouts may be greatest for use of dangerous drugs such as heroin, crack, and methamphetamine, as well as cigarettes – the latter being highly correlated with educational aspirations and attainment. Nevertheless, even with some underreporting of usage rates, the year-to-year *trends* observed should be little affected by the limitations in sample coverage.

For purposes beyond this volume, we note that studies on substance use and related factors that follow young people into middle adulthood are rare in the field. Monitoring the Future (MTF) provides for exceptionally useful analyses of adult substance use as well as many other behaviors and attitudes. These national data make possible (1) analyses aimed at differentiating period-, age-, and cohort-related change; (2) analyses demonstrating long-term connections between use of various substances at various stages in life and many important potential outcomes (including eventual substance use disorders, adverse health outcomes, and functioning in work and family roles); (3) tracking substance use involvement and how such involvement is affected by transitions into and out of social roles and social contexts across the life course; and (4) identifying the individual and contextual factors in adolescence and early adulthood that are predictive of later substance use and substance use disorders. These and other topics are covered in other publications by MTF.

SURVEYS OF COLLEGE STUDENTS AND NONCOLLEGE PEERS

As defined here, the college student population comprises all full-time students enrolled in a two- or four-year college one to four years after high school in March during the year of the survey. More is said about this sample definition in Chapter 3 on study design. Results on the *prevalence* of drug use in 2017 among college students and also among their noncollege peers are reported in Chapter 8, and results on *trends* in substance use among college students and their noncollege peers are reported in Chapter 9, covering the 37-year interval since 1980.

The MTF follow-up samples have provided excellent coverage of the U.S. college student population for more than three and a half decades (1980–2017). College students tend to be a difficult population to study for a variety of reasons. For a number of years, they were generally not well covered in household surveys, which tended to exclude dormitories, fraternities, and sororities. Further, institution-based samples of college students must be quite large in order to attain accurate national representation because of the great heterogeneity in universities, colleges, and community colleges, and in the types of student populations they serve. Obtaining good samples within many institutions also poses difficulties, because the cooperation of each institution must be obtained, as well as reasonable samples of the student body.

In contrast, MTF draws the college sample prospectively in senior year of high school, so it has considerable advantages for generating a broadly representative sample of college students who emerge from each graduating cohort; moreover, it does so at very low cost. In addition, the "before, during, and after college" design permits examination of the many changes associated with the college experience. Finally, the MTF design also generates comparable panel data on high school graduates who are *not* attending college, an important segment of the young adult population not

[6] 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

only in its own right, but also as a comparison group for college students. This is a particularly valuable and rare feature of this research design.

GENERAL PURPOSES OF THE RESEARCH

MTF's research purposes are extensive and are outlined here only briefly.[7] One major purpose is to serve an epidemiological social indicator function to accurately characterize the levels and trends in selected behaviors, attitudes, beliefs, and relevant social context conditions in the various populations covered. Social indicators can have important agenda-setting functions for society, drawing attention to new threats to public health and estimating the extent of those threats as well as determining where they are concentrated in the population. They are especially useful for gauging progress toward national goals and indicating the impacts of major historical events, including social trends and policy changes. Another purpose of the study is to develop knowledge that increases our understanding of how and why historical changes in these behaviors, attitudes, beliefs, and environmental conditions are taking place. Such work is usually considered to be social epidemiology. These two broad purposes are addressed in the current series of volumes.

Additional etiologic purposes of MTF include helping to discover risk and protective factors for, and consequences of, drug use; indicating what types of young people are at greatest risk for developing various patterns of drug abuse; gaining a better understanding of the belief and attitude orientations associated with various patterns of drug use; and monitoring how all of these are shifting over time. MTF data permit the investigation of the immediate and more general aspects of the social environment that are associated with drug use and abuse, and permit the assessment of how drug use is affected by major transitions into and out of social roles and contexts (such as military service, civilian employment, college, unemployment, marriage, pregnancy, parenthood, divorce, remarriage). MTF examines the life course of various drug-using behaviors during the transition to adulthood and through middle adulthood, including progression to substance use disorder. This knowledge allows MTF to distinguish such age effects from cohort and period effects that influence drug use and associated attitudes, to discover the effects of legislation and changing regulations on various types of substance use, and to understand consequences of the changing connotations of drug use and changing patterns of multiple drug use among youth.

We believe that differentiating among age, period, and cohort effects on use of various types of substances and associated attitudes and beliefs has been a particularly important contribution of the project. The MTF cohort-sequential research design is well suited to discern changes with age common to all cohorts (age effects), differences among cohorts that tend to persist across time (cohort effects), and changes common to most or all ages in a given historical period (period effects).

Knowing which type of change is occurring is important for at least three reasons. First, it can help to discover what types of causes account for the change. For example, age effects are often

[7] Johnston, L. D., O'Malley, P. M., Schulenberg, J. E., Bachman, J. G., Miech, R. A., & Patrick, M. E. (2016). *The objectives and theoretical foundation of the Monitoring the Future Study* (Monitoring the Future Occasional Paper No. 84). Ann Arbor, MI: Institute for Social Research, University of Michigan. See also Bachman, J. G., Johnston, L. D., O'Malley, P. M., Schulenberg, J. E., & Miech, R. A. (2015). *The Monitoring the Future project after four decades: Design and procedures* (Monitoring the Future Occasional Paper No. 82). Ann Arbor, MI: Institute for Social Research, University of Michigan.

explained by maturation as well as by social role and context transitions associated with age, as this study has demonstrated.[8,9,10,11,12,13,14,15,16,17,18,19] Such age effects, as we have shown, can vary historically, indicating the historical embeddedness of developmental course.[20,21] Second, the type of change can indicate when in the life course the causes may have had their impact; in the case of cohort effects, it may well have been in an earlier point in the life course than the age at which the change is actually documented. For example, we know from historical context and MTF data on age of initiation that the decline in cigarette smoking observed among 12th graders in the late 1970s actually reflected a cohort effect that emerged when those teens were younger, in the early 1970s, which was shortly after cigarette advertising was removed from radio and television. So, although we documented a cohort effect at 12th grade, its origins were most likely due to earlier changes in social context. The third reason that knowing the type of change is important is that it can help in predicting future change more accurately. For example, the study has shown that perceived risk often is a leading indicator of change and also that cohort effects help to predict forthcoming changes at later ages. Needless to say, predicting change is extremely valuable to the policy, prevention, and treatment communities. This volume documents some well-established age effects, some important cohort differences that emerged in the 1990s, and recent period effects.

Another important purpose of MTF, related to but distinct from the ones described so far, is to study risk and risk-reducing behaviors associated with HIV/AIDS. This purpose is addressed in the monograph HIV/AIDS: Risk & protective behaviors among adults ages 21 to 40 in the U.S.,

---

[8] 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.

[9] 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.

[10] 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.

[11] Jang, B., Patrick, M. E., & Schuler, M. S. (2017). Substance use behaviors and the timing of family formation during young adulthood. *Journal of Family Issues, 39*(5), 1396-1418.

[12] Jang, B., Schuler, M. S., Evans-Polce, R. J., & Patrick, M. E. (in press). The association between young adult substance use and adult substance use disorder: Marriage as a causal pathway.

[13] Patrick, M. E., Schulenberg, J. E., & O'Malley, P. M. (2016). High school substance use as a predictor of college attendance, completion, and dropout: A national multicohort longitudinal study. *Youth & Society*, *48*(3), 425-447.

[14] Miech, R. A., Patrick, M. E., O'Malley, P. M., & Johnston, L. D. (2017). E-cigarette use as a predictor of cigarette smoking: Results from a 1-year follow-up of a national sample of 12th grade students. *Tobacco Control, 26*(e2), e106-e111.

[15] Miech, R. A., Patrick, M. E., O'Malley, P. M., & Johnston, L. D. (2017). The influence of college attendance on risk for marijuana initiation in the United States: 1977 to 2015. *American Journal of Public Health, 107*(6), 996-1002.

[16] Patrick, M. E., Schulenberg, J. E., O'Malley, P. M., Maggs, J. L., Kloska, D. D., Johnston, L. D., & Bachman, J. G. (2011). Age-related changes in reasons for using alcohol and marijuana from ages 18 to 30 in a national sample. *Psychology of Addictive Behaviors, 25*, 330-339.

[17] Staff, J., Schulenberg, J. E., Maslowsky, J., Bachman, J. G., O'Malley, P. M., Maggs, J. L., & Johnston, L. D. (2010). Substance use changes and social role transitions: Proximal developmental effects on ongoing trajectories from late adolescence through early adulthood. *Development and Psychopathology*, *22*(Special issue: Developmental cascades: Part 2), 917-932.

[18] Terry-McElrath, Y. M., O'Malley, P. M., Johnston, L. D., Bray, B. C., Patrick, M. E., & Schulenberg, J. E. (2017). Longitudinal patterns of marijuana use across ages 18-50 in a US national sample: A descriptive examination of predictors and health correlates of repeated measures latent class membership. *Drug and Alcohol Dependence*, *171*, 70-83.

[19] Veliz, P., Schulenberg, J. E., Patrick, M. E., Kloska, D. D., McCabe, S. E., & Zarrett, N. (2017). 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, 52*(2), 240-259.

[20] Jager, J., Schulenberg, J. E., O'Malley, P. M., & Bachman, J. G. (2013). Historical variation in drug use trajectories across the transition to adulthood: The trend toward lower intercepts and steeper, ascending slopes. *Development and Psychopathology*, *25*(2), 527-543.

[21] Jager, J., Keyes, K. M., & Schulenberg, J. E. (2015). Historical variation in young adult binge drinking trajectories and its link to historical variation in social roles and minimum legal drinking age. *Developmental Psychology, 51*(7): 962-974.

2004-2016[22] Beginning in 2004, MTF panel surveys have included questions on the prevalence and interconnectedness of risk and risk-reduction behaviors related to the spread of the human immunodeficiency virus (HIV) which causes acquired immunodeficiency syndrome (AIDS). The questions include drug involvement in general, injection drug use, needle sharing, number of sexual partners, gender(s) of those partners, use of condoms, getting tested for HIV/AIDS, and obtaining the results of such HIV tests.

Readers interested in publications dealing with any of these areas are invited to visit the MTF website at www.monitoringthefuture.org.

[22] Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., Patrick, M. E., & Miech, R. A. (2017). HIV/AIDS: Risk & protective behaviors among adults ages 21 to 40 in the U.S., 2004–2016. Ann Arbor, MI: Institute for Social Research, The University of Michigan.

Chapter 2

KEY FINDINGS
AN OVERVIEW AND INTEGRATION
ACROSS FIVE POPULATIONS

Monitoring the Future, having completed its 44th 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 U.S. 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 of adolescents and adults.

The annual series of monographs, of which this is *Volume II*, is a primary mechanism through which the epidemiological findings from MTF are reported. Findings from the inception of the study in 1975 through 2017 are included – the results of 44 national in-school surveys and 42 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. Annual findings for 8th, 10th, and 12th graders through 2017 are presented in *Volume I* (also see the 2017 *Overview* volume). Beginning with the class of 1976, the study 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. Annual findings from these follow-up surveys are presented in this volume.

In this chapter, we summarize a number of important findings to provide the reader with an overview of the epidemiological results from the integrated MTF study that span modal ages 14 through 28, a key developmental period for the onset, peak, and decline in the use of most substances. 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 1991–2017 trends for all drugs on five populations: 1) 8th grade students (modal age 14), 2) 10th grade students (modal age 16), 3) 12th grade students (modal age 18), 4) full-time college students modal ages 19–22, and 5) all young adults modal ages 19–28 who are high school graduates. (Note that the young adult group includes the college student population.) *Volume I* and the *Overview* volume provide more emphasis on the in-school epidemiological findings. In this current volume, we provide more emphasis on the epidemiological findings from young adults and college students, as well as from those at modal ages 35, 40, 45, 50, and 55.

TRENDS IN DRUG USE – THE ADVENT OF COHORT EFFECTS

Before considering the trends in specific drugs across the five age groups presented in Table 2-1, we first provide a brief summary of the rises and falls of substance use during the past quarter-century to illustrate the impact of attitudes in historical trends of use and how cohort effects work to sometimes shift developmental trends. Early in the 1990s, MTF 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."[1] 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, especially prescription-type psychotherapeutics like narcotics, amphetamines, tranquilizers, and sedatives.

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 the increase was significant only among 8th graders. In 2011, the increase continued among 10th and 12th graders and declined some at 8th grade. Publicity around legalizing medical, and in some cases recreational use, may have served to normalize use of marijuana, the most widely used of all illicit substances.

As shown in Figure 2-1, levels of overall illicit drug use among teens have shown a slight downward trend for the past several years through 2016. (2013 is an exception and shows a slight increase that resulted from an expansion of the question on amphetamines to include more current examples of these drugs.) During this time period, marijuana prevalence decreased at a slower rate than it has for other substances such as cigarettes and alcohol, perhaps due in part to the ongoing changes in state laws on medical and recreational marijuana use. In 2017, we see some nonsignificant increases in overall illicit drug use among teens, due in part to increases in marijuana use and inhalants (as summarized below and described in detail in *Volume I*), suggesting a leveling of use if not a turnaround. Among college students and young adults overall (aged 19-28), there has been a slow but steady rise since 2010 in overall illicit drug use (see Figure 2-1), with consistent increases in marijuana use across this time period. Whether marijuana use (or other drug use) will continue to increase in coming years among teens and young adults, as more states legalize recreational marijuana 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 and Table 2-2). In the early 1990s (the early years of the epidemic), illicit drug use

[1] Johnston, L. D., O'Malley, P. M., & Bachman, J. G. (1993). *National survey results on drug use from the Monitoring the Future study, 1975-1992. Volume I: Secondary school students*. (NIH Publication No. 93-3597). Rockville, MD: National Institute on Drug Abuse.

levels were higher in the college-age group than they were among secondary school students (especially 8th and 10th graders). This reflects a normative developmental trend showing that prevalence increases with age through adolescence into the early 20s. 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 (with 10th graders annual prevalence becoming lower than that for college students), 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. In the past few years, a more typical normative developmental trend has returned, with annual prevalence increasing with age across adolescence and the early 20s.

As can be seen by the divergence of trends for the different age groups in what follows, something other than simple developmental or secular trends in drug use were taking place; important cohort differences were emerging such that all ages were not changing simultaneously and age differences were not constant across historical time. (A cohort refers to a group of people who were born in the same year [a birth cohort] or, in this case, are in the same graduating class [a class cohort]. A birth cohort and class cohort obviously are quite close but not identical. Developmental trends pertain to changes with age that tend to be constant across multiple cohorts. A secular trend is a trend across historical time that occurs simultaneously across multiple cohorts and multiple age groups.)

Regarding 2017 prevalence levels, we note that the typical developmental trend of substance use increasing with age through the early twenties remains in place. In 2017, the rank order by age group for annual prevalence of using ***any illicit drug*** was college students (42%), all 19- to 28-year-old young adults (41%), 12th graders (40%), 10th graders (28%), and 8th graders (13%) (see Figure 2-1 and Table 2-2). With respect to using ***any illicit drug other than marijuana*** in the past 12 months, prevalence ranged from all 19- to 28-year-olds and college students specifically (20% and 18% respectively) to 12th graders (13%), 10th graders (9%), and finally 8th graders (6%) (see Table 2-2).

We turn now to summarize historical and developmental trends in the use of individual substances across the past quarter-century.

- 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 college students, largely reflecting “generational replacement” (i.e., a cohort effect), wherein earlier class 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 (24%), in 1997 among 10th and 12th graders (39% and 42%, respectively), in 2001 among college students (38% before leveling for some years and increasing in recent years to a new peak of 43% in 2016), and in 2004 in the young adult segment (34% before leveling and increasing in recent years to a new peak of 41% in 2017). More recently, a different, more complex pattern of cohort effects has been operating. Specifically, since about 2010, there has been some divergence in the annual prevalence of any illicit drug across the five age groups, with declines among 8th and 10th graders, slight decline and leveling among 12th graders, and increases among college students and young adults (see Figure 2-1). However, in 2017, we see what may be a leveling or turnaround in annual prevalence among secondary school students (with nonsignificant increases to 13%, 28%, and 40% among 8th, 10th, and 12th graders, respectively), a leveling among college students (with a slight nonsignificant decline to 42%), and a continued increase among young adults (with a nonsignificant increase to 41%); whether this is the advent of a more general secular trend awaits continued monitoring.

Again, the earlier diverging trends across the different age strata clearly show that changes during the 1990s reflected the emergence of 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, a finding that was widely covered in the media and had substantial impact on national policies and policy-related developments that followed. Smoking also rose among 12th graders, beginning a year later.

The increase in 30-day 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 nine-tenths from 21% in 1996 to 1.9% in 2017.) Among the college and the young adult strata, the declines have been less sharp so far, but they are generally continuing. The 30-day smoking prevalence for college students in 2017 (8.0%) was down more than seven-tenths 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 has dropped by more than one half (to 15% by 2017) since its recent peak of 31% in 1998. Among secondary school students smoking has steadily declined for the past two decades, including a significant decline in past 30-day smoking from 2016 to 2017 among 8th grade students (from 2.6% to 1.9%). The smoking levels among secondary students are now at the lowest ever recorded, with declines from the peak years of 1996-97 of over 80% for 8th and 10th grade students and over 70% for 12th grade students, and from peak years of 1998-99 of over 70% and over 50%, respectively, for college students and young adults. In 2017, in addition to the significant decline just mentioned among 8th grade students, there was a leveling for 10th graders, a nonsignificant decline for 12th grade and college students, and a nonsignificant increase for young adults.

- During the 1990s, in what we have called the “relapse period” in the drug epidemic, 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 was much more gradual, presumably due to a generational replacement effect. 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 exhibited slight increases in annual prevalence after the mid-2000s, although the increases were uneven. From 2016 to 2017, all age groups showed nonsignificant increases except college students, who showed a nonsignificant decrease.

- ***Current daily marijuana use*** (defined as use on 20 or more occasions in the prior 30 days) rose substantially after 1992 in all five populations, reaching peak levels in a somewhat staggered fashion as that just described (see Table 2-4). 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; these levels remained essentially unchanged in 2017. The 2017 daily prevalence levels in grades 8, 10, and 12, respectively, were 0.8%, 2.9%, and 5.9%. *In other words, in 2017 about one in every seventeen high school seniors was a daily or near-daily marijuana user.* College student and young adult prevalence of daily use showed an overall increase since 2007, from 3.5% to 4.4% in 2017 among college students and from 5.0% to 7.8% over that same interval among young adults. *That is, in 2017 about one in every thirteen young adults aged 19-28 was a daily or near daily marijuana user.* 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 and possibly cohort effects in use.

- ***Synthetic marijuana*** contains synthetic versions of some of the cannabinoids found in marijuana 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 (see Table 2-2). Annual prevalence was found to be 11.4%, 8.5%, and 7.4%, respectively, among 12th graders, college students, and young adults (8th and 10th graders were first asked about use of these drugs in 2012, and their annual prevalence levels were 4.4% and 8.8%, respectively). These relatively high prevalence levels made synthetic marijuana among the most widely used illicit drugs. Use declined appreciably in 2013 and 2014 among all five populations, with most of the 1-year declines being significant. Efforts by the DEA and various states to make their sale illegal may well have had an impact. In 2017, prevalence was 2.0%, 2.7%, 3.7%, 0.5%, and 0.9%, respectively, across the five age groups from youngest to oldest, reflecting a continued decline for all age groups, except for 12th graders (with a significant decline among 8th grade students). There is a relatively low level of perceived risk for trying synthetic marijuana once or twice, despite growing evidence of serious health problems resulting from the use of these drugs.

- 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 more than one-half in their use of illicit drugs other than marijuana, treated as a class (13.1% annual prevalence in 1996 to 5.8% in 2017). 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 stood at 9.4% in 2017. Twelfth-grade use also showed some decline beginning after 2001 (21.6%) but stood just 8.3 percentage points lower (13.3%) in 2017. College students so far have shown little change over the course of the survey and have hovered between 18% and 21% since 2013 (when the questions were last updated); annual prevalence in 2017 was 18%, representing a nonsignificant decline from 2016. Use among all young adults varied between the narrow ranges of 17% to 21% from 2003 to 2017; 2017 annual prevalence was 20%.

- 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 about 2005 (the relatively large declines for all age groups in 2001 corresponded to the closing of a major LSD lab that year by the Drug Enforcement Administration). Since 2006, annual prevalence has remained at about 1% for 8th graders, ranged from 1.7% to 2.1% for 10th graders, and increased slightly but steadily for the three older age groups from 1.7% to 3.3% for 12th graders, from 1.4% to 2.8% among college students, and from 1.2% to 3.4% for young adults. 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.

- Questions about the use of ***MDMA***, which goes by the street names "ecstasy" and more recently "Molly," 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%). MDMA 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. Since the peak highs in 2001, annual MDMA use has declined overall, with a slight increase around 2010 that proved fleeting.

In 2017, annual prevalence of MDMA was 0.9%, 1.7%, 2.6%, 2.5%, and 3.6% among the five age groups, respectively. This annual prevalence remained level in 2017 among 8th, 10th, and 12th graders (after declining significantly in 2016), and declined significantly among college students and young adults. These declines are based on measures that included "Molly" as an example street name of MDMA, measures that were introduced in the survey in 2014. (Molly is supposed to be a stronger form of MDMA than ecstasy.) Per our custom when introducing new question wording, in 2014 we included the newly worded question on a random half of the surveys and the other half served as a control with the old version of the MDMA question. All 2016 and 2017 MDMA questions include the "Molly" street name, and are compared to the 2014 and 2015 measures that also include the "Molly" wording. The substantial declines in annual prevalence across 2015 through 2017 suggest that any new popularity to MDMA brought by its new branding appears to have been transitory.

MDMA use has been moving fairly synchronously among all five populations since 1999, which suggests a secular trend (likely due to some changes 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 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.

- 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. Among secondary school students levels of use declined gradually and steadily, and today's levels are about half of what they were in 1996 for students in 8th and 10th grade, and about 30% lower for students in 12th grade. In contrast, among young adults and college students levels of amphetamine use have gradually and steadily increased, with levels of use among college students nearly doubling to 9% in 2017. It is possible more college students are using amphetamines to help their academic work. Young adults, who include the college students, showed less of an increase over the same interval, from 4.2% in 1996 to 7.8% in 2017. 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 2017.)

- 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 C, Table C-2[2] in *Volume I*). Because of its increasing importance, a differently structured question was introduced for Ritalin use in 2001 for grades 8, 10, and 12, and in 2002 for 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 2017 less than half of what they were in 2001-2002 for all five population groups; annual prevalence in 2017 was 0.4%, 0.8%, 1.3%,1.4%, and 1.2%, respectively.

- 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 nonmedical use was introduced in 2009; annual prevalence levels in 2009 through 2017 were higher than those for Ritalin in all five populations. This suggests that Adderall 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. Since the drug was first tracked in 2009, annual prevalence of nonmedical use of Adderall has been at about 10% for college students and 7% among young adults, which are fairly high levels. Among secondary students prevalence has hovered around 1.5% for 8th graders, 5% for 10th graders, and 6% for 12th graders.

- ***Methamphetamine*** questions were introduced in 1999 because of rising concern about use of this drug; but an overall *decline* in use has been observed among all five populations in the years since then. In 2017, annual use in all five populations was very low – below 1%. These substantial declines occurred during a period in which there were many media reports suggesting that methamphetamine use was a growing problem – an example of the importance of having accurate epidemiological data.

- 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 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 2017. 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 generally showed substantial drops in annual prevalence to 1% or less by 2017; this is true despite the increase in 2017 for both groups (significant for young adults) (see Table 2-2).

---

[2] As discussed in Appendix C of *Volume I,* 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.

- ***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 three 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. Inhalant use has been much lower among college students and young adults over the years, and it has declined steadily over the past two decades. Annual prevalence is now at or near the lowest point in the history of the study for all five groups at 4.7%, 2.3%, 1.5%, 1.7%, and 0.7%, respectively; annual prevalence rose significantly in 2017 for 8th graders and college students (see Table 2-2).

- ***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 2017, annual prevalence for crack cocaine among 12th graders was at 1.0%.

  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 2017 prevalence levels for this drug were relatively low – 1% or less in all five groups. Twelfth graders had the highest prevalence. Annual crack prevalence among the college-bound has generally been considerably lower than among those not bound for college. Among 12th graders, the levels of use in 2017 were 0.7% for college-bound and 2.1% for noncollege-bound.

- 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

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

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 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. Since then through 2016, cocaine use showed a slight decline among secondary students – including a significant decline among 10th grade students in 2016; however, in 2017, nonsignificant increases occurred for 10th and 12th graders. For college students and young adults, annual prevalence has trended slightly upward since 2011, showing nonsignificant increases in 2017. Annual prevalence levels in 2017 were 0.8%, 1.4%, 2.7%, 4.8%, and 5.3% 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 2-2).

- Use of ***PCP*** (phencyclidine, also known as angel dust) is measured and reported only for 12th graders and young adults. Its use 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 since 2002 has hovered at about 1%. 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 2017.

- 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 2017 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 2008–2017). 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 0.2% in 2017, suggesting that if there was an increase in use, it was short-lived. All five populations showed annual prevalence levels at 0.4% or less in 2017.

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 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 I* for details).

- 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 drug 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 overall among 12th graders, college students, and young adults. In 2017, annual prevalence was 4.2%, 3.1%, and 4.0% among 12th graders, college students, and young adults, respectively; these levels reflect decreases from 2016, with the decrease being significant for young adults.

- 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 and declines 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 2017, prevalence levels were down for all age groups and stood at 0.7%, 1.5%, 2.0%, 1.1%, and 2.7%, 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 2017 were 0.8%, 2.2%, 2.7%, 1.7%, and 1.9% 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.

- Annual prevalence of ***tranquilizer*** use among 12th graders saw a long and very 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 dropped to 4.7% in 2017. 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 began a decline; it was at 2.0% in 2017. 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 3.6% by 2017. For the young adult sample, after a long period of decline, annual prevalence more than doubled between 1997 and 2002 to 7.0%, with some overall decline thereafter to 4.7% in 2017. 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 C3 in Appendix C in *Volume I*).

- The long-term gradual decline in ***sedative*** (***barbiturate***) use among 12th graders, which had 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, and by 2017 it had declined to 2.9%. The 2017 annual prevalence of this class of drugs was highest among 12th graders (2.9%) as compared to young adults (2.2%) and college students (1.9%). 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 2013. Among young adults, sedative (barbiturate) use increased since the early 1990s, rising from 1.6% in 1992 to 4.4% in 2004. It stood at 2.2% in 2017, after declining some in recent years.

- 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 saw 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. All three of these classes of psychotherapeutic drugs have shown gradual declines since about 2008 among 12th graders, college students, and young adults

- 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 2017, 12th graders showed annual prevalence levels for these drugs of 37.1%, 5.9%, 2.7%, 3.3%, and 1.5%, respectively, reflecting declines in most of them, especially cocaine and LSD. Among college students in 2017, the comparable annual prevalence levels were 38.3%, 8.6%, 4.8%, 2.8%, and 1.7%; for all young adults the levels were 37.5%, 7.8%, 5.3%, 3.4%, and 0.7%. ***Narcotics other than heroin*** became quite important due to the long-term rise in use that began in the 1990s (followed by declines in recent years). These narcotics now have annual prevalence levels of 3–4% among 12th graders, college students, and young adults. ***Tranquilizers*** have also become more important due to a similar rise in use (followed by recent declines), with prevalence levels in 2017 of about 3–5% across the same three populations, as have ***sedatives*** (***barbiturates***), with levels of 2.9%, 1.9%, and 2.2%, respectively. The misuse of prescription-type drugs clearly has become a more important part of the nation's drug problem.

- 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 the five age groups. For that reason, GHB and ketamine were dropped from the 8th and 10th grade surveys in 2012 and GHB and Rohypnol from the young adult surveys in 2016. For 12th graders, the 2017 annual prevalence was 1.2% for ***ketamine*** and 0.4% for ***GHB***. Annual prevalence of ***Rohypnol*** was 0.4% for 8th graders, 0.3% for 10th graders and 0.8% for 12th graders in 2017. Annual prevalence of ketamine was 1.2%, 0.3%, and 0.5%, respectively, among 12th graders, college students, and young adults.

- ***Bath salts***, so-called because they are sold over the counter as apparently innocuous products like real bath salts but contain strong synthetic stimulants, were first included in the 2012 MTF survey, which we believe 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%, 1.3%, 0.3%, and 0.5%, respectively, among the five age groups. In 2017, the prevalence levels remain less than 1% in all five age groups.

- ***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. In 2011, the prevalence 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 2017, levels of salvia use had declined in all five populations, suggesting that the popularity of this drug has peaked. Still, 0.4% of 8th graders, 0.9% of 10th graders, and 1.5% of 12th graders reported some past-year use in 2017, but the college and young adult populations had prevalence levels at or below 0.5%.

- ***Anabolic steroid*** use has occurred predominantly among males. In 2017, the annual prevalence levels for males in 8th, 10th, and 12th grades were 0.6%, 0.8%, and 1.4%, compared with 0.6%, 0.5%, and 0.5% 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 more than two thirds to 0.6% in 2017. Among 10th graders, use continued to increase, reaching 2.2% in 2002, suggesting a cohort effect, but then declined by more than two thirds to 0.7% by 2017. Among 12th graders, annual prevalence rose significantly to 2.4% in 2001, but then decreased to 1.1% by 2017. Use generally has been much lower among college students and young adults, with annual prevalence being below 1% between 1991 and 2017.

Male–Female Differences in Illicit Drug 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, 2017 ***daily marijuana*** use levels among 12th graders were more than twice as high at 7.8% for males versus 3.6% for females.

- The 8th and 10th grade samples evidence fewer and smaller gender differences in the use of drugs than do the older populations. There are no appreciable gender differences in 2017 among 8th graders in their use of ***marijuana, synthetic marijuana, hallucinogens, LSD, hallucinogens other than LSD, MDMA, cocaine, crack, cocaine other than crack, heroin,*** or ***methamphetamine***. The levels of use of ***inhalants, Rohypnol, 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 as use increases faster among boys than among girls with age, such that by late adolescence and young adulthood, prevalence for most all drugs is higher for males than females. (For greater detail on trends in these gender differences, as well as in other demographic differences, see chapters 4 and 5. Occasional Paper 91 [for young adults] and Occasional Paper 90 [for adolescents] graphically depict these trends.)

TRENDS IN ALCOHOL USE

- Several findings about ***alcohol*** use in these five population groups are noteworthy. First, despite the fact that it is illegal for virtually all secondary school students and many college students to purchase alcoholic beverages, they have had a substantial amount of experience with alcohol. Alcohol has been tried by 23% of 8th graders, 42% of 10th graders, 62% of 12th graders, 79% of college students, and 85% of young adults (19 to 28 years old). Current use (use in past 30 days) is also widespread. Of particular importance, is the prevalence of ***five or more drinks in a row*** at least once in the prior two-week period (occasions of heavy or binge drinking), which in 2017 was reported by 4% of 8th graders, 10% of 10th graders, 17% of 12th graders, 33% of college students, and 32% of young adults.

  As use of other illicit drugs decreased among 12th graders from the late 1970s to the early 1990s, alcohol use did not increase, although it was common to hear such a "displacement hypothesis" asserted. MTF findings demonstrate 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 of five more drinks in a row) rose 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, at least up to the year 2007.

  However, since 2007 a new trend has emerged that is consistent with the "displacement" hypothesis. From 2007 through 2017 alcohol use continued its long-term decline, reaching historic lows in the life of the study. Meanwhile, for most of this time period, marijuana use has stayed steady or increased for all age groups, consistent with the possibility that marijuana use has increasingly displaced alcohol use. For the first time, trends in alcohol and marijuana use are substantially diverging, suggesting that the historical relationship between these two drugs may be changing.

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 2017 were 15% for females versus 19% for males. This difference has diminished substantially since MTF began; in 1975 there was a 23-percentage-point difference, versus a 4-point difference in 2017. The proportions indicating in 2017 that they have ***been drunk*** in the prior 30 days were somewhat higher at 19% and 22% for females and males, respectively. As discussed in Chapters 4 and 5, the general pattern of heavy alcohol use being more common among men than women continues into young and middle adulthood; likewise, the reduction of gender differences over the past few decades is evident among adults.

TRENDS IN CIGARETTE SMOKING AND VAPING

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, particularly the upsurge in adolescent smoking in the early 1990s. 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. Even as cigarette smoking among adolescents reaches historic lows today, it remains at or near the top of all psychoactive substances used on a daily basis.

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

  Fortunately, 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 2017, 2% 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 nine-tenths from the 1996 peak level. Some 5% of 10th graders were current smokers in 2017 (down from 21% in 1991 and 30% in 1996), representing a drop of three quarters from the 1996 peak level. And among 2017 12th grade students 10% were current smokers (versus 28% in 1991 and 37% in 1997), representing a drop of more than two thirds from the 1997 peak. Monthly prevalence of use for all three grades is now at or near the lowest point in the history of the study, and significantly declined in 2017 for 8th 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 in ten (10%) 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.[4]

Among college students, the peak level in current smoking (31%) was not reached until 1999, reflecting a cohort effect, after which it has declined to 8% in 2017, a decline of almost three-quarters. Young adults 19 to 28 years old have also shown a decline between 2001 (30%) and 2017 (15%), a decline of one half and also indicative of a cohort effect working its way up the age range.

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. Between about 2001 and 2005 there was little consistent gender difference in smoking among college students, but since 2006, college males have usually had higher levels of daily smoking than college females (see Chapter 9).

Vaping

- MTF first asked about ***e-cigarette*** use in 2014 and ***vaporizer*** use in 2015 and 2016. We found that overall vaporizer use had higher 30-day prevalence than all tobacco products, including regular cigarettes, among 8th, 10th, and 12th graders; among college students and young adults, vaporizer use was lower compared to use among 10th and 12th graders, as well as lower compared to cigarette use. In 2017, we expanded the vaping questions to get at specific substances being vaped including nicotine, marijuana, and just flavoring. In 2017, the 30-day prevalence of vaping nicotine was 3.5%, 8.2%, 11.0%, 6.1%, and 6.5% across the five age groups respectively; these levels are higher than 30-day prevalence for cigarette use among 8th, 10th, and 12th graders, but not among college students and young adults. Part of the reason for the popularity of vaporizers among teens is their low perceived risk: for the specific vaporizer device of an e-cigarette, less than 22% of students in all grades see a "great risk" in regular vaporizer use, one of the lowest levels of perceived risk measured in the survey. Among teens, males are more likely to use vaporizers than females,

[4] For an 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. See also Table A-1 in Appendix A of this Volume.

especially at the older grades, and in all grades use is higher among students who do not plan to go to college.

DRUG USE BY 8th 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.[5,6,7] And because of the strong cohort effects by which 8th graders often carry forward their behaviors and attitudes regarding substance use as they age, considering today's 8th graders gives us a sense of future substance use among young adults.

- Among 8th graders in 2017, about one in four (23%) reported having tried ***alcohol*** (more than just a few sips), and about one in eleven (9%) indicated having already been ***drunk*** at least once. One eleventh of all 8th graders in 2017 (9%) have tried ***cigarettes***, and almost one in fifty (1.9%) reported 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 2017, 8% tried ***smokeless tobacco***, 2.2% used it in the past month, and 0.5% used it daily. Levels of use were much lower among females.

- One 8th grader in eleven (9%) reported ever trying ***inhalants***, and over one in 50 (2.1%) reported inhalant use in just the month prior to the 2017 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 seven 8th graders (14%) and has been used in the prior month by about one in every 19 (5.5%). Some 0.6% used it on a daily or near-daily basis in 8th grade.

- A surprisingly large number of 8th graders (5.7%) say they have tried prescription-type ***amphetamines*** without medical instruction; 1.7% say they have used them in the prior 30 days.

- For most of the ***other illicit drugs***, relatively few 8th graders in 2017 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

---

[5] 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.

[6] Zucker, R. A., Hicks, B. M., & Heitzeg, M. H. (2016). In D. Cicchetti (Ed.) *Developmental Psychopathology, Volume 3, Maladaptation and Psychopathology*, 3rd Edition (pp 793-833). Hoboken, NJ: John Wiley & Sons.

[7] 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.

experience with them is not inconsequential. Even prevalence as low as 3% represents about one child in every 30-student classroom, on average. The 2017 eighth-grade proportions reporting any lifetime experience with the other illicit drugs were: ***tranquilizers*** (3.4%), ***ecstasy*** (1.7%), ***hallucinogens other than LSD*** (1.2%), ***cocaine other than crack*** (1.0%), ***LSD*** (1.3%), ***crack***, ***Rohypnol***, and ***steroids*** (all at 0.9%), ***heroin*** (0.7%), and ***methamphetamine*** (0.7%). In total, 23% of all 8th graders in 2017 have tried some ***illicit drug*** (including inhalants), while 9%, or one in eleven, have tried ***some illicit drug other than marijuana*** or ***inhalants***. Put another way, in an average 30-student classroom of 8th graders, about six have used some illicit drug, 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

Over the past four decades, MTF has documented some good news, along with the worrisome news. From the late 1970s to the early 1990s – and again in the late 1990s – the use of a number of ***illicit drugs*** declined appreciably among 12th grade students, and declined even more among college students and young adults in the U.S. 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 *not* using marijuana.) 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 Chapter 9 in *Volume I* for more examples and further discussion of this point.) However, improvements should not be taken for granted. Relapse is always possible; indeed, 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 *in Volume I* 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.[8])

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.[9]) 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.

One lesson evident from the changes of the past two decades 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 and young adults are of this type, including narcotic drugs other than heroin, despite their declines in use in the past few years.

Unfortunately, current conditions are well suited for a second relapse phase in drug use among youth and young adults in the U.S. Perceived risk for marijuana has fallen substantially in recent years as the recent string of states that have legalized recreational marijuana use for adults have led some youth to believe the drug is safe and state-sanctioned.

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.

---

[8] 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.

[9] Johnston, L. D. (1991). Toward a theory of drug epidemics. In L. Donohew, H. E. Sypher, and W. J. Bukoski (Eds.), *Persuasive communication and drug abuse prevention* (pp.93-131). Hillsdale, NJ, Earlbaum.

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

- Nearly one fourth (23%) of today's 8th graders have tried an ***illicit drug*** (if inhalants are included as an illicit drug), and half (50%) of 12th graders have done so.

- By their late 20s, almost two in three (64%) of today's young adults have tried an ***illicit drug***, and more than one in three (37%) have tried some ***illicit drug other than marijuana***, usually in addition to marijuana. (These figures do not include inhalants.)

- One in every 17 12th graders (5.9%) in 2017 smoked ***marijuana daily***. Among young adults ages 19 to 28, the percentage is a little higher at one in every 13 (7.8%). Also among 12th graders in 2017, one in every seven (14%) has been a daily marijuana smoker at some time in their life for at least a month.

- About one in six 12th graders (17%) had ***five or more drinks in a row*** (also called heavy drinking or binge drinking) on at least one occasion in just 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, 33% of college students report such binge drinking. The study also has documented evidence of ***extreme binge drinking*** with 6.0% of 12th graders in 2017 indicating having had 10 or more drinks in a row, and 3.1% indicating 15 or more drinks in a row, in the prior two weeks (see Chapter 5 in *Volume I*). Among college students, about one in ten report having 10 or more drinks in a row, and one in five report having 15 or more (further detail is provided in Chapter 9).

- Even with considerable declines in smoking among U.S. adolescents since the late 1990s, about one in ten (10%) of 12th graders in 2017 currently smoke ***cigarettes***, and one in twenty-five (4%) 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.

- 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.[10] 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 and young adults. Of course, the continuing initiation to ***cigarette smoking*** of a fair-sized, albeit dramatically decreased, proportion of young people remains a matter of great public health concern.

[10] A published report from a series of international collaborative studies, modeled largely after MTF, provides comparative data from national school surveys of 15- to 16-year-olds, conducted every four years beginning in 1995. The most recent survey was completed in 2015 in 35 European countries. (The report also includes 2015 MTF data from 10th graders in the United States.) See Kraus, L., Guttormsson, U., Leifman, H., Arpa, S. et al. (2016). The 2015 ESPAD report: Results from the European School Survey Project on Alcohol and Other Drugs. The European Monitoring Centre for Drugs and Drug Addiction. .See also, Johnston, L. D. (2016, September 23). National press release, "Compared with Europe, American teens have high rates of illicit drug use." University of Michigan News Service, Ann Arbor. University of Michigan News Service, September 23, 2016.

- Vaping presents a new challenge. MTF first asked about vaping in 2015 with an expansion of questions in 2017. In 2017, the 30-day prevalence levels of vaping nicotine among 8th, 10th, and 12th graders (3.5%, 8.2%, and 11.0%, respectively) are greater than those for any other tobacco product including cigarettes; among college students and young adults, cigarette smoking is still more common than vaping nicotine, with 30-day vaping prevalence at 6.1% and 6.5%, respectively. This increasing trend in vaping, especially for secondary school students, has the potential to lead to a resurgence of teen and young adult smoking, given that vaping among youth who have never smoked significantly predicts future smoking.[11]

- Of particular note, abuse of prescription drugs by teens and young adults has declined in recent years, a welcome development after prevalence had stayed stubbornly high throughout the first decade of the 2000s. Among 12th grade students annual prevalence of ***narcotics other than heroin*** has declined for six years in a row and is now at the lowest levels since the late 1990s among college students. Annual use of ***sedatives*** among 12th graders, college students, and young adults declined in 2017 to the lowest levels in 20 years, with annual prevalence now about half or less what it was in 2004-05 when it peaked for all three age groups. Annual use of ***tranquilizers*** is at or near the lowest levels since 2001 (when the question was last updated) in all five age groups. The update to the question on ***amphetamines*** in 2013 makes long-term trends difficult to discern, although there is evidence of leveling and declines in all five age groups since then. 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.

- 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. Questions on use of ***salvia, Adderall, and Provigil*** were then 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***, and in 2015 we added questions on the more general category of "vaping," which we discovered has

[11] Miech, R. A., Patrick, M. E., O'Malley, P. M., & Johnston, L. D. (2017). E-cigarette use as a predictor of cigarette smoking: Results from a 1-year follow-up of a national sample of 12th grade students. *Tobacco Control, 26*(e2), e106-e111.

made rapid inroads among today's adolescents and young adults, leading us to ask new more detailed questions on vaping in 2017. The spread of such new drugs and drug devices (e.g. Juuls for vaping) 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 national 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 public health 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	2015	2016	2017	2016–2017 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	20.5	17.2	18.2	+1.0
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	34.7	33.7	34.3	+0.7
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	48.9	48.3	48.9	+0.6
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	53.4	54.4	55.4	+1.0
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	62.9	62.8	64.0	+1.2
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	10.3	8.9	9.3	+0.4
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	14.6	14.0	13.7	-0.3
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	21.1	20.7	19.5	-1.2
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	26.4	26.5	26.1	-0.4
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	36.8	36.2	36.8	+0.6
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	24.9	20.6	23.3	+2.7 s
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	37.2	35.9	37.0	+1.1
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	51.4	49.3	50.3	+1.1
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	52.0	52.6	53.3	+0.7
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	61.0	61.4	61.7	+0.4
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	15.5	12.8	13.5	+0.6
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	31.1	29.7	30.7	+1.0
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	44.7	44.5	45.0	+0.5
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	50.4	51.0	50.5	-0.5
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	58.5	58.7	60.1	+1.4
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	9.4	7.7	8.9	+1.2 s
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	7.2	6.6	6.1	-0.5
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	5.7	5.0	4.9	-0.2
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	3.1	3.2	3.4	+0.2
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	6.4	6.3	5.2	-1.1

(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	2015	2016	2017	2016–2017 change
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	2.0	1.9	1.9	0.0
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	4.6	4.4	4.2	-0.2
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	6.4	6.7	6.7	0.0
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	6.5	7.7	7.2	-0.4
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	11.7	12.2	12.9	+0.7
LSD [b]																												
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	1.3	1.2	1.3	+0.1
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	3.0	3.2	3.0	-0.2
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	4.3	4.9	5.0	+0.1
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	4.8	5.1	5.3	+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	7.0	8.0	8.8	+0.8
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	1.2	1.3	1.2	0.0
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	3.3	3.1	2.9	-0.2
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	4.8	4.7	4.8	+0.1
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	5.1	6.6	5.0	-1.6
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	10.4	10.6	10.6	0.0
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	1.2	1.9	0.3	-1.5 ss
Ecstasy (MDMA) [h]																												
8th Grade, original	—	—	—	—	—	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	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.4	2.3	1.7	1.5	-0.1
10th Grade, original	—	—	—	—	—	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	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.2	3.8	2.8	2.8	0.0
12th Grade, original	—	—	—	—	—	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	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.9	5.9	4.9	4.9	
College Students																												
Original	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	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.1	8.9	8.4	5.3	-3.2 s
Young Adults																												
Original	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	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.5	12.9	12.5	12.6	+0.1

(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	2015	2016	2017	2016–2017 change
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	1.6	1.4	1.3	-0.1
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	2.7	2.1	2.1	0.0
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	4.0	3.7	4.2	+0.5
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	6.1	5.3	6.5	+1.2
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	12.1	10.4	11.2	+0.8
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	1.0	0.9	0.8	-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	1.1	0.8	0.8	0.0
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	1.7	1.4	1.7	+0.3
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	0.5	0.4	0.6	+0.2
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	1.8	1.2	1.2	0.0
Cocaine other than Crack [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	1.3	1.1	1.0	-0.1
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	2.3	1.9	1.9	-0.1
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	3.4	3.3	3.5	+0.2
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	6.4	6.5	6.1	-0.4
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	11.8	11.9	12.6	+0.7
Heroin [k,l]																												
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	0.5	0.5	0.7	+0.2
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	0.7	0.6	0.4	-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	0.8	0.7	0.7	0.0
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	0.5	0.1	-0.4
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	1.6	1.6	1.4	-0.2
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	0.3	0.3	0.4	+0.1
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	0.5	0.5	0.3	-0.2
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	0.6	0.5	0.4	0.0
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	0.3	0.0	0.0	0.0
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	0.7	0.7	0.8	+0.1
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	0.3	0.4	0.5	+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	0.4	0.3	0.3	0.0
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	0.7	0.6	0.4	-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	0.4	0.2	0.1	0.0
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	1.8	1.5	1.5	0.0

(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	2015	2016	2017	2016–2017 change
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	8.4	7.8	6.8	-1.0
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	6.6	7.4	6.8	-0.6
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	15.0	14.3	13.4	-0.8
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	6.8	5.7	5.7	-0.1
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	9.7	8.8	8.2	-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	10.8	10.0	9.2	-0.8
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	13.9	13.6	12.6	-1.0
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	18.8	18.7	18.2	-0.5
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	0.8	0.6	0.7	0.0
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	1.3	0.7	0.9	+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	1.0	1.2	1.1	-0.1
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	0.8	0.6	0.6	+0.1
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	2.4	2.2	2.6	+0.4
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	1.2	1.4	1.5	+0.1
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	0.6	0.4	-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	2.2	1.8	1.8	0.0
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	5.9	5.2	4.5	-0.7
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	4.4	3.3	3.9	+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	8.3	7.4	6.4	-1.0

(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	2015	2016	2017	2016–2017 change
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	3.0	3.0	3.4	+0.4
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	5.8	6.1	6.0	0.0
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	6.9	7.6	7.5	-0.1
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	7.8	6.5	6.7	+0.2
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	12.8	12.4	12.4	-0.1
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	18.3	18.0	16.5	-1.6
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	0.8	0.9	0.6	-0.3
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	0.5	1.0	0.7	-0.3
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	26.1	22.8	23.1	+0.3
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	47.1	43.4	42.2	-1.2
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	64.0	61.2	61.5	+0.3
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	81.4	81.3	79.1	-2.2
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	85.7	85.9	85.2	-0.7
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	10.9	8.6	9.2	+0.6
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	28.6	26.0	25.1	-1.0
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	46.7	46.3	45.3	-0.9
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	68.6	66.7	64.8	-1.9
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	76.4	75.2	75.4	+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	2015	2016	2017	2016–2017 change
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	19.3	16.3	16.0	-0.3
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	58.6	58.8	58.1	55.7	53.5	51.4	51.3	48.4	46.7	44.9	42.3	38.7	33.3	34.8	+1.5
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	71.0	73.6	69.9	68.4	65.5	67.4	62.6	62.4	60.5	58.9	57.5	55.6	53.6	51.2	-2.4
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	79.0	84.5	80.9	80.6	78.6	78.1	77.4	76.7	76.6	67.5	72.7	74.8	76.1	72.4	-3.7
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	83.2	84.6	84.4	84.0	82.6	83.5	81.4	82.2	82.4	80.9	80.6	81.0	79.9	79.2	-0.6
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	13.3	9.8	9.4	-0.4
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	19.9	17.5	15.9	-1.6
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	31.1	28.3	26.6	-1.7
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	8.6	6.9	6.2	-0.7
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	12.3	10.2	9.1	-1.0
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	13.2	14.2	11.0	-3.2 s
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Any Vaping [jj,kk]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.7	17.5‡	18.5	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32.8	29.0‡	30.9	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35.5	33.8‡	35.8	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26.0	26.8‡	36.0	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.3	26.9‡	34.3	—
Vaping Nicotine [jj]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.6	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.4	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22.5	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.8	—

(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	2015	2016	2017	2016–2017 change
Vaping Marijuana [jj]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.0	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.8	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.9	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.4	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.2	—
Vaping Just Flavoring [jj]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.0	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.5	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.7	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26.7	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.4	—
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	1.0	0.9	1.1	+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	1.2	1.3	1.1	-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	2.3	1.6	1.6	0.0
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	0.6	0.8	1.2	+0.5
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	1.6	1.4	1.4	0.0
Previously surveyed drugs that have been dropped																												
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	2015	2016	2017	2016–2017 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	14.8	12.0	12.9	+0.9
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	27.9	26.8	27.8	+1.0
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	38.6	38.3	39.9	+1.6
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	41.4	42.8	42.4	-0.4
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	39.2	39.7	41.2	+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	6.3	5.4	5.8	+0.3
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	10.5	9.8	9.4	-0.4
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	15.2	14.3	13.3	-1.0
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	18.5	19.7	18.1	-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	19.5	19.9	20.1	+0.2
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	17.0	13.5	15.8	+2.3 ss
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	28.9	27.7	29.1	+1.4
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	40.2	38.7	41.2	+2.5
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	40.7	40.3	42.4	+2.1
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	37.3	38.2	40.7	+2.5
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	11.8	9.4	10.1	+0.8
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	25.4	23.9	25.5	+1.6
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	34.9	35.6	37.1	+1.5
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	37.9	39.3	38.3	-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	34.0	35.3	37.5	+2.2
Synthetic Marijuana [p,q]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.4	4.0	3.3	3.1	2.7	2.0	-0.7 s
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.8	7.4	5.4	4.3	3.3	2.7	-0.6
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.4	11.3	7.9	5.8	5.2	3.5	3.7	+0.2
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.5	5.3	2.3	0.9	1.5	1.3	0.5	-0.8
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.4	5.3	3.2	1.3	1.5	1.0	0.9	-0.1

(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	2015	2016	2017	2016–2017 change
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	4.6	3.8	4.7	+0.9 s
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	2.9	2.4	2.3	-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	1.9	1.7	1.5	-0.1
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	0.6	0.2	1.7	+1.5 s
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	0.9	0.9	0.7	-0.1
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	1.3	1.2	1.1	-0.1
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	3.1	2.9	2.8	-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	4.2	4.3	4.4	+0.1
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	4.3	4.5	4.1	-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	4.2	4.6	4.8	+0.1
LSD [b]																												
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	0.9	0.8	0.9	+0.1
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	2.0	2.1	2.1	-0.1
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	2.9	3.0	3.3	+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	3.0	3.1	2.8	-0.2
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	2.6	3.1	3.4	+0.3
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	0.8	0.8	0.7	-0.1
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	1.9	2.0	1.8	-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	2.9	2.7	2.9	+0.2
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	3.0	3.4	2.5	-0.9
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	3.0	3.0	3.0	0.0
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	1.4	1.3	1.0	-0.3
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	0.0	0.4	0.1	-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	2015	2016	2017	2016–2017 change
Ecstasy (MDMA) [h]																												
8th Grade, original	—	—	—	—	—	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	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.5	1.4	1.0	0.9	-0.1
10th Grade, original	—	—	—	—	—	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	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.8	2.4	1.8	1.7	0.0
12th Grade, original	—	—	—	—	—	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	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.0	3.6	2.7	2.6	-0.1
College Students																												
Original	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	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.9	4.2	4.7	2.5	-2.2 s
Young Adults																												
Original	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	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.1	4.4	5.1	3.6	-1.5 ss
Salvia [p,q]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.7	1.6	1.4	1.2	0.6	0.7	0.9	0.4	-0.6 s
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.7	3.9	2.5	2.3	1.8	1.2	0.9	0.9	0.0
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.7	5.5	5.9	4.4	3.4	1.8	1.9	1.8	1.5	-0.2
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.8	3.5	3.1	1.5	1.0	1.1	0.4	0.7	0.3	-0.4
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.5	3.6	2.2	1.4	0.9	1.2	0.6	0.8	0.5	-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	0.9	0.8	0.8	0.0
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	1.8	1.3	1.4	+0.1
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	2.5	2.3	2.7	+0.5
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	4.3	4.0	4.8	+0.8
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	5.7	4.9	5.3	+0.3
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	0.5	0.5	0.5	0.0
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	0.7	0.4	0.6	+0.2
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	1.1	0.8	1.0	+0.2
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	0.2	0.0	0.2	+0.2
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	0.4	0.0	0.2	+0.2

(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	2015	2016	2017	2016–2017 change
Cocaine other than Crack [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	0.8	0.6	0.6	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	1.5	1.1	1.2	+0.1
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	2.1	2.0	2.3	+0.3
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	4.2	4.7	4.4	-0.3
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	5.4	5.9	5.9	-0.1
Heroin [k,l]																												
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	0.3	0.3	0.3	+0.1
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	0.5	0.3	0.2	-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	0.5	0.3	0.4	+0.1
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	0.1	0.2	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	0.5	0.4	0.4	0.0
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	0.2	0.2	0.2	0.0
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	0.2	0.3	0.2	-0.1
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	0.3	0.3	0.2	0.0
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	0.0	0.2	+0.2
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	0.2	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	0.2	0.2	0.3	+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	0.3	0.2	0.1	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	0.4	0.3	0.2	-0.1
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	0.0	0.0	0.3	+0.3
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	0.5	0.4	0.3	-0.1
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	5.4	4.8	4.2	-0.5
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	3.3	3.8	3.1	-0.8
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	5.2	5.2	4.0	-1.2 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	2015	2016	2017	2016–2017 change
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	0.8	0.9	0.8	-0.1
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	2.6	2.1	2.2	+0.1
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	3.7	3.4	2.7	-0.7
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	1.5	1.9	1.7	-0.2
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	2.5	2.1	1.9	-0.1
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	0.9	0.8	0.7	-0.2
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	2.5	1.7	1.5	-0.3
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	4.4	2.9	2.0	-1.0 ss
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	1.3	1.1	-0.2
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	3.8	2.7	2.7	0.0
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	4.1	3.5	3.5	0.0
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	6.8	6.1	5.6	-0.5
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	7.7	6.7	5.9	-0.8
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	9.7	9.8	8.6	-1.2
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	7.9	7.2	7.8	+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	0.6	0.8	0.4	-0.4 s
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	1.6	1.2	0.8	-0.4
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	2.0	1.2	1.3	+0.1
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	2.0	2.4	1.4	-0.9
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	1.8	1.2	1.2	-0.0
Adderall [m,p,q,bb]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.0	2.3	1.7	1.7	1.8	1.3	1.0	1.5	1.3	-0.3
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.7	5.3	4.6	4.5	4.4	4.6	5.2	4.2	4.0	-0.2
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.4	6.5	6.5	7.6	7.4	6.8	7.5	6.2	5.5	-0.6
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.2	9.0	9.8	9.0	10.7	9.6	10.7	9.9	9.4	-0.5
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.8	7.0	6.6	7.4	7.0	7.8	7.7	7.2	8.3	+1.1

(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	2015	2016	2017	2016–2017 change
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	0.5	0.4	0.5	+0.1
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	0.8	0.4	0.4	-0.1
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	0.6	0.6	0.6	-0.1
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	0.5	0.0	0.4	+0.4
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	0.7	0.4	0.6	+0.2
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	0.5	0.8	0.8	0.0
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	0.0	0.4	+0.4
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	0.1	0.7	+0.6 s
Bath Salts (Synthetic stimulants) [p,q]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	1.0	0.5	0.4	0.9	0.5	-0.4
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.6	0.9	0.9	0.7	0.8	0.4	-0.3
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.3	0.9	0.9	1.0	0.8	0.6	-0.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.3	0.1	0.2	0.1	0.0	0.2	+0.2
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.5	0.4	0.4	0.3	0.3	0.4	+0.1
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	3.6	3.0	2.9	-0.1
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	2.3	2.1	1.9	-0.1
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	2.7	2.6	2.2	-0.4
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	1.7	1.7	2.0	+0.3
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	3.9	4.1	4.1	0.0
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	4.7	4.9	4.7	-0.2
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	4.3	4.9	3.6	-1.2
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	5.0	5.0	4.7	-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	2015	2016	2017	2016–2017 change
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	12.9	12.0	10.9	-1.0
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	1.6	2.6	2.1	-0.5
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.3	5.4	5.3	6.0	5.1	5.5	4.7	4.3	3.7	3.3	3.0	3.6	+0.6
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	5.8	5.5	5.9	6.6	5.3	5.6	5.0	4.1	4.6	4.0	3.2	-0.8
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.3	0.5	0.4	-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	0.2	0.5	0.3	-0.3
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	1.0	1.1	0.8	-0.4
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	0.7	0.9	0.4	-0.5
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	0.0	—	—	—
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	0.2	—	—	—
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	1.4	1.2	1.2	-0.1
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	0.6	0.5	0.3	-0.1
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	0.7	0.7	0.5	-0.2

(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	2015	2016	2017	2016–2017 change
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	21.0	17.6	18.2	+0.6
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	41.9	38.3	37.7	-0.6
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	58.2	55.6	55.7	+0.2
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	79.0	78.9	75.8	-3.2
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	81.2	82.1	81.2	-0.8
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	7.7	5.7	6.4	+0.7
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	23.4	20.5	20.4	-0.1
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	37.7	37.3	35.6	-1.7
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	61.6	60.7	58.0	-2.7
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	61.2	61.0	60.9	-0.1
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	13.4	11.2	10.8	-0.5
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	49.7	48.5	48.8	45.9	43.4	41.5	41.0	38.3	37.8	35.6	33.2	31.4	26.1	28.3	+2.3
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	42.8	40.0	39.6	-0.4
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	63.2	67.0	63.5	62.6	65.0	66.1	60.3	63.0	58.1	57.6	64.2	64.5	68.5	60.3	-8.2
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	62.7	58.4	58.5	58.9	58.3	57.0	52.0	56.3	54.8	54.1	55.4	57.3	57.8	54.8	-3.0
Alcoholic Beverages containing Caffeine [p,w]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.8‡	10.9	10.2	9.5	8.4	6.5	5.6	-0.9
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22.5‡	19.7	16.9	14.3	12.8	10.6	9.9	-0.8
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26.4‡	26.4	23.5	20.0	18.3	17.0	16.9	-0.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.6‡	33.8	39.1	32.8	34.1	29.4	31.3	+1.9
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.1‡	36.7	36.9	35.0	33.5	29.6	31.8	+2.2
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	20.1	18.7	16.7	-1.9
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	26.2	23.4	23.9	+0.5

(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	2015	2016	2017	2016–2017 change
Tobacco using a Hookah [s]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.1	18.5	18.3	21.4	22.9	19.8	13.0	10.1	-2.9 s
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.9	25.7	26.1	32.7	23.4	16.9	10.0	-6.8 ss
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.1	19.1	20.4	23.3	19.2	14.8	12.2	-2.6 s
Small Cigars [s]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.1	19.5	19.9	20.4	18.9	15.9	15.6	13.3	-2.4
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.6	20.3	19.0	24.2	19.6	17.6	14.0	-3.6
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.2	18.0	18.4	18.6	17.9	15.5	16.0	+0.5
Dissolvable Tobacco [p,s]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.0	1.1	1.1	0.9	0.7	0.6	0.0
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	1.2	1.3	1.1	0.9	0.6	-0.3
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.5	1.6	1.9	1.1	1.4	1.1	1.4	+0.3
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.0	0.3	0.2	0.5	1.1	0.3	0.7	+0.4
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.3	0.6	0.3	0.5	0.4	0.5	0.8	+0.3
Snus [p,s]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.4	2.0	2.2	1.9	2.2	1.1	-1.0 ss
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	5.2	4.5	4.0	3.0	2.6	-0.4
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.9	7.9	7.7	5.8	5.8	5.8	4.2	-1.6
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.5	4.7	4.8	5.0	5.8	3.3	4.3	+1.0
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.1	5.7	4.8	4.8	4.8	3.6	4.6	+1.0
Any Vaping [jj]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.3	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.9	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.8	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.5	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.0	—

(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	2015	2016	2017	2016-2017 change
Vaping Nicotine[jj]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.5	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.8	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.8	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.0	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.4	—
Vaping Marijuana[jj]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.0	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.1	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.5	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.7	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.6	—
Vaping Just Flavoring[jj]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.8	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.3	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.6	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.1	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.9	—
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	0.5	0.5	0.6	+0.1
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	0.7	0.7	0.7	0.0
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	1.7	1.0	1.1	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	0.0	0.6	+0.6
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	0.5	0.4	0.3	-0.1
Previously surveyed drugs that have been dropped																												
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(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	2015	2016	2017	2016-2017 change
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	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	—	—	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	2015	2016	2017	2016–2017 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	8.1	6.9	7.0	+0.1
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	16.5	15.9	17.2	+1.3
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	23.6	24.4	24.9	+0.4
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	23.4	24.3	23.3	-0.9
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	23.2	23.5	24.7	+1.2
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	3.1	2.7	2.7	0.0
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	4.9	4.4	4.5	+0.1
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	7.6	6.9	6.3	-0.6
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	9.2	8.4	7.0	-1.5
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	8.7	9.2	8.7	-0.5
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	9.3	7.9	8.6	+0.8
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	17.1	16.4	18.0	+1.5
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	24.7	24.6	25.7	+1.1
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	23.3	24.1	23.4	-0.7
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	22.7	23.2	24.4	+1.2
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	6.5	5.4	5.5	0.0
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	14.8	14.0	15.7	+1.7 s
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	21.3	22.5	22.9	+0.4
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	21.1	22.2	21.2	-1.0
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	20.1	21.6	23.0	+1.4
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	2.0	1.8	2.1	+0.4
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	1.2	1.0	1.1	+0.1
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	0.7	0.8	0.8	0.0
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	0.0	0.9	+0.9 s
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	0.2	0.3	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	2015	2016	2017	2016–2017 change
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	0.6	0.6	0.5	-0.1
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	0.9	0.9	1.1	+0.2
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	1.6	1.4	1.6	+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	1.4	0.8	1.2	+0.4
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	1.1	0.8	0.9	+0.1
LSD [b]																												
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	0.4	0.4	0.3	-0.1
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	0.6	0.7	0.8	+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	1.1	1.0	1.2	+0.2
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	0.7	0.4	0.8	+0.5
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	0.7	0.6	0.6	0.0
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	0.3	0.3	0.3	0.0
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	0.6	0.5	0.6	+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	0.9	0.7	1.0	+0.2
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	0.9	0.5	0.6	+0.1
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	0.5	0.3	0.6	+0.3
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	0.1	0.1	0.0
Ecstasy (MDMA) [h]																												
8th Grade, original	—	—	—	—	—	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	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.7	0.5	0.3	0.4	0.0
10th Grade, original	—	—	—	—	—	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	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.1	0.9	0.5	0.5	0.0
12th Grade, original	—	—	—	—	—	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	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.5	1.1	0.9	0.9	0.0
College Students																												
Original	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	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.0	0.7	1.0	0.5	-0.5
Young Adults																												
Original	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	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.4	0.8	1.3	0.8	-0.5

(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	2015	2016	2017	2016–2017 change
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	0.5	0.3	0.4	+0.1
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	0.8	0.4	0.5	+0.1
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	1.1	0.9	1.2	+0.3
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	1.5	1.4	1.3	-0.1
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	1.7	1.8	1.9	+0.1
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	0.3	0.2	0.3	+0.1
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	0.3	0.2	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	0.6	0.5	0.6	+0.1
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	0.1	0.0	0.0	0.0
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	0.0	0.1	0.0
Cocaine other than Crack [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	0.4	0.3	0.3	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	0.7	0.3	0.4	+0.1
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	1.1	0.6	1.1	+0.5 ss
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	1.4	1.7	1.1	-0.6
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	1.6	2.0	1.9	-0.2
Heroin [k,l]																												
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	0.1	0.2	0.2	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	0.2	0.2	0.1	-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	0.3	0.2	0.3	+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	0.0	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	0.3	0.3	0.2	-0.1
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	0.1	0.1	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	0.2	0.1	-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	0.2	0.2	0.2	0.0
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	0.0	0.0	0.1	+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	0.2	0.3	0.1	-0.2

(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	2015	2016	2017	2016–2017 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	0.1	0.2	0.0
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	0.2	0.1	0.1	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	0.3	0.1	0.2	0.0
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	0.0	0.0	0.2	+0.2
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	0.2	0.3	0.2	-0.2
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	2.1	1.7	1.6	-0.1
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	1.3	1.1	0.7	-0.5
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	1.8	1.9	1.1	-0.8 ss
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	1.9	1.7	1.7	0.0
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	3.1	2.7	2.5	-0.2
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	3.2	3.0	2.6	-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	4.2	3.8	3.6	-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	3.1	2.9	3.1	+0.2
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	0.3	0.3	0.2	-0.1
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	0.3	0.2	0.1	-0.1
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	0.4	0.3	0.3	+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	0.3	0.0	0.0	0.0
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	0.0	0.2	0.2	0.0
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	0.4	0.5	0.0
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	0.0	0.4	+0.4
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	0.1	0.4	+0.3

(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	2015	2016	2017	2016–2017 change
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	1.7	1.5	1.4	0.0
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	1.0	0.9	0.5	-0.4
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	0.9	1.1	0.6	-0.5 s
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	0.8	0.8	0.7	0.0
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	1.7	1.5	1.5	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	2.0	1.9	2.0	+0.2
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	1.6	1.8	0.9	-0.9
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	1.7	1.9	1.4	-0.5
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	5.9	5.4	4.9	-0.5
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	0.2	0.1	-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	0.1	0.3	0.0	-0.3 s
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	9.7	7.3	8.0	+0.7
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	21.5	19.9	19.7	-0.2
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	35.3	33.2	33.2	-0.1
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	63.2	63.2	62.0	-1.2
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	66.9	68.4	67.1	-1.3

(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	2015	2016	2017	2016–2017 change
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	3.1	1.8	2.2	+0.5 s
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	10.3	9.0	8.9	-0.1
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	20.6	20.4	19.1	-1.3
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	38.4	40.8	34.8	-6.0
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	34.2	36.6	36.1	-0.5
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	5.5	4.0	4.4	+0.4
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	25.1	23.1	24.7	21.8	20.2	19.0	19.4	15.8	16.3	15.5	14.0	12.8	11.0	12.9	+1.9
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	31.1	30.5	29.3	29.1	27.4	27.4	24.1	23.1	21.8	21.0	19.9	20.8	18.3	20.2	+1.9
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	34.1	30.9	26.2	27.5	35.8	32.3	31.5	29.5	31.3	29.1	32.9	30.5	33.5	36.7	+3.2
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	29.5	27.6	24.9	25.9	26.7	24.4	24.5	23.8	26.1	25.4	26.9	24.7	28.8	27.6	-1.2
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	3.6	2.6	1.9	-0.7 ss
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	6.3	4.9	5.0	+0.2
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	11.4	10.5	9.7	-0.8
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	11.3	8.9	8.0	-0.9
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	16.6	14.2	15.3	+1.1
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	3.2	2.5	1.7	-0.8 s
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	4.9	3.5	3.8	+0.3
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	6.1	6.6	4.9	-1.7 s
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Any Vaping [jj,kk]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.0	6.2‡	6.6	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.2	11.0‡	13.1	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.3	12.5‡	16.6	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.8	6.9‡	11.3	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.2	6.0‡	11.9	—

(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	2015	2016	2017	2016–2017 change
Vaping Nicotine[jj]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.5	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.2	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.0	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.1	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.5	—
Vaping Marijuana[jj]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.3	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.9	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.2	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.6	—
Vaping Just Flavoring[jj]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.3	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.2	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.7	—
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.3	—
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.3	—
Tobacco using a Hookah[s,hh]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.8	2.5	-0.4
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.0	3.0	-0.9 s
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.1	5.0	-1.1
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.2	4.6	-0.7
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.5	4.2	0.8
Large Cigars[ii]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.9	2.4	1.5	1.5	0.0
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.9	3.4	2.3	2.6	+0.4
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.4	7.0	6.5	5.6	-0.9
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.4	4.9	4.4	1.7	-2.7
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.6	5.9	3.9	3.5	-0.4
Flavored Little Cigars[ii]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.1	4.1	2.8	2.6	-0.2
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	6.1	4.9	4.0	-1.0
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.9	11.4	9.5	10.1	+0.6
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.8	5.6	5.6	4.9	-0.8
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	6.9	4.8	5.5	0.8

(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	2015	2016	2017	2016–2017 change
Regular Little Cigars [ii]																												
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.5	3.3	1.9	1.6	-0.2
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.4	3.8	3.0	3.0	0.0
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.0	7.8	6.1	6.6	+0.4
College Students	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.6	4.1	3.6	1.7	-2.0
Young Adults	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.8	3.8	3.6	2.8	-0.8
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	0.3	0.3	0.3	0.0
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	0.4	0.3	0.3	-0.1
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	1.0	0.7	0.8	+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	0.3	0.0	0.3	+0.3
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	0.1	0.2	0.2	0.0
Previously surveyed drugs that have been dropped																												
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

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	2015	2016	2017	2016–2017 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	1.1	0.7	0.8	0.0
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	3.0	2.5	2.9	+0.4
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	6.0	6.0	5.9	-0.1
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	4.6	4.9	4.4	-0.5
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	6.8	7.6	7.8	+0.2
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	0.2	0.2	0.2	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	0.5	0.5	0.6	0.0
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	1.9	1.3	1.6	+0.2
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	3.1	4.3	2.2	-2.1 s
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	4.7	5.4	5.0	-0.4
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	0.1	0.0	0.0	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	0.1	0.1	0.2	+0.1
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	0.8	0.8	1.1	+0.3
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	0.7	0.4	0.0	-0.4
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	0.4	0.3	0.3	0.0
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	4.6	3.4	3.7	+0.3
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	10.9	9.7	9.8	+0.1
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	17.2	15.5	16.6	+1.1
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	31.9	32.4	32.7	+0.3
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	31.9	32.3	31.8	-0.5
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	1.3	0.9	0.6	-0.3 s
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	3.0	1.9	2.2	+0.4
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	5.5	4.8	4.2	-0.5
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	4.2	2.6	2.0	-0.6
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	9.7	8.2	8.8	+0.6

(Table continued on next page.)

TABLE 2-4 (cont.)
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	2015	2016	2017	2016–2017 change
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	0.4	0.3	0.2	-0.1
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	1.0	0.6	0.7	0.0
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	2.1	1.8	1.7	-0.1
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	1.4	1.7	0.2	-1.4 ss
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	5.7	4.9	4.7	-0.2
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	0.8	0.6	0.4	-0.2
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	1.6	1.0	0.6	-0.4
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	2.9	2.7	2.0	-0.7
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 that the question changed the following year. 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	2003
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	16,500
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	15,800
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	14,600
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	1,270
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	5,300

Approximate Weighted *N* s	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
8th Graders	17,000	16,800	16,500	16,100	15,700	15,000	15,300	16,000	14,600	14,600	14,600	14,400	16,900	15,300
10th Graders	16,400	16,200	16,200	16,100	15,100	15,900	15,200	14,900	12,900	12,900	13,000	15,600	14,700	13,500
12th Graders	14,600	14,700	14,200	14,500	14,000	13,700	14,400	14,100	12,600	12,600	12,400	12,900	11,800	12,600
College Students	1,400	1,400	1,300	1,300	1,300	1,300	1,300	1,200	1,200	1,100	1,000	1,000	900	900
Young Adults	5,700	5,400	5,100	4,800	4,900	4,900	4,900	4,600	4,600	4,400	4,200	4,000	3,700	3,700

[a]For 12th graders, college students, and young adults only: Use of any illicit drug includes any use of marijuana, LSD, other hallucinogens, crack, cocaine other than crack, 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.

[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 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. Beginning in 2014 LSD and hallucinogens other than LSD based on five of six forms; *N* is five sixths of *N* indicated. Hallucinogens was also effected by this change.

[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.

[d]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. In 2014 the PCP triplet was dropped from one form and replaced with a single annual use question in a different form.

(Footnotes continued on next page.)

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

[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. For all levels: In 2014 a revised question on use of ecstasy (MDMA) including "Molly" was added to one form at each level. The 2013 and 2014 "Original wording" data reported here are for only the questionnaires using the original question wording. The 2014 and 2015 data reported here are for only the questionnaires using the "Revised wording" which includes "Molly." For 8th and 10th grades the "Original wording" data are based on two of four forms in 2013 and 2014, *N* is one half of *N* indicated; the "Revised wording" data are based on one of four forms in 2014, *N* is one third of *N* indicated and based on three of four forms beginning in 2015, *N* is five sixths of *N* indicated. For 12th grade the "Original wording" data are based on two of six forms in 2013 and 2014, *N* is two sixths of *N* indicated; the "Revised wording" data are based on one of four forms in 2014, *N* is one sixth of *N* indicated and based on three of six forms beginning in 2015, *N* is three sixths of *N* indicated. For college students and young adults the "Original wording" data are based on three of six forms in 2013 and 2014, *N* is three sixths of *N* indicated; the "Revised wording" data are based on one of six forms in 2014, *N* is one sixth of *N* indicated and based on four of six forms beginning in 2015, *N* is four 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. For 8th and 10th graders only: Beginning in 2015 data based on three of four four forms; *N* is two thirds of *N* indicated.

[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. 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, 2011, and from 2017 forward; N is two sixths of *N* indicated. Data based on three of six forms from 2012-2016; *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.

(Footnotes continued on next page.)

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

[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.

(Footnotes continued on next page.)

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

[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.

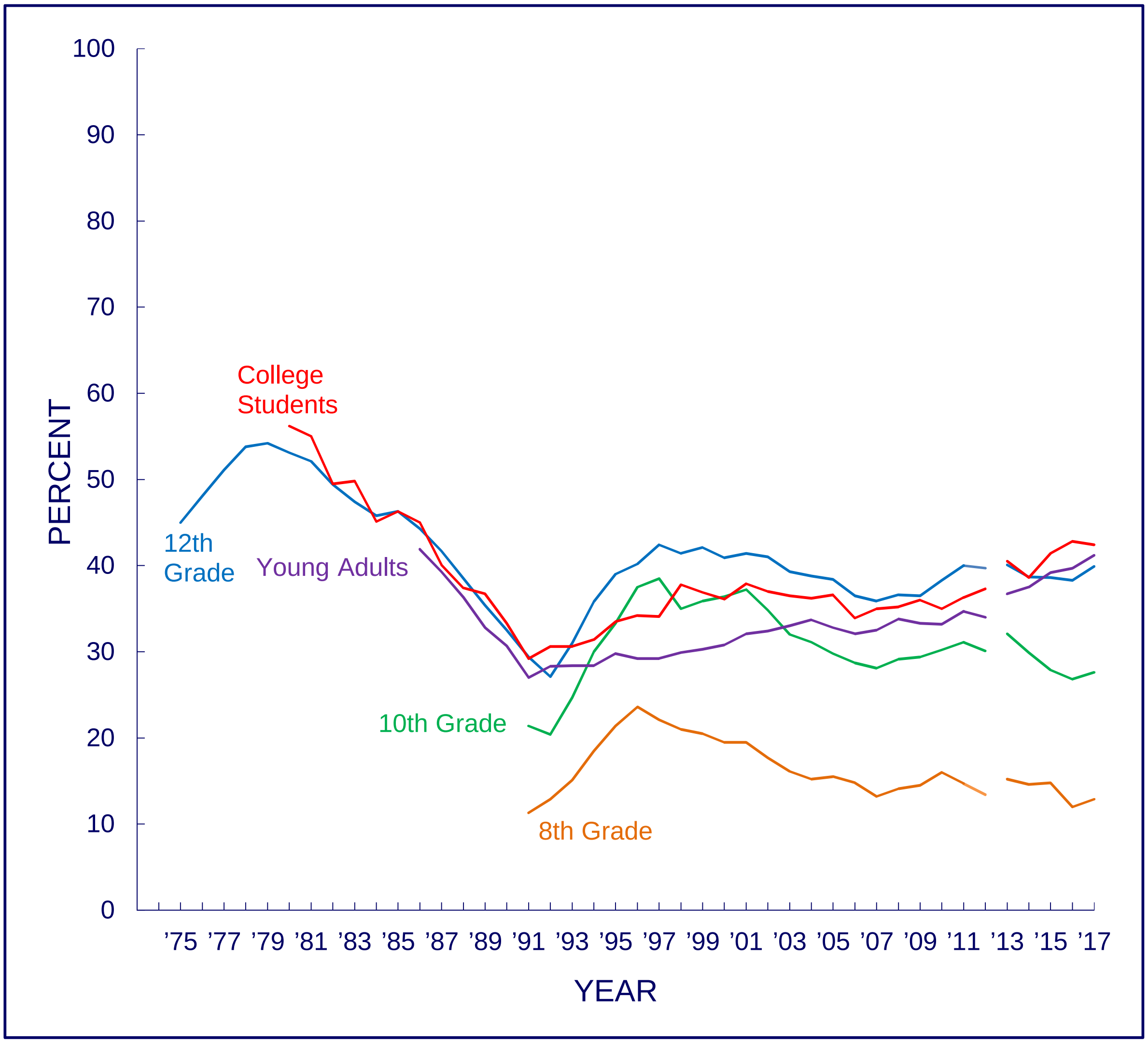
[hh]For 8th and 10th graders only: Data based on two of four forms. *N* is one third of *N* indicated. For 12th graders only: Data based on four of six forms; *N* is four sixths of *N* indicated. For college students and young adults only: Data based on one of six forms; *N* is one sixth of *N* indicated.

[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.

[jj]For 8th and 10th graders only: Data based on one 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.

[kk]In 2017, the surveys switched from asking about vaping in general to asking separately about vaping nicotine, marijuana, and just flavoring.
Beginning in 2017, data presented for any vaping are based on these new questions

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, cocaine other than crack, 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 such that "Amphetamines" was replaced with "Amphetamines and other stimulant drugs." Data for any illicit drug were affected by this change.

Chapter 3

STUDY DESIGN AND PROCEDURES

Monitoring the Future (MTF) incorporates several survey designs 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 and 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 MTF has shown to be linked to substance use in adolescence and beyond.[1]

Finally, with a series of panel studies of sequential graduating class cohorts 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.[2,3]

RESEARCH DESIGN AND PROCEDURES FOR THE 12th GRADE SURVEYS

Twelfth graders have been surveyed in the spring of each year since 1975. Each year's data collection has taken place in about 140 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

[1] 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; 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, New Jersey: Lawrence Erlbaum; 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.

[2] Bachman, J. G., Johnston, L. D., O'Malley, P. M., Schulenberg, J. E., & Miech, R. A. (2015). *The Monitoring the Future project after four decades: Design and procedures* (Monitoring the Future Occasional Paper No. 82). Ann Arbor, MI: Institute for Social Research, University of Michigan.

[3] 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., Miech, R. A., & Patrick, M. E. (2016). *The objectives and theoretical foundation of the Monitoring the Future study* (Monitoring the Future Occasional Paper No. 84). Ann Arbor, MI: Institute for Social Research.

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 may be attributable to the environmental transitions occurring in young adulthood, including college attendance, civilian employment, military service, and role transitions such as marriage, parenthood, divorce, etc. 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 6–15% of each age cohort nationally, according to U.S. Census statistics. (The dropout rate has been declining in recent years; 6% is the most recent estimate.[4]) 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 year-to-year 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 the student enrollment size for the grade in question), and Stage 3 is the selection of 12th graders within each high school. Up to 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.

---

[4] National Center for Education Statistics. (2016). Table 103.10, Percentage of the population 3 to 34 years old enrolled in school, by sex, race/ethnicity, and age group: Selected years, 1980 through 2015. *Digest of Education Statistics.* Washington, DC: NCES.

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 many 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 8th AND 10th 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 8th grade students in approximately 150 schools (mostly middle schools) and about 15,000 10th 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 follow-ups of 12th graders.[5] Follow-up of 8th and 10th graders was 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; and (b) to the extent that collecting contact information had any effect on survey responses such an effect 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 levels slightly higher in the anonymous condition).[6] 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

Beginning in 1997, in order to increase the measurement content in the study of 8th and 10th graders, the number of forms was expanded from two 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). A question in three forms may be assigned to two thirds (one third plus one sixth plus one sixth), or five sixths of the sample (one third plus one third plus

[5] 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.

[6] 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.

one sixth). Footnotes to the tables indicate what proportion of all respondents in each grade was asked 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.

RESEARCH DESIGN AND PROCEDURES FOR THE 12th 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 12,000–19,000 twelfth graders originally surveyed in a given senior class, a representative sample of 2,450 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 2,450 participants selected from each 12th grade class are randomly split into two groups of 1,225 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 and to thereby potentially yield 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, 55, and beginning in 2018, age 60. These data, 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.

Follow-Up Procedures

Using information provided by 12th grade respondents on a tear-off card (requesting the respondent's name, address, phone numbers, and more recently, email address), 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 (for $25 in recent years), made payable to the respondent, is attached to the front of each questionnaire.[7] Reminder letters and postcards are sent at fixed intervals thereafter;

[7] 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.

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. 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 directly. 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 (through 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 young adult 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 interval 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 60; 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 2017, either an original school or a replacement school was obtained in 90% 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 does not participate. This should almost entirely remove 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 levels between the sample of participating schools that were original selections, taken as a set, and the schools that were replacements. Averaged over the years 2003 through 2015 for grades 8, 10, and 12 combined, the difference between original schools and replacement schools averaged 0.26 percentage points in the observed prevalence 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 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 fail to participate tend to be varied and are often a function of happenstance events specific to that particular year, such as a weather-related event that reduced the number of school days or the fact that the school already committed to participate in a number of other surveys that year; 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.[8] For example, from 2003 to 2015 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-school 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 0.5%. 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

[8] 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.

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.

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 increasingly difficult. 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 fluctuations 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 2016 and 2017, then based on the students in the half-sample that participated in both 2015 and 2016, 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 precisely estimated using just the half sample because the sample size is only half as large.

Student Participation

In 2017, completed questionnaires were obtained from 87% of all sampled students in 8th grade, 85% in 10th grade, and 79% in 12th grade (see Table 3-1 for response rates in all years). In the large majority of cases, students are missed due to absence from school and/or 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 self-reported absentee rates of 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. 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 1.8% of the target sample for each grade.

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 ±1.9% 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 1.9 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.

The Appendix C of Volume 1 published in years 2017 and earlier reported information 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. This appendix is no longer necessary with the opening of MTF's remote portal at the National Addiction and HIV Data Archive Program, which now allows researchers to compute such statistics directly using MTF weights and clustering variables. Interested readers may refer to Appendix C of earlier volumes for the information it provides about design effects and how their computational influence varies by substance.

PANEL SURVEYS

Results from the panel studies that follow respondents in each graduating class of 12th graders into adulthood are reported in Volume II[9] of this series, which also provides detailed information on the panel research design and retention rates in its own chapter on study design and procedures (Volume II, Chapter 3).

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.[10]

[9] Schulenberg, J. E., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Miech, R. A., & Patrick, M. E. (2017). *Monitoring the Future national survey results on drug use, 1975-2016: Volume II, college students and adults ages 19-55*. Ann Arbor: Institute for Social Research, The University of Michigan.

[10] 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,

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.[11] In essence, 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, both in terms of 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 levels 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.[12] 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 knowledge improves as they get older. Finally, the great majority of respondents, when asked, say they would answer such questions honestly if they were users.[13]

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 (<3%) 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

---

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.

[11] 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.

[12] 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.

[13] 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.

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 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*
2015	111	102	101	30	18	20	141	120	121	382	15,015	16,147	13,730	44,892	*89*	*87*	*83*
2016	117	92	100	25	18	20	142	110	120	372	17,643	15,230	12,600	45,473	*90*	*88*	*80*
2017	109	89	105	22	17	18	131	106	123	360	16,010	14,171	13,522	43,703	*87*	*85*	*79*

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
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
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
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

filled by...	'08	'09	'10	'11	'12	'13	'14	'15	'16	'17
Original	53	54	58	56	53	54	51	44	44	41
Replacements	43	44	39	40	43	41	41	49	47	49
Total	96	98	97	96	96	95	92	93	91	90

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

Chapter 4

PREVALENCE OF DRUG USE IN EARLY, MIDDLE, AND LATER ADULTHOOD

Longitudinal panel studies that track the same individuals across several years are typically used to examine developmental changes with age, as is evident in many of our publications. At the same time, the multiple cohort feature of the MTF design provides a useful snapshot of each age group in a given year, showing the prevalence of use of various substances for each age group in that year, thus enabling us to compare these prevalence rates with those of the same age in earlier years. This chapter highlights such prevalence data for the adult age groups covered by MTF, starting right after high school and moving through middle and into older adulthood. Each age group is defined by the modal age for its graduating high school class cohort.[1] We will see that recent use tends to be higher in the early post-high school age groups, corresponding to the new freedoms associated with leaving high school and often moving away from the parental home.[2,3] But sometimes there are also strong cohort effects that underlie differences among age groups at a given point in time; in this chapter we will see evidence of both age-related differences and cohort effects.

Estimates of drug use in the adult population are most often generated through household survey interviews of cross-sections of the general population. In the present study, our estimates come from self-reported mail questionnaires from respondents in the follow-up surveys. These are representative samples of previous classes of high school students who started their participation in MTF in their senior year. As described in more detail in Chapter 3, MTF has conducted ongoing panel studies on representative samples from each graduating high school senior class beginning with the class of 1976. From each class, two matched nationally representative subpanels of roughly 1,200 students each are randomly selected to comprise the long-term follow-up panels; one of these two subpanels is surveyed every even-numbered year after graduation, and the other is surveyed every odd-numbered year, up through age 29/30. Beginning at modal age 35, data collection occurs at the same time for both subpanels at five-year intervals. So, while each *cohort* participates every year up through age 30, each *individual respondent* participates only every other year until age 29/30. This alternating panel design was chosen to reduce the burden and repetitiveness of participating in the panel study every year while still allowing for full age coverage between 19 and 30. Thus, in a given year, the study includes respondents ages 19–30 from one of the two subpanels from each of the last 12 senior classes previously participating in MTF.[4]

---

[1] High school seniors have a modal age (the most common age) of 18; therefore, in a follow-up conducted 12 years later they would have a modal age of 30.

[2] 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.

[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.

[4] Through 2001, the follow-ups also included modal ages 31 and 32. This seventh follow-up was dropped in 2002 because we believed that the costs were no longer justified by the marginal benefits of having these follow-up data, given that an age-35 survey was being conducted. Throughout the time between surveys, we send annual newsletters to respondents in order to help maintain contact.

In 2017, representative samples of the classes of 2005 through 2016—modal ages 19 to 30—were surveyed using the same set of standard young adult survey instruments at each age. (There are six different questionnaire forms and each individual receives the form corresponding to the form he or she completed in 12th grade.) For brevity, we refer to this 19- through 30-year-old age range as “young adults” in this chapter.

To build on these important national panels of young adults, we extend the surveys into and beyond middle adulthood. The middle adulthood surveys are conducted beginning at modal age 35 (that is, 17 years after high school graduation) and at five-year intervals thereafter. In each of these later follow-ups, the two sub-panels from the relevant graduating class are *both* surveyed in the same year, using a single questionnaire form instead of the six forms that were used from age 19 to 30. The content of the questionnaires is revised to some degree across age to be more relevant to the different developmental periods, although key substance use and other measures remain the same. The results of the 2017 follow-up surveys characterize the population of high school graduates of modal ages 19–30, 35, 40, 45, 50, and 55. As discussed in Chapter 1, the high school dropout segment, which represents the 7%–15% missing from the senior year surveys, is missing from all of the follow-up surveys as well. Thus, the results presented here are not necessarily generalizable to the entire population of each age, but are generalizable to the great majority of young and middle-aged adults—those who completed high school.

Figures 4-1 through 4-21 contain 2017 *prevalence* data by age, corresponding to respondents ages 19–30, as well as 35-, 40-, 45-, 50-, and 55-year-olds. For comparison purposes, data are also included for the 2017 high school senior class, listed as 18-year-olds. Figures provided in Chapter 5 contain the *trend* data for each of these age groups derived from the repeated cross-sectional surveys, including 12th graders and high school graduates through age 55. In the figures in Chapters 4 and 5, age groups spanning the young adult years have been paired into two-year intervals in order to increase the number of cases, and thus the precision, for each point estimate. The data for ages 35, 40, 45, 50, and 55 are, of necessity, based on a single age in each case. As indicated above, *both* half-samples from a given class cohort are included in each year’s samples of 35-, 40-, 45-, 50-, and 55-year-olds. In 2017 the paired half-samples came from the high school graduating classes of 2000, 1995, 1990, 1985, and 1980, respectively. The respective weighted numbers of cases were 739, 818, 760, 780, and 919. (Actual unweighted numbers are somewhat higher, because those from the oversampled drug-using stratum in high school—which was drawn at three times the rate of the others to assure a sufficient sample of drug users—are counted as only one third of a case in the weighted follow-up data. This is discussed more in Chapter 3.)

The reweighting procedures used to adjust the panel data for the effects of panel attrition are described in Chapter 3.

REPLICABILITY OF FINDINGS

It is worth noting that any pattern of age-related differences found in one year can be checked in an adjacent year (i.e., the previous or succeeding year’s volume) for replicability, because two non-overlapping half-samples of follow-up respondents in the 19-to-30 age band are surveyed on alternating years. In the case of the 35-, 40-, 45-, 50-, and 55-year-olds, two entirely different graduating classes make up the samples for any two adjacent, chronological years of the survey results.

THE IMPORTANCE OF ADJUSTED LIFETIME PREVALENCE ESTIMATES

In Figures 4-1 through 4-21, two different estimates of *lifetime* prevalence are provided. One estimate is based on the respondents' *most recent* (i.e., 2017) responses about ever having used the drug in question (the blue bar). The other estimate takes into account each respondent's answers regarding lifetime use gathered from *all* of the previous data collections in which he or she participated (the white bar). *To be categorized as one who has used the drug based on all past answers regarding that drug, a respondent must have reported either lifetime use in the most recent data collection* and/or *reported some use in his or her lifetime on at least two earlier data collections.* (Because respondents of ages 18 through 20 cannot have their responses adjusted on the basis of two earlier data collections, adjusted prevalence rates are reported only for ages 21 and up.) Most other epidemiological studies can present only an unadjusted estimate because they have data from a single cross-sectional survey. An adjusted estimate of the type used here is possible only when panel data have been gathered so that a respondent can be classified as having used a drug at some time in his or her life, based on earlier answers, even though he or she no longer indicates lifetime use in the most recent survey.

The divergence of these two estimates increases as time passes; consistent divergences within age across history suggest this is largely an age effect (rather than a period or cohort effect). Obviously, there is more opportunity for inconsistency within individuals as the number of data collections increases. Our judgment is that the truth lies somewhere between the two estimates: the lower estimate may be depressed by tendencies to forget, forgive, or conceal earlier use, whereas the upper estimate may include earlier response errors or incorrect definitions of drugs that respondents appropriately corrected in later surveys as they became more knowledgeable. It should be noted that a fair proportion of those giving inconsistent answers across time had earlier reported having used the given drug only once or twice in their lifetime.

As we have reported in depth elsewhere, the cross-time stability of self-reported usage measures, taking into account both prevalence and frequency of self-reported use, is still very high.[5] Note that the divergence between the two lifetime prevalence estimates is greatest for the psychotherapeutic drugs (including amphetamines, sedatives, narcotics other than heroin, and tranquilizers) and for the derivative index of ***use of an illicit drug other than marijuana*** (Figure 4-2), which is heavily affected by the estimates of use of these psychotherapeutic drugs (without a doctor's orders). We believe this is due to respondents having greater difficulty accurately categorizing psychotherapeutic drugs (usually taken in pill form) with a high degree of certainty—especially if such a drug was used (without a doctor's orders) only once or twice. We expect higher inconsistency across time when the event—and in many of these cases, a single event—is reported with a relatively low degree of certainty at quite different points in time. Those who have gone beyond simple experimentation with one of these drugs would likely be able to categorize them with a higher degree of certainty. Also, those who have experimented more recently (i.e., in the past month or year) should have a higher probability of recall as well as fresher information for accurately categorizing the drug.

[5] 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.

We provide both estimates of lifetime use across the list of drugs to make clear that a full use of respondent information provides a possible range for lifetime prevalence estimates, not a single point. However, by far the most important use of the prevalence data is to track *trends* in *current* (as opposed to lifetime) use. Thus, we are much less concerned about the nature of the variability in the lifetime estimates than we might otherwise be. The lifetime prevalence estimates are of importance primarily in showing the degree to which a drug class has penetrated the general population overall as well as particular cohorts; we believe that the evidence from the lifetime estimates suggests that other cross-sectional surveys of adults are subject to underreporting and that to some degree such underreporting increases with age, because adolescence and early adulthood are the periods in the life course during which most drug use occurs.[6]

PREVALENCE OF DRUG USE ACROSS AGE GROUPS[7]

Figures 4-1 through 4-21 provide 2017 prevalence rates for each class of drugs, covering respondents ages 18 to 55.

To begin this summary, we note three general age-related trends in prevalence; these trends were evident in 2017 as they have been in our previous annual findings. ***First***, for nearly all illicit drugs considered across ages 18 to 55, *lifetime* prevalence was higher for the older age groups, as would be expected (because of both age effects and cohort effects, with the current older cohorts being from the highest drug using cohorts in the life of the study). The high levels of lifetime use among adults at ages 50 and 55 in 2017 are especially noteworthy, with adjusted lifetime prevalence of ever using *any illicit drug* being over eight out of ten for 2017 55-year-olds and similarly high for 50-year-olds. ***Second***, *annual and current* illicit drug use in 2017 are highest among those in their early 20s for nearly all drugs, and then lower in subsequent age groups through age 55. In particular, regarding marijuana, annual use (39-41%) and 30-day use (25-26%) were highest for 21-24 year-olds, with both declining mostly linearly with age to 15% and 10%, respectively, at age 55. ***Third***, these age trends of annual and current use did not generally apply for alcohol and tobacco in 2017, with most age patterns being either rather flat across age or showing increases with age. An important exception is binge drinking (5+ drinks in a row in last two weeks), which was highest at age 21/22 in 2017 at 40% and then progressively lower across age groups to 17% among 55-year-olds. Details of and exceptions to these general age-related trends are provided below. As we note, age-related trends likely reflect, to some extent, cohort effects and secular trends.

- The *adjusted lifetime prevalence* figures are most striking for today's 55-year-olds (the high school class of 1980), who were passing through adolescence near the peak of the 1970s drug epidemic. Some 86% reported trying ***an illicit drug*** (lifetime prevalence, adjusted), leaving only 14% who reported never having done so (Figure 4-1). Staying with

[6] For a more detailed analysis and discussion, 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* (NIDA Research Monograph No. 97-4147). Washington, DC: National Institute on Drug Abuse.

[7] This section discusses differences in the current year as a function of age, but it should be noted that these age differences are confounded with cohort differences. Thus, although the discussion is accurate with respect to age differences, it is not necessarily the case that the age differences would be similar in other time periods. In fact, our recent evidence, including many findings provided in Chapter 5, suggests both similarities and differences by age across cohorts. See also Jager, J., Schulenberg, J. E., O'Malley, P. M., & Bachman, J. G. (2013). Historical variation in drug use trajectories across the transition to adulthood: The trend toward lower intercepts and steeper, ascending slopes. *Development and Psychopathology*, *25*(2), 527-543.

the adjusted lifetime figures, four out of five 55-year-olds (79%) said they had tried ***marijuana*** (Figure 4-3), and about three quarters (74%) said they had tried some ***other illicit drug*** (Figure 4-2), including almost half (47%) who had tried ***cocaine*** specifically (Figure 4-7). The adjusted lifetime prevalence of any illicit drug for 2017 50-year-olds (high school class of 1985) was somewhat lower than for the 55 year olds, but still notably high at 81%; moving down the age spectrum, prevalence for 35-45 year-olds was 75-78% in 2017. *It is clear from Figure 4-1 (and many of the other figures in this chapter) that the parents and grandparents of today's teenagers and young adults represent very drug-experienced generations; this may help to explain the acceptance of medical marijuana in a large number of states and legalization of recreational marijuana use for adults in a growing number of states.*

- In 2017, almost half (49%) of the high school seniors reported trying at least one illicit drug in their lifetime, typically marijuana (45%). Lifetime prevalence figures tend to be higher for those in their 20s, suggesting that initiation of some drugs continues for many youth through their 20s. Among 29- to 30-year-olds adjusted lifetime prevalence reached 77% for ***any illicit drug***, 69% for ***marijuana***, 55% for ***any illicit drug other than marijuana***, and 21% for ***cocaine***. The 29- to 30-year-olds graduated from high school in 2005 and 2006—long after the peak of the 1970s drug epidemic and after the peak of the relapse phase in the epidemic during the late 1990s; even in these relatively low drug-using cohorts, only about one fourth (23%) report *never* having tried an illegal drug.

- Despite the higher lifetime prevalence rates of illicit drugs among older age groups, these older groups generally showed *annual* or *30-day* prevalence rates that are typically considerably lower than those of today's 12th graders and young adults, suggesting that desistence more than offsets the incidence of initiating use of most illicit drugs during the years after high school.

  In analyses published elsewhere, we looked closely at patterns of change in drug use with age and identified post-high school experiences that contribute to declining levels of annual or current use of drugs as respondents grow older. For example, the likelihood of marriage increases with age, and we have found that marriage is consistently associated with declines in ***alcohol*** use, ***heavy (binge) drinking***, ***marijuana*** use, and ***cocaine*** use, and most likely just about all of the other illicit drugs as well.[8]

[8] For example: a) 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; and 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; b) O'Malley, P. M., Bachman, J. G., Johnston, L. D., & Schulenberg, J. E. (2004). Studying the transition from youth to adulthood: Impacts on substance use and abuse. In J. S. House, F. T. Juster, R. L. Kahn, H. Schuman, & E. Singer (Eds.), *A telescope on society: Survey research and social science at the University of Michigan and beyond* (pp. 305–329). Ann Arbor, MI: The University of Michigan Press; c) Staff, J., Schulenberg, J. E., Maslowsky, J., Bachman, J. G., O'Malley, P. M., Maggs, J. L., & Johnston, L. D. (2010). Substance use changes and social role transitions: Proximal developmental effects on ongoing trajectories from late adolescence through early adulthood. *Development and Psychopathology, 22 (*Special issue: Developmental cascades: Part 2), 917-932; d) Maggs, J. L., Jager, J., Patrick, M. E., & Schulenberg, J. E. (2012). Social patterning in early adulthood in the USA: Adolescent predictors and concurrent wellbeing across four distinct configurations. *Longitudinal and Life Course Studies* (Special Section: Transition to Adulthood in the UK, the US and Finland; Guest Editors: J. E. Schulenberg and I. Schoon), *3*(2), 190-210; e) McCabe, S. E., Kloska, D. D., Veliz, P., Jager, J., & Schulenberg, J. E. (2016). Developmental course of nonmedical use of prescription drugs from adolescence to adulthood in the United States: National longitudinal data. *Addiction, 111*(12), 2166-2176.

- For use of ***any illicit drug*** (Figure 4-1), *annual* prevalence was highest among 21- to 22-year-olds in 2017 (44%) and lowest among the older age groups, ranging between 30% and 19% among 35- to 55-year-olds. Thirty-day prevalence was 25% among 12^{th} graders and 26% among 21-22 year-olds, while it was lower among 29-30 year-olds (20%) and lowest among 55-year-olds (13%).

- *Lifetime* prevalence rates for ***marijuana*** (Figure 4-3) in 2017 generally increased with age through the 20s, with adjusted lifetime prevalence reaching 69% among those aged 29-30. But, against the general pattern of increasing lifetime prevalence with age, rates were level or even slightly lower among 35-, 40-, and 45-year-olds at 71%, 68%, and 65%, respectively. This pattern of lifetime use leveling or even being lower, especially among 40- and 45-year-olds, was also true for some other illicit drugs (e.g., amphetamines, cocaine, narcotics other than heroin), highlighting cohort effects. The 40- and 45-year-olds graduated from high school in 1995 and 1990, respectively, when prevalence of marijuana and other drugs were at or near historic lows across the past four decades.

- *Annual* and *30-day* prevalence rates for ***marijuana*** in 2017 were highest at ages 21-22 at 41% and 26% respectively, and then generally declined through age 45, reaching 15% and 8% respectively, and then remained fairly level through age 55. Thus, as is evident in Figure 4-3 comparing annual and 30-day prevalence with lifetime prevalence, it is clear that greater proportions of the older cohorts have discontinued use.

- Current ***daily marijuana*** use (defined as using on 20 or more occasions in the past 30 days) in 2017 showed some age differences (as shown in Figure 4-3 in this chapter as well as in Figure 5-3c in Chapter 5), standing at 6% at age 18, 9% at ages 21-24, and then dropping with age to 3% at ages 45 to 55. This suggests that most respondents who were daily users at some point in their teenage and young adult years are no longer daily users in later adulthood.

- New questions about ***vaping marijuana*** were added to the young adult surveys in 2017. Lifetime prevalence was relatively flat from age 19 to 28, at 15% to 20%, and was lowest at age 29-30, at 9% (Table 4-2). Annual prevalence ranged from 11% to 17% among 19- to 28-year olds, and was lowest among 29-30 year olds at 5.8% (Table 4-3). Thirty-day prevalence ranged from 4.1% to 8.4% among 19-30 year olds (Table 4-4).

- ***Synthetic marijuana*** refers to a set of substances that contain synthetic cannabinoids that are meant to mimic the effects of cannabinoids found in natural marijuana; synthetic cannabinoids are created artificially and typically sprayed on herbal and plant material, which is then smoked. These substances have been sold over-the counter in head shops, gas stations, on the Internet, and in other venues under various brand names like "spice" and "K-2." Only 0.9% of young adults ages 19 to 30 years reported using synthetic marijuana in the last 12 months in 2017 (Table 4-3). Use rates were higher among the 19- to 22-year-olds (over 1%) than the older groups (less than 1%). Clearly, synthetic marijuana is not a commonly used drug, especially beyond the early 20s.

- Another important class of synthetic drugs called ***bath salts*** was added to the MTF questionnaires in 2012. Fortunately, the rates of use of these dangerous over-the-counter stimulants containing cathinones, which are intended to mimic the effects of amphetamines, are quite low at this point. In 2017, the high school seniors had an annual prevalence rate of 0.6%; among young adults 19-30, prevalence in 2017 was 0.3%, with some minor variation by age (Table 4-3).

- Adjusted rates for *lifetime* use of ***any illicit drug other than marijuana*** (Figure 4-2) showed an appreciable rise with age in 2017, reaching 55% for the 29- to 30-year-old age group and 74% among 55-year-olds. *In other words, about three quarters of all 55-year-olds have tried some illicit drug other than marijuana, and about half of today's 30-year-olds have done so.*

  In 2017, both *annual* and *past 30-day* use were highest in the early- to mid-20s. Both rose with age from 13% and 6%, respectively, at age 18 to 23% and 10% at age 23-24; they then declined somewhat unevenly by age stratum through the 20s, reaching 17% and 8%, respectively, at age 29-30. Among those age 35 and older, annual prevalence declined from 15% at age 35 to 9% at age 55; 30-day prevalence declined from 6% at age 35 to 5% at age 55. A number of the individual drugs that comprise this general category show lower rates of use at higher ages for annual prevalence, usually with the highest rate observed at ages 18–24. This is particularly true for ***amphetamines***, ***hallucinogens***, ***LSD*** specifically, ***hallucinogens other than LSD***, ***inhalants***, and ***MDMA (ecstasy, Molly)***. The falloff across age-strata is not as great nor as consistent for ***cocaine***, ***crack***, ***other cocaine***, ***crystal methamphetamine*** (***ice***), ***heroin***, ***narcotics other than heroin***, ***sedatives*** (**barbiturates**), and ***tranquilizers***, though in general, usage rates are somewhat lower among those in their 30s and older than among those in their early- to mid-20s. Several of these classes of drugs are discussed individually next.

- ***Hallucinogens*** (Figure 4-10) have been used by a fair proportion of adults. Adjusted lifetime rates in 2017 were between 25% and 29% for the 35- to 50-year-olds. (Hallucinogens are not included in the age 55 survey.) Lifetime prevalence was lower at younger ages, and was at 11%, adjusted, at age 21-22. Annual prevalence peaked at 6% at age 23-24, was 2% at age 29-30, and 2% or less at the older ages.

- ***LSD*** (Figure 4-11) had been the most prevalent hallucinogen for some time. It had a fairly limited adjusted lifetime prevalence among young adults in 2017, reaching a high of 13% by age 25-26. Annual prevalence was highest among 21-24 year-olds at 4%, falling thereafter to 1% by ages 29-30. LSD use was not asked of those over age 30.

- ***Hallucinogens other than LSD*** (Figure 4-12), which means psilocybin ("magic mushrooms") for the most part, had a higher adjusted lifetime prevalence among young adults in 2017 than LSD, reaching 20% by age 29-30. Among young adults aged 19-30, annual prevalence was similar for hallucinogens other than LSD (2.8%) and for LSD (2.9%) (Table 4-3). Use was not asked of those over age 30.

- ***Inhalants*** is not a commonly used category of drugs among adults. In 2017, adjusted lifetime prevalence increased across age strata, peaking at 12% among 29-30 year-olds. Annual prevalence was highest at ages 18-20 (2%) and declined with age, while 30-day rates were already quite low by age 18 and did not have much more room to decline. Clearly, current use of inhalants is almost absent beyond about age 18, and we know from data presented in *Volume I* that much of the decline in use with age has already occurred by 10th grade. Use is not asked of those over age 30.

- For ***amphetamines*** used without a doctor's orders, lifetime prevalence was much higher among the older age groups, with adjusted lifetime prevalence increasing from 17% at age 21-22 to 30% at age 29-30 and to 50% at age 55 in 2017 (Figure 4-4). This increase with age reflects in part the addition of new users who initiate use in adulthood, but also reflecting some cohort differences carried over from high school. As is true for most psychotherapeutic drugs, corrected lifetime prevalence and contemporaneously reported lifetime prevalence diverge considerably especially among those age 35 and older. However, more recent use, as reflected in annual prevalence (Table 4-3 and Figure 4-4), was considerably lower among the older age groups, peaking at 9% at age 21-22 and declining to 6% at age 29-30 and to 1% by age 55. These age differences have not always been true; the present pattern reflects a sharper historic decline in use among older respondents than has occurred among 12th graders, as well as cohort differences in having ever used these drugs. These trends are discussed in the next chapter.

- ***Ritalin***, a stimulant widely prescribed for the treatment of attention deficit hyperactivity disorder or ADHD, shows a relatively low annual prevalence of nonmedical use, between 0.2% and 2.0% between ages 19 and 30 in 2017 (Table 4-3).

- ***Adderall***, an amphetamine stimulant also used in the treatment of ADHD, showed a substantially higher annual prevalence of nonmedical use in 2017 compared to Ritalin, and it also dropped off in use with age, from 11% among those aged 21-22 to 6.0% among those age 29-30. The higher rates of use among those in their early 20s are consistent with the interpretation that initially Ritalin and perhaps now Adderall are sometimes used by college students in an effort to enhance their academic performance (Table 4-3). Respondents over age 30 are not asked about Ritalin or Adderall use.

- Questions on the use of ***methamphetamine*** are contained in only two of the six questionnaire forms for young adults, so estimates are less reliable than those based on all six forms. In 2017 adjusted lifetime use increased across age strata, from 3% for 21- to 22-year-olds to 6% for 29- to 30-year-olds. This suggests that much initiation of methamphetamine use occurs after high school, though more recent cohorts of high school graduates have been reporting considerably lower levels of use post high school. *Annual* prevalence did not vary much with age, however, remaining at 0.2–1.6% for ages 18–30 in this population of high school graduates (Table 4-3 and Figure 4-5.) Respondents over age 30 are not asked about methamphetamine use.

- ***Crystal methamphetamine*** (***ice***) is also included on only two questionnaire forms through age 30 and is not asked of older respondents. In 2017, adjusted lifetime prevalence was highest at 4% among those age 27-30. Among the 19- to 30-year-old respondents *combined*, only 0.7% now reported any use in the prior year—similar to the 0.8% reported by 12th graders (Table 4-3 and Figure 4-6).

- Nonmedical use of ***Sedatives*** (***barbiturates***) showed adjusted lifetime prevalence rates in 2017 that rose fairly linearly from age 21-22 (5%) through age 55 (29%) (Figure 4-14). *Annual* use was more similar across ages 19 to 55 at about 1–3%. In summary, because of the substantial long-term decline in sedative (barbiturate) use over the life of MTF, the 55-year-olds had by far the highest adjusted lifetime prevalence (29%); but they were not any more likely to be currently using than the younger age groups.[9]

- Nonmedical use of ***tranquilizers*** (Figure 4-16) shows a similar picture to that for sedatives, with a general increase across age-bands in adjusted lifetime prevalence through age 40 (28%), with a slight dip among those age 45 (26%), reflecting a likely cohort effect in terms of the lower use among adolescents in the late 1980s. Those aged 50 and 55 again showed higher, indeed the highest, levels of adjusted lifetime prevalence (33% and 39%, respectively). Annual prevalence of tranquilizer use was similar across the age groups, ranging between 4% and 5% across all groups except those aged 45 (2%) and 55 (3%). Thirty-day prevalence was 1–2% across all age groups.

- Adjusted lifetime prevalence of nonmedical use of ***narcotics other than heroin*** (Figure 4-15) varied considerably across the age groups in 2017 from 10% for those age 21-22 to 29% for those age 29-30; it was 35% at age 35, 33% at age 40, 28% at age 45, 33% at age 50, and 36% at age 55. These age differences in adjusted lifetime prevalence reflect cohort effects, with the oldest and more recent cohorts through age 35 showing higher prevalence than those aged 40 and 45 who were adolescents during the late 1980s when use of these and other substances tended to be lower compared to younger and older cohorts (consistent with findings regarding tranquilizers summarized above and cocaine summarized below). Annual prevalence of narcotics other than heroin ranged from 3% to 5% across all age groups. Thirty-day prevalence showed little difference across the age bands, with rates at 1–2% up through age 55.

- Adjusted lifetime prevalence of ***cocaine*** in 2017 was lowest among 21-24 year olds (11%) and generally increased through age 35 (23%); it then leveled through ages 40 and 45 (23%), continued to increase at age 50 (35%), and peaked at age 55 (47%) (Figure 4-7). This uneven age progression is indicative of a cohort effect, with the 40-45 year olds being from lower drug using 12th grade cohorts (as discussed in Chapter 5, there have been clear cohort effects in cocaine use over the years). Annual prevalence peaked at 6-7% at ages 21-26, and was otherwise at 3% to 5% among those between ages 18 and 35 in 2017; annual use was only 1-2% in the age groups beyond 35. Thirty-day (current) use peaked at 3% among 23-26 year olds, and was otherwise 1-2% across ages 18 to 55.Very few (0-1%) of the 35- to 55-year-olds today are current users of cocaine, despite the fact that so many of

[9] Barbiturates were the dominant form of sedatives in use when these questions were first introduced. In the intervening years, a number of non-barbiturate sedatives have entered the market and largely displaced barbiturates. We believe that a number of users of non-barbiturate sedatives are reporting them in answer to this question, which also defines them in terms of the conditions for which they are prescribed. In recognition of this fact, we now label them as "sedatives (barbiturates)." The rewording of the question was made in half of the questionnaire forms in 2004 and in the other half in 2005.

them used it at least once in their lifetime. Among 55-year olds, 47% used cocaine at some time in their life, but only 0.4% reported using it in the past month. In other words, noncontinuation rates for cocaine are now extremely high among adults—particularly older adults.

- In 2017, adjusted lifetime prevalence of ***crack*** use (Figure 4-8) was much lower than general cocaine use. It ranged between 1% for those age 21-22 and 8% for those age 29-30 through age 45; it was highest at 14% for those age 50, and slightly lower at 13% for those age 55, reflecting something of a cohort effect due to the rather transient popularity of crack in the early to mid-1980s and a brief resurgence in the mid-1990s. Thirty-day prevalence was less than 0.5% in all of these age groups. Annual prevalence also was highest among 18-year-olds at 0.8%, and was between 0% and 0.5% for all other age groups. We believe that the prevalence estimates for crack are especially likely to be impacted by the omission of high school dropouts. It seems likely that panel respondents who become dependent on crack (or other illicit drugs like heroin) would be less likely than average to respond to the questionnaires; therefore, such extreme users are no doubt underrepresented among the panel respondents.

- ***MDMA (ecstasy***, and, more recently, ***Molly***) is asked about in four of the six follow-up questionnaire forms up through age 30. Molly was added as an example in half of the questionnaire forms in 2014 and in all forms in 2015. As Table 5-2 in the next chapter shows, the inclusion of Molly appears to have only raised the annual prevalence estimate in 2014 (when the two versions could be compared) by a little—from 4.8% to 5.1%. In 2017, among all 19- to 30-year-olds combined, 13.1% said they have tried MDMA, compared to 4.9% of 12^{th} graders. Lifetime MDMA prevalence increased to 15% among those ages 23-24 and then peaked at 17% among those ages 25-28 (Figure 4-17). Annual prevalence was at a peak at 6% at age 23-24 and was otherwise at 5% or below at ages 18–30 in 2017. Thirty-day MDMA use was at 1% or lower for all age strata between 18 and 30 years in 2017. There clearly has been a high degree of noncontinuation of the use of this drug in 18-30 year olds, and the large differences across age groups likely reflect cohort effects. (Note in Figure 4-17 that there is practically no difference between the current reporting of lifetime prevalence and the adjusted figures.)

- A question about the use of ***salvia*** was introduced into one questionnaire form in 2009 as a single tripwire question asking only the frequency of use in the past twelve months (Table 4-3). Salvia has some mild hallucinogenic properties. It is not currently regulated by the federal government, but a number of states have restrictions on it, and other states are considering restrictions; previously, there had been considerable attention in the media paid to its potential for harm. Annual prevalence for ages 19 through 30 combined is very low; it stood at 0.5% in 2017, but prevalence dropped for ascending age strata from 1.1% among 21- to 22-year-olds down to 0.4 % among 29- to 30-year-olds. Older respondents are not asked the question.

- In 2017, all ***alcohol*** prevalence estimates were higher among young adults than among 12^{th} graders, and they generally increased after high school, through at least the mid-20s (Figures 4-20a and 4-20b). Prevalence rates varied only modestly among the older age groups. *Lifetime* prevalence changed very little after age 30, due in large part to a "ceiling effect." Thirty-day use rose sharply from 33% among 18-year-olds to a peak of 74% among 23-24 year-olds, then declined slightly through age 55, to 66%. Current ***daily drinking*** (Figure 4-20b) increased gradually and steadily across age strata, peaking at 11% at age 55. Among the various measures of alcohol consumption, ***occasions of heavy drinking*** (i.e., having five or more drinks in a row on at least one occasion in the two weeks prior to the survey, also called "binge drinking") showed considerable differences by age (Figure 4-20b). Prevalence was 17% at age 18 and 22% among those ages 19-20. It was highest at 40% at age 21-22; it then ranged from 29% to 34% through age 29-30 and declined across age strata to 17% among 55-year-olds. We have interpreted this increasing-then-decreasing relationship with age as reflecting an age effect—not a cohort effect—because it seems to replicate across different graduating class cohorts and also because it has been linked directly to age-related events such as leaving the parental home (which increases heavy drinking) and marriage (which decreases it).[10] Clearly, binge drinking is most popular among people in their twenties and falls off after that. Still, between ages 35 and 55, one-fourth to one-sixth of the respondents report current binge drinking.

Extreme binge drinking (also referred to as high-intensity drinking)[11,12,13,14] is a concept that was introduced into MTF surveys in 2005. Two measures are used; drinking *10 or more drinks* on one or more occasions in the prior two weeks and drinking *15 or more drinks* on one or more occasions in the prior two weeks.[15] Among all young adults 19-30, prevalence of having 10 or more drinks on at least one occasion in the two weeks prior to the survey was 10.9% in 2017 or roughly one in every nine respondents (Table 4-5); in considering separate ages, it was 7.7% at ages 19-20, ranged between 11.0% and 12.9% at ages 21-28, and was 9.6% at age 29-30. The combined age 19-30 prevalence for having 15 or more drinks on at least one occasion in the prior two weeks was 3.3% or about one in 30 respondents; in considering separate age groups, it was highest among 23-24 year olds (4.9%). These questions are not asked of respondents over age 30.

- ***Cigarette smoking*** showed an unusual pattern of age-related differences, influenced to some extent by cohort differences (Figure 4-21). ***Current (30-day) smoking*** prevalence was lowest among 18-20 year olds (10%), highest among the 21-26 year olds (17%-18%), and declined to 12% at ages 29-30; it was then between 13% and 15% among the older

[10] O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (1988). Period, age, and cohort effects on substance use among young Americans: A decade of change, 1976–1986. *American Journal of Public Health, 78*(10), 1315–1321. See also a) 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; b) Schulenberg, J. E., & Maggs, J. L. (2002). A developmental perspective on alcohol use and heavy drinking during adolescence and the transition to young adulthood. *Journal of Studies on Alcohol, Supplement,* (14), 54-70.

[11] Patrick, M. E., Terry-McElrath, Y. M., Miech, R. A., Schulenberg, J. E., O'Malley, P. M., & Johnston, L. D. (2017). Age-specific prevalence of binge and high-intensity drinking among U.S. young adults: Changes from 2005 to 2015. *Alcoholism: Clinical and Experimental Research, 41*(7), 1319-1328.

[12] Patrick, M. E. & Terry-McElrath, Y. M. (2017). High-intensity drinking by underage young adults in the United States. *Addiction, 112,* 82-93.

[13] Patrick, M. E., Terry-McElrath, Y. M., Kloska, D. D., & Schulenberg, J. E. (2016). High-intensity drinking among young adults in the United States: Prevalence, frequency, and developmental change. *Alcoholism: Clinical and Experimental Research, 40,* 1905-1912.

[14] Terry-McElrath, Y. M. & Patrick, M. E. (2016). Intoxication and binge and high-intensity drinking among US young adults in their mid-20s. *Substance Abuse, 37,* 597-605.

[15] Because these two measures have been included in only one of the six questionnaire forms used with young adults, the numbers of cases are very limited, less than 200 weighted cases per year for each two-year age band from 19 to 30. Therefore, the estimates may be less reliable than those based on more cases.

adults, with the exception of 10% among 45-year-olds. (In the past as discussed in Chapter 5, rates used to be about the same for 12th graders and those in their early 20s, partly because most initiation of cigarette use happens in high school, suggesting that noncontinuation rates have become higher among those who tried cigarettes in high school). Among 18-30 year olds, the prevalence of ***daily smoking*** generally was higher among the older age strata, peaking at age 27-28 (11%); among those aged 35-55, it was 10-11%. At older ages, a rising proportion of current smokers—that is, those reporting any smoking in the past 30 days—also reported daily smoking. Through age 30 a majority of those indicating any smoking in the prior year were not ***daily*** smokers; the proportion then declined with age so that among those age 55 only about a quarter of those who smoked in the prior year were not daily smokers.

The prevalence of smoking ***half a pack or more*** of cigarettes per day was 2% among 18-year-olds and ranged between 4% and 6% among 21- to 35-year-olds; it was higher at 8% among 40-year-olds, 6% among 45-year-olds, and 9% among 50-55 year olds. The *proportions* of current smokers who smoked a half-pack or more per day also were higher among older respondents in 2017: about one fifth among 18-year-olds (2% smoking a half-pack or more divided by 10% who are 30-day smokers), about one third among 29- to 30-year olds (4% smoking a half-pack or more divided by 12% who are 30-day smokers), and nearly three fourths among 55-year-olds (9% smoking a half-pack or more divided by 13% who are 30-day smokers).

In essence, lighter smoking (in the past 12 months, but not in the past 30-days) falls off as one moves up the age bands beyond age 30, after which regular/heavy smoking accounts for increasing proportions of all current smoking, as may be seen in Figure 4-21.

- Past 30-day prevalence of ***smokeless tobacco*** use (asked in one of the six questionnaire forms) stood at 9% among all young adults in 2017 (most of it by males, as will be discussed below) in 2017. Daily prevalence was 1.9% among all young adults, with the highest rate observed among 21- to 22-year-olds (4.7%) (Tables 4-4 and 4-5).

- In 2017, we expanded the vaping questions to get at specific substances being vaped, including nicotine, marijuana, and just flavoring. With regard to ***vaping nicotine***, lifetime use was at 23% in 2017 among young adults aged 19-30. It was highest at 29% at age 19-20, and then showed some uneven decline across ascending age strata through age 29-30 (15%) (Table 4-2). It may well be that those in adolescence or early young adulthood are most susceptible to starting to use vaporizers. Among young adults, 30-day prevalence of vaping nicotine in 2017 was 6.2% for those aged 19-30; it was highest among those ages 23-24 (8.3%) and lowest among those aged 25-26 (3.6%) (Table 4-4).

- Questions have been added recently on the consumption by young adults of tobacco in various specific forms other than cigarettes. Tripwire questions were added for these forms of tobacco use in 2011, providing only annual prevalence and frequency data (Table 4-3). Past-year prevalence of use in 2017 among 19- to 30-year-olds was 11% for using a hookah to smoke tobacco, 15% for smoking small cigars, 4% for using snus, and only 0.7% for using dissolvable tobacco. Among young adults, ***hookah*** smoking was highest among 23-

to 24-year-olds at 15% and declined steadily to 8% at ages 29 to 30. (Rather than being an age effect, this could represent more of a cohort effect corresponding to the increased and then decreased popularity of this practice.) Annual prevalence of smoking ***small cigars*** was highest among 23- to 26-year-olds at 17% and lower at increasing ages, dropping to 11-15% at age 27-30. Annual prevalence of use of ***snus*** was highest among the 23- to 24-year-olds at 6.5% vs. 3-4% among the older age groups of young adults. Annual prevalence of ***dissolvable tobacco*** use was 1.4% or less among all young adult age groups.

- Questions on ***anabolic steroid*** use (Figure 4-18) were added to one questionnaire form in 1989 and to an additional form in 1990, making it difficult to determine age-related differences with much accuracy due to limited sample sizes. Overall, 1.3% of all 19- to 30-year-olds in 2017 reported having used steroids in their lifetime and 0.3% in the prior 12 months. Use did not vary greatly or systematically by age. Questions about steroid use are not asked of respondents over age 30.

In sum, lifetime prevalence in some of the older age groups, who passed through adolescence in the heyday of the drug epidemic, showed remarkably high lifetime rates of illicit drug use—particularly when lifetime prevalence was corrected for the recanting of previously reported use. This highlights the importance of cohort effects when considering age-related changes (for example, for some drugs, tranquilizers and narcotics other than heroin, there was a lower lifetime prevalence in 2017 at age 45 compared to those younger and older, consistent with their lower prevalence as teens in the late 1980s). However, *current* use of most illicit drugs was substantially lower among those over age 30 than among those in their late teens to early 20s. For the two licit drugs, alcohol and cigarettes, the picture is different; there is less falloff in active use with age, and there are higher levels of daily alcohol use and regular cigarette smoking in the older ages. When considering these various prevalence estimates, it is important to recall that our samples are based on high school graduates and thus exclude those who drop out of high school, a group that tends to show higher prevalence of most substances; in addition, we are less likely to maintain persistent heavy drug users in our sample.

PREVALENCE COMPARISONS FOR SUBGROUPS OF YOUNG ADULTS

Subgroup differences for 19- to 30-year-olds are presented in Tables 4-1 through 4-5. While Table 4-1 provides only gender differences, the remaining tables have prevalence rates by gender, age, region of the country, and population density. Each of these subgroup dimensions is discussed separately below.

Gender Differences

In general, most of the gender differences in drug use that are observed among young adults (19-30) were observed in high school students as well. See Tables 4-1 and 4-5 for the full set of gender comparisons.

- Among the full young adult sample ages 19 to 30 in 2017, more males than females reported *past-year* use of ***any illicit drug*** (43% vs. 38%), ***marijuana*** (40% vs. 34%), and ***any illicit drug other than marijuana*** (23% vs. 18%). Similarly, more males than females reported *30-day* use of any illicit drug (28% vs. 21%), marijuana (26% vs. 20%), and any illicit drug other than marijuana (10.4% vs. 7.5%).

- With regard to ***vaping marijuana***, based on new questions added to the young adult surveys in 2017, *annual* prevalence was 15.6% for males and 8.7% for females. For *30-day* marijuana vaping, prevalence was 8.8% and 4.4%, respectively. Thus, as of 2017, it appears that the gender gap for marijuana use is larger regarding vaping marijuana than overall marijuana use, with males about twice as likely as females to vape marijuana in past year and past 30 days.

- Males had higher annual prevalence rates for nearly all illicit drugs in 2017, sometimes with ratios of two times greater or more among infrequently used drugs (***salvia, heroin, OxyContin, Ritalin,*** and ***methamphetamine***) (Table 4-3).

- With one minor exception, all measures of ***cocaine*** use showed higher 2017 rates of use by male than female 19- to 30-year-olds. Annual ***cocaine*** use was reported by 6.9% of males and 3.9% of females, ***powder cocaine*** use by 7.3% of males and 4.8% of females, and ***crack*** use by 0.2% of males and 0.1% of females.

- Other large gender differences among 19- to 30-year-olds in 2017 were found ***in daily marijuana*** use (10.0% for males vs. 6.2% for females)***, daily alcohol*** use (8.5% vs. 3.1%), and ***occasions of heavy (binge) drinking—***having five or more drinks in a row in the prior two weeks (39% vs. 27%).

- There is a particularly large gender difference in the measures of ***extreme binge drinking*** in 2017: the rate for having 10 or more drinks on at least one occasion in the prior two weeks across ages 19-30 was 17.9 % for males vs. 6.3% for females. The rate for having 15 or more drinks was 6.8% for males and 0.9% for females.

- Annual prevalence of ***synthetic marijuana*** use in 2017 was low among young adult males and females (1.5% vs. 0.5%), as was use of ***bath salts*** (0.5% vs. 0.2%) (Table 4-1).

- ***MDMA*** use (street names "***ecstasy***" and "***Molly***") was slightly higher among males than among females with annual prevalence rates in 2017 of 4.4% and 2.9%, respectively.

- Annual prevalence of use of ***narcotics other than heroin*** outside of medical supervision was also slightly higher in 2017 among males than females (5.1% versus 3.7%) (Table 4-1). The use of ***Vicodin***, one of the most widely used drugs in the class, was very slightly higher for males (3.2%) than females (2.5%); similarly, ***OxyContin*** use was slightly higher for males (3.1%) than males (1.3%) (Table 4-3).

- The use of ***amphetamines*** was higher among males than among females with 2017 annual prevalence of 9.1% and 6.4%, respectively.

- In 2017, 19- to 30-year-old males were more likely than females to smoke ***cigarettes*** in the past year (28% vs. 20%) and past month (19% vs. 12%); males were also more likely to have smoked daily in the past month (10.4% vs. 7.3%), and to have smoked half a pack or more per day in the past month (5.6% vs. 3.8%) (Table 4-1). This current (and recent) gender gap is in contrast to earlier years of MTF; in the 1980s, there were few male-female differences, and it was not until the early 1980s when males started having higher cigarette use than females.

- Based on new vaping questions added in 2017, annual prevalence of ***vaping nicotine*** was higher at ages 19-30 for males than females (18% vs. 10%), and the same was true regarding 30-day prevalence (8.8% vs. 4.4%). Again, as was true regarding gender differences for vaping marijuana, the gender gap for vaping nicotine is greater than that for smoking cigarettes (with males being almost twice as likely as females to vape nicotine).

- Among young adults there was a very large gender difference in 2017 in the use of ***smokeless tobacco***, with males much more likely than females to have used in their lifetime (43% vs. 12%) and in the past month (19.2% vs. 2.0%) (Table 4-1). Almost all past-year use of ***snus*** occurred among males (9.0% vs. 0.9% among females) as was true for ***dissolvable tobacco*** (1.3% vs. 0.3%, respectively) (Table 4-3).

- In 2017, males were three times as likely to have smoked ***small cigars*** in the past year as females (26.2% vs. 7.9%). The same was true for past 30-day use of ***regular little cigars*** (5.8% vs. 1.2%) and for flavored ***little cigars*** (6.6% vs 3.7%).

- There was less gender difference in the annual use of ***hookah*** pipes (12.4% vs. 10.8%, respectively).

- ***Steroid*** use among young adults is relatively rare, with adjusted lifetime prevalence being 2.9% for males and 0.3% for females in 2017 among 19-30 year-olds. Annual and 30-day prevalence estimates were 0.4% or below for males and females.

Regional Differences

Follow-up respondents are asked in what state they resided as of March of current year. States are then grouped into the same regions used in the analysis of high school data.[16] Tables 4-2 through 4-5 present regional differences in lifetime, annual, 30-day, and current daily prevalence **for 19- to 30-year-olds combined.**

- There exist some regional differences in the annual prevalence of ***marijuana*** use, with 2017 rates being higher in the Northeast (40%) and West (40%) than the Midwest (34%) and the South (33%). Likewise, regarding annual prevalence of ***any illicit drug*** use, rates were somewhat higher in the Northeast (44%) and West (44%) than in the Midwest (39%) and South (37%).

---

[16] States are grouped into regions as follows: ***Northeast*****—**Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, New Jersey, and Pennsylvania; ***Midwest*****—**Ohio, Indiana, Illinois, Michigan, Wisconsin, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, and Kansas; ***South*****—**Delaware, Maryland, District of Columbia, Virginia, West Virginia, North Carolina, South Carolina, Georgia, Florida, Kentucky, Tennessee, Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas; ***West*****—**Montana, Idaho, Wyoming, Colorado, New Mexico, Arizona, Utah, Nevada, Washington, Oregon, and California.

- In 2017, the annual prevalence of ***any illicit drug other than marijuana*** (Table 4-3) was highest in the West (23%), similar in the Northeast (20%) and Midwest (20%), and lowest in the South (17%).

- The annual prevalence for ***synthetic marijuana*** in 2017 was quite low and did not differ significantly by region (ranging from 0.5% to 1.2%) (Table 4-3).

- The annual prevalence for ***vaping marijuana***, based on new questions added in 2017, was higher in the Northeast (14.4%) and West (14.9%) than in the Midwest (10.6%) and South (8.4%); thus, regional ranking of vaping marijuana is similar to overall marijuana use.

- In 2017, the use of ***hallucinogens*** tended to be highest in the West and lowest in the South. Annual prevalence of hallucinogen use was 7.0% and 3.3% in the West and South, respectively; for ***LSD***, it was 4.1% and 2.4%, respectively; and for ***hallucinogens other than LSD***, it was 5.2% and 1.9%, respectively.

- For ***MDMA*** (ecstasy and more recently "Molly"), annual 2017 prevalence was considerably higher in the West (6.3%) than in the other regions of the country, with annual prevalence in the Northeast (3.0%), the South (2.5%) and the Midwest (2.7%).

- In 2017, annual prevalence of ***cocaine*** was higher in the West (7.7%) and Northeast (5.5%) than in the South (4.0%) and Midwest (3.8%).

- The annual prevalence of ***Adderall*** in 2017 was similar across regions with it being slightly higher in the Northeast (8.5%) and Midwest (8.3%) than the South (7.8%) and West (7.1%).

- For the remaining illicit drugs, it is noteworthy that the use of ***LSD***, ***hallucinogens other than LSD***, ***MDMA*** (ecstasy and Molly), and ***cocaine*** tended to be higher in 2017 among young adults in the West than the other regions. Across other illicit drugs, regional differences in 2017 were not substantial (Tables 4-2 through 4-5).

- Prevalence rates for ***alcohol use*** are typically somewhat higher in the Northeast and Midwest regions than in the South and West; this pattern still pertained in 2017 and was generally true among 12th graders as well (as reported in *Volume I*). For ***binge drinking*** among 19- to 30-year-olds, the Northeast and Midwest were at 36% and 35% respectively, with the South at 28% and the West at 27% (Table 4-5). Regarding ***extreme binge drinking*** among 19- to 30-year-olds, having 10 or more drinks in a row was more common in the Midwest (17.5%) and Northeast (13.5%) than in the South and West (6.9% for both). Self-reported ***drunkenness*** showed a similar pattern (Table 4-4), as would be expected.

- ***Cigarette smoking*** among young adults tended to be somewhat higher in the Midwest and South and lowest in the West in 2017. Thirty-day prevalence was 16% in both the Midwest and South, 14% in the Northeast and 13% in the South (Table 4-4); similarly, for smoking a half pack or more per day, prevalence was 5.5% for the Midwest, 5.3% for the South, 4.4% for the Northeast, and 2.3% for the West (Table 4-5).

- Regional differences for ***vaping nicotine*** in 2017 were slight, with 30-day prevalence of vaping nicotine being higher for the Northeast (7.7%) than for the South (6.4%), West (6.1%), and Midwest (5.1%) (Table 4-4). Thus, regional differences for vaping nicotine do not follow those for smoking cigarettes, although the Ns by region for vaping nicotine are relatively small.

- Use of ***flavored little cigars*** (Table 4-4) did not show much regional difference in 2017, with the 30-day prevalence ranging from 5.5% in the Northeast to 4.0% in the West. Similarly, the 30-day prevalence of ***regular little cigars (***i.e., non-flavored) varied rather little across region, ranging from 4.0% in the Northeast to 2.1% in the West.

- Thirty-day prevalence for the use of ***large cigars*** in 2017 ranged from 6.3% in the Midwest to 1.7% in the Northeast (Table 4-4).

- The 30-day prevalence of ***smokeless tobacco*** use in 2017 was highest in the West (13.3%) than the other regions (ranging from 7.5% to 8.7%) (Table 4-4).

- The annual use of ***snus*** in 2017 was higher in the Midwest (6.2%) and West (4.9%) compared to the Northeast (3.1%) and South (3.0%).

- Annual use of a ***hookah*** to smoke tobacco was highest in West (13.5%), compared to the Northeast (11.7%), South (11.3%), and Midwest (9.6%) (Table 4-3).

Population Density Differences

Population density is measured by asking respondents to select the response category that best describes the size and nature of the community where they lived during March of the year in which they completed the follow-up questionnaire. The various categories are listed in Tables 4-2 through 4-5; the population sizes given to the respondent to help define each level are provided in a footnote to each table.[17] See Tables 4-2 through 4-5 for the tabular results on **19- to 30-year-olds combined**.

- Differences in illicit drug use by population density tend to be modest, perhaps more modest than is commonly supposed. Among the general population, use of most illicit drugs is broadly distributed among all areas from rural to urban. To the extent that there are variations, almost all of the associations are positive with regard to density, with rural/country areas having the lowest levels of use, and small towns having the next lowest. Medium-sized cities, large cities, and very large cities tend to be higher. In 2017, positive associations with population density existed for annual prevalence of ***any illicit drug*** (ranging from 30.6% for farm/country to 48.5% for very large city), ***any illicit drug other than marijuana*** (ranging from 14.5% to 27.6%, respectively), and ***marijuana*** (27.8% to 45.6%, respectively); annual prevalence of ***vaping marijuana*** showed the same pattern

[17] An examination of the 1987 and 1988 drug use data for the two most urban strata revealed that the modest differences in prevalence rates between the suburbs and their corresponding cities were not worth the complexity of reporting them separately; accordingly, since then these categories have been merged to increase sample sizes.

(7.0% to 18.6%, respectively). Most of the drugs that comprise the measure of any illicit drug other than marijuana showed a similar pattern, with exceptions noted below.

- Annual prevalence of ***cocaine***, ***ecstasy***, and ***hallucinogens other than LSD*** tended to be twice as high in 2017 in very large cities (10.4%, 7.0%, and 5.4%, respectively) than the other density strata, with little difference among them (Table 4-3).

- Annual prevalence was distinctly higher in the farm/country stratum compare to the other four strata for some uncommonly used drugs including ***methamphetamine*** (1.7% vs. 0.2-0.8%), ***crystal methamphetamine*** (1.6% vs. 0.3-0.9%), and ***bath salts*** (1.6% vs. 0-0.4%).

- Differences among density strata were quite small in 2017 for annual prevalence of ***narcotics other than heroin***, ranging from 3.7% to 4.4% (and the same was true for OxyContin and Vicodin specifically) (Table 4-3). Similarly, many of the illicit drugs with relatively low annual prevalence did not show substantial variation by population density, including use of ***synthetic marijuana, PCP, salvia, crack, heroin, sedatives, Ketamine,*** and ***steroids*** (Table 4-3).

- Among young adults age 19-30, the lifetime and annual ***alcohol*** use measures all showed a slight positive association with population density, while 30-day use had a somewhat stronger positive association, with 63% of the farm/country stratum reporting alcohol use in the prior 30 days versus 77% of those in very large cities.

  Prevalence of ***binge drinking*** among young adults was positively associated with population density as well (Table 4-5), with 26% of those in the farm/country stratum indicating having had five or more drinks in a row at least once in the prior two weeks compared to 40% of those in the very large cities. ***Daily alcohol use*** in the prior month was also slightly positively associated with population density in 2017 with 3.5% of young adults in the farm/country stratum indicating daily use versus 8.4% in the very large cities. For ***10 or more drinks in a row in the past two weeks*** (extreme binge drinking), prevalence was highest in large cities (13.5%), next highest in small towns (11.2%) and farm/country (10.9%), and lowest in very large cities (9.8%) and medium cities (8.8%) (Table 4-5).

- Contrary to what we find for almost all other substances, there exists a negative association between population density and ***daily cigarette smoking***, which was highest in the farm/country stratum (daily prevalence of 15%) and lowest in the large and very large cities (daily prevalence rate of 8% and 7%, respectively). Smoking at the half-pack-a-day level in the prior 30 days was about five times as high in the farm/country stratum as in very large cities (11% vs. 2%, respectively; Table 4-5).

- Annual prevalence of ***small cigars*** was highest in the very large cities (20%) and ranged from 12% to 16% in the other population density strata. (As noted in Table 4-3, Ns are relatively small for these and other forms of tobacco use summarized below.)

- Thirty-day prevalence of ***flavored little cigars*** was highest in the farm/country stratum (10.0%) and lower in all other strata (2.2% to 5.0%). Similarly, 30-day prevalence of

regular little cigars was highest in the farm/country stratum (6.9%) and lower in the other strata (1.5% to 3.3%) (Table 4-4).

- The annual prevalence of ***hookah*** smoking (Table 4-3) was highest in very large cities (17.0%) and declined with population density, being smallest in the farm/country stratum (6.6%).

- On the other hand, 30-day prevalence of ***smokeless tobacco*** use was very high in the farm/country stratum (19.4%) and mixed among the other strata (lowest in large cities at 4.4%) (Table 4-4).

- The annual prevalence of ***snus*** by young adults varied rather little by population density but tended to be higher in the farm/country and small town strata (6.0% and 5.3%, respectively) versus 3.1-4.3% in the other strata (Table 4-3).

- Finally, ***vaping nicotine*** varied little by population density. Annual prevalence in 2017 was 15.0% in the farm/country stratum, 12.4%-13.8% in the city strata, and 11.8% in the small town stratum (Table 4-3) Thirty-day prevalence was very similar across the strata, ranging from 5.8% to 6.4% (Table 4-4).

TABLE 4-1
Prevalence of Use of Various Types of Drugs by Gender among Respondents of Modal Ages 19–30, 2017
(Entries are percentages.)

	Males	Females	Total
Approximate Weighted N =	*1,800*	*2,600*	*4,400*
Any Illicit Drug [a]			
Annual	43.1	38.2	40.1
30-Day	27.7	21.4	23.9
Any Illicit Drug other than Marijuana [a]			
Annual	22.8	17.5	19.6
30-Day	10.4	7.5	8.6
Marijuana			
Annual	39.7	34.0	36.3
30-Day	26.2	19.5	22.2
Daily [b]	10.0	6.2	7.7
Synthetic Marijuana			
Annual [c]	1.5	0.5	0.9
Inhalants [c]			
Annual	1.2	0.4	0.7
30-Day	0.4	0.3	0.4
Hallucinogens [e]			
Annual	6.5	2.8	4.3
30-Day	1.2	0.6	0.8
LSD [e]			
Annual	4.6	1.8	2.9
30-Day	0.8	0.4	0.5
Hallucinogens other than LSD [e]			
Annual	4.5	1.7	2.8
30-Day	0.8	0.3	0.5
PCP [d]			
Annual	*	1.0	*
30-Day	*	0.9	*
MDMA (Ecstasy, Molly) [f]			
Annual	4.4	2.9	3.5
30-Day	0.9	0.7	0.8
Cocaine			
Annual	6.9	3.9	5.1
30-Day	3.0	1.3	1.9
Crack [e]			
Annual	0.2	0.1	0.2
30-Day	*	0.1	0.0
Other Cocaine [f]			
Annual	7.3	4.8	5.8
30-Day	3.1	1.3	2.0
Heroin			
Annual	0.6	0.3	0.4
30-Day	0.3	0.2	0.2
With a Needle [g]			
Annual	0.4	0.1	0.2
30-Day	0.1	0.1	0.1
Without a Needle [g]			
Annual	0.4	0.3	0.3
30-Day	0.1	0.2	0.2

(Table continued on next page.)

TABLE 4-1 (cont.)
Prevalence of Use of Various Types of Drugs by Gender among Respondents of Modal Ages 19–30, 2017

(Entries are percentages.)

	Males	Females	Total
Approximate Weighted N =	*1,800*	*2,600*	*4,400*
Narcotics other than Heroin [h]			
Annual	5.1	3.7	4.2
30-Day	1.3	1.2	1.2
Amphetamines, Adjusted [h,i]			
Annual	9.1	6.4	7.5
30-Day	3.2	2.7	2.9
Methamphetamine [g]			
Annual	0.8	0.4	0.6
30-Day	0.2	0.2	0.2
Crystal Methamphetamine (Ice) [g]			
Annual	0.9	0.5	0.7
30-Day	0.3	0.3	0.3
Bath Salts (Synthetic Stimulants) [c]			
Annual	0.5	0.2	0.3
Sedatives (Barbiturates) [h]			
Annual	2.6	1.9	2.2
30-Day	0.6	0.6	0.6
Tranquilizers [h]			
Annual	4.9	4.5	4.7
30-Day	1.5	1.5	1.5
Alcohol			
Annual	82.0	82.1	82.0
30-Day	71.6	65.5	68.0
Daily [b]	8.5	3.1	5.2
5+ Drinks in a Row in Last 2 Weeks	38.5	26.6	31.4
10+ Drinks in a Row in Last 2 Weeks [d]	17.9	6.3	10.9
15+ Drinks in a Row in Last 2 Weeks [d]	6.8	0.9	3.3
Been Drunk [c]			
Annual	65.6	57.1	60.5
30-Day	41.0	31.6	35.4
Daily [b]	0.5	0.2	0.3
Flavored Alcoholic Beverages [d]			
Annual	47.4	54.1	51.5
30-Day	20.9	27.6	25.0
Cigarettes			
Annual	28.0	19.8	23.0
30-Day	18.5	12.3	14.8
Daily	10.4	7.3	8.6
1/2 Pack+/Day	5.6	3.8	4.5
Any Vaping [g]			
Lifetime	36.1	24.3	28.9
Annual	26.1	15.6	19.7
30-Day	18.7	7.4	11.9
Vaping Marijuana [g]			
Lifetime	21.2	10.9	15.0
Annual	16.3	7.8	11.1
30-Day	9.4	4.3	6.3
Vaping Nicotine [g]			
Lifetime	27.7	18.2	21.9
Annual	17.9	9.6	12.9
30-Day	11.0	4.2	6.9

(Table continued on next page.)

TABLE 4-1 (cont.)
Prevalence of Use of Various Types of Drugs by Gender among Respondents of Modal Ages 19–30, 2017

Vaping Just Flavoring [g]			
Lifetime	20.0	16.0	17.6
Annual	9.7	7.0	8.1
30-Day	6.2	1.7	3.4
Smokeless Tobacco [d]			
Lifetime	42.9	12.0	24.8
30-Day	19.2	2.0	9.1
Daily	4.6	0.0	1.9
Steroids [g]			
Annual	0.4	0.1	0.3
30-Day	0.2	0.1	0.2

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

Notes. ' * ' indicates a prevalence rate of less than 0.05%.

[a]Use of any illicit drug includes any use of marijuana, hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders.

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

[c]This drug was asked about in three of the six questionnaire forms. Total *N* is approximately 2,200.

[d]This drug was asked about in one of the six questionnaire forms. Total *N* is approximately 700.

[e]This drug was asked about in five of the six questionnaire forms. Total *N* is approximately 3,600.

[f]This drug was asked about in four of the six questionnaire forms. Total *N* is approximately 2,900.

[g]This drug was asked about in two of the six questionnaire forms. Total *N* is approximately 1,500.

[h]Only drug use that was 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 amphetamines.

TABLE 4-2
Lifetime Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2017

(Entries are percentages.)

	Approximate Weighted N	Any Illicit Drug [a]	Any Illicit Drug other than Marijuana [a]	Marijuana	Inhalants [b]	Hallucinogens [d]	LSD [d]	Hallucinogens other than LSD [d]	PCP [c]	MDMA (Ecstasy,Molly) [f]	Cocaine	Crack [d]
Total	4,400	65.3	38.6	61.0	5.6	13.6	8.6	11.6	1.0	13.1	12.3	1.6
Gender												
Male	1,800	67.1	42.6	63.4	6.9	19.3	12.7	17.2	1.6	15.0	15.7	2.0
Female	2,600	64.1	35.8	59.4	4.8	9.8	6.0	7.9	0.6	11.8	10.0	1.4
Modal Age												
19–20	700	55.7	25.7	50.0	3.8	7.4	5.1	4.9	*	4.4	5.0	0.6
21–22	700	60.9	30.4	57.6	3.2	10.7	7.9	7.4	0.4	10.5	10.3	1.1
23–24	700	65.3	39.1	63.7	6.0	14.2	10.0	11.9	*	14.7	10.7	0.9
25–26	700	67.0	43.3	62.7	6.0	16.5	11.7	14.5	0.4	16.6	14.8	0.9
27–28	800	69.4	43.7	65.1	6.8	15.0	9.0	13.7	0.6	15.8	14.5	2.3
29–30	700	71.3	46.4	65.0	7.7	17.0	7.8	16.2	3.9	15.4	17.3	3.7
Region												
Northeast	800	69.1	36.8	65.0	5.8	13.0	8.5	11.0	0.4	13.7	12.4	1.5
Midwest	1,100	64.7	38.9	59.9	4.2	13.8	9.5	11.5	0.6	11.8	10.9	1.2
South	1,400	62.8	36.4	57.7	5.8	11.4	7.0	9.4	2.1	10.6	11.1	2.1
West	1,000	66.0	41.7	63.4	6.9	16.6	10.1	14.8	0.2	17.8	15.3	1.5
Population Density [e]												
Farm/Country	400	63.2	37.0	56.6	6.0	12.9	7.6	11.9	2.1	8.9	10.8	3.5
Small Town	1,100	61.8	35.6	56.5	5.0	12.3	7.6	10.0	0.6	9.5	10.5	1.6
Medium City	1,100	63.2	35.1	59.2	5.7	12.2	8.2	9.7	1.3	13.1	9.9	1.2
Large City	1,000	66.7	40.2	62.8	6.4	14.2	10.1	12.1	0.3	14.3	13.0	1.5
Very Large City	700	72.8	46.3	71.0	5.2	17.6	9.5	16.4	0.4	19.8	19.1	1.5

(Table continued on next page.)

TABLE 4-2 (cont.)
Lifetime Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2017

(Entries are percentages.)

	Approximate Weighted N	Other Cocaine [f]	Heroin	Heroin with a Needle [g]	Heroin without a Needle [g]	Narcotics other than Heroin [h]	Amphetamines [h,i]	Methamphetamine [g]	Crystal Methamphetamine (Ice) [g]
Total	*4,400*	13.9	1.6	0.8	1.6	14.9	19.3	3.1	2.2
Gender									
Male	*1,800*	17.3	2.1	1.3	2.6	18.1	22.1	3.6	2.6
Female	*2,600*	11.6	1.2	0.4	1.0	12.8	17.5	2.7	1.9
Modal Age									
19–20	*700*	4.9	0.2	*	0.4	7.4	10.3	1.2	0.7
21–22	*700*	10.0	0.6	0.4	0.6	8.8	15.8	2.9	1.3
23–24	*700*	13.4	1.0	0.4	1.4	13.9	20.2	2.1	1.4
25–26	*700*	15.9	2.1	1.4	2.6	17.8	21.8	2.5	1.3
27–28	*800*	17.5	2.7	1.5	2.3	18.5	21.7	4.0	3.9
29–30	*700*	19.9	2.6	1.0	2.3	21.7	24.4	5.3	4.0
Region									
Northeast	*800*	15.0	2.4	1.3	2.8	13.5	18.1	1.8	0.2
Midwest	*1,100*	11.4	1.2	0.7	1.2	15.6	21.6	2.8	2.5
South	*1,400*	12.2	1.1	0.5	1.1	13.6	18.4	2.9	2.1
West	*1,000*	18.3	2.2	1.1	1.7	17.3	18.3	4.7	3.6
Population Density [e]									
Farm/Country	*400*	13.3	2.3	2.4	2.0	17.8	16.9	7.1	3.8
Small Town	*1,100*	11.3	1.2	0.7	1.9	13.9	16.3	2.3	1.8
Medium City	*1,100*	10.5	1.6	0.4	1.5	13.6	18.2	3.3	2.5
Large City	*1,000*	15.5	1.4	1.0	1.3	15.4	19.8	2.7	1.2
Very Large City	*700*	22.4	2.0	0.2	1.7	16.7	25.7	2.3	2.9

(Table continued on next page.)

TABLE 4-2 (cont.)
Lifetime Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2017

(Entries are percentages.)

	Approximate Weighted N	Sedatives (Barbiturates)[h]	Tranquilizers[h]	Alcohol	Been Drunk[b]	Flavored Alcoholic Beverages[c]	Cigarettes	Any Vaping[g]	Vaping Marijuana[g]	Vaping Nicotine[g]
Total	*4,400*	7.3	13.4	86.3	76.4	80.4	—	31.7	15.8	23.1
Gender										
Male	*1,800*	8.9	14.7	85.7	77.7	78.9	—	38.0	20.2	28.7
Female	*2,600*	6.2	12.5	86.7	75.5	81.4	—	27.6	13.0	19.4
Modal Age										
19–20	*700*	3.8	7.6	69.9	54.5	61.4	—	35.8	15.0	20.4
21–22	*700*	4.5	9.1	85.9	74.1	83.7	—	36.4	16.5	28.5
23–24	*700*	5.6	12.0	90.2	81.1	79.6	—	36.3	20.2	24.8
25–26	*700*	8.6	15.2	88.5	81.9	82.5	—	30.8	15.9	26.1
27–28	*800*	9.3	17.1	89.7	82.3	87.1	—	32.4	18.0	24.1
29–30	*700*	11.3	18.3	91.5	80.6	86.2	—	19.3	9.3	14.8
Region										
Northeast	*800*	6.5	12.6	89.6	81.7	85.9	—	35.4	21.2	24.7
Midwest	*1,100*	7.8	13.6	88.4	80.7	83.1	—	29.0	13.7	21.9
South	*1,400*	6.8	13.2	85.3	72.9	74.7	—	30.5	12.5	22.9
West	*1,000*	7.7	14.0	82.5	71.7	80.7	—	34.4	19.0	23.6
Population Density[e]										
Farm/Country	*400*	7.5	12.6	82.4	74.5	81.2	—	30.3	11.1	24.1
Small Town	*1,100*	7.5	11.9	84.0	73.7	76.4	—	28.8	12.1	20.5
Medium City	*1,100*	6.2	12.7	84.5	74.7	83.2	—	31.3	14.6	22.2
Large City	*1,000*	7.5	15.1	89.2	77.3	80.9	—	32.1	16.9	23.4
Very Large City	*700*	8.2	15.1	90.9	84.3	81.1	—	37.5	24.9	26.9

(Table continued on next page.)

TABLE 4-2 (cont.)
Lifetime Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2017
(Entries are percentages.)

	Approximate Weighted N	Vaping Just Flavoring [g]	Smokeless Tobacco [c]	Steroids [g]
Total	*4,400*	19.1	24.8	1.3
Gender				
Male	*1,800*	20.7	42.9	2.9
Female	*2,600*	18.2	12.0	0.3
Modal Age				
19–20	*700*	27.5	21.8	1.4
21–22	*700*	29.3	23.5	1.2
23–24	*700*	20.8	34.6	1.8
25–26	*700*	16.8	2.1	0.9
27–28	*800*	14.0	32.2	1.9
29–30	*700*	8.4	28.2	0.7
Region				
Northeast	*800*	22.6	23.3	1.6
Midwest	*1,100*	16.5	22.8	0.9
South	*1,400*	19.4	25.3	1.9
West	*1,000*	19.4	28.2	1.0
Population Density [e]				
Farm/Country	*400*	18.5	38.3	*
Small Town	*1,100*	18.7	25.1	1.6
Medium City	*1,100*	22.2	24.7	1.4
Large City	*1,000*	17.0	15.3	0.8
Very Large City	*700*	18.0	32.5	2.5

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

Notes. ' — ' indicates data not available.

[a]Use of any illicit drug includes any use of marijuana, hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders.

[b]This drug was asked about in three of the six questionnaire forms. Total *N* is approximately 2,200.

[c]This drug was asked about in one of the six questionnaire forms. Total *N* is approximately 700.

[d]This drug was asked about in five of the six questionnaire forms. Total *N* is approximately 3,600.

[e]A small town is defined as having fewer than 50,000 inhabitants; a medium city as 50,000–100,000; a large city as 100,000–500,000; and a very large city as having over 500,000.

Within each level of population density, suburban and urban respondents are combined.

[f]This drug was asked about in four of the six questionnaire forms. Total *N* is approximately 2,900.

[g]This drug was asked about in two of the six questionnaire forms. Total *N* is approximately 1,500.

[h]Only drug use that was 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 amphetamines.

TABLE 4-3
Annual Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2017

(Entries are percentages.)

	Approximate Weighted N	Any Illicit Drug [a]	Any Illicit Drug other than Marijuana [a]	Marijuana	Synthetic Marijuana [c]	Inhalants [c]	Hallucinogens [e]	LSD [e]	Hallucinogens other than LSD [e]	PCP [d]	MDMA (Ecstasy,Molly) [f]	Salvia [c]	Cocaine	Crack [e]
Total	*4,400*	40.1	19.6	36.3	0.9	0.7	4.3	2.9	2.8	0.4	3.5	0.5	5.1	0.2
Gender														
Male	*1,800*	43.1	22.8	39.7	1.5	1.2	6.5	4.6	4.5	1.0	4.4	0.8	6.9	0.2
Female	*2,600*	38.2	17.5	34.0	0.5	0.4	2.8	1.8	1.7	*	2.9	0.4	3.9	0.1
Modal Age														
19–20	*700*	41.8	17.1	38.3	1.6	1.7	4.6	3.0	3.2	*	1.8	1.0	3.0	0.3
21–22	*700*	43.7	19.1	41.1	1.1	1.0	4.9	3.8	2.5	*	4.8	1.1	6.6	0.4
23–24	*700*	42.4	22.9	38.7	0.9	0.4	5.8	4.2	3.7	*	5.7	*	5.6	0.1
25–26	*700*	40.0	22.3	34.7	0.3	*	5.0	3.4	3.5	*	3.3	*	7.2	*
27–28	*800*	38.4	19.0	34.9	0.8	0.6	3.6	2.5	2.2	0.3	2.3	0.6	4.0	0.1
29–30	*700*	34.9	17.3	30.4	0.8	0.8	2.2	0.8	1.9	1.9	2.9	0.4	4.0	0.1
Region														
Northeast	*800*	43.7	20.1	40.4	0.5	0.8	3.2	2.4	2.2	0.4	3.0	1.0	5.5	0.2
Midwest	*1,100*	39.0	19.6	33.9	0.7	0.6	4.2	3.1	2.4	0.6	2.7	0.4	3.8	0.1
South	*1,400*	36.9	17.2	33.2	1.2	0.4	3.3	2.4	1.9	0.6	2.5	0.4	4.0	0.3
West	*1,000*	43.7	22.7	40.4	1.1	1.4	7.0	4.1	5.2	*	6.3	0.5	7.7	0.1
Population Density [j]														
Farm/Country	*400*	30.6	14.5	27.8	1.3	0.5	3.1	2.2	2.5	0.7	2.4	0.8	3.2	0.6
Small Town	*1,100*	35.6	16.2	31.0	1.0	0.6	3.3	2.2	2.0	*	2.4	0.6	3.3	0.1
Medium City	*1,100*	40.4	18.7	35.6	0.9	1.1	3.8	2.7	2.2	0.5	3.1	0.4	4.1	0.1
Large City	*1,000*	42.8	20.5	40.1	0.7	0.4	4.6	3.6	2.7	0.2	3.1	0.8	5.3	0.3
Very Large City	*700*	48.5	27.6	45.6	1.0	1.1	7.1	3.8	5.4	*	7.0	*	10.4	0.2

(Table continued on next page.)

TABLE 4-3 (cont.)
Annual Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2017

(Entries are percentages.)

	Approximate Weighted N	Other Cocaine [f]	Heroin	Heroin with a Needle [b]	Heroin without a Needle [b]	Narcotics other than Heroin [g]	OxyContin [c,g]	Vicodin [c,g]	Amphetamines [g,i]	Ritalin [c,g]	Adderall [c,g]	Methamphetamine [b]	Crystal Methamphetamine (Ice) [b]
Total	*4,400*	5.8	0.4	0.2	0.3	4.2	2.0	2.8	7.5	1.0	7.9	0.6	0.7
Gender													
Male	*1,800*	7.3	0.6	0.4	0.4	5.1	3.1	3.2	9.1	1.5	9.7	0.8	0.9
Female	*2,600*	4.8	0.3	0.1	0.3	3.7	1.3	2.5	6.4	0.7	6.7	0.4	0.5
Modal Age													
19–20	*700*	2.8	*	*	*	3.6	1.7	1.2	6.7	1.1	5.6	0.2	0.5
21–22	*700*	6.1	0.2	*	*	3.3	2.3	1.5	9.5	1.7	10.9	1.6	0.8
23–24	*700*	6.9	0.5	0.4	0.6	4.1	1.6	3.5	8.4	2.0	10.0	0.3	0.2
25–26	*700*	8.2	0.4	0.5	0.5	4.7	2.0	3.7	7.3	0.7	7.0	0.8	0.8
27–28	*800*	5.1	0.7	0.2	0.4	4.6	1.9	3.4	7.2	0.5	7.9	0.4	1.1
29–30	*700*	5.4	0.5	*	0.4	5.0	2.5	3.3	5.7	0.2	5.9	0.2	0.7
Region													
Northeast	*800*	7.5	0.7	0.6	0.7	4.5	2.3	2.3	8.0	2.0	8.5	0.3	*
Midwest	*1,100*	4.6	0.3	*	0.1	4.3	1.7	4.0	8.4	1.2	8.3	0.8	1.0
South	*1,400*	3.7	0.2	0.1	0.2	3.9	1.8	1.2	7.2	0.6	7.8	0.6	0.6
West	*1,000*	8.8	0.7	0.2	0.4	4.6	2.6	4.0	6.6	0.7	7.1	0.6	1.0
Population Density [j]													
Farm/Country	*400*	3.0	0.7	0.4	0.4	4.4	2.2	2.3	5.3	0.5	6.7	1.7	1.6
Small Town	*1,100*	3.3	0.2	0.3	0.6	3.7	1.0	2.0	6.2	1.2	7.0	0.4	0.5
Medium City	*1,100*	4.1	0.5	*	0.3	4.5	2.5	2.8	7.3	0.5	6.9	0.4	0.9
Large City	*1,000*	6.6	0.2	0.2	0.2	4.4	2.0	3.4	8.3	1.0	8.1	0.8	0.3
Very Large City	*700*	13.6	0.6	*	0.2	4.1	2.8	3.4	9.9	2.0	11.5	0.2	0.7

(Table continued on next page.)

TABLE 4-3 (cont.)

Annual Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2017

(Entries are percentages.)

	Approximate Weighted N	Bath Salts (synthetic stimulants) [c]	Sedatives (Barbiturates) [g]	Tranquilizers [g]	GHB [b]	Ketamine [b]	Alcohol	Been Drunk [c]	Flavored Alcoholic Beverages [d]	Alcoholic Beverages containing Caffeine [b]	Cigarettes	Tobacco using a Hookah [c]	Small Cigars [b]	Any Vaping [b]	Vaping Marijuana [b]
Total	*4,400*	0.3	2.2	4.7	-	0.4	82.0	60.5	51.5	30.6	23.0	11.4	15.3	21.1	11.4
Gender															
Male	*1,800*	0.5	2.6	4.9	-	0.6	82.0	65.6	47.4	37.7	28.0	12.4	26.2	27.4	15.6
Female	*2,600*	0.2	1.9	4.5	-	0.3	82.1	57.1	54.1	25.8	19.8	10.8	7.9	17.0	8.7
Modal Age															
19–20	*700*	0.5	2.0	3.8	-	0.8	63.9	46.8	49.1	23.0	17.6	11.6	16.1	25.4	12.3
21–22	*700*	0.8	2.1	4.2	-	0.5	83.8	64.7	70.1	37.1	26.5	14.1	16.7	22.2	11.1
23–24	*700*	*	2.2	4.9	-	0.5	87.6	65.0	61.9	34.9	25.4	14.9	17.4	25.2	16.5
25–26	*700*	0.2	2.5	5.4	-	0.6	84.3	65.9	54.1	34.0	26.8	12.0	17.2	21.7	11.2
27–28	*800*	0.4	2.3	5.0	-	0.2	84.4	60.7	36.9	29.4	22.7	8.3	11.0	20.9	11.6
29–30	*700*	*	2.1	4.6	-	*	85.7	57.7	35.8	24.8	19.0	7.9	14.6	12.0	5.8
Region															
Northeast	*800*	0.4	1.8	4.8	-	0.5	86.3	66.2	56.5	28.1	23.9	11.7	17.0	24.0	14.4
Midwest	*1,100*	0.2	2.5	4.8	-	0.3	85.7	64.5	47.1	34.3	25.1	9.6	18.6	19.8	10.6
South	*1,400*	0.5	2.2	4.3	-	0.5	79.9	57.7	52.1	29.0	22.7	11.3	13.8	19.7	8.4
West	*1,000*	0.2	2.0	4.9	-	0.5	76.9	54.6	51.6	30.4	20.8	13.5	12.7	23.4	14.9
Population Density [j]															
Farm/Country	*400*	1.6	2.4	3.6	-	0.3	77.9	53.6	57.4	21.1	31.2	6.6	15.3	20.2	7.0
Small Town	*1,100*	*	2.1	3.7	-	0.2	79.9	59.4	53.8	31.4	24.7	9.0	15.3	17.3	6.7
Medium City	*1,100*	0.3	1.7	5.4	-	0.6	79.9	58.0	52.1	26.4	20.2	11.2	11.9	20.1	10.9
Large City	*1,000*	0.4	2.2	4.8	-	0.5	84.9	61.4	54.1	33.4	21.7	12.4	16.3	23.1	13.6
Very Large City	*700*	0.2	2.8	5.6	-	0.4	87.2	69.0	42.9	37.6	22.9	17.0	19.9	25.4	18.6

(Table continued on next page.)

TABLE 4-3 (cont.)
Annual Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2017

(Entries are percentages.)

	Approximate Weighted N	Vaping Nicotine [b]	Vaping Just Flavoring [b]	Dissolvable Tobacco [b]	Snus [b]	Steroids [g]
Total	*4,400*	13.3	8.8	0.7	4.3	0.3
Gender						
Male	*1,800*	18.3	10.5	1.3	9.0	0.4
Female	*2,600*	10.0	7.7	0.3	0.9	0.1
Modal Age						
19–20	*700*	14.3	16.1	1.2	4.6	1.0
21–22	*700*	16.7	11.4	0.7	4.3	0.2
23–24	*700*	15.3	10.2	1.4	6.5	0.4
25–26	*700*	12.0	7.4	0.4	3.2	*
27–28	*800*	13.8	5.5	0.3	4.2	*
29–30	*700*	7.7	3.6	0.4	2.6	*
Region						
Northeast	*800*	13.1	11.0	0.5	3.1	0.4
Midwest	*1,100*	15.4	8.1	1.2	6.2	0.3
South	*1,400*	12.0	8.4	0.4	3.0	0.4
West	*1,000*	13.3	9.5	0.9	4.9	*
Population Density [j]						
Farm/Country	*400*	15.0	6.7	0.9	6.0	*
Small Town	*1,100*	11.8	8.2	0.5	5.3	0.6
Medium City	*1,100*	12.4	10.4	0.9	3.1	0.3
Large City	*1,000*	13.8	8.8	0.8	3.3	0.1
Very Large City	*700*	13.7	7.8	0.0	4.3	*

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

Notes. ' * ' indicates a prevalence rate of less than 0.05%.

[a]Use of any illicit drug includes any use of marijuana, hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders.

[b]This drug was asked about in two of the six questionnaire forms. Total *N* is approximately 1,500.

[c]This drug was asked about in three of the six questionnaire forms. Total *N* is approximately 2,200.

[d]This drug was asked about in one of the six questionnaire forms. Total *N* is approximately 700.

[e]This drug was asked about in five of the six questionnaire forms. Total *N* is approximately 3,600.

[f]This drug was asked about in four of the six questionnaire forms. Total *N* is approximately 2,900.

[g]Only drug use that was 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 amphetamines.

[j]A small town is defined as having fewer than 50,000 inhabitants; a medium city as 50,000–100,000; a large city as 100,000–500,000; and a very large city as having over 500,000.

Within each level of population density, suburban and urban respondents are combined.

TABLE 4-4
Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2017

(Entries are percentages.)

	Approximate Weighted N	Any Illicit Drug [a]	Any Illicit Drug [a] other than Marijuana	Marijuana	Inhalants [b]	Hallucinogens [d]	LSD [d]	Hallucinogens other than LSD [d]	PCP [c]	MDMA (Ecstasy,Molly) [f]	Cocaine	Crack [d]
Total	*4,400*	23.9	8.6	22.2	0.4	0.8	0.5	0.5	0.4	0.8	1.9	0.0
Gender												
Male	*1,800*	27.7	10.4	26.2	0.4	1.2	0.8	0.8	0.9	0.9	3.0	*
Female	*2,600*	21.4	7.5	19.5	0.3	0.6	0.4	0.3	*	0.7	1.3	0.1
Modal Age												
19–20	*700*	23.3	5.7	22.0	0.1	0.7	0.5	0.3	*	0.5	1.1	0.1
21–22	*700*	26.3	9.2	25.7	0.9	1.8	1.2	0.8	*	1.0	1.5	0.2
23–24	*700*	25.7	10.0	24.6	0.4	0.7	0.3	0.7	*	1.0	2.9	*
25–26	*700*	24.8	9.5	21.8	*	0.5	0.4	0.3	*	0.5	2.9	*
27–28	*800*	23.4	8.6	21.1	0.4	0.9	0.5	0.6	0.3	1.0	1.3	*
29–30	*700*	19.6	8.5	17.8	0.3	0.3	0.2	0.2	1.6	0.5	2.0	*
Region												
Northeast	*800*	26.9	8.7	25.0	0.6	0.3	0.3	0.3	*	0.5	1.9	*
Midwest	*1,100*	21.4	9.0	18.8	0.2	1.0	0.6	0.5	0.6	0.4	1.3	*
South	*1,400*	21.7	7.6	20.2	0.2	0.5	0.4	0.2	0.6	0.5	1.6	0.1
West	*1,000*	28.3	10.0	26.9	0.6	1.5	0.8	1.1	*	1.8	3.4	0.1
Population Density [e]												
Farm/Country	*400*	18.0	6.2	17.3	0.5	0.5	0.5	*	*	*	1.1	0.4
Small Town	*1,100*	22.2	7.3	19.7	0.2	0.7	0.4	0.4	*	0.9	1.4	*
Medium City	*1,100*	22.3	7.8	20.8	0.6	1.0	0.6	0.3	0.5	0.8	1.2	*
Large City	*1,000*	24.6	8.4	24.4	0.2	0.7	0.5	0.6	0.3	0.7	1.7	0.1
Very Large City	*700*	32.0	13.9	27.9	0.4	1.2	0.6	0.9	*	1.1	5.1	*

(Table continued on next page.)

TABLE 4-4 (cont.)
Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2017

(Entries are percentages.)

	Approximate Weighted N	Other Cocaine [f]	Heroin	Heroin With Needle [g]	Heroin Without Needle [g]	Narcotics other than Heroin [h]	Amphetamines [h,i]	Methamphetamine [g]	Crystal Methamphetamine (Ice) [g]
Total	*4,400*	2.0	0.2	0.1	0.2	1.2	2.9	0.2	0.3
Gender									
Male	*1,800*	3.1	0.3	0.1	0.1	1.3	3.2	0.2	0.3
Female	*2,600*	1.3	0.2	0.1	0.2	1.2	2.7	0.2	0.3
Modal Age									
19–20	*700*	0.6	*	*	*	0.7	2.5	0.2	0.5
21–22	*700*	1.3	0.2	*	*	1.1	4.4	0.4	0.7
23–24	*700*	3.2	0.2	*	0.4	0.7	3.0	0.1	*
25–26	*700*	2.9	0.2	0.2	0.2	0.9	3.1	0.2	0.4
27–28	*800*	1.4	0.4	0.2	0.2	2.1	2.2	0.2	0.4
29–30	*700*	2.7	0.2	*	0.2	1.8	2.2	*	*
Region									
Northeast	*800*	3.1	0.4	0.2	0.4	1.3	3.1	*	*
Midwest	*1,100*	1.3	0.1	*	0.1	1.3	3.1	0.1	0.5
South	*1,400*	1.3	0.2	0.1	0.1	1.2	3.0	0.5	0.4
West	*1,000*	3.2	0.3	*	0.2	1.2	2.6	*	0.2
Population Density [e]									
Farm/Country	*400*	1.9	0.5	0.4	0.4	2.0	1.2	0.8	1.2
Small Town	*1,100*	1.3	0.1	0.1	0.1	0.8	2.6	0.2	0.1
Medium City	*1,100*	1.0	0.3	*	0.3	1.2	2.8	*	0.4
Large City	*1,000*	1.5	0.1	*	*	0.8	3.3	0.2	0.2
Very Large City	*700*	6.2	0.3	*	0.2	2.2	3.9	0.2	0.2

(Table continued on next page.)

TABLE 4-4 (cont.)
Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2017

(Entries are percentages.)

	Approximate Weighted N	Sedatives (Barbiturates)[h]	Tranquilizers[h]	Alcohol	Been Drunk[b]	Flavored Alcoholic Beverages[c]	Cigarettes	Large Cigars[c]	Flavored Little Cigars[c]	Regular Little Cigars[c]
Total	*4,400*	0.6	1.5	68.0	35.4	25.0	14.8	4.4	4.9	2.9
Gender										
Male	*1,800*	0.6	1.5	71.6	41.0	20.9	18.5	8.2	6.6	5.8
Female	*2,600*	0.6	1.5	65.5	31.6	27.6	12.3	2.2	3.7	1.2
Modal Age										
19–20	*700*	1.0	1.1	46.0	25.1	22.4	9.6	3.5	4.9	4.8
21–22	*700*	0.4	1.2	72.7	40.7	42.3	17.3	2.6	10.0	1.1
23–24	*700*	0.5	1.3	74.1	39.3	33.5	16.9	2.7	4.1	3.4
25–26	*700*	0.4	1.1	71.7	37.8	24.4	17.6	3.0	2.9	2.0
27–28	*800*	0.8	2.2	68.9	36.4	13.6	14.8	5.3	4.9	2.5
29–30	*700*	0.5	1.8	71.5	31.5	12.9	12.0	9.4	1.5	3.5
Region										
Northeast	*800*	0.5	1.5	73.9	39.8	31.1	13.7	1.7	5.5	4.0
Midwest	*1,100*	1.0	1.6	73.4	39.0	20.6	16.4	6.3	5.0	2.8
South	*1,400*	0.6	1.4	64.0	34.0	26.0	15.7	4.5	4.7	3.1
West	*1,000*	0.1	1.4	62.3	28.2	26.1	12.5	4.3	4.0	2.1
Population Density[e]										
Farm/Country	*400*	0.5	1.7	63.3	30.3	28.4	21.5	4.9	10.0	6.9
Small Town	*1,100*	0.7	1.5	63.9	32.6	30.4	15.8	4.0	4.8	2.6
Medium City	*1,100*	0.4	1.5	65.0	34.3	28.6	11.8	6.2	4.5	1.5
Large City	*1,000*	0.6	1.7	71.1	34.8	26.0	14.5	3.8	5.0	3.3
Very Large City	*700*	0.8	1.2	77.4	45.3	12.6	14.5	3.5	2.2	2.9

(Table continued on next page.)

TABLE 4-4 (cont.)
Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2017

(Entries are percentages.)

	Approximate Weighted N	Any Vaping [g]	Vaping Marijuana [g]	Vaping Nicotine [g]	Vaping Just Flavoring [g]	Smokeless Tobacco[c]	Steroids [g]
Total	*4,400*	11.3	6.1	6.2	2.9	9.1	0.2
Gender							
Male	*1,800*	16.4	8.8	8.9	4.8	19.2	0.2
Female	*2,600*	8.0	4.4	4.4	1.7	2.0	0.1
Modal Age							
19–20	*700*	13.0	6.0	7.4	4.9	8.4	0.6
21–22	*700*	11.1	6.1	6.0	3.9	5.9	*
23–24	*700*	13.5	8.4	8.3	2.8	18.0	0.4
25–26	*700*	8.5	4.6	3.6	3.1	2.1	*
27–28	*800*	13.2	7.4	7.2	2.0	9.3	*
29–30	*700*	8.7	4.1	4.8	1.2	7.8	*
Region							
Northeast	*800*	13.0	6.8	7.7	4.5	8.7	0.4
Midwest	*1,100*	9.9	5.5	5.1	2.9	7.5	0.3
South	*1,400*	10.5	4.3	6.4	2.6	7.9	0.1
West	*1,000*	14.1	10.4	6.1	2.3	13.3	*
Population Density e							
Farm/Country	*400*	10.3	2.7	6.0	2.3	19.4	*
Small Town	*1,100*	9.9	4.2	5.8	3.5	7.3	0.4
Medium City	*1,100*	10.6	5.4	6.4	3.4	11.9	0.3
Large City	*1,000*	12.5	7.9	6.1	2.9	4.4	*
Very Large City	*700*	13.1	9.7	6.3	1.7	9.2	*

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

Notes. ' * ' indicates a prevalence rate of less than 0.05%.

[a]Use of any illicit drug includes any use of marijuana, hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders.

[b]This drug was asked about in three of the six questionnaire forms. Total *N* is approximately 2,200.

[c]This drug was asked about in one of the six questionnaire forms. Total *N* is approximately 700.

[d]This drug was asked about in five of the six questionnaire forms. Total *N* is approximately 3,600.

[e]A small town is defined as having fewer than 50,000 inhabitants; a medium city as 50,000–100,000; a large city as 100,000–500,000; and a very large city as having over 500,000.

Within each level of population density, suburban and urban respondents are combined.

[f]This drug was asked about in four of the six questionnaire forms. Total *N* is approximately 2,900.

[g]This drug was asked about in two of the six questionnaire forms. Total *N* is approximately 1,500.

[h]Only drug use that was 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 amphetamines.

TABLE 4-5
Thirty-Day Prevalence of Daily Use [a] of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2017

(Entries are percentages.)

	Approximate Weighted N	Marijuana Daily	Alcohol Daily	Alcohol: 5+ Drinks in a Row in Last 2 Weeks	Alcohol: 10+ Drinks in a Row in Last 2 Weeks [c]	Alcohol: 15+ Drinks in a Row in Last 2 Weeks [c]	Cigarettes Daily	Cigarettes: 1/2 Pack+ per Day	Smokeless Tobacco [c]
Total	*4,400*	7.7	5.2	31.4	10.9	3.3	8.6	4.5	1.9
Gender									
Male	*1,800*	10.0	8.5	38.5	17.9	6.8	10.4	5.6	4.6
Female	*2,600*	6.2	3.1	26.6	6.3	0.9	7.3	3.8	0.0
Modal Age:									
19–20	*700*	6.2	1.1	22.1	7.7	1.9	4.8	2.7	0.0
21–22	*700*	9.0	4.4	39.8	12.9	4.0	8.7	3.8	4.7
23–24	*700*	9.2	6.4	31.2	11.8	4.9	9.6	5.9	1.4
25–26	*700*	8.0	5.5	33.8	11.0	1.9	9.4	4.8	0.9
27–28	*800*	6.6	6.9	31.4	12.6	4.5	10.9	5.8	2.6
29–30	*700*	6.9	6.4	28.7	9.6	2.0	7.4	4.1	1.6
Region									
Northeast	*800*	7.8	4.9	35.7	13.5	3.2	8.3	4.4	0.5
Midwest	*1,100*	6.7	5.7	34.9	17.5	4.0	9.4	5.5	1.5
South	*1,400*	7.3	5.0	28.4	6.9	3.3	9.7	5.3	1.2
West	*1,000*	10.0	5.2	27.1	6.9	2.1	6.1	2.3	4.3
Population Density [b]									
Farm/Country	*400*	7.2	3.5	25.7	10.9	3.5	15.1	10.8	1.5
Small Town	*1,100*	7.2	4.7	28.7	11.2	3.0	10.2	5.7	1.9
Medium City	*1,100*	6.5	4.6	28.8	8.8	1.8	7.1	4.0	2.3
Large City	*1,000*	8.7	5.2	32.7	13.5	3.3	7.6	3.3	1.9
Very Large City	*700*	9.3	8.4	40.4	9.8	4.9	6.5	2.2	1.4

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

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

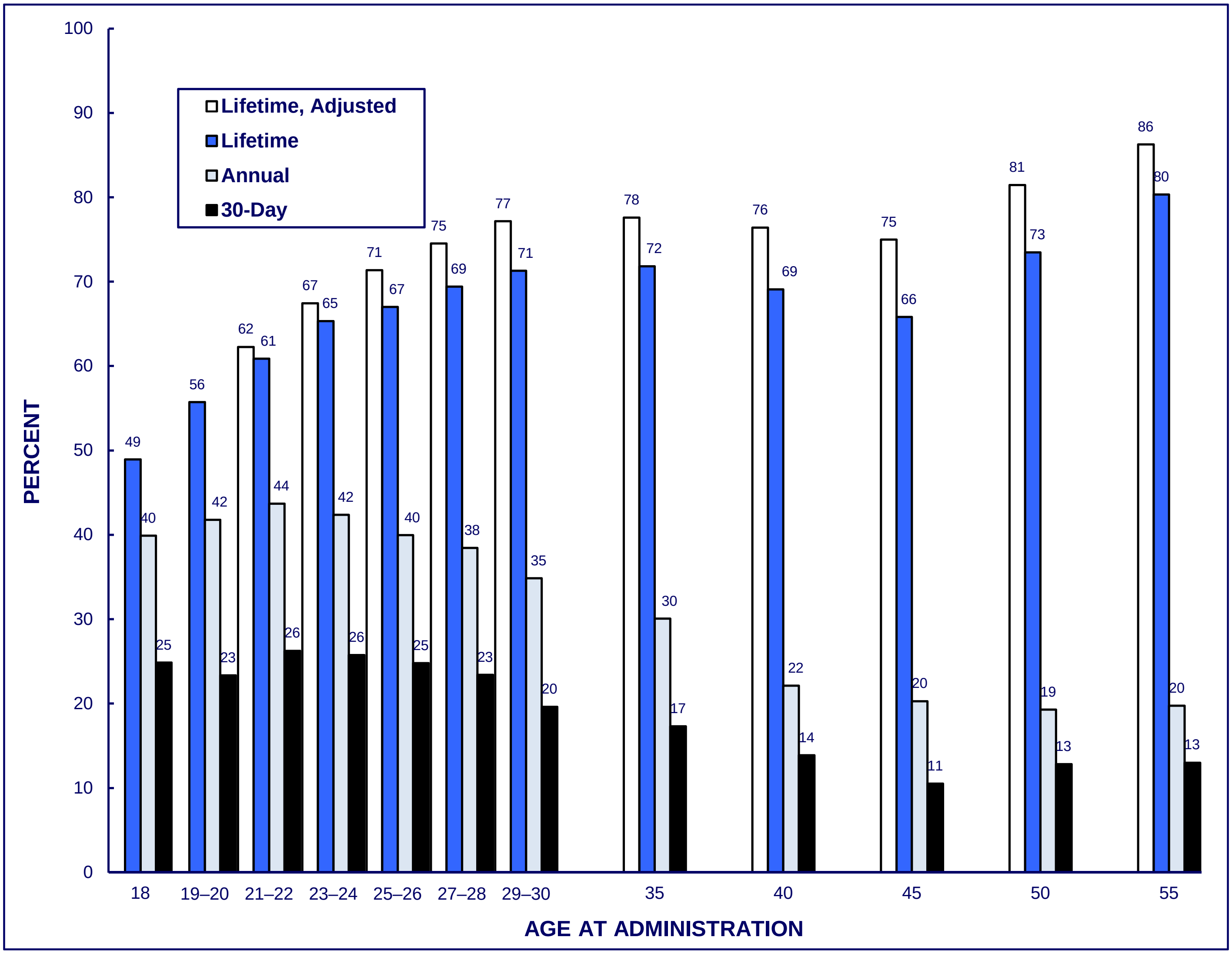
[b]A small town is defined as having fewer than 50,000 inhabitants; a medium city as 50,000–100,000; a large city as 100,000–500,000; and a very large city as having over 500,000. Within each level of population density, suburban and urban respondents are combined.

[c]This drug was asked about in one of the six questionnaire forms. Total *N* is approximately 700.

FIGURE 4-1

ANY ILLICIT DRUG[a]

Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 55 by Age Group, 2017



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

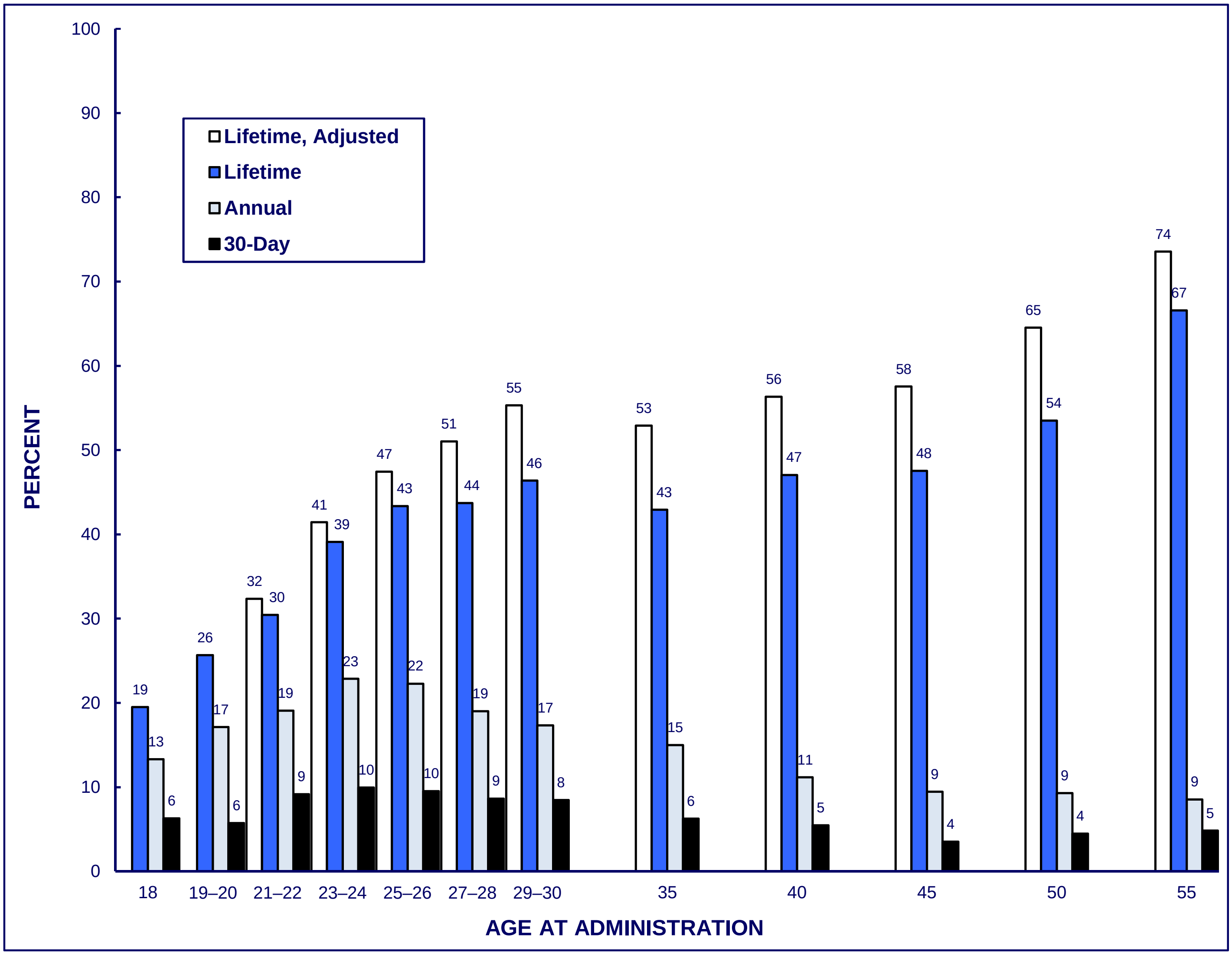
Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion. Due to rounding, some bars with the same number may have uneven height.

[a]The questions on hallucinogen use are not included in the age 55 questionnaire. Therefore, the data presented here include hallucinogens for ages 18 to 50, but not for age 55.

FIGURE 4-2

ANY ILLICIT DRUG OTHER THAN MARIJUANA[a]

Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 55 by Age Group, 2017

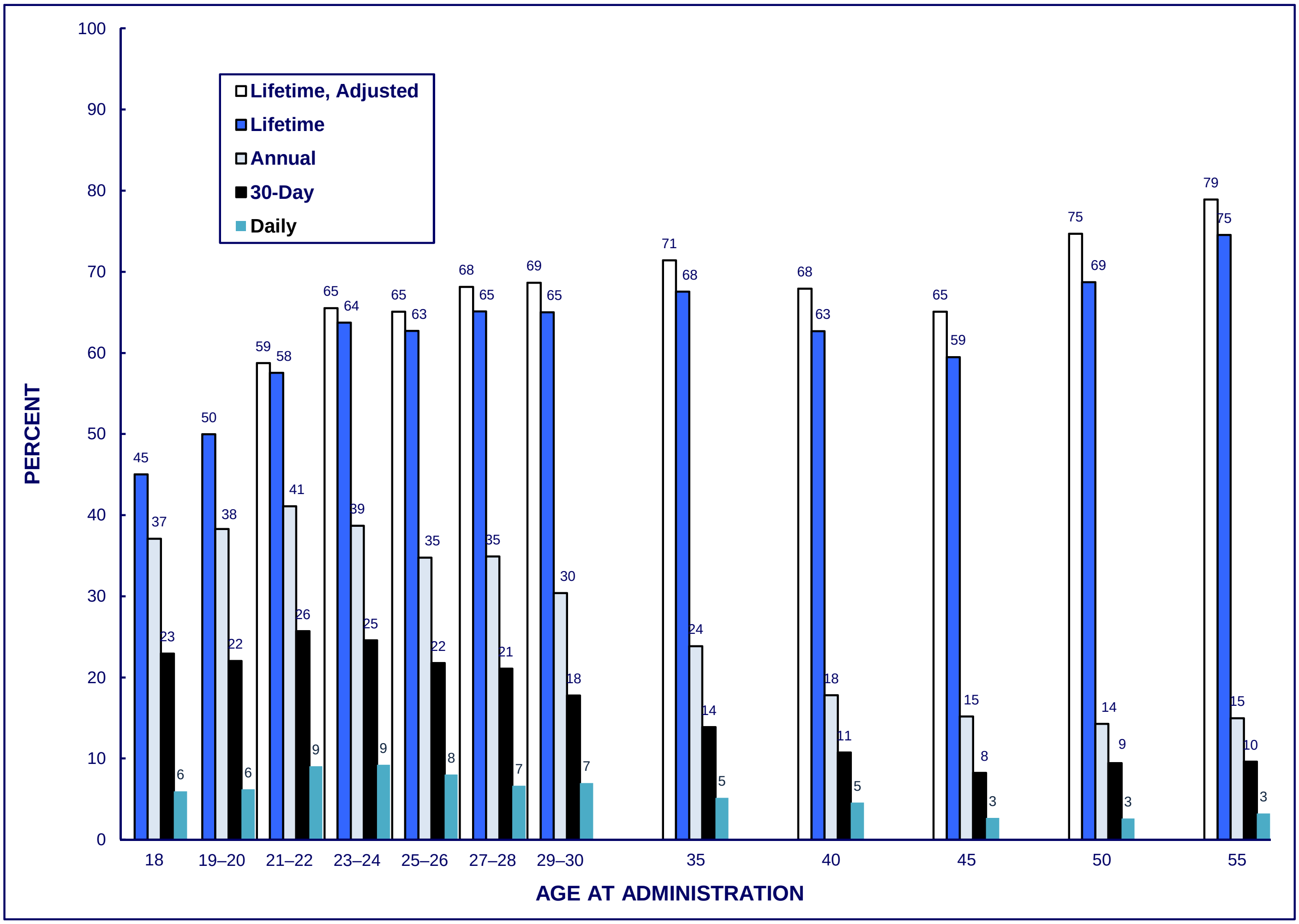


Source. The Monitoring the Future study, the University of Michigan.

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion. Due to rounding, some bars with the same number may have uneven height.

[a]The questions on hallucinogen use are not included in the age 55 questionnaire. Therefore, the data presented here include hallucinogens for ages 18 to 50, but not for age 55.

FIGURE 4-3
MARIJUANA
Lifetime, Annual, 30-Day, and Daily Prevalence among Respondents of Modal Ages 18 through 55 by Age Group, 2017



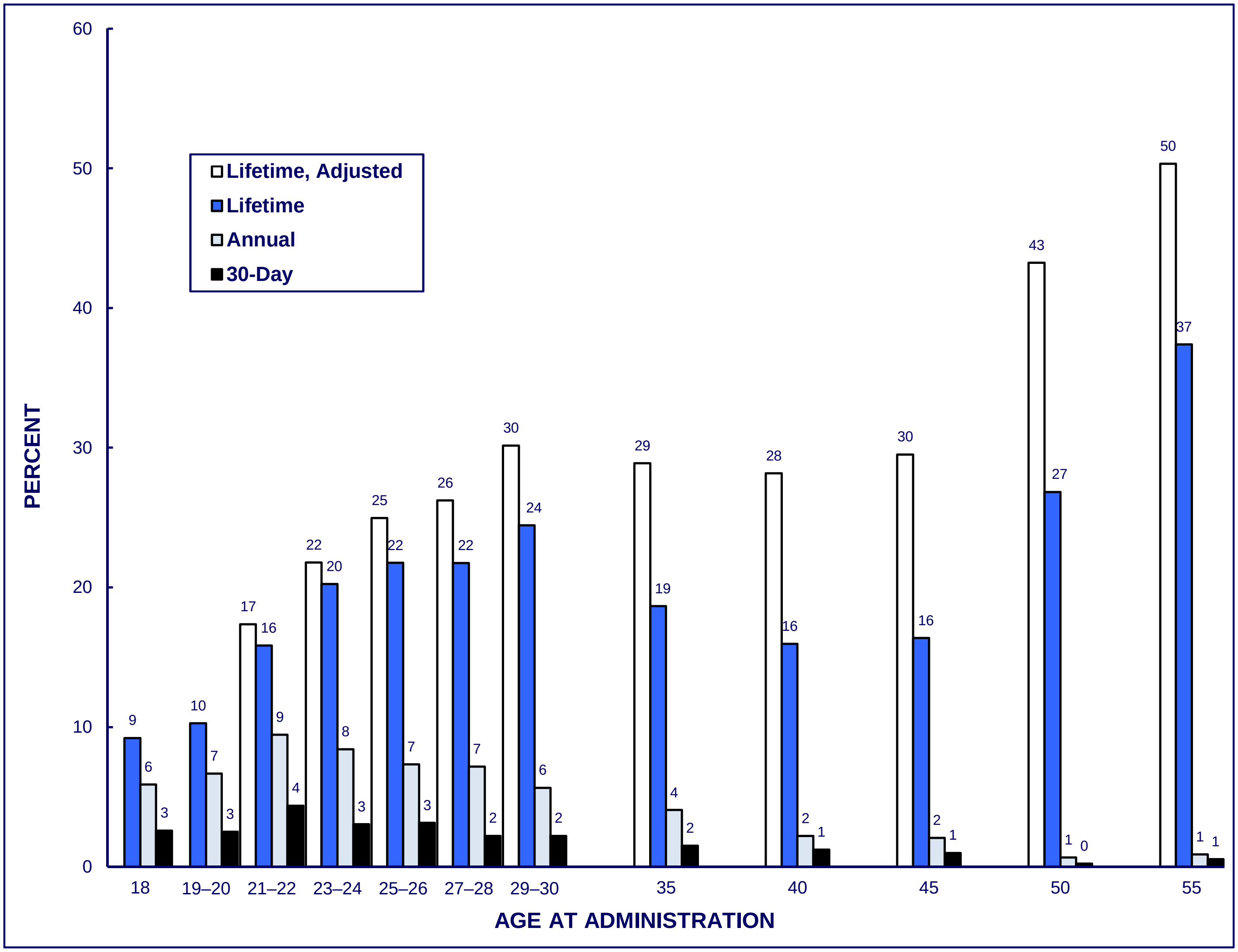
Source. The Monitoring the Future study, the University of Michigan.

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.
Due to rounding some bars with the same number may have uneven height.

FIGURE 4-4

AMPHETAMINES

Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 55 by Age Group, 2017

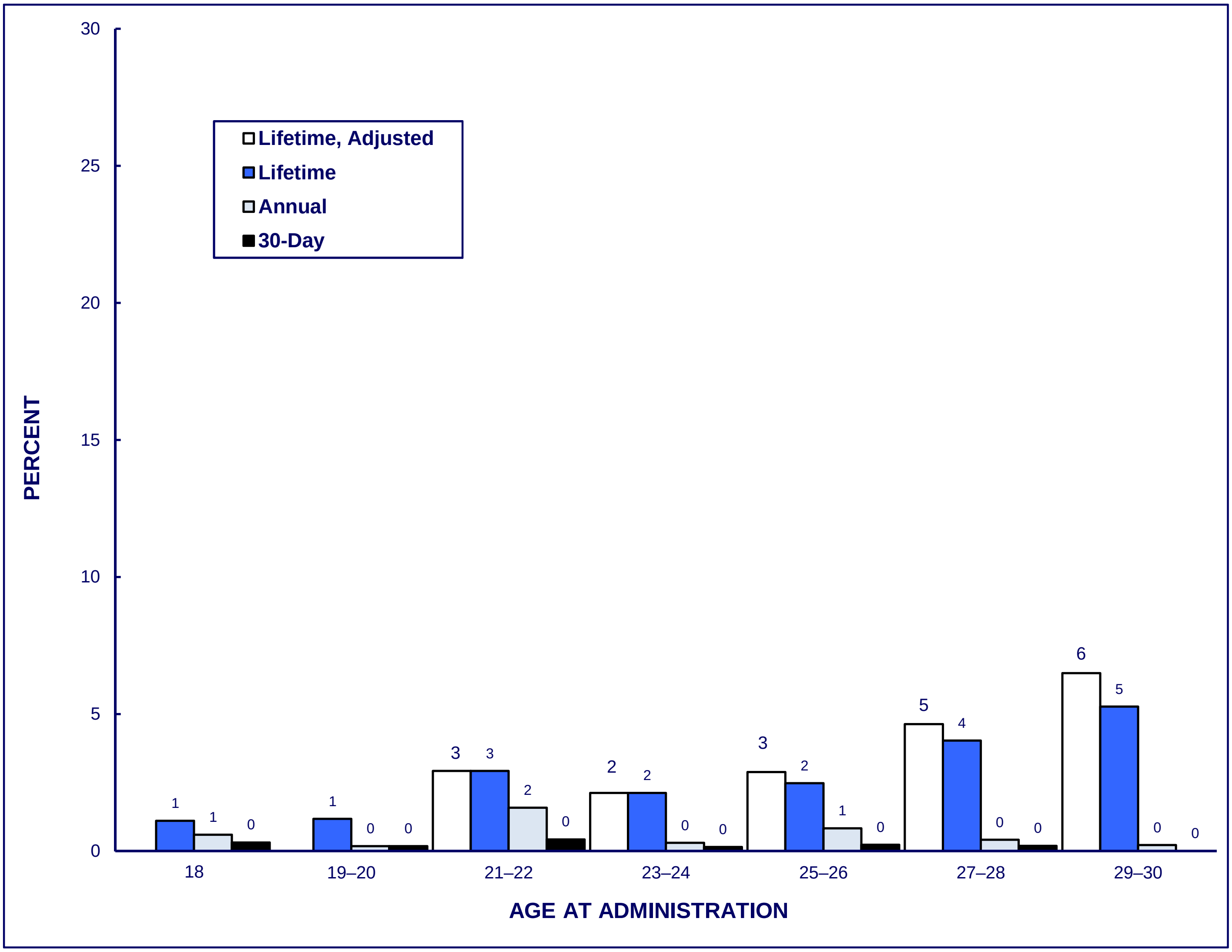


Source. The Monitoring the Future study, the University of Michigan.

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

Due to rounding, some bars with the same number may have uneven height.

FIGURE 4-5
METHAMPHETAMINE
Lifetime, Annual, and 30-Day Prevalence
among Respondents of Modal Ages 18 through 30 [a]
by Age Group, 2017

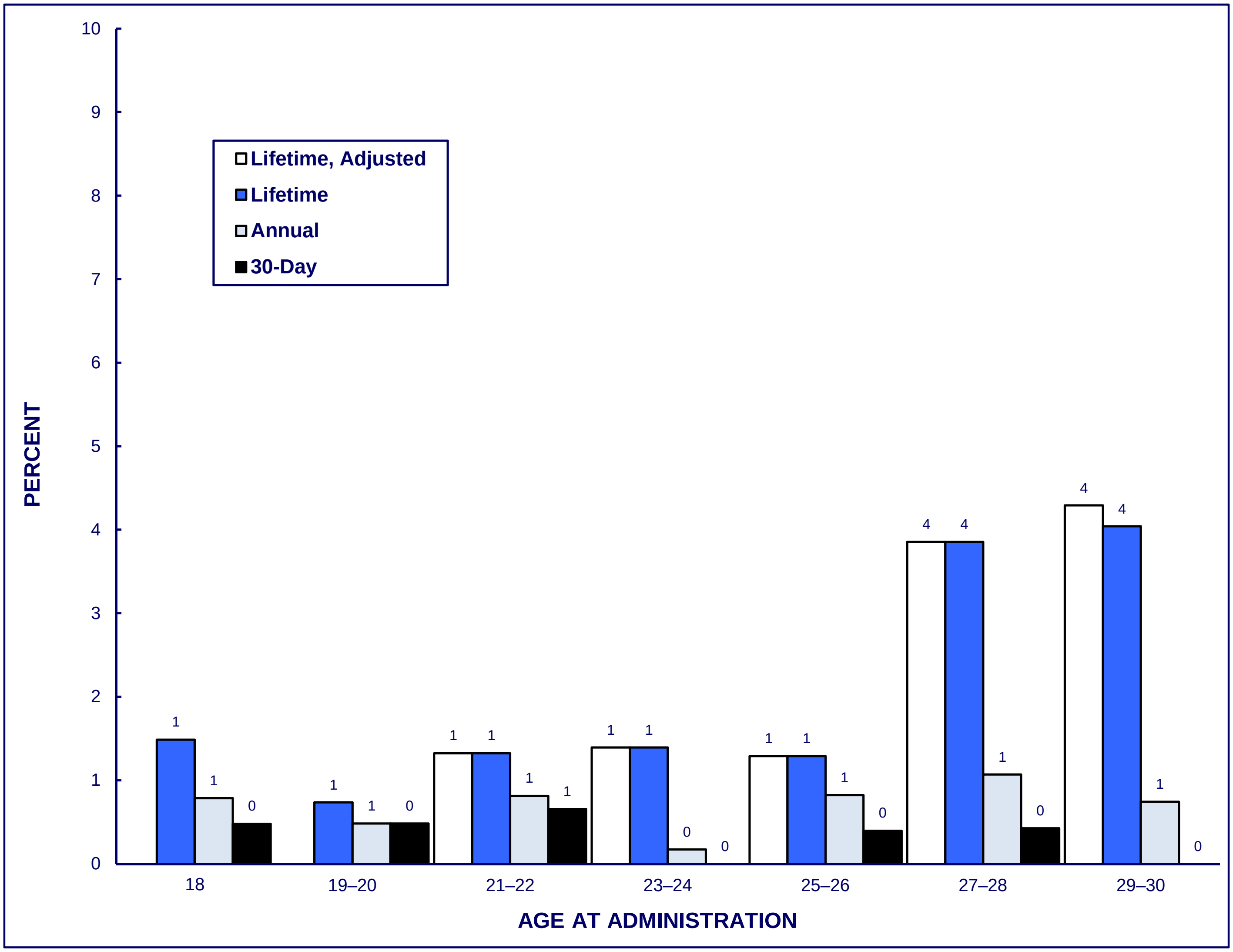


Source. The Monitoring the Future study, the University of Michigan.

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.
Due to rounding, some bars with the same number may have uneven height.

[a]Questions about the use of methamphetamines were not included in the questionnaires for 35-, 40-, 45-, and 50-year-olds.

FIGURE 4-6
CRYSTAL METHAMPHETAMINE (ICE)
Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 30 [a] by Age Group, 2017



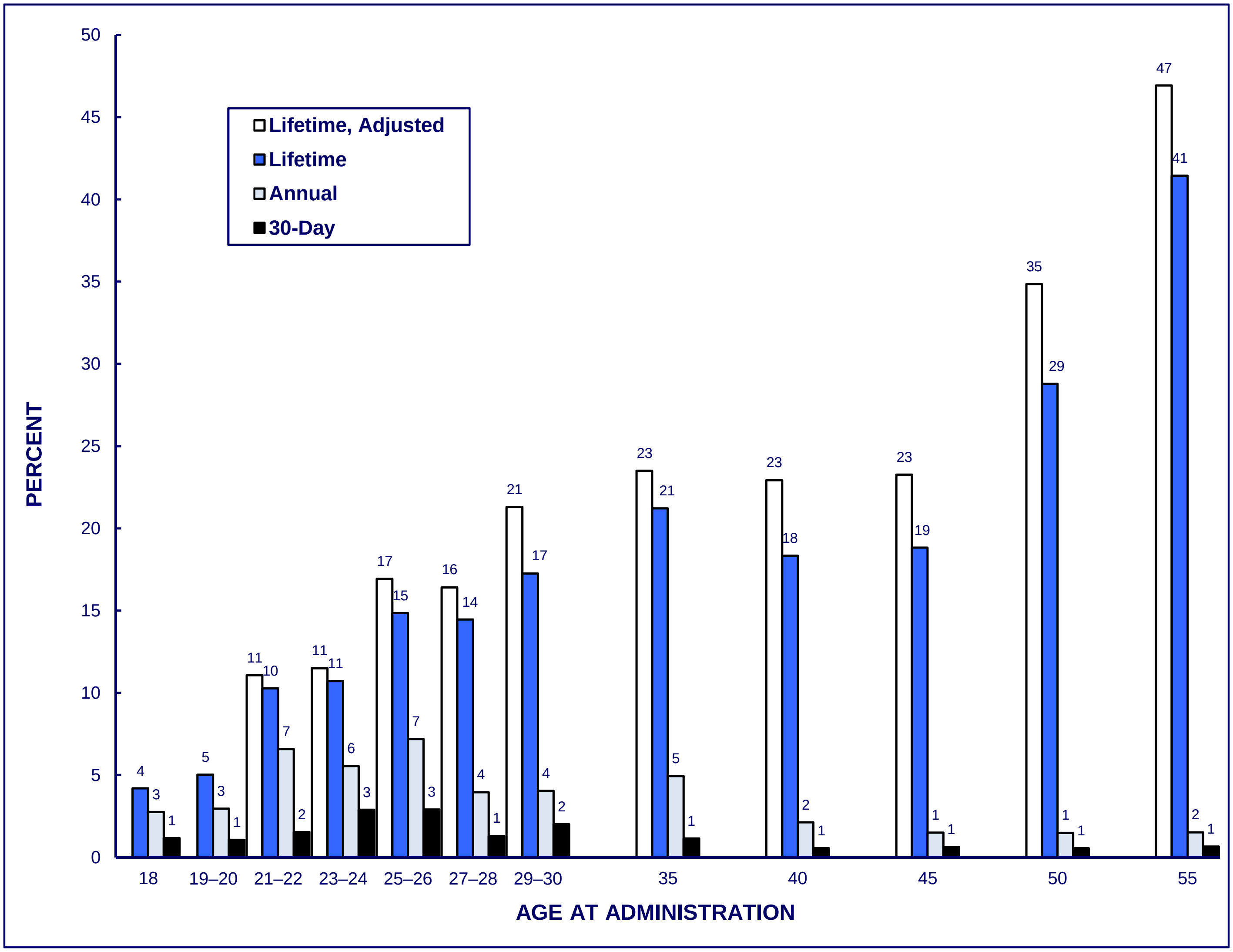
Source. The Monitoring the Future study, the University of Michigan.

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

Due to rounding, some bars with the same number may have uneven height.

[a]Questions about the use of crystal methamphetamine were not included in the questionnaires for 35-, 40-, 45-, and 50-year-olds.

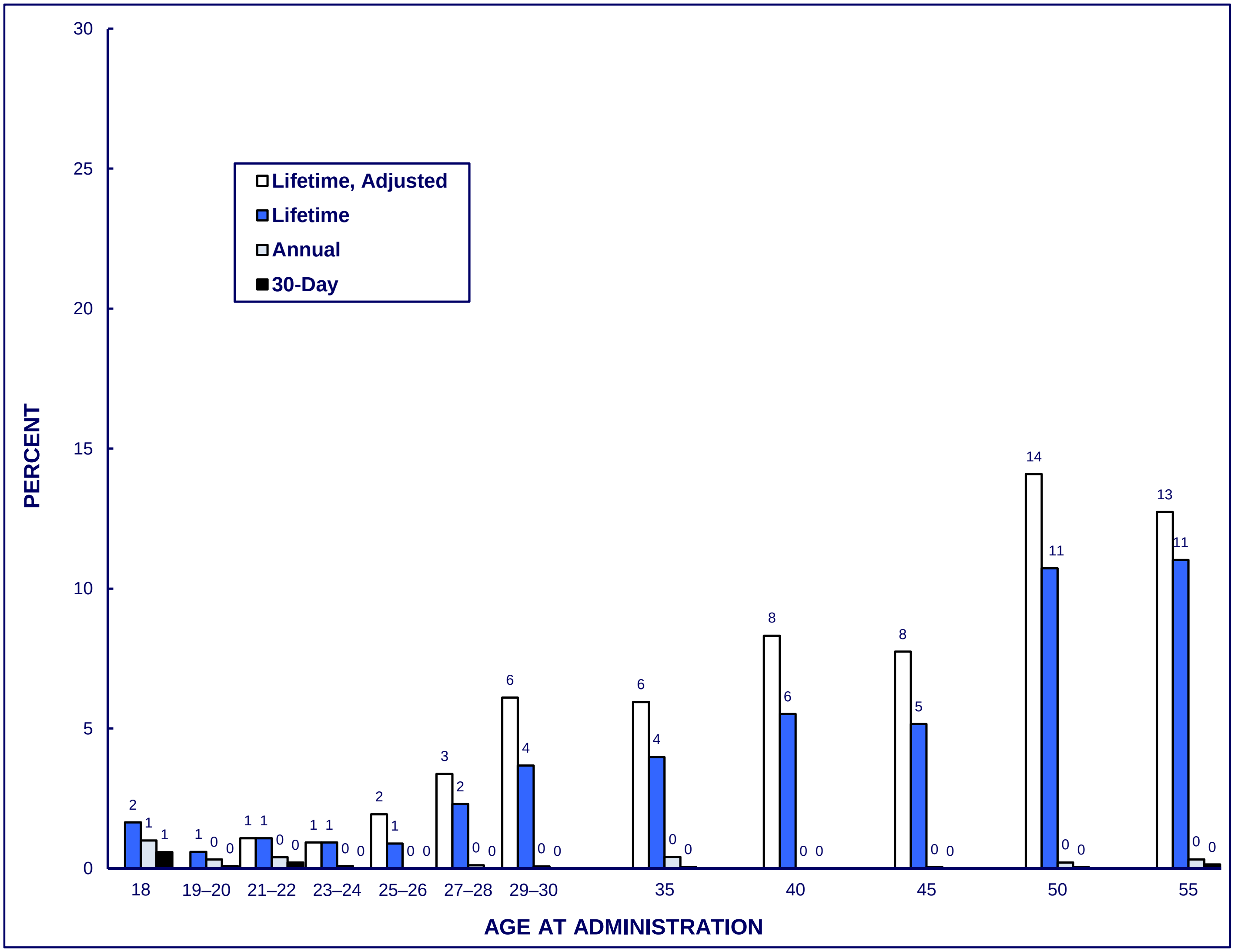
FIGURE 4-7
COCAINE
Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 55 by Age Group, 2017



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

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.
Due to rounding some bars with the same number may have uneven height.

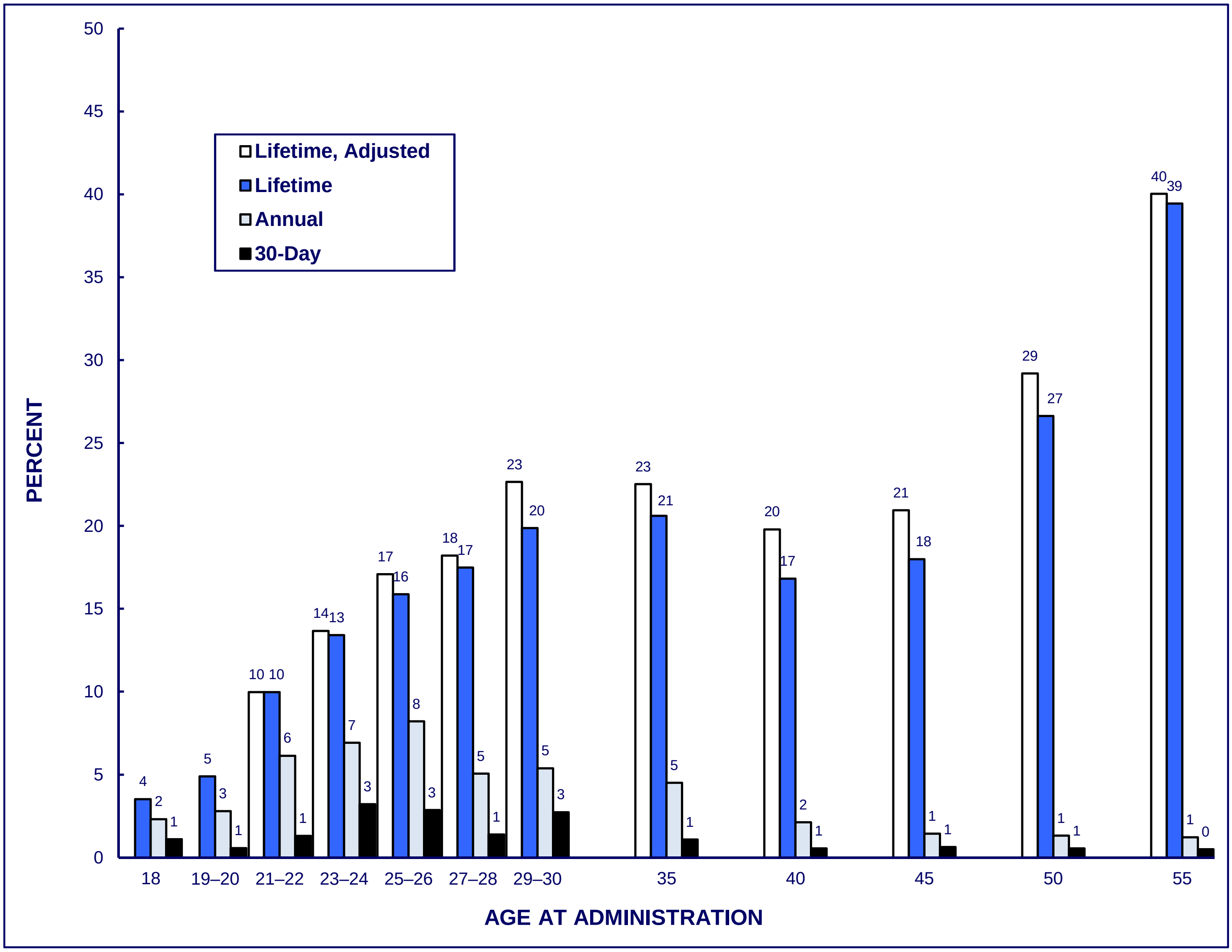
FIGURE 4-8
CRACK COCAINE
Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 55 by Age Group, 2017



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

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion. Due to rounding, some bars with the same number may have uneven height.

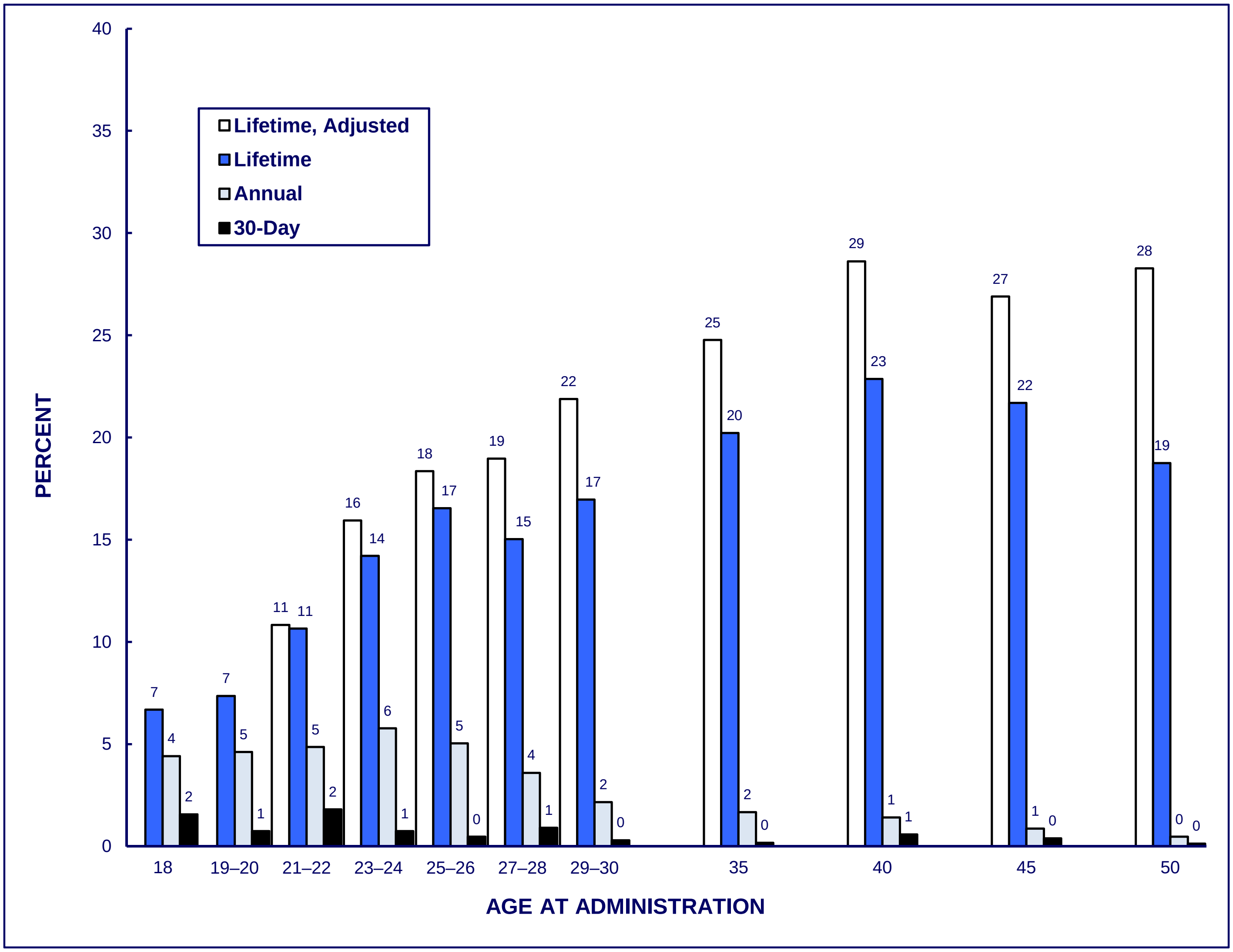
FIGURE 4-9
OTHER COCAINE
Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 55 by Age Group, 2017



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

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.
Due to rounding, some bars with the same number may have uneven height.

FIGURE 4-10
HALLUCINOGENS [a]
Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 50[b] by Age Group, 2017



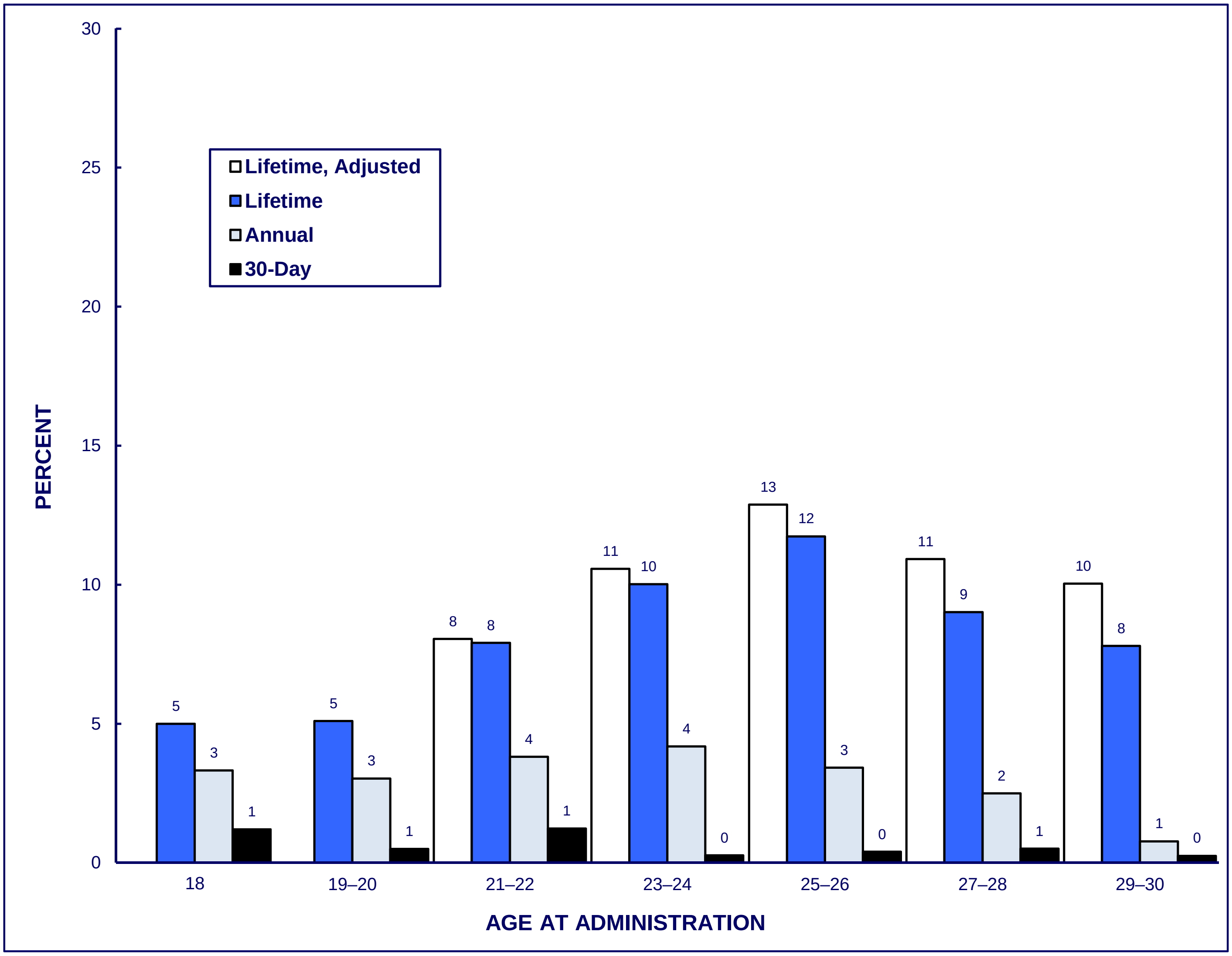
Source. The Monitoring the Future study, the University of Michigan.

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

Due to rounding, some bars with the same number may have uneven height.

[a]Unadjusted for the possible underreporting of PCP.
[b]Questions about the use of hallucinogens were not included in the questionnaires for 55-year-olds.

FIGURE 4-11
LSD
Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 30 [a] by Age Group, 2017



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

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

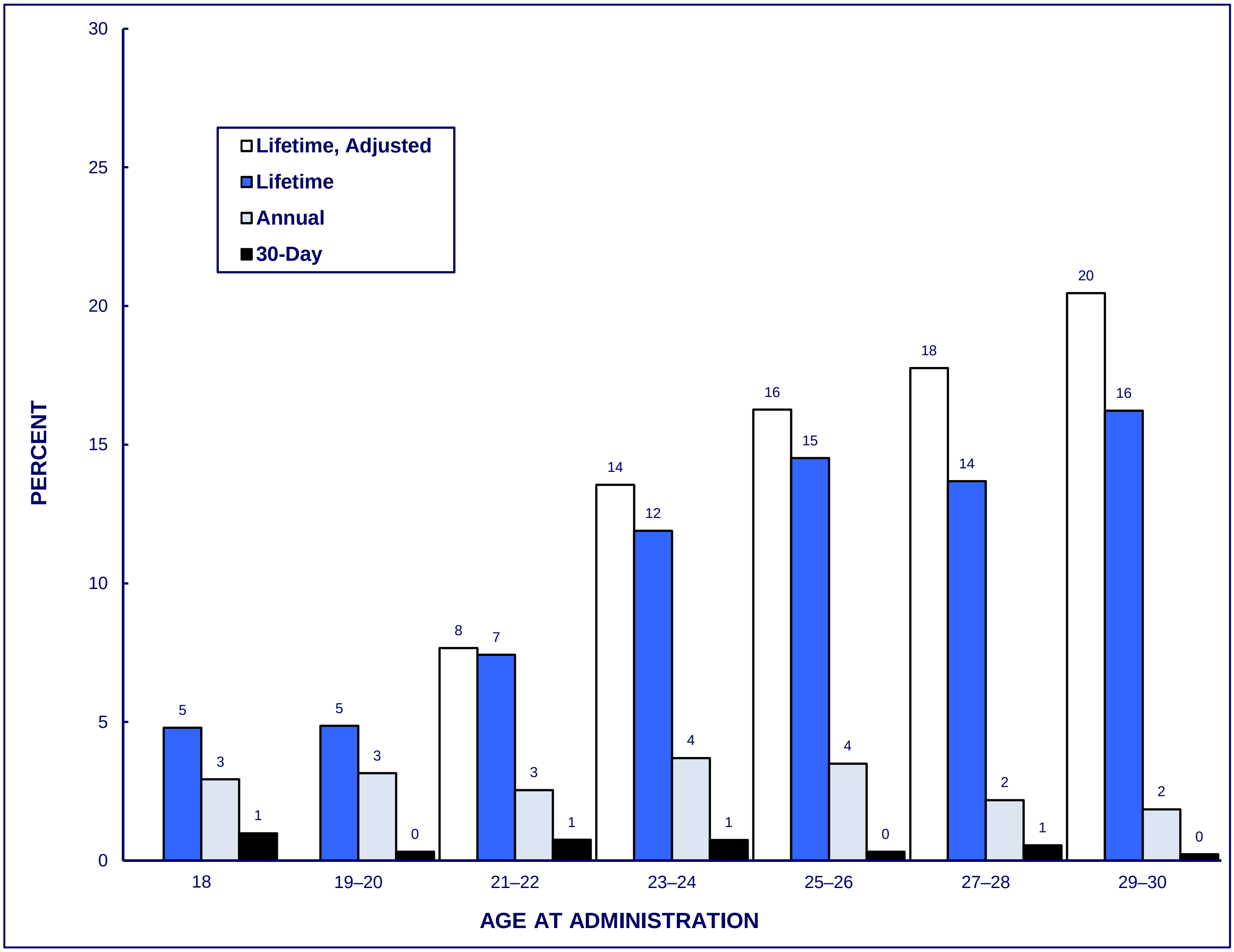
Due to rounding, some bars with the same number may have uneven height.

[a]Questions about the use of LSD were not included in the questionnaires for 35-, 40-, 45-, and 50-year-olds.

FIGURE 4-12

HALLUCINOGENS OTHER THAN LSD [a]

Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 30 [b] by Age Group, 2017



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

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion. Due to rounding, some bars with the same number may have uneven height.

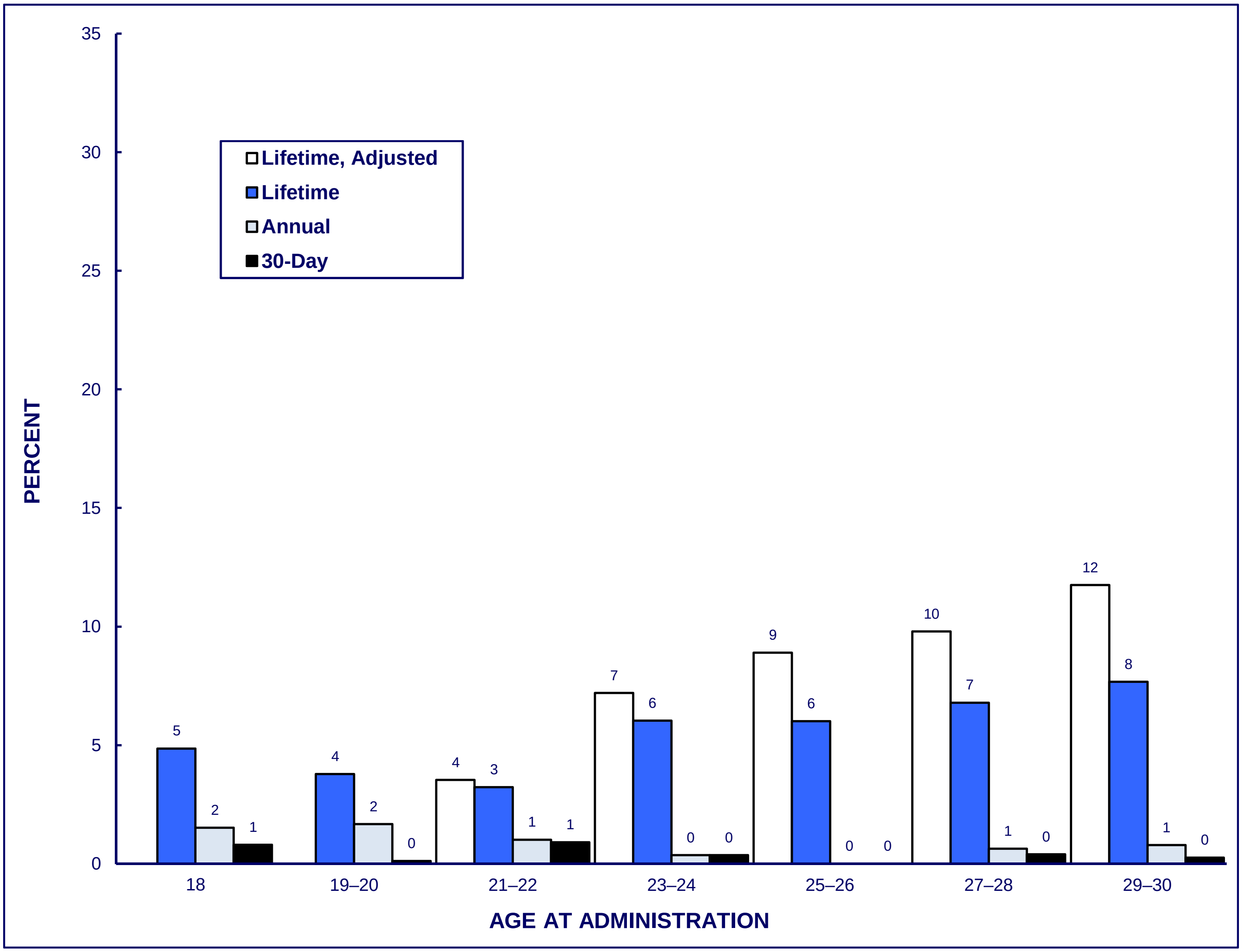
[a]Unadjusted for the possible underreporting of PCP.

[b]Questions about the use of hallucinogens other than LSD were not included in the questionnaires for 35-, 40-, 45-, and 50-year-olds.

FIGURE 4-13

INHALANTS [a]

Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 30 [b] by Age Group, 2017



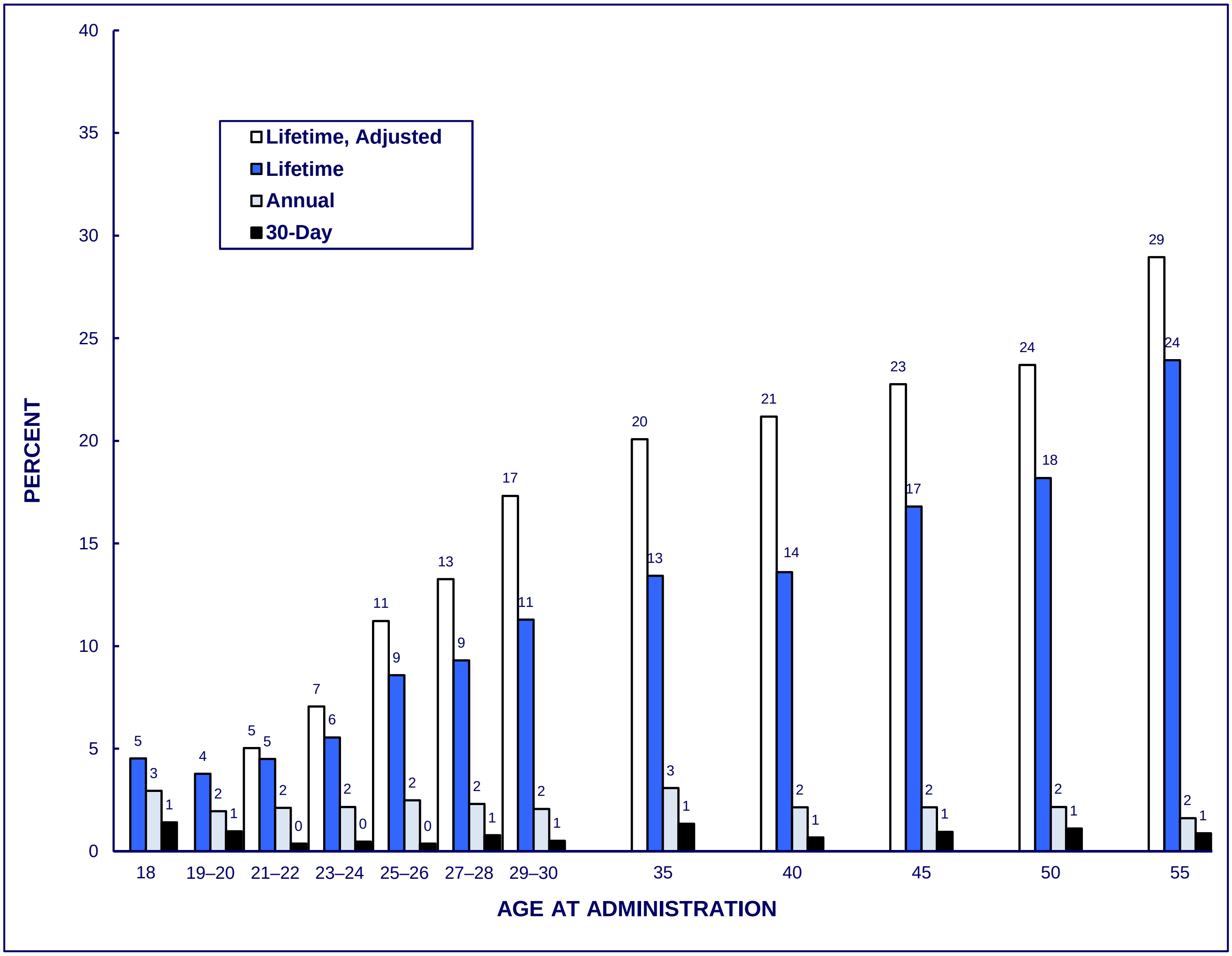
Source. The Monitoring the Future study, the University of Michigan.

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion. Due to rounding some, bars with the same number may have uneven height.

[a]Unadjusted for the possible underreporting of amyl and butyl nitrites.

[b]Questions about the use of inhalants were not included in the questionnaires for 35-, 40-, 45-, and 50-year-olds.

FIGURE 4-14
SEDATIVES (BARBITURATES)
Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 55 by Age Group, 2017



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

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.
Due to rounding, some bars with the same number may have uneven height.

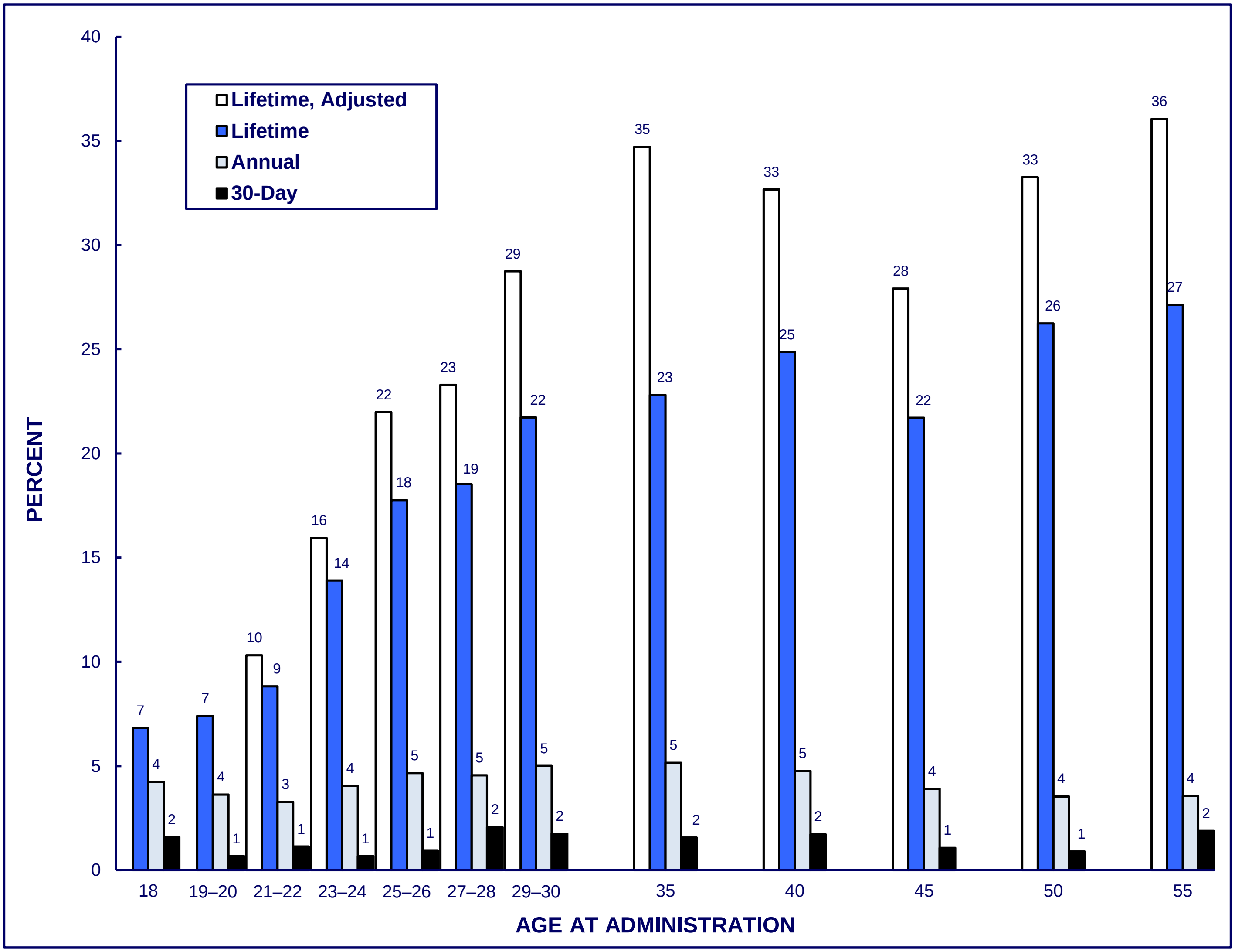
FIGURE 4-15

NARCOTICS OTHER THAN HEROIN

Lifetime, Annual, and 30-Day Prevalence

among Respondents of Modal Ages 18 through 55

by Age Group, 2017

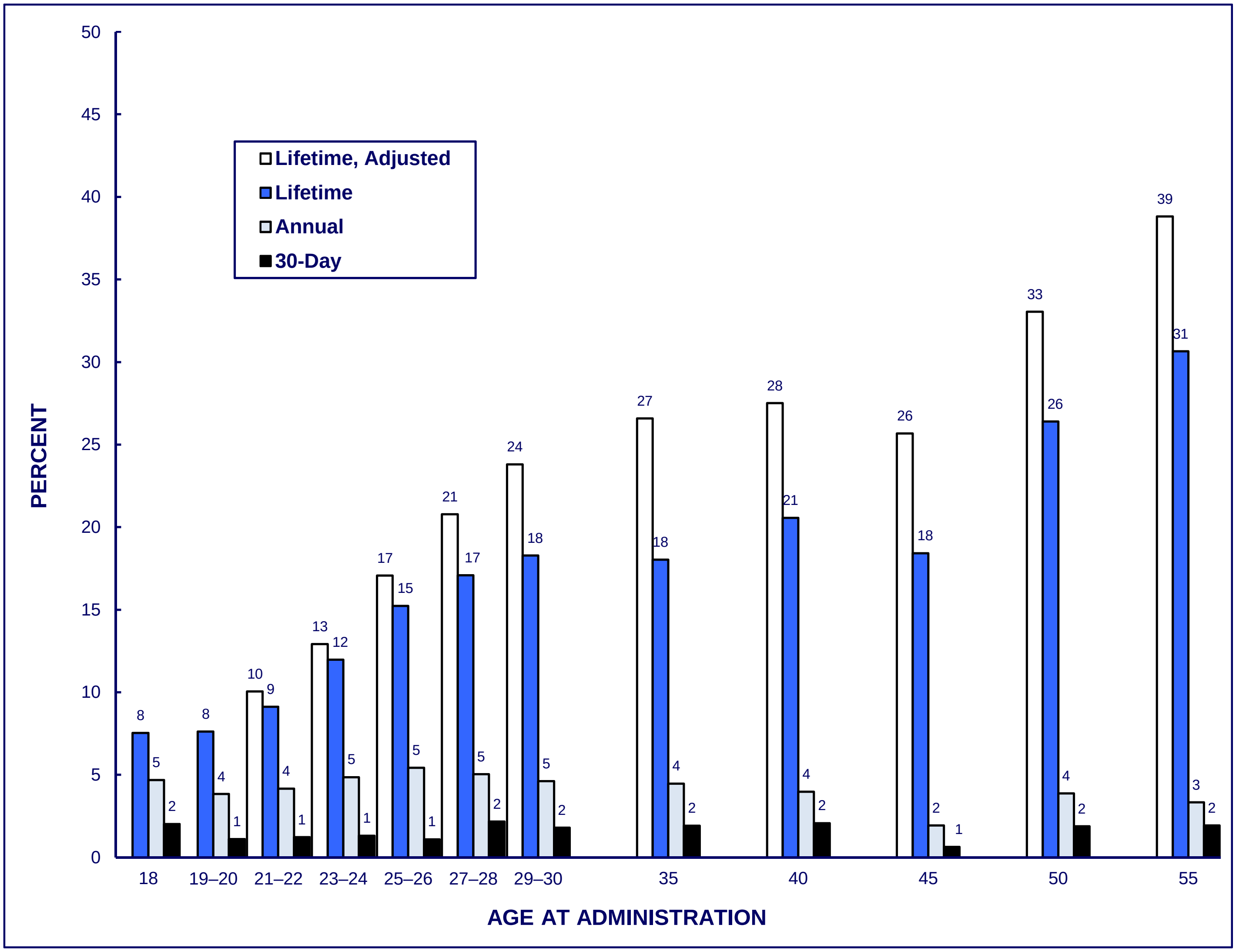


Source. The Monitoring the Future study, the University of Michigan.

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

Due to rounding, some bars with the same number may have uneven height.

FIGURE 4-16
TRANQUILIZERS
Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 55 by Age Group, 2017



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

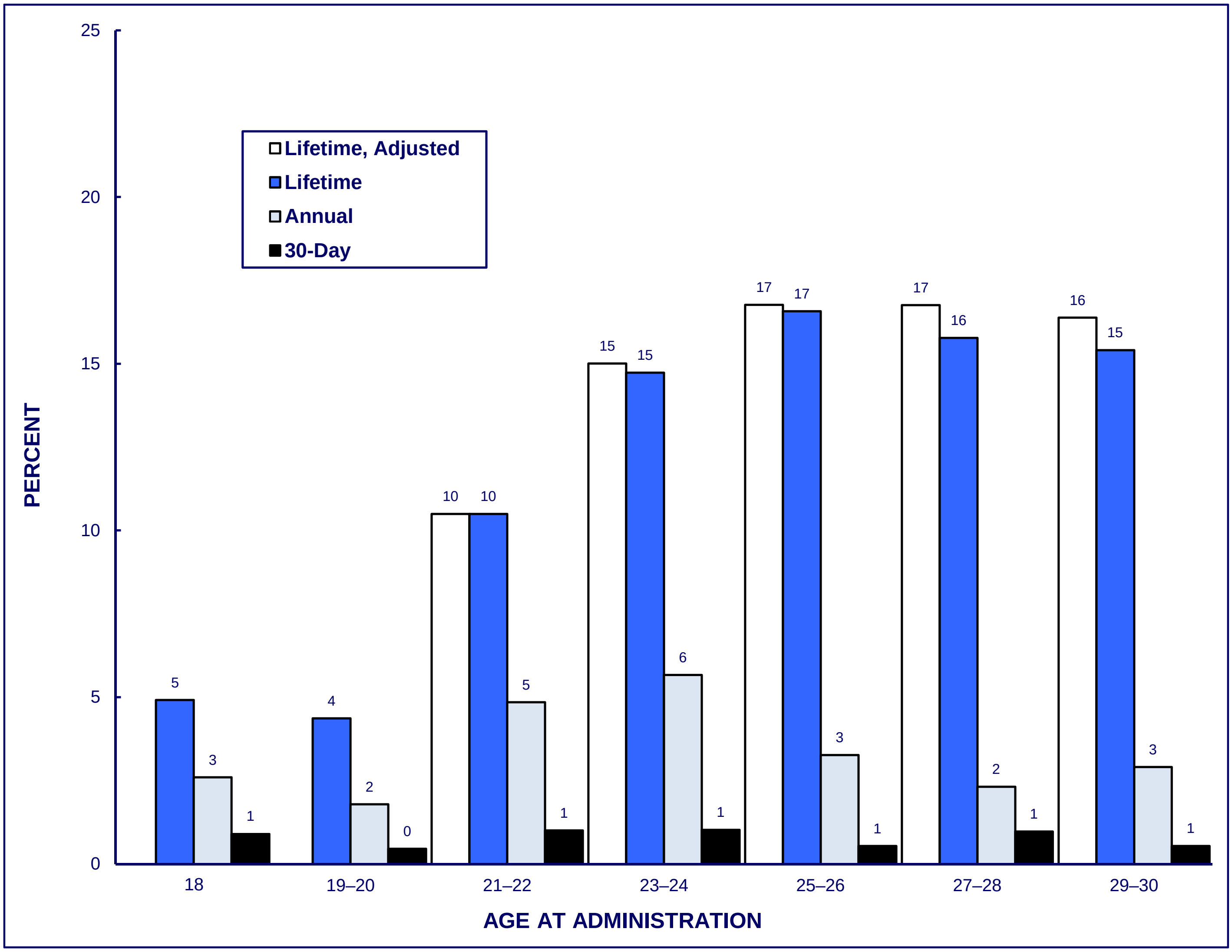
Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

Due to rounding, some bars with the same number may have uneven height.

FIGURE 4-17

ECSTASY (MDMA, Molly)

Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 30 [a] by Age Group, 2017



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

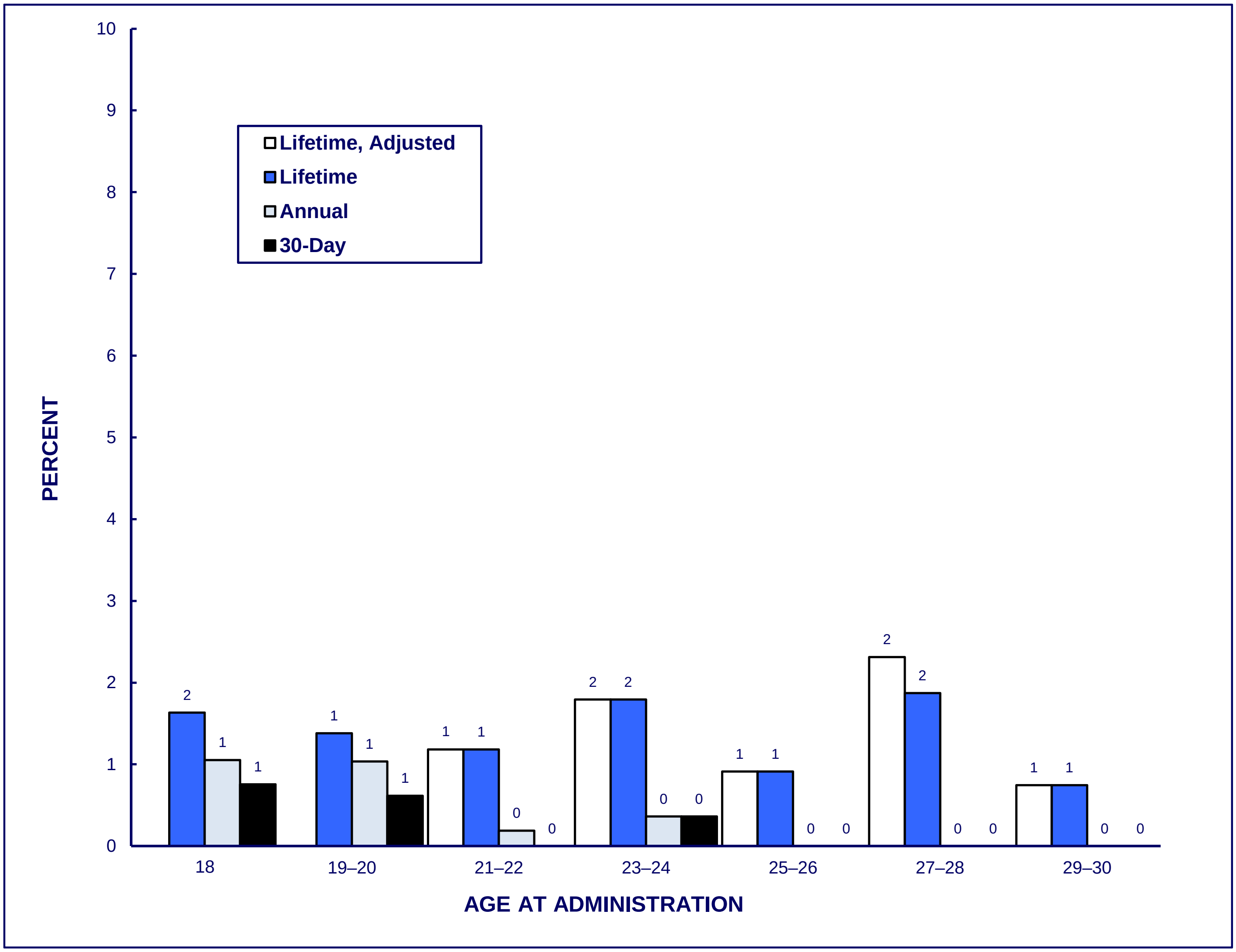
Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.
Due to rounding, some bars with the same number may have uneven height.

[a]Questions about the use of ecstasy were not included in the questionnaires for 35-, 40-, 45-, and 50-year-olds.

FIGURE 4-18

STEROIDS

Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 30 [a] by Age Group, 2017

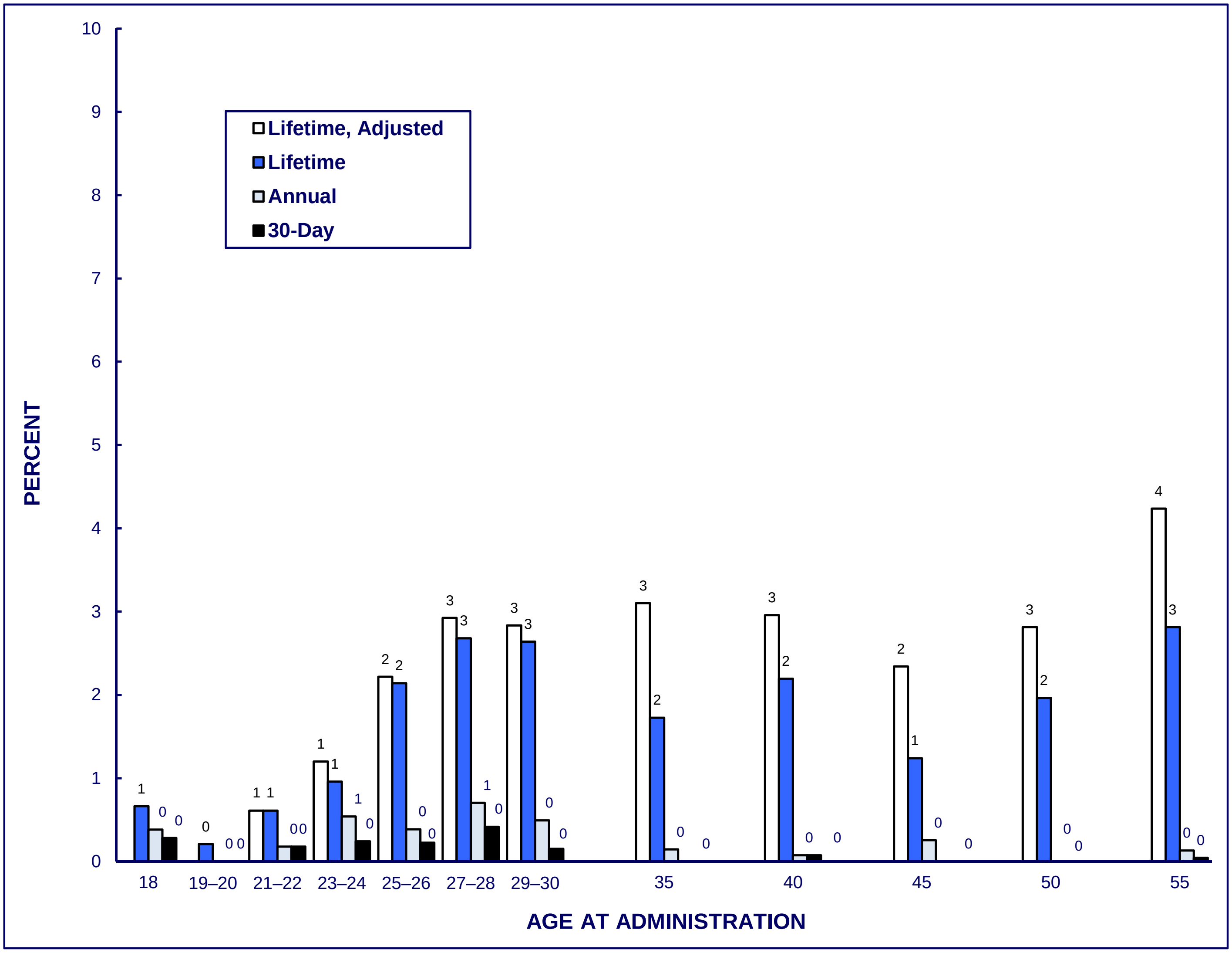


Source. The Monitoring the Future study, the University of Michigan.

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion. Due to rounding, some bars with the same number may have uneven height.

[a]Questions about the use of steroids were not included in the questionnaires for 35-, 40-, 45-, and 50-year-olds.

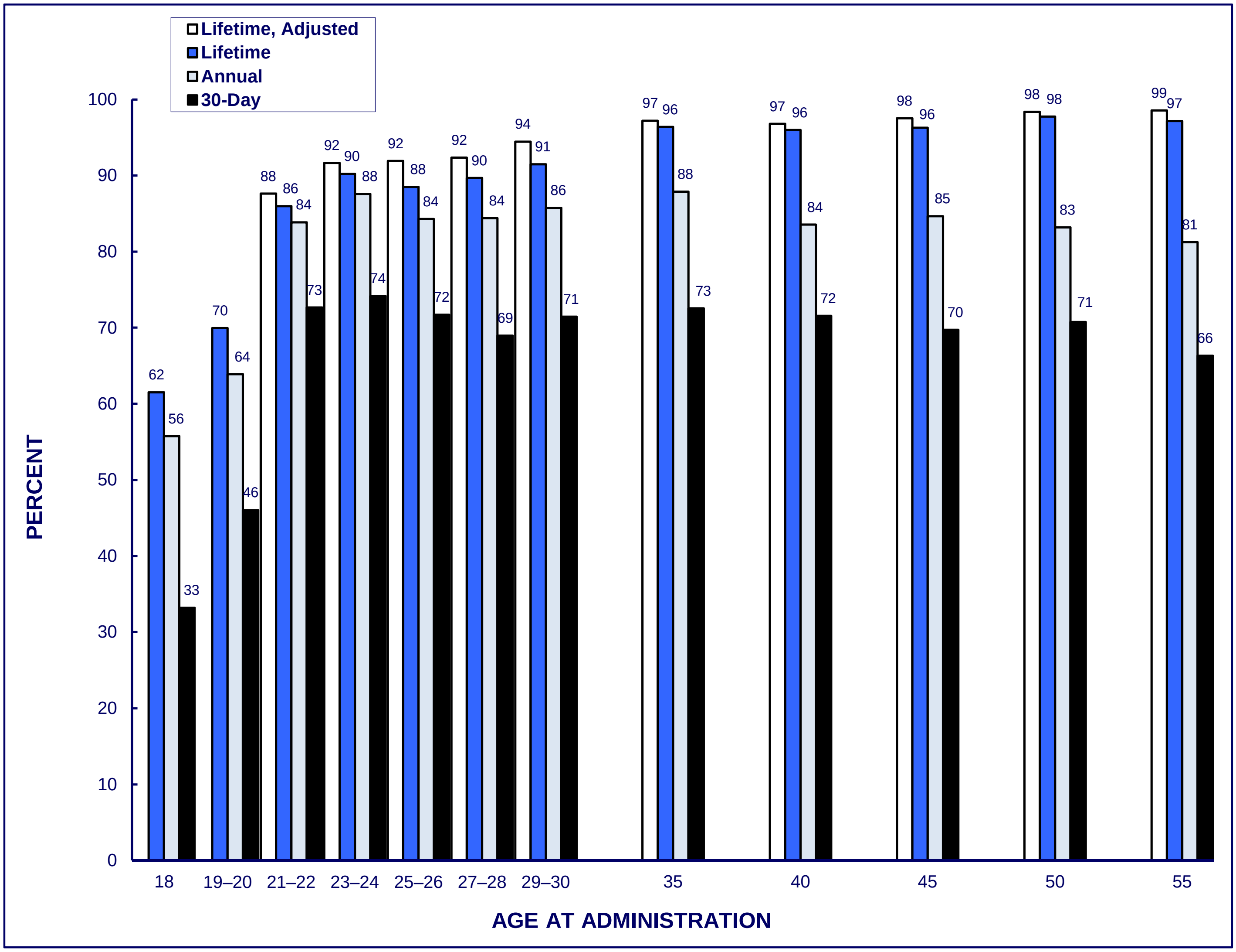
FIGURE 4-19
HEROIN
Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 55 by Age Group, 2017



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

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.
Due to rounding, some bars with the same number may have uneven height.

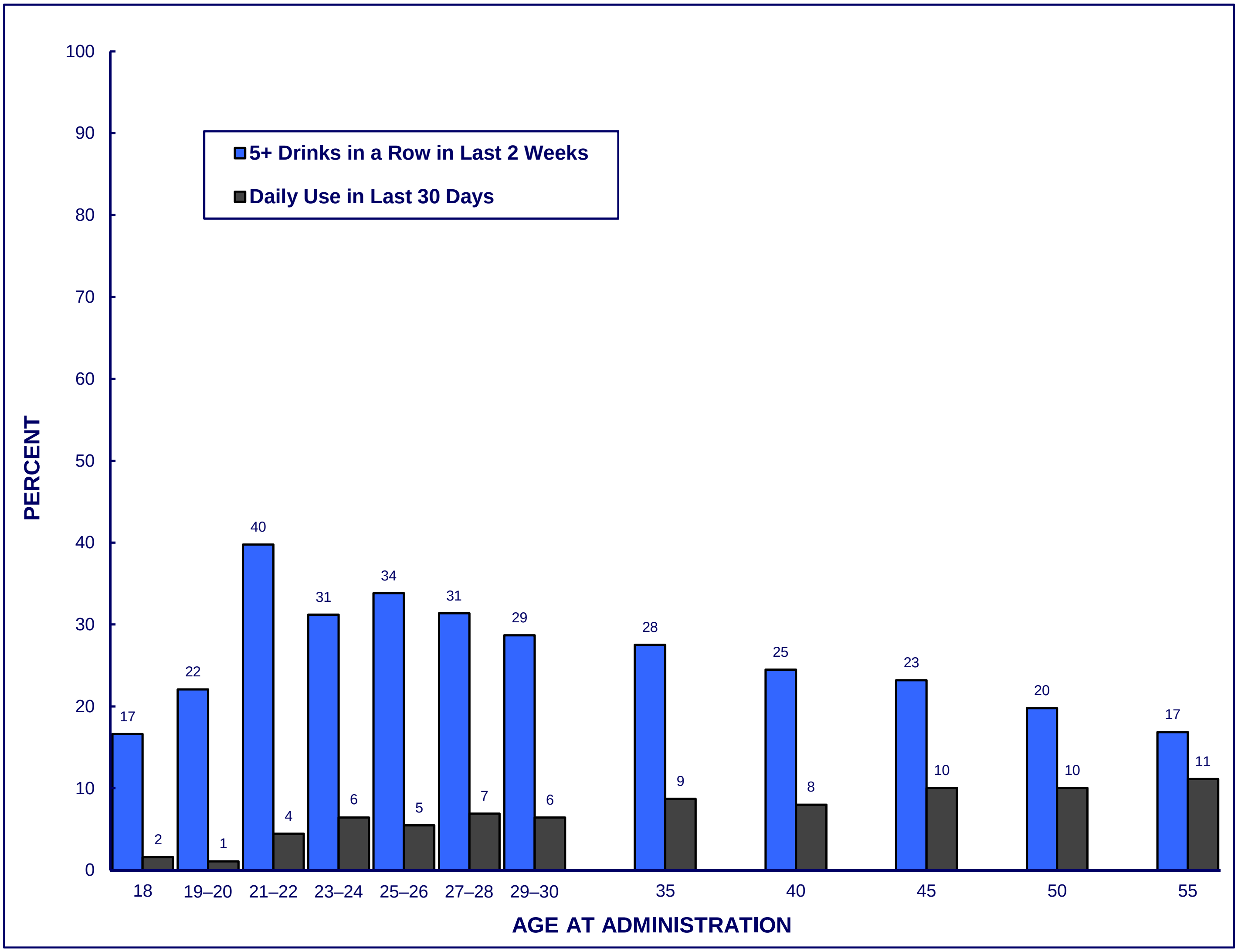
FIGURE 4-20a
ALCOHOL
Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 55 by Age Group, 2017



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

Notes. Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.
Due to rounding, some bars with the same number may have uneven height.

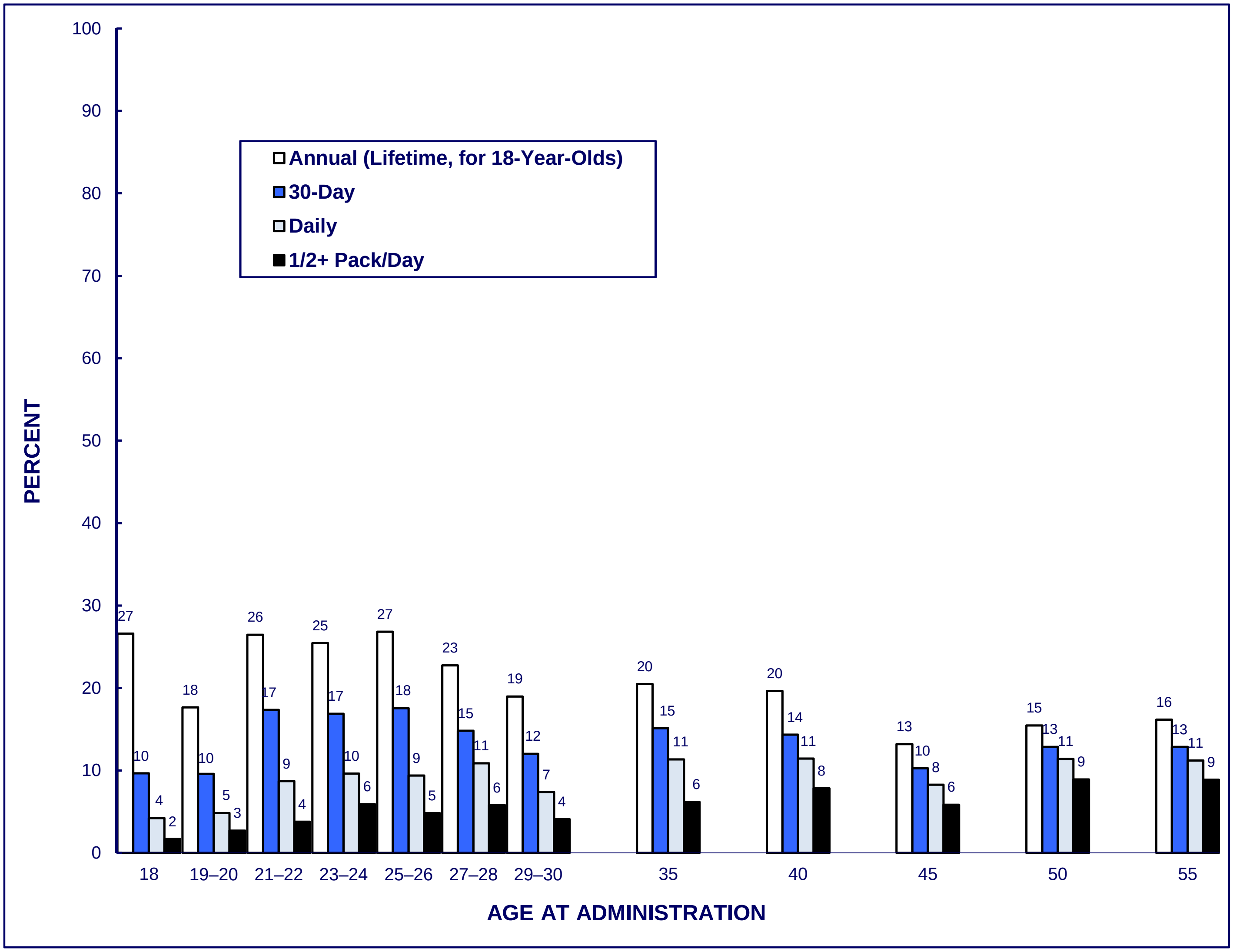
FIGURE 4-20b
ALCOHOL
2-Week Prevalence of 5 or More Drinks in a Row and 30-Day Prevalence of Daily Use by Age Group, 2017



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

Notes. Due to rounding some bars with the same number may have uneven height.

FIGURE 4-21
CIGARETTES
Annual, 30-Day, Daily, and Half-Pack-a-Day Prevalence among Respondents of Modal Ages 18 through 55 by Age Group, 2017



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

Notes. Due to rounding, some bars with the same number may have uneven height.

Chapter 5

TRENDS IN DRUG USE IN EARLY AND MIDDLE ADULTHOOD

In this chapter, we examine historical trends through 2017 in substance use for various age bands covering early and middle adulthood, ages 19 through 55**.** We use MTF panel data from graduating high school seniors spanning more than four decades. Although such panel data are typically used to study stability and change in the same individuals over time, we use the data here cross-sectionally to consider how substance use has varied across the years by each age group, much as we use the repeated cross-sectional surveys of secondary school students to track changes in behaviors over time for particular grade levels (8, 10, and 12) in *Volume I*. In the early 1990s, we began to document large and important increases among secondary school students in the use of several substances, particularly marijuana and cigarettes. The increases continued among 12th graders through 1997, as discussed in *Volume I*. One of the important issues addressed in this chapter is whether such increases occurred only among adolescents or whether those higher-using graduating classes have carried their higher levels of drug use with them as they moved into young adulthood. In other words, are they exhibiting lasting differences across class cohorts, known as cohort effects? These would be indicated by the inflection points in the cross-time trends (turning either up or down) coming sequentially across the age strata as cohorts age with a time lag between adjacent strata.

Figures 5-1 through 5-19c present separate trend lines for two-year age strata through age 30,[1] that is, respondents who are one to two years beyond high school, three to four years beyond high school, and so on. These two-year age strata are used to reduce the random fluctuations that would be seen with one-year strata due to smaller sample size.[2] Each data point through age 30 in these figures is based on approximately 740 to 900 weighted cases drawn from two adjacent high school classes; actual (unweighted) numbers of cases are somewhat higher than those shown in the tables.[3] Figures 5-1 through 5-19c also present trend data from respondents at modal ages 35, 40, 45, 50, and 55 based on follow-up data collected at those ages. Beginning at age 35, the age strata are constituted in a slightly different way, in that the two half-samples from a *single* graduating class (which up through age 30 had been surveyed in alternating years) are now *both* surveyed in the same year.[4] Modal age 55 was first added to the survey in 2013, so no trend results were reported until 2014. The figures also include trend data for 18-year-olds for comparison purposes.

---

[1] MTF collected age 31 and 32 data from 1990 through 2001, then stopped collecting data from this age group to put resources instead into longer term data collections at 5 year intervals after age 30. Thus, starting in 2002, we collected data from young adults biennially through age 30, and from middle adults every five years starting at age 35. Beginning with this current Volume, we no longer present trends on the age 31-32 year band; for such trends, please see the previous edition of this Volume. Schulenberg, J. E., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Miech, R. A., & Patrick, M. E. (2017). *Monitoring the Future national survey results on drug use, 1975-2016: Volume II, college students and adults ages 19-55.* Ann Arbor: Institute for Social Research, The University of Michigan.

[2] Strictly speaking, these two-year strata are not age strata, because they are based on all respondents in the given year from two adjacent high school classes, and they do not take into account the minor differences in individual respondents' ages within each graduating class; however, they are close approximations to age strata, and we characterize them by the modal age of the respondents as ages 19 to 20, 21 to 22, and so on.

[3] For example, in the 2016 data, the 19- to 20-year-old stratum is composed of participating respondents from the high school graduating classes of 2015 and 2014, respectively; the 21- to 22-year-old stratum contains data from the classes of 2013 and 2012, respectively; and so on.

[4] In 2017, the 35-year-olds are graduates from the high school class of 2000 (weighted N = 739), the 40-year-olds from the high school class of 1995 (weighted N = 818), the 45-year-olds from the high school class of 1990 (weighted N = 760), the 50-year-olds are graduates from the high school class of 1985 (weighted N = 781), and the 55-year-olds are graduates from the high school class of 1980 (weighted N=919). The unweighted actual Ns are somewhat higher.

The page following the figure for each drug contains a table of values for each point in the trend lines separately for the various age strata.

Tables 5-1 through 5-5 are derived from the same data but presented in tabular form for 19- to 28-year-olds *combined*. Data are given for each year in which they are available for that full age band (i.e., from 1986 onward). The percentage point changes between 2016 and 2017 are listed in the second to last column, along with an indication about the statistical significance of this one-year change. Beginning with this edition of *Volume II*, we include percentage point changes over the past five years (2012-2017) in the last column, indicating whether the five-year change is significant. Respondents ages 29 and over are omitted from the tables. However, the full data for those respondents are contained in Figures 5-1 through 5-19c.

RECENT TRENDS IN DRUG USE AMONG YOUNG ADULTS AGES 19-28

In this section, we focus on recent trends over the past year and past five years in substance use among young adults ages 19 to 28 combined (shown in Tables 5-1 through 5-4). Longer term trends are summarized in the next section.

- The percent of young adults ages 19 to 28 indicating use of ***any illicit drug*** in the prior 12 months continued to increase—up by a nonsignificant 1.5 percentage points over 2016 prevalence to reach 41.2%. This is up from a recent low of 32.1% in 2006 (Table 5-2). As shown in the last column in Table 5-2, this prevalence increased a significant 7.2 percentage points over the past five years, that is, since 2012. Correspondingly, 30-day use of any illicit drug increased a significant 4.8 percentage points over the past five years, rising to 24.7% in 2017 (Table 5-3). These increases primarily have been due to the increases in marijuana use.

- ***Marijuana*** use showed a one-year nonsignificant 2.2 percentage point rise in annual prevalence to 37.5% in 2017. This was up from 27.7 % in 2006—the most recent low point. *Levels today for this age group are at the highest they have been in over three decades*, just over the 36.5% prevalence in 1986 when we began tracking this age span (Table 5-2). The five-year change in annual marijuana use was a significant increase of 7.3 percentage points. Likewise, 30-day use of marijuana has increased significantly by 5.3 percentage points across the past five years, rising to 23.0% in 2017, *an all-time high* (Table 5-3). *Thus, as of 2017 annual and 30-day marijuana use among young adults aged 19-28 are at the highest levels in the 32 years that MTF has been monitoring their use.* As shown in Figure 5-3a, the percentage point increases over the past five years have been greater for those in their mid- to late-20s than for those in their early 20s (e.g., annual use increased across the five years by 4.3, 8.4, and 8.4 percentage points for the 19-20, 23-24, and 27-28 age bands, respectively). Although the trends for the 35-55 year olds are considered in the next section, it is worth noting here that their annual and 30-day marijuana use also increased in recent years through 2017 (e.g., between 2013 and 2017, annual use rose 6.5, 3.5, 3.3, 2.1, and 2.9 percentage points, respectively, for 35-, 40-, 45-, 50-, and 55-year-olds; 2017 prevalence was 24%, 18%, 15%, 14%, and 15%, respectively). Thus, it is likely that the recent increases in marijuana across all age bands of adults 19-55 reflect both secular trends as well as cohort effects.

- ***Daily or near daily marijuana*** use (defined as use of marijuana on 20 or more occasions in the past 30 days) among young adults increased nonsignificantly between 2016 and 2017 to 7.8% *, the highest level ever observed in this young adult population since tracking their use began over 30 years ago.* It is over three times the level in 1992 (2.3%), the low point since 1986 (Table 5-4). Daily marijuana increased a significant 2.2 percentage points over the past five years. Thus, as of 2017, one-in-thirteen young adults aged 19-28 is a daily marijuana user.

- Annual use of ***synthetic marijuana*** remained essentially unchanged in 2017 at 0.9% (Table 5-2). This is down appreciably from the 7.4% annual prevalence observed in 2011, when use of this drug was first measured; the five-year decrease was significant. This decline parallels a sharp decline in synthetic marijuana use among secondary school students.

- Annual use of ***any illicit drug other than marijuana*** showed a one-year nonsignificant increase of 0.2 percentage points to 20.1% in 2017, following a significant increase in 2014 when it rose from 18.1% to 21.2%. This annual prevalence had been relatively stable from 2003 to 2013, at between 17% and 19%. The five-year increase between 2012 and 2017 was a significant 2.9 percentage points. As summarized below, the significant increase over the past five years in this index of any illicit drug other than marijuana appears largely to be due to five-year significant increases in annual use of ***hallucinogens***, specifically ***LSD,*** and ***cocaine***, specifically ***cocaine other than crack.*** If the use of narcotics other than heroin had not declined appreciably in that period (as we summarize below), the increase would have been greater.

- ***Hallucinogens*** and ***LSD*** specifically showed slight one-year increases in 2017, and significant five-year increases. Between 2012 and 2017, annual use of hallucinogens rose significantly from 3.6% to 4.8%, and LSD rose significantly from 1.6% to 3.4% (Table 5-2).

- The annual prevalence of ***cocaine*** (any type including crack and cocaine powder) among young adults showed a one-year nonsignificant increase in 2017 to 5.3%, up from an all-time low of 3.9% in 2013. The increase of 1.2 percentage points over the past five years is significant (Table 5-2). Annual use of ***cocaine other than crack*** (typically in powdered form) showed a one-year leveling of 5.9%, as well as a five-year significant increase of 1.9 percentage points. Annual use of ***crack***, however, declined unevenly and nonsignificantly over the past five years from 0.5% to 0.2%, indicating that this drug is now all but forgotten among young adult high school graduates, at least.

- A few specific illicit drugs showed recent declines. Most notably, annual use of ***narcotics other than heroin*** by young adults showed a significant one-year decline in 2017 to 4.0%, as well as a significant five-year decline of 3.3 percentage points. Its peak was 9.1% in 2006 and 2008 (Table 5-2). Correspondingly, annual use of ***Vicodin*** showed a significant five-year decline of 3.6 percentage points to 2.7% in 2017; its peak was 9.3% in 2005. ***OxyContin*** appears to have leveled at very low prevalence, decreasing nonsignificantly to 1.9% in 2017. This is an important class of substances, accounting for many overdose deaths, so the fact that use is now in decline among young adults is a very favorable development for the nation's health.[5]

- Annual use of ***MDMA*** (ecstasy, and more recently Molly) has also declined, showing a significant one-year decrease of 1.5 percentage points 2017. In 2014, we added Molly as an example, and since then, annual use has declined from 5.1% to 3.6% (Table 5-2).

- Annual prevalence for ***salvia*** has declined as well, showing a significant five-year decline from 1.4% in 2012 to 0.5% in 2017. Salvia use is now at its lowest point since it was first measured in 2009, when it was 3.5%. Clearly, this drug has not made a large or lasting impression on young adults.

- The annual use of several other illicit drugs have shown some leveling in recent years as summarized in Table 5-2. In particular, the annual use of ***amphetamines*** showed some uneven change in the past few years among young adults, including a nonsignificant one-year increase in 2017 to 7.8%, the same level as it was five years ago in 2012 (Table 5-2). Annual use of ***Adderall*** showed a similar pattern of recent uneven change, increasing nonsignificantly in 2017 to 8.3%, showing a net five-year nonsignificant increase of 1 percentage point.

- Annual prevalence of both ***sedatives (barbiturates)*** and ***tranquilizers*** has also been fairly level in recent years among young adults, both at or near all-time lows in 2017; for sedatives (barbiturates), it was 2.2%, showing a nonsignificant five-year decline of 0.5 percentage points; for tranquilizers, it was 4.7%, showing a nonsignificant five-year decline of 0.6 percentage points (Table 5-2).

- There have been some recent declines in ***alcohol*** use among young adults. Whereas annual use has leveled in recent years, with a five-year nonsignificant decline to 81.2% in 2017, annual prevalence of ***been drunk*** declined a significant 4.9 percentage points in the past five years to 60.9% in 2017 (Table 5-2). The *30-day prevalence* of alcohol use declined significantly over the past five years from 69.5% in 2012 to 67.1% in 2017; the 30-day prevalence of been drunk declined nonsignificantly from 39.1% in 2012 to 36.1% in 2017 (Table 5-3). The annual use of ***alcoholic beverages containing caffeine*** showed some uneven declines in recent years, showing a net significant five-year decline of 4.9 percentage points in 2017 to 31.8% (Table 5-2). The annual use of ***flavored alcoholic beverages*** has also shown uneven change in recent years; in 2017 it was 54.8%, the same level as in 2012.

  Binge drinking—having five or more drinks on one or more occasions in the prior two weeks (also known as occasions of heavy drinking) —declined gradually from 2008 (when 37.9% of young adults indicated such use) through 2015 (31.9%), about where it remained in 2017 (31.8%); the five-year decline of 3.6 percentage points was significant (Table 5-4). This decline among young adults follows a similar decline among high school seniors. ***Extreme binge drinking*** (also known as high intensity drinking) has shown some uneven

[5] National Institute on Drug Abuse, (2017). *Overdose death rates.* Accessed July 2, 2017, at https://www.drugabuse.gov/related-topics/trends-statistics/overdose-death-rates

change in recent years among young adults (due to some extent to the relatively small Ns that are asked these questions, only one-sixth of the sample). For having ***10 or more drinks*** on one or more occasions in the past two weeks, prevalence increased significantly from 2016 to 2017 to 11.2% (with a net nonsignificant five-year increase of 0.5 percentage points); prevalence of having ***15 or more drinks*** increased nonsignificantly to 3.5% in 2017 (with a net nonsignificant five-year decline of 1.0 percentage points) (Table 5-4).

- ***Cigarette smoking*** among young adults showed significant declines over the past five years, a continuation of longer-term declines; nonetheless, there is evidence that some declines stalled in 2017. *Annual prevalence* increased nonsignificantly in 2017 (23.4% in 2016 and 23.9% in 2017, but was still lower than 26.2% in 2015); the five-year decline of 5.9 percentage points was significant (Table 5-2). *Thirty-day* prevalence increased nonsignificantly from 14.2% in 2016 to 15.3% in 2017 (but was still lower than 16.6% in 2015); the five-year decline of 4.4 percentage points was significant. (Table 5-3). *Daily* smoking increased nonsignificantly from 8.2% in 2016 to 8.6% in 2017 (but was still lower than 9.7% in 2015); the five-year decline of 4.0 percentage points was significant (Table 5-4). *Half-pack-a-day* smoking by young adults declined by a nonsignificant 0.2 percentage points to 4.7% in 2017; the five-year decline of 2.9 percentage points was significant (Table 5-4). On all of these measures of smoking, the 2016 levels were at historic lows, and 2017 was the first year we did not see continued declines, though levels were still lower than they were in 2015, suggesting a possible leveling of cigarette use among young adults. In any event, the more general pattern of decline, including the significant five-year declines, follow appreciable declines to historic lows among high school seniors (Figures 5-19a, b, and c).

In summary of the recent trends among young adults age 19-28, ***marijuana*** use has increased to all-time highs, which is true for annual use, 30-day use, and daily use; the five-year increases from 2012 to 2017 for all three levels of marijuana use were significant. As of 2017, nearly four-in-ten young adults (38%) used marijuana at least once in the past year, nearly one-in-four (23%) used it at least once in the past month, and one-in-thirteen (7.8%) was a daily or near-daily marijuana user. Concerning ***illicit drugs other than marijuana***, annual use has been steady the last few years, with the five-year trend showing a significant increase of 2.9 percentage points to 20% in 2017. This increase corresponds with recent increases in annual use of certain illicit drugs including ***hallucinogens***, specifically ***LSD***, and ***cocaine other than crack***, all three showing significant five-year increases in 2017 to 4.6%, 3.4%, and 5.9%, respectively. In contrast, annual nonmedical use of ***narcotics other than heroin*** showed a significant one-year decline in 2017 to 4.0%, with the five-year decline also being significant; ***Vicodin*** specifically showed a significant five-year decline in annual use to 2.7% in 2017. ***MDMA (ecstasy***, and more recently ***Molly)*** has also been declining, with a significant one-year decrease in annual use to 3.6% in 2017; it has declined from 5.1% since 2014 (when we first included Molly as an example). Nonmedical use of ***amphetamines***, ***sedatives (barbiturates)***, and ***tranquilizers*** all have been fairly steady in recent years, showing no significant change across the past five years; 2017 annual prevalence was 7.8%, 2.2%, and 4.7%, respectively. There have been continued recent declines in ***alcohol*** use among young adults, with annual prevalence of ***been drunk*** decreasing significantly by 4.9 percentage points across the past five years to 61% in 2017; ***binge drinking*** declined a significant 3.6 percentage points across the past five years to 31.8% in 2017. Finally, ***cigarette*** use continued to decline at least through 2016, with annual, 30-day, daily, and half-pack a day prevalence declining significantly over the past five years; however, in 2017, the levels for the first three increased nonsignificantly, suggesting that the continued decreases may have stalled.

LONGER-TERM TRENDS IN EARLY AND MIDDLE ADULTHOOD

In this section we consider longer-term trends among 19-28 year-olds as well as all age groups, giving attention to how trends have varied by age and specifically cohort.

- Longer-term declines among young adults in the annual prevalence of several drugs appeared to end in 1992 or 1993 (Table 5-2, Figure 5-1). Among the 19- to 28-year-old young adult sample, this was true for the use of ***any illicit drug***, ***marijuana***, ***any illicit drug other than marijuana***, ***hallucinogens***, ***narcotics other than heroin***, ***crack***, ***amphetamines***, ***sedatives*** (***barbiturates***), and ***tranquilizers***. In 1994, annual prevalence for most drugs remained steady. ***Cocaine other than crack*** reached its low point in 1994 after a period of substantial decline that began in the late 1980s. In 1995 there again were modest increases (a percentage point or less) in the annual prevalence of almost all of the drug classes in Table 5-2, some of which were statistically significant.

  Thus, it was clear that by 1992 or 1993 the downward secular trend (i.e., period effect) running back to the 1980s and observable in all of these age strata (as well as among adolescents) had ended. What has happened since then, however, is more of a cohort effect, reflecting an interaction between age and period such that only adolescents showed an increase in illicit drug use initially, and they then carried those new (higher) levels of drug use with them as they entered older age bands. Figure 5-1 shows the effects of generational replacement on the use of ***any illicit drug***, as the teens of the early 1990s reached their 20s. While all age groups generally moved in parallel through about 1992, the youngest age bands first showed signs of increase in their overall level of illicit drug use. The 18-year-olds shifted up first, followed by the 19- to 20-year-olds in 1994, the 21- to 22-year-olds in 1996, the 23- to 26-year-olds in 1999, the 29- to 30-year-olds in 2004, and the 35-year-olds in 2008. So far, the 40-, 45-, 50- and 55-year-olds have not shown much systematic increase in any illicit drug use through 2014. (It is noteworthy that 8th graders, who are not included in these graphs but are described in *Volume I*, actually began an increase in use a year earlier than the 12th graders, suggesting a cohort effect was already underway before use turned upward among 12th graders.)

  Then, from 2007 to 2013, use among 12th graders and several of the youngest young adult age bands increased, and a number of the older age bands followed suit in subsequent years including increases among 35-year-olds starting in 2013, among 40-year-olds starting in 2015, and among 45-year-olds in 2017, once again suggesting a cohort effect (see Figure 5-1).

  To summarize, in the earlier decline phase of the drug epidemic, annual prevalence of use of ***any illicit drug*** moved in parallel for all age strata, as illustrated in Figure 5-1; this pattern reflects a secular trend, because a similar change is observed simultaneously across different age levels. After 1992—in what we have called the "relapse phase" of the popular drug epidemic that began in the 1960s—a quite different pattern emerged: 8th graders increased their drug use first, followed by 10th and 12th graders; then the next-oldest age group increased use, but with a little delay; the next-oldest then increased use, but with a longer delay; and so on. This pattern reflects a classic cohort effect, in which different age groups are not all moving in parallel; rather, different age groups show increases when the cohorts (i.e., high school classes) having heavier use at an earlier stage in development reach the relevant age level. In addition, note that the slopes of the age bands are successively less steep in the older age groups, suggesting that some of the cohort effect may be dissipating with maturation, quite likely indicating an age effect. But we think it unlikely that only cohort effects are occurring (in addition to the long-established age effects); period effects also likely play a role.

- Use of ***marijuana*** shows an almost identical pattern to the illicit drug use index—not surprising given the fact that marijuana, by far the most prevalent of the illicit drugs, tends to drive the index (Figure 5-3a). After a long and steady decline from the late 1970s to the early 1990s, annual marijuana use leveled for a while among young adults before beginning a gradual increase. Virtually all of this increase was attributable to the two youngest age bands (18 and 19 to 20) until 1996, when the 21- to 22-year-olds began to show a rise. The older age bands then tended to show increases fairly sequentially, with 29- to 30- and 35-year-olds showing significant increases in 2008. The 18-year-olds' use of marijuana in the prior 12 months declined after 1997 and, later, several of the succeeding age bands through age 26 began to show declines in a pattern that again suggests lasting cohort differences. Since about 2006, however, use has been rising not only among the 18-year-olds but also among all age bands through 2017, including uneven increases for 35- to 45-year-olds (and for 50- and 55-year-olds since 2008 and 2013, respectively), thus indicating a secular trend. This strongly suggests an impact on use by culture-wide events to which all of the age bands are exposed and by which they all were affected during this historical period. Changing attitudes toward marijuana use, perhaps driven in part by the legalization of medical use in many states and more recently by legalization of recreational use for adults in some states, likely have played an important role in this secular trend.

- A similar pattern emerged for current ***daily marijuana*** use (Figure 5-3c). In the mid- to late 1990s, daily marijuana use among 35- and 40-year-olds was as high as or higher than use among some younger age groups, suggesting a lasting cohort effect on this behavior, because the cohorts comprising those older age strata grew up in a period of particularly high adolescent marijuana use. However, in more recent years through the mid-2000s, the 35-, 40-, and 45-year-olds were similar to respondents ages 27 to 30, who had among the lowest levels of daily use in adolescence. An important finding shown in Figure 5-3c is that, although the various age groups had been moving in parallel for many years at fairly similar levels of prevalence, the trends diverged considerably in the 1990s in a staggered fashion, such that the 18- to 30-year-olds came to have distinctly higher levels of daily marijuana use than the older age groups, again reflecting stable cohort differences and perhaps age effects in the middle-to-late adult ages (this is discussed further below when considering the strong cohort effects in cigarette use). In 2010 the upturn in daily marijuana use that had been occurring at younger ages (best seen in the table accompanying Figure 5-3c) reached the age-35 stratum, with a significant increase from their 2009 prevalence rate putting the age 35 group back in company with the younger adults. Since about 2010, the increase has been greater for those in the mid- to late-20s through age 40, and these age groups had higher levels of daily use in 2017 than they did in 2010, reaching levels well above those observed in the early to mid-1990s (Figure 5-3c and associated table).

- The index of using ***any illicit drug other than marijuana*** has shown a similar transition in the pattern of change. Period effects seemed to predominate in the 1980s until about 1992, but a cohort-related pattern of change emerged thereafter (Figure 5-2). And, while the rise in annual use leveled by 1997 among 18-year-olds, it began rising in 1999 among 19- to 20-year-olds, in 2000 among 21- to 22-year-olds, in 2002 among 23- to 24-year-olds, in 2005 among 29- to 30-year-olds, and so on. The primary difference from the picture for marijuana is that the increases were not as sharp in the 1990s for most of the age groups. (Compare Figure 5-2 with Figure 5-1 to see the difference.) Between about 2000 and 2008, annual use remained fairly steady or dropped some for 12th graders and 19-22 year olds, and increased for the other age groups, particularly the 23-30 year olds. Since about 2008 the levels of use of any illicit drug other than marijuana in nearly all age groups have remained fairly steady, except for 12th graders who have shown a decline.

- With regard to ***inhalants***, the large separation of trend lines for the younger age groups in Figure 5-4 shows that, across many cohorts, annual use has dropped consistently and sharply with age, particularly in the first few years after high school. In fact, of all the populations covered by MTF, the 8th graders (not shown in Figure 5-4) have had the highest rate of use, indicating that the decline in use with age starts at least as early as 8th or 9th grade. Like cocaine, inhalants have shown a strong age effect, but unlike cocaine, use of inhalants declines rather than increases with age and the age effect has sustained throughout the life of the study.

  Figure 5-4 also shows that, until the mid-1990s, there was a long-term gradual increase in annual inhalant use (unadjusted for underreporting of nitrite inhalants), one which was greatest among 12th graders, next greatest among 19- to 20-year-olds, and next greatest among 21- to 22-year-olds. Respondents more than six years past high school, who historically have had a negligible rate of use, did not exhibit the increases in use seen among the younger respondents, which began at least as early as 1977 among 12th graders and in 1983 among 19- to 20-year-olds. There was some subsequent increase among 21- to 22-year-olds and, later still, an increase among 23- to 24-year-olds. After 1995, this long-term trend, reflecting a cohort effect, began to reverse in the two youngest age strata (coincident with an anti-inhalant media campaign by the Partnership for a Drug-Free America) as well as among several other age strata, suggesting a period effect due to some culture-wide influence, such as a media campaign. Subsequently, further declines among several age strata are suggestive of a cohort effect. Those in their mid- to late-20s have generally shown very low rates of inhalant use throughout the course of the study (this question is not asked of the age 35 and above groups).

- In the late 1980s and first half of the 1990s, ***LSD*** use also increased among those in their teens and early 20s much more than among the older strata, as Figure 5-6 illustrates. Over the interval 1985 to 1996, there was a gradual but considerable increase in annual LSD use among respondents ages 18 to 24, which was sharpest among 12th graders and 19- to 20-

year-olds. The increase did not seem to radiate up the age spectrum beyond age 26. A turnaround began among 12th graders after 1995 and then among the older age groups in a somewhat staggered fashion, again indicative of a cohort effect. Declines through 2003 were greatest among 18- to 24-year-olds, who had attained the highest rates of LSD use. Use declined considerably from 2001 to 2003 in all age bands (including 8th and 10th graders), and then leveled through 2007 at historically low rates, suggesting that an important secular trend may have set in, which was quite possibly related to decreased availability of the drug. Since 2007 there has been evidence of a very gradual increase in use in all age groups 18-30, particularly among those ages 18 to 26; in the past few years, use also has increased somewhat among the 27-30 year-olds (this question is not asked for those age 40 and older). It thus appears that LSD may be making a gradual comeback among young adults since about 2007.

- The use of ***hallucinogens other than LSD*** showed a similar and fairly parallel decline in use among all age bands through the 1980s, indicating a secular trend (Figure 5-7). During the relapse phase for many drugs during the 1990s, there was a substantial increase in use among the younger age bands, but not among those ages 27 or older. The increases in the older age bands did not appear for some time, indicating a cohort effect at work. Since about 2003 through 2017, the prevalence of use of hallucinogens other than LSD has continued to decline gradually among 18-20 year-olds, declined gradually and leveled among 21-24 year olds, was fairly level among 25-28 year-olds, and showed some minor increase among 29-30 year-olds. The different age groups have thus converged in their usage levels.

- The annual prevalence for ***MDMA*** use (ecstasy and more recently Molly) among those aged 19 to 28 was at about 1.5% in 1989 and 1990 (Table 5-2 and Figure 5-8). After 1991 it dropped to around 0.8% for several years before rising significantly in 1995. Ecstasy use then rose sharply in all of the young adult age strata, most notably in the younger age bands (19 through 26) through 2001. Use among 12th graders, which was not measured until 1996, was by then the highest of any of the age groups at 4.6% annual prevalence. Twelfth graders' use declined by a full percentage point through 1998 before jumping significantly—by two full percentage points—in 1999. (Use by 10th graders also jumped significantly in 1999.) Thus it appears that young people from their mid-teens to mid-20s "discovered" ecstasy after some years of low and relatively level use. In 2000 the sharp increase in use continued among ages 15 to 16 (10th graders) through age 26—with highs of over 10% among 19- to 22-year-olds—and also showed up among 8th graders for the first time. By 2001 the increase had slowed and even begun to reverse among those aged 18 to 26. We attributed the deceleration in 2001 to a fairly sharp increase in perceived risk of ecstasy use in that year, and based on that, we predicted a turnaround in use in 2002. In 2002, and again in 2003, perceived risk increased sharply and, as Figure 5-8 illustrates, all age bands showed a reversal with a sharp decrease in use. Clearly, the decrease has been sharpest in the younger age bands, perhaps because a cohort effect is at work in the upper ages, helping to offset a downward secular trend. From about 2005 through 2014 there was some rebound in ecstasy use in all age bands through age 30 (older respondents are not asked about this drug), and the increase was staggered, suggesting that another cohort effect was underway. Between 2014 and 2017, there has been some decrease or leveling for many of the age groups in annual MDMA use; however, there was a continued increase for a few age groups, most notably those aged 23-24, who had the highest prevalence among young adults in 2017 at 5.7%.

- Several drug classes exhibited a faster decline in use among the older age groups than among 12th graders during the earlier period of decline in the 1980s (see Figures 5-1 through 5-19c). These included ***any illicit drug***, ***any illicit drug other than marijuana***, ***amphetamines***, ***hallucinogens*** (until 1987), ***LSD*** (through 1989), and ***methaqualone***, but *not* ***marijuana***.

- In fact, a crossover was evident for some drugs when 12th graders were compared to young adults. In earlier years 12th graders had lower usage levels, but for some years after 1993 they tended to have higher levels than post-high school respondents for use of ***any illicit drug***, ***marijuana***, ***hallucinogens***, ***LSD*** specifically, ***crack cocaine***, ***tranquilizers***, and ***crystal methamphetamine*** (***ice***). However, they have approached the levels of adults in recent years in most cases.

- ***Cocaine*** (Figure 5-9) gives quite a dramatic picture of change. Unlike most other drugs, annual use of cocaine has generally tended to rise with age after high school, usually peaking three to four years past graduation from the mid-1970s through the mid-1990s. This was a classic example of an age effect. Despite the large age differences in absolute prevalence during that period, all age strata moved in a fairly parallel way through 1991, indicating that a secular trend was taking place in addition to the age effect. All age strata began a sharp and sustained decline in use after 1986—again reflecting a period effect. The two youngest strata (12th graders and 19- to 20-year-olds) leveled by 1992, whereas use continued a decelerating decline for a few years beyond that in the older age groups, signaling the continuation of a cohort effect that began earlier. From 1994 to 1999, annual prevalence of cocaine use rose some in the five youngest strata (i.e., those younger than 27) on a somewhat staggered basis, with the three older groups still decreasing a bit more over that same period. This, to some degree, reversed the age differences that were so prominent in the 1970s and 1980s.

  Cohort-related change appears to have predominated in the 1990s, quite possibly as the result of "generational forgetting" of the cocaine-related casualties so evident in the early to mid-1980s. In other words, those in the older cohorts retained that learning experience, but those in the newer cohorts never had it. The fact that from 1994 to 1996 the 35-year-olds had higher lifetime prevalence levels of cocaine use than some of the younger age groups also suggests some lasting cohort-related differences established during the peak years of the cocaine epidemic. From about 2005 or 2006 through 2013 there was a gradual decline in cocaine use in all age bands, but particularly among the younger ages who had earlier attained higher prevalence levels. In 2014, however, there was a significant increase in cocaine use among young adults ages 19 to 28 combined, but not among 18-year-olds nor among those older than 30. Between 2014 and 2017, use either leveled or declined for most age groups; however, for those aged 21-26, there was some continued increase, reaching 5.6% to 7.2% annual use (Figure 5-9). This recent continued increase, at least for those in their early- to mid-20s, suggests a possible resurgence in cocaine use since the relapse that started in the early 1990s.

Crack use was added to the 12th graders' questionnaires in 1986 and to the follow-up questionnaires in 1987. The decline in annual crack use, which began right after the introduction of these questions, ended in 1991 among 12th graders, and by 1994 it had ended among young adults (Figure 5-10 and Table 5-2). Among 19- to 28-year-olds, the annual prevalence rate held at about 1%, which was down from the peak levels of just over 3% in 1986 through 1988. As was true for a number of other drugs, crack use began to rise after 1993 among 12th graders, at the beginning of the relapse phase in the epidemic, but not in the older age strata until years later, when increases were observed in a somewhat staggered pattern going up the age scale. Again, a cohort effect due to generational replacement seems to have been occurring. Since 1994, 18-year-olds have had the highest-reported rates of use, though they have shown considerable decline since 1999. Among all young adults ages 19-28, crack use had its lowest prevalence in 2016 and 2017 (0.2% or lower, compared with 3.2% in 1986).

- Use of ***heroin*** increased appreciably in 1995 among 12th graders and young adults ages 19 to 24, but not among the older age bands (Figure 5-11). It remained at this higher plateau in these younger age bands through 2000 or 2001, before falling off some, particularly among 12th graders. Among young adults aged 19-28, annual use had previously been quite stable from at least as far back as 1986 through 1994 at 0.2% (Table 5-2), and it stabilized again at a higher level of 0.4% from 1995 through 2017. Use among 12th graders has declined since 2000, among 19- to 20-year-olds since 2001, and among the 21 to 22-year-olds since 2006, but it remains fairly stable (at a very low rate of use) among the older age groups.

- Among 19- to 28-year-olds, use of ***narcotics other than heroin*** leveled after 1991, following a long period of slow, fairly steady decline (Figure 5-12 and Table 5-2). After 1992 twelfth graders showed an appreciable increase in use, which continued for more than a decade into 2004, while 19- to 20-year-olds showed some increase after 1994, 21- to 22-year-olds after 1996, 23- to 24-year-olds after 1997, and the older age groups after 2000. Thus, cohort-related change appears to have been occurring during the 1990s and beyond for this class of drugs as well, following a long period of secular trends. In 2002, the question text was changed on three of the six questionnaire forms to update the list of examples of narcotic drugs other than heroin. Talwin, laudanum, and paregoric, each of which had negligible rates of use by 2001, were replaced by Vicodin, OxyContin, and Percocet. As a consequence of this revision, reported use rates increased in 2002 as may be seen in Figure 5-12. Data presented for 2002 are from three of the six questionnaire forms with the new wording (which showed higher prevalence rates than the older question did). All six questionnaire forms contained the new wording beginning in 2003, so the data presented for 2003 onward are based on all forms. Although the older version of the question showed no significant changes occurring in 2002, there was a significant increase in narcotics use observed in 2003 (based on the new question in both 2002 and 2003). Among 19- to 28-year-olds, annual prevalence reached a peak level of 9.1% in 2006; it has since fallen by more than half to 4.0% by 2017. Some turnaround was observed among 19-

to 22-year-olds after 2004 in the use of this important class of drugs, but use continued to rise in some of the older age bands through 2007 to 2009, likely reflecting a cohort effect. Use of these drugs outside of medical supervision remains relatively high in all age groups studied here, with 2017 rates of around 4–5% among those ages 18 to 30, at 5.2% among those age 35, and at a somewhat lower annual prevalence of 3.5% to 4.8% among those ages 40 to 55. Overall, in the past few years, use of this important class of drugs has either leveled or decreased in younger age groups and leveled or increased slightly for those age 35 and older.

- The annual prevalence rates for ***Vicodin*** and ***OxyContin***, first measured in 2002 (separately from the general question about narcotics other than heroin), were appreciable (8.2% and 1.9%, respectively) for 19- to 28-year-olds. Increases were observed for these two drugs in subsequent years. Among 19- to 28-year-olds (Table 5-2), the annual prevalence of ***OxyContin*** use rose from 1.9% in 2002 to 3.1% in 2004 through 2006—changes that were fairly parallel to those observed among 12th graders over the same interval (when their slightly higher annual prevalence rose from 4.0% in 2002 to 5.5% in 2005). The increases in OxyContin use between 2002 and 2005 were significant for both 12th graders and 19- to 28-year-olds. Annual prevalence was stable from 2004 to 2007 at about 3% for young adults, increased to 5.2% in 2009, but was down to 1.9% by 2017. ***Vicodin*** use (Table 5-2) rose by less, but started from a higher base, with annual prevalence increasing slightly among 19- to 28-year-olds, from 8.2% in 2002 to 8.9% in 2004; it remained at about 9% through 2009, followed by a decline to 2.7% by 2017. Thus, since 2009 the annual prevalence of both OxyContin and Vicodin among young adults has declined by over half. Given the widespread concern about these narcotic drugs, which are among those most cited in overdose deaths, this downturn is very good news.

- In the late 1970s, ***amphetamine*** use rose some with age beyond high school, but after a long period of secular decline in use from 1981 to the early 1990s, this relationship had reversed (see Figure 5-13). The declines were greatest in the older strata and least among 12th graders, even though use decreased substantially in all groups. As was true for many illicit drugs, amphetamine use began to rise among 12th graders after 1992, and eventually among the 19- to 24-year-olds; but there was only a small increase among 25- to 30-year-old respondents. In other words, another cohort-related pattern of change was beginning to emerge in the 1990s for amphetamines, and the increase in use has really only developed since 2006 among the 25- to 30-year-olds as can be seen in Figure 5-13. While amphetamine use declined a fair amount among 12th graders between 2002 and 2009 (from 11.1% to 6.6%), there was less proportional decline among 18- to 20-year-olds and really no decline among the 21- to 55-year-old age strata. After 2009 there was some resurgence in use, particularly among the younger age groups in 12th grade and college age. It may well be that the use of amphetamines for studying was what caused this resurgence. In recent years, use has leveled or begun to decline at most younger ages and increased somewhat among the 25- to 40-year-olds, quite possibly as a result of a continuing cohort effect. Among those strata ages 45 and older, use has been very low, and there has been little change for more than a decade. For several years, the age differences in amphetamine use through age 55 have been of considerable magnitude and mostly ordinal; however, since about 2009, it has been curvilinear, with use being highest for 21-22 year olds. (See the table accompanying Figure 5-13.)

- Since 1990, when it was first measured, use of ***crystal methamphetamine*** (***ice***) has remained at low rates in the young adult population (Figure 5-14). However, among 19- to 28-year-olds combined, annual prevalence rose from 0.4% in 1992 to 1.6% by 2005 (Table 5-2). (Use had been rising among 12th graders and 19- to 20-year-olds specifically between 2000 and 2002, reaching peak levels, but since then their use has declined to low levels.) For 19-28 year olds, use declined from 2005 through 2016, reaching 0.1%; in 2017, there was a significant increase to 0.7%, but still among the lowest levels for the past decade. General ***methamphetamine*** use was first measured in 1999; its use was stable until 2005 among 19- to 28-year-olds, with annual prevalence fluctuating between 2.4% and 2.8%. Use has declined since to 0.6% by 2017 (Table 5-2). (Use of these drugs is not asked of those over age 30.)

- ***Sedative*** (***barbiturate***) use (Figure 5-15) outside of medical supervision showed a long-term parallel decline in all age groups covered through the late 1970s and 1980s, leveling by about 1988. While use then remained low and quite level for most of the age bands for about five years, it began to rise by 1993 among 18-year-olds, by 1995 among 19- to 20-year-olds, by 1997 among 21- to 22-year-olds, by 1998 among 23- to 24-year-olds, by 2001 among 25- to 28-year-olds, and by 2005 among 29- to 30-year-olds. The same cohort-related pattern of change seen during the 1990s for many other drugs also exists for sedatives (barbiturates); like most other drugs, this pattern was preceded by a long period of secular change during which all age groups moved in parallel. While use leveled off among most age groups by 2005, the 35-, 40-, and 45-year-olds all showed increases in sedative (barbiturate) use between 2006 and 2008. However, their usage rates leveled after 2008. In 2017 the annual usage rates for the 35- to 55-year-olds were about 2-3%. Sedative use among 18-year-olds declined steadily after 2005, among 19- to 20-year-olds after 2008, and among 21- to 22-year-olds after 2009, suggesting another cohort effect. From 2011 through 2017 the usage rates in most age strata leveled off or declined slightly. The 12th graders have consistently had the highest annual prevalence for sedative use without medical supervision, though their continued decline has resulted in relatively little differences among the age groups in 2016 and 2017.

- ***Tranquilizers*** (Figure 5-16) follow a similar pattern to that just described for sedatives (barbiturates). One difference is that the 12th graders' annual prevalence rate has not always been the highest among the various age groups, as was the case for sedatives (barbiturates), although it was highest between 1994 and 2000 as a result of a greater increase in tranquilizer use among the 12th graders than in the young adult strata. Since about 2004, however, as use rose and then leveled among those in their early 20s, the 12th graders no longer stood out as having the highest rate of tranquilizer use. In fact, the 21- to 22-year-olds or 23- to 24-year-olds had the highest rate in 2005 through 2009; in 2011, the 25- to 26-year-olds had the highest rate; and in 2012 the 27- to 28-year-olds had the highest rate of use. Use then increased among the 29- to 30-year-olds, who had the highest rate in 2015. This was another clear example of a cohort-related pattern of change. In the past five or six years, use has leveled or declined for almost all age groups, though the 21-24 year-olds have shown some uneven increases and decreases.

- Use of ***anabolic steroids*** has been substantially lower after high school than during 12th grade (Figure 5-17), ever since measures were first introduced in 1991 (in two follow-up questionnaire forms). The age-related differences are not consistent; prevalence rates among the young adult strata are all quite low and do not appear to trend in any systematic way. (In general, as covered in *Volume I*, it seems that the rise in steroid use from 1999 to 2003 among 8th and 10th graders and from 2001 to 2004 among 12th graders was largely specific to those age groups.) Annual prevalence rates are now very low for respondents in all young adult strata of ages 19-30 (ranging from less than 0.1% to 1.0%).

- ***Alcohol*** trends for the older age groups (Figures 5-18a–d) have been somewhat different than for the younger age groups in some interesting ways. For *annual* and *30-day* prevalence, the declines for the two youngest age strata (12th graders and those one to two years past high school) during the 1980s were greater than for the older age groups. These differential trends were due in part to the effects of changes in minimum drinking age laws in many states—changes that would be expected to affect primarily the age groups under age 21. However, because similar (though weaker) trends were evident among 12th graders in states that maintained a constant minimum drinking age of 21, the changed laws cannot account for all the downward trends, suggesting that there was also a more general downward trend in alcohol consumption during the 1980s.[6] By 1994, the declines in 30-day prevalence had slowed or discontinued for virtually all age groups until 1997, when they began to turn downward again for 12th graders, and 1999, when they began to decline among 19- to 20-year-olds. The long term declines in the 30-day prevalence of alcohol use have been substantial—from 72% in 1980 to 33% in 2017 among 18-year-olds, and from 77% in 1981 to 46% in 2017 among 19- to 20-year-olds. Since about 1997, as the declines continued in the under-21 groups (that is, those under the minimum legal drinking age), no such declines occurred among the 21 and older groups; in fact, there have been some modest increases in all these groups. These trends have resulted in substantial differences in 30-day drinking rates between those 18 to 20 years of age (33% to 46%) versus those 21 and over (66% to 74%)—much larger differences than when we first looked at them in the 1980s.

- ***Occasions of heavy drinking*** or ***binge drinking*** has continued an uneven but substantial decline for 18 and 19-20 year-olds since the early 2000s through 2017, reaching levels at or near the lowest ever in 2017 at 17% and 22%, respectively, down from the all-time highs in 1981 of 41% and 43%, respectively (Figure 5-18d). Respondents three to four years past high school show the smallest downward trend since the early 1980s, but even this age group has shown declines in the past decade from 46% in 2007 to 40% in 2017. One important segment of that age stratum is composed of college students who have shown less decline in alcohol use over the past quarter century (see Chapter 9, which also shows prevalence of ***extreme binge drinking/high-intensity drinking***).

[6] 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.

Across the life of the study, declines in binge drinking have been modest among those aged 23-30. Note that the binge drinking trend lines for different age groups (Figure 5-18d) are spread out on the vertical dimension, reflecting large and persisting age differentials (age effects) in this behavior. The relationship with age is curvilinear, however. In the past decade, the 21- to 26-year-olds have consistently shown the highest rates of binge drinking. Binge drinking had been gradually increasing since the early 2000s through about 2008 among 25- to 30-year-olds, perhaps reflecting a cohort effect that emerged during the period of increasing adolescent binge drinking in the early 1990s, but this has turned around in recent years, with binge drinking among 25-30 year-olds now being the lowest it has been for several years. Among those aged 35 to 55, binge drinking has shown some uneven increases over the years, with recent leveling for most age groups.

From the early 1980s through the mid-1990s, rates of ***daily drinking*** (Figure 5-18c) fell by considerable proportions in all age strata for which we have data, reflecting a secular trend and an important change in drinking patterns in the culture. Among 19- to 28-year-olds combined, daily drinking declined from 1987 (6.6%) to 2000 (4.1%), but has since increased unsteadily to 5.0% by 2017 (Table 5-4). Daily drinking rates now show a fairly linear age trend, and have generally been highest for the age 55 group in recent years, whereas daily drinking has declined substantially among 18-year-olds and 19- to 20-year-olds over the life of the study. In 2017 there was a considerable difference among the age strata in rates of daily drinking, ranging from 1% among 19-20-year-olds to 10% to 11% among 50- and 55-year-olds.

It is worth noting that the 35-, 40-, 45-, 50-, and 55-year-olds have had among the lowest rates of binge drinking but among the highest rates of daily drinking in recent years. These patterns—particularly the high rate of daily drinking—likely reflect age effects as well as perhaps some enduring cohort differences (because these cohorts had considerably higher rates of daily drinking when they were in high school). They may also have been influenced by the widely disseminated medical findings that suggest that one or two drinks per day for males and one per day for females have some benefits for heart health.[7,8] That may be a more salient message for those who are in their forties or above than for younger people. Whether there really are such health effects has been questioned since.[9,10]

- The prevalence rates for ***cigarette smoking*** show more complex trends than most other substances, due to the long-term presence of both cohort and age effects, plus slightly different patterns of such effects on the several different measures of smoking during the past 30 days (one or more cigarettes per month, one or more cigarettes per day, and a half pack or more of cigarettes per day).

[7] Manttari, M., Tenkanen, L., Alikoski, T., & Manninen, V. (1997). Alcohol and coronary heart disease: The roles of HDL-cholesterol and smoking. *Journal of Internal Medicine, 241*, 157–63.

[8] Savolainen, M. J., & Kesaniemi, Y. A. (1995). Effects of alcohol on lipoproteins in relation to coronary heart disease. *Current Opinions in Lipidology, 6*, 243–50.

[9] Keyes, K., & Miech, R. A. (2013). Commentary on Dawson et al. (2013): Drink to Your Health? Maybe Not. *Addiction*, *108*(4), 723-724.

[10] Goulden, R. (2016). Moderate alcohol consumption is not associated with reduced all-cause mortality. *The American Journal of Medicine 129*, 180-186.

In the earlier years of MTF, the curves across time were of the same general shape for each age band (Figures 5-19a–c), but each of those curves tended to be displaced to the right of the immediately preceding age group, which was two years younger. The pattern is clearest in Figure 5-19c (half pack plus per day) during the late 1970s and 1980s. This pattern is very similar to the one described in *Volume I* for lifetime smoking rates for various grade levels *below* senior year; it is the classic pattern exhibited by a cohort effect,[11] and we believe that the persisting cohort differences are due to the dependence-producing characteristics of cigarette smoking.

The declining levels of cigarette smoking observed in the 12th grade classes of 1978 through 1981 were later observable in the early-30s age band, as those same high school graduating classes grew older (Figures 5-19b and c). This was true at least through about 1991. By then there had been a considerable convergence of rates across age groups, largely because there were few cohort differences among the senior classes who graduated from the early to mid-1980s through the early 1990s—a period of fairly level cigarette use in high school.

In addition to these cohort differences, there are somewhat different age trends in which, as respondents grow older, the proportion smoking at all in the past 30 days declines some, while the proportion smoking a half pack per day actually increases. Put another way, many of the light smokers in high school either transition to heavier smoking or quit smoking.[12-14]

The picture was further complicated in the 1990s when it appears that a new cohort effect emerged, with smoking among adolescents rising sharply (beginning after 1991 for 8th and 10th graders and after 1992 for 12th graders). The 19- to 20-year-olds soon showed a rise at the beginning of the 1990s—perhaps responding to some of the same social forces as the adolescents (including the Joe Camel advertising campaign); but 21- to 24-year-olds did not show an increase until about 1995, and 25- to 26-year-olds until about 1996. Young adults over age 26 showed a modest increase from 1997 through 2004, but a decline in use since then; it is quite possible that an upward cohort effect was at least partially offset by a downward secular trend during this period.

After about 1999, smoking rates among nearly all age groups leveled or declined, suggesting that societal forces may be affecting all age groups in a similar way, giving rise to a secular trend. Large increases in the price of cigarettes (due at least in part to sales tax increases[15] and later federal excise taxes) and a great deal of adverse publicity for the

[11] O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (1988). Period, age, and cohort effects on substance use among young Americans: A decade of change, 1976–1986. *American Journal of Public Health, 78*, 1315–1321.

[12] To illustrate, in the graduating class cohort of 1976, 39% were 30-day smokers in senior year, 39% by ages 19 to 20, but only 29% by ages 29-30—a net drop of 11 percentage points over the entire interval. By way of contrast, 19% of that class was half-pack-a-day smokers in senior year, 24% by ages 19 to 20, and 22% at ages 29-30—a net gain of five percentage points and three percentage points over the respective intervals.

[13] 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.

[14] 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

[15] Huang, J., & Chaloupka, F. J. (2012). *The impact of the 2009 federal tobacco excise tax increase on youth tobacco use.* NBER Working Paper 18026. National Bureau of Economic Research, Cambridge, MA.

tobacco industry are highly plausible candidates, as are the introduction of the national anti-smoking campaign of the American Legacy Foundation, an increase in state and national anti-smoking advertising, the demise of the Joe Camel campaign and all billboard advertising, and the imposition of no-smoking regulations in many public and workplace settings by states and municipalities. From 2003 through 2016, thirty-day, daily, and half-pack smoking have all declined among 35-, 40-, and 45-year-olds; recent trends among 50- and 55-year-olds have shown some modest declines (Figures 5-19a through 5-19c).

As mentioned above, there was a nonsignificant increase in 2017 among 19-28 year olds in annual, 30-day, and daily smoking (though 2017 levels were still lower than 2015 levels), suggesting that continued decreases in cigarette smoking may have stalled. As shown in Figure 19a, this pattern of possible leveling for 30-day smoking in 2017 is especially evident among 21-26 year olds (with 2017 levels higher than 2016 levels and similar to 2015 levels); however, this pattern was not evident among younger and older age groups including 35-55 year olds, who generally showed continued decline. This stalling pattern was also evident for daily smoking (Figure 5-19b), but in this case, it held for 19-28 year olds and 35-55 year olds; nonetheless the 2017 levels are still lower than the 2015 levels for most age groups, suggesting that the stalling may be temporary.

- Apart from cigarettes, none of the other drugs included in the study showed a clear long-term pattern of enduring cohort differences in the earlier years of MTF (the 1970s and 1980s), despite wide variations in their use by different cohorts at a given age. There was one exception for ***daily marijuana*** use (long-term trends are summarized above, but we give them more detail here by way of contrast with cigarette smoking trends). A modest cohort effect was observable for daily marijuana use (Figure 5-3c) during the late 1970s and early 1980s.[16] But as subsequent classes leveled at lower rates of use, evidence for the cohort effect faded. The emergence in the 1990s of a new epidemic of marijuana use among teens once again yielded a strong pattern of cohort effects. As can be seen in Figure 5-3c, daily use rose sharply among 12th graders and 19- to 20-year-olds after 1992, among 21- to 22-year-olds after 1993 with a sharp rise occurring in 1997, among 23- to 24-year-olds after 1998, among 25- to 26-year-olds after 2000, among 27- to 28-year-olds in 2003, among 29- to 30-year-olds in 2005, among 35- and 40-year-olds in 2006, and among 45-year-olds in 2007. This is not unlike the pattern of change for cigarette smoking that occurred in the 1990s (Figure 5-19a). The cohort effect for daily marijuana use may be attributable, in part, to the very strong association between that behavior and regular cigarette smoking. The net effect of all of this is that a considerable age difference has emerged in current daily marijuana use since the early 1990s, when there was practically no difference. The cohort effect resulting from the rise in use among 18-year-olds in the latter half of the 1990s has been working its way up the age spectrum, and in 2010 was observable in the form of a significant increase among 35-year-olds (more recent trends in daily marijuana use are discussed above).

- In sum of longer-term trends, up until 1992, trends in illicit drug use were highly parallel across 12th graders and young adult age groups, indicating a secular trend. (Cigarettes and

[16] O'Malley, P. M., Bachman, J. G., & Johnston, L. D. (1988). Period, age, and cohort effects on substance use among young Americans: A decade of change, 1976–1986. *American Journal of Public Health*, *78*, 1315–1321.

alcohol showed a different pattern.) Since 1992, however, there has been considerable divergence in the trends for different age bands on a number of drugs as use among adolescents rose sharply, followed by subsequent rises among 19- to 20-year-olds, 21- to 22-year-olds, and so on. This divergence indicated a new cohort effect, quite possibly reflecting a generational forgetting of the dangers of drugs by the cohorts who reached senior year in the early to mid-1990s. Data discussed in Chapter 6, "Attitudes and Beliefs about Drugs among Young Adults," provide additional evidence for this interpretation.

TRENDS FOR IMPORTANT SUBGROUPS OF YOUNG ADULTS

Four-year age bands are used here to examine subgroup trends in order to yield sufficiently large numbers of cases to permit reliable estimates for the various subgroups being examined. Subgroup data for young adult respondents of each gender and for respondents from communities of different sizes are available for 19- to 22-year-olds since 1980, 23- to 26-year-olds since 1984, and 27- to 30-year-olds since 1988. (Subgroup data are not presented for the ages above 30.) A question about state of residence was added in 1987 to all follow-up questionnaires, permitting trend data to be calculated for the four regions of the country since then (MTF samples within these four regions, so each is represented by these data). These various subgroup data are not presented in tables or figures here because of the substantial amount of space they would require. However, for the reader interested in more detail, these are available in a separate MTF Occasional paper. Subgroup data on young adults through 2017 are available in *MTF Occasional Paper 91* at http://www.monitoringthefuture.org/pubs/occpapers/mtf-occ91.pdf. That document contains both tabular and graphic presentations of the data, with the graphs, which are by far the easier to read, showing each subgroup in a different color. A synopsis of trends through 2017 for young adults is presented below.

Gender Differences in Trends

- Over the long term, gender differences narrowed for some drugs among young adults in each of these three age bands (19-22, 23-26, 27-30), primarily when a steeper decline in use among males (who generally had higher rates of use) occurred in the 1980s. The overall picture, though, is one of parallel trends, with use among males remaining consistently and modestly higher for most drugs, including the indexes of annual use of ***any illicit drug*** and of ***any illicit drug other than marijuana*** (see Table 5-5, which lists prevalence for 19-28 year-olds separately by gender, for example, and Figures 1 and 4 in *Occasional Paper 91*). In general, the gender gap for 19-22 year olds annual prevalence of any illicit drug has been somewhat narrower than in the other age bands across the years through 2017 (but note that the trends for the three age bands are not on the same scale in the figures).

- The downward trend in ***marijuana*** use among 19- to 22-year-olds between 1980 and 1989 was also a bit sharper among males than females, narrowing the gap between the two groups. Annual prevalence fell by 22 percentage points (to 34%) among males, compared to a drop of 14 percentage points (to 31%) among females, leaving a difference of three percentage points (Figure 7 in *Occasional Paper 91*). From 1995 through 2017, the gender gap has averaged about 5 to 9 percentage points in all three age groups—that is, for 19- to 22-year-olds, 23- to 26-year-olds, and 27- to 30-year-olds. In the past three years, the gender gap for 19-22 year-olds has diminished to 2 percentage points for annual marijuana use.

Similarly, between 1980 and 1993, ***daily marijuana*** use for the 19–22 age group fell from 12.9% to 2.9% among males, and 6.1% to 1.7% among females, narrowing the rather large gap that existed in the early 1980s (Figure 9 in *Occasional Paper 91*). As overall use rose after 1993, the gap widened again. Among 23- to 26-year-olds, as daily use first began to increase in 1998 and 1999, the gap between the genders began to widen. In the oldest age group (ages 27–30), the difference had been fairly constant, with daily marijuana use among males generally being about two percentage points higher than among females; however, from 2005 through 2015, the gender gap widened somewhat before narrowing in the last two years.. Consistent with what is true for overall trends, *daily marijuana use in 2017 was at or near historic highs for both males and females across the three age groups*, at 10.0% and 6.3% respectively for 19-22 year-olds, 11.8% and 6.3% respectively for 23-26 year-olds, and 8.0% and 6.0% respectively for 27-30 year-olds.

- In all three age bands, use of ***synthetic marijuana*** by males tended to be higher than use by females. In 2011, when use was first measured, it was highest among the 19- to 22-year-olds with males higher than females; it has fallen sharply over the past six years for both genders and the gap between them has closed considerably (Figure 14 in *Occasional Paper 91*). Annual prevalence in 2017 for the 19-22 age group was 1.9% for males and 1.0% for females. The two older age bands started out with considerably lower rates in 2011, but also have shown some decline since then, narrowing the gender difference in both groups; the exception is that among 27- to 30-year-olds in 2017, males increased significantly to 1.9% and females stayed low at 0.1%.

- ***Inhalant*** use, while always quite low in these young adult age groups, was fairly consistently higher among males than females; however, this difference has disappeared in the past few years after a long period of decline in which prevalence declined to 2% or lower for all groups since 2011 (Figure 17 in *Occasional Paper 91*).

- For ***LSD***, males have consistently had higher rates of use than females (Figure 22 in *Occasional Paper 91*). Among 19- to 22-year-olds, the male–female differences tended to diminish as use declined (from 1980 to 1985 and again from 1999 to 2004) and expand as use increased (1986–1995). Since 2011, the gender gap has widened again as use has increased somewhat, with males having about twice the level of females; annual prevalence for males and females were at highest levels since 2001, at 5.1% and 2.7%, respectively. In the two older age bands there was less change in use, and differences had been relatively consistent (with males higher) since data have been available, beginning in 1984 for 23- to 26-year-olds and in 1988 for 27- to 30-year-olds. After 1999 and 2001 for the two older groups, respectively, overall LSD use dropped, substantially narrowing the gender differences. Males began to show these declines first, and both genders moved to almost no use of LSD between 2003 and 2009. Beginning in 2009 among the 23- to 26-year-olds, use increased for males especially in 2016 and 2017, widening the gender gap, with females showing some increase through 2016; in 2017, males increased to 6.4% (an all-time high) and females decreased to 1.9%. Similarly, the gender gap among 27-30 year-olds in annual use of LSD began to widen again as use increased somewhat for males in 2011 and especially 2016 and 2017, with females showing some slight increase in the past few years; in 2017, levels were 2.5% and 1.1% respectively. Overall, it appears that there has been some return of LSD use in the last few years among young adults, especially among males.

- Use of ***hallucinogens other than LSD*** taken as a group has consistently been higher among males in all three age strata with the difference growing larger when use increased some in the late 1990s and early 2000s (Figure 25, *Occasional Paper 91*). The differences have been greatest in the youngest of the three age strata and least in the oldest one. Use and gender differences have been relatively level for several years through 2016, showing no increase in recent years, in contrast to the recent increases in LSD; the exception is that use increased to 6.2% among 23-26 year old males in 2017, an all-time high (consistent with the 2017 increase in LSD for this age group of males).

- ***MDMA (ecstasy*** and more recently ***Molly***) exhibited little or no gender difference in any of the three age bands before use began to grow in the late 1990s (Figure 28 in *Occasional Paper 91*). Between then and 2009, there was little gender difference in ecstasy use among 19- to 22-year-olds. From 2009 through 2016, use rose some for males, slightly widening the gender differences; but in 2017, used declined among males such that there was no longer a gender difference. In the older age groups, a gender difference opened up after 1997, with males fairly consistently having higher rates of use among both 23- to 26-year-olds and 27- to 30-year-olds. From about 2009 to 2016, use among 23- to 26-year-olds rose unevenly for both genders with little consistent difference between males and females. In 2017, use rose significantly for males 23 to 26 years old to 7.1% and declined nonsignificantly to 2.7% for females. Among 27- to 30-year-olds between 2010 and 2016, use increased more for males, widening the gender difference (even though females have increased some in the past few years); in 2017, however, use declined significantly for males to 2.3% and declined nonsignificantly for females to 2.8% such that there is no longer a gender difference.

- The annual prevalence of ***salvia*** use (Figure 31 in *Occasional Paper 91*) was much higher among males in the 19- to 22-year-olds when first measured in 2009, and somewhat higher in the two older age groups. However, use by males has dropped dramatically in the years since then; an exception is that use rose nonsignificantly in 2017 for 27- to 30-year-old males to 1.2%. Use by females has also dropped, and in 2017 use was negligible except among 19- to 22-year-old females (at 1.1%).

- Males have had higher rates of ***cocaine*** use than females since MTF began. During the period of sharp decline from the peak levels in annual cocaine prevalence (1986–1993), use dropped more among males than females, narrowing the gender differences that existed (Figure 34 in *Occasional Paper 91*). In the 19- to 22-year-old age band, by 1993 annual prevalence for males had declined by 16 percentage points (to 4.5%) versus 13 percentage points among females (to 2.8%). In the 23- to 26-year-old age band, there was also a narrowing of the gender difference between 1986 and 1993, with annual prevalence down 19 percentage points among males (to 6.9%) and 13 percentage points among females (to 4.2%). Use in the 27- to 30-year-old group also dropped faster among males between 1988 (when data were first available) and 1997—down 13 percentage points versus 7 among females. In sum, during the period of sharp decline in overall cocaine use, the gender differences—which had been fairly large—narrowed considerably in all three of these age bands. During the resurgence in cocaine use of the 1990s and into the early 2000s, which occurred on a somewhat staggered basis over the years, the gap between genders expanded only slightly. In the past decade, overall use and gender differences have remained fairly level in all age groups, with the gender difference generally being less among the 19-22 age group than the two older age groups, though it narrowed in 2017. Among 23- to 26-year-old males, use rose significantly in 2017 to 9.9% (this is the same group for which LSD and hallucinogens other than LSD rose significantly in 2017).

- ***Crack*** followed a similar pattern during the earlier period of decline, though the proportional difference between the two genders had been consistently higher than for cocaine overall in the first decade of measurement (Figure 37 in *Occasional Paper 91*). With crack, though, there was some gender convergence (between 1992 and 1998) among 19- to 22-year-olds, as use among males declined slightly and use among females rose gradually; the genders converged somewhat for the two older groups in the late 1990s. After 1999, there was no consistent change for some years in differences between males and females. In all three age bands, males consistently had slightly higher crack usage rates, at least until a greater decline among males in recent years has nearly eliminated the differences and brought all of the annual prevalence rates below 1%.

- There have been modest gender differences in ***heroin*** use for any of the three age groupings of young adults in recent years, with males generally having higher rates of use than females. There were no gender differences when the project first reported results for young adults in the 1980s, and differences emerged only when heroin prevalence rose in the last half of the 1990s during the relapse phase of the drug epidemic (Figure 40 in *Occasional Paper 91*). As of 2017, prevalence ranged between 0% and 0.9% across both genders in the three age groups.

- Among 19- to 22-year-olds, both genders showed some decline in their nonmedical use of ***narcotics other than heroin*** between 1980 and 1991, with a near elimination of previous gender differences (males had been higher). (Figure 43 in *Occasional Paper 91*.) Beginning in 1994, use by males began to rise in this age group, while use by females began to rise a year later. Some gender differences developed as use increased, with use by males being higher; after 2006, as use declined, there was a smaller difference, with annual prevalence in 2017 at 3.8% for males and 3.3% for females. The picture for 23- to 26-year-olds is very similar except that the increase in use occurred a few years later (in 1997 and 1998). The gender difference (males higher) had been eliminated by 1988, but re-emerged after 1995 as use increased more among males. Since 2010, use has declined for both genders, with a consistent gender difference of about 2 percentage points. Among 27- to 30-year-olds, there has been a smaller gender difference and the least increase in use in the 2000s. Still, use increased for both genders after 1999 and leveled in the mid-2000s, with males emerging with modestly higher rates of use most years thereafter.

- Since 2002, the first year in which the survey gathered data on nonmedical use of ***OxyContin***, its use has generally been higher among males than females for all three age bands (Figure 46 in *Occasional Paper 91*). Both genders showed some increase in use between 2002 and 2009 or 2010, followed by some falloff since then in the two younger age bands. In the past few years, there have not been consistent gender differences in any of the age groups. Among the 27- to 30-year-olds in 2017, use increased nonsignificantly for males and decreased significantly for females, widening the gender gap (consistent with what was reported above for narcotics other than heroin).

- Nonmedical use of ***Vicodin***, first measured in 2002, also has been higher among males in most years. There was a somewhat larger increase in use among males in all age bands initially, but the males began to trend down earlier than the females, reducing the disparities in use such that in 2015-2017 the gender difference was nearly eliminated in all three age bands (Figure 49 in *Occasional Paper 91*).

- In general, there have been no appreciable gender differences in ***amphetamine*** use for some years in any of these three young adult age bands. Between 1981 and 1991, rates of amphetamine use were similar for males and females and showed substantial and parallel downward trends for both genders (Figure 52 in *Occasional Paper 91*). Among 19- to 22-year-olds, annual prevalence of use dropped 22 percentage points for males (to 5.2% in 1991) and 21 percentage points for females (to 4.7% in 1991). There were small increases in annual prevalence for both genders in the 19- to 22-year-old age group after 1991, in the 23- to 26-year-old age group after 1995, and in the 27- to 30-year-old age band after 2000, but the genders diverged only slightly (with males higher). At about 2008, annual amphetamine use began drifting up slowly in all three age bands, with males consistently a bit higher than females. Among the 23- to 26-year-olds and the 27- to 30-year olds, while use has been fairly level for females in recent years, it has increased some for males. In 2017, the increase was significant for males in both age of these older age groups, rising to 10.4% and 9.3%, respectively. These two age groups of males who showed significant increases in amphetamine use are the same ones who showed increases in annual use of some other illicit drugs in 2017: the age 23-26 males showed significant increases in LSD, hallucinogens other than LSD, and cocaine; and the 27-30 year old males showed nonsignificant increases in narcotics other than heroin, and OxyContin.

- Nonmedical use of ***Ritalin***, a prescription stimulant used in the treatment of ADHD, was added to MTF questionnaires in 2002 (Figure 55 in *Occasional Paper 91*). Findings for the first decade show prevalence being somewhat higher for males than females, after which gender differences have tended to be small and inconsistent.

- Like Ritalin, nonmedical use of ***Adderall*** (another prescription stimulant) has generally been slightly higher among males than females since 2009, when the question was added (Figure 58 in *Occasional Paper 91*). The largest gender difference in annual use was initially among 19- to 22-year-olds, the age band that includes most of those in college, and this difference diminished in 2016 as use dropped for males. Since 2011 a fair-sized gender difference emerged among the 23- to 26-year-olds that closed in 2016 as use dropped among males; however, use rose significantly for males in 2017 and remained unchanged for females. The gender differences generally have been small among those over age 26, although use rose nonsignificantly for males in 2017. These increases in use for the latter two age groups of males are consistent with their significant increases in amphetamine use in 2017 noted above.

- A question on ***methamphetamine*** use was introduced in 1999 (Figure 59 in *Occasional Paper 91*); by 2011, after many years of decline, annual prevalence was at or below 1% for both genders in all age groups, and has been 1.8% or less since then. Throughout, males showed slightly higher prevalence than females; however, in recent years, gender differences have been small or nonexistent.

- ***Crystal methamphetamine ("ice")*** was added to the study's coverage in 1990 (Figure 62 in *Occasional Paper 91*). In the early 1990s, use was low and very similar for both genders in all three young adult age bands. In the mid-1990s the younger two age bands showed a greater increase in annual use among males, opening a gender gap. The gap then narrowed, though males on average were slightly more likely to report use of crystal methamphetamine until 2005. From 2009 through 2017 the gender differences have been small and inconsistent. In 2017, annual prevalence was between 0.0% and 0.9% for females in the three age groups and between 0.6% and 1.2% for males. It should be noted that the estimates are a bit unstable for this drug due to limited sample sizes.

- Questions about the use of ***"bath salts***"—stimulant designer drugs (synthetic cathinones) meant to mimic the effects of amphetamines—were first introduced in 2012, so there are as yet only limited data on trends in their use (Figure 65 in *Occasional Paper 91*). Among 19- to 22-year-olds in 2012 there was a large gender difference in use (annual prevalence of 3.0% among males vs. 0.5% among females); however, there was virtually no gender difference in the two older age bands (0.7% vs. 0.6%, respectively, among 23- to 26-year-olds and less than 0.5% for both genders among 27- to 30-year-olds). In 2013 the large gap between the genders among the 19- to 22-year-olds disappeared as males that age showed a significant 2.8 percentage point decline in use. This decline coincided with a dramatic 18 percentage point increase in the perceived risk of trying bath salts (for males and females combined). A similar change in perceived risk occurred among both older groups, as well, no doubt serving to hold their usage rates very low. As of 2017, annual use was below 1.3% among both males and females in all three age bands.

- As ***sedative*** (***barbiturate***) use declined through the 1980s, the modest gender differences (males were higher) were virtually eliminated in all three age bands (Figure 68 in *Occasional Paper 91*). Beginning in the early 1990s, a staggered increase in use by both genders emerged across all three age groups, with males increasing more than females, thereby again opening a small difference in the late 1990s and into the 2000s. From about 2008 through 2017, use declined and generally leveled for males and females in the three age groups, essentially eliminating gender differences.

- For ***tranquilizers***, both genders showed a long, gradual decline and very similar rates of use from 1980 through about 1993 in all three age bands (Figure 71 in *Occasional Paper 91*). Beginning in 1995, use increased for both genders in the 19- to 22-year-old group, followed by an increase beginning after 1997 among 23- to 26-year-olds and after 1999 among 27- to 30-year-olds, again reflecting cohort effects driven by generational replacement. Some gender differences emerged during these periods of increase and remained during part of the subsequent decrease after 2002 and 2003 for the two younger age bands. Males generally reported somewhat higher usage rates, though the gender differences have narrowed in recent years as use has generally declined or leveled for all three age groups.

- ***Inhalant*** use has generally been quite a bit higher among males than females, particularly in the younger age groups (Figure 17 in *Occasional Paper 91*). The 19- to 22-year-old group showed a gradual upward shift from 1980 to 1988, followed by a leveling for some years for both genders. In 1997, annual inhalant use began to decline among 19- to 22-year-old females, followed by males in 2001; however, the gender gap did not diminish much with this decline until 2005, when there was a convergence that continued through 2016. Among 23- to 26-year-olds the gender gap widened as use by males increased between 1992 and 1999, though a subsequent decline in use among males narrowed the gap, almost eliminating it by 2005. It then re-emerged between 2008 and 2012 and diminished since then. In the oldest age stratum, use among males has generally been slightly higher, though the prevalence of inhalant use has been very low in this age group (under 1.3% in 2017).

- Use of three "club drugs"— ***Rohypnol, GHB***, and ***ketamine***—has tended to be a bit more concentrated among males in all three age strata (Figures 74, 76, and 79 in *Occasional Paper 91*), but the estimates are not very stable because of the limited numbers of cases upon which they are based. By 2009, annual prevalence rates were very low for all three drugs, and gender differences were small; this has continued to be the case in the years since then. Rohypnol was dropped from the study in 2010 because of the low numbers of users, at which point no gender difference remained in any of the three age groups. (In earlier years use by males had tended to exceed use by females.)

- For ***alcohol***, ***30-day prevalence*** rates (Figure 82 in *Occasional Paper 91*) exhibited a gradual, parallel decline from 1981 through 1992 for both genders in the 19- to 22-year-old age group. Thirty-day prevalence fell from 83% to 72% among males and from 75% to 62% among females by 1992. There has been a convergence since then, beginning in the late 1990s, because use by males has declined slightly while use by females increased slightly through 2008. The increasing proportion of women attending college may help to explain this convergence, at least in part. The gender difference was virtually eliminated in this age group by 2004 and use has remained quite level since then for both genders through 2017 (61% for males and 60% for females). In the two older age bands, there was a more modest, parallel decline for both genders, from 1985 through 1992 in the case of 23- to 26-year-olds, and at least from 1988 (when data were first available) to 1991 or 1992 in the case of 27- to 30-year-olds. From 1992 through 2017, use among males in the older two age bands showed fairly level rates of use; but use among females rose gradually, narrowing the difference among 23- to 26-year-olds (76% vs. 71% in 2017); among the 27- to 30-year-olds, although use by females had been trending upward, it declined significantly in 2017, widening the gender gap (77% vs. 66% in 2017).

Gender differences in ***daily drinking*** (Figure 83 in *Occasional Paper 91*) have been somewhat consistent over the years in each of the three age groups, with males always higher than females but gender differences decreasing in the two younger age groups. Among 19- to 22-year-olds daily drinking showed a general long-term decline from about 1981 or 1982 through about 1992, with daily use falling more among males, considerably reducing but far from eliminating what had been a large gender difference. To illustrate, in 1981, 11.8% of males reported daily use versus 4.0% of females; the comparable 1992 statistics were 5.3% and 2.7%. After 1995, daily drinking began to increase among 19- to 22-year-olds for both genders, but leveled a few years later. From 2002 to 2005 their daily use was rising among males and falling among females, increasing their differences, but since 2005 there has been a considerable convergence with daily use among males falling and use among females increasing modestly through 2014. In 2017 a gender difference remained for daily drinking in the 19- to 22-year-old age group—5.5% for males versus 1.2% for females—but not nearly as large as it was in 1981 (11.8% vs. 4.0%, respectively). The gender differences have been larger and longer lasting for the two older age groups. Although the gap diminished in 2014 for the 23- to 26-year-olds, it has widened since then through 2017 (9.1% for males vs. 3.8% for females). Among the 27- to 30-year-olds the gender difference has increased since 2000, with use rising for both genders, but to a greater extent among males; in 2017 their daily drinking rates were 10.7% for males vs. 4.1% for females.

There are also long-established and large gender differences in all three age groups in the prevalence of ***binge drinking*** or ***occasions of heavy drinking*** (Figure 84 in *Occasional Paper 91*). Males in the 19- to 22-year-old band have shown some longer-term decline in this statistic, from 54% in 1986 to 45% in 1995 to 37% in 2017. Use by females declined less, from 33% in 1981 to 28% in 1995 before rising some to 34% in 2006, and then back to 28% in 2017. Thus, the gender gap has narrowed considerably (from 24 percentage points in 1986 to 17 percentage points in 1995 to just 9 percentage points by 2017). In the two older age bands (23- to 26-year-olds and 27- to 30-year-olds), the sizable gender differences remained mostly stable as the binge drinking rates drifted steadily upward in both genders since the early 1990s, at least until 2009 or 2010. These rates have leveled or even declined a bit in both genders among 19- to 22-year-olds for about the past eight years (to 37% vs. 28% in 2017), among 23- to 26-year-olds over the past six years (to 38% vs. 28% in 2017), and among the 27- to 30-year-olds in the past five years (to 40% vs. 24% in 2017), suggesting a cohort effect. (Figure 85 in *Occasional Paper 91* shows gender differences by college student status for those aged 19-22; substance use by college student status is covered in this Volume in Chapters 8 and 9.)

- Most striking for ***cigarette smoking*** by young adults are the similarities between the genders in both absolute levels and trends. All three age groups showed a long-term decline in ***30-day smoking*** rates for both males and females (Figure 91 in *Occasional Paper 91*). For 19- to 22-year-olds, declines occurred from 1980 through 1991 and again since 1999; for 23- to 26-year-olds, declines occurred from 1984 to 1995 and again since 2001; for the 27- to 30-year-olds, declines occurred from 1988 through 2001 and again since about 2006. These staggered patterns again reflect a cohort effect moving up the age scale. Among those aged 19–22 years, females had slightly higher rates of 30-day smoking until 1992; but there was a crossover and since 1994 males have had a higher 30-day prevalence of smoking. Since 1998, males 23–26 years old have had a higher 30-day prevalence of smoking than females. Among those 27–30 years old, males have generally had a higher 30-day prevalence, with the gender gap increasing some in recent years. Overall, from about 2007 through 2017, gender differences have widened a bit in all three age groups because females showed a more consistent decline than males over the years. As discussed earlier in this chapter, there is some evidence of a leveling in 2017 of the continued decline in 30-day smoking among young adults, especially 21- to 26-year-olds; as shown in Figure 91 in *Occasional Paper 91*, this pattern of leveling is evident for both males and females in the 19-22 age group (use increased nonsignificantly 1.8 percentage points to 17.2% for males, and 0.9 percentage points to 11.3% for females) and in the 23-26 age group (use increased nonsignificantly 3.7 percentage points for males to 22.2%, and 0.7 percentage points to 13.6% for females); use continued its gradual decline to historical lows in 2017 for 27-30 year olds (15.9% vs. 12.0%).

Male and female trends in ***daily smoking*** (Figure 92 in *Occasional Paper 91*) rates have also been quite parallel over most of the time for which data are available, particularly in the two younger age groups. Among 19- to 22-year-olds there was a crossover after 1993—before that point, females had slightly higher daily smoking rates, whereas males generally did from 1994 onward, primarily because use was rising faster among males through 1999. Both genders in this age group have shown considerable, parallel declines since 1999; however, after reaching all-time lows in 2016, use rose nonsignificantly for both males and females (1.1 percentage points to 8.0% vs 0.7 percentage points to 6.1%). Among 23- to 26-year-olds, the genders had very similar smoking rates until males started reporting higher daily smoking rates from 1996 on. Males declined less after 1998, opening up a modest gap; however, this gap has narrowed some in recent years as smoking has declined a bit more among males. However, in 2017, use increased nonsignificantly 2.8 percentage points to 12.9% for males, and continued to decline for females to 7.1% (all-time low). In the oldest age band, the two genders were quite close until males opened a gap in 2002, and their rate has generally remained somewhat higher since then, though diminishing in 2017 as the males showed recent declines. In 2017 the prevalence rates for daily smoking in the oldest age band were 10.0% among males and 8.7% among females, both at all-time lows.

Smoking half-pack-a-day shows similar trends to daily smoking, though the gender differences are a little larger, with males showing higher rates than females since 1993 in the youngest age band, since 1989 in the middle age band, and since 1988 in the oldest age band, when use data for this group were first available (Figure 93 in *Occasional Paper 91*). However, all three age groups have shown a convergence by 2017, with most groups reaching all-time lows. The exception was that smoking half-pack-a-day increased nonsignificantly 1.5 percentage points to 7.8% in 2017 among 23- to 26-year old males, consistent with increases in 30-day and daily smoking in this age group of males.

- ***Hookah smoking*** generally has been slightly higher among males than females in all three age bands, but use has been declining and with that a convergence has taken place (Figure 98 in *Occasional Paper 91*).

- There has been a large and fairly consistent gender difference in the use of ***small cigars***, ***dissolvable tobacco***, and ***snus,*** specifically, with males having higher prevalence rates in all three age groups (Figures 101, 104, and 107 in *Occasional Paper 91*). It is notable that dissolvable tobacco and snus use rose nonsignificantly for the 23-26 year-old males in the past two years.

Regional Differences in Trends

The respondent's current state of residence was first asked in the 1987 follow-up surveys; thus trend data by region exist only for the interval since then. In this case, changes have been examined for all 19- to 28-year-olds combined to increase estimate reliability. Because gender, for example, crosscuts all regions, it has less sampling error than when the sample is divided into four separate regions. (Each region is represented by between 800 and 2,200 weighted cases in all years. Actual case counts are somewhat higher.) By combining across all ages, we lose the ability to see the cohort effects that have occurred with many drugs, but we are able to see whether overall trends are similar across regions. Note that the charts showing regional differences in Occasional Paper 91 differ from those just discussed for gender differences. There are no longer three age bands depicted: the freed space on each page is used to add additional prevalence periods (i.e., lifetime, annual, and 30-day). But for the most part we continue to concentrate on annual prevalence.
In general, the changes that have occurred since 1987 have been fairly consistent across regions, particularly in terms of the direction of change. The four regions of the country—Northeast, Midwest, South, and West—have generally moved in parallel. Rather than include the large number of tables or figures necessary to show regional trends, we provide a verbal synopsis instead. The detailed information on subgroup trends through 2017 are available in graphic and tabular forms in *MTF Occasional Paper 91*.

- There were substantial drops among young adults in all four regions between 1987 (the initial measurement point) and 1991 for ***any illicit drug***, ***marijuana***, ***any illicit drug other than marijuana***, ***cocaine***, ***crack***, and ***amphetamines***. After 1991, most or all regions showed some increase and then a leveling in the use of these drugs (except cocaine, which continued to decline through the mid-1990s, inched up thereafter, remained fairly level through 2006, and has declined since).

  The proportions of 19- to 28-year-olds using ***any illicit drug*** have been consistently lowest in the South and highest in the West and Northeast; but the regional differences have been fairly modest (Figure 2 in *Occasional Paper 91*). For example, in 2017 the Northeast and West had the highest annual prevalence at 45% while the South was lowest at 38%. In general, for use of illicit drugs in 2017, the West showed greater relative increases.

- For ***marijuana*** use (Figure 10 in *Occasional Paper 91*), the South has consistently been lowest, and the Midwest consistently has been second lowest. Generally, the other two regions have been fairly close to one another. However, the differences have generally not been great. The 2017 annual prevalence rates ranged from 34% (South) to 42% (West). Regional differences in ***daily marijuana*** use have been relatively low over the years. The South has generally had the lowest levels of daily use. In 2017, daily use ranged from 7.0% (Midwest) to 10.7% (West), with the West showing the largest increase in 2017.

- For the use of ***any illicit drug other than marijuana*** (Figure 5 in *Occasional Paper 91*), the regional differences are not large and the regions have moved in parallel. The West stood out as consistently highest in annual use until 2000, with the other three regions being very similar; since 2001, use in the Northeast generally has been about as high as in the West, though in 2017, use declined nonsignificantly for the Northeast (to 20%) and increased nonsignificantly for the West (to 24%). In 2017, the South had the lowest annual prevalence at 17%.

- Data on use of ***synthetic marijuana*** have been gathered since 2011 (Figure 15 in *Occasional Paper 91*). These data show a considerable decline between 2011 (when annual prevalence ranged from 5.5% in the Northeast to 9.7% in the Midwest) and 2017 in all four regions. There remains little difference among the regions in annual prevalence, which ranges from 0.1% to 1.5% in 2017.

- From 1987 (when data were first available) through 1994, rates of ***inhalant*** use remained relatively stable, quite low, and about equal in all four regions among 19- to 28-year-olds. Annual use then rose in the Northeast in 1995 and 1996 and remained higher than in the other regions through 2000, before dropping back to rates comparable to the other three regions (Figure 18 in *Occasional Paper 91*). Except for that divergence, the regions have moved very much in parallel for this class of drugs. Annual prevalence in 2017 is at low levels in this age group, ranging between 0.4% in the Midwest and 1.6% in the West.

- From 1987 (when data were first available) through 2001, the West had the highest level of *lifetime* prevalence for ***LSD*** (Figure 23 in *Occasional Paper 91*). From 1991 through 1995, the West had slightly higher *annual* prevalence rates of LSD than the other three regions among young adults. Otherwise the lifetime and annual prevalence has been quite similar in all four regions; all showed sharp declines in LSD use after 2001, though use had been declining some in all regions for several years prior to that. From about 2009 through 2017, all four regions have shown some modest increase in annual prevalence of LSD, with the Northeast typically having slightly higher annual prevalence through 2014, and the West having the highest levels in 2015 and 2017. In 2017, prevalence of annual use was 4.7% and 3.6% in the West and Midwest, respectively, and 3.0% and 2.6%, respectively, in the Northeast and South.

- ***Salvia***, which was first measured with a tripwire question in 2009, showed a continuous decline from 2009 through 2013 in the West (which started out highest) and the South (Figure 32 in *Occasional Paper 91*). Use began to decline in the Midwest after 2010 and in the Northeast after 2011. Use was very low in all regions by 2017 at 0.8% or less annual prevalence, compared to 2.5% to 5.4% in the four regions in 2009.

- Questions about ***MDMA*** (***ecstasy*** and more recently ***Molly***) were added to the follow-up surveys of young adults in 1989 (Figure 29 in *Occasional Paper 91*). Through 1993, rates were highest in the West and South and a little lower in the Northeast and Midwest regions. Subsequently, use in the Northeast began to increase (as was true among 12th graders), exceeding levels of use found in the South and West from 1999 to 2001. The Midwest has quite consistently had a much lower level of ecstasy use than the other three regions, although it was joined by the South in recent years. In 2000 all four regions showed a sharp and fairly parallel increase in ecstasy use; the rise decelerated in 2001 and use began to decline thereafter in all regions. As discussed elsewhere, we believe that this decrease may have been caused by growing concern about the hazards of ecstasy use. By 2003, little regional difference remained in annual prevalence, largely because the declines in use were most pronounced in the Northeast and West. By 2007, use was down a little more in all regions; but after 2007 ecstasy use generally was increasing in the West until it leveled after 2012, before increasing again in 2016, thereby reopening regional differences that remained in 2017. In 2017 annual prevalence rates among young adults were 6.8% in the West, 2.7% in the Northeast, 2.9% in the South, and 2.5% in the Midwest.

- The considerable declines in ***cocaine*** use, observed in all regions between 1987 and 1991, were greatest in the two regions that had attained the highest levels of use by the mid-1980s—the West and Northeast (Figure 35 in *Occasional Paper 91*). These regional differences had diminished considerably by 1992 after a large overall decline in use had taken place. Similar to the finding for 12th graders, in 1992 the decline in annual prevalence stalled in all regions except the Northeast. A gradual further decline then occurred in all regions through 1996 (1997 for the West) before a slight rise began to occur, likely reflecting the effects of young adults forgetting of the hazards of cocaine use as a result of generational replacement. Regional variability in annual cocaine prevalence was minimal for some years after the mid-1990s, but since 2005, use in the Midwest and South has declined more than in the West and Northeast, creating some regional difference; for the past few years, use has been increasing unevenly for the West and has been fairly level for the other three regions. Annual prevalence for the young adult age band in 2017 was 8.1% in the West, 5.5% in the Northeast, 4.1% in the South, and 4.0% in the Midwest.

- Through about 2011, lifetime prevalence of ***crack*** use generally has been highest in the West since crack use was first measured in 1987, as has been true for cocaine in general (Figure 38 in *Occasional Paper 91*). All four regions exhibited an appreciable drop in crack use between 1987 and 1991, again with the greatest declines in the West and Northeast, where prevalence had been the highest. Use then generally leveled in all regions except the South, where it continued a gradual decline through 1997. As was true for cocaine generally, annual prevalence for crack use among the regions have converged and are at very low levels, ranging from 0.1% to 0.3% in 2017.

- The regions have trended fairly similarly in their prevalence of ***amphetamine*** use by young adults (Figure 53 in *Occasional Paper 91*). The only modest exception was that use declined more in the Northeast (which started out lowest) in the period 1987 to 1992, giving it a substantially lower rate than the other three regions; it remained lowest until 1998. The West fairly consistently had the highest rate through about 2000, although not by much. By the late 1990s, the Northeast had caught up to the Midwest and South, making the regional differences very small; there have been no consistent regional differences since 2000 (annual prevalence ranged from 5.0% to 5.9%), with all regions showing uneven increases. In 2017 the annual prevalence rates ranged between 7.2% in the South and West and 8.9% in the Midwest.

- ***Methamphetamine*** use (Figure 60 in *Occasional Paper 91*) has been measured only since 1999 (though crystal methamphetamine, discussed next, has been in the study for a longer interval). It shows some differences in rates among the regions and some differential trending, with a gradual decline for some years in annual prevalence in the Northeast (where use has generally been lowest) and a gradual increase in the West (where use has usually been highest) from 2000–2004, after which use declined in the West. Use in the other two regions remained fairly flat until 2006, when both showed some decline. Use in the West fell after 2006, leaving very little variability among regions by 2012. (*Lifetime* prevalence reached particularly high levels in the West, starting at 16% in 1999, and declining fairly steadily to 5% in 2017.) Annual prevalence in 2017 ranged from 0.4% in the Northeast to 0.8% in the Midwest.

- The West consistently has had the highest rates for ***crystal methamphetamine*** (***ice***) use, and until recently the regional differences were very substantial, particularly in terms of lifetime use (Figure 63 in *Occasional Paper 91*). The Northeast has generally had the lowest prevalence. When data were first available on crystal methamphetamine in 1990, the West had a lifetime prevalence of 5.1% versus a range of 1.7% to 2.3% in the other three regions. By 2006, the lifetime prevalence rate in the West had increased to 8.8%, and lifetime prevalence in the Midwest and South grew quite steadily over that interval. This strongly suggests that crystal methamphetamine use among young adults diffused from the West primarily to the South and Midwest regions, but diffused much less to the Northeast, which has had the lowest prevalence since 1998. The annual prevalence figures tell a similar story, but also show that there was a spike in past-year use in the West from 1991 to 1995 before use there declined and then stabilized at around 2% from 1997 through 2001. Rates then rose again in the West between 2001 and 2003 and stabilized at a slightly higher level around 2.7%. Since 2006, use in the West declined, narrowing the differences among regions. In 2017, annual use of crystal methamphetamine stood between 0.0% and 1.0% across all regions.

- ***Bath salts*** (synthetic stimulants sold over the counter) were first included in the study in 2012 and showed some regional variation, though all regions had an annual prevalence of use below 1.7% (Figure 66 in *Occasional Paper 91*). Use by young adults was highest in the Northeast at 1.6% in 2012, but use in all regions has fallen from the 2012 levels, and the differences among regions are now minor, ranging from 0.2% in the Midwest to 0.6% in the South in 2017.

- The annual prevalence for ***sedatives*** (***barbiturates***) remained flat, and at about equivalent levels, in all four regions of the country from 1987, when first measured, through 1994

(Figure 69 in *Occasional Paper 91*). Rates then rose gradually and in parallel in all regions for a number of years until about 2003, followed by some leveling and then some decline after 2008, followed by a leveling since 2011; regional differences have been consistently small. In 2017 annual prevalence ranged from 1.5% in the Northeast to 2.7% in the Midwest.

- The picture for ***tranquilizers*** (Figure 72 in *Occasional Paper 91*) is similar to that for sedatives (barbiturates). Annual prevalence generally held fairly steady in all regions from 1987 through 1993, even though lifetime use was declining steadily in all regions through 1997. After 1993 there was some increase in all regions in lifetime and annual use, with the South experiencing the most increase through 2004, after which all regions showed a leveling in use, followed by gradual uneven declines in use for the four regions since about 2007 through 2017. The regional differences have been small, though they grew a bit larger during the period of increasing use in the late 1990s, primarily because the South showed a greater increases in lifetime and annual use than the other regions and had the highest prevalence through about 2008; since then, there have been few consistent regional differences. Annual prevalence in 2017 ranged from 4.1% in the South to 5.2% in the West.

- Levels and trends in ***heroin*** use were quite comparable across the four regions from 1987 through 2006 (Figure 41 in Occasional Paper 91). All regions had low and stable rates through the early 1990s. A gradual increase was observed from about 1993 through 2000, during the relapse phase in the overall drug epidemic, and annual prevalence was fairly stable in all regions through roughly 2004. After that, there was a steady increase in heroin use in the Northeast from 0.4% in 2004 to 1.1% in 2009, and also an increase in the West, from 0.3% in 2004 to 0.8% in 2009. After 2009 young adults in these two regions continued to have the highest prevalence of heroin use through 2012. In 2013, use continued to rise in the Northeast bringing its annual prevalence up to 1.8%, compared to 0.2% to 0.5% in the other three regions. This rise in the Northeast is consistent with statements by governors in the Northeast that they were facing a rising level of heroin use. The rate in the West fell back to 0.5% in 2013. In 2014 there was a significant decline in annual prevalence in the Northeast, leaving it only slightly higher than the other regions (at 0.6% vs. 0.3%–0.4%). In 2015 the Northeast showed a small and nonsignificant rise back to 1.1% while the other regions remained level at 0.3% to 0.4%. In 2017, annual use dropped back to 0.8% in the Northeast and to 0.1% in the South while rising slightly in the Northeast and West, opening some difference among the regions (ranging from 0.1% to 0.8% in 2017).

- Trends in annual prevalence of the use of ***narcotics other than heroin*** have been quite parallel for the four regions (Figure 44 in *Occasional Paper 91*). After a period of slight decline between 1987 and 1993 in all regions, a gradual, long-term, and substantial increase occurred from the mid-1990s through 2003 or 2004, depending on the region, with little systematic change through 2010, at which point use began to decline gradually in all regions—a decline that for the most part continued up through 2017. The South tended to have the lowest prevalence of use from 2003 through 2013, with the other three regions being tightly grouped; however, all regions were about the same in 2017, with annual prevalence ranging from 3.4% to 5.0%. It is noteworthy that trends in lifetime prevalence have been consistent with annual trends noted above, including the recent declines and lack of regional differences (13.0% to 14.9% in 2016); however, in 2017, regional differences opened up some with lifetime use significantly lower in the Northeast (down 4.1 percentage points to 10.8%) and nonsignificantly higher in the West (up 2.2 percentage points to 16.7%).

- The annual prevalence of ***OxyContin*** use without medical supervision was highest in the Northeast and lowest in the West in 2002, when it was first measured (Figure 47 in *Occasional Paper 91*). Use rose some in all regions through about 2009, and it has shown a substantial decline in all regions since then. The Midwest had the lowest prevalence rate from 2010 through 2017 (except for 2013). The four regions were fairly tightly grouped in 2017, with annual prevalence ranging from 1.4% to 2.8%. In general, regional differences have not appeared very consistent due to the limited sample sizes.

- Annual prevalence of use for ***Vicodin*** without medical supervision showed considerable variation among the regions between 2002, when it was first measured, and 2010 (Figure 50 in *Occasional Paper 91*). The West and Midwest generally had the highest rates, with the South the lowest and the Northeast in between. However, the West and Midwest have shown declines in use since 2005 and 2006, respectively, narrowing the differences; use has since declined for all regions since 2010 with the South generally continuing to have the lowest prevalence. Annual prevalence rates in 2017 were 1.1% in the South, 2.6% in the Northeast, 3.5% in the Midwest, and 4.2% in the West. (It should be noted that the sample sizes are more limited than usual for Vicodin and OxyContin, because questions about their use are contained on only two of the six questionnaire forms. Consequently, the trends are less smooth.)

- When two club drugs, ***GHB*** and ***ketamine***, were first measured in 2002, the Northeast stood out as having a higher rate of annual use (especially so for ketamine); but use in the Northeast dropped over the next two years, bringing that region's usage rates down to the same very low levels as the other three regions (Figures 77 and 80 in *Occasional Paper 91*). There appears to have been a little resurgence of ketamine use between 2008 and 2010 in all regions except the Midwest, followed by a decline in all regions in 2011. In 2012 through 2017 ketamine use stood higher in the Northeast than in the other regions. In 2017, annual use ranged from 0.3% in the South to 0.7% in the Northeast. GHB use also appeared to rise in the Northeast in 2012, but use then fell back in 2013. Because of consistent very low levels of GHB (annual use ranging from 0.0% to 0.3% in 2015), it was dropped from the surveys to make room for items on other drugs).

- *Note: Questions about the use of Rohypnol were discontinued in 2010.* **Rohypnol** use (Figure 75 in *Occasional Paper 91*) remained very low in all four regions from 2002, when it was first measured, through 2009, not reaching 1% in any region. For this reason, questions about its use were dropped from the surveys in 2010 to make room for other drugs.

- With respect to ***alcohol*** use (Figure 86 in *Occasional Paper 91*), there were modest declines in 30-day prevalence in all four regions between 1987 (when the first measurement was available for 19- to 28-year-olds) and 1992. The rates for 30-day prevalence among young adults then leveled in all regions. The West and South have consistently had lower rates of 30-day use than the Northeast and Midwest (as has generally been true among 12th graders). In 2017, 30-day use ranged from 61.7% in the West to 72.3% in the Northeast.

  Current ***daily use*** of alcohol also showed a decline from the first (1987) data collection through about 1994 or 1995 in all regions. The proportional declines were substantial—on the order of 40–50%. (This decline corresponds to a period of appreciable decline in daily drinking among 12th graders, though we can tell from their longer-term data that their decline started in 1980; thus the decline may well have begun earlier among 19- to 28-year-olds as well.) After the mid-1990s there was some upward trending in daily prevalence in all regions through about 2007 or 2008, followed by a leveling. Across the years, there have not been consistent regional differences. In 2017 the four regions had rates of daily alcohol use between 4.5% (Northeast) and 5.4% (West).

  Binge drinking (or ***occasions of heavy drinking***) was fairly level in all regions between 1987 and the late 1990s or early 2000s. There were then some modest increases through about 2006, followed by a leveling and even a slight decline, particularly in the West. Throughout the years, prevalence has been consistently higher in the Midwest and Northeast. Declines since 2011 have been greater for the Midwest and Northeast, with smaller declines in the West and South, narrowing the regional differences somewhat. In 2017, prevalence of binge drinking was 28% in the West, 29% in the South, and 36% in both the Midwest and Northeast.

- There have been highly consistent regional differences among young adults in ***cigarette smoking*** since data were first available in 1987—they exist for monthly, daily, and half-pack-daily prevalence rates. The West has consistently had the lowest rates all three measures of cigarette use across the years. The other three regions have tended to cluster fairly closely, but usually with the Midwest highest and the Northeast a little lower (Figure 94 in *Occasional Paper 91*). However, as prevalence levels have fallen in recent years, the rates have converged, with rather little regional difference remaining in 2017. In general, all of the smoking measures have shown parallel movements across regions, suggesting that the forces accounting for changes have been nationwide in scope. (It should be remembered that, as illustrated earlier in this chapter, there are strong cohort effects in smoking that are obscured to a considerable degree when we combine age groups across a 10-year age span, as we have done in the present analyses.)

  As noted above, 2017 was the first year in many that did not show continued declines in ***30-day*** and ***daily cigarette smoking***, with some nonsignificant increases suggesting a leveling in cigarette smoking among young adults. Thirty-day and daily smoking continued to decline (nonsignificantly) in 2017 for the Northeast (to 13.7% and 8.1%, respectively), but nonsignificant increases and leveling were evident for the other three regions. For the Midwest, 30-day use increased 2.0 percentage points to 17.6%, and daily use increased 0.8 percentage points to 10.0%; for the South, 30-day use increased 2.5 percentage points to 15.9%, and daily use increased 1.6 percentage points to 9.9%. For the West, the increases were smaller but began in 2016: 30-day use increased from 12.4% in 2015 to 12.7% in 2016 to 13.3% in 2017; daily use increased from 5.5% in 2015 to 6.6% in 2016, and leveled to 6.5% in 2017. These increases, while not statistically significant, suggest that the consistent annual declines in cigarette use that have been evident for years may be coming to an end, at least for young adults in the Midwest, South, and West.

- Smoking using a ***hookah*** (Figure 99 in *Occasional Paper 91*) has not shown important regional differences, with annual prevalence generally declining for all regions from 2014 through 2017. Annual use of ***small cigars*** and ***snus*** have shown some modest decreases or leveling in all regions from 2011 (when first asked) to 2017, with use in both generally highest in the Midwest (Figures 102 and 108 in *Occasional Paper 91*, respectively). Annual use of ***dissolvable tobacco*** (Figure 105 in *Occasional Paper 91*) has been below 1% in all regions since 2011 (when first asked) through 2017, with the exception of the Midwest showing a nonsignificant increase of 1.2 percentage points in 2017 to 1.5% (and the Northeast showed a one-year spike to 1.5% in 2014).

Population Density Differences in Trends

The analyses presented here for population density return to the use of three four-year age groups of young adults (19-22, 23-26, and 27-30); these age groupings allow a longer time interval to be examined for the younger strata and for cross-age comparisons of the trends. Among young adults, five levels of population density are distinguished based on the respondent's answer to the question, "During March of this year did you live mostly . . ."; answer alternatives were "in a very large city (over 500,000 people), in a large city (100,000 to 500,000), in a medium-sized city (50,000 to 100,000), in a small city or town (under 50,000), or on a farm/in the country." Data on the suburbs of cities of each size were combined with the corresponding city. These various subgroup data are not presented in tables or figures here because of the substantial amount of space they would require. Rather, a verbal synopsis of what they contain is presented. More detailed information on subgroup trends will soon be available in both graphic and tabular form in *MTF Occasional Paper 91*.

- Annual use of ***any illicit drug*** among young adults generally has moved in parallel among the various community-size strata. The farm/country stratum has tended to have the lowest use. The other four community-size strata have differed little from one another, though the very large cities have generally ranked at the top in all three age bands and have shown more of a recent increase in annual prevalence than the other strata (Figure 3 in *Occasional Paper 91*). Across the years among the 19- to 22-year-olds, annual prevalence has been similarly high among the cities of all sizes and lowest among the farm/country stratum; in 2017, annual prevalence was: 32% for the farm/country stratum, 40% for small towns, 46% for medium-sized cities, 44% for large-sized cities, and 45% for very large cities. Among 23- to 26-year-olds and 27- to 30-year-olds, population density differences in annual use have expanded in recent years, though still generally maintaining the positive relation with community size; in 2017, annual prevalence for the two age groups was 30%

and 29% for farm/country, 33% and 32% for small towns, 39% and 35% for medium cities, 48% and 38% for large cities, and 54% and 48% for very large cities.

- Trends in the use of ***any illicit drug other than marijuana*** tell a similar story, with annual use generally highest in very large cities and lowest in farm/country communities across the age groups (Figure 5 in *Occasional Paper 91*). There was a long period of fairly parallel declines along with some convergence of usage rates among the community-size strata at all three age levels (among 19- to 22-year-olds it was between 1981 and 1992), followed by an increase in use and more recently a leveling. In general, medium, large, and very large city strata have all tended to share about the same rates, while the farm/country stratum has tended to have the lowest rates, particularly prior to 1990; the differences by population density have been quite small since about 2000 through about 2012 across the three age groups. After 2012 or 2013 the most noteworthy change has been increased prevalence in the very large cities among the two older age groups, particularly in 2017, which appears to be primarily the result of increases in marijuana use, discussed next.

- ***Marijuana*** use (Figure 11 in *Occasional Paper 91*) has moved pretty much in parallel among the various community-size strata over the time intervals for which data exist. Among all three age strata annual prevalence of marijuana use tends to be ordinally related to population density, with the farm/country stratum having the lowest annual prevalence of marijuana use and the very large cities having the highest. Among 19- to 22-year-olds, the annual prevalence rates have been quite close among communities of all sizes, except for the farm/country stratum. Use in the farm/country stratum fell less in the decline period during the '80s and rose more slowly in the subsequent increase than in the other community-size strata in the 90s, first narrowing and then increasing the gap; in 2017, annual prevalence was 29% for farm/country, 37% for small towns, and 40%-45% among cities. In the past few years among 23- to 26-year-olds and 27-30 year olds, the differences among the communities have widened some as use among the large and very large cities increased faster than among the other strata. In 2017, annual prevalence was 28% and 27% for farm country, 28% and 26% for small towns, 35% and 31% for medium cities, 42% and 35% for large cities, and 52% and 42% for very large cities.

- ***Daily marijuana use*** (Figure 13 in *Occasional Paper 91*) has also moved largely in parallel among the five population-density strata within each age band, with few consistent differences among the strata over the years. The population-density strata all showed some decline in daily use from 1980 through about 1992, suggesting a period effect influencing all ages, and then more of a staggered increase from 1992 through 2000 among the 19-22 year-olds, from roughly 1998 to 2003 among the 23- to 26-year-olds, and from roughly 2004 to 2008 among the 27- to 30-year-olds, indicative of a cohort effect. Over the past decade, there have been few systematic differences between the strata in the three age groups, with all showing uneven increases. In 2017, daily use for 19- to 22-year-olds ranged from 5.7% for farm/country to 9.6% for very large cities; for 23- to 26-year-olds, it ranged from 6.3% among small towns to 11.7% among very large cities; and for 27- to 30-year-olds, it ranged from 6.2% in medium cities to 7.5% in very large cities.

- ***Synthetic marijuana***, such as "K-2" and "Spice," was added to the study in 2011; data covering only a six-year interval exist so far (Figure 16 in *Occasional Paper 91*). The farm-country stratum had the highest annual prevalence initially in the two youngest age bands, but their use fell sharply and significantly in the years since then. In 2017 the annual prevalence among 19- to 22-year-olds was 3.7% and ranged from 0.8% to 1.5% among the other four strata. In the older age groups, use started from a lower level and generally has fallen in all community size strata as well, such that in 2017 annual prevalence ranged from 0.0% to 1.4% among 23- to 26-year-olds and 27- to 30-year-olds.

- In general, there have not been large differences in ***LSD*** use among young adults as a function of community size since 1983 (Figure 24 in *Occasional Paper 91*). Among 19- to 22-year-olds (the young adult age group with by far the highest rates of LSD use prior to 2003), use in communities of all sizes declined appreciably in the early to mid-1980s, particularly in the urban strata, eliminating modest prior differences by 1984. From around 1989 through 1996, there was some increase in LSD use in all population-density strata among 19- to 22-year-olds, with the most rural areas generally continuing to have the lowest prevalence of use. After 1997, there was some decline in LSD use in all community-size strata among 19- to 22-year-olds, followed by a sharp decline occurring from 2001 to 2003, with all strata moving in concert. Since 2011, there have been uneven increases in annual use among all strata. In 2017, prevalence ranged from 0.8% in farm/country to 4.4% in large cities. The 23- to 26-year-old respondents had some modest increases after 1989 in all community-size strata, though the increases had virtually ended by 1995. From about 1999 through about 2011, there were declines in all strata, with the largest decline occurring from 2001–2003 in most strata. (In *Volume I* in this series, we discussed how a sharp decline in supply may be responsible for the sizable decline in use among all ages after 2001.) Since about 2011, however, annual use has shown some unsteady increase through 2017, with annual prevalence in 2017 ranging from 1.9% in farm/country communities to 6.6% in very large cities. In the oldest age group, LSD use has remained very low and for the most part quite stable, but also with some decline after 2001; until recently, there has been very little difference among the community size strata. Since about 2010 through 2017, annual use increased unevenly for all strata; in 2017 it ranged from 0.8% in small towns to 3.6% in the farm/country stratum.

- The use of ***hallucinogens other than LSD*** (Figure 27 in *Occasional Paper 91*), taken as a class, has also shown considerably higher rates in the youngest age band compared to the two older ones, suggesting a consistent sharp falloff in use with age—an *age effect*. (The drug most often reported in this general class has been psilocybin or *shrooms*, as is true among 12th graders as well.) Use of this general class of drugs has tended to be highest in very large cities and lowest in farm/country communities across the years in the three age groups. Use fell in communities of all sizes among young adults between 1980 and about 1988. Among 19- to 22-year-olds, there was then a leveling of use for a few years, followed by an extended increase in use among all community-size strata. By 2003 the rates attained by each stratum exceeded those originally observed in 1980; there have been some declines and leveling since then in most strata. However, in the past few years, annual use has increased unevenly for those in very large cities, reaching 7.1% in 2017 (and ranging between 1.2% and 3.5% for the other four strata). The 23- to 26-year-old group showed slightly rising rates of use between 1998 and 2004, followed by some uneven leveling through 2017. Sharp increases occurred in the very large cities in 1999 and 2000, in 2010, and 2017; in 2017, annual use was 5.8% in very large cities and 3.0% to 3.1% in the other four strata. The 27- to 30-year-olds have generally had low rates of use, and the trend lines were very flat with only minor community-size stratum differences until 2001, when all strata, especially the very large cities, began to increase before showing some uneven leveling after 2005 through 2017. However, since 2012 and through 2017, there has been an uneven increase in annual use in the very large city stratum, reaching 4.3% in 2017 (and ranging between 0.8% and 2.7% in the other four strata). Thus, both LSD and hallucinogens other than LSD have been showing a particular increase in use in the very large cities among young adults generally.

- ***Salvia*** (or ***salvia divinorum)*** use was first measured in 2009 and has shown somewhat irregular trend lines since then (Figure 33 in *Occasional Paper 91*). The overall picture is clearly one of decreasing use since 2009 in the youngest age-group and since 2010 in the middle age-group. Annual prevalence rates started out highest in the farm/country stratum among the two younger age groups; but use fell sharply in all strata and in all age groups by about 2012 and is now very low for this drug across all population density strata and age groups; in 2017, it ranged from 0.0% to 2.7% among 19- to 22-year-olds, it was less than 0.5% across all strata among the 23- to 26-year-olds, and it ranged from 0.0% to 1.0% among the 27- to 30-year-olds.

- ***MDMA*** (Ecstasy and more recently Molly) use was first measured in 1989, and since then has shown some of the largest short-term changes of any drug among young adults (Figure 30 in *Occasional Paper 91*). Among 19- to 22-year-olds annual use in 1989 was highest in the very large cities (5% annual prevalence), but declined in all population-density strata between 1989 and 1994 (to 1.6% or less). By 1998, use had begun to increase in all community-size strata within this age band, except in the farm/country stratum. The farm/country stratum moved up sharply in 1999, but then the three most urban strata jumped sharply in 2000, opening a fair gap in use with large and very large cities having rates nearly twice as high as any of the other strata in 2002. All community-size strata showed large declines in ecstasy use after 2000 or 2001, which lasted through 2004, narrowing the differences among them. In 2011, ecstasy use in the very large cities rose sharply and has stayed highest there in the years since, with the other strata showing some leveling or uneven decline; in 2017, annual use was lowest in the farm/country stratum at 1.3% and highest in very large cities at 5.7%. Among the 23- to 26-year-olds, all population-density strata increased from about 1994 through 2000 (with a large increase among very large cities to 15%), then declined, or at least remained level, through 2003, and then stayed level through 2008 when differences by community size were negligible (ranging between 2.2% and 3.5%). After 2008 through 2017, annual use began to diverge among the communities, with use rising for very large cities and leveling or declining unevenly for the other strata; in 2017, annual prevalence among 23-26 year-olds was 8.9% for very large cities and 3.1% to 4.8% for the other four strata. Considerably less increase in ecstasy use occurred among 27- to 30-year-olds, though there was some increase in the largest cities starting after 1996 and in the large and medium-sized cities after 1999. From

1997 through 2005 the very large cities stood out as having the highest rates of ecstasy use, but the differences were modest through 2012. Between 2012 and 2017, annual prevalence again started to rise among very large cities but tended to level or decline for the other four strata; in 2017, use was 6.3% in very large cities and 1.3% to 2.0% in the other four strata. *It thus appears that over the past several years ecstasy use has made a comeback among young adults in the country's very large cities.*

Ecstasy use trends tell an interesting story. In very large cities use peaked in all three age bands in 2000 and then began to decline. The medium-sized cities were beginning to level or decline by 2001 in the two younger age bands. The small town and farm/country strata peaked in 2001 in all age groups. These data support our belief, based on school-level analyses of secondary schools, that the presence of this drug was still diffusing geographically—in this case, from more urban to more rural areas—and, were it not for this continued diffusion, ecstasy use would actually have begun to decline nationally a year earlier. The data from 12th graders on perceived risk provide the clue as to the most likely cause of this turnaround; they showed a large jump in the level of perceived risk associated with ecstasy use from 2000 through 2003. Unlike most other drugs discussed here, the pattern of change since the mid-1990s appears to reflect secular trends rather than cohort effects, with all age groups moving largely in parallel—that is, until the recent resurgence of use in the very large cities which has been staggered across the age bands largely consistent with a cohort effect.

- In the early 1980s, ***cocaine*** use was positively correlated with population density, with the highest use in the very large cities (Figure 36 in *Occasional Paper 91*). The important drop in cocaine use that began after 1986 slowed considerably after 1992 or 1993 in all three age strata and in communities of all sizes, by which time the positive association with population density had been virtually eliminated. Among 19- to 22-year-olds there was a slow sustained increase in cocaine use among all community-size strata after about 1993 or 1994, and among 23- to 26-year-olds after about 1998. There was some decline in the mid-2000s in all strata except large cities, which showed a decline in subsequent years. As just stated, usage rates among the population-density strata tended to converge considerably during the period of decline; this convergence remains, except for the very large cities, which since 2007 have shown rates of cocaine use somewhat higher than the less densely populated areas in all three age bands. In the 27- to 30-year-old age group, a gradual increase in use emerged in nearly all population-density strata after 2000, no doubt reflecting a cohort effect working its way up the age spectrum. By 2004, all of the strata in the oldest age band leveled or declined from their peak rates; the single exception was very large cities, where use remained relatively high and even increased through 2015. In 2016 and 2017, the very large cities showed some leveling or modest increases for the youngest and oldest age bands (to 7.8% and 8.5%, respectively in 2017); among the 23- to 26-year-olds, it declined significantly in 2016 and increased significantly in 2017 to 15.3%. The farm/country stratum has tended to have the lowest rates of cocaine use throughout and in all three age groups.

- ***Crack*** use among all age groups peaked in 1987 or 1988 (strongly suggesting a secular trend at work at that time) and then, after declining appreciably, bottomed out in most all population-density strata for several years through 2017 (Figure 39 in *Occasional Paper 91*). Use reported in these young adult samples at all three age levels has borne practically no systematic association with community size, and for the most part the strata have all tended to move in parallel, with the youngest age band tending to be highest in the farm/country stratum in many of the years. In 2017, annual prevalence was at or below 0.3% across all strata in the older two age bands, and among 19- to 22-year-olds use was at or below 2.2% in all strata. Clearly, as we have indicated in other chapters in this volume, crack cocaine may have become all but forgotten among young adults who are high school graduates.

- ***Amphetamine*** use showed virtually no differences associated with urbanicity in any of the three age groups through about 2008, with some differences occurring since through 2017, with annual use generally lowest in the farm/country stratum and highest in very large cities (Figure 54 in *Occasional Paper 91*). The trend curves were highly similar for all levels of population density within each young adult age group, with the single exception that among the 23- to 26-year-olds of the five strata the three urban strata exhibited the greatest increase in amphetamine use after 2008; they were joined by the small town stratum in 2012, leaving the farm/country stratum with the lowest rate of use through 2017. Also, the 19- to 22-year-olds in the very large cities showed a sharp increase in use in 2013 and 2014, with annual prevalence reaching 14.6% in 2014, compared to 8.0 to 10.1% in the other age strata; use in very large cities in this age group declined in 2015 and 2016, leveling in 2017 (in 2017, use ranged from 5.7% in small towns to 10.4% in large cities). A similar pattern occurred for the 23- to 26-year-olds, with use tending to increase among very large cities and large cities and declining or leveling for the other three strata; in 2017 use ranged from 3.1% in the farm/country stratum to 13.8% in very large cities. For 27- to 30-year-olds, use has generally leveled for farm/country and small town strata and increased unevenly for the city strata; in 2017, use ranged from 5.0% for small towns to 8.4% for very large cities.

- Due to limited sample sizes, estimates of the use of ***crystal methamphetamine*** (***ice***) as a function of population density have been quite erratic across time in all three age groups, particularly in the earlier years of collecting such data (Figure 64 in *Occasional Paper 91*). Since 2007, annual use has been relatively low in all strata and age bands and in 2017, very low use was found across all strata in the three age groups (between 0.0% and 2.0%); the exception is the increase to 5.1% in 2017 among 19- to 22-year-olds in the farm/country stratum. Since the late 1990s, through about 2013 to 2015, the farm/country and small town segments have tended to show the highest rates of crystal methamphetamine use in the two older age bands.

- The use of ***methamphetamine*** in any form has been measured only since 1999 (Figure 61 in *Occasional Paper 91*). In general, the farm/country stratum has shown higher than average rates of use in the two youngest age groups, with higher rates in particular from 2001 to 2005 among 19- to 22-year-olds and from 2004 to 2007 among the 23- to 26-year-olds. Among the 27- to 30-year-olds the farm/country stratum was highest from 2009 to 2013, suggesting a cohort effect at work in that rural stratum. Otherwise there has been little systematic difference. Among 19- to 22-year-olds, all community-size strata have shown substantial declines in annual use since 2003 or 2004, reaching very low levels by 2007 through 2017 at 2% or lower; the exception is that use increased to 4.4% in the farm/country stratum in 2017 (versus 0.0% to 1.7% in the other four strata). Annual use has declined some over the same interval among 23- to 26-year-olds (2017 prevalence ranged from 0.0% to 1.1%). Among 27- to 30-year-olds annual use generally declined from 2002 to 2006 in all population-density strata; after 2009, this group showed a slight rebound in use, particularly in the farm-country stratum already mentioned; 2017 prevalence ranged from 0.0% to 1.2%.

- ***Bath salts*** were added to the study in 2012, so trends are available only since then (Figure 67 in *Occasional Paper 91*). They showed a high prevalence of annual use (6.5% annual prevalence) in 2012 in the farm/country stratum among 19- to 22-year-olds, but a significant decline in 2013 such that there have been practically no differences among the different levels of population density in the years since; the exception is that use increased to 4.5% in the farm/country stratum in 2017 (versus 0.0% to 0.8% in the other four strata). Among 23- to 26-year-olds, annual use started highest in 2012 in small towns and farm/country areas, but dropped there the next year; in 2017, annual prevalence ranged from 0.0% to 0.5%. Use among 27- to 30-year olds has been negligible all along, with annual prevalence ranging between 0.0% and 0.9% across all strata since 2012. These findings suggest that this type of drug use tended to be concentrated among younger people and in more rural areas; otherwise the use of bath salts is almost nonexistent.

- *Note: Methaqualone was dropped from the study in 1990.* ***Methaqualone*** use, which in 1981 was strongly positively associated with population density, dropped to annual prevalence rates of 0.8% or below in all community-size strata for all three age bands by 1989. For that reason, its use is no longer measured in MTF.

- Unlike methaqualone, ***sedatives*** (***barbiturates***) have never shown much variation by population density, at least as far back as 1980, with trends showing gradual declines (through about 1992, 1995, and 2000 for the three age groups, respectively), then increases (through about 2002, 2004, and 2007 for the three age groups, respectively), and more recently gradual declines or leveling. (Figure 70 in *Occasional Paper 91*). This remained true in all three age bands through 2017, with the single exception that among 19- to 22-year-olds use in the farm country areas emerged as highest between 2011 and 2014. Otherwise the trends have been similar within each age band. In 2017, annual use across all strata in the three age groups was below 4%. The sequences of change among the age bands are consistent with cohort effects.

- ***Tranquilizer*** use among young adults has also had little or no association with population density over the time interval under study (Figure 73 in *Occasional Paper 91*). Like sedatives (barbiturates), there was an earlier period of decline, staggered inflection points, a long period of gradual increase, and then a leveling staggered up the age band from about 2003–2005 through 2017. In recent years, tranquilizer use has tended to be somewhat lower in the farm/country stratum in the three age groups, but otherwise, there have been few consistent differences among the strata. In 2017, annual use across all strata in the three age groups ranged between 3% and 7%.

- From 1980 to 1995, annual ***heroin*** prevalence was less than 1.0%—usually much less—in all population-density strata for all three age bands (Figure 42 in *Occasional Paper 91*). After 1994, use among 19- to 22-year-olds in all community-size strata rose and reached 1.0% in the three most urban strata by 1998. In fact, in the very large cities, it reached 2.1% in 2000 (vs. 0.3–0.6% in the other strata). Use levels have been lower among 23- to 26-year-olds and lower still among 27- to 30-year-olds, making it difficult to discern systematic differences among the population-density strata in those age bands. In 2017 the annual prevalence of heroin was 0.9% or lower in all community-size strata for all three young adult age bands, and it was much lower in most.

- The annual use of ***narcotics other than heroin*** (Figure 45 in *Occasional Paper 91*) had some positive association with population density among 19- to 22-year-olds through the early 1990s; however, it has shown rather little systematic association since then. Use of narcotics other than heroin increased substantially in all community-size strata after 1993 in the case of 19- to 22-year-olds, after about 1996 in the case of 23- to 26-year-olds, and after about 1998 in the case of 27- to 30-year-olds; however, no systematic differentiation by community size was evident during those periods of increasing use. Clearly a cohort effect was at work, and the increasing use of these drugs was quite widespread. Use leveled off since about 2004 in the youngest age band, 2006 in the middle age band, and 2007 in the oldest age band. In the past few years, annual use continued to level or decline for most strata across the age groups, with the exception of some nonsignificant increase among the two older age bands in very large cities to 8.1% and 6.9%, respectively, in 2016 (levels for others ranged from 4% to 6%). In 2017, use continued to decline or level in all age groups in all population density strata, with annual prevalence ranging between 1.7% and 5.5%. Still, use remains at considerably higher levels, particularly in the two older age bands, than was true back in the 1980s and early 1990s.

- Sample sizes for two of the narcotic drugs of particular interest, ***OxyContin*** and ***Vicodin***, are not sufficient to estimate population-density differences or trends with a reasonable degree of accuracy (Figures 48 and 51 in *Occasional Paper 91*).

- The absolute levels of ***inhalant*** use have remained low in these age groups, particularly above age 22 (Figure 19 in *Occasional Paper 91*). However, during the mid- to late 1980s, there was a gradual increase in use among 19- to 22-year-olds in all community-size strata. No strong or consistent association with population density has appeared, though the very large cities have not infrequently had higher rates than the other areas among 19- to 22-year-olds, particularly in the period 1998 through 2000. Among both the 19- to 22-year-olds and the 23- to 26-year-olds, there has been some falloff in inhalant use since the late 1990s through 2017 in all population-density levels. In 2017, annual use was between 0.0% and 2.6% in all strata across the age groups.

- Limitations in sample sizes make estimation of differences and trends as a function of population density difficult for the club drugs ***GHB*** (Figure 78 in *Occasional Paper 91*) and ***Ketamine*** (Figure 81 in *Occasional Paper 91*).

- There have been few differences as a function of population density in the *annual* and *30-day* prevalence of drinking ***alcohol*** among 19- to 22-year-olds since data were first available in 1980, except that the farm/country stratum has tended to have lower-than-average use across the years; in 2017, 30-day use was 53% for the farm/country stratum and 59% to 64% in the other strata (Figures 87 and 88 in *Occasional Paper 91*). In the two older age bands, however, there has been a fairly consistent positive correlation between population density and use of alcohol in the *past 30 days*—though not a very strong one. In 2017, 30-day use ranged from 67% in the farm/country stratum to 83% in very large cities among 23- to 26-year olds; and among 27- to 30-year-olds, it ranged from 64% in medium cities to 80% in very large cities. Trends have been fairly parallel for all strata in all age bands. There have also been no consistent trend differences in current ***daily drinking*** associated with population density in any of the three age bands, though since the early 2000s the very large cities have tended to have the highest rates among the two older age groups (Figure 89 in *Occasional Paper 91*).

- For ***binge drinking*** or occasions of heavy drinking (Figure 90 in *Occasional Paper* 91), all community-size strata have been fairly close across time, with few consistent population density differences at all three age levels (exceptions noted below). Among 19- to 22-year-olds, the farm/country stratum has fairly consistently shown a lower prevalence of binge drinking across the years. Binge drinking has declined for all groups since about 2007, with prevalence in 2017 ranging from 26% in the farm/country stratum to 34% in large cities. Among 23- to 26-year olds, the farm/country stratum has also tended to have the lowest binge drinking across the years, and very large cities having the highest, particularly since about 2002. Differences among the strata started to expand in 2007 and converged again in 2014, with the differences in binge drinking ordinal across the five strata. Between 2014 and 2017, binge drinking increased for very large cities, and leveled or declined for the other strata; prevalence in 2017 ranged from 19% for the farm/country stratum and 47% for very large cities, with the other strata ranging from 28% to 34%. Among the 27- to 30-year olds, binge drinking has tended to be highest in very large cities across the years, particularly since about 2002. Differences among the strata began to emerge in 2006, with binge drinking rising in very large and large cities through 2013/2014, and leveling or declining for the other strata. Prevalence in 2017 ranged from 25% in small towns to 40% in very large cities. To summarize, binge drinking has tended to be lowest in the farm/country stratum in all three age bands, and has risen among very large cities in the two older age bands since the early 2000s, with greater differences emerging as a function of population density.

- ***Cigarette smoking*** has generally been negatively associated with population density in all three age strata, without much evidence of differential trends related to population density (Figures 95, 96, and 97 in *Occasional Paper 91*). There is one exception: Among 19- to 22-year-olds, all smoking prevalence measures rose from 1997 through 1999 in the farm/country and small town strata, while in most other strata they remained level. The differences in 1999 were most striking for half-pack-a-day smoking among the 19- to 22-year-olds—24% for farm/country, 19% for small town, 15% for both medium-sized and large cities, and 10% for very large cities. Compare this with 1985, when there was virtually no difference in half-pack-a-day smoking rates among these strata (all were at

18% or 19%). Thus, smoking among those in their early 20s became more concentrated in the nonurban populations. In fact, among 19- to 22-year-olds, the farm/country stratum has usually had the highest rate of daily smoking since 1986, and the small town stratum has generally ranked second since then. As smoking has declined in all strata in the youngest group, this difference has diminished, though not so much in the older two age bands. Among the two older age groups, the farm/country stratum has been highest more often than not. Among 19- to 22-year-olds, there has been a decline in 30-day prevalence in most population density strata since about 2000 or 2001, down in 2016 to 10% in very large cities and 18% in farm/country communities, and among 23- to 26-year-olds since 2005, down in 2016 to 10% in large cities and 19% in farm/country communities; prevalence has been declining among 27- to 30-year-olds since about 2009, down in 2016 to 12% in very large cities and 17% in farm/country communities. These staggered recent declines across communities are consistent with cohort effects. Note also that differentiation among the different population density strata is greatest for half-pack-a-day smoking, particularly among the oldest age stratum.

As noted above, the 2017 evidence suggests that cigarette smoking may be leveling for young adults. With regard to population density, there is some evidence to support this among some of the strata among the two younger age bands. Among 19- to 22-year-olds, *30-day use* increased nonsignificantly for four of the five strata: for farm/country, it increased 1.7 percentage points to 19.6%; for small towns, it increased 2.8 percentage points to 15.4%; for large cities, it increased 3.5 percentage points to 13.6%; and for very large cities, it increased 6.8 percentage points to 16.7%. In medium size cities, it significantly decreased 4.7 percentage points to 8.8%. Similarly, *daily* smoking for this age group increased for the same four strata in 2017, significantly so for very large cities. Among the 23- to 26-year-olds, 30-day use increased for three of the strata: for farm/country, it increased nonsignificantly 7.6 percentage points to 27.0%; for large cities, it increased significantly 5.5 percentage points to 15.8%; and for very large cities, it increased nonsignificantly 3.2 percentage points to 19.3%. In small towns and medium cities, 30-day cigarette use decreased nonsignificantly to 16.7% and 14.4%, respectively. Similarly, daily smoking for this age group increased nonsignificantly for the farm/country stratum and large cities, and decreased nonsignificantly for the other three strata. However, among the 27- to 30-year-olds, both 30-day and daily smoking continued to decline in all strata (though 30-day use did increase nonsignificantly 0.6 percentage points in the farm/country stratum).

- Smoking using a ***hookah*** has been measured since 2011 (Figure 100 in *Occasional Paper 91*), and its use has tended to be positively correlated with population density for all age groups. Annual use has been declining among 19- to 22-year olds, and this decline continued in 2017 for the middle three strata with significant declines in each. For the two older age groups, use either leveled or declined nonsignificantly in 2017, consistent with recent trends in these two age groups.

- Use of ***small cigars*** has not differed much as a function of population density, and use has been fairly flat in all strata since first measured in 2011 (Figure 103 in *Occasional Paper 91*).

- Use of ***dissolvable tobacco*** (Figure 106 in *Occasional Paper 91*) has tended to be very low in all strata.

- Use of ***snus,*** specifically, has also tended to be quite low, but again with the farm/country stratum tending to be highest, particularly in the youngest age group, though their usage level has been falling fast (Figure 109 in *Occasional Paper 91*).

TABLE 5-1
Trends in Lifetime Prevalence of Various Types of Drugs among Respondents of Modal Ages 19–28

(Entries are percentages.)

	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	2015	2016	2017	2016–2017 change	2012–2017 change
Approximate Weighted N =	*6,900*	*6,800*	*6,700*	*6,600*	*6,700*	*6,600*	*6,800*	*6,700*	*6,500*	*6,400*	*6,300*	*6,400*	*6,200*	*6,000*	*5,700*	*5,800*	*5,300*	*5,300*	*5,700*	*5,400*	*5,100*	*4,800*	*4,900*	*4,900*	*4,900*	*4,600*	*4,600*	*4,400*	*4,200*	*4,000*	*3,700*	*3,600*		
Any Illicit Drug [a]	70.5	69.9	67.9	66.4	64.5	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	62.9	62.8	64.0	+1.2	+5.1 sss
Any Illicit Drug other than Marijuana [a]	48.4	47.0	44.6	42.7	40.8	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	36.8	36.2	36.8	+0.6	+4.0 sss
Marijuana	66.5	66.0	63.8	62.8	60.2	58.6	56.4	55.9	53.7	53.6	53.5	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	58.5	58.7	60.1	+1.4	+3.6 ss
Inhalants [b]	12.3	12.7	12.6	13.2	12.5	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	6.4	6.3	5.2	-1.1	-2.0 ss
Nitrites [c]	2.6	6.9	6.2	—	1.9	1.4	1.2	1.3	1.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hallucinogens [d,y]	18.5	17.1	17.0	15.9	16.1	15.7	15.7	15.4	15.4	16.1	16.4	16.7	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	11.7	12.2	12.9	+0.7	+0.7
LSD [y]	14.6	13.7	13.8	12.7	13.5	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	7.0	8.0	8.8	+0.8	+2.6 sss
Hallucinogens other than LSD [d,y]	12.6	11.4	10.6	9.4	9.1	8.4	8.0	7.6	7.4	7.8	7.9	8.4	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	10.4	10.6	10.6	0.0	-0.5
PCP [e]	8.4	4.8	5.0	—	2.5	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	1.2	1.9	0.3	-1.5 ss	-0.8
MDMA (Ecstasy, Molly) [z], original	—	—	—	3.3	3.7	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	—	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.5	12.9	12.5	12.6	+0.1	—
Cocaine	32.0	29.3	28.2	25.8	23.7	21.0	19.5	16.9	15.2	13.7	12.9	12.0	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	12.1	10.4	11.2	+0.8	-0.7
Crack [g]	—	6.3	6.9	6.1	5.1	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	1.8	1.2	1.2	0.0	-1.5 sss
Other Cocaine [h]	—	28.2	25.2	25.4	22.1	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	11.8	11.9	12.6	+0.7	+0.8
Heroin	1.3	1.3	1.1	1.0	0.9	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	1.6	1.6	1.4	-0.2	-0.2
With a Needle [i]	—	—	—	—	—	—	—	—	—	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	0.7	0.7	0.8	+0.1	+0.2
Without a Needle [i]	—	—	—	—	—	—	—	—	—	1.0	1.4	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	1.8	1.5	1.5	0.0	-0.2
Narcotics other than Heroin [j,k]	10.7	10.6	9.8	9.6	9.4	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	15.0	14.3	13.4	-0.8	-4.2 sss
Amphetamines, Adjusted [j,l]	32.3	30.8	28.8	25.3	24.4	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	18.8	18.7	18.2	-0.5	+0.7
Methamphetamine [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	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	2.4	2.2	2.6	+0.4	-0.9
Crystal Methamphetamine (Ice) [i]	—	—	—	—	2.5	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	2.2	1.8	1.8	0.0	-0.8

↓

(Table continued on next page.)

TABLE 5-1 (cont.)
Trends in Lifetime Prevalence of Various Types of Drugs
among Respondents of Modal Ages 19–28

Crystal Methamphetamine (Ice) [i]

	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	2015	2016	2017	2016–2017 change	2012–2017 change
Approximate Weighted N =	*6,900*	*6,800*	*6,700*	*6,600*	*6,700*	*6,600*	*6,800*	*6,700*	*6,500*	*6,400*	*6,300*	*6,400*	*6,200*	*6,000*	*5,700*	*5,800*	*5,300*	*5,300*	*5,700*	*5,400*	*5,100*	*4,800*	*4,900*	*4,900*	*4,900*	*4,600*	*4,600*	*4,400*	*4,200*	*4,000*	*3,700*	*3,600*		
Sedatives (Barbiturates) [j,u]	11.1	9.7	8.9	7.9	8.7	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	8.3	7.4	6.4	-1.0	-0.8
Sedatives, Adjusted [j,m]	16.7	15.0	13.2	12.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methaqualone [j]	13.1	11.6	9.7	8.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers [d,j]	17.6	16.5	15.1	13.5	12.9	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	12.8	12.4	12.4	-0.1	-0.9
Alcohol [n]	94.8	94.9	94.8	94.5	94.3	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	85.7	85.9	85.2	-0.7	-1.2
Been Drunk [o]	—	—	—	—	—	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	76.4	75.2	75.4	+0.2	-3.5 ss
Flavored Alcoholic Beverages [p]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	83.2	84.6	84.4	84.0	82.6	83.5	81.4	82.2	82.4	80.9	80.6	81.0	79.9	79.2	-0.6	-3.2
Cigarettes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Any Vaping [i,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.3	26.9	34.3	—	—
Vaping Marijuana [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.2	—	—
Vaping Nicotine [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.8	—	—
Vaping Just Flavoring [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.4	—	—
Steroids [q]	—	—	—	1.1	1.2	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	1.6	1.4	1.4	0.0	-0.3

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

See footnotes following Table 5-4.

TABLE 5-2
Trends in Annual Prevalence of Various Types of Drugs among Respondents of Modal Ages 19–28

(Entries are percentages.)

	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	2015	2016	2017	2016–2017 change	2012–2017 change
Approximate Weighted N =	*6,900*	*6,800*	*6,700*	*6,600*	*6,700*	*6,600*	*6,800*	*6,700*	*6,500*	*6,400*	*6,300*	*6,400*	*6,200*	*6,000*	*5,700*	*5,800*	*5,300*	*5,300*	*5,700*	*5,400*	*5,100*	*4,800*	*4,900*	*4,900*	*4,900*	*4,600*	*4,600*	*4,400*	*4,200*	*4,000*	*3,700*	*3,600*		
Any Illicit Drug [a]	41.9	39.3	36.3	32.8	30.7	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	39.2	39.7	41.2	+1.5	+7.2 sss
Any Illicit Drug other than Marijuana [a]	27.0	23.9	21.3	18.3	16.7	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	19.5	19.9	20.1	+0.2	+2.9 ss
Marijuana	36.5	34.8	31.8	29.0	26.1	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	34.0	35.3	37.5	+2.2	+7.3 sss
Synthetic Marijuana [v]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.4	5.3	3.2	1.3	1.5	1.0	0.9	-0.1	-4.3 sss
Inhalants [b]	1.9	2.1	1.8	1.9	1.9	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	0.9	0.9	0.7	-0.1	-0.4
Nitrites [c]	2.0	1.3	1.0	—	0.4	0.2	0.1	0.4	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hallucinogens [d,y]	4.5	4.0	3.9	3.6	4.1	4.5	5.0	4.5	4.8	5.6	5.6	5.8	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	4.2	4.6	4.8	+0.1	+1.2 ss
LSD [y]	3.0	2.9	2.9	2.7	3.3	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	2.6	3.1	3.4	+0.3	+1.8 sss
Hallucinogens other than LSD [d,y]	2.5	2.1	1.9	1.8	1.7	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	3.0	3.0	3.0	0.0	0.0
PCP [e]	0.8	0.4	0.4	—	0.2	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	0.0	0.2	0.1	0.0	0.4	0.1	-0.3	0.0
MDMA (Ecstasy, Molly) [z], original	—	—	—	1.4	1.5	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	—	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.1	4.4	5.1	3.6	-1.5 ss	—
Salvia [w]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.5	3.6	2.2	1.4	0.9	1.2	0.6	0.8	0.5	-0.3	-0.9 s
Cocaine	19.7	15.7	13.8	10.8	8.6	6.2	5.7	4.7	4.3	4.4	4.1	4.6	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	5.7	4.9	5.3	+0.3	+1.2 ss
Crack [g]	3.2	3.1	3.1	2.5	1.6	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	0.4	0.0	0.2	+0.2	-0.3
Other Cocaine [h]	—	13.6	11.9	10.3	8.1	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	1.0	4.8	5.4	5.9	5.9	-0.1	+1.9 sss
Heroin	0.2	0.2	0.2	0.2	0.1	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	0.5	0.4	0.4	0.0	-0.1
With a Needle [i]	—	—	—	—	—	—	—	—	—	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	0.2	0.3	0.2	-0.1	-0.1
Without a Needle [i]	—	—	—	—	—	—	—	—	—	0.3	0.4	0.4	0.6	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	0.5	0.4	0.3	-0.1	-0.1
Narcotics other than Heroin [j,k]	3.1	3.1	2.7	2.8	2.7	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	5.2	5.2	4.0	-1.2 s	-3.3 sss
OxyContin [j,r]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	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	2.5	2.1	1.9	-0.1	-0.4
Vicodin [j,r]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	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	3.8	2.7	2.7	0.0	-3.6 sss
Amphetamines, Adjusted [j,l]	10.6	8.7	7.3	5.8	5.2	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	7.9	7.2	7.8	+0.6	+0.1
Ritalin [j,r]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	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	1.8	1.2	1.2	-0.0	-0.4
Adderall [j,r]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.8	7.0	6.6	7.4	7.0	7.8	7.7	7.2	8.3	+1.1	+1.0
Provigil [j,r]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.5	0.5	0.3	—	—	—	—	—	—	—	—
Methamphetamine [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	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	0.7	0.4	0.6	+0.2	-0.3
Crystal Methamphetamine (Ice) [i]	—	—	—	—	0.4	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	0.1	0.7	+0.6 s	+0.1

↓

(List of drugs continued.)

(Table continued on next page.)

TABLE 5-2 (cont.)
Trends in Annual Prevalence of Various Types of Drugs among Respondents of Modal Ages 19–28

(Entries are percentages.)

	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	2015	2016	2017	2016–2017 change	2012–2017 change
Approximate Weighted N =	*6,900*	*6,800*	*6,700*	*6,600*	*6,700*	*6,600*	*6,800*	*6,700*	*6,500*	*6,400*	*6,300*	*6,400*	*6,200*	*6,000*	*5,700*	*5,800*	*5,300*	*5,300*	*5,700*	*5,400*	*5,100*	*4,800*	*4,900*	*4,900*	*4,900*	*4,600*	*4,600*	*4,400*	*4,200*	*4,000*	*3,700*	*3,600*		
Bath Salts (synthetic stimulants) [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.5	0.4	0.4	0.3	0.3	0.4	+0.1	-0.1
Sedatives (Barbiturates) [j,u]	2.3	2.1	1.8	1.7	1.9	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	2.7	2.6	2.2	-0.4	-0.5
Sedatives, Adjusted [j,m]	3.0	2.5	2.1	1.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Methaqualone [j]	1.3	0.9	0.5	0.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers [d,j]	5.4	5.1	4.2	3.7	3.7	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	5.0	5.0	4.7	-0.3	-0.6
Rohypnol [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.3	0.5	0.1	0.1	0.2	0.3	0.2	0.1	—	—	—	—	—	—	—	—	—	—
GHB [x]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	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	0.2	—	—	—	—
Ketamine [x]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	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	0.7	0.7	0.5	-0.2	-0.3
Alcohol [n]	88.6	89.4	88.6	88.1	87.4	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	81.2	82.1	81.2	-0.8	-1.2
Been Drunk [o]	—	—	—	—	—	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	61.2	61.0	60.9	-0.1	-3.7 s
Flavored Alcoholic Beverages [p]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	62.7	58.4	58.5	58.9	58.3	57.0	52.0	56.3	54.8	54.1	55.4	57.3	57.8	54.8	-3.0	0.0
Alcoholic Beverages containing Caffeine [l,t]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.1	36.7	36.9	35.0	33.5	29.6	31.8	+2.2	-4.9 ss
Cigarettes	40.1	40.3	37.7	38.0	37.1	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	26.2	23.4	23.9	+0.5	-5.9 sss
Small Cigars [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.2	18.0	18.4	18.6	17.9	15.5	16.0	+0.5	-1.9
Tobacco using a Hookah [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.1	19.1	20.4	23.3	19.2	14.8	12.2	-2.6 s	-6.9 sss
Any Vaping [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.0	—	—
Vaping Marijuana [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.6	—	—
Vaping Nicotine [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.4	—	—
Vaping Just Flavoring [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.9	—	—
Dissolvable Tobacco [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.3	0.6	0.3	0.5	0.4	0.5	0.8	+0.3	+0.2
Snus [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.1	5.7	4.8	4.8	4.8	3.6	4.6	+1.0	-1.1
Steroids [q]	—	—	—	0.5	0.3	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	0.5	0.4	0.3	-0.1	-0.1

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

See footnotes following Table 5-4.

TABLE 5-3
Trends in 30-Day Prevalence of Various Types of Drugs among Respondents of Modal Ages 19–28

(Entries are percentages.)

	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Approximate Weighted N =	*6,900*	*6,800*	*6,700*	*6,600*	*6,700*	*6,600*	*6,800*	*6,700*	*6,500*	*6,400*	*6,300*	*6,400*	*6,200*	*6,000*	*5,700*	*5,800*
Any Illicit Drug [a]	25.8	23.4	20.5	17.7	15.9	15.1	14.8	14.9	15.3	15.8	15.8	16.4	16.1	17.1	18.1	18.8
Any Illicit Drug other than Marijuana [a]	13.0	10.7	9.5	7.5	6.0	5.4	5.5	4.9	5.3	5.7	4.7	5.5	5.5	6.0	6.4	7.0
Marijuana	22.0	20.7	17.9	15.5	13.9	13.5	13.3	13.4	14.1	14.0	15.1	15.0	14.9	15.6	16.1	16.7
Inhalants [b]	0.4	0.6	0.6	0.5	0.6	0.5	0.6	0.7	0.5	0.7	0.5	0.5	0.7	0.8	0.5	0.4
Nitrites [c]	0.5	0.5	0.4	—	0.1	*	0.1	0.2	0.1	—	—	—	—	—	—	—
Hallucinogens [d,y]	1.3	1.2	1.1	1.1	0.9	1.1	1.5	1.2	1.4	1.7	1.2	1.5	1.4	1.3	1.2	1.2
LSD [y]	0.9	0.8	0.8	0.8	0.6	0.8	1.1	0.8	1.1	1.3	0.7	0.9	1.0	0.8	0.8	0.7
Hallucinogens other than LSD [d,y]	0.6	0.6	0.4	0.5	0.4	0.3	0.5	0.6	0.6	0.6	0.6	0.7	0.5	0.6	0.7	0.6
PCP [e]	0.2	0.1	0.3	—	0.2	0.1	0.2	0.2	0.1	*	0.1	0.1	0.2	0.2	*	*
MDMA (Ecstasy, Molly) [z], origina	—	—	—	0.4	0.2	0.1	0.3	0.3	0.2	0.4	0.3	0.6	0.8	1.3	1.9	1.8
Revised	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocaine	8.2	6.0	5.7	3.8	2.4	2.0	1.8	1.4	1.3	1.5	1.2	1.5	1.7	1.9	1.7	2.2
Crack [g]	—	1.0	1.2	0.7	0.4	0.4	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.4	0.4	0.4
Other Cocaine [h]	—	4.8	4.8	3.4	2.1	1.8	1.7	1.1	1.0	1.3	1.1	1.5	1.5	1.6	1.5	1.8
Heroin	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	0.3
Narcotics other than Heroin [j,k]	0.9	0.9	0.7	0.7	0.7	0.6	0.7	0.7	0.6	0.9	0.7	0.9	0.9	1.2	1.4	1.7
Amphetamines, Adjusted [j,l]	4.0	3.2	2.7	2.1	1.9	1.5	1.5	1.5	1.7	1.7	1.5	1.7	1.7	1.9	2.3	2.4
Methamphetamine [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	0.7	1.0
Crystal Methamphetamine (Ice) [i]	—	—	—	—	—	*	0.1	0.3	0.5	0.3	0.3	0.3	0.3	0.4	0.4	0.4

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change	2012–2017 change
Approximate Weighted N =	*5,300*	*5,300*	*5,700*	*5,400*	*5,100*	*4,800*	*4,900*	*4,900*	*4,900*	*4,600*	*4,600*	*4,400*	*4,200*	*4,000*	*3,700*	*3,600*		
Any Illicit Drug [a]	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	23.2	23.5	24.7	+1.2	+4.8 sss
Any Illicit Drug other than Marijuana [a]	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	8.7	9.2	8.7	-0.5	+0.9
Marijuana	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	20.1	21.6	23.0	+1.4	+5.3 sss
Inhalants [b]	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	0.2	0.3	0.4	0.0	+0.1
Nitrites [c]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hallucinogens [d,y]	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	1.1	0.8	0.9	+0.1	+0.3
LSD [y]	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	0.7	0.6	0.6	0.0	+0.3 s
Hallucinogens other than LSD [d,y]	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	0.5	0.3	0.6	+0.3	+0.1
PCP [e]	0.1	0.1	0.1	*	*	*	0.1	*	*	0.1	*	0.2	0.1	*	0.1	0.1	0.0	+0.1
MDMA (Ecstasy, Molly) [z], origina	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	—	—	—	—	—
Revised	—	—	—	—	—	—	—	—	—	—	—	—	1.4	0.8	1.3	0.8	-0.5	—
Cocaine	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	1.7	1.8	1.9	+0.1	+0.6 s
Crack [g]	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	0.1	*	0.1	0.0	0.0
Other Cocaine [h]	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	1.6	2.0	1.9	-0.2	+0.6
Heroin	*	0.1	0.1	0.1	0.2	0.1	0.1	0.2	0.1	0.2	0.2	0.3	0.2	0.3	0.3	0.2	-0.1	0.0
Narcotics other than Heroin [j,k]	2.9	2.9	3.0	3.5	3.2	3.4	3.6	3.2	3.4	2.9	2.7	1.0	2.1	1.8	1.9	1.1	-0.8 ss	-1.6 sss
Amphetamines, Adjusted [j,l]	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	3.1	2.9	3.1	+0.2	-0.2
Methamphetamine [i]	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	0.3	0.2	0.2	0.0	-0.2
Crystal Methamphetamine (Ice) [i]	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	0.1	0.4	+0.3	+0.1

↓

(Table continued on next page.)

TABLE 5-3 (cont.)
Trends in 30-Day Prevalence of Various Types of Drugs among Respondents of Modal Ages 19–28

(Entries are percentages.)

	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	2015	2016	2017	2016–2017 change	2012–2017 change
Approximate Weighted N =	*6,900*	*6,800*	*6,700*	*6,600*	*6,700*	*6,600*	*6,800*	*6,700*	*6,500*	*6,400*	*6,300*	*6,400*	*6,200*	*6,000*	*5,700*	*5,800*	*5,300*	*5,300*	*5,700*	*5,400*	*5,100*	*4,800*	*4,900*	*4,900*	*4,900*	*4,600*	*4,600*	*4,400*	*4,200*	*4,000*	*3,700*	*3,600*		
Sedatives (Barbiturates) [j,u]	0.7	0.7	0.7	0.5	0.6	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	0.9	1.1	0.6	-0.5 s	-0.5 ss
Sedatives, Adjusted [j,m]	0.9	0.8	0.7	0.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methaqualone [j]	0.3	0.2	0.1	*	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers [d,j]	1.8	1.6	1.4	1.2	1.1	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	1.7	1.9	1.4	-0.5	-0.4
Alcohol [n]	75.1	75.4	74.0	72.4	71.2	70.6	69.0	68.3	67.7	68.1	66.7	67.5	66.9	68.2	66.8	67.2	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	66.9	68.4	67.1	-1.3	-2.3 s
Been Drunk [o]	—	—	—	—	—	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	34.2	36.6	36.1	-0.5	-3.0
Flavored Alcoholic Beverage [p]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29.5	27.6	24.9	25.9	26.7	24.4	24.5	23.8	26.1	25.4	26.9	24.7	28.8	27.6	-1.2	+1.5
Cigarettes	31.1	30.9	28.9	28.6	27.7	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	16.6	14.2	15.3	+1.1	-4.4 sss
Any Vaping [i,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.2	6.0	11.9	—	—
Vaping Marijuana [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.6	—	—
Vaping Nicotine [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.5	—	—
Vaping Just Flavoring [i]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.3	—	—
Steroids [q]	—	—	—	0.2	0.1	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	0.1	0.2	0.2	0.0	+0.1

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

See footnotes following Table 5-4.

TABLE 5-4
Trends in 30-Day Prevalence of Daily Use of Various Types of Drugs among Respondents of Modal Ages 19–28

(Entries are percentages.)

	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	2015	2016	2017	2016–2017 change	2012–2017 change
Approximate Weighted N =	*6,900*	*6,800*	*6,700*	*6,600*	*6,700*	*6,600*	*6,800*	*6,700*	*6,500*	*6,400*	*6,300*	*6,400*	*6,200*	*6,000*	*5,700*	*5,800*	*5,300*	*5,300*	*5,700*	*5,400*	*5,100*	*4,800*	*4,900*	*4,900*	*4,900*	*4,600*	*4,600*	*4,400*	*4,200*	*4,000*	*3,700*	*3,600*		
Marijuana [s]	4.1	4.2	3.3	3.2	2.5	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	6.8	7.6	7.8	+0.2	+2.2 sss
Cocaine	0.2	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	0.0
Amphetamines	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	0.2	0.1	0.2	0.2	0.3	0.2	0.1	0.2	0.1	0.1	0.1	0.1	0.1	0.0	0.2	0.2	0.1	0.1	0.1	0.0	+0.1
Alcohol																																		
Daily [n,s]	6.1	6.6	6.1	5.5	4.7	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	4.7	5.4	5.0	-0.4	-0.5
Been Drunk [o,s]	—	—	—	—	—	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	0.4	0.3	0.3	0.0	-0.1
5+ Drinks in a Row in Last 2 Weeks	36.1	36.2	35.2	34.8	34.3	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	31.9	32.3	31.8	-0.5	-3.6 sss
10+ Drinks in a Row in Last 2 Weeks [e]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.7	11.9	12.3	12.7	12.8	12.1	11.9	10.8	9.8	10.5	9.6	7.3	11.2	+4.0 s	+0.5
15+ Drinks in a Row in Last 2 Weeks [e]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.3	4.8	5.3	4.8	4.7	4.5	4.2	4.5	3.7	3.7	2.8	2.4	3.5	+1.2	-1.0
Cigarettes																																		
Daily	25.2	24.8	22.7	22.4	21.3	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	9.7	8.2	8.8	+0.6	-4.0 sss
1/2 Pack+/Day	20.2	19.8	17.7	17.3	16.7	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	5.7	4.9	4.7	-0.2	-2.9 sss

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

See footnotes on the following page.

TABLE 5-5
Trends in Annual and 30-Day Prevalence of an Illicit Drug Use Index [a]
among Respondents of Modal Ages 19–28
Total and by Gender

	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	2015	2016	2017	2016–2017 change	2012–2017 change
	Percentage who used in last 12 months																																	
Any Illicit Drug																																		
Total	41.9	39.3	36.3	32.8	30.7	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	39.2	39.7	41.2	+1.6	+7.2 sss
Males	45.3	42.6	39.5	35.7	33.6	30.0	31.4	31.1	32.3	32.1	31.6	31.9	33.6	33.9	34.4	34.9	35.6	36.0	37.0	35.3	35.9	35.4	37.4	35.3	38.1	38.3	37.7	38.4	40.6	42.9	43.0	43.8	+0.8	+6.1 sss
Females	39.0	36.5	33.6	30.5	28.3	24.5	25.8	26.1	25.3	28.1	27.3	27.1	27.1	27.6	28.2	30.1	30.2	31.0	31.4	31.1	29.5	30.7	31.4	32.0	29.9	32.4	31.5	35.4	35.3	36.7	37.5	39.5	+2.0	+8.0 sss
Any Illicit Drug other than Marijuana																																		
Total	27.0	23.9	21.3	18.3	16.7	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	19.5	19.9	20.1	+0.2	+2.9 ss
Males	30.4	26.5	23.8	21.0	19.1	16.4	16.3	14.7	16.2	16.2	15.4	15.6	16.2	16.7	17.8	17.2	18.9	19.8	21.3	20.4	21.8	20.3	21.1	18.7	21.5	19.9	19.5	19.7	23.7	22.9	23.1	23.0	-0.1	+3.5 s
Females	24.0	21.6	19.4	16.2	14.7	12.5	12.2	11.6	10.5	12.0	11.4	12.0	11.0	11.5	12.9	14.1	14.6	17.0	17.1	17.3	16.0	16.7	17.5	16.6	16.5	16.2	15.7	17.1	19.4	17.2	17.7	18.2	+0.4	+2.5 s
	Percentage who used in past 30 days																																	
Any Illicit Drug																																		
Total	25.8	23.4	20.5	17.7	15.9	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	23.2	23.5	24.8	+1.3	+4.9 sss
Males	29.9	27.1	23.7	21.1	18.8	18.3	17.9	17.4	19.5	18.6	19.0	19.8	20.1	20.0	21.5	21.9	22.8	22.4	23.1	22.0	22.5	22.7	22.8	22.4	23.9	24.5	23.8	25.4	24.7	26.9	26.6	28.9	+2.3	+5.1 ss
Females	22.2	20.2	17.8	15.0	13.5	12.5	12.4	12.9	12.1	13.5	13.3	13.8	13.2	15.0	15.6	16.6	16.3	18.3	16.3	16.4	15.7	16.4	16.9	18.0	15.5	18.2	17.3	18.9	20.6	20.8	21.5	22.0	+0.6	+4.8 sss
Any Illicit Drug																												1.0						
other than Marijuana																																		
Total	13.0	10.7	9.5	7.5	6.0	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	8.7	9.2	8.7	-0.5	+0.9
Males	15.2	12.3	10.6	9.1	6.8	6.6	6.5	5.9	7.1	6.8	5.7	6.8	7.1	7.3	7.8	8.1	8.5	9.2	10.6	9.2	10.2	10.0	10.0	8.5	10.0	10.0	9.0	9.4	11.4	10.7	10.8	10.2	-0.6	+1.2
Females	11.0	9.4	8.7	6.2	5.3	4.4	4.7	4.0	3.9	4.8	4.0	4.5	4.4	5.1	5.4	6.3	7.1	7.7	7.1	7.6	6.8	7.7	8.1	8.5	7.6	7.5	7.0	7.5	9.0	7.3	8.1	7.7	-0.5	+0.7
	Approximate Weighted N																																	
All Respondents																																		
Total	*6,900*	*6,800*	*6,700*	*6,600*	*6,700*	*6,600*	*6,800*	*6,700*	*6,500*	*6,400*	*6,300*	*6,400*	*6,200*	*6,000*	*5,700*	*5,800*	*5,300*	*5,300*	*5,700*	*5,400*	*5,100*	*4,800*	*4,900*	*4,900*	*4,900*	*4,600*	*4,600*	*4,400*	*4,200*	*4,000*	*3,700*	*3,600*		
Males	*3,200*	*3,100*	*3,000*	*2,900*	*3,000*	*3,000*	*3,000*	*3,000*	*2,900*	*2,800*	*2,700*	*2,800*	*2,700*	*2,600*	*2,400*	*2,400*	*2,200*	*2,200*	*2,300*	*2,200*	*2,100*	*1,900*	*2,000*	*2,000*	*2,000*	*1,800*	*1,900*	*900*	*1,700*	*1,600*	*1,500*	*1,500*		
Females	*3,700*	*3,700*	*3,700*	*3,700*	*3,700*	*3,600*	*3,700*	*3,700*	*3,600*	*3,600*	*3,600*	*3,600*	*3,500*	*3,400*	*3,300*	*3,400*	*3,100*	*3,100*	*3,400*	*3,200*	*3,000*	*2,900*	*2,900*	*2,900*	*2,900*	*2,800*	*2,700*	*1,300*	*2,500*	*2,400*	*2,200*	*2,100*		

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

Notes. Level of significance of difference between the two most recent years: 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]Use of any illicit drug includes any use of marijuana, hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), methaqualone (until 1990), or tranquilizers not under a doctor's orders.

Footnotes for Tables 5-1 through 5-4

Notes. Level of significance of difference between the two most recent years: 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.
The illicit drugs not listed here show a daily prevalence of 0.2% or less in all years.
' * ' indicates a prevalence rate of less than 0.05%.
' — ' indicates data not available.

[a]Use of any illicit drug includes any use of marijuana, hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), methaqualone (until 1990), or tranquilizers not under a doctor's orders.

[b]This drug was asked about in four of the five questionnaire forms in 1986–1989; *N* is four fifths of *N* indicated. Data were based on five of the six questionnaire forms in 1990–1998; *N* is five sixths of *N* indicated. Data were based on three of six questionnaire forms in 1999–2017; *N* is three sixths of *N* indicated.

[c]This drug was asked about in one questionnaire form. *N* is one fifth of *N* indicated in 1986–1988 and one sixth of *N* indicated in 1990–1994.

[d]In 2001 the question text was changed on three of the six questionnaire forms. Other psychedelics was changed to other hallucinogens, and shrooms was added to the list of examples. For tranquilizers, Miltown was replaced with Xanax. Beginning in 2002 the remaining forms were changed to the new wording.

[e]This drug was asked about in one of the five questionnaire forms in 1986–1988; *N* is one fifth of *N* indicated. Data were based on one of six questionnaire forms in 1990–2017; *N* is one sixth of *N* indicated.

[f]This drug was asked about in two of the five questionnnaire forms in 1989; *N* is two fifths of *N* indicated. Data were based on two of the six questionnaire forms in 1990–2001; *N* is two sixths of *N* indicated. Data were based on three of the six questionnaire forms in 2002–2017; *N* is three sixths of *N* indicated.

[g]This drug was asked about in two of the five questionnaire forms in 1987–1989; *N* is two fifths of *N* indicated. Data were based on all six questionnaire forms in 1990–2001. Data were based on five of six questionnaire forms in 2002–2017; *N* is five sixths of *N* indicated.

[h]This drug was asked about in one of the five questionnaire forms in 1987–1989; *N* is one fifth of *N* indicated. Data were based on four of the six questionnaire forms in 1990–2017; *N* is four sixths of *N* indicated.

[i]This drug was asked about in two of the six questionnaire forms; *N* is two sixths of *N* indicated.

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

[k]In 2002 the question text was changed in three of the six 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 by Vicodin, OxyContin, and Percocet. The 2002 data presented here are based on the changed forms only; *N* is three sixths of *N* indicated. In 2003 the remaining forms were changed to the new wording. The data are based on all forms in 2003 and beyond.

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

[m]Sedatives, adjusted" data are a combination of barbiturate and methaqualone data.

[n]In 1993 and 1994, the question text was changed slightly in three of the six questionnaire forms to indicate that a drink meant more than just a few sips. Because this revision resulted in rather little change in reported prevalence in the surveys of high school graduates, the data for all forms combined are used in order to provide the most reliable estimate of change. After 1994 the new question text was used in all six of the questionnaire forms.

[o]This drug was asked about in three of the six questionnaire forms; *N* is three sixths of *N* indicated. For small cigars only, beginning in 2014 question asked on two of the six questionnaire forms; N is two sixths of N indicated.

[p]This drug was asked about in one of the six questionnaire forms; *N* is one sixth of *N* indicated.

[q]This drug was asked about in one of the five questionnaire forms in 1989; *N* is one fifth of *N* indicated. Data were based on two of the six questionnaire forms in 1990–2017; N is two sixths of *N* indicated.

[r]This drug was asked about in two of the six questionnaire forms in 2002 –2009; *N* is two sixths of *N* indicated. Data were based on three of the six questionnaire forms in 2010-2017. N is three sixths of N indicated.

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

[t]In 2012 the alcoholic beverage containing caffeine question text was changed to alcoholic beverage mixed with an energy drink. The data in 2011 and 2012 are not comparable due to this question change.

[u]In 2013 the question text was changed on all forms: Tuinal, Nembutal, and Seconal were replaced with Ambien, Lunesta, and Sonata. The data in 2012 and 2013 are not comparable due to this question change.

[v]This drug was asked about in two of the six questionnaire forms in 2011-2012; N is two sixths of N indicated. Data were based on three of the six questionaire forms in 2013-2017; N is three sixths of N indicated.

[w]This drug was asked about in one of the six questionnaire forms in 2009; N is one sixth of N indicated; Data were based on two of the six questionnaire forms in 2010-2011; N is two sixths of N indicated. Data were based on three of the six questionnaire forms in 2012-2017; N is three sixths of N indicated.

[x]This drug was asked about in two of the six questionnaire forms in 2002-2009; N is two sixths of N indicated; Data were based on three of the six questionnaire forms in 2010-2011; N is three sixths of N indicated. Data were based on two of the six questionnaire forms in 2012-2017; N is two sixths of N indicated.

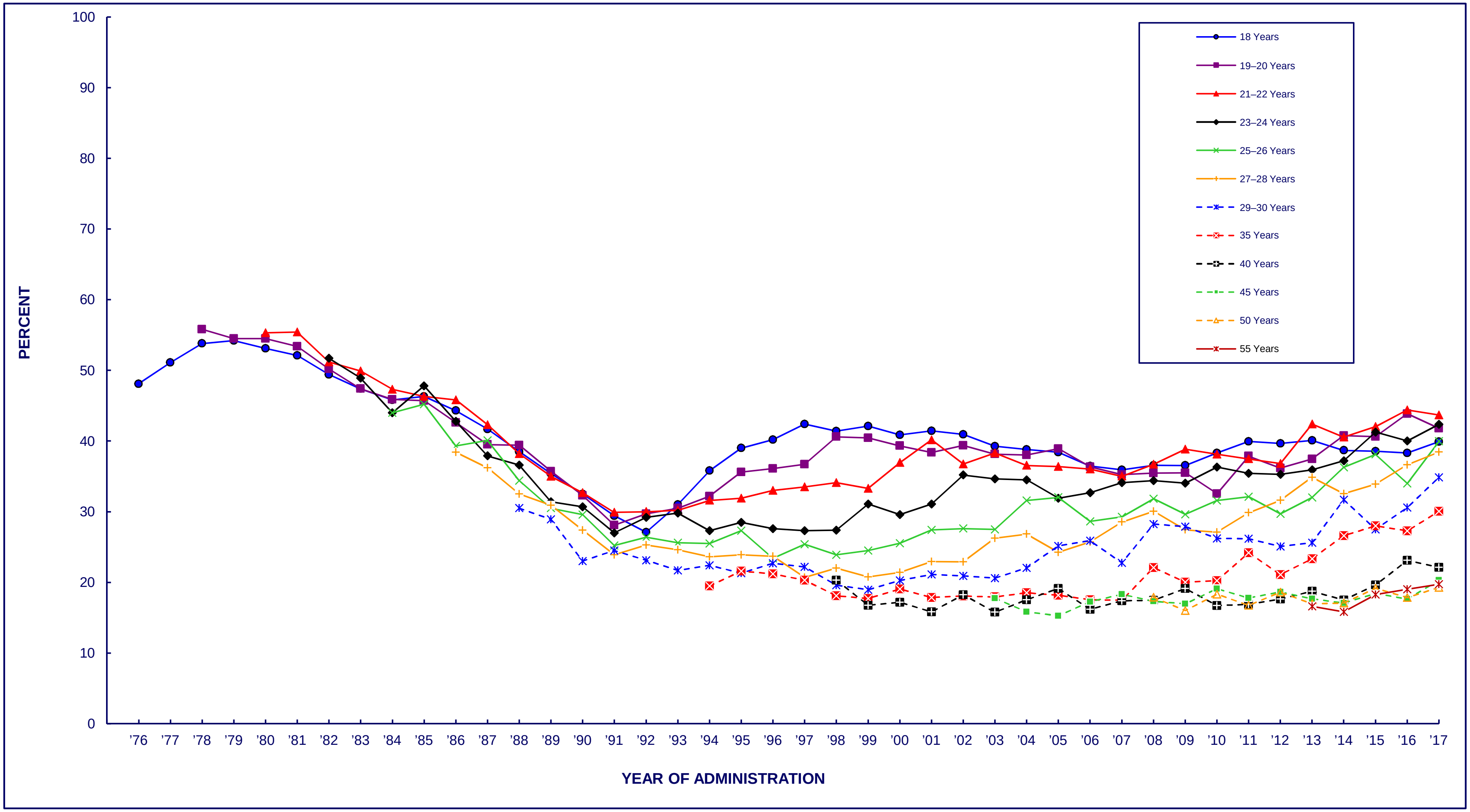
[y]This drug was asked about in all available questionnaire forms until 2014. Beginning in 2014, data are based on five of the six questionnaire forms; N is five sixths of N indicated.

Footnotes for Tables 5-1 through 5-4 (cont.)

[z]This drug was asked about in two of the five questionnnaire forms in 1989; *N* is two fifths of *N* indicated. Data were based on two of the six questionnaire forms in 1990–2001; *N* is two sixths of *N* indicated. Data were based on three of the six questionnaire forms in 2002–2013; *N* is three sixths of *N* indicated. In 2014, a version of the question was added to an additional form that included "molly" in the description. In 2015 the remaining forms were changed to this updated wording. Data for both versions of the question are included here. Beginning in 2015, data based on four of th six questionnaire forms. *N* is four sixths of *N* indicated.

[aa]In 2017, the surveys switched from asking about vaping in general to asking separately about vaping nicotine, marijuana, and just flavoring. Beginning in 2017, data presented for any vaping are based on these new questions.

FIGURE 5-1
ANY ILLICIT DRUG
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

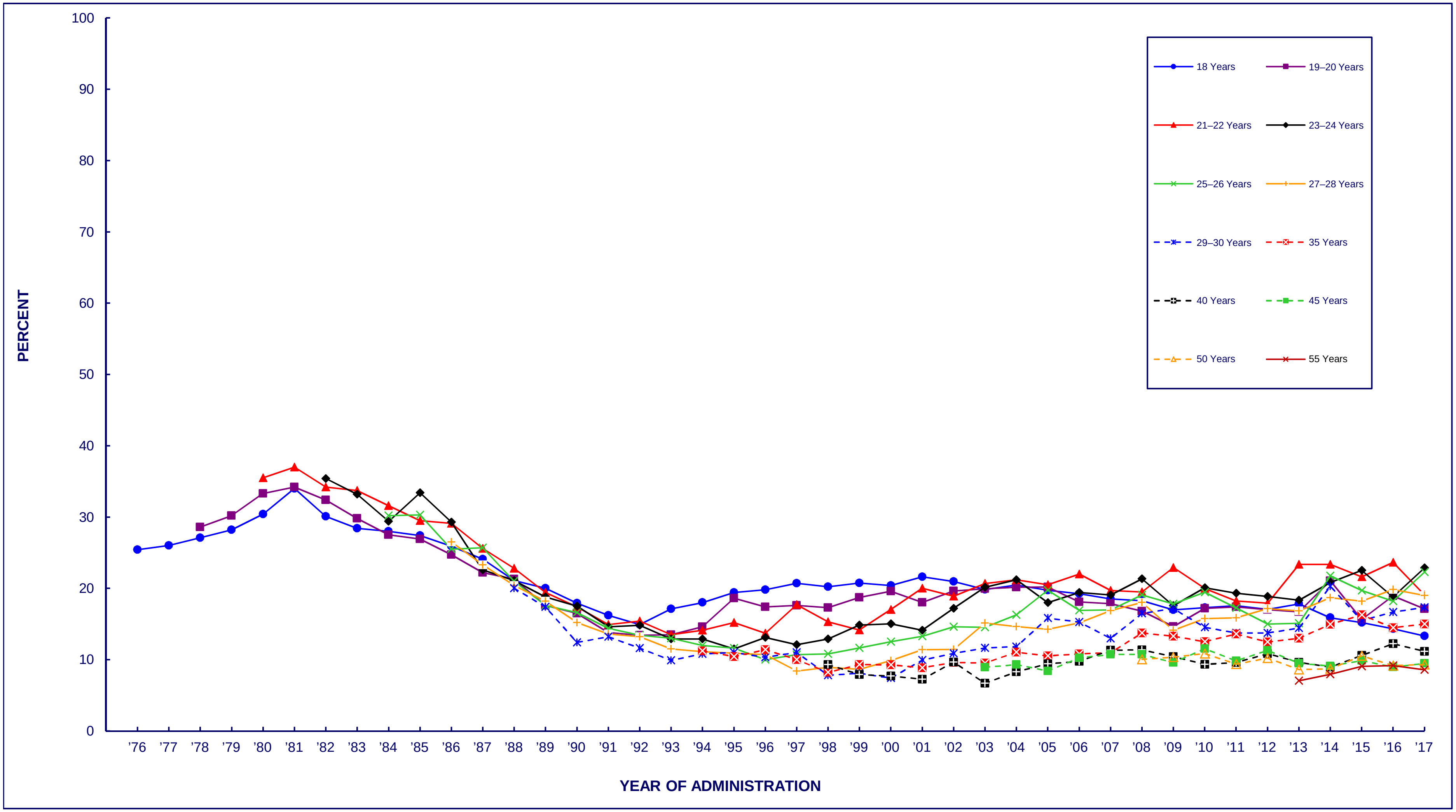
FIGURE 5-1 (cont.)
ANY ILLICIT DRUG
Trends in <u>Annual</u> Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	48.1											
1977	51.1											
1978	53.8	55.8										
1979	54.2	54.5										
1980	53.1	54.5	55.3									
1981	52.1	53.4	55.4									
1982	49.4	50.2	51.2	51.7								
1983	47.4	47.4	49.9	48.9								
1984	45.8	45.9	47.3	44.0	44.0							
1985	46.3	45.7	46.3	47.8	45.2							
1986	44.3	42.6	45.8	42.8	39.3	38.4						
1987	41.7	39.5	42.3	37.9	40.1	36.2						
1988	38.5	39.4	38.2	36.6	34.4	32.5	30.5					
1989	35.4	35.7	35.0	31.4	30.5	30.9	28.9					
1990	32.5	32.3	32.7	30.7	29.6	27.4	23.0					
1991	29.4	28.1	29.9	27.0	25.2	23.9	24.5					
1992	27.1	29.7	30.0	29.2	26.4	25.3	23.1					
1993	31.0	30.5	30.2	29.8	25.6	24.6	21.7					
1994	35.8	32.2	31.6	27.3	25.5	23.6	22.4	19.5				
1995	39.0	35.6	31.9	28.5	27.3	23.9	21.3	21.6				
1996	40.2	36.1	33.0	27.6	23.4	23.7	22.7	21.2				
1997	42.4	36.7	33.5	27.3	25.4	20.7	22.2	20.3				
1998	41.4	40.6	34.1	27.4	23.9	22.0	19.6	18.1	20.3			
1999	42.1	40.4	33.3	31.1	24.5	20.8	19.0	17.7	16.7			
2000	40.9	39.3	36.9	29.6	25.5	21.4	20.3	19.1	17.2			
2001	41.4	38.4	40.2	31.1	27.4	22.9	21.1	17.8	15.8			
2002	41.0	39.4	36.7	35.2	27.6	22.9	20.9	18.1	18.2			
2003	39.3	38.1	38.3	34.6	27.5	26.3	20.6	17.9	15.8	17.8		
2004	38.8	38.0	36.5	34.5	31.6	26.8	22.0	18.5	17.5	15.8		
2005	38.4	38.9	36.4	31.9	32.0	24.3	25.2	18.2	19.1	15.3		
2006	36.5	36.3	36.0	32.7	28.6	25.7	25.9	17.5	16.2	17.2		
2007	35.9	35.2	35.0	34.1	29.3	28.5	22.7	17.5	17.4	18.3		
2008	36.6	35.5	36.7	34.4	31.8	30.1	28.2	22.1	17.5	17.3	17.9	
2009	36.5	35.5	38.8	34.1	29.6	27.4	27.9	20.0	19.1	17.0	16.0	
2010	38.3	32.5	38.1	36.3	31.6	27.1	26.2	20.2	16.7	19.1	18.3	
2011	40.0	37.9	37.5	35.4	32.1	29.9	26.2	24.2	16.9	17.8	16.8	
2012	39.7	36.2	36.8	35.3	29.7	31.6	25.1	21.1	17.6	18.6	18.6	
2013	40.1	37.5	42.4	35.9	32.0	34.9	25.6	23.3	18.7	17.7	17.0	16.6
2014	38.7	40.8	40.6	37.2	36.3	32.5	31.7	26.6	17.5	17.1	17.1	15.8
2015	38.6	40.6	42.0	41.2	38.1	33.9	27.5	28.0	19.6	18.4	19.2	18.3
2016	38.3	43.9	44.4	40.0	34.0	36.6	30.6	27.3	23.1	17.6	17.8	19.0
2017	39.9	41.8	43.7	42.4	40.0	38.4	34.9	30.1	22.1	20.3	19.3	19.7

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

Notes. ' — ' indicates data not available.

FIGURE 5-2
ANY ILLICIT DRUG OTHER THAN MARIJUANA
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

FIGURE 5-2 (cont.)

ANY ILLICIT DRUG OTHER THAN MARIJUANA

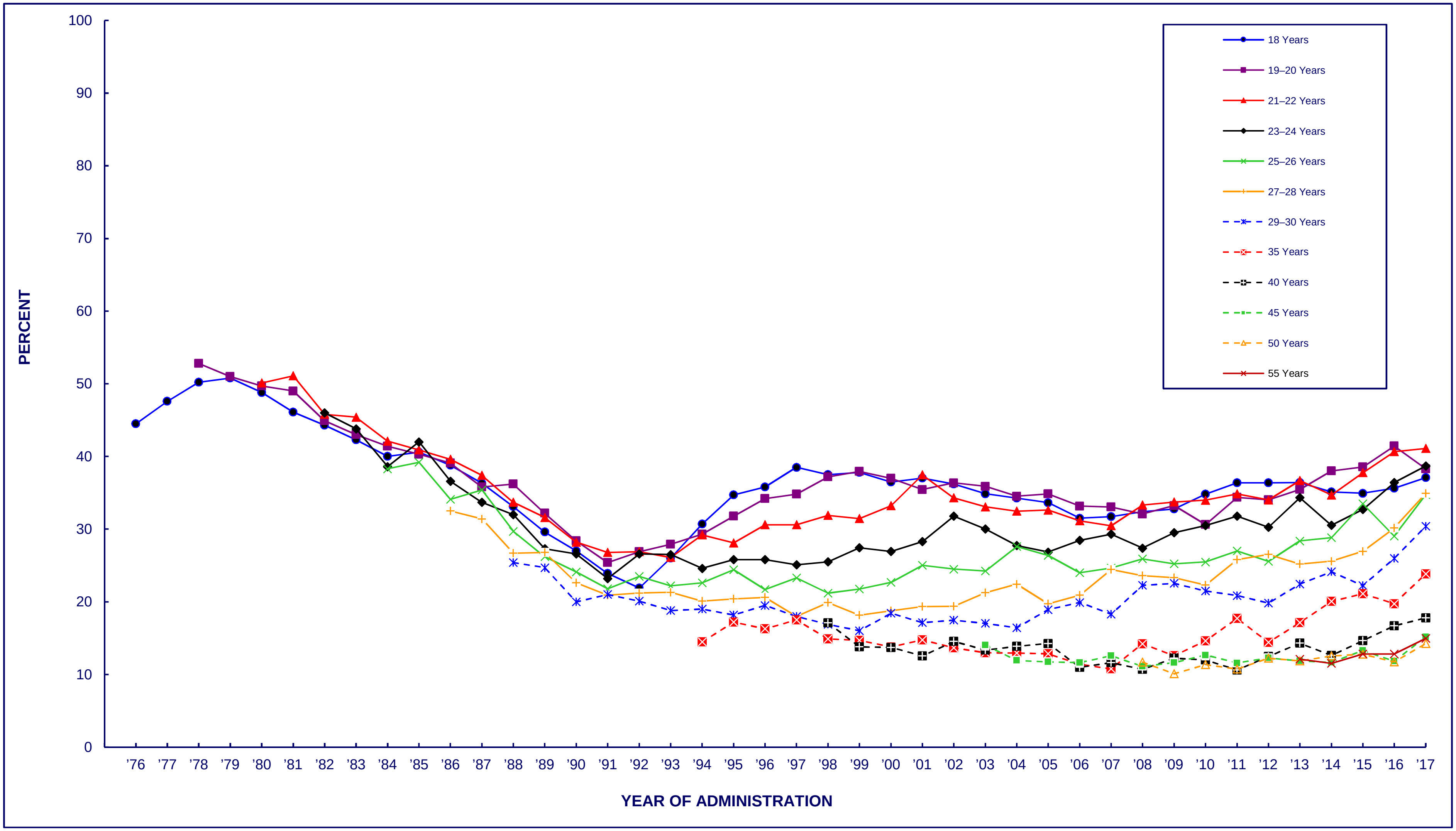
Trends in Annual Prevalence among Respondents of Modal Ages 18 through 55, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	25.4											
1977	26.0											
1978	27.1	28.6										
1979	28.2	30.2										
1980	30.4	33.3	35.5									
1981	34.0	34.2	37.0									
1982	30.1	32.4	34.2	35.4								
1983	28.4	29.8	33.7	33.2								
1984	28.0	27.5	31.6	29.4	30.2							
1985	27.4	26.9	29.5	33.4	30.3							
1986	25.9	24.7	29.1	29.3	25.5	26.5						
1987	24.1	22.2	25.6	22.6	25.7	23.3						
1988	21.1	21.3	22.8	21.1	21.0	20.4	20.0					
1989	20.0	17.6	19.4	18.8	17.6	18.2	17.4					
1990	17.9	16.5	17.4	17.5	16.6	15.2	12.4					
1991	16.2	13.8	14.9	14.6	14.4	13.6	13.2					
1992	14.9	13.4	15.4	14.8	13.4	13.2	11.6					
1993	17.1	13.5	13.5	12.9	13.0	11.5	9.9					
1994	18.0	14.6	14.1	12.9	12.0	11.1	10.8	11.2				
1995	19.4	18.6	15.2	11.5	11.6	10.9	11.0	10.4				
1996	19.8	17.4	13.7	13.1	10.0	10.7	10.3	11.4				
1997	20.7	17.6	17.7	12.1	10.7	8.4	11.0	10.0				
1998	20.2	17.3	15.3	12.9	10.8	8.9	7.8	8.2	9.3			
1999	20.7	18.7	14.1	14.8	11.6	8.6	8.1	9.3	7.9			
2000	20.4	19.6	17.0	15.0	12.5	9.9	7.4	9.3	7.7			
2001	21.6	18.0	20.0	14.1	13.3	11.4	9.9	8.8	7.3			
2002	20.9	19.6	18.9	17.2	14.6	11.4	10.9	9.6	9.7			
2003	19.8	19.9	20.7	20.1	14.5	15.1	11.6	9.5	6.7	8.9		
2004	20.5	20.2	21.2	21.2	16.3	14.6	11.8	11.0	8.3	9.3		
2005	19.7	20.2	20.5	18.0	19.7	14.2	15.8	10.5	9.4	8.4		
2006	19.2	18.1	22.0	19.4	16.9	15.1	15.3	10.8	9.8	10.3		
2007	18.5	17.8	19.7	19.1	17.0	16.9	13.0	11.0	11.3	10.7		
2008	18.3	16.8	19.5	21.3	19.1	18.0	16.5	13.7	11.3	10.7	10.0	
2009	17.0	14.6	22.9	17.6	17.8	14.1	17.2	13.3	10.4	9.6	10.3	
2010	17.3	17.2	20.0	20.1	19.5	15.8	14.5	12.5	9.3	11.5	10.8	
2011	17.6	17.4	18.2	19.3	17.3	15.8	13.7	13.6	9.6	9.8	9.4	
2012	17.0	17.0	17.9	18.8	15.0	17.2	13.7	12.5	10.8	11.3	10.2	
2013	17.8	16.7	23.4	18.3	15.1	16.8	14.4	13.0	9.6	9.5	8.6	7.0
2014	15.9	21.1	23.4	20.8	21.7	18.7	20.3	15.0	8.9	9.1	8.7	7.9
2015	15.2	15.6	21.6	22.5	19.7	18.2	15.5	16.3	10.6	9.9	10.5	9.0
2016	14.3	18.9	23.6	18.8	18.2	19.8	16.7	14.5	12.2	9.0	9.2	9.1
2017	13.3	17.1	19.1	22.9	22.3	19.0	17.3	15.0	11.2	9.5	9.3	8.6

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

Notes. ' — ' indicates data not available.

FIGURE 5-3a
MARIJUANA
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

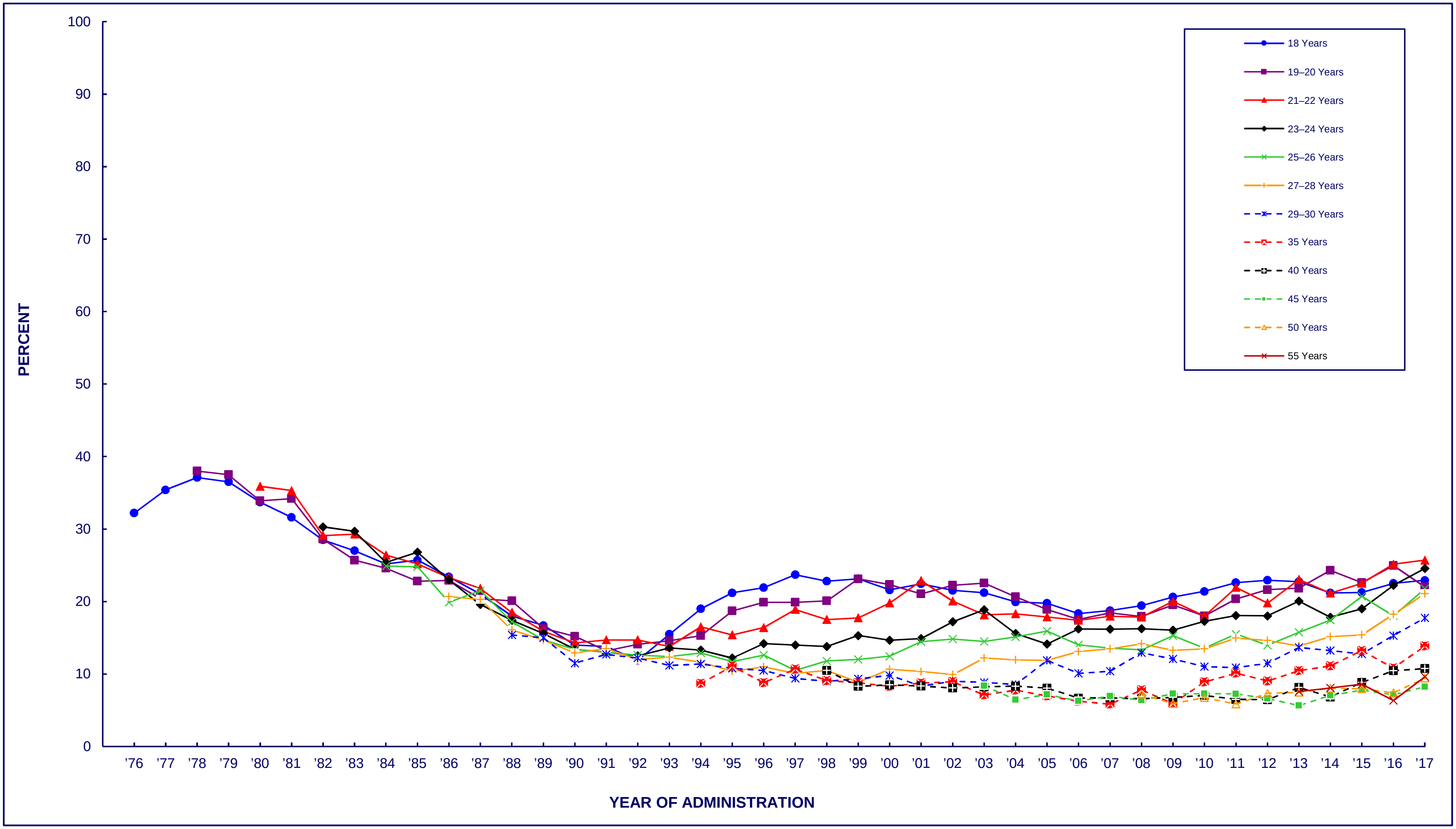
FIGURE 5-3a (cont.)
MARIJUANA
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	44.5											
1977	47.6											
1978	50.2	52.8										
1979	50.8	51.0										
1980	48.8	49.7	50.1									
1981	46.1	49.0	51.1									
1982	44.3	44.9	45.8	46.0								
1983	42.3	43.0	45.4	43.8								
1984	40.0	41.4	42.1	38.6	38.3							
1985	40.6	40.3	40.9	42.0	39.2							
1986	38.8	39.1	39.6	36.6	34.1	32.5						
1987	36.3	35.8	37.4	33.7	35.4	31.4						
1988	33.1	36.2	33.7	32.0	29.7	26.7	25.4					
1989	29.6	32.2	31.6	27.3	26.2	26.8	24.7					
1990	27.0	28.4	28.2	26.6	24.1	22.6	20.0					
1991	23.9	25.4	26.8	23.2	21.8	20.9	21.0					
1992	21.9	26.9	26.9	26.6	23.5	21.2	20.1					
1993	26.0	27.9	26.1	26.5	22.2	21.3	18.8					
1994	30.7	29.3	29.2	24.6	22.6	20.1	19.0	14.5				
1995	34.7	31.8	28.1	25.8	24.4	20.4	18.2	17.2				
1996	35.8	34.2	30.6	25.8	21.7	20.6	19.5	16.3				
1997	38.5	34.8	30.6	25.1	23.3	18.0	18.0	17.5				
1998	37.5	37.2	31.9	25.5	21.2	19.9	16.9	14.9	17.1			
1999	37.8	37.9	31.5	27.4	21.8	18.2	16.0	14.7	13.8			
2000	36.5	37.0	33.2	26.9	22.7	18.8	18.4	13.8	13.7			
2001	37.0	35.4	37.5	28.3	25.0	19.4	17.1	14.8	12.5			
2002	36.2	36.4	34.3	31.8	24.5	19.4	17.5	13.7	14.6			
2003	34.9	35.9	33.1	30.0	24.3	21.2	17.0	13.0	13.4	14.0		
2004	34.3	34.5	32.5	27.7	27.6	22.4	16.4	13.0	13.9	11.9		
2005	33.6	34.9	32.6	26.8	26.4	19.7	18.9	12.9	14.3	11.7		
2006	31.5	33.2	31.1	28.5	24.0	20.9	19.9	11.4	11.0	11.6		
2007	31.7	33.1	30.5	29.3	24.7	24.4	18.3	10.8	11.6	12.6		
2008	32.4	32.1	33.3	27.4	25.9	23.6	22.3	14.2	10.7	11.1	11.7	
2009	32.8	33.2	33.7	29.5	25.2	23.3	22.5	12.6	12.2	11.6	10.1	
2010	34.8	30.6	34.0	30.5	25.5	22.3	21.5	14.6	12.0	12.7	11.4	
2011	36.4	34.4	34.8	31.8	27.0	25.8	20.9	17.7	10.6	11.6	10.8	
2012	36.4	34.0	34.0	30.3	25.6	26.5	19.8	14.4	12.5	12.3	12.2	
2013	36.4	35.5	36.7	34.3	28.4	25.2	22.4	17.1	14.3	11.9	11.9	12.1
2014	35.1	38.0	34.7	30.5	28.8	25.6	24.1	20.0	12.6	11.7	12.6	11.5
2015	34.9	38.6	37.8	32.7	33.5	26.9	22.2	21.1	14.7	13.3	12.8	12.8
2016	35.6	41.4	40.7	36.4	29.0	30.1	26.0	19.7	16.7	11.8	11.7	12.8
2017	37.1	38.3	41.1	38.7	34.7	34.9	30.4	23.8	17.8	15.2	14.3	15.0

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

Notes. ' — ' indicates data not available.

FIGURE 5-3b
MARIJUANA
Trends in <u>30-Day</u> Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

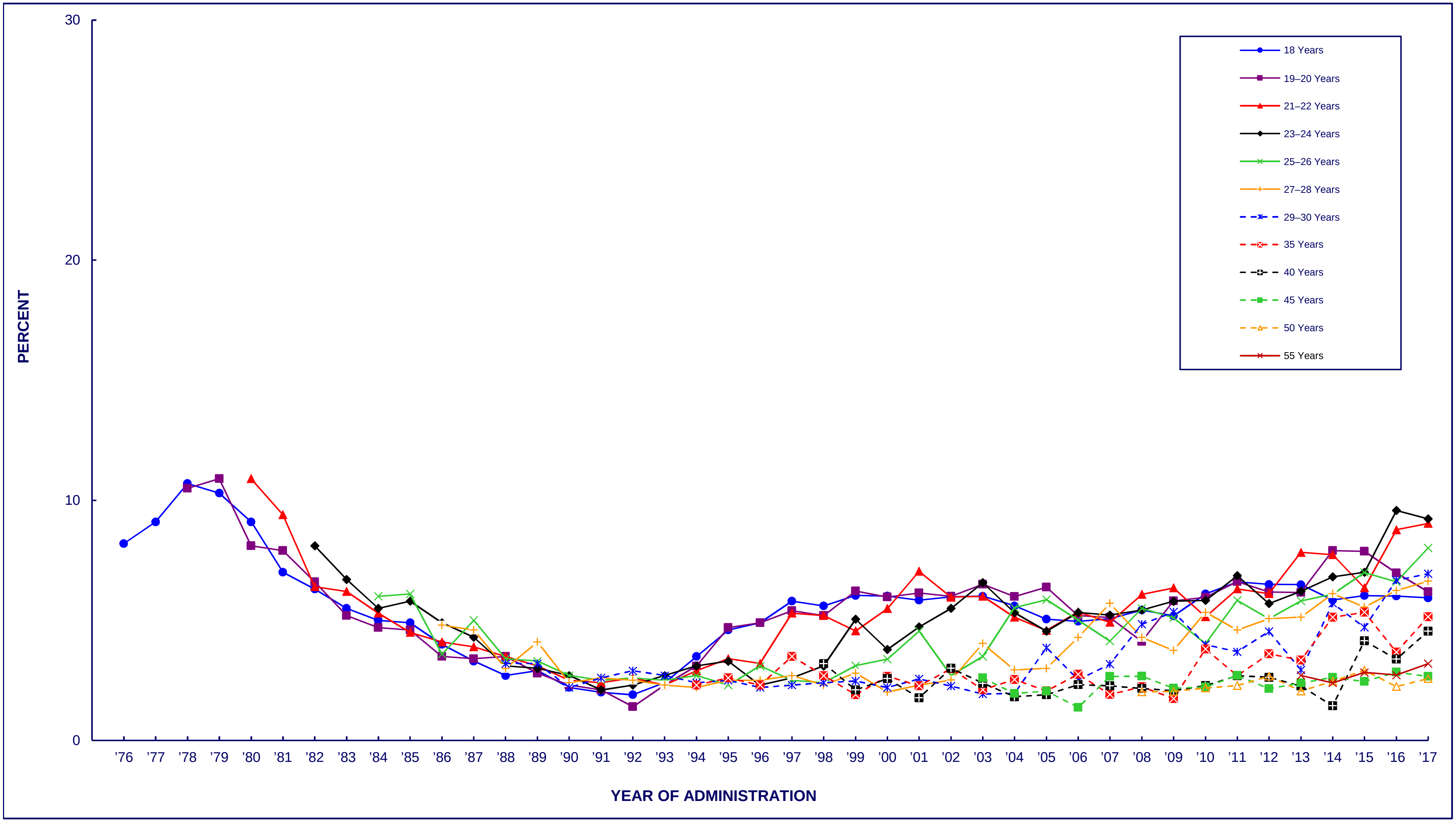
FIGURE 5-3b (cont.)
MARIJUANA
Trends in 30-Day Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	32.2											
1977	35.4											
1978	37.1	38.0										
1979	36.5	37.5										
1980	33.7	33.9	35.9									
1981	31.6	34.2	35.3									
1982	28.5	28.6	29.1	30.3								
1983	27.0	25.7	29.3	29.7								
1984	25.2	24.6	26.4	25.4	24.9							
1985	25.7	22.8	25.2	26.8	24.8							
1986	23.4	22.9	23.3	23.0	19.9	20.7						
1987	21.0	20.4	21.8	19.6	21.5	20.3						
1988	18.0	20.1	18.5	17.4	17.2	16.1	15.4					
1989	16.7	16.3	15.9	15.6	14.7	14.7	15.0					
1990	14.0	15.2	14.3	13.4	13.4	12.9	11.5					
1991	13.8	13.2	14.7	13.0	13.0	13.5	12.7					
1992	11.9	14.1	14.7	12.5	12.6	12.0	12.2					
1993	15.5	14.6	13.8	13.6	12.4	12.3	11.2					
1994	19.0	15.3	16.5	13.3	12.9	11.6	11.4	8.7				
1995	21.2	18.7	15.4	12.2	11.7	10.4	10.8	11.1				
1996	21.9	19.9	16.4	14.2	12.6	11.0	10.5	8.8				
1997	23.7	19.9	18.9	14.0	10.5	10.1	9.4	10.7				
1998	22.8	20.1	17.5	13.8	11.8	10.5	9.0	9.1	10.5			
1999	23.1	23.1	17.8	15.3	12.0	8.9	9.3	8.8	8.3			
2000	21.6	22.3	19.8	14.7	12.5	10.7	9.8	8.3	8.5			
2001	22.4	21.0	22.9	14.9	14.5	10.3	8.3	8.8	8.3			
2002	21.5	22.2	20.1	17.2	14.8	9.9	9.0	8.9	8.1			
2003	21.2	22.5	18.2	18.9	14.5	12.2	8.9	7.1	8.2	8.4		
2004	19.9	20.7	18.3	15.6	15.1	12.0	8.5	7.8	8.3	6.5		
2005	19.8	18.9	17.9	14.1	15.9	11.9	11.9	7.0	8.1	7.2		
2006	18.3	17.5	17.4	16.2	14.0	13.1	10.1	6.2	6.7	6.3		
2007	18.8	18.4	18.0	16.2	13.6	13.5	10.4	5.8	6.7	6.9		
2008	19.4	17.9	17.8	16.2	13.3	14.2	12.9	7.8	6.6	6.4	7.2	
2009	20.6	19.5	20.0	16.0	15.3	13.3	12.1	5.9	6.8	7.3	5.9	
2010	21.4	18.0	18.0	17.3	13.6	13.5	11.0	8.9	7.1	7.3	6.8	
2011	22.6	20.4	21.9	18.1	15.5	15.0	10.9	10.1	6.5	7.3	5.9	
2012	22.9	21.6	19.8	18.0	14.0	14.6	11.5	9.1	6.5	6.6	7.3	
2013	22.7	21.8	23.0	20.0	15.8	13.9	13.7	10.4	8.2	5.7	7.5	7.6
2014	21.2	24.3	21.2	17.8	17.4	15.1	13.2	11.1	6.8	7.1	8.1	8.1
2015	21.3	22.6	22.5	19.0	20.7	15.4	12.8	13.2	8.8	7.8	8.0	8.6
2016	22.5	24.9	25.1	22.3	18.0	18.2	15.3	10.8	10.5	7.2	7.4	6.4
2017	22.9	22.0	25.7	24.6	21.8	21.1	17.8	13.9	10.8	8.2	9.4	9.6

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

Notes. ' — ' indicates data not available.

FIGURE 5-3c
MARIJUANA
Trends in 30-Day Prevalence of Daily Use
among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

FIGURE 5-3c (cont.)
MARIJUANA
Trends in 30-Day Prevalence of Daily Use among Respondents of Modal Ages 18 through 55, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	8.2											
1977	9.1											
1978	10.7	10.5										
1979	10.3	10.9										
1980	9.1	8.1	10.9									
1981	7.0	7.9	9.4									
1982	6.3	6.6	6.4	8.1								
1983	5.5	5.2	6.2	6.7								
1984	5.0	4.7	5.3	5.5	6.0							
1985	4.9	4.6	4.5	5.8	6.1							
1986	4.0	3.5	4.1	4.9	3.6	4.8						
1987	3.3	3.4	3.9	4.3	5.0	4.6						
1988	2.7	3.5	3.5	3.1	3.4	3.0	3.2					
1989	2.9	2.8	3.1	3.0	3.3	4.1	3.2					
1990	2.2	2.3	2.5	2.7	2.7	2.4	2.2					
1991	2.0	2.1	2.4	2.1	2.5	2.6	2.6					
1992	1.9	1.4	2.6	2.3	2.6	2.5	2.9					
1993	2.4	2.3	2.3	2.7	2.5	2.3	2.7					
1994	3.5	3.1	2.9	3.1	2.7	2.2	2.4	2.3				
1995	4.6	4.7	3.4	3.3	2.3	2.5	2.5	2.6				
1996	4.9	4.9	3.2	2.3	3.1	2.5	2.2	2.3				
1997	5.8	5.4	5.3	2.6	2.5	2.7	2.3	3.5				
1998	5.6	5.2	5.2	3.1	2.4	2.3	2.4	2.7	3.2			
1999	6.0	6.2	4.6	5.1	3.1	2.8	2.5	1.9	2.1			
2000	6.0	6.0	5.5	3.8	3.4	2.0	2.2	2.7	2.6			
2001	5.8	6.1	7.0	4.7	4.6	2.3	2.6	2.3	1.8			
2002	6.0	6.0	6.0	5.5	2.7	2.5	2.3	3.0	3.0			
2003	6.0	6.5	6.0	6.6	3.5	4.0	1.9	2.1	2.4	2.6		
2004	5.6	6.0	5.1	5.3	5.5	2.9	2.0	2.5	1.8	2.0		
2005	5.0	6.4	4.6	4.5	5.9	3.0	3.9	2.1	1.9	2.1		
2006	5.0	5.2	5.3	5.3	5.0	4.3	2.5	2.8	2.3	1.4		
2007	5.1	5.1	4.9	5.2	4.1	5.7	3.2	1.9	2.3	2.7		
2008	5.4	4.1	6.1	5.4	5.5	4.3	4.8	2.2	2.2	2.7	2.0	
2009	5.2	5.8	6.3	5.8	5.1	3.7	5.4	1.7	2.1	2.2	2.0	
2010	6.1	6.0	5.1	5.8	4.0	5.3	4.0	3.8	2.3	2.2	2.2	
2011	6.6	6.6	6.3	6.9	5.8	4.6	3.7	2.7	2.7	2.7	2.3	
2012	6.5	6.2	6.1	5.7	5.1	5.1	4.5	3.6	2.6	2.2	2.7	
2013	6.5	6.2	7.8	6.2	5.8	5.1	2.9	3.3	2.3	2.4	2.1	2.7
2014	5.8	7.9	7.7	6.8	6.1	6.1	5.7	5.1	1.4	2.6	2.5	2.4
2015	6.0	7.9	6.3	7.0	7.0	5.5	4.7	5.3	4.1	2.5	2.9	2.8
2016	6.0	7.0	8.8	9.6	6.6	6.2	6.7	3.7	3.4	2.8	2.2	2.7
2017	5.9	6.2	9.0	9.2	8.0	6.6	6.9	5.1	4.5	2.7	2.6	3.2

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

Notes. ' — ' indicates data not available.

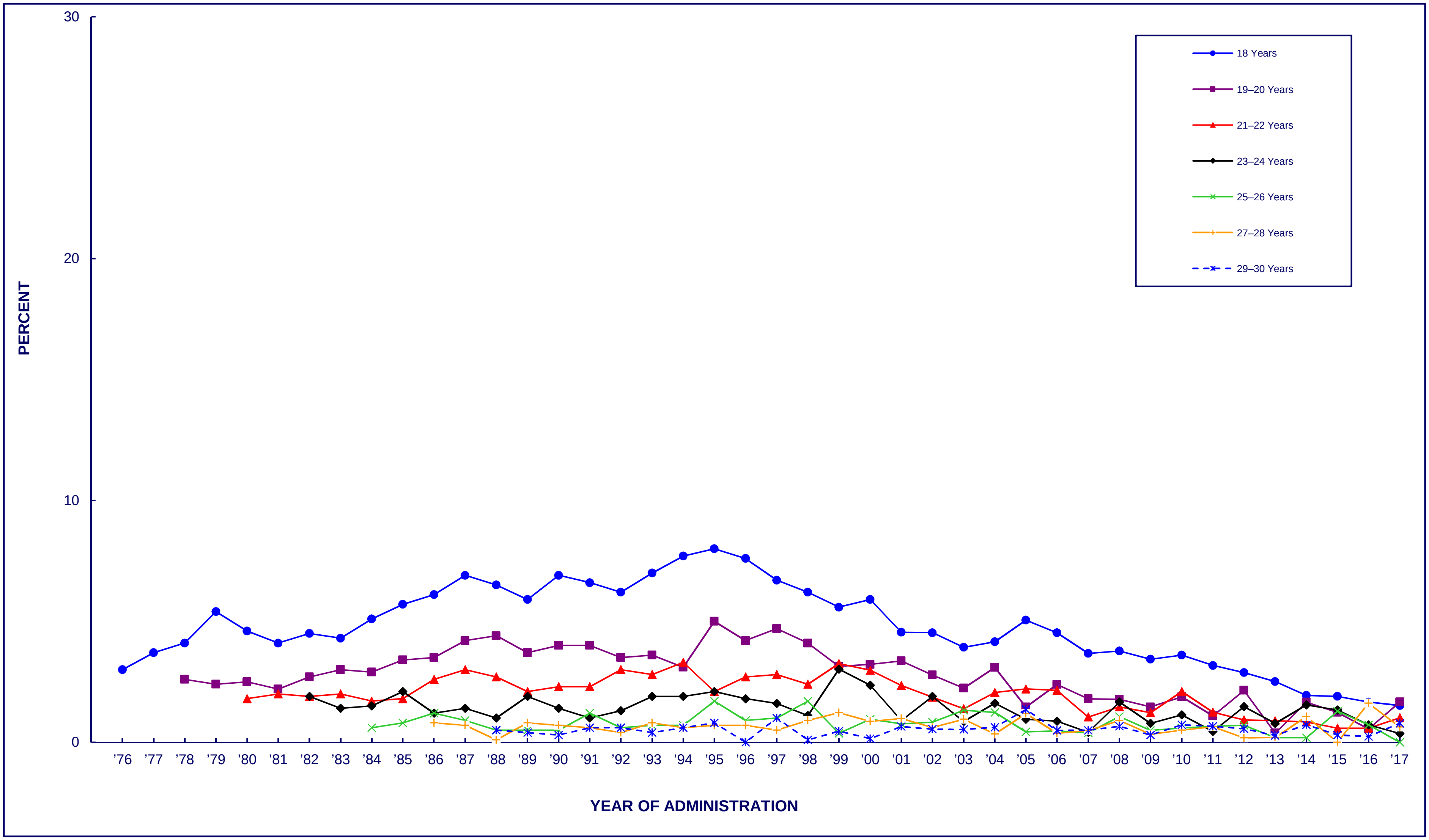
[a]Beginning in 2002, respondents were followed through age 30 instead of age 32 as in past years.

FIGURE 5-4

INHALANTS [a]

Trends in Annual Prevalence

among Respondents of Modal Ages 18 through 32, [b] by Age Group



(Figure continued on next page.)

FIGURE 5-4 (cont.)

INHALANTS [a]

Trends in Annual Prevalence among Respondents of Modal Ages 18 through 32, [b] by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30
1976	3.0						
1977	3.7						
1978	4.1	2.6					
1979	5.4	2.4					
1980	4.6	2.5	1.8				
1981	4.1	2.2	2.0				
1982	4.5	2.7	1.9	1.9			
1983	4.3	3.0	2.0	1.4			
1984	5.1	2.9	1.7	1.5	0.6		
1985	5.7	3.4	1.8	2.1	0.8		
1986	6.1	3.5	2.6	1.2	1.2	0.8	
1987	6.9	4.2	3.0	1.4	0.9	0.7	
1988	6.5	4.4	2.7	1.0	0.5	0.1	0.5
1989	5.9	3.7	2.1	1.9	0.5	0.8	0.4
1990	6.9	4.0	2.3	1.4	0.5	0.7	0.3
1991	6.6	4.0	2.3	1.0	1.2	0.6	0.6
1992	6.2	3.5	3.0	1.3	0.6	0.4	0.6
1993	7.0	3.6	2.8	1.9	0.7	0.8	0.4
1994	7.7	3.1	3.3	1.9	0.7	0.6	0.6
1995	8.0	5.0	2.1	2.1	1.7	0.7	0.8
1996	7.6	4.2	2.7	1.8	0.9	0.7	*
1997	6.7	4.7	2.8	1.6	1.0	0.5	1.0
1998	6.2	4.1	2.4	1.1	1.7	0.9	0.1
1999	5.6	3.1	3.3	3.0	0.4	1.2	0.5
2000	5.9	3.2	3.0	2.4	1.0	0.9	0.1
2001	4.5	3.4	2.4	0.9	0.8	1.0	0.7
2002	4.5	2.8	1.9	1.9	0.8	0.6	0.5
2003	3.9	2.2	1.4	0.9	1.3	1.0	0.5
2004	4.2	3.1	2.1	1.6	1.2	0.3	0.6
2005	5.0	1.5	2.2	1.0	0.4	1.2	1.4
2006	4.5	2.4	2.1	0.9	0.5	0.4	0.5
2007	3.7	1.8	1.0	0.4	0.4	0.5	0.5
2008	3.8	1.8	1.5	1.7	1.1	0.9	0.7
2009	3.4	1.5	1.2	0.8	0.5	0.3	0.3
2010	3.6	1.9	2.1	1.1	0.6	0.5	0.7
2011	3.2	1.1	1.2	0.5	0.7	0.6	0.7
2012	2.9	2.1	0.9	1.5	0.7	0.2	0.6
2013	2.5	0.4	0.9	0.8	0.2	0.2	0.3
2014	1.9	1.7	0.8	1.5	0.2	1.1	0.7
2015	1.9	1.7	0.8	1.5	0.2	1.1	0.7
2016	1.7	0.6	0.6	0.7	0.7	1.6	0.2
2017	1.5	1.7	1.0	0.4	*	0.6	0.8

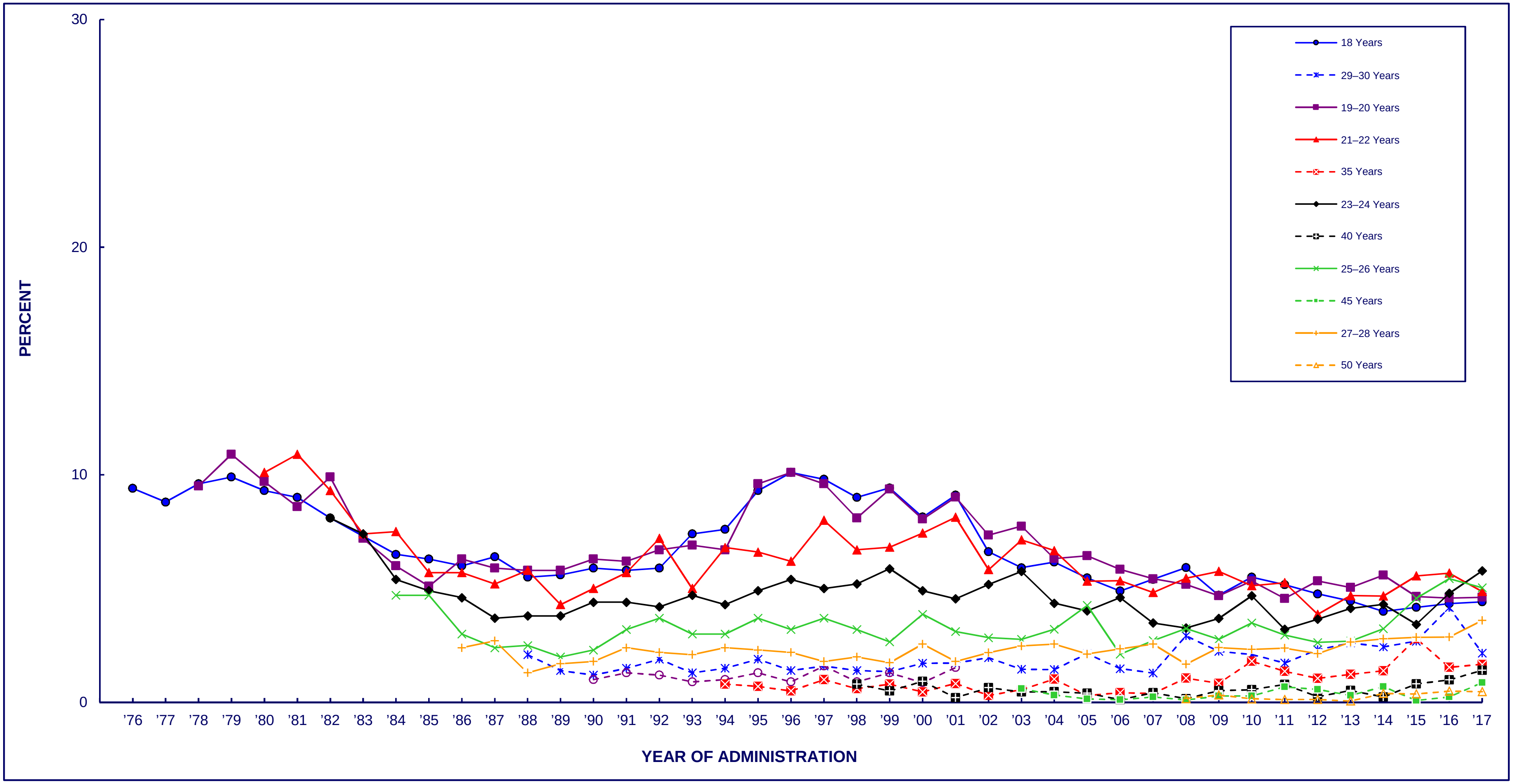
Source. The Monitoring the Future study, the University of Michigan.

Notes. ' * ' indicates a percentage of less than 0.05%. ' — ' indicates data not available.

[a]Unadjusted for the possible underreporting of amyl and butyl nitrites. Chapter 5,*Volume I*, shows that such an adjustment would flatten the trend for seniors considerably because the line was adjusted up more in the earlier years, when nitrite use was more prevalent. Questions about nitrite use were dropped from the follow-up questionnaires beginning in 1995.

[b]Questions about the use of inhalants were not included in the questionnaires for 35-, 40-, 45-, and 50-year-olds.

FIGURE 5-5
HALLUCINOGENS [a]
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 50, [c] by Age Group



(Figure continued on next page.)

FIGURE 5-5 (cont.)

HALLUCINOGENS [a]

Trends in Annual Prevalence

among Respondents of Modal Ages 18 through 50, [b] by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50
1976	9.4										
1977	8.8										
1978	9.6	9.5									
1979	9.9	10.9									
1980	9.3	9.7	10.1								
1981	9.0	8.6	10.9								
1982	8.1	9.9	9.3	8.1							
1983	7.3	7.2	7.4	7.4							
1984	6.5	6.0	7.5	5.4	4.7						
1985	6.3	5.1	5.7	4.9	4.7						
1986	6.0	6.3	5.7	4.6	3.0	2.4					
1987	6.4	5.9	5.2	3.7	2.4	2.7					
1988	5.5	5.8	5.8	3.8	2.5	1.3	2.1				
1989	5.6	5.8	4.3	3.8	2.0	1.7	1.4				
1990	5.9	6.3	5.0	4.4	2.3	1.8	1.2				
1991	5.8	6.2	5.7	4.4	3.2	2.4	1.5				
1992	5.9	6.7	7.2	4.2	3.7	2.2	1.9				
1993	7.4	6.9	5.0	4.7	3.0	2.1	1.3				
1994	7.6	6.7	6.8	4.3	3.0	2.4	1.5	0.8			
1995	9.3	9.6	6.6	4.9	3.7	2.3	1.9	0.7			
1996	10.1	10.1	6.2	5.4	3.2	2.2	1.4	0.5			
1997	9.8	9.6	8.0	5.0	3.7	1.8	1.6	1.0			
1998	9.0	8.1	6.7	5.2	3.2	2.0	1.4	0.6	0.8		
1999	9.4	9.4	6.8	5.9	2.7	1.7	1.4	0.8	0.5		
2000	8.1	8.0	7.4	4.9	3.9	2.6	1.7	0.5	0.9		
2001	9.1	9.0	8.1	4.6	3.1	1.8	1.7	0.8	0.2		
2002	6.6	7.3	5.8	5.2	2.8	2.2	2.0	0.3	0.7		
2003	5.9	7.7	7.1	5.8	2.8	2.5	1.5	0.6	0.5	0.6	
2004	6.2	6.3	6.7	4.4	3.2	2.6	1.4	1.0	0.5	0.3	
2005	5.5	6.4	5.3	4.0	4.3	2.1	2.1	0.3	0.4	0.1	
2006	4.9	5.8	5.3	4.6	2.1	2.4	1.5	0.4	0.1	0.1	
2007	5.4	5.4	4.8	3.5	2.7	2.6	1.3	0.4	0.4	0.2	
2008	5.9	5.2	5.5	3.3	3.2	1.7	2.9	1.1	0.2	0.1	0.2
2009	4.7	4.7	5.8	3.7	2.8	2.4	2.2	0.8	0.5	0.3	0.3
2010	5.5	5.3	5.1	4.7	3.5	2.3	2.1	1.8	0.6	0.3	0.2
2011	5.2	4.6	5.3	3.2	3.0	2.4	1.7	1.4	0.8	0.7	0.1
2012	4.8	5.3	3.9	3.7	2.6	2.1	2.3	1.1	0.2	0.6	0.1
2013	4.5	5.0	4.7	4.1	2.7	2.7	2.6	1.2	0.5	0.3	0.1
2014	4.0	5.6	4.7	4.3	3.2	2.8	2.4	1.4	0.2	0.7	0.4
2015	4.2	4.6	5.6	3.4	4.6	2.9	2.7	2.8	0.8	0.1	0.4
2016	4.3	4.6	5.7	4.8	5.4	2.9	4.2	1.5	1.0	0.2	0.5
2017	4.4	4.6	4.9	5.8	5.0	3.6	2.2	1.7	1.4	0.9	0.5

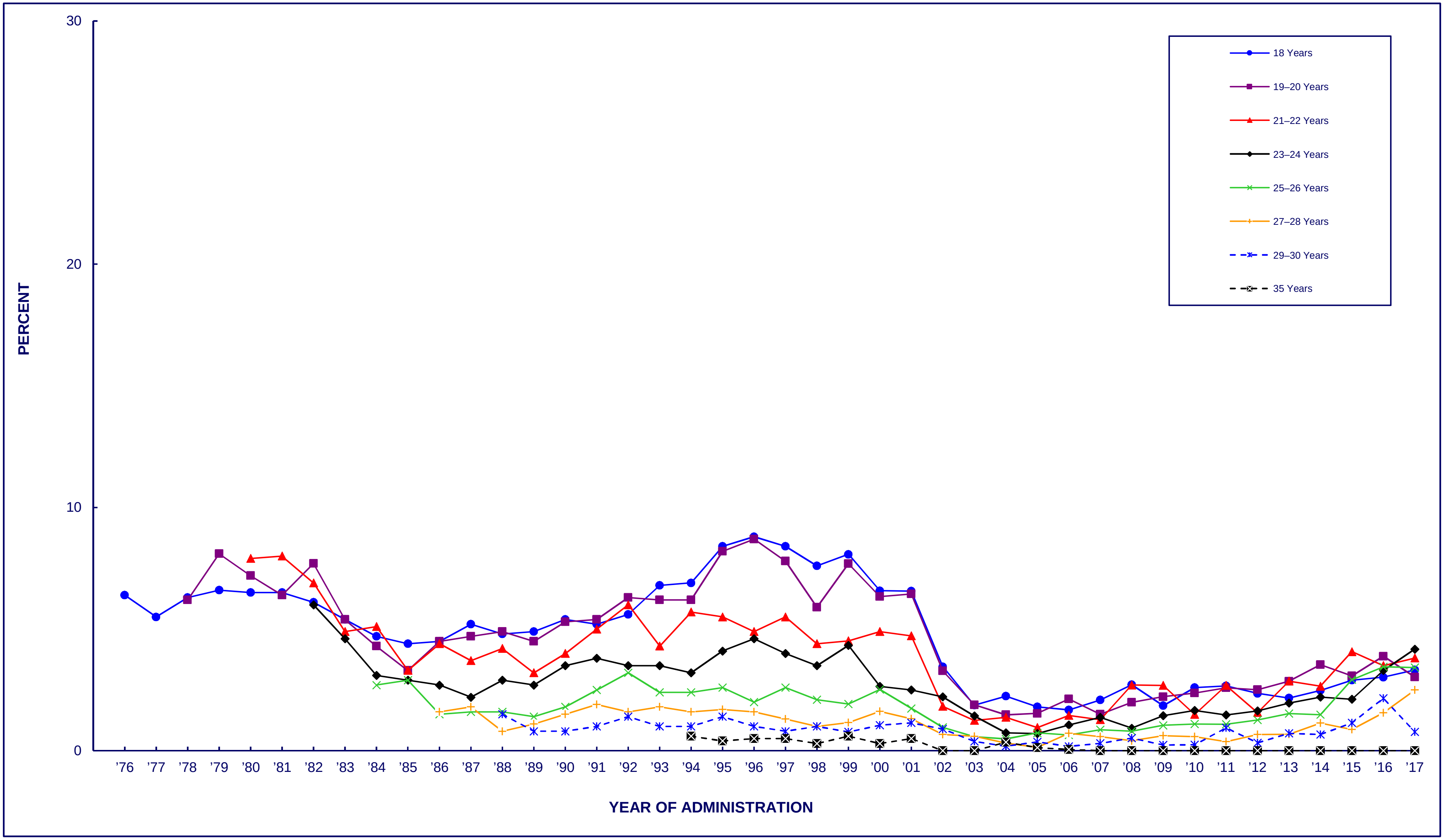
Source. The Monitoring the Future study, the University of Michigan.

Notes. ' — ' indicates data not available.

[a]Unadjusted for the possible underreporting of PCP.

[b]Questions about the use of hallucinogens were not included in the questionnaires for 55-year-olds.

FIGURE 5-6
LSD
Trends in Annual Prevalence among Respondents of Modal Ages 18 through 35,[u] by Age Group



(Figure continued on next page.)

FIGURE 5-6 (cont.)
LSD
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 35, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35 [b]
1976	6.4							
1977	5.5							
1978	6.3	6.2						
1979	6.6	8.1						
1980	6.5	7.2	7.9					
1981	6.5	6.4	8.0					
1982	6.1	7.7	6.9	6.0				
1983	5.4	5.4	4.9	4.6				
1984	4.7	4.3	5.1	3.1	2.7			
1985	4.4	3.3	3.3	2.9	2.9			
1986	4.5	4.5	4.4	2.7	1.5	1.6		
1987	5.2	4.7	3.7	2.2	1.6	1.8		
1988	4.8	4.9	4.2	2.9	1.6	0.8	1.5	
1989	4.9	4.5	3.2	2.7	1.4	1.1	0.8	
1990	5.4	5.3	4.0	3.5	1.8	1.5	0.8	
1991	5.2	5.4	5.0	3.8	2.5	1.9	1.0	
1992	5.6	6.3	6.0	3.5	3.2	1.6	1.4	
1993	6.8	6.2	4.3	3.5	2.4	1.8	1.0	
1994	6.9	6.2	5.7	3.2	2.4	1.6	1.0	0.6
1995	8.4	8.2	5.5	4.1	2.6	1.7	1.4	0.4
1996	8.8	8.7	4.9	4.6	2.0	1.6	1.0	0.5
1997	8.4	7.8	5.5	4.0	2.6	1.3	0.8	0.5
1998	7.6	5.9	4.4	3.5	2.1	1.0	1.0	0.3
1999	8.1	7.7	4.5	4.3	1.9	1.2	0.8	0.6
2000	6.6	6.3	4.9	2.6	2.5	1.6	1.0	0.3
2001	6.6	6.4	4.7	2.5	1.7	1.3	1.1	0.5
2002	3.5	3.3	1.8	2.2	1.0	0.7	0.9	*
2003	1.9	1.9	1.2	1.4	0.6	0.6	0.4	*
2004	2.2	1.5	1.4	0.7	0.5	0.3	0.2	0.4
2005	1.8	1.5	1.0	0.7	0.7	0.1	0.4	0.1
2006	1.7	2.1	1.4	1.1	0.6	0.7	0.2	0.1
2007	2.1	1.5	1.3	1.4	0.9	0.6	0.3	—
2008	2.7	2.0	2.7	0.9	0.8	0.4	0.5	—
2009	1.9	2.2	2.7	1.4	1.0	0.6	0.2	—
2010	2.6	2.4	1.5	1.7	1.1	0.6	0.2	—
2011	2.7	2.6	2.7	1.5	1.1	0.4	0.9	—
2012	2.4	2.5	1.6	1.6	1.3	0.7	0.3	—
2013	2.2	2.9	2.9	2.0	1.5	0.7	0.7	—
2014	2.5	3.5	2.7	2.2	1.5	1.1	0.7	—
2015	2.9	3.1	4.1	2.1	2.9	0.9	1.1	—
2016	3.0	3.9	3.5	3.3	3.5	1.6	2.2	—
2017	3.3	3.0	3.8	4.2	3.4	2.5	0.8	—

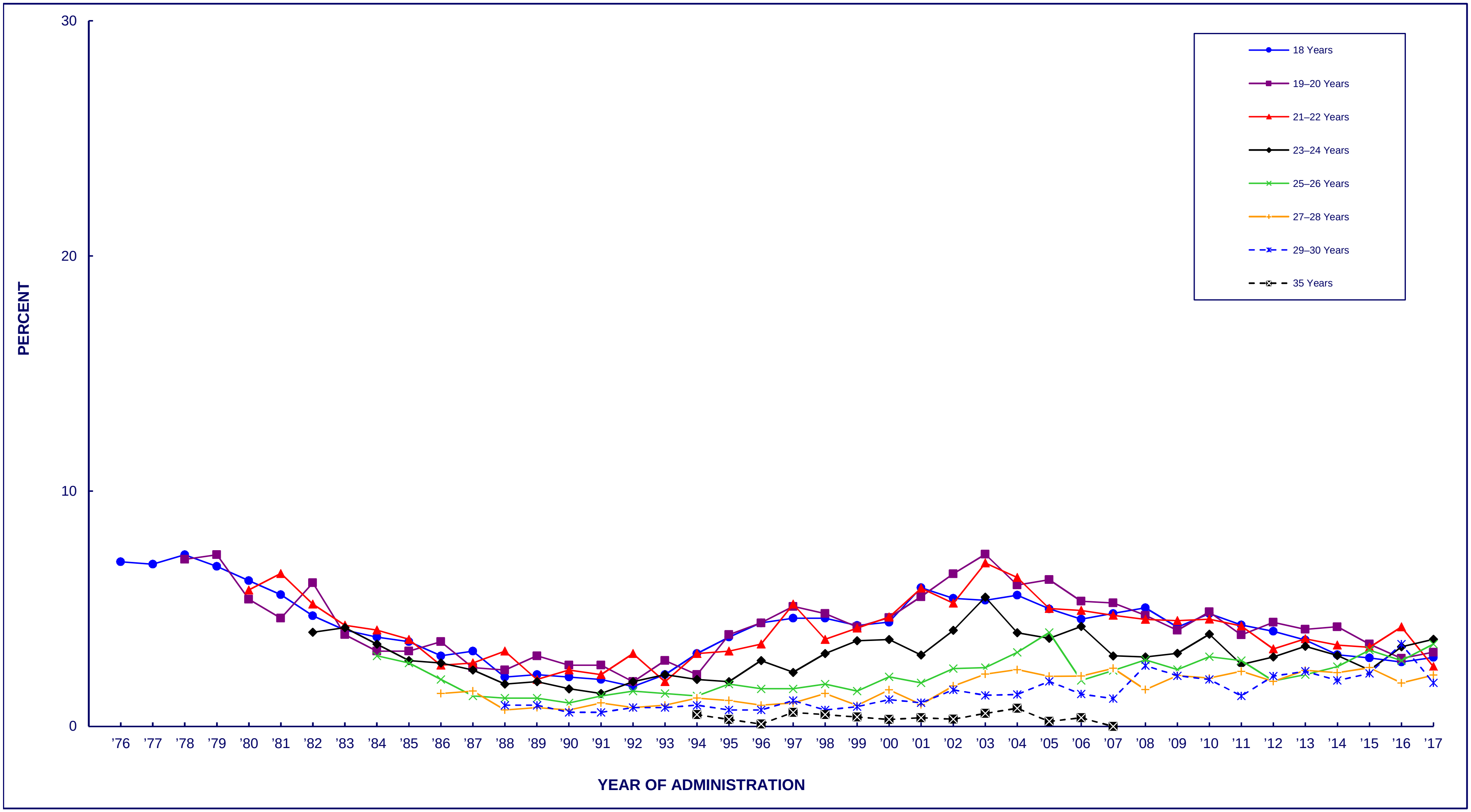
Source. The Monitoring the Future study, the University of Michigan.

Notes. ' * ' indicates a percentage of less than 0.05%. ' — ' indicates data not available.

[a]Beginning in 2002, respondents were followed through age 30 instead of age 32 as in past years.

[b]Questions about LSD use were not included in the questionnaires administered to the 40-, 45-, and 50-year-olds, or the 35-year-olds after 2006.

FIGURE 5-7
HALLUCINOGENS OTHER THAN LSD [a]
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 35, by Age Group



(Figure continued on next page.)

FIGURE 5-7 (cont.)
HALLUCINOGENS OTHER THAN LSD [a]
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 35, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35 [b]
1976	7.0							
1977	6.9							
1978	7.3	7.1						
1979	6.8	7.3						
1980	6.2	5.4	5.8					
1981	5.6	4.6	6.5					
1982	4.7	6.1	5.2	4.0				
1983	4.1	3.9	4.3	4.2				
1984	3.8	3.2	4.1	3.5	3.0			
1985	3.6	3.2	3.7	2.8	2.7			
1986	3.0	3.6	2.6	2.7	2.0	1.4		
1987	3.2	2.5	2.7	2.4	1.3	1.5		
1988	2.1	2.4	3.2	1.8	1.2	0.7	0.9	
1989	2.2	3.0	2.0	1.9	1.2	0.8	0.9	
1990	2.1	2.6	2.4	1.6	1.0	0.7	0.6	
1991	2.0	2.6	2.2	1.4	1.3	1.0	0.6	
1992	1.7	1.9	3.1	1.9	1.5	0.8	0.8	
1993	2.2	2.8	1.9	2.2	1.4	0.9	0.8	
1994	3.1	2.2	3.1	2.0	1.3	1.2	0.9	0.5
1995	3.8	3.9	3.2	1.9	1.8	1.1	0.7	0.3
1996	4.4	4.4	3.5	2.8	1.6	0.9	0.7	0.1
1997	4.6	5.1	5.2	2.3	1.6	1.0	1.1	0.6
1998	4.6	4.8	3.7	3.1	1.8	1.4	0.7	0.5
1999	4.3	4.2	4.2	3.6	1.5	0.9	0.8	0.4
2000	4.4	4.6	4.7	3.7	2.1	1.6	1.1	0.3
2001	5.9	5.5	5.9	3.0	1.9	0.9	1.0	0.4
2002	5.4	6.5	5.2	4.1	2.5	1.7	1.6	0.3
2003	5.4	7.3	6.9	5.5	2.5	2.2	1.3	0.6
2004	5.6	6.0	6.3	4.0	3.1	2.4	1.4	0.8
2005	5.0	6.2	5.0	3.7	4.0	2.1	1.9	0.2
2006	4.6	5.3	4.9	4.2	2.0	2.1	1.4	0.4
2007	4.8	5.2	4.7	3.0	2.4	2.5	1.2	—
2008	5.0	4.7	4.5	3.0	2.8	1.6	2.6	—
2009	4.2	4.1	4.5	3.1	2.4	2.2	2.2	—
2010	4.8	4.9	4.6	3.9	3.0	2.1	2.0	—
2011	4.3	3.9	4.3	2.6	2.8	2.3	1.3	—
2012	4.0	4.4	3.3	3.0	1.9	1.9	2.1	—
2013	3.7	4.1	3.7	3.4	2.2	2.4	2.3	—
2014	3.0	4.2	3.5	3.0	2.5	2.3	2.0	—
2015	2.9	3.5	3.4	2.4	3.2	2.5	2.3	—
2016	2.7	2.9	4.2	3.4	2.8	1.8	3.5	—
2017	2.9	3.2	2.5	3.7	3.5	2.2	1.9	—

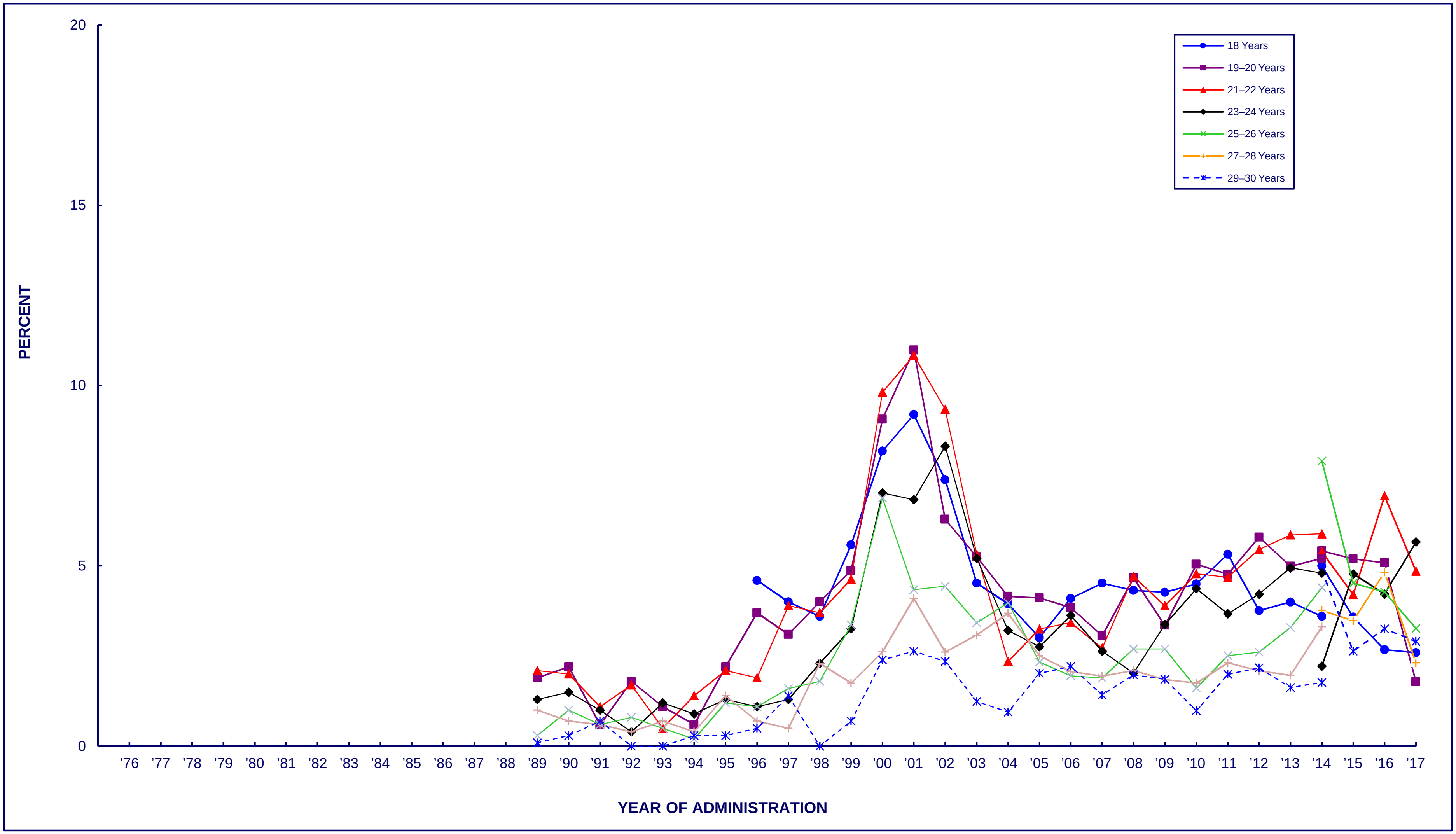
Source. The Monitoring the Future study, the University of Michigan.

Notes. '— ' indicates data not available.

[a]Unadjusted for the possible underreporting of PCP.

[b]Questions about the use of hallucinogens other than LSD were not included in the questionnaires administered to the 40-, 45-, and 50-year-olds, or the 35-year-olds after 2006.

FIGURE 5-8
ECSTASY (MDMA, Molly)
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 32, [a] by Age Group



(Figure continued on next page.)

FIGURE 5-8 (cont.)
ECSTASY (MDMA, Molly)
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 32, [a,b]
by Age Group

	Age 18		Ages 19–20		Ages 21–22		Ages 23–24		Ages 25–26		Ages 27–28		Ages 29–30	
Year	Original	Revised	Original	Revised	Original	Revised	Original	Revised	Original	Revised	Original	Revised	Original	Revised
1976														
1977														
1978														
1979														
1980														
1981														
1982														
1983														
1984														
1985														
1986														
1987														
1988														
1989			1.9		2.1		1.3		0.3		1.0		0.1	
1990			2.2		2.0		1.5		1.0		0.7		0.3	
1991			0.6		1.1		1.0		0.6		0.6		0.7	
1992			1.8		1.7		0.4		0.8		0.4		*	
1993			1.1		0.5		1.2		0.5		0.7		*	
1994			0.6		1.4		0.9		0.2		0.4		0.3	
1995			2.2		2.1		1.3		1.2		1.4		0.3	
1996	4.6		3.7		1.9		1.1		1.1		0.7		0.5	
1997	4.0		3.1		3.9		1.3		1.6		0.5		1.4	
1998	3.6		4.0		3.7		2.3		1.8		2.3		*	
1999	5.6		4.9		4.6		3.3		3.4		1.8		0.7	
2000	8.2		9.1		9.8		7.0		6.9		2.6		2.4	
2001	9.2		11.0		10.8		6.8		4.3		4.1		2.6	
2002	7.4		6.3		9.3		8.3		4.4		2.6		2.4	
2003	4.5		5.3		5.3		5.2		3.4		3.1		1.2	
2004	4.0		4.2		2.4		3.2		4.0		3.7		0.9	
2005	3.0		4.1		3.3		2.8		2.3		2.5		2.0	
2006	4.1		3.8		3.4		3.6		2.0		2.1		2.2	
2007	4.5		3.1		2.7		2.6		1.9		1.9		1.4	
2008	4.3		4.7		4.7		2.0		2.7		2.1		2.0	
2009	4.3		3.4		3.9		3.4		2.7		1.8		1.9	
2010	4.5		5.0		4.8		4.4		1.6		1.8		1.0	
2011	5.3		4.8		4.7		3.7		2.5		2.3		2.0	
2012	3.8		5.8		5.5		4.2		2.6		2.1		2.2	
2013	4.0		5.0		5.9		4.9		3.3		2.0		1.6	
2014	3.6	5.0	5.2	5.4	5.9	5.4	4.8	2.2	4.4	7.9	3.3	3.8	1.8	4.9
2015	—	3.6	—	5.2	—	4.2	—	4.8	—	4.5	—	3.5	—	2.6
2016	—	2.7	—	5.1	—	6.9	—	4.2	—	4.3	—	4.8	—	3.3
2017	—	2.6	—	1.8	—	4.8	—	5.7	—	3.3	—	2.3	—	2.9

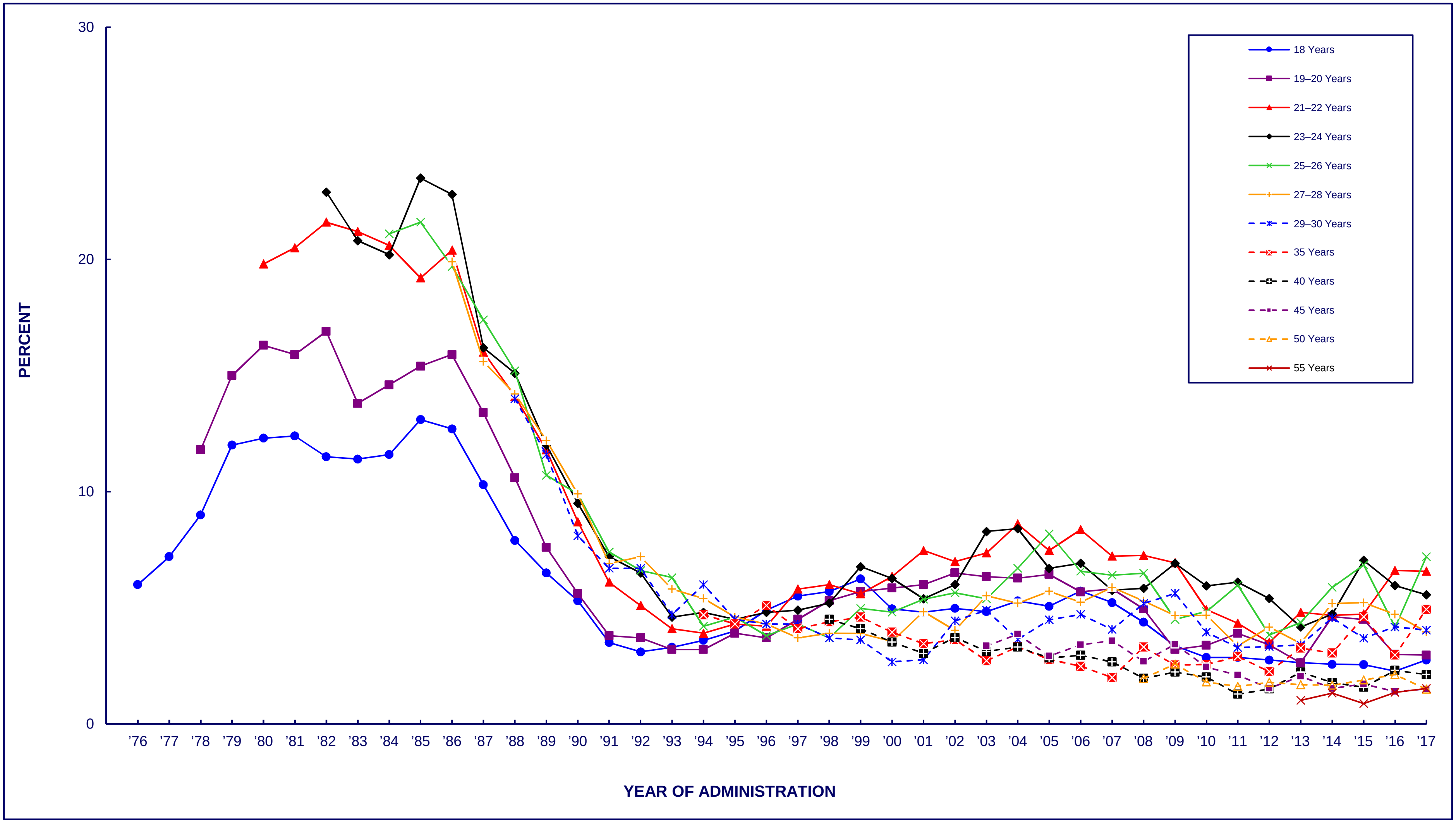
Source. The Monitoring the Future study, the University of Michigan.

Notes. ' * ' indicates a percentage of less than 0.05%. ' — ' indicates data not available.

[a]Questions about use of ecstasy (MDMA, Molly) were not included in the questionnaires administered to the 35-, 40-, 45-, and 50-year-olds.

[b]In 2014, a version of the question was added to an additional form that included "molly" in the description. In 2015 the remaining forms changed to this updated wording. Data for both versions of the question are included here.

FIGURE 5-9
COCAINE
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

FIGURE 5-9 (cont.)
COCAINE
Trends in Annual Prevalence among Respondents of Modal Ages 18 through 55, by Age Group

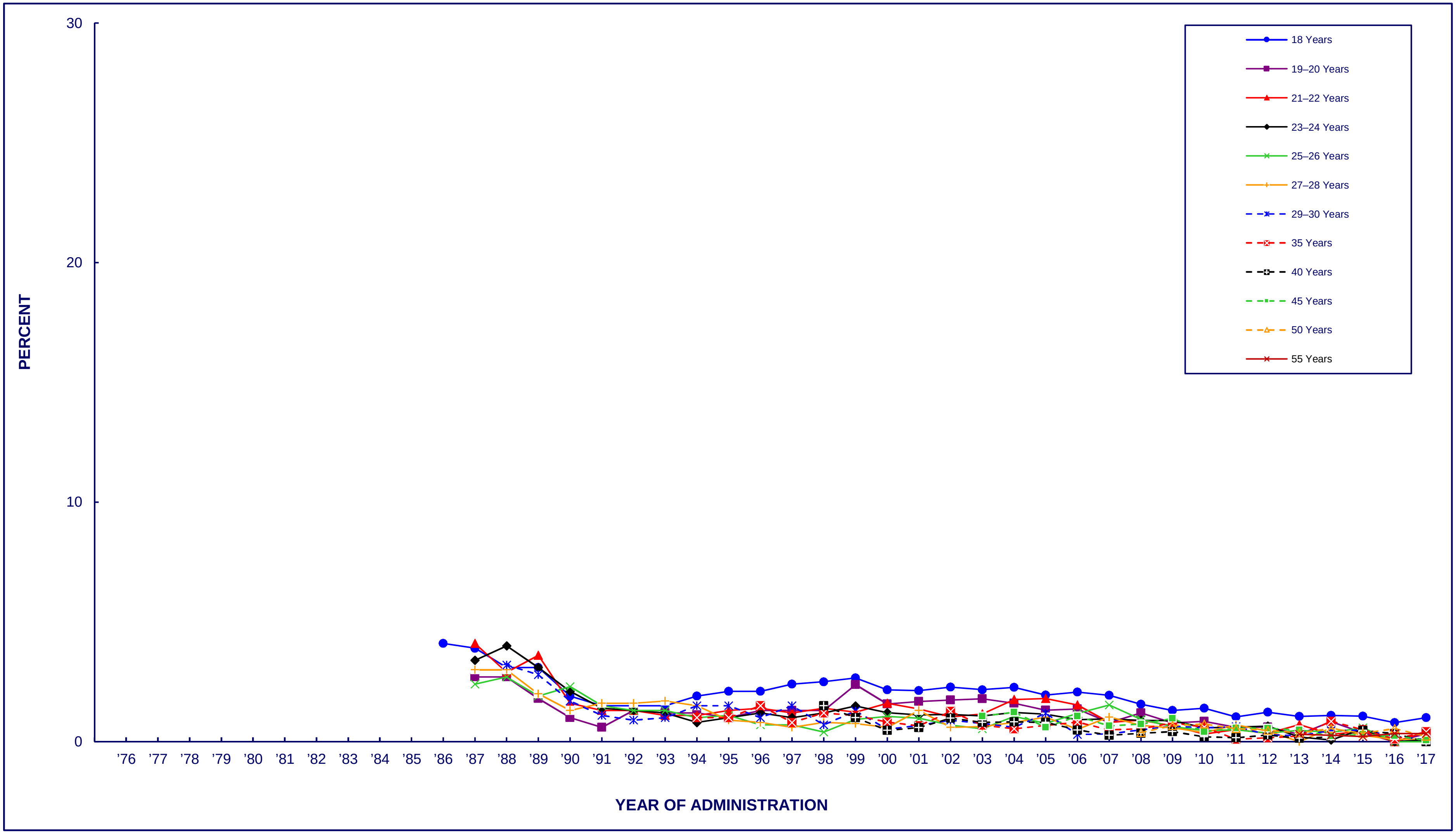
353.0

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	6.0											
1977	7.2											
1978	9.0	11.8										
1979	12.0	15.0										
1980	12.3	16.3	19.8									
1981	12.4	15.9	20.5									
1982	11.5	16.9	21.6	22.9								
1983	11.4	13.8	21.2	20.8								
1984	11.6	14.6	20.6	20.2	21.1							
1985	13.1	15.4	19.2	23.5	21.6							
1986	12.7	15.9	20.4	22.8	19.7	19.9						
1987	10.3	13.4	16.0	16.2	17.4	15.6						
1988	7.9	10.6	14.1	15.1	15.2	14.2	14.0					
1989	6.5	7.6	11.8	12.0	10.7	12.2	11.6					
1990	5.3	5.6	8.7	9.5	9.9	9.9	8.1					
1991	3.5	3.8	6.1	7.2	7.4	6.9	6.7					
1992	3.1	3.7	5.1	6.5	6.6	7.2	6.7					
1993	3.3	3.2	4.1	4.6	6.3	5.8	4.7					
1994	3.6	3.2	3.9	4.8	4.2	5.4	6.0	4.7				
1995	4.0	3.9	4.3	4.5	4.6	4.6	4.5	4.3				
1996	4.9	3.7	4.2	4.8	3.8	4.3	4.3	5.1				
1997	5.5	4.5	5.8	4.9	4.3	3.7	4.3	4.1				
1998	5.7	5.3	6.0	5.2	3.7	3.9	3.7	4.4	4.5			
1999	6.2	5.7	5.6	6.8	5.0	3.9	3.6	4.6	4.1			
2000	5.0	5.8	6.3	6.3	4.8	3.6	2.7	3.9	3.5			
2001	4.8	6.0	7.5	5.4	5.4	4.8	2.8	3.5	3.0			
2002	5.0	6.5	7.0	6.0	5.6	4.0	4.4	3.6	3.7			
2003	4.8	6.3	7.4	8.3	5.4	5.5	4.9	2.7	3.1	3.4		
2004	5.3	6.3	8.6	8.4	6.7	5.2	3.6	3.3	3.3	3.9		
2005	5.1	6.4	7.5	6.7	8.2	5.7	4.5	2.8	2.8	2.9		
2006	5.7	5.7	8.4	6.9	6.6	5.2	4.7	2.5	3.0	3.4		
2007	5.2	5.8	7.2	5.8	6.4	5.9	4.1	2.0	2.7	3.6		
2008	4.4	5.0	7.3	5.8	6.5	5.3	5.2	3.3	2.0	2.7	2.0	
2009	3.4	3.2	6.9	6.9	4.5	4.7	5.6	2.5	2.2	3.4	2.6	
2010	2.9	3.4	4.9	5.9	4.8	4.7	4.0	2.6	2.0	2.4	1.8	
2011	2.9	3.9	4.3	6.1	6.0	3.4	3.3	2.9	1.3	2.1	1.6	
2012	2.7	3.4	3.5	5.4	3.8	4.2	3.3	2.3	1.5	1.5	1.8	
2013	2.6	2.6	4.8	4.2	4.4	3.5	3.4	3.3	2.2	2.0	1.7	1.0
2014	2.6	4.6	4.7	4.7	5.9	5.2	4.6	3.1	1.8	1.5	1.7	1.3
2015	2.5	4.5	4.7	7.0	6.9	5.2	3.7	4.6	1.6	1.7	1.9	0.9
2016	2.3	3.0	6.6	6.0	4.2	4.7	4.2	3.0	2.3	1.4	2.1	1.4
2017	2.7	3.0	6.6	5.6	7.2	4.0	4.0	4.9	2.1	1.5	1.5	1.5

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

Notes. ' — ' indicates data not available.

FIGURE 5-10
CRACK COCAINE
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

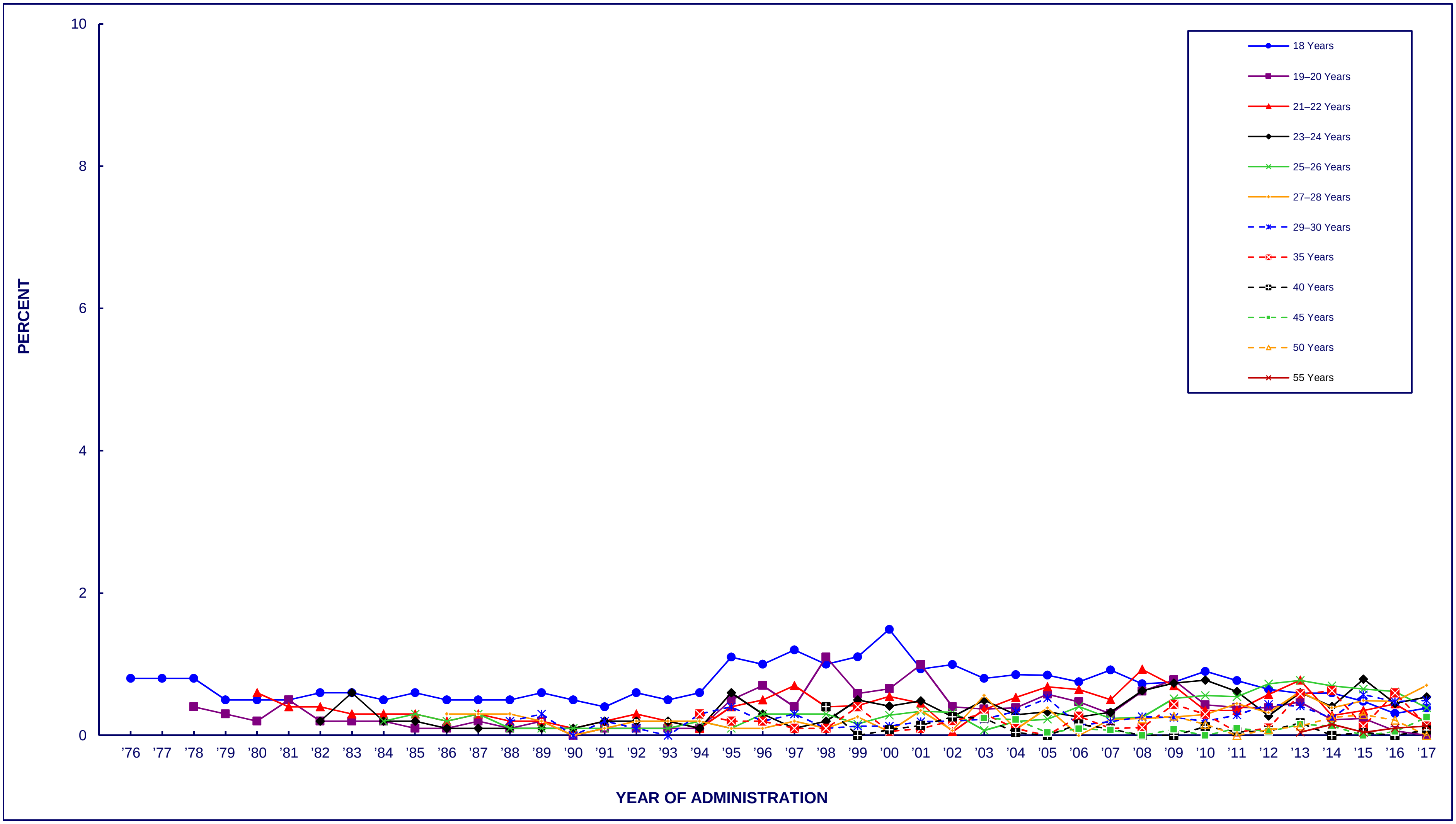
FIGURE 5-10 (cont.)
CRACK COCAINE
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976												
1977												
1978												
1979												
1980												
1981												
1982												
1983												
1984												
1985												
1986	4.1											
1987	3.9	2.7	4.1	3.4	2.4	3.0						
1988	3.1	2.7	2.9	4.0	2.7	3.0	3.2					
1989	3.1	1.8	3.6	3.1	1.9	2.0	2.8					
1990	1.9	1.0	1.6	2.1	2.3	1.3	1.7					
1991	1.5	0.6	1.3	1.4	1.5	1.6	1.1					
1992	1.5	1.3	1.3	1.3	1.3	1.6	0.9					
1993	1.5	1.2	1.1	1.2	1.3	1.7	1.0					
1994	1.9	1.2	1.1	0.8	1.0	1.5	1.5	1.0				
1995	2.1	1.0	1.3	1.0	1.1	0.9	1.5	1.0				
1996	2.1	1.3	1.4	1.2	0.7	0.8	1.0	1.5				
1997	2.4	1.3	1.2	1.0	0.7	0.6	1.5	0.8				
1998	2.5	1.3	1.4	1.2	0.4	0.8	0.7	1.2	1.5			
1999	2.7	2.4	1.2	1.5	0.9	0.8	1.3	1.1	1.0			
2000	2.2	1.6	1.6	1.2	1.1	0.6	0.5	0.8	0.5			
2001	2.1	1.7	1.4	1.1	1.0	1.3	0.7	0.7	0.6			
2002	2.3	1.7	1.0	1.1	0.7	0.6	0.9	1.3	1.0			
2003	2.2	1.8	1.2	1.1	0.5	0.6	0.8	0.7	0.8	1.1		
2004	2.3	1.6	1.8	1.2	1.1	0.8	0.6	0.5	0.8	1.2		
2005	1.9	1.3	1.8	1.1	0.8	1.0	1.2	0.7	0.8	0.6		
2006	2.1	1.4	1.5	0.9	1.2	0.5	0.3	0.8	0.5	1.1		
2007	1.9	0.8	0.8	1.0	1.5	1.0	0.3	0.5	0.3	0.7		
2008	1.6	1.2	0.9	0.9	0.9	0.7	0.5	0.5	0.4	0.7	0.4	
2009	1.3	0.8	0.7	0.9	0.6	0.6	0.7	0.8	0.4	1.0	0.7	
2010	1.4	0.8	0.3	0.6	0.5	0.4	0.6	0.6	0.2	0.4	0.7	
2011	1.0	0.6	0.5	0.6	0.5	0.7	0.6	0.1	0.2	0.6	0.5	
2012	1.2	0.6	0.3	0.6	0.4	0.4	0.3	0.2	0.3	0.6	0.5	
2013	1.1	0.3	0.7	0.2	0.5	*	0.3	0.2	0.1	0.5	0.4	0.3
2014	1.1	0.8	0.3	0.1	0.4	0.6	0.5	0.9	0.2	0.2	0.5	0.3
2015	1.1	0.4	0.4	0.5	0.6	0.3	0.5	0.5	0.5	0.3	0.3	0.2
2016	0.8	*	*	*	*	0.1	0.2	0.1	0.3	0.2	0.5	0.3
2017	1.0	0.3	0.4	0.1	*	0.1	0.1	0.4	*	0.1	0.2	0.3

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

Notes. ' — ' indicates data not available.

FIGURE 5-11
HEROIN
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

FIGURE 5-11 (cont.)

HEROIN

Trends in Annual Prevalence among Respondents of Modal Ages 18 through 55, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	0.8											
1977	0.8											
1978	0.8	0.4										
1979	0.5	0.3										
1980	0.5	0.2	0.6									
1981	0.5	0.5	0.4									
1982	0.6	0.2	0.4	0.2								
1983	0.6	0.2	0.3	0.6								
1984	0.5	0.2	0.3	0.2	0.2							
1985	0.6	0.1	0.3	0.2	0.3							
1986	0.5	0.1	0.2	0.1	0.2	0.3						
1987	0.5	0.2	0.3	0.1	0.3	0.3						
1988	0.5	0.1	0.2	0.1	0.1	0.3	0.2					
1989	0.6	0.2	0.2	0.1	0.1	0.2	0.3					
1990	0.5	*	0.1	0.1	0.1	*	*					
1991	0.4	0.1	0.2	0.2	0.1	0.1	0.2					
1992	0.6	0.1	0.3	0.2	0.1	0.2	0.1					
1993	0.5	0.1	0.2	0.2	0.1	0.2	*					
1994	0.6	0.1	0.1	0.1	0.2	0.2	0.3	0.3				
1995	1.1	0.5	0.4	0.6	0.1	0.1	0.4	0.2				
1996	1.0	0.7	0.5	0.3	0.3	0.1	0.2	0.2				
1997	1.2	0.4	0.7	0.1	0.3	0.2	0.3	0.1				
1998	1.0	1.1	0.4	0.2	0.3	0.1	0.1	0.1	0.4			
1999	1.1	0.6	0.4	0.5	0.2	0.3	0.1	0.4	*			
2000	1.5	0.7	0.5	0.4	0.3	0.1	0.1	0.1	0.1			
2001	0.9	1.0	0.5	0.5	0.3	0.3	0.2	0.1	0.1			
2002	1.0	0.4	0.1	0.3	0.3	0.1	0.2	0.2	0.3			
2003	0.8	0.4	0.4	0.5	0.1	0.6	0.2	0.3	0.2	0.2		
2004	0.9	0.4	0.5	0.3	0.2	0.1	0.3	0.1	*	0.2		
2005	0.8	0.6	0.7	0.3	0.2	0.4	0.5	*	*	*		
2006	0.8	0.5	0.6	0.3	0.4	*	0.1	0.3	0.2	0.1		
2007	0.9	0.3	0.5	0.3	0.2	0.2	0.2	0.1	0.1	0.1		
2008	0.7	0.6	0.9	0.6	0.3	0.2	0.3	0.1	*	*	0.2	
2009	0.7	0.8	0.7	0.7	0.5	0.3	0.3	0.4	*	0.1	0.3	
2010	0.9	0.4	0.3	0.8	0.6	0.3	0.2	0.3	0.1	*	0.2	
2011	0.8	0.4	0.4	0.6	0.5	0.4	0.3	0.0	0.1	0.1	*	
2012	0.6	0.4	0.6	0.3	0.7	0.3	0.4	0.1	0.1	0.1	0.1	
2013	0.6	0.5	0.8	0.6	0.8	0.6	0.4	0.6	0.2	0.2	0.1	*
2014	0.6	0.2	0.3	0.4	0.7	0.4	0.2	0.6	*	0.1	0.3	0.2
2015	0.5	0.2	0.3	0.8	0.7	0.5	0.6	0.1	*	*	0.3	*
2016	0.3	0.1	0.4	0.5	0.6	0.5	0.5	0.6	*	0.1	0.2	0.1
2017	0.4	*	0.2	0.5	0.4	0.7	0.5	0.1	0.1	0.3	*	0.1

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

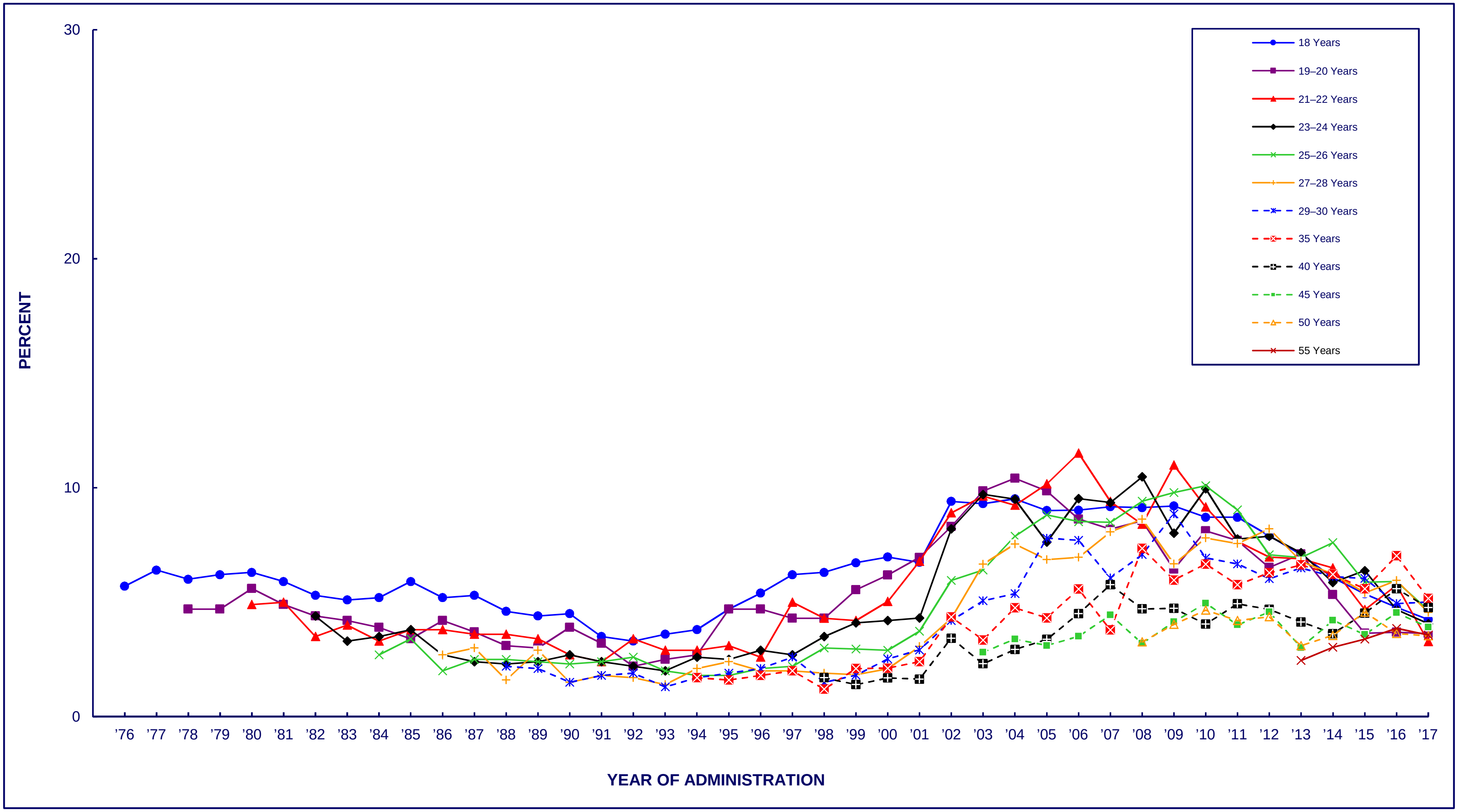
Notes. ' * ' indicates a percentage of less than 0.05%. ' — ' indicates data not availa

FIGURE 5-12

NARCOTICS OTHER THAN HEROIN [a]

Trends in Annual Prevalence

among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

FIGURE 5-12 (cont.)
NARCOTICS OTHER THAN HEROIN [a]
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group

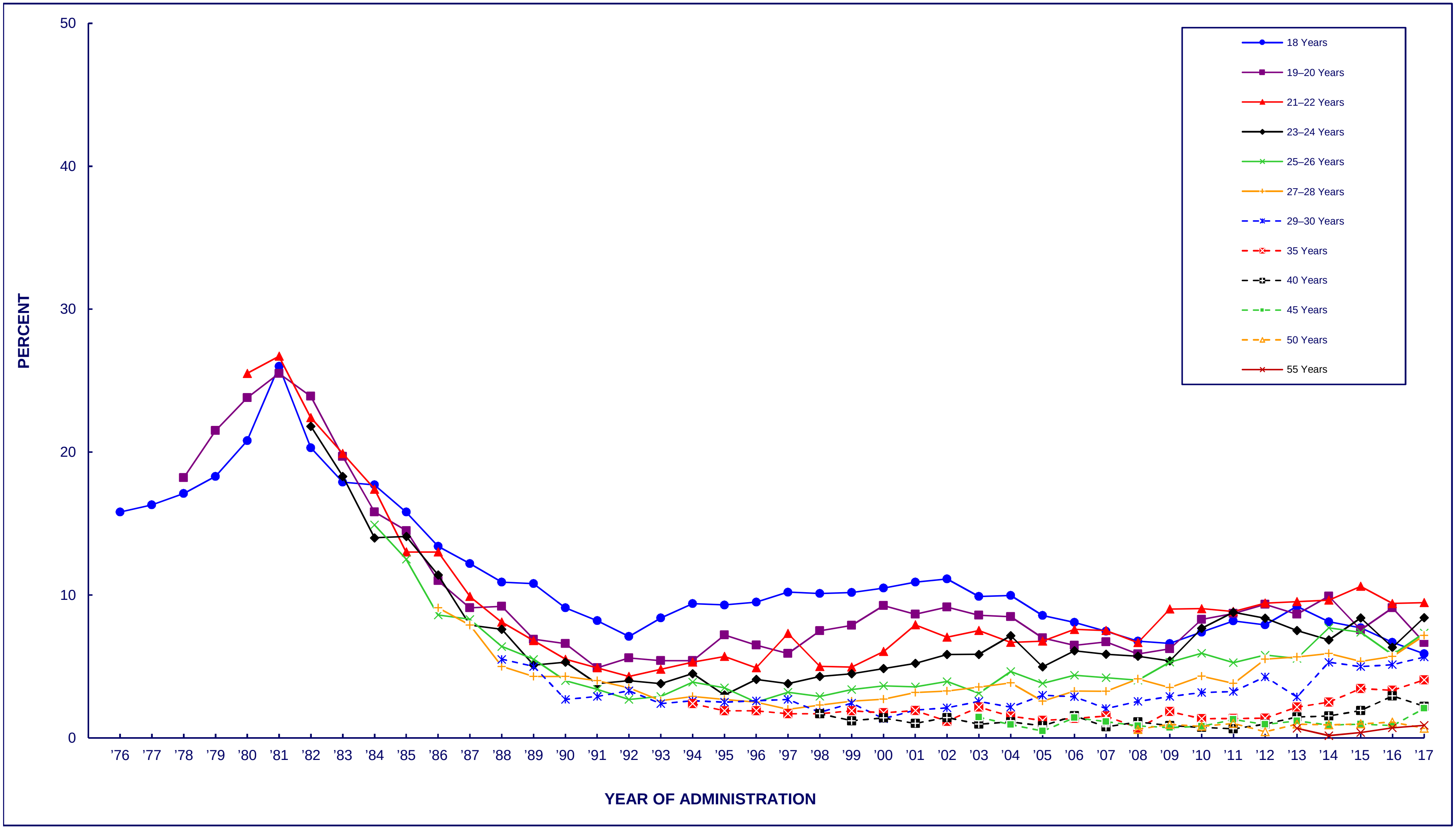
Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	5.7											
1977	6.4											
1978	6.0	4.7										
1979	6.2	4.7										
1980	6.3	5.6	4.9									
1981	5.9	4.9	5.0									
1982	5.3	4.4	3.5	4.4								
1983	5.1	4.2	4.0	3.3								
1984	5.2	3.9	3.3	3.5	2.7							
1985	5.9	3.4	3.8	3.8	3.4							
1986	5.2	4.2	3.8	2.7	2.0	2.7						
1987	5.3	3.7	3.6	2.4	2.5	3.0						
1988	4.6	3.1	3.6	2.3	2.5	1.6	2.2					
1989	4.4	3.0	3.4	2.4	2.4	2.9	2.1					
1990	4.5	3.9	2.7	2.7	2.3	1.5	1.5					
1991	3.5	3.2	2.4	2.4	2.4	1.8	1.8					
1992	3.3	2.2	3.4	2.2	2.6	1.7	1.9					
1993	3.6	2.5	2.9	2.0	2.0	1.4	1.3					
1994	3.8	2.7	2.9	2.6	1.8	2.1	1.7	1.7				
1995	4.7	4.7	3.1	2.5	1.8	2.4	1.9	1.6				
1996	5.4	4.7	2.6	2.9	2.1	2.0	2.1	1.8				
1997	6.2	4.3	5.0	2.7	2.2	2.0	2.6	2.0				
1998	6.3	4.3	4.3	3.5	3.0	1.9	1.5	1.2	1.7			
1999	6.7	5.5	4.2	4.1	3.0	1.8	1.8	2.1	1.4			
2000	7.0	6.2	5.0	4.2	2.9	2.1	2.5	2.1	1.7			
2001	6.7	7.0	6.8	4.3	3.7	3.1	2.9	2.4	1.6			
2002	9.4	8.3	8.9	8.2	6.0	4.3	4.2	4.4	3.4			
2003	9.3	9.9	9.6	9.7	6.4	6.7	5.1	3.4	2.3	2.8		
2004	9.5	10.4	9.2	9.5	7.9	7.5	5.4	4.8	2.9	3.4		
2005	9.0	9.9	10.2	7.6	8.8	6.9	7.8	4.3	3.4	3.1		
2006	9.0	8.6	11.5	9.5	8.5	7.0	7.7	5.6	4.5	3.5		
2007	9.2	8.2	9.4	9.4	8.5	8.1	6.1	3.8	5.8	4.4		
2008	9.1	8.6	8.4	10.5	9.4	8.6	7.1	7.4	4.7	3.2	3.3	
2009	9.2	6.4	11.0	8.0	9.8	6.7	8.9	6.0	4.7	4.1	4.0	
2010	8.7	8.1	9.2	10.0	10.1	7.8	6.9	6.7	4.0	5.0	4.7	
2011	8.7	7.7	7.7	7.8	9.0	7.6	6.7	5.8	4.9	4.0	4.2	
2012	7.9	6.5	7.0	7.9	7.1	8.2	6.0	6.3	4.7	4.6	4.4	
2013	7.1	7.1	6.9	7.2	6.9	6.8	6.5	6.6	4.1	3.0	3.1	2.5
2014	6.1	5.3	6.5	5.9	7.6	6.2	6.1	6.2	3.6	4.2	3.5	3.0
2015	5.4	3.6	4.7	6.4	5.9	5.4	6.0	5.6	4.5	3.6	4.6	3.4
2016	4.8	3.7	5.8	4.7	5.9	5.9	4.9	7.0	5.6	4.5	3.6	3.9
2017	4.2	3.6	3.3	4.1	4.7	4.6	5.0	5.2	4.8	3.9	3.5	3.6

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

Notes. ' — ' indicates data not available.

[a]In 2002 the question text was changed on half of the questionnaire forms for 18- to 30-year-olds. 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 by Vicodin, OxyContin, and Percocet. The 2001 data presented here are based on all forms. The 2002 data are based on the changed forms only. In 2003 the remaining forms were changed to the new wording. The data are based on all forms in 2003. Beginning in 2002 data were based on the changed question text for 35- and 40-year-olds.

FIGURE 5-13
AMPHETAMINES
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

FIGURE 5-13 (cont.)

AMPHETAMINES

Trends in Annual Prevalence among Respondents of Modal Ages 18 through 55, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	15.8											
1977	16.3											
1978	17.1	18.2										
1979	18.3	21.5										
1980	20.8	23.8	25.5									
1981	26.0	25.5	26.7									
1982	20.3	23.9	22.4	21.8								
1983	17.9	19.7	19.9	18.3								
1984	17.7	15.8	17.4	14.0	14.9							
1985	15.8	14.5	13.0	14.1	12.5							
1986	13.4	11.0	13.0	11.4	8.6	9.1						
1987	12.2	9.1	9.9	7.9	8.3	7.9						
1988	10.9	9.2	8.1	7.6	6.4	5.0	5.5					
1989	10.8	6.9	6.8	5.1	5.5	4.3	5.0					
1990	9.1	6.6	5.5	5.3	4.0	4.3	2.7					
1991	8.2	4.9	4.9	3.8	3.4	4.0	2.9					
1992	7.1	5.6	4.3	4.0	2.7	3.5	3.3					
1993	8.4	5.4	4.8	3.8	2.9	2.6	2.4					
1994	9.4	5.4	5.3	4.5	3.9	2.9	2.6	2.4				
1995	9.3	7.2	5.7	3.0	3.5	2.7	2.5	1.9				
1996	9.5	6.5	4.9	4.1	2.5	2.5	2.6	1.9				
1997	10.2	5.9	7.3	3.8	3.2	2.0	2.7	1.7				
1998	10.1	7.5	5.0	4.3	2.9	2.3	1.8	1.7	1.7			
1999	10.2	7.9	5.0	4.5	3.4	2.6	2.4	1.9	1.2			
2000	10.5	9.3	6.0	4.8	3.6	2.7	1.4	1.8	1.4			
2001	10.9	8.7	7.9	5.2	3.6	3.2	1.9	1.9	1.0			
2002	11.1	9.1	7.1	5.8	3.9	3.3	2.1	1.2	1.4			
2003	9.9	8.6	7.5	5.8	3.1	3.6	2.6	2.2	1.0	1.4		
2004	10.0	8.5	6.7	7.1	4.6	3.9	2.2	1.5	1.1	0.9		
2005	8.6	7.0	6.8	5.0	3.8	2.6	3.0	1.2	0.8	0.5		
2006	8.1	6.5	7.6	6.1	4.4	3.3	2.9	1.4	1.6	1.4		
2007	7.5	6.7	7.5	5.9	4.2	3.3	2.1	1.5	0.8	1.1		
2008	6.8	5.9	6.7	5.7	4.0	4.1	2.6	0.7	1.1	0.9	0.6	
2009	6.6	6.2	9.0	5.4	5.3	3.5	2.9	1.9	0.9	0.7	1.0	
2010	7.4	8.3	9.0	7.7	5.9	4.3	3.2	1.3	0.7	0.8	0.8	
2011	8.2	8.7	8.8	8.8	5.3	3.8	3.2	1.4	0.6	1.3	1.0	
2012	7.9	9.3	9.4	8.4	5.8	5.5	4.3	1.4	1.0	1.0	0.4	
2013	9.2	8.6	9.5	7.5	5.6	5.7	2.9	2.2	1.5	1.2	1.0	0.7
2014	8.1	9.9	9.6	6.9	7.7	5.9	5.3	2.5	1.5	0.9	0.9	0.2
2015	7.7	7.6	10.6	8.4	7.4	5.4	5.0	3.5	1.9	1.0	1.0	0.4
2016	6.7	9.1	9.4	6.3	5.8	5.7	5.1	3.3	2.9	0.9	1.1	0.7
2017	5.9	6.7	9.5	8.4	7.3	7.2	5.7	4.1	2.2	2.1	0.7	0.9

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

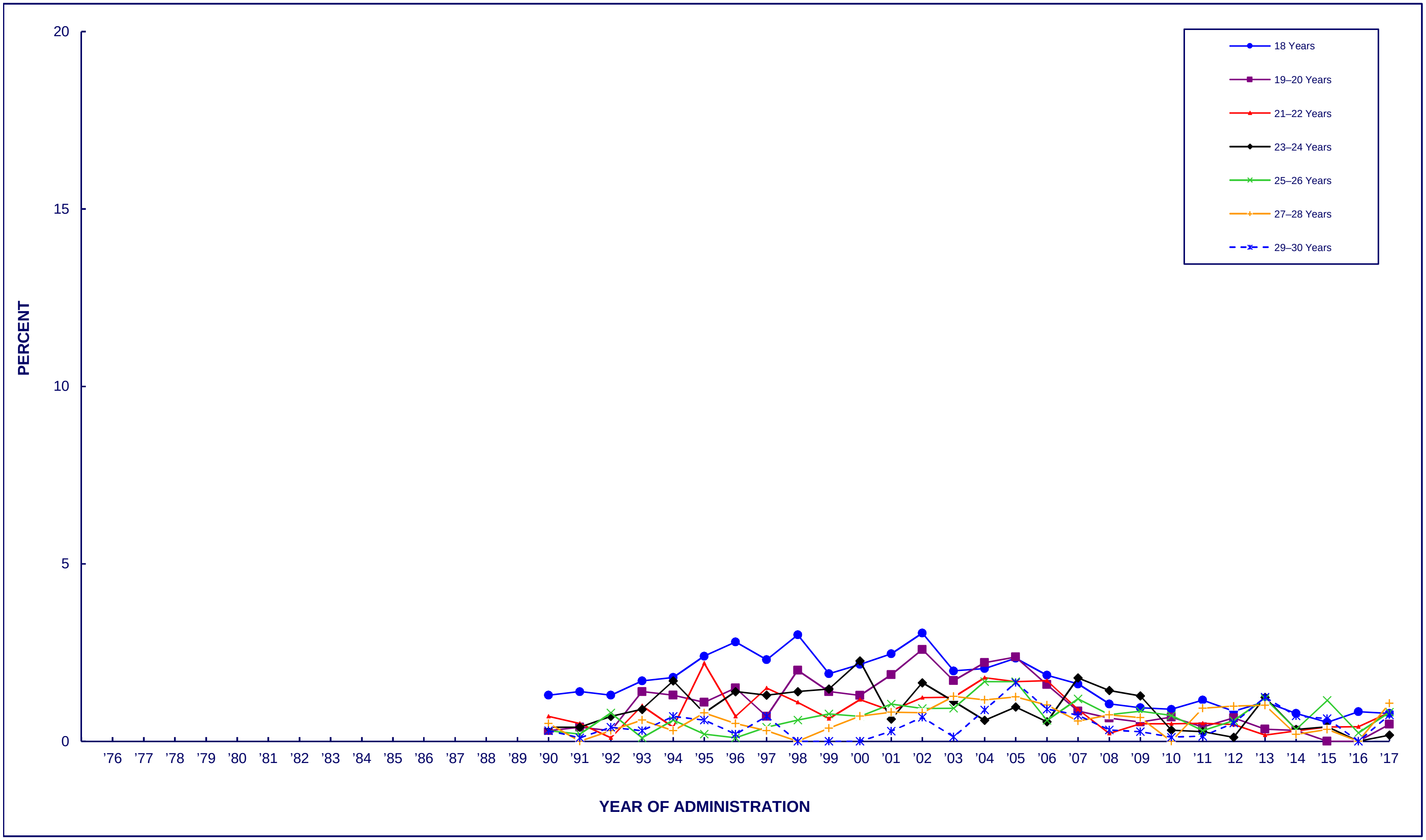
Notes. ' — ' indicates data not available.

FIGURE 5-14

CRYSTAL METHAMPHETAMINE (ICE)

Trends in Annual Prevalence

among Respondents of Modal Ages 18 through 32, [a] by Age Group



(Figure continued on next page.)

FIGURE 5-14 (cont.)
CRYSTAL METHAMPHETAMINE (ICE)
Trends in Annual Prevalence among Respondents of Modal Ages 18 through 32, [a] by Age Group

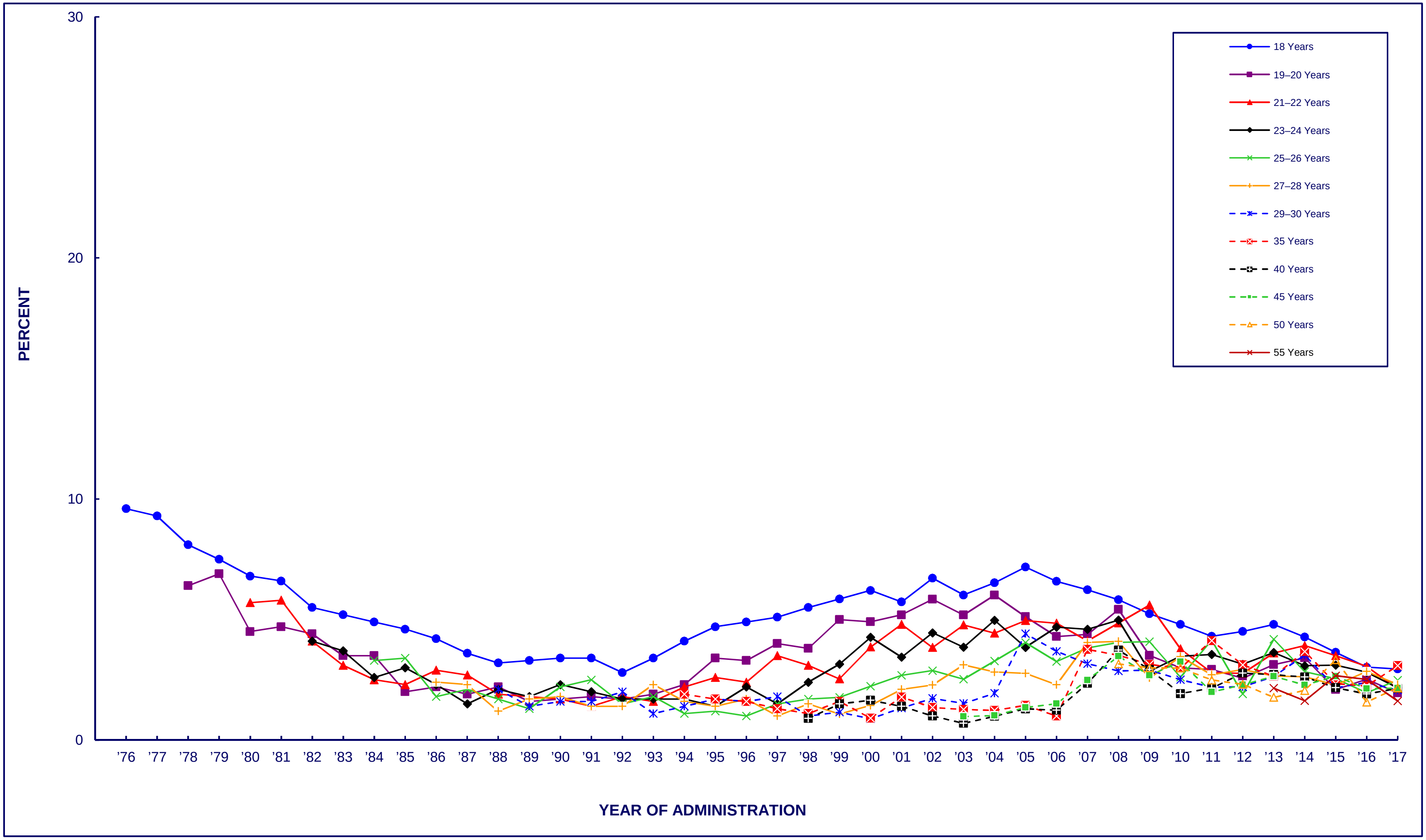
Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30
1976							
1977							
1978							
1979							
1980							
1981							
1982							
1983							
1984							
1985							
1986							
1987							
1988							
1989							
1990	1.3	0.3	0.7	0.4	0.3	0.5	0.3
1991	1.4	0.4	0.5	0.4	0.2	*	0.1
1992	1.3	0.3	0.1	0.7	0.8	0.3	0.4
1993	1.7	1.4	1.0	0.9	0.1	0.6	0.3
1994	1.8	1.3	0.4	1.7	0.6	0.3	0.7
1995	2.4	1.1	2.2	0.8	0.2	0.8	0.6
1996	2.8	1.5	0.7	1.4	0.1	0.5	0.2
1997	2.3	0.7	1.5	1.3	0.4	0.3	0.7
1998	3.0	2.0	1.1	1.4	0.6	*	*
1999	1.9	1.4	0.6	1.5	0.8	0.4	*
2000	2.2	1.3	1.2	2.3	0.7	0.7	*
2001	2.5	1.9	0.9	0.6	1.1	0.8	0.3
2002	3.0	2.6	1.2	1.6	0.9	0.8	0.7
2003	3.0	2.6	1.2	1.6	0.9	0.8	0.7
2004	2.0	1.7	1.2	1.1	0.9	1.3	0.1
2005	2.3	2.4	1.7	1.0	1.7	1.3	1.7
2006	1.9	1.6	1.7	0.5	0.6	1.0	0.9
2007	1.6	0.9	0.9	1.8	1.2	0.6	0.7
2008	1.1	0.7	0.2	1.4	0.8	0.7	0.3
2009	0.9	0.5	0.5	1.3	0.8	0.7	0.3
2010	0.9	0.7	0.5	0.3	0.7	*	0.1
2011	1.2	0.4	0.5	0.3	0.3	0.9	0.1
2012	0.8	0.7	0.5	0.1	0.6	1.0	0.5
2013	1.1	0.3	0.2	1.2	1.2	1.0	1.2
2014	0.8	0.3	0.3	0.3	0.3	0.2	0.7
2015	0.5	*	0.4	0.4	1.2	0.3	0.6
2016	0.8	*	0.4	*	0.2	*	*
2017	0.8	0.5	0.8	0.2	0.8	1.1	0.7

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

Notes. ' * ' indicates a percentage of less than 0.05%. ' — ' indicates data not available.

[a]Questions about use of crystal methamphetamine were not included in the questionnaires administered to the 35-, 40-, 45-, and 50-year-olds.

FIGURE 5-15
SEDATIVES (BARBITURATES)
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

FIGURE 5-15 (cont.)

SEDATIVES (BARBITURATES)

Trends in Annual Prevalence among Respondents of Modal Ages 18 through 55, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	9.6											
1977	9.3											
1978	8.1	6.4										
1979	7.5	6.9										
1980	6.8	4.5	5.7									
1981	6.6	4.7	5.8									
1982	5.5	4.4	4.1	4.1								
1983	5.2	3.5	3.1	3.7								
1984	4.9	3.5	2.5	2.6	3.3							
1985	4.6	2.0	2.3	3.0	3.4							
1986	4.2	2.2	2.9	2.3	1.8	2.4						
1987	3.6	1.9	2.7	1.5	2.1	2.3						
1988	3.2	2.2	1.9	2.1	1.7	1.2	2.1					
1989	3.3	1.6	1.8	1.8	1.3	1.7	1.4					
1990	3.4	1.7	1.7	2.3	2.2	1.8	1.6					
1991	3.4	1.8	1.4	2.0	2.5	1.4	1.6					
1992	2.8	1.7	1.8	1.7	1.5	1.4	2.0					
1993	3.4	1.9	1.6	1.7	1.8	2.3	1.1					
1994	4.1	2.3	2.2	1.7	1.1	1.6	1.4	1.9				
1995	4.7	3.4	2.6	1.4	1.2	1.4	1.7	1.7				
1996	4.9	3.3	2.4	2.2	1.0	1.7	1.6	1.6				
1997	5.1	4.0	3.5	1.5	1.5	1.0	1.8	1.3				
1998	5.5	3.8	3.1	2.4	1.7	1.5	1.0	1.1	0.9			
1999	5.8	5.0	2.5	3.2	1.8	1.1	1.2	1.6	1.5			
2000	6.2	4.9	3.9	4.3	2.2	1.4	0.9	0.9	1.6			
2001	5.7	5.2	4.8	3.4	2.7	2.1	1.3	1.8	1.4			
2002	6.7	5.8	3.8	4.4	2.9	2.3	1.7	1.4	1.0			
2003	6.0	5.2	4.8	3.9	2.5	3.1	1.5	1.3	0.7	1.0		
2004	6.5	6.0	4.4	5.0	3.3	2.8	1.9	1.2	1.0	1.0		
2005	7.2	5.1	5.0	3.8	4.0	2.8	4.4	1.4	1.3	1.4		
2006	6.6	4.3	4.8	4.7	3.3	2.3	3.7	1.0	1.2	1.5		
2007	6.2	4.4	4.1	4.6	3.8	4.0	3.2	3.8	2.4	2.5		
2008	5.8	5.4	4.9	5.0	4.0	4.1	2.9	3.5	3.7	3.5	3.2	
2009	5.2	3.5	5.6	2.9	4.1	2.6	2.9	3.1	2.9	2.7	3.0	
2010	4.8	3.0	3.8	3.5	2.6	3.5	2.5	3.0	1.9	3.2	3.0	
2011	4.3	2.9	2.8	3.5	4.1	2.7	2.2	4.1	2.2	2.0	2.5	
2012	4.5	2.6	2.8	3.1	1.9	2.9	2.2	3.1	2.8	2.3	2.3	
2013	4.8	3.1	3.6	3.6	4.2	2.7	2.6	2.6	2.7	2.7	1.8	2.2
2014	4.3	3.4	3.9	3.1	2.8	2.6	3.5	3.7	2.6	2.3	2.1	1.6
2015	3.6	2.1	3.5	3.1	2.5	2.3	2.2	2.3	2.2	2.7	3.3	2.7
2016	3.0	2.5	3.1	2.8	2.0	2.9	2.4	2.2	1.9	2.1	1.6	2.5
2017	2.9	2.0	2.1	2.2	2.5	2.3	2.1	3.1	2.1	2.2	2.2	1.6

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

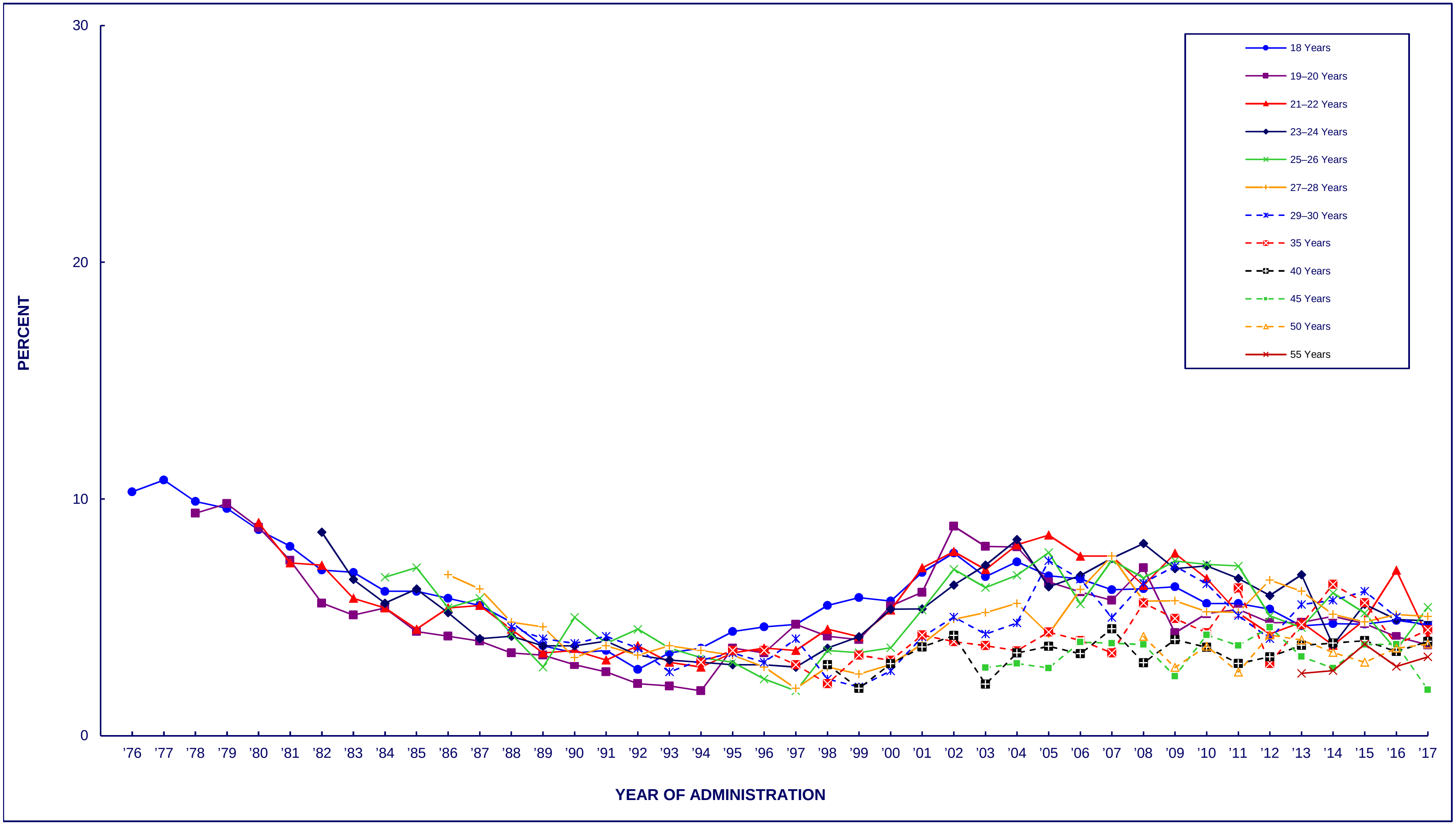
Notes. ' — ' indicates data not available.

FIGURE 5-16

TRANQUILIZERS

Trends in Annual Prevalence

among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

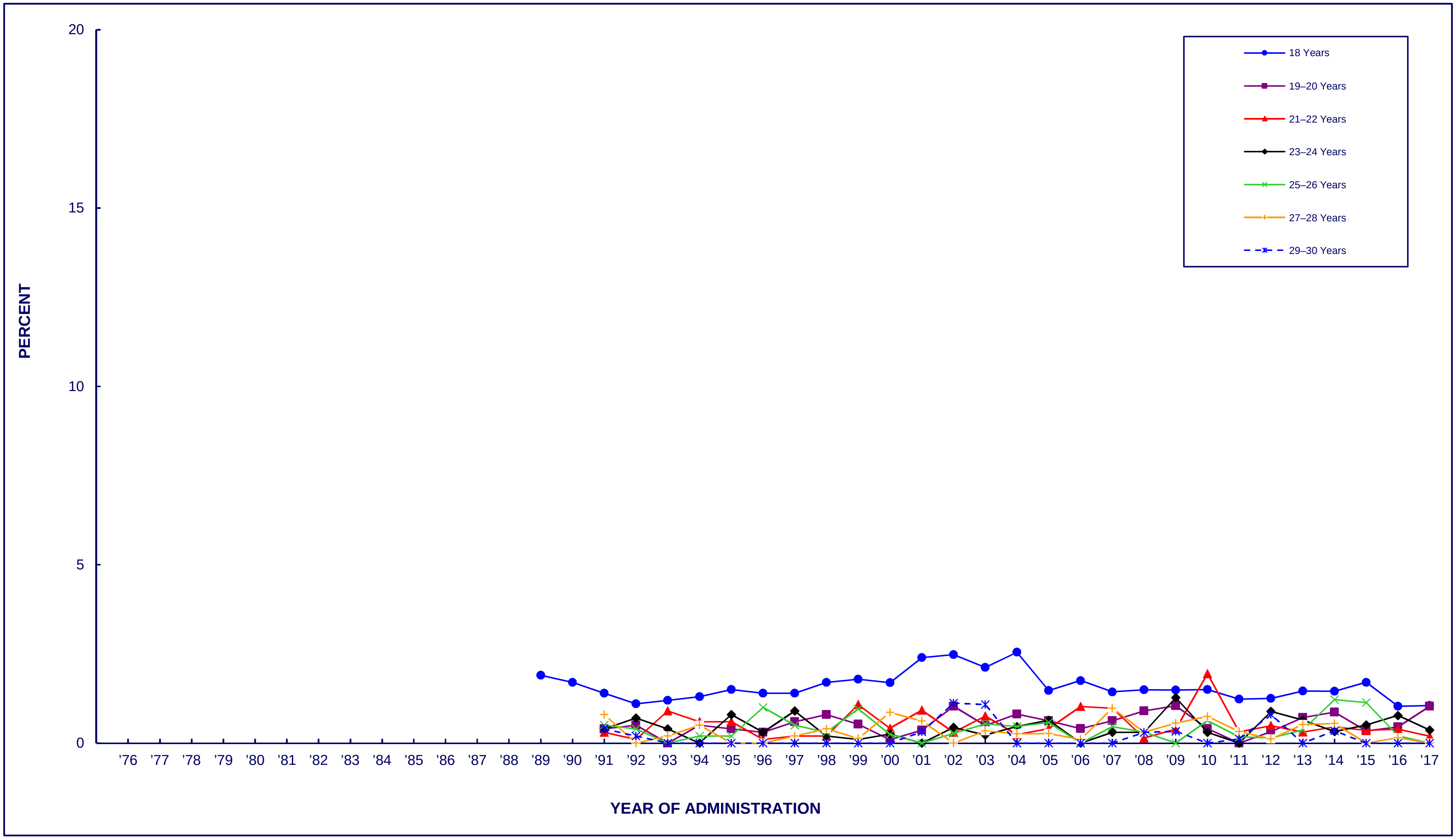
FIGURE 5-16 (cont.)
TRANQUILIZERS
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	10.3											
1977	10.8											
1978	9.9	9.4										
1979	9.6	9.8										
1980	8.7	8.8	9.0									
1981	8.0	7.4	7.3									
1982	7.0	5.6	7.2	8.6								
1983	6.9	5.1	5.8	6.6								
1984	6.1	5.4	5.4	5.6	6.7							
1985	6.1	4.4	4.5	6.2	7.1							
1986	5.8	4.2	5.4	5.2	5.4	6.8						
1987	5.5	4.0	5.5	4.1	5.8	6.2						
1988	4.8	3.5	4.5	4.2	4.3	4.8	4.6					
1989	3.8	3.4	3.5	3.8	2.9	4.6	4.1					
1990	3.5	3.0	3.6	3.8	5.0	3.3	3.9					
1991	3.6	2.7	3.2	4.0	3.9	3.8	4.2					
1992	2.8	2.2	3.8	3.4	4.5	3.4	3.7					
1993	3.5	2.1	3.1	3.2	3.7	3.8	2.7					
1994	3.7	1.9	2.9	3.1	3.3	3.6	3.2	3.1				
1995	4.4	3.7	3.5	3.0	3.1	3.4	3.5	3.6				
1996	4.6	3.5	3.7	3.0	2.4	2.9	3.1	3.6				
1997	4.7	4.7	3.6	2.9	1.9	2.0	4.1	3.0				
1998	5.5	4.2	4.5	3.7	3.6	2.9	2.4	2.2	3.0			
1999	5.8	4.1	4.2	4.2	3.5	2.6	2.1	3.4	2.0			
2000	5.7	5.5	5.3	5.3	3.7	3.0	2.7	3.2	3.0			
2001	6.9	6.1	7.1	5.4	5.3	3.9	4.2	4.3	3.7			
2002	7.7	8.8	7.8	6.4	7.0	4.9	5.0	4.0	4.2			
2003	6.7	8.0	7.0	7.2	6.3	5.2	4.3	3.8	2.2	2.9		
2004	7.3	8.0	8.1	8.3	6.8	5.6	4.8	3.6	3.5	3.1		
2005	6.8	6.5	8.5	6.3	7.7	4.3	7.4	4.4	3.8	2.9		
2006	6.6	6.1	7.6	6.8	5.6	6.2	6.6	4.0	3.5	4.0		
2007	6.2	5.7	7.6	7.5	7.4	7.6	5.0	3.5	4.5	3.9		
2008	6.2	7.1	6.3	8.1	6.7	5.7	6.5	5.6	3.1	3.8	4.2	
2009	6.3	4.3	7.7	7.1	7.4	5.7	7.2	5.0	4.1	2.5	2.9	
2010	5.6	5.2	6.6	7.2	7.2	5.2	6.4	4.4	3.7	4.3	3.8	
2011	5.6	5.3	5.2	6.6	7.2	5.2	5.1	6.2	3.0	3.8	2.7	
2012	5.3	4.8	4.3	5.9	5.1	6.6	4.1	3.1	3.3	4.6	4.3	
2013	4.6	4.8	4.8	6.8	4.6	6.1	5.5	4.7	3.8	3.3	4.1	2.6
2014	4.7	5.0	3.8	3.8	6.0	5.1	5.7	6.4	3.9	2.9	3.5	2.7
2015	4.7	4.7	4.9	5.6	5.2	4.8	6.1	5.6	4.0	3.8	3.1	3.9
2016	4.9	4.2	7.0	4.9	3.6	5.1	5.0	3.9	3.6	3.9	3.7	2.9
2017	4.7	3.8	4.2	4.9	5.4	5.0	4.6	4.5	4.0	1.9	3.9	3.3

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

Notes. ' — ' indicates data not available.

FIGURE 5-17
STEROIDS
Trends in Annual Prevalence
among Respondents of Modal Ages 18 through 32, [a] by Age Group



(Figure continued on next page.)

FIGURE 5-17 (cont.)
STEROIDS
Trends in Annual Prevalence among Respondents of Modal Ages 18 through 32, [a] by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30
1976							
1977							
1978							
1979							
1980							
1981							
1982							
1983							
1984							
1985							
1986							
1987							
1988							
1989	1.9						
1990	1.7						
1991	1.4	0.4	0.3	0.4	0.5	0.8	0.4
1992	1.1	0.5	0.1	0.7	0.4	*	0.2
1993	1.2	*	0.9	0.4	*	0.2	*
1994	1.3	0.5	0.6	*	0.2	0.5	*
1995	1.5	0.4	0.6	0.8	0.2	*	*
1996	1.4	0.3	0.1	0.3	1.0	*	*
1997	1.4	0.6	0.2	0.9	0.5	0.2	*
1998	1.7	0.8	0.2	0.2	0.3	0.4	*
1999	1.8	0.5	1.1	0.1	1.0	0.1	*
2000	1.7	0.1	0.4	0.3	0.2	0.9	*
2001	2.4	0.4	0.9	*	*	0.6	0.3
2002	2.5	1.0	0.3	0.4	0.3	*	1.1
2003	2.1	0.5	0.8	0.2	0.5	0.3	1.1
2004	2.5	0.8	0.2	0.5	0.5	0.3	*
2005	1.5	0.6	0.4	0.6	0.6	0.3	*
2006	1.8	0.4	1.0	*	*	0.1	*
2007	1.4	0.6	1.0	0.3	0.5	1.0	*
2008	1.5	0.9	0.1	0.3	0.3	0.3	0.3
2009	1.5	1.0	0.4	1.3	*	0.6	0.3
2010	1.5	0.4	1.9	0.3	0.6	0.7	*
2011	1.2	*	0.3	*	0.2	0.3	0.1
2012	1.3	0.3	0.5	0.9	0.1	0.1	0.8
2013	1.5	0.7	0.3	0.6	0.4	0.5	*
2014	1.5	0.9	0.5	0.3	1.2	0.5	0.3
2015	1.7	0.3	0.4	0.5	1.1	*	*
2016	1.0	0.5	0.4	0.8	0.2	0.1	*
2017	1.1	1.0	0.2	0.4	*	*	*

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

Notes. ' * ' indicates a percentage of less than 0.05%. ' — ' indicates data not availa

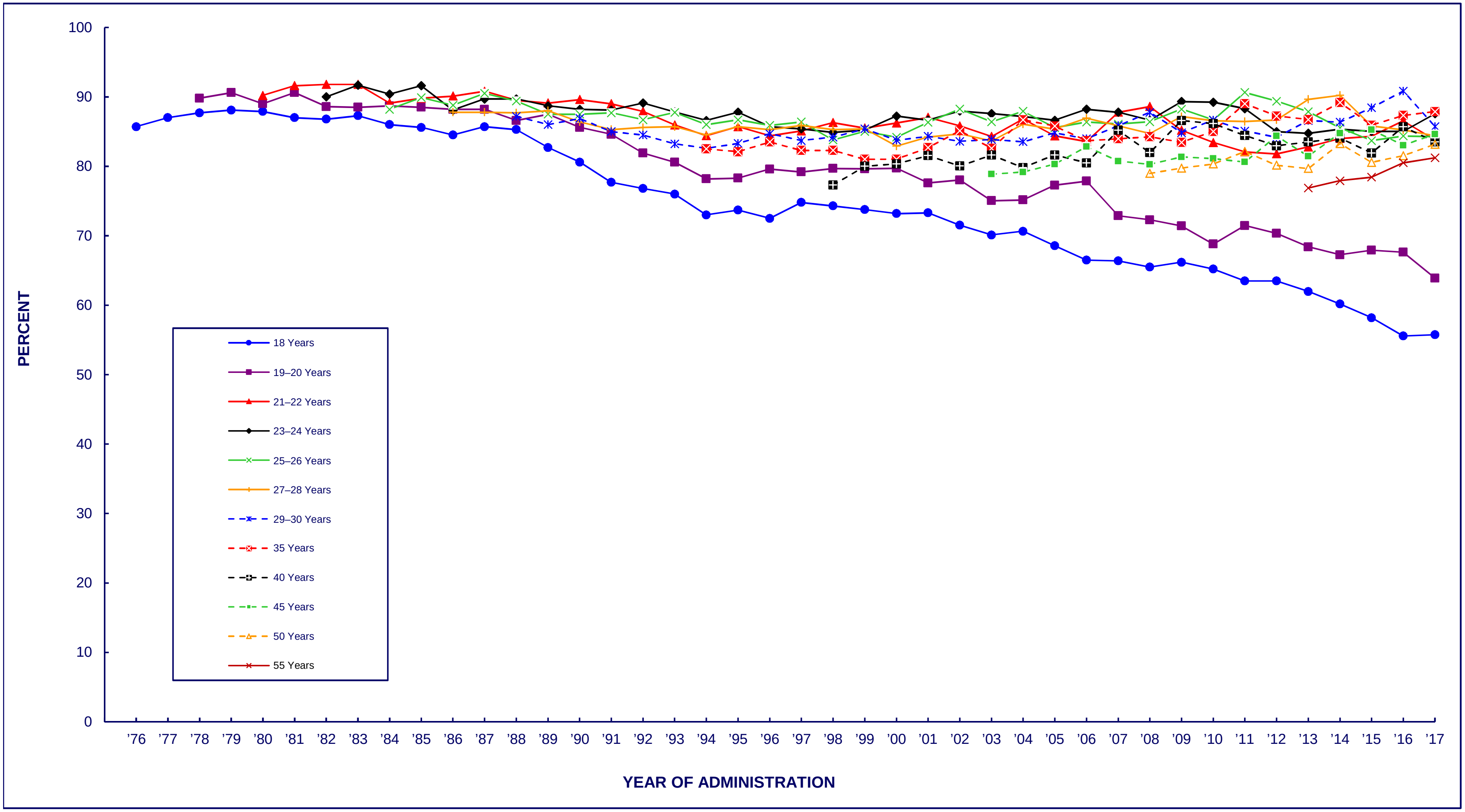
[a]Questions about the use of steroids were not included in the questionnaires administered to the 35-, 40-, 45-, and 50-year-olds.

FIGURE 5-18a

ALCOHOL

Trends in Annual Prevalence

among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

FIGURE 5-18a (cont.)

ALCOHOL

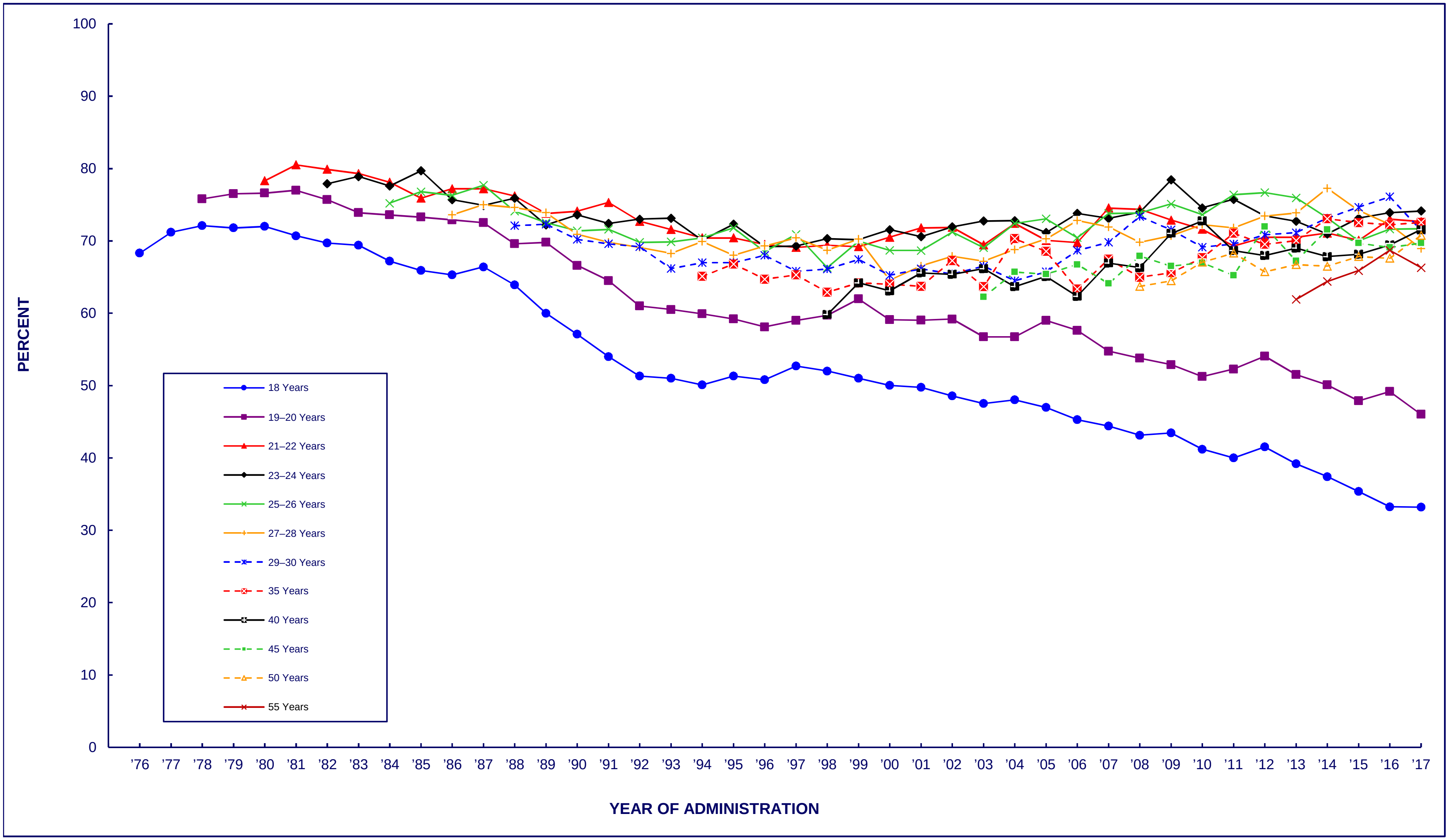
Trends in Annual Prevalence among Respondents of Modal Ages 18 through 55, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	85.7											
1977	87.0											
1978	87.7	89.8										
1979	88.1	90.6										
1980	87.9	89.0	90.2									
1981	87.0	90.6	91.6									
1982	86.8	88.6	91.8	90.0								
1983	87.3	88.5	91.8	91.7								
1984	86.0	88.7	89.1	90.4	88.2							
1985	85.6	88.5	89.8	91.6	89.9							
1986	84.5	88.2	90.1	88.1	88.8	87.8						
1987	85.7	88.2	90.8	89.7	90.5	87.8						
1988	85.3	86.6	89.5	89.7	89.4	87.7	87.2					
1989	82.7	87.5	89.1	88.7	87.5	88.0	86.0					
1990	80.6	85.6	89.6	88.2	87.5	86.4	86.9					
1991	77.7	84.6	89.0	88.1	87.7	85.3	85.0					
1992	76.8	81.9	87.9	89.1	86.7	85.6	84.5					
1993	76.0	80.6	85.9	87.8	87.8	85.7	83.2					
1994	73.0	78.2	84.4	86.6	86.0	84.5	82.6	82.5				
1995	73.7	78.3	85.7	87.8	86.7	85.7	83.3	82.1				
1996	72.5	79.6	84.4	85.7	85.9	85.3	84.7	83.5				
1997	74.8	79.2	85.1	85.4	86.4	85.9	83.7	82.3				
1998	74.3	79.7	86.3	84.9	83.8	85.3	84.2	82.3	77.3			
1999	73.8	79.6	85.5	85.2	85.0	85.4	85.4	81.0	80.0			
2000	73.2	79.7	86.2	87.2	84.2	82.9	83.7	81.0	80.3			
2001	73.3	77.6	87.0	86.7	86.3	84.2	84.3	82.7	81.5			
2002	71.5	78.0	85.8	88.0	88.3	84.7	83.6	85.1	80.0			
2003	70.1	75.0	84.3	87.6	86.4	83.6	83.9	82.6	81.6	78.9		
2004	70.6	75.2	86.8	87.2	87.9	86.1	83.5	86.7	79.8	79.2		
2005	68.6	77.3	84.4	86.6	85.6	85.3	84.8	85.8	81.6	80.3		
2006	66.5	77.9	83.6	88.2	86.4	86.9	84.0	83.7	80.5	82.8		
2007	66.4	72.9	87.8	87.8	86.1	85.8	85.9	84.0	85.2	80.7		
2008	65.5	72.3	88.6	86.6	86.4	84.7	87.8	84.3	82.0	80.3	79.0	
2009	66.2	71.4	85.2	89.3	88.2	87.2	84.8	83.5	86.6	81.3	79.7	
2010	65.2	68.8	83.4	89.2	86.7	86.6	86.7	85.0	86.1	81.1	80.3	
2011	63.5	71.5	82.1	88.3	90.6	86.4	85.1	89.0	84.4	80.6	82.1	
2012	63.5	70.3	81.8	85.0	89.4	86.7	84.2	87.2	83.0	84.4	80.2	
2013	62.0	68.4	82.8	84.7	87.9	89.6	86.6	86.7	83.5	81.5	79.7	76.9
2014	60.2	67.3	84.0	85.3	85.5	90.2	86.4	89.2	84.1	84.8	83.3	77.9
2015	58.2	67.9	84.3	85.0	83.7	85.8	88.4	85.9	81.9	85.3	80.6	78.4
2016	55.6	67.6	86.5	85.0	84.4	85.2	90.8	87.3	85.7	83.0	81.5	80.5
2017	55.7	63.9	83.8	87.6	84.3	84.4	85.7	87.9	83.5	84.6	83.2	81.2

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

Notes. ' — ' indicates data not available.

FIGURE 5-18b
ALCOHOL
Trends in 30-Day Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

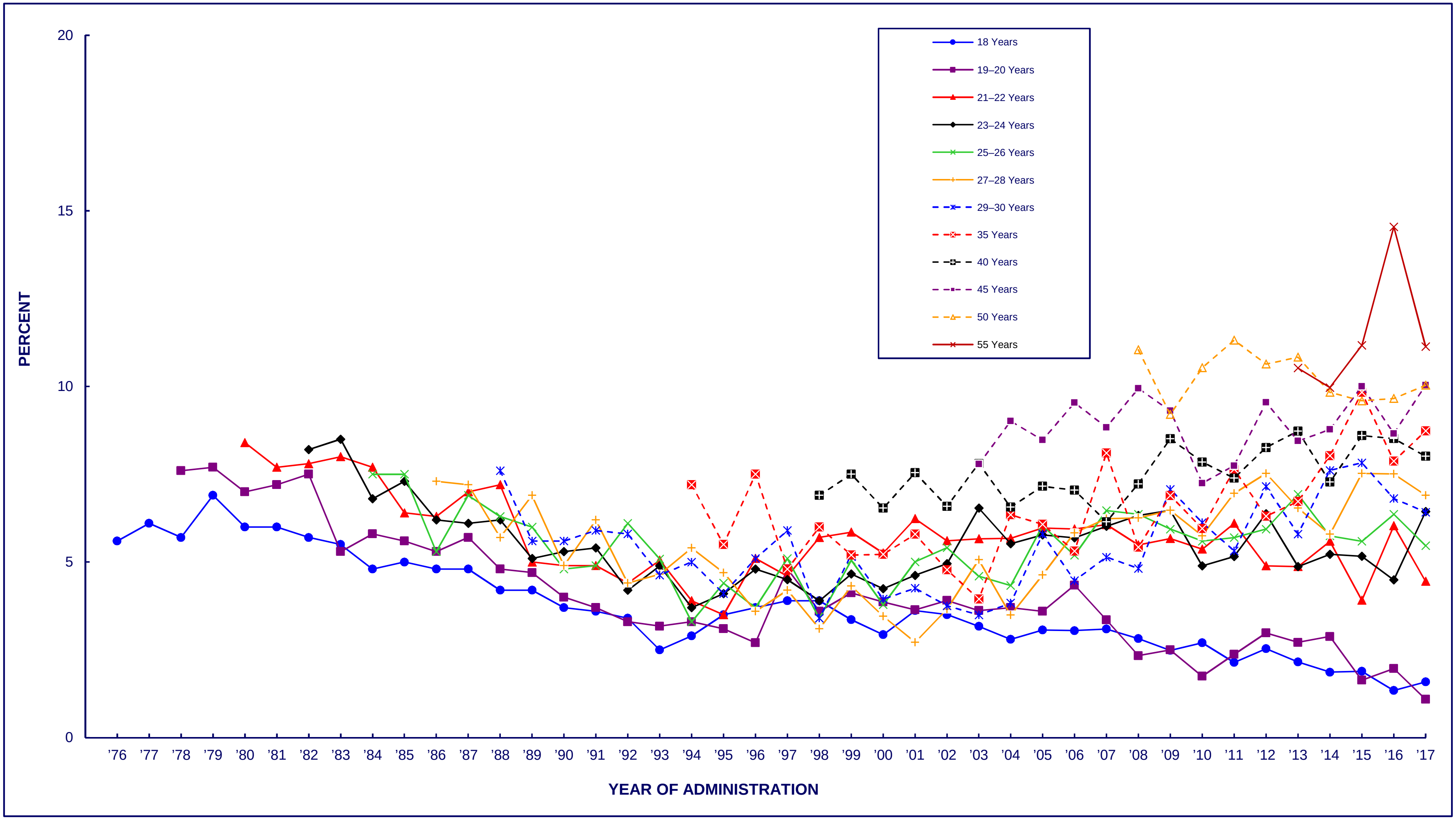
FIGURE 5-18b (cont.)
ALCOHOL
Trends in 30-Day Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	68.3											
1977	71.2											
1978	72.1	75.8										
1979	71.8	76.5										
1980	72.0	76.6	78.3									
1981	70.7	77.0	80.5									
1982	69.7	75.7	79.9	77.9								
1983	69.4	73.9	79.3	78.9								
1984	67.2	73.6	78.1	77.6	75.2							
1985	65.9	73.3	75.9	79.7	76.8							
1986	65.3	72.9	77.2	75.7	76.3	73.6						
1987	66.4	72.5	77.2	74.9	77.7	75.0						
1988	63.9	69.6	76.2	75.9	74.1	74.6	72.1					
1989	60.0	69.8	73.8	72.2	72.5	73.9	72.3					
1990	57.1	66.6	74.1	73.6	71.4	70.9	70.2					
1991	54.0	64.5	75.3	72.4	71.6	69.8	69.6					
1992	51.3	61.0	72.7	73.0	69.8	69.1	69.2					
1993	51.0	60.5	71.6	73.1	69.9	68.3	66.2					
1994	50.1	59.9	70.4	70.1	70.4	69.9	67.0	65.1				
1995	51.3	59.2	70.4	72.3	71.8	68.0	67.0	66.8				
1996	50.8	58.1	69.5	69.2	68.5	69.3	68.0	64.7				
1997	52.7	59.0	69.1	69.3	70.9	70.4	65.8	65.3				
1998	52.0	59.7	69.4	70.3	66.3	68.7	66.1	62.9	59.8			
1999	51.0	62.0	69.2	70.2	70.0	70.2	67.4	64.2	64.2			
2000	50.0	59.1	70.5	71.5	68.7	64.6	65.2	64.0	63.1			
2001	49.8	59.0	71.8	70.6	68.7	66.5	66.2	63.7	65.6			
2002	48.6	59.2	71.9	71.9	71.2	67.9	65.4	67.3	65.4			
2003	47.5	56.7	69.5	72.7	69.1	67.2	66.5	63.7	66.2	62.2		
2004	48.0	56.7	72.4	72.8	72.4	68.8	64.5	70.3	63.7	65.7		
2005	47.0	59.0	70.1	71.2	73.0	70.3	65.7	68.5	65.1	65.4		
2006	45.3	57.6	69.7	73.8	70.4	72.8	68.7	63.3	62.3	66.7		
2007	44.4	54.7	74.5	73.1	73.8	71.9	69.8	67.5	66.9	64.1		
2008	43.1	53.8	74.4	74.0	73.9	69.8	73.4	65.0	66.3	67.9	63.7	
2009	43.5	52.9	72.9	78.4	75.1	70.7	71.5	65.6	71.0	66.5	64.5	
2010	41.2	51.2	71.6	74.6	73.6	72.2	69.1	67.7	72.7	67.0	67.1	
2011	40.0	52.3	69.3	75.7	76.4	71.8	69.6	71.1	68.6	65.2	68.3	
2012	41.5	54.1	70.5	73.5	76.7	73.4	70.8	69.5	68.0	72.0	65.7	
2013	39.2	51.5	70.5	72.7	75.9	73.9	71.1	70.0	69.0	67.2	66.7	61.9
2014	37.4	50.1	71.1	71.0	73.2	77.3	73.2	73.1	67.8	71.6	66.5	64.4
2015	35.3	47.9	70.1	73.1	70.0	74.2	74.7	72.5	68.1	69.7	67.8	65.9
2016	33.2	49.2	73.0	73.9	71.6	72.3	76.1	72.2	69.4	69.1	67.6	68.7
2017	33.2	46.0	72.7	74.1	71.7	68.9	71.5	72.5	71.5	69.7	70.8	66.3

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

Notes. ' — ' indicates data not available.

FIGURE 5-18c
ALCOHOL
Trends in 30-Day Prevalence of Daily Use
among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

FIGURE 5-18c (cont.)

ALCOHOL

Trends in 30-Day Prevalence of Daily Use among Respondents of Modal Ages 18 through 55, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	5.6											
1977	6.1											
1978	5.7	7.6										
1979	6.9	7.7										
1980	6.0	7.0	8.4									
1981	6.0	7.2	7.7									
1982	5.7	7.5	7.8	8.2								
1983	5.5	5.3	8.0	8.5								
1984	4.8	5.8	7.7	6.8	7.5							
1985	5.0	5.6	6.4	7.3	7.5							
1986	4.8	5.3	6.3	6.2	5.3	7.3						
1987	4.8	5.7	7.0	6.1	6.9	7.2						
1988	4.2	4.8	7.2	6.2	6.3	5.7	7.6					
1989	4.2	4.7	5.0	5.1	6.0	6.9	5.6					
1990	3.7	4.0	4.9	5.3	4.8	4.9	5.6					
1991	3.6	3.7	4.9	5.4	4.9	6.2	5.9					
1992	3.4	3.3	4.4	4.2	6.1	4.4	5.8					
1993	2.5	3.2	5.1	4.9	5.1	4.7	4.6					
1994	2.9	3.3	3.9	3.7	3.3	5.4	5.0	7.2				
1995	3.5	3.1	3.5	4.1	4.4	4.7	4.1	5.5				
1996	3.7	2.7	5.1	4.8	3.7	3.6	5.1	7.5				
1997	3.9	4.8	4.6	4.5	5.1	4.2	5.9	4.8				
1998	3.9	3.6	5.7	3.9	3.4	3.1	3.4	6.0	6.9			
1999	3.4	4.1	5.9	4.7	5.1	4.3	5.2	5.2	7.5			
2000	2.9	3.9	5.3	4.2	3.8	3.5	3.9	5.2	6.5			
2001	3.6	3.6	6.2	4.6	5.0	2.7	4.3	5.8	7.5			
2002	3.5	3.9	5.6	5.0	5.4	3.7	3.8	4.8	6.6			
2003	3.2	3.6	5.7	6.5	4.6	5.1	3.5	3.9	7.8	7.8		
2004	2.8	3.7	5.7	5.5	4.3	3.5	3.8	6.3	6.6	9.0		
2005	3.1	3.6	6.0	5.8	6.0	4.6	5.8	6.1	7.2	8.5		
2006	3.0	4.3	5.9	5.7	5.2	5.8	4.5	5.3	7.0	9.5		
2007	3.1	3.4	6.1	6.0	6.5	6.2	5.1	8.1	6.1	8.8		
2008	2.8	2.3	5.5	6.3	6.4	6.3	4.8	5.4	7.2	9.9	11.0	
2009	2.5	2.5	5.7	6.5	5.9	6.5	7.1	6.9	8.5	9.3	9.2	
2010	2.7	1.8	5.4	4.9	5.6	5.7	6.1	6.0	7.8	7.2	10.5	
2011	2.1	2.4	6.1	5.2	5.7	7.0	5.3	7.6	7.4	7.7	11.3	
2012	2.5	3.0	4.9	6.4	5.9	7.5	7.2	6.3	8.3	9.5	10.6	
2013	2.2	2.7	4.9	4.9	6.9	6.5	5.8	6.7	8.7	8.4	10.8	10.5
2014	1.9	2.9	5.6	5.2	5.7	5.8	7.6	8.0	7.3	8.8	9.8	10.0
2015	1.9	1.6	3.9	5.2	5.6	7.5	7.8	9.8	8.6	10.0	9.6	11.2
2016	1.3	2.0	6.0	4.5	6.4	7.5	6.8	7.9	8.5	8.7	9.7	14.5
2017	1.6	1.1	4.4	6.4	5.5	6.9	6.4	8.7	8.0	10.0	10.0	11.1

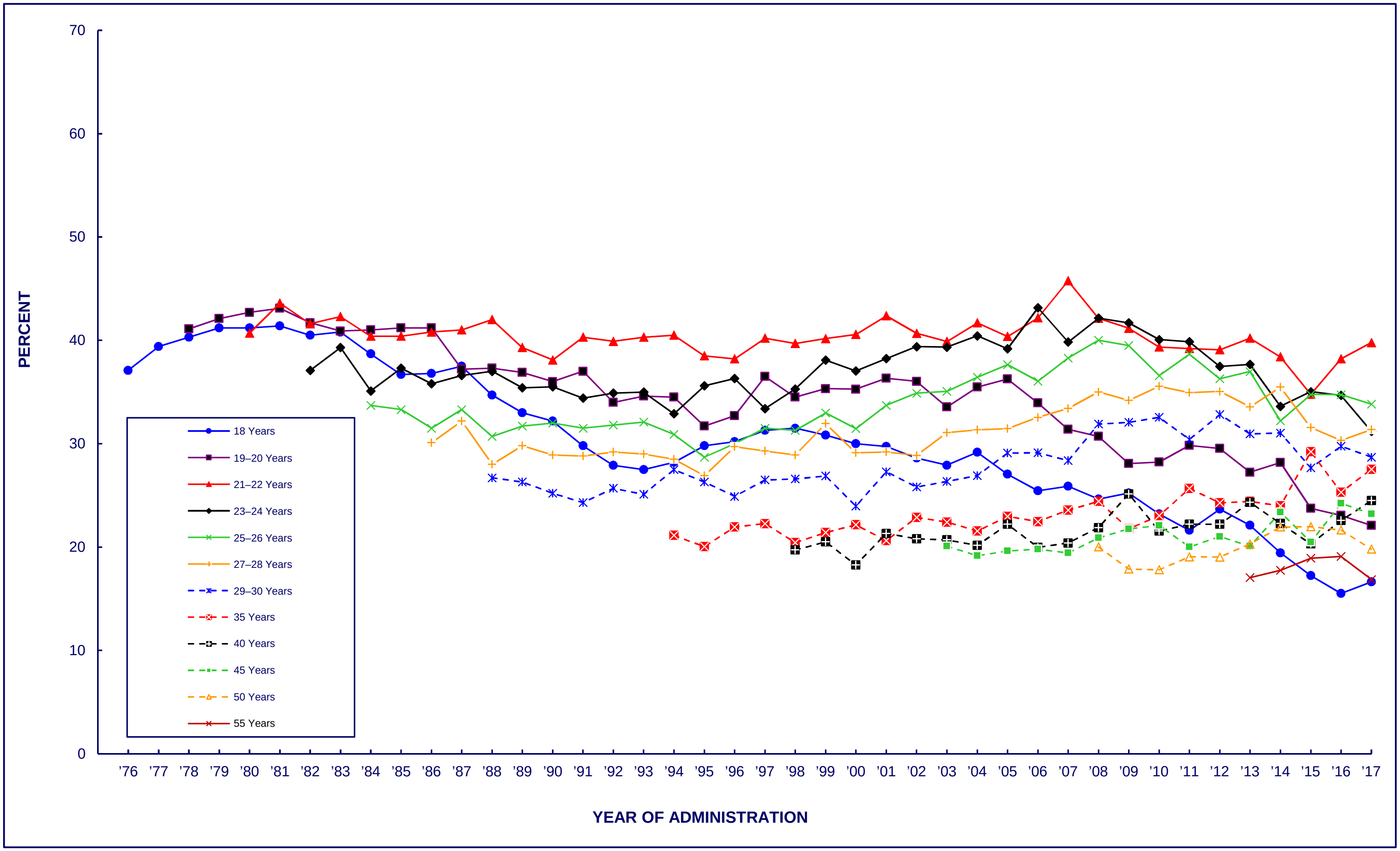
Source. The Monitoring the Future study, the University of Michigan.

Notes. ' — ' indicates data not available.

FIGURE 5-18d

ALCOHOL

Trends in 2-Week Prevalence of Having 5 or More Drinks in a Row among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

FIGURE 5-18d (cont.)

ALCOHOL

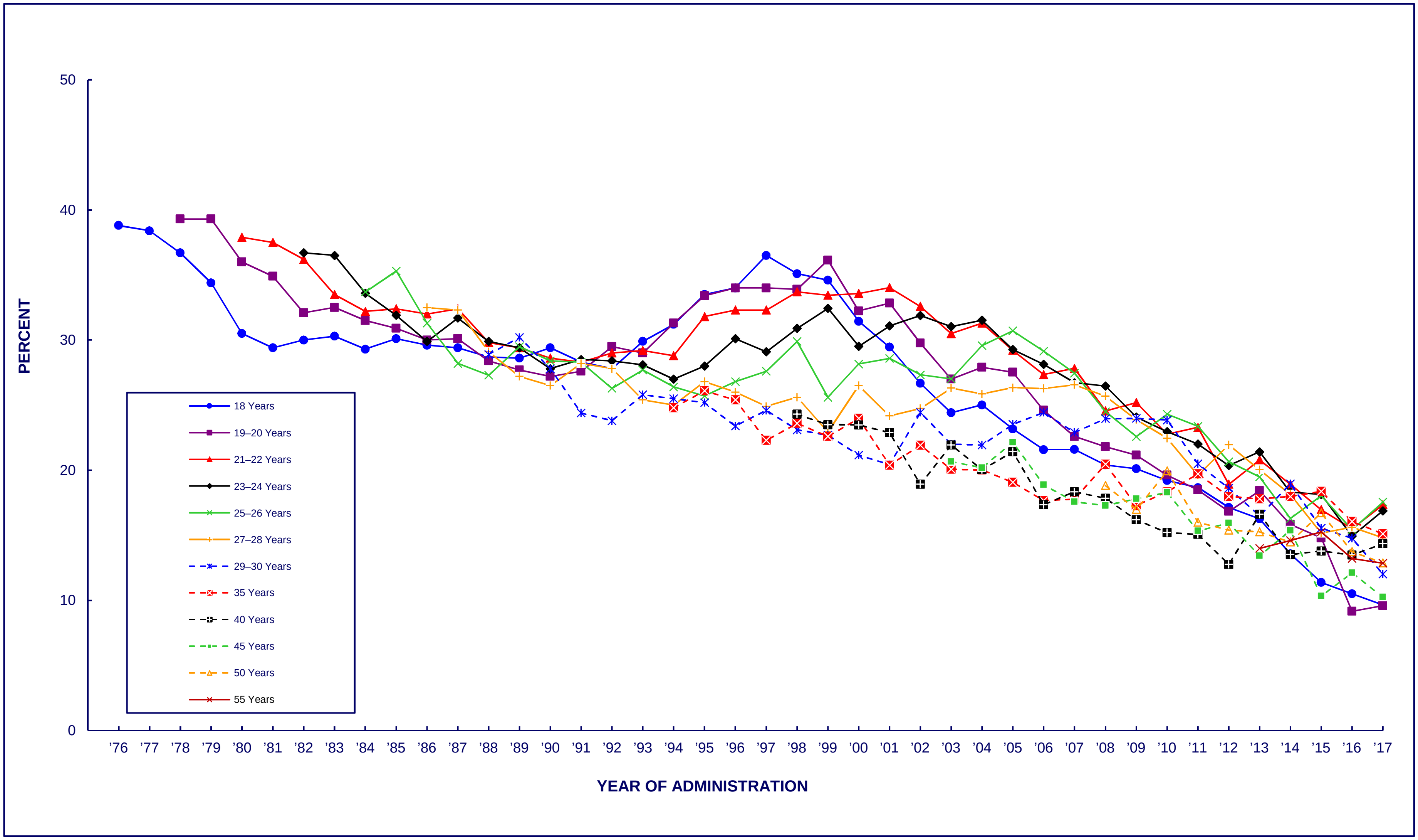
Trends in 2-Week Prevalence of Having 5 or More Drinks in a Row among Respondents of Modal Ages 18 through 55, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	37.1											
1977	39.4											
1978	40.3	41.1										
1979	41.2	42.1										
1980	41.2	42.7	40.7									
1981	41.4	43.1	43.6									
1982	40.5	41.7	41.6	37.1								
1983	40.8	40.9	42.3	39.3								
1984	38.7	41.0	40.4	35.1	33.7							
1985	36.7	41.2	40.4	37.3	33.3							
1986	36.8	41.2	40.8	35.8	31.5	30.1						
1987	37.5	37.2	41.0	36.6	33.3	32.2						
1988	34.7	37.3	42.0	37.0	30.7	28.0	26.7					
1989	33.0	36.9	39.3	35.4	31.7	29.8	26.3					
1990	32.2	36.0	38.1	35.5	32.0	28.9	25.2					
1991	29.8	37.0	40.3	34.4	31.5	28.8	24.3					
1992	27.9	34.0	39.9	34.9	31.8	29.2	25.7					
1993	27.5	34.6	40.3	35.0	32.1	29.0	25.1					
1994	28.2	34.5	40.5	32.9	30.9	28.5	27.5	21.1				
1995	29.8	31.7	38.5	35.6	28.7	26.9	26.3	20.0				
1996	30.2	32.7	38.2	36.3	30.0	29.7	24.9	21.9				
1997	31.3	36.5	40.2	33.4	31.5	29.3	26.5	22.3				
1998	31.5	34.5	39.7	35.3	31.3	28.9	26.6	20.4	19.7			
1999	30.8	35.3	40.2	38.1	33.0	32.0	26.9	21.4	20.5			
2000	30.0	35.3	40.6	37.0	31.5	29.1	24.0	22.2	18.3			
2001	29.7	36.3	42.4	38.2	33.7	29.2	27.3	20.6	21.3			
2002	28.6	36.0	40.7	39.4	34.9	28.9	25.8	22.9	20.8			
2003	27.9	33.6	39.9	39.3	35.1	31.1	26.4	22.4	20.7	20.1		
2004	29.2	35.5	41.7	40.4	36.4	31.3	26.9	21.6	20.2	19.2		
2005	27.1	36.3	40.4	39.2	37.7	31.5	29.1	23.0	22.2	19.6		
2006	25.4	33.9	42.2	43.2	36.0	32.5	29.1	22.5	20.0	19.8		
2007	25.9	31.4	45.8	39.8	38.3	33.4	28.4	23.6	20.4	19.4		
2008	24.6	30.7	42.1	42.2	40.0	35.0	31.9	24.4	21.9	20.9	20.0	
2009	25.2	28.1	41.2	41.7	39.5	34.2	32.1	21.8	25.1	21.8	17.9	
2010	23.2	28.2	39.3	40.1	36.6	35.6	32.6	23.0	21.6	22.1	17.8	
2011	21.6	29.8	39.2	39.9	38.7	35.0	30.4	25.7	22.2	20.0	19.1	
2012	23.7	29.5	39.1	37.5	36.3	35.1	32.8	24.3	22.2	21.0	19.0	
2013	22.1	27.2	40.2	37.7	37.0	33.6	30.9	24.4	24.3	20.1	20.3	17.0
2014	19.4	28.2	38.4	33.6	32.2	35.5	31.0	24.0	22.3	23.4	21.9	17.7
2015	17.2	23.7	34.8	35.0	34.8	31.6	27.7	29.2	20.3	20.5	22.0	18.9
2016	15.5	23.1	38.2	34.7	34.7	30.3	29.8	25.3	22.6	24.2	21.7	19.1
2017	16.6	22.1	39.8	31.2	33.8	31.4	28.7	27.5	24.5	23.2	19.8	16.9

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

Notes. ' — ' indicates data not available.

FIGURE 5-19a
CIGARETTES
Trends in 30-Day Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

FIGURE 5-19a (cont.)
CIGARETTES
Trends in 30-Day Prevalence
among Respondents of Modal Ages 18 through 55, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	38.8											
1977	38.4											
1978	36.7	39.3										
1979	34.4	39.3										
1980	30.5	36.0	37.9									
1981	29.4	34.9	37.5									
1982	30.0	32.1	36.2	36.7								
1983	30.3	32.5	33.5	36.5								
1984	29.3	31.5	32.2	33.6	33.7							
1985	30.1	30.9	32.4	31.9	35.3							
1986	29.6	30.0	32.0	29.9	31.3	32.5						
1987	29.4	30.1	32.4	31.7	28.2	32.3						
1988	28.7	28.4	29.8	29.9	27.3	29.1	28.9					
1989	28.6	27.7	29.4	29.4	29.5	27.2	30.2					
1990	29.4	27.2	28.6	27.8	28.4	26.5	27.8					
1991	28.3	27.6	28.3	28.5	28.3	28.2	24.4					
1992	27.8	29.5	29.0	28.4	26.3	27.8	23.8					
1993	29.9	29.0	29.2	28.1	27.7	25.4	25.8					
1994	31.2	31.3	28.8	27.0	26.4	25.0	25.5	24.8				
1995	33.5	33.4	31.8	28.0	25.7	26.8	25.2	26.1				
1996	34.0	34.0	32.3	30.1	26.8	26.0	23.4	25.4				
1997	36.5	34.0	32.3	29.1	27.6	24.9	24.6	22.3				
1998	35.1	33.9	33.7	30.9	29.9	25.6	23.1	23.6	24.3			
1999	34.6	36.1	33.4	32.4	25.6	22.9	22.7	22.6	23.5			
2000	31.4	32.2	33.6	29.5	28.2	26.5	21.2	24.0	23.5			
2001	29.5	32.8	34.0	31.1	28.6	24.2	20.4	20.4	22.9			
2002	26.7	29.8	32.6	31.9	27.3	24.7	24.4	21.9	18.9			
2003	24.4	27.0	30.5	31.0	27.0	26.3	22.0	20.1	21.9	20.7		
2004	25.0	27.9	31.3	31.5	29.6	25.9	21.9	20.0	20.0	20.2		
2005	23.2	27.5	29.2	29.3	30.7	26.3	23.5	19.1	21.4	22.1		
2006	21.6	24.6	27.3	28.1	29.1	26.3	24.4	17.7	17.3	18.9		
2007	21.6	22.6	27.8	26.7	27.5	26.6	22.9	17.8	18.3	17.6		
2008	20.4	21.8	24.5	26.5	24.5	25.7	24.0	20.4	17.8	17.3	18.8	
2009	20.1	21.2	25.2	24.1	22.6	23.9	24.0	17.3	16.2	17.8	17.0	
2010	19.2	19.6	22.8	23.0	24.3	22.5	23.9	18.3	15.2	18.3	19.9	
2011	18.7	18.5	23.3	22.0	23.4	19.6	20.5	19.7	15.1	15.3	16.0	
2012	17.1	16.8	18.9	20.4	20.7	22.0	18.6	18.0	12.8	15.9	15.4	
2013	16.3	18.4	20.8	21.4	19.5	20.0	16.5	17.8	16.6	13.4	15.3	14.0
2014	13.6	15.8	18.9	18.3	16.3	18.1	19.0	18.0	13.5	15.4	14.5	14.6
2015	11.4	14.8	17.0	18.1	18.0	15.2	15.5	18.4	13.8	10.3	16.7	15.3
2016	10.5	9.2	15.5	14.9	15.4	15.6	14.8	16.1	13.5	12.1	13.7	13.2
2017	9.7	9.6	17.3	16.9	17.6	14.8	12.0	15.1	14.3	10.3	12.9	12.9

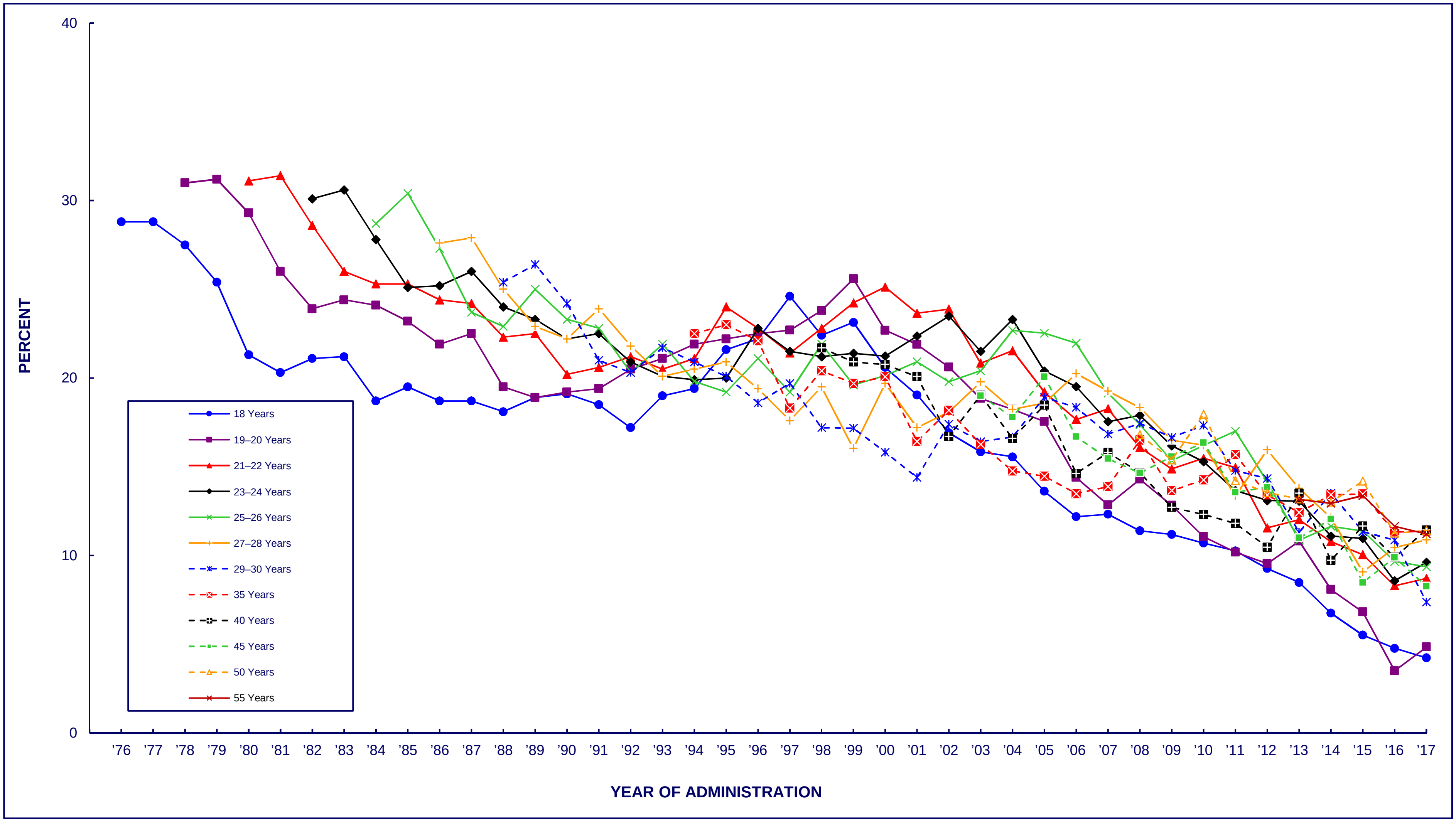
Source. The Monitoring the Future study, the University of Michigan.

Notes. ' — ' indicates data not available.

FIGURE 5-19b

CIGARETTES

Trends in 30-Day Prevalence of Daily Use
among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

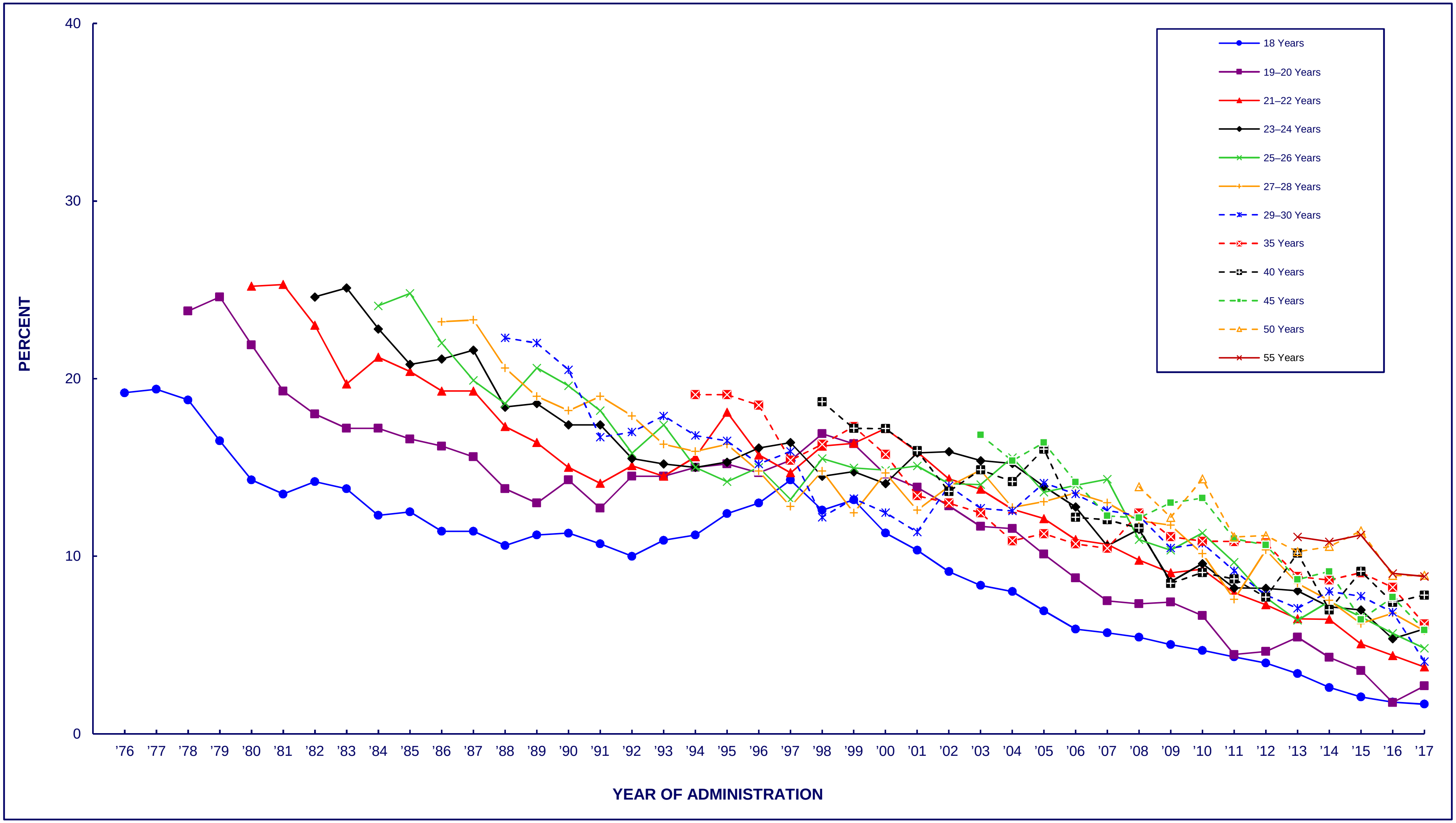
FIGURE 5-19b (cont.)
CIGARETTES
Trends in 30-Day Prevalence of Daily Use among Respondents of Modal Ages 18 through 55, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	28.8											
1977	28.8											
1978	27.5	31.0										
1979	25.4	31.2										
1980	21.3	29.3	31.1									
1981	20.3	26.0	31.4									
1982	21.1	23.9	28.6	30.1								
1983	21.2	24.4	26.0	30.6								
1984	18.7	24.1	25.3	27.8	28.7							
1985	19.5	23.2	25.3	25.1	30.4							
1986	18.7	21.9	24.4	25.2	27.3	27.6						
1987	18.7	22.5	24.2	26.0	23.7	27.9						
1988	18.1	19.5	22.3	24.0	22.9	25.0	25.4					
1989	18.9	18.9	22.5	23.3	25.0	22.9	26.4					
1990	19.1	19.2	20.2	22.2	23.3	22.2	24.2					
1991	18.5	19.4	20.6	22.5	22.8	23.9	21.0					
1992	17.2	20.5	21.2	20.9	20.3	21.8	20.3					
1993	19.0	21.1	20.5	20.1	21.9	20.1	21.7					
1994	19.4	21.9	21.1	19.9	19.8	20.5	20.9	22.5				
1995	21.6	22.2	24.0	20.0	19.2	20.9	20.1	23.0				
1996	22.2	22.5	22.8	22.8	21.1	19.4	18.6	22.1				
1997	24.6	22.7	21.4	21.5	19.2	17.6	19.7	18.3				
1998	22.4	23.8	22.8	21.2	21.9	19.5	17.2	20.4	21.7			
1999	23.1	25.6	24.2	21.4	19.6	16.0	17.2	19.7	20.9			
2000	20.6	22.7	25.1	21.2	20.1	19.7	15.8	20.1	20.8			
2001	19.0	21.9	23.6	22.4	20.9	17.2	14.4	16.4	20.1			
2002	16.9	20.6	23.9	23.5	19.8	18.1	17.4	18.2	16.7			
2003	15.8	18.8	20.8	21.5	20.4	19.8	16.4	16.3	19.0	19.0		
2004	15.6	18.2	21.5	23.3	22.7	18.2	16.7	14.8	16.6	17.8		
2005	13.6	17.6	19.2	20.4	22.5	18.6	18.9	14.5	18.5	20.1		
2006	12.2	14.4	17.7	19.5	22.0	20.2	18.3	13.5	14.6	16.7		
2007	12.3	12.9	18.3	17.5	19.2	19.3	16.8	13.9	15.8	15.4		
2008	11.4	14.3	16.1	17.9	17.4	18.3	17.4	16.5	14.7	14.6	16.8	
2009	11.2	12.8	14.9	16.2	15.3	16.5	16.7	13.7	12.7	15.6	15.4	
2010	10.7	11.1	15.5	15.3	16.2	16.2	17.3	14.3	12.3	16.4	18.0	
2011	10.3	10.2	15.0	13.7	17.0	13.4	14.8	15.7	11.8	13.6	14.2	
2012	9.3	9.5	11.5	13.1	14.1	16.0	14.3	13.4	10.5	13.8	13.5	
2013	8.5	10.8	12.0	13.1	10.9	13.8	11.3	12.4	13.5	11.0	13.2	13.2
2014	6.7	8.1	10.8	11.1	11.6	12.1	13.5	13.4	9.7	12.0	13.0	12.9
2015	5.5	6.8	10.0	11.0	11.4	9.1	11.3	13.5	11.6	8.5	14.2	13.4
2016	4.8	3.5	8.3	8.6	9.7	10.4	10.9	11.3	9.9	9.9	11.3	11.6
2017	4.2	4.8	8.7	9.6	9.4	10.9	7.4	11.4	11.4	8.3	11.4	11.2

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

Notes. ' — ' indicates data not available.

FIGURE 5-19c
CIGARETTES
Trends in 30-Day Prevalence of Smoking a Half Pack or More per Day among Respondents of Modal Ages 18 through 55, by Age Group



(Figure continued on next page.)

FIGURE 5-19c (cont.)
CIGARETTES
Trends in 30-Day Prevalence of Smoking a Half Pack or More per Day among Respondents of Modal Ages 18 through 55, by Age Group

Year	Age 18	Ages 19–20	Ages 21–22	Ages 23–24	Ages 25–26	Ages 27–28	Ages 29–30	Age 35	Age 40	Age 45	Age 50	Age 55
1976	19.2											
1977	19.4											
1978	18.8	23.8										
1979	16.5	24.6										
1980	14.3	21.9	25.2									
1981	13.5	19.3	25.3									
1982	14.2	18.0	23.0	24.6								
1983	13.8	17.2	19.7	25.1								
1984	12.3	17.2	21.2	22.8	24.1							
1985	12.5	16.6	20.4	20.8	24.8							
1986	11.4	16.2	19.3	21.1	22.0	23.2						
1987	11.4	15.6	19.3	21.6	19.9	23.3						
1988	10.6	13.8	17.3	18.4	18.6	20.6	22.3					
1989	11.2	13.0	16.4	18.6	20.6	19.0	22.0					
1990	11.3	14.3	15.0	17.4	19.6	18.2	20.5					
1991	10.7	12.7	14.1	17.4	18.2	19.0	16.7					
1992	10.0	14.5	15.1	15.5	15.8	17.9	17.0					
1993	10.9	14.5	14.5	15.2	17.4	16.3	17.9					
1994	11.2	15.0	15.6	15.0	15.0	15.9	16.8	19.1				
1995	12.4	15.2	18.1	15.3	14.2	16.3	16.5	19.1				
1996	13.0	14.7	15.7	16.1	15.0	14.8	15.2	18.5				
1997	14.3	15.4	14.7	16.4	13.2	12.8	15.9	15.4				
1998	12.6	16.9	16.2	14.5	15.5	14.8	12.2	16.3	18.7			
1999	13.2	16.3	16.4	14.8	15.0	12.4	13.2	17.3	17.2			
2000	11.3	14.6	17.2	14.1	14.8	14.7	12.5	15.7	17.2			
2001	10.3	13.9	15.9	15.8	15.1	12.6	11.4	13.4	15.9			
2002	9.1	12.8	14.4	15.9	14.1	13.9	14.0	13.0	13.6			
2003	8.4	11.7	13.8	15.4	14.0	14.8	12.7	12.4	14.9	16.8		
2004	8.0	11.6	12.7	15.2	15.6	12.8	12.5	10.9	14.2	15.4		
2005	6.9	10.1	12.1	13.9	13.6	13.1	14.1	11.3	16.0	16.4		
2006	5.9	8.8	10.9	12.8	14.0	13.6	13.5	10.7	12.2	14.2		
2007	5.7	7.5	10.7	10.6	14.3	13.0	12.6	10.5	12.1	12.3		
2008	5.4	7.3	9.8	11.5	10.9	12.0	12.3	12.4	11.6	12.2	13.9	
2009	5.0	7.4	9.1	8.6	10.3	11.8	10.5	11.1	8.5	13.0	12.2	
2010	4.7	6.7	9.3	9.6	11.3	10.1	10.7	10.8	9.1	13.3	14.4	
2011	4.3	4.5	7.9	8.2	9.7	7.6	9.2	10.8	8.7	11.0	11.1	
2012	4.0	4.6	7.3	8.2	7.7	10.4	7.8	10.8	7.7	10.6	11.2	
2013	3.4	5.4	6.5	8.1	6.4	8.5	7.1	8.9	10.2	8.7	10.3	11.1
2014	2.6	4.3	6.4	7.1	7.5	7.5	8.0	8.7	7.0	9.1	10.5	10.8
2015	2.1	3.6	5.1	7.0	6.6	6.2	7.7	9.1	9.2	6.4	11.4	11.2
2016	1.8	1.8	4.4	5.4	5.7	6.8	6.9	8.3	7.4	7.7	8.9	9.0
2017	1.7	2.7	3.8	5.9	4.8	5.8	4.1	6.2	7.8	5.8	8.9	8.9

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

Notes. ' — ' indicates data not available.

Chapter 6

ATTITUDES AND BELIEFS ABOUT DRUGS AMONG YOUNG ADULTS

One of the most important theoretical contributions of MTF has been to demonstrate the extent to which attitudes and beliefs about drugs can help explain the use of drugs. Earlier volumes in this monograph series, as well as other publications from the study, have demonstrated that shifts in certain attitudes and beliefs—in particular the degree of risk of harm perceived to be associated with use of a particular drug—are important in explaining changes in actual drug-using behavior. Indeed, on a number of occasions we have accurately predicted such changes in use by using perceived risk as a *leading indicator of use.*[1] In this chapter, we review trends in these attitudes and beliefs held by young adults since 1980.

PERCEIVED HARMFULNESS OF DRUGS

Figures 6-1 through 6-32 present three separate trend lines for four-year age strata (that is, respondents who are one to four years beyond high school [modal ages 19–22], five to eight years beyond high school [modal ages 23–26], and nine to twelve years beyond high school [modal ages 27–30]). For comparison purposes, data are also included for the high school senior classes, listed as modal age 18-year-olds. Figures 6-1 to 6-3 present trends in the percentages of young adults aged 18 to 30 who perceive a "great risk" of harm (physically or in other ways) associated with three different levels of marijuana use—trying it once or twice (experimental), smoking it occasionally, and smoking it regularly. Subsequent figures do the same for selected levels of use of various other licit and illicit drugs. Table 6-1 provides the tabular information underlying the figures.

For most of the life of the study, these questions were contained in one questionnaire form only, limiting the numbers of follow-up cases. Accordingly, we have used the four-year age bands to increase the available sample sizes to about 250–600 weighted cases per year for each age band, thereby improving the reliability of the estimates. (The numbers of weighted cases are given at the end of Table 6-1. The actual numbers of respondents are somewhat larger.) Still, these are relatively small sample sizes for young adults compared to those available regarding attitudes for 8th, 10th, and 12th graders, and thus the change estimates are relatively less stable.

Beginning with 2012 we expanded the numbers of forms from which these data are drawn; this increased the sample sizes from that point forward, thus improving the reliability of both the point

---

[1] See also: 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; 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; Bachman, J. G., Johnston, L. D., & O'Malley, P. M. (1998). Explaining recent increases in students' marijuana use: Impacts of perceived risks and disapproval, 1976 through 1996. *American Journal of Public Health, 88,* 887–892; Johnston, L. D. (1981). Characteristics of the daily marijuana user. In R. de Silva, R. L. DuPont, & G. K. Russell (Eds.), *Treating the marijuana-dependent person* (pp. 12–15). New York: The American Council on Marijuana; Johnston, L. D. (1985). The etiology and prevention of substance use: What can we learn from recent historical changes? In C. L. Jones & R. J. Battjes (Eds.), *Etiology of drug abuse: Implications for prevention* (NIDA Research Monograph No. 56, DHHS Publication No. ADM 85 1335, pp. 155–177). Rockville, MD: National Institute on Drug Abuse; Keyes, K. M., Schulenberg, J. E., O'Malley, P. M., Johnston, L. D., Bachman, J. G., Li, G., & Hasin, D. (2011). The social norms of birth cohorts and adolescent marijuana use in the United States, 1976-2007. *Addiction, 106*(10), 1790-1800.

estimates and the trend estimates. Because the questions are contained in different numbers of forms for the different drugs, the sample sizes vary between drugs, as is noted in the tables. For each question, we include data from all available forms.

Because of the nature of the MTF design, trend data are available for a longer period for 19- to 22-year-olds (since 1980) than for 23- to 26-year-olds (since 1984) or 27- to 30-year-olds (since 1988). Also displayed in Table 6-1 are comparison data for 12th graders, shown here as 18-year-olds, from 1980 onward. (See also Table 8-3 in *Volume I* for the longer-term trends in 12th graders' levels of perceived risk.) Questions about these attitudes and beliefs are not included in the questionnaires for respondents over age 30 due to the length limitations imposed by using a single questionnaire form for respondents ages 35 and older.

- Table 6-1 and Figures 6-1 to 6-32 illustrate considerable differences in the degree of risk of harm young adults have associated with various drugs. In general, the results closely have paralleled the distinctions in degree of risk across various drugs made by 12th graders.

- ***Marijuana*** was seen as the least risky of the illicit drugs, although sharp distinctions were made between different levels of marijuana use (Table 6-1, Figures 6-1 through 6-3). In 2017, experimental use of marijuana (i.e., try it once or twice) was perceived as being of great risk by only 7% to 10% of all high school graduates ages 19–30, whereas regular use was perceived to carry great risk by a considerably higher percentage (23–27%). Since 2006 there have been very substantial declines in perceived risk of regular marijuana use; in 2006, 55-58% of all four age groups saw great risk, and by 2017, 23-27% did so. These substantial declines suggest a possible period effect, that may well have been due to the increasing discussion about liberalizing marijuana laws, including for medical use and more recently for recreational use by adults. While actual law changes were specific to individual states, the discussions were very prominent nationwide, and we believe had a direct effect on perceived risk across the nation. Levels of perceived risk of regular marijuana use in 2017 were the lowest observed since each of the young adult age groups was included in the study – going back to 1980 in the case of 19-22 year olds; each age group declined in 2017 including significant declines for 23-26 and 29-30 year olds, dropping 6.9 and 4.7 percentage points, respectively. And likely not coincidentally, prevalence of daily marijuana use in 2017 was at a new high among young adults at 7.8% (as discussed in Chapter 5).

- In the mid-1980s and early 1990s, fewer of the older age groups attached great risk to regular use of ***marijuana*** than did the younger respondents (Figure 6-3). Indeed, there was a regular negative ordinal relationship between age and perceived risk for some years after 1980, when the first such comparisons were available. Although at first this looked like an age effect, the MTF design allowed us to recognize it as a cohort effect; the younger cohorts initially perceived marijuana as more dangerous than the older cohorts did and persisted in such beliefs as they grew older. Newer cohorts, however, showed lower levels of perceived risk that they then carried up the age spectrum. In the past few years, age differences have been slight.

The decline in perceived risk in regular use that began in the 1990s was greater in the younger age bands, including grades 8 and 10, and least among the 27- to 30-year-olds. We believe that much of the eventual decline in perceived risk in the older age bands resulted directly from replacement of earlier cohorts by later, less concerned ones. The credibility of this view is strengthened by the 1993–1995 reversal of the relationship between age and perceived risk of regular use. This reversal is consistent with an underlying cohort effect and could not simply reflect an association between age and a regular change in these attitudes. The decline in perceived risk of regular marijuana use ended in a somewhat staggered fashion—among 12th graders in 1999, among 19- to 22-year-olds in 2001, among 23- to 26-year-olds in 2002, and among 27- to 30-year-olds in 2004. This was also indicative of a cohort effect playing out in these attitudes. In 2007 all four age strata showed declines of three to four percentage points in perceived risk of regular marijuana use; although no one of these declines was statistically significant taken alone, the consistency across all four groups suggests that the shift was real. Since then the declines have continued, though somewhat erratically; but all four age groups showed substantial declines between 2006 and 2017 in perceived risk of regular marijuana use, suggesting a possible period effect. Indeed, the age bands 18, 23-26, and 27-30 all showed significant one-year declines in perceived risk of regular marijuana use from 2014 to 2015, with continuing (but nonsignificant) declines for all age groups in 2016, and continuing significant declines in the older two age groups and nonsignificant declines in the two younger age groups in 2017. The 2017 levels are at all-time lows for all age groups.

- Young adults (ages 19–30) viewed experimental use of any of the ***other illicit drugs*** as distinctly riskier than the experimental use of marijuana (which was at 7% to 10% in 2017). About 30–37% of young adults thought trying ***sedatives (barbiturates)*** involved great risk; the corresponding figures were 26–37% for ***amphetamines,*** 32–41% for ***LSD,*** 44–48% for ***narcotics other than heroin,*** 43–51% for ***ecstasy (MDMA),*** 46–50% for ***cocaine powder,*** and 71–74% for ***heroin.*** Note that two classes of prescription drugs – sedatives and amphetamines – have among the lowest levels of perceived risk among this set. (Perceived risk of tranquilizers is not asked, but likely would rank low as well.)

- Items about perceived risk of ***synthetic marijuana*** use were added to the questionnaires in 2012 (Figures 6-4 and 6-5). These drugs are sold over the counter in small packets containing plant material that has been sprayed with any number of chemicals with chemical structures similar to cannabinoids. The percent seeing great risk in trying synthetic marijuana in the three young adult age bands were 29–31% in 2012 and 41-43% in 2017, reflecting a clear increase in perceived risk in all four age groups over that interval. Following increases of 3 to 8 percentage points in perceived risk for all three young adult age groups between 2015 and 2016, it leveled or declined nonsignificantly for each of these age groups between 2016 and 2017; nonetheless 2017 levels of perceived risk are at lowest or second lowest for all three since 2012. Correspondingly, as discussed in Chapter 5, use of synthetic marijuana has fallen precipitously since 2012 as perceived risk has risen.

- Perceived risk of experimental use of ***LSD*** continued to decline in 2017 for all four age groups (significantly so for the 23-26 age group); proportions seeing great risk of harm in experimental use were 30%, 35%, 32%, and 41%, respectively. The older age groups have been more likely to see LSD as dangerous (Figures 6-6 and 6-7). These age distinctions became sharper through about 2001 for experimental use, as perceived risk declined more in the younger age groups—again indicating some important cohort changes in these attitudes, quite likely as a result of generational forgetting of the dangers of LSD. Generational forgetting is a phenomenon wherein younger replacement cohorts no longer carried the beliefs—nor had the direct or vicarious experience upon which those beliefs were based—that the older cohorts had at that age. (The implications of generational forgetting for prevention are discussed in the last section of this chapter.) The distinctions continued to grow for regular use of LSD through 2015 as perceived risk among the 18-year-olds continued a long-term decline. In 2016 and 2017, it declined for the older age groups too (with the decline in 2017 being significant for the 19-22 year olds) reducing the age gap in perceived risk. Correspondingly, as discussed in Chapter 5, LSD has shown some recent resurgence among young adults, though annual use declined nonsignificantly in 2017.

- Perceived risk of experimenting with ***MDMA (ecstasy*** and, more recently, ***Molly)*** declined nonsignificantly for the three young adult age groups in 2017 (to 44%, 43%, and 51%, respectively). These questions were introduced in the follow-up surveys in 1989, but were not asked of 12th graders until 1997 (due to concerns about introducing the secondary school students to a drug with such an alluring name). (See Figures 6-18 and 6-19.) At the beginning of the 1990s, all young adult age groups viewed ecstasy as a fairly dangerous drug, even for experimentation. But, again, the different age bands showed diverging trends during the 1990s, with the oldest two age bands continuing to see ecstasy as quite dangerous, but the 19- to 22-year-olds (and very likely the 12th graders, for whom we did not have data until 1997) coming to see it as less so. In 2000, 38% of 12th graders saw great risk in trying ecstasy versus 49% of 27- to 30-year-olds; in 2001, the corresponding figures were 46% and 54%. In fact, three of the four age groups showed appreciable increases in perceived risk of ecstasy use in 2001, which led us to predict a decline in use. The increase in perceived risk continued in 2002 in the two youngest age strata, and their use of ecstasy did, indeed, begin to decline—and decline sharply (see chapter 5). Perceived risk of using once or twice continued to rise among 18-year-olds, whose levels exceeded the levels seen in the other age bands from 2004 through 2009. Since about 2010, perceived risk of trying ecstasy has generally converged among the age groups, showing some uneven change for young adults including a recent decline for all three age groups, and a leveling for 12th graders. In 2017, perceived risk ranged from 43% to 51% for all four age groups (Figure 6-18).

- Perceived risk of ***salvia*** use (Table 6-1) was included for the first time in 2012 in the young adult questionnaires; the percent seeing great risk in trying salvia ranged from 19% to 23% among the young adults in 2012 and from 21% to 24% in 2017.

- Recent years showed little systematic change in perceived risk of ***cocaine*** use among young adults and not a great deal of difference in this belief among the different age groups (Figures 6-9 through 6-11). In 2017, perceived risk of experimental use declined nonsignificantly for all four age groups to between 48% and 51%, with negligible age differences. Regarding previous trends, a decline in perceived risk of trying cocaine and occasional use began among 19- to 22-year-olds after 1994, among 23- to 26-year-olds after 1999, and among 27- to 30-year-olds after 2001, suggesting a cohort effect in this belief (Figures 6-9 and 6-10). Young adults generally reported somewhat higher perceived risk with respect to regular cocaine use than did 12th graders (Figure 6-11). The age differences were smaller for occasional and experimental use. Since the early 1990s, perceived risk of regular use of cocaine gradually declined among 12th graders, likely due to generational forgetting of the dangers of this drug, and resulted in an increasing gap between them and the older age groups (Figure 9-10).

To illustrate cohort effects in the trends, we note that between 1980 and 1986, among 12th graders and the young adult age groups, the danger associated with using cocaine on a regular basis grew considerably -- by 13 and 17 percentage points, respectively. Interestingly, these changed beliefs did not translate into changed behavior until the perceived risk associated with experimental and occasional use began to rise sharply after 1986. When these two measures rose, a sharp decline in actual use occurred. We hypothesized that respondents saw only these lower levels of use as relevant to them and, therefore, saw themselves as vulnerable only to the dangers of such use. (No one starts out planning to be a heavy user; further, in the early 1980s, cocaine was not believed to be addictive.) Based on this hypothesis, we included the additional question about occasional use in 1986, just in time to capture a sharp increase in perceived risk later that year. This increase occurred largely in response to the growing media frenzy about cocaine—and crack cocaine, in particular—and to the widely publicized, cocaine-related deaths of several public figures (most notably Len Bias, a collegiate basketball star and a top National Basketball Association draft pick). After stabilizing for a few years, perceived risk began to fall off around 1992 among 12th graders, but not among the older age groups—again suggesting that lasting cohort differences were emerging. Now, about 30 years later, none of the young adult age groups has had much exposure to the cocaine epidemic of the mid-1980s, which likely explains why there no longer is much age-related difference in the level of perceived risk, except with regards to regular use, for which 12th graders have been showing a declining level of perceived risk, unlike any of the young adult strata (Figure 6-11). This likely reflects a generational forgetting of the dangers of cocaine by cohorts that are further and further from the peak of the cocaine epidemic in the mid-1980s.

- Perceived harmfulness of ***crack*** use had been lowest among 12th graders for many years through 2012 (Figures 6-12 through 6-14); we no longer ask these questions of young adults. High school seniors have been considerably less likely than any of the older age groups to view occasional and regular use of crack cocaine as dangerous. Trend data (available since 1987) on the risks perceived to be associated with crack use showed increases in 1987–1990 for all age groups, followed by relatively little change in the older age strata. During the 1990s, twelfth graders showed decreases in the perceived risk of experimental use of crack—perhaps reflecting the onset of generational forgetting of its dangers—leaving them as perceiving considerably less risk than the older groups. The young adult age groups showed a staggered decline in this measure, with 19- to 22-year-olds showing a decline after 1994, 23- to 26-year-olds since 1996, and 27- to 30-year-olds after 2001. As a result, the several ages differed more in their levels of perceived risk of crack use, until declines in the older age groups after about 2002. Given this lack of historical or age variation, questions about perceived risk of crack use were dropped from the young adult questionnaires in 2012 to make room for such questions about other drugs.

- Perceived risk of trying ***amphetamines*** continued to show uneven change across the four age groups in 2017, increasing nonsignificantly for all but the 23-26 year olds (which showed a significant decrease) to 32%, 37%, 26%, and 32%, respectively (Figure 6-23). Regarding earlier trends, perceived risk increased in all four age strata very gradually from 1980, when first measured, through 2010, with little difference among them. In 2011 it dropped in all strata and then held level thereafter through 2016 when it ranged from 31% to 34% across the four age groups. (Note that in 2011, we changed examples of amphetamines from "uppers, pep pills, bennies, speed" to "uppers, speed, Adderall, Ritalin, etc.", which appears to account for the change in 2011.) Across the years, there was more difference among the age groups with regard to the risk attached to regular amphetamine use (Figure 6-24), with the older two strata generally seeing greater risk than the younger two strata, and especially the 12th graders. The younger two strata showed an increase in perceived risk during the 1980s and then some fallback in the early 1990s, before stabilizing. The sharp decline observed for experimental use after 2010 was also seen for regular use from 2009 to 2011 among 12th graders and from 2011 through 2012 among all of the young adult strata; since then, change has been uneven for the four age groups. With few exceptions, the risk of regular use continued to decline each year for all age groups through 2017.

- Perceived risk questions for ***Adderall*** were added to the young adult questionnaires for the first time in 2012. They showed that perceived risk of using once or twice ranged from 29% to 30% in the three young adult age bands in 2012. Perceived risk decreased nonsignificantly in 2017 for the two older age groups to a range of 28% to 33% (Table 6-1).

- Measures of perceived risk of ***crystal methamphetamine (ice)*** use are no longer included for young adults (Table 6-1). These measures were introduced in 1990, and the results showed what might be an important reason for its lack of rapid spread. More than half of all 12th graders and young adults perceived it as quite dangerous even to try, perhaps because it was likened to crack in many media accounts. (Both drugs come in crystal form, both are burned and the fumes inhaled, both are stimulants, and both can produce a strong dependence.) There was rather little age-related difference in perceived risk associated with use of crystal methamphetamine in 1990 and 1991, although the two youngest age groups were somewhat higher. But as perceived risk fell considerably among 12th graders (and eventually among 19- to 22-year-olds) and held steady or rose in the oldest two age groups, an age-related difference emerged. Twelfth graders have fairly consistently had the lowest level of perceived risk since 2002. Since about 2003 or 2004, perceived risk has risen some among all of the age strata, narrowing the age-related differences that had emerged for a few years. In 2011 perceived risk of trying this drug stood at 67% among 12th graders and at 73–75% in all of the older strata. Given this lack of variation in recent years and low levels of actual use, these questions were discontinued in the young adult (but not in the secondary school) surveys in 2012 to make room for such questions about other drugs.

- In 2012 perceived risk questions about the use of ***bath salts***—over-the-counter synthetic stimulants—were added to the questionnaires (Table 6-1). That year fairly high proportions of the young adults saw great risk of harm in even trying bath salts (45-49%), but considerably fewer of the 18-year-olds did (33%). Perceived risk has increased dramatically for bath salts in all four age strata, with increases ranging from 18 percentage points among 12th graders to 22 to 24 percentage points in the three young adult age strata. In 2017 even trying bath salts once or twice was seen as dangerous by between 68% and 72% in the young adult age strata—very high levels. (Some of this shift occurred because fewer respondents chose the "Can't say, drug unfamiliar" option, suggesting that more of them were familiar with the drug and the risks associated with it.)

- Perceived risk of experimental use of ***heroin*** has shown long-term gradual increases for all age groups, though it appears to have leveled in the past few years, with 2017 percentages being 63%, 71%, 74%, and 74%, respectively. Across the years, young adults have been more cautious than 12th graders about ***heroin*** use, suggesting some age effect. (See Figures 6-20 through 6-22.) In general, there has been relatively little change over the years in the proportions of all age groups seeing regular heroin use as dangerous, with the great majority of each group (over 85%) consistently holding this viewpoint (Figure 6-22). However, with regard to perceived risk of experimental use of heroin, there was a long-term gradual rise in all age strata from the mid-1980s through 2015, with it showing some leveling since (Figure 6-20). From 1980 to 1986 there was a downward shift among 12th graders in the proportion seeing great risk associated with trying heroin (a trend that began in 1975 noted in *Volume I*) and some decline among 19- to 22-year-olds. Following this decline, young adults showed a gradually increasing caution about heroin use in the latter half of the 1980s—possibly due to heroin injection being associated with the spread of HIV—followed by a leveling through most of the 1990s (note that young adult data does not extend back equally far for all young adult age groups). In 2017, as in all previous years, more young adults than 12th graders saw experimental and occasional heroin use as risky (Figures 6-20 and 6-21); and this difference has grown some since the early 1990s with regard to regular use, suggesting some generational forgetting of the dangers seen by older age groups (Figure 6-22).

  It is noteworthy for public health purposes that in 1996 and 1997, young adults' perceived risk of experimental use of heroin increased some, as happened among 12th graders (as well as among 8th and 10th graders). These various trends could reflect, in chronological order, (a) the lesser attention paid to heroin by the media during the late 1970s and early 1980s as cocaine took center stage; (b) the subsequent great increase in attention paid to intravenous heroin use in the latter half of the 1980s due to the recognition of its importance in the spread of HIV/AIDS; (c) the emergence in the 1990s of heroin so pure that people no longer needed to use a needle to administer it; and (d) the subsequent increased attention given to heroin by the media (partly as a result of some overdose deaths by public figures and partly prompted by the emergence of "heroin chic" in the design industry), as well as through an anti-heroin media campaign launched by the Partnership for a Drug-Free America in June 1996.

- Perceived risk questions about ***narcotics other than heroin*** (without medical supervision) were first asked of the young adults in 2012; between 43% and 47% of the three age groups saw great risk of harm in experimenting with such drugs. Little has changed since them, with rates ranging between 44% and 48% in 2017. None of the one-year changes have been significant over the years (Table 6-1). Many more see regular use as having great risk of harm (between 73% and 78% in 2017) with rather little systematic change since 2012. As with heroin use discussed above, young adults have tended to see use of narcotics other than heroin as more risky than have 12th graders. It may seem surprising, given the heavy public attention paid to narcotic drugs in recent years that perceived risk has not risen. On the other hand, it is quite high relative to many of the controlled substances and perhaps there was a rise prior to 2012.

- In 2017, a minority of young adults saw ***binge drinking*** or ***occasions of heavy drinking*** (having 5 or more drinks in a row) on weekends as dangerous (38–42%), as did a slightly larger proportion of 12th graders (46%; Figure 6-30). The belief that heavy drinking carries great risk increased over the 1980s in these age groups, rising among 12th graders from 36% in 1980 to 49% in 1992. Among 19- to 22-year-olds, it rose from a low of 30% in 1981 to 42% in 1992; the increases among the older groups were smaller. The increase in this belief could well help to explain the important decline in actual heavy drinking, and could in turn be explained by the media campaigns against drunk driving and the increase in the drinking age in a number of states.[2] Following a staggered pattern, perceived risk of harmfulness reached a peak among 18-year-olds in 1992, among 19- to 22-year-olds in 1993, among 23- to 26-year-olds in 1994, and among 27- to 30-year-olds in 1995, suggesting some cohort effect in this important belief. This staggered pattern of additional peaks occurred again in 1996 for 18-year-olds, in 1998 for 19- to 22-year olds, and in 1999 for the two older groups. It also appears that this cohort effect followed a period effect of increased perceived risk that took place for all age groups earlier in the 1980s. Since 1998 through 2017, perceived risk of heavy drinking has not changed much among the 19–30 age groups but has risen slightly among the 18-year-olds.

- The perception that having ***one or two drinks per day*** is dangerous continues to be low for all four age groups, with 2017 percentages of 9.3%, 6.5%, 4.1%, and 3.3%, respectively (Figure 6-28). Between 1980 and 1991, a very gradually increasing proportion of all four age groups viewed this as being risky, but then they all showed a parallel decrease in perceived risk of this behavior through at least 2000. It seems likely that the earlier increase was due to the general rising concern about the consequences of alcohol use, particularly drunk driving, and that the subsequent decline in perceived risk was due to increasing reports of cardiovascular health benefits of light-to-moderate daily alcohol consumption. From about 2001 through 2017, there has been little systematic change in this belief in any of the age strata, and there has been little difference by age across the entire 35-plus-year interval. However, since 2006, 18-year-olds have generally seen the most risk from daily drinking.

[2] See 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; O'Malley, P. M., & Johnston, L. D. (2003). Unsafe driving by high school seniors: National trends from 1976 to 2001 in tickets and accidents after use of alcohol, marijuana and other illegal drugs. *Journal of Studies on Alcohol, 64*, 305–312; and O'Malley, P. M., & Johnston, L. D. (2013). Driving after drug use or alcohol use by American high school seniors, 2001-2011. *American Journal of Public Health, 103*(11), 2027-2034.

- In 2017, more than four fifths (84–86%) of young adults perceived regular ***pack-a-day cigarette smoking*** as entailing high risk (Figure 6-31). In recent years, 18-year-olds consistently showed lower perceived risk than young adults did (and as reported in *Volume I*, 10th graders were still lower and 8th graders lowest). Clearly, there is an age effect in young people coming to understand the dangers of smoking. Unfortunately, it appears that much of the learning about the risks of smoking happens *after* a great deal of smoking initiation has occurred and many young people have already become addicted. These beliefs about smoking risks have strengthened very gradually in all age groups from senior year forward during the years we have monitored them (see Table 6-1 and Figure 6-31). The parallel changes in these beliefs across the different age groups indicate a period effect, suggesting that all of the age groups responded to common influences in the larger culture. These influences are discussed at length in *Volume I* in chapter 8 on attitudes and beliefs. The rise in perceived risk slowed between 2002 and 2011, with only slight increases, mainly in the two youngest age strata. Changes since 2011 have been minimal.

- In 2014 items concerning perceived risk of using ***e-cigarettes*** regularly were added to the 12th grade and young adult surveys. In 2014, regular e-cigarette use was seen as dangerous by 14% of the 12th graders and 17% to 22% of the young adults (Table 6-1). Perceived risk increased for all age groups in 2015 and again in 2016, with 18% of the 12th graders and 28% to 31% of the young adults reporting regular use as dangerous (2015 to 2016 increases were significant for 19-22 and 23-26 year-olds); however, these increases appear to have stalled for all age groups in 2017, with percentages being 16% for 12th graders and 27% to 32% for three young adult strata.

- The regular use of ***smokeless tobacco*** was seen as dangerous by 51–56% of young adults and 38% of 12th graders in 2017, revealing a strong ordinal association with age—the older the age, the higher the perceived risk. These beliefs gradually strengthened from 1986 through about 2001 in all age groups covered (Figure 6-32 and Table 6-1), particularly among the two older age groups. As with cigarettes, the change appears to reflect a secular trend (period effect) because of its parallel occurrence in all age groups. Perceived risk has not changed among the young adults in any systematic fashion since 2001; these data are based on only one form, so year-to-year fluctuations can appear relatively large.

PERSONAL DISAPPROVAL OF DRUG USE

For most of the life of the study, follow-up respondents were asked the same questions asked of 12th graders in one of the six questionnaire forms concerning the extent to which they personally disapprove of various drug-using behaviors among "people (who are 18 or older)." Trends in the answers of young adults in the three age bands of 19 to 22, 23 to 26, and 27 to 30 are contained in Table 6-2. Comparison data for 12th graders are also provided for 1980 onward. (See Table 8-6 in *Volume I* for the longer-term trends in 12th graders' levels of disapproval associated with using the various drugs.) As with the perceived risk questions, starting in 2012 the estimates were based on all questionnaire forms on which each disapproval question was located in order to increase sample size and, therefore, reduce sampling error. Each question is footnoted in Table 6-2 to indicate on how many forms it was contained in 2012 and thereafter. All summaries below pertain to Table 6-2.

- In general, disapproval levels of adult use of the various drugs ranked similarly across substances for both 12th graders and young adults. The great majority of young adults disapproved of using, or even experimenting with, all of the ***illicit drugs other than marijuana.*** For example, 94% or more of young adults in 2017 disapproved of regular use of each of the following drugs: ***LSD, cocaine, heroin,*** and ***sedatives (barbiturates).*** Fully 72% to 97% of young adults disapproved of even experimenting with each of these same drugs. Many of these attitudes differed rather little as a function of age in 2017.

- Even for ***marijuana,*** about a third of young adults (28–34%) disapproved of experimentation, about four-tenths (40–43%) disapproved of occasional use, and about two-thirds (64–67%) still disapproved of regular use in 2017; corresponding percentages for 12th graders in 2017 were 39%, 47%, and 65%. *These 2017 percentages in disapproval of marijuana represent declines for all four age groups regarding all three intensities of marijuana use (with half of these declines being significant – see Table 6-2); they are all at all-time lows since 1980.*

  Among drugs measured, marijuana use has shown the widest fluctuations in disapproval over time—generally, fluctuations that parallel the changes in perceived risk (though sometimes with a one-year lag, with the change in perceived risk coming first). The most fluctuation has occurred among the younger age groups (Table 6-2). Among 12th graders, disapproval of regular marijuana use increased substantially in the 1980s, peaked in the early 1990s, declined some in the 1990s, and then leveled around 1998 with little change for some years thereafter. Since 2009, however, 12th graders have shown a fair decline in disapproval, falling from 80% in 2009 to 65% in 2017. The 19- to 22-year-olds had a quite similar pattern, with a recent decline from 81% in 2009 to 67% in 2017. Among 23- to 26-year-olds, some declines started later in the 1990s but were modest until about 2007, when disapproval of regular marijuana use fell from 85% to 65% in 2017. Thus since 2007 there has been a considerable decline in disapproval of regular (and occasional) marijuana use in all four age groups; the pattern is consistent with a secular trend, which would alert us to a possible increase in marijuana use. Indeed, such an increase in use has been occurring among 19- to 28-year-olds since 2010 through 2017(see Table 5-2).

- As is true for perceived risk of experimental use of ***LSD*** (summarized above), disapproval of experimental use continued its recent decline in 2017 for all four age groups (significantly so for 12th graders and 27-30 year olds), with the percent disapproving of experimental use being 78%, 73%, 74%, and 72%, respectively. All-time lows in disapproval occurred in 2016 and 2017 for the four groups. Still, the majority disapprove of such experimental use, which has been true since 1980, when these data were first available. Beginning around 1990, all age groups decreased some in their disapproval of trying LSD (starting from very high levels of disapproval at 90–91%). The decline was steepest among 12th graders, but there was a reversal in this group's disapproval in 1997, and then an increase through 2006. Disapproval in the older age groups declined less and in staggered fashion; this trend showed some evidence of a reversal among 19- to 22-year-olds and 23- to 26-year-olds since 2001 and 2002, respectively. The pattern again suggested lasting cohort differences in these attitudes. Since about 2010, disapproval levels generally showed consistent declines, reaching the all-time lows in 2016 and 2017 (ranging from 72% to 78%). Disapproval of regular LSD use has been near the top of the scale for more than three decades, ranging from 92% to 99%.

- In 2017, experimenting with ***MDMA*** (***ecstasy***, and, more recently, ***Molly***) was disapproved of by 85% of 12th graders and by 78% to 80% of the young adults. First measured among young adults in 2001, disapproval of MDMA use was positively associated with age in the early 2000s. In 2001 disapproval of trying ecstasy was quite high, and from 2001 to 2010, disapproval rose to even higher levels in all age groups, with little systematic change since then. Due to the advent of Molly—reputedly a stronger form of MDMA than ecstasy—the question for young adults was changed to MDMA in 2015 with both ecstasy and Molly given as examples (there was no evidence that the addition of Molly as an example had the effect of raising the disapproval level, as might have been expected; indeed, there was a nonsignificant decline in disapproval of occasional use in 2015).

- Disapproval of all three levels of ***heroin*** use (experimental, occasional, and regular use) has remained very high and fairly stable since MTF began, though there was a very gradual increase in disapproval in all age strata from the mid-1980s through around 2005, followed by a leveling. In 2017, disapproval of occasional and regular use was 96% to 98% in all age groups; disapproval of trying heroin was 94% to 97% across the age groups. For public health purposes, a noteworthy minor exception to the general pattern of trends for disapproval of heroin use was a little slippage in disapproval of experimental use that occurred among 12th graders (but not young adults) from 1991 through 1996 (from 96% to 92%)—a period during which heroin usage rates were rising.

- Disapproval of regular ***cocaine*** use rose gradually among 19- to 22-year-olds, from 89% in 1981 to 99% in 1990, with little change thereafter (97% in 2017), and the older young adult age groups had similar trends (Table 6-2). In fact, all three young adult age bands were 96% or above in disapproving of regular use in 2017. Disapproval of experimental cocaine use increased during the 1980s, peaking first among 12th graders at 94% in 1991. It then peaked in 1995 among 19- to 22-year-olds (at 94%) and 23- to 26-year-olds (at 92%). Finally, it peaked in 1999 at 90% among 27- to 30-year-olds, suggesting both a period and a cohort effect at work. All age groups had some modest falloff in disapproval since those peak levels were attained. The last five years, in particular, have shown consistent declines for all four age groups, with 2017 disapproval of experimental cocaine use ranging from 76% to 88%. This recent decline in disapproval could signal some future resurgence in cocaine use.

- Disapproval of experimenting with ***amphetamines*** was at or near all-time lows in 2016; however, in 2017, it increased significantly for 19-22 year olds (80%), increased nonsignificantly for 23-26 year olds (76%), and continued to decline for 27-30 year olds (74%). Disapproval of experimental use rose gradually in the 1980s as use was falling; thereafter, disapproval leveled in the mid-80% range through 2010, with almost no difference among the age strata. For example, trying amphetamines once or twice was disapproved of by 73–74% of 19- to 26-year-olds in 1984, compared to 84% by 1990. After a long period of level disapproval, all strata showed a slight drop in disapproval in 2011, followed by another leveling for most age groups, followed by another sharp drop of 10 percentage points in 2014 among 19- to 22-year-old age group (which contains most of the college students). In the past few years, there has been some further decline, with each young adult age group reaching lowest levels since the early 1980s in 2016 or 2017.

Disapproval of regular use started out very high among all age strata in the early 1980s and rose even higher by the early 1990s, where it remained for all age strata until 2011; after that there was a slight decline, but a leveling by 2012 that has largely continued into 2017 with disapproval above 90% for all age groups.

Some of the decline and age-group differences in disapproval of amphetamine use in all four age groups since 2010 is likely explained by a change in the question wording. Adderall and Ritalin were included in the question for the first time in 2011 as examples of amphetamines. There had been very little difference among the various age strata in either their levels or trends in disapproval until the significant decline in 2014, which brought the college-age group (19- to 22-year-olds) considerably below the other age groups in their disapproval of experimenting with amphetamines. In 2017, with the increase in disapproval among 19-22 year olds and the decrease among 27-30 year olds, the age differences were reversed (80%, 76%, and 74%, respectively); the 12th graders showed the highest level of disapproval at 82%.

- Disapproval of experimental use of ***sedatives (barbiturates)*** was at 86%, 88%, 81%, and 76% across the four age groups, respectively, in 2017, continuing its modest decline over the past five years for all age groups, with the exception of a significant increase in disapproval among 19-22 year olds. Over the years, disapproval of sedatives has moved very much in parallel with that for amphetamines**.** Disapproval increased significantly during the 1980s, accompanied by declining use. Disapproval of trying sedatives was at 84–85% in 1984 compared to 89–91% by 1990. Disapproval of sedative use slipped some among 12th graders after 1992 and among 19- to 22-year-olds after 1994, with the 23- to 26-year-olds following suit after 1996, and the 27- to 30-year-old stratum in 2004. This pattern of staggered change again suggests cohort effects, reflecting lasting cohort differences in these attitudes. In 2017, disapproval of experimental use stood between 76% and 88%, while disapproval of regular use was close to 100%.

- The story for ***alcohol*** is quite an interesting one, in that changes in the minimum drinking age seem to have led to modest changes in norms for the affected cohorts. Between 1980 and 1992, an increasing proportion of 12th graders favored *total abstention*; the percent who disapproved of drinking even just one or two drinks rose from 16% in 1980 to 33% in 1992. This figure fell back slightly and stood at 27% in 2017. Among 19- to 22-year-olds there was a modest increase in disapproving of any use between 1985 and 1989 (from 15% to 22%), where it held for some years; it remained at 18% in 2017. For the two oldest age groups, there has been rather little change in these attitudes so far, ranging from 12% to 15% in 2017. These differing trends may reflect the fact that during the 1980s, the drinking age was raised in a number of states so that by 1987 it was 21 in all states; this change would have had the greatest effect on 12th graders, who may have incorporated the legal restrictions into their normative structure and, as they entered young adulthood, brought these new norms with them. But the changes may be exhibited only among respondents in the cohorts that were underage after the time that the new law raising the minimum drinking age went into effect.

Disapproval of ***having one or two drinks nearly every day*** has not shown any such cohort effects, because all age groups have generally moved in parallel, at similar levels of disapproval through 2004. The three youngest age bands (which include 12th graders through 26-year-olds) showed an increase in disapproval of having one to two drinks daily up until about 1990 suggesting some secular trending (little data were yet available on the oldest age group), but disapproval has declined a fair amount in all of the age groups since then. Starting in 2004, a bit of a gap opened up between 12th graders and young adults that has remained through 2017, as 12th graders showed some increase and then leveling in disapproval of having one to two drinks daily and young adults, especially the oldest group, continued to show declines. In 2017, disapproval was 71% for 12th graders and 62%, 54%, and 50% for the three older age groups, respectively.

The pattern of cross-time changes in disapproval of ***heavy daily drinking*** (having four or five drinks nearly every day) for young adults closely parallels what was observed for the perceived risk associated with light daily drinking. This holds especially in terms of overall declines among the older group, though the level of disapproval was much higher for heavy than for light daily use, as would be expected (above 90% in 2017 for all age groups). Declines in both variables among the young adults may well be due to widely publicized reports that some cardiovascular benefits may result from having one or two drinks per day.

- Disapproval of ***binge drinking*** (also called ***occasions of heavy drinking***) on weekends has shown quite a bit of variation over the years as well as age differences. In 2017, disapproval was 73% for 12th graders and 64% to 66% for the young adults. Trends have been uneven over the years, but in general, disapproval has slowly increased for 12th graders from the most recent low of 63% in 1999 to 73% in 2017, has slowly increased for 19- to 22-year olds from the most recent low of 58% in 2002 to 65% in 2017, has shown little systematic change for 23- to 26-year olds since 1984 (ranging between 56% and 71%), and has slowly decreased for 27- to 30-year olds from the most recent high of 74% in 2004 to 66% in 2017.

  It is important to note that the age-based trends in disapproval often mirrored the corresponding trends in prevalence of heavy drinking. In particular, from the early 1980s for the two youngest age groups there was a considerable increase in disapproval that continued through 1992 for 12th graders (who then showed some drop-off) and through 1996 among 19- to 22-year-olds (who then also showed some drop-off). As Figure 5-18d illustrates, the prevalence of occasions of heavy drinking declined substantially among 12th graders and 19- to 22-year-olds between 1981 and the early 1990s, as norms became more restrictive. There was little or no change in disapproval among the 27- to 30-year-olds, either in their levels of disapproval or in their rates of occasions of heavy drinking, until the early 2000s, when disapproval began to drop and occasions of heavy drinking began to increase.

- Some fluctuations in the disapproval of ***cigarette smoking*** occurred over the decades covered by MTF. Twelfth graders showed some increase in disapproval of pack-or-more-a-day smoking between 1982 (69%) and 1992 (74%). Their disapproval then fell through 1997 (to 67%) as their smoking increased; disapproval then increased for several years (to 82% in 2006) before leveling, as smoking declined. In 2017, 87% disapproved of pack-or-more-a-day smoking. The 19- to 22-year-olds showed a similar increase in disapproval from 66% in 1982 to 85% in 2017. All four age strata showed some upward drift in their level of disapproval of smoking since about 1999 (reaching 81–85% in 2017), suggesting a secular change in attitudes during this period.

COHORT DIFFERENCES AND THEIR IMPLICATIONS FOR PREVENTION AND THEORY

An important theoretical point to be made—based on the strong evidence reported here for cohort effects in perceived risk and disapproval of many of the drugs under study—is that among the causes of cohort differences in actual use are lasting cohort differences in these critical *attitudes* and *beliefs*. In other words, *the attitudes and beliefs brought into adulthood from adolescence tend to persevere and continue to shape individual and population drug use over the life course.*

A second point has to do with the causes of these attitudinal cohort effects. We noted earlier that the older respondents are more likely than the younger ones to see as dangerous the use of marijuana, LSD, heroin, narcotics other than heroin, amphetamines, ecstasy, crystal methamphetamine, cocaine, crack, and sedatives (barbiturates). Some years ago, Lloyd Johnston proposed a framework for a theory of drug epidemics in which direct learning (from personal use) and vicarious learning (from observing use by others in both the immediate and mass media environments) play important roles in changing these key attitudes.[3] To the extent that the data on perceived risk represent cohort effects (enduring differences between class cohorts), these findings would be consistent with this theoretical perspective. Clearly, use of these particular drugs was greater when the older cohorts were growing up, and public attention and concern regarding the consequences of these drugs were greatest in the 1970s and early to mid-1980s. In the early 1970s, LSD was alleged to cause brain and chromosomal damage, as well as bad trips, flashbacks, and behavior that could prove dangerous. Methamphetamine use was discouraged with the slogan "speed kills." In the early 1980s there was an epidemic of cocaine use, and it reached a pinnacle in 1986 with the widely reported deaths of sports stars and others from cocaine. In addition, there was an epidemic of heroin use in the early 1970s. Later cohorts (through the mid-1990s, at least) were not exposed to those experiences while growing up. While there may have been a secular trend toward greater perceived risk for drugs in general, in the case of LSD there may have also been an operating cohort effect (with younger cohorts seeing less danger) offsetting the secular trend among 12th graders; the net effect was a decrease in 12th graders' perceived risk of LSD use after 1980.

This vicarious learning explanation has a very practical implication for national strategy for preventing future epidemics. Because fewer in their immediate social circles and fewer public role models may be using these drugs and exhibiting the adverse consequences of use during certain

[3] Johnston, L. D. (1991). Toward a theory of drug epidemics. In L. Donohew, H. E. Sypher, & W. J. Bukoski (Eds.), Persuasive communication and drug abuse prevention (pp. 93–131). Hillsdale, NJ: Lawrence Erlbaum.

historical periods, future cohorts of youth may have less opportunity to learn about the adverse consequences of these drugs in the normal course of growing up. Unless those hazards are convincingly communicated to them in *other ways*—for example, through school prevention programs, by their parents, and through the mass media, including public service advertising—they will become more susceptible to a new epidemic of use of the same or similar drugs.

In *Volume I,* we reported an increase in use of several drugs in 8th, 10th, and 12th grades in 1994 through 1997. This increase suggests that this form of generational forgetting may well have occurred during those years. For the cohorts that follow such a rise in use, there is once again an increased opportunity for vicarious learning from the adverse experiences of those around them, but by that time, members of affected cohorts have had to learn the hard way what consequences await those who become involved with the various drugs. In the 2000s we have seen drug use subside to some degree, which once again has created the conditions for generational forgetting of the dangers of many of these drugs. We are now seeing some softening of attitudes among teens and young adults regarding marijuana, and occasional use of ecstasy and cocaine, which suggests a real possibility of future increases in use among young adults of the future.

TABLE 6-1
Trends in Harmfulness as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Percentage saying "great risk" [a]

Q. How much do you think people risk harming themselves (physically or in other ways), if they . . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Try marijuana once or twice [f]	18	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	16.3	15.6	14.9	16.7
	19–22	8.3	7.8	9.7	9.7	12.8	11.2	13.0	12.9	16.8	16.9	17.8	19.1	19.7	19.4	18.8	13.3	16.9	14.8	13.4
	23–26	—	—	—	—	9.6	10.0	12.4	14.5	16.0	14.0	17.7	14.0	15.0	13.0	15.0	15.8	18.5	15.1	16.7
	27–30	—	—	—	—	—	—	—	—	14.6	16.0	17.0	15.7	15.1	14.0	14.8	16.1	16.2	16.1	16.4
Smoke marijuana occasionally [f]	18	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	25.6	25.9	24.7	24.4
	19–22	13.9	14.2	16.9	16.7	21.7	20.6	22.4	23.0	28.7	29.1	30.1	30.2	29.5	30.3	31.3	25.5	25.6	22.0	22.0
	23–26	—	—	—	—	15.8	16.3	20.9	20.8	26.8	25.3	30.4	26.2	27.4	24.0	25.5	27.7	27.3	26.4	26.8
	27–30	—	—	—	—	—	—	—	—	24.2	25.7	28.7	27.4	27.5	26.8	28.1	28.3	28.1	26.0	25.8
Smoke marijuana regularly [f]	18	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	60.8	59.9	58.1	58.5
	19–22	43.9	47.8	52.4	58.4	62.2	66.8	67.6	69.4	72.4	74.9	73.0	75.0	69.3	69.2	65.0	62.1	61.3	60.7	53.4
	23–26	—	—	—	—	52.9	57.5	59.4	65.3	68.3	72.1	71.0	70.9	67.3	64.1	63.2	64.2	62.7	64.1	62.7
	27–30	—	—	—	—	—	—	—	—	67.5	69.1	69.2	67.5	68.8	69.4	65.6	69.2	67.3	65.0	63.6
Try synthetic marijuana once or twice [g]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take synthetic marijuana occasionally [g]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try LSD once or twice [h]	18	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	36.4	36.2	34.7	37.4
	19–22	44.8	44.4	45.0	44.7	46.0	44.3	47.6	49.4	49.2	49.5	49.3	48.0	45.6	42.4	42.3	40.3	44.4	40.1	38.7
	23–26	—	—	—	—	48.3	46.9	47.9	51.5	53.7	50.7	52.0	50.1	49.7	49.0	46.8	45.8	46.1	46.6	45.7
	27–30	—	—	—	—	—	—	—	—	53.3	55.6	54.6	52.5	53.0	51.5	53.5	52.5	50.1	52.0	52.0
Take LSD regularly [h]	18	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	78.1	77.8	76.6	76.5
	19–22	83.4	85.3	86.2	86.0	84.5	86.4	87.1	85.6	85.4	85.5	85.8	86.6	87.0	81.3	81.0	80.5	82.4	83.6	78.6
	23–26	—	—	—	—	89.0	86.6	88.7	90.0	89.2	89.0	88.2	89.1	87.3	85.3	87.5	86.3	84.7	85.6	82.1
	27–30	—	—	—	—	—	—	—	—	89.1	91.2	92.0	87.1	88.5	89.0	89.2	88.4	87.0	87.2	90.5
Try PCP once or twice [h]	18	—	—	—	—	—	—	—	55.6	58.8	56.6	55.2	51.7	54.8	50.8	51.5	49.1	51.0	48.8	46.8
	19–22	—	—	—	—	—	—	—	63.6	63.8	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	64.8	63.2	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	65.9	—	—	—	—	—	—	—	—	—	—
Try ecstasy (MDMA, Molly) once or twice [h]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.8	34.5
	19–22	—	—	—	—	—	—	—	—	—	45.2	47.1	48.8	46.4	45.0	51.1	48.3	46.7	45.5	42.7
	23–26	—	—	—	—	—	—	—	—	—	49.5	47.2	47.4	45.5	41.9	50.6	49.3	50.4	50.5	47.7
	27–30	—	—	—	—	—	—	—	—	—	44.9	48.7	47.7	44.2	51.7	47.3	50.0	50.6	48.8	50.4
Take ecstasy (MDMA, Molly) occasionally [h]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try salvia once or twice [d,k]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take salvia occasionally [k]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try cocaine once or twice [h]	18	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	53.7	54.2	53.6	54.6
	19–22	31.4	30.4	33.3	28.7	33.1	33.2	35.5	45.9	51.9	51.5	58.1	58.7	56.1	60.5	63.8	57.7	61.9	55.5	55.4
	23–26	—	—	—	—	31.3	31.1	35.9	48.0	47.1	51.3	51.5	50.5	53.5	54.1	56.0	58.7	57.2	63.1	60.2
	27–30	—	—	—	—	—	—	—	—	45.3	53.0	51.6	52.6	51.8	54.7	53.5	56.4	53.6	54.6	60.5
Take cocaine occasionally [h]	18	—	—	—	—	—	—	54.2	66.8	69.2	71.8	73.9	75.5	75.1	73.3	73.7	70.8	72.1	72.4	70.1
	19–22	—	—	—	—	—	—	53.8	61.3	67.1	72.6	74.6	72.6	74.9	75.4	78.0	73.4	76.6	76.1	71.2
	23–26	—	—	—	—	—	—	50.9	62.6	63.2	69.9	69.9	70.3	69.9	72.8	70.3	76.0	71.3	76.5	74.2
	27–30	—	—	—	—	—	—	—	—	62.6	66.6	66.6	69.1	69.9	69.1	69.9	70.0	67.8	73.8	73.2
Take cocaine regularly [h]	18	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	87.9	88.3	87.1	86.3
	19–22	65.2	69.3	71.5	75.2	75.1	82.9	82.0	88.0	90.3	89.1	93.9	93.5	92.9	91.7	92.2	91.5	92.2	91.6	88.7
	23–26	—	—	—	—	75.6	76.9	83.0	88.9	90.9	91.2	91.2	92.7	89.9	91.9	92.6	93.3	90.6	93.2	92.9
	27–30	—	—	—	—	—	—	—	—	88.9	92.0	91.4	90.9	92.0	91.6	92.1	91.3	91.6	92.7	93.0

→ (Years Cont.)

(Table continued on next page.)

TABLE 6-1 (cont.)
Trends in Harmfulness as Perceived by
Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Percentage saying "great risk" [a]

Q. How much do you think people risk harming themselves (physically or in other ways), if they . . .	Age Group	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Try marijuana once or twice [f]	18	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	12.3	12.9	11.9	-1.1
	19–22	12.5	14.3	11.9	13.3	17.1	15.3	15.6	14.4	10.8	17.4	13.2	16.8	13.4	12.9	11.8	9.3	10.6	9.4	9.8	+0.4
	23–26	16.4	13.1	13.0	15.1	15.3	13.6	13.0	13.9	13.0	12.5	10.6	12.7	10.5	10.1	9.7	9.6	9.5	9.0	6.9	-2.2 s
	27–30	16.1	14.4	17.3	16.2	18.0	13.8	14.5	14.5	16.6	11.4	12.3	11.5	12.4	12.5	10.2	8.8	7.9	7.3	6.9	-0.4
Smoke marijuana occasionally [f]	18	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	15.8	17.1	14.1	-3.0 s
	19–22	19.8	25.8	18.0	21.0	24.1	23.2	24.3	22.1	22.3	23.6	23.1	19.9	19.6	20.6	19.1	15.4	15.6	13.0	13.3	+0.3
	23–26	26.4	24.9	20.5	24.5	22.2	22.7	21.6	22.3	20.2	18.5	18.1	19.3	15.5	17.1	14.4	14.8	13.7	14.1	9.7	-4.4 sss
	27–30	25.3	25.8	25.0	30.2	27.9	25.1	24.8	21.8	25.6	21.6	21.7	18.6	19.3	19.7	16.0	14.8	12.1	11.1	9.9	-1.3
Smoke marijuana regularly [f]	18	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	31.9	31.1	29.0	-2.1
	19–22	55.2	58.0	49.6	56.7	57.8	57.2	55.3	54.5	50.4	51.6	46.4	49.8	43.0	43.5	39.4	35.1	33.3	30.0	27.3	-2.7
	23–26	60.1	60.3	55.1	53.7	56.7	54.2	53.6	55.9	52.5	52.4	43.0	47.1	39.3	40.1	35.9	34.5	30.6	30.2	23.3	-6.9 sss
	27–30	66.1	64.0	61.7	63.5	64.7	59.3	57.0	54.9	51.5	51.2	47.4	48.5	42.2	43.5	40.3	35.3	30.6	29.4	24.7	-4.7 ss
Try synthetic marijuana once or twice [g]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	23.5	25.9	32.5	33.0	35.6	33.0	-2.6
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	30.6	33.1	36.1	39.3	42.6	42.7	+0.1
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	29.1	29.4	38.5	40.4	45.1	40.8	-4.2
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	28.9	32.7	35.1	37.3	45.4	41.7	-3.7
Take synthetic marijuana occasionally [g]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	32.7	36.2	39.4	40.9	43.9	40.0	-3.9
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	38.5	40.1	44.5	47.6	53.9	52.6	-1.2
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	37.3	38.6	47.2	49.5	53.0	50.8	-2.2
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	36.3	41.0	43.1	46.6	53.2	52.2	-1.0
Try LSD once or twice [h]	18	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	33.2	31.7	30.0	-1.7
	19–22	38.1	37.9	37.5	35.3	39.7	39.2	38.7	43.5	40.9	46.5	38.5	40.9	43.5	43.5	40.3	40.1	39.4	36.5	34.5	-2.0
	23–26	49.3	44.9	48.5	45.7	43.8	40.7	39.9	38.1	42.8	43.8	43.0	48.7	44.1	47.2	43.0	42.4	38.0	42.5	32.1	-10.4 s
	27–30	49.9	46.4	46.7	44.9	47.5	47.2	47.9	44.9	44.6	42.4	41.7	41.5	45.2	45.8	45.2	45.6	47.6	43.7	41.3	-2.4
Take LSD regularly [h]	18	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	60.7	58.2	56.1	-2.1
	19–22	82.2	81.6	79.2	81.1	78.6	78.4	77.8	78.9	77.5	73.9	74.8	72.8	74.4	78.0	76.6	74.7	72.7	75.7	65.1	-10.6 ss
	23–26	85.4	84.1	86.0	85.3	84.3	83.5	80.8	82.0	80.3	80.2	82.0	83.1	81.4	78.9	79.0	76.0	71.7	73.9	68.7	-5.2
	27–30	87.8	85.3	86.9	85.3	87.5	83.9	87.9	82.2	85.7	82.9	80.2	87.0	83.0	83.2	83.8	80.3	79.9	73.2	71.7	-1.5
Try PCP once or twice [h]	18	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	54.4	55.1	53.6	-1.5
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try ecstasy (MDMA, Molly) once or twice [h,m]	18	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	49.5	48.8	49.1	+0.3
	19–22	37.6	37.9	40.5	46.8	50.1	52.3	53.8	51.0	50.3	51.4	51.4	50.7	49.9	45.9	52.4	50.7	47.7	51.2	43.9	-7.3
	23–26	50.0	46.7	45.7	45.6	45.9	44.9	51.2	46.4	51.4	46.3	46.4	47.5	54.2	43.7	49.1	56.5	48.8	50.5	43.2	-7.3
	27–30	50.9	48.9	53.6	52.0	58.8	49.1	50.2	46.5	51.9	43.5	43.5	52.0	51.3	44.3	51.4	52.0	54.5	52.1	51.3	-0.8
Take ecstasy (MDMA, Molly) occasionally [h,m]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	72.5	77.8	81.7	78.3	80.0	82.5	79.3	81.9	79.2	76.2	71.6	76.7	75.3	72.9	66.9	72.1	64.2	-7.8
	23–26	—	—	72.5	71.9	73.6	77.4	77.2	77.0	78.7	78.6	76.2	79.1	76.9	76.6	69.8	77.6	69.1	69.1	69.8	+0.7
	27–30	—	—	75.2	76.5	79.9	76.9	74.7	70.4	72.0	71.3	71.4	69.7	77.8	75.0	76.8	71.6	73.1	69.0	71.0	+2.0
Try salvia once or twice [d,k]	18	—	—	—	—	—	—	—	—	—	—	—	39.8	38.7	13.8	12.9	14.1	13.1	13.0	10.2	-2.8
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	22.5	21.4	25.9	23.7	23.8	23.6	-0.2
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	18.6	19.6	24.5	23.5	30.9	21.0	-9.9 s
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	18.8	20.6	18.4	21.7	25.2	21.3	-3.8
Take salvia occasionally [k]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	23.1	21.3	20.0	17.6	16.3	13.8	-2.5
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	29.2	30.6	32.6	32.6	28.3	29.8	+1.5
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	26.6	25.5	31.1	31.2	38.6	33.6	-5.0
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	24.7	25.7	25.4	28.8	32.3	29.2	-3.2
Try cocaine once or twice [h]	18	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	51.1	52.7	49.5	-3.2
	19–22	52.8	56.7	48.9	55.5	55.0	55.5	55.6	54.0	55.8	56.7	54.9	56.8	56.2	57.0	56.3	56.3	57.4	55.8	51.2	-4.6
	23–26	62.6	63.1	62.4	61.0	55.4	52.1	53.0	52.5	56.9	55.0	56.6	56.7	54.9	60.3	50.9	57.3	49.1	55.2	48.1	-7.1
	27–30	61.7	59.9	60.9	58.8	56.4	61.4	56.5	58.1	54.8	56.1	52.0	51.6	54.7	51.8	53.8	50.1	53.1	53.2	50.1	-3.1
Take cocaine occasionally [h]	18	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	66.3	68.6	64.6	-4.0 s
	19–22	68.0	72.4	70.0	69.9	70.3	70.2	72.1	71.0	71.5	72.4	67.2	72.9	70.3	78.0	76.5	74.9	76.4	71.5	73.3	+1.8
	23–26	77.8	76.2	74.2	75.4	68.3	74.1	70.4	68.5	70.9	67.2	74.9	71.6	71.6	76.9	75.8	75.8	69.5	70.7	67.3	-3.4
	27–30	75.4	76.5	78.1	74.3	72.6	75.3	76.2	74.6	72.1	73.9	65.4	71.5	71.0	73.2	77.9	70.7	71.5	69.6	71.9	+2.3
Take cocaine regularly [h]	18	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	79.1	78.3	74.9	-3.5
	19–22	88.5	90.7	85.1	88.3	87.4	87.1	89.2	86.2	86.7	87.0	88.6	87.9	86.3	92.3	91.4	89.7	90.4	89.6	92.2	+2.5
	23–26	92.7	92.9	91.1	91.5	88.5	91.5	88.0	90.9	88.0	86.5	89.2	90.9	88.0	91.2	91.2	92.4	86.4	92.0	85.5	-6.6 s
	27–30	92.4	92.3	94.5	91.2	92.9	91.3	94.0	90.0	89.9	91.1	88.8	92.7	87.2	91.2	91.7	88.7	90.0	91.6	89.5	-2.1

(List of drugs continued.)

TABLE 6-1 (cont.)
Trends in Harmfulness as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Percentage saying "great risk" [a]

→ (Years Cont.)

Q. How much do you think people risk harming themselves (physically or in other ways), if they . . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Try crack once or twice [h]	18	—	—	—	—	—	—	—	57.0	62.1	62.9	64.3	60.6	62.4	57.6	58.4	54.6	56.0	54.0	52.2
	19–22	—	—	—	—	—	—	—	59.4	67.3	68.5	69.4	66.9	65.4	63.5	70.1	61.9	65.2	62.0	59.3
	23–26	—	—	—	—	—	—	—	59.1	63.5	69.8	67.3	66.9	67.1	64.2	69.3	64.8	68.6	64.7	67.3
	27–30	—	—	—	—	—	—	—	—	66.5	64.9	68.7	66.8	64.3	68.8	65.6	66.4	66.7	68.5	66.5
Take crack occasionally [h]	18	—	—	—	—	—	—	—	70.4	73.2	75.3	80.4	76.5	76.3	73.9	73.8	72.8	71.4	70.3	68.7
	19–22	—	—	—	—	—	—	—	75.0	77.3	81.8	82.3	82.7	81.9	83.6	84.3	78.8	83.5	79.1	79.1
	23–26	—	—	—	—	—	—	—	70.3	74.0	79.9	81.1	83.9	84.4	81.6	83.2	81.4	85.9	80.8	84.2
	27–30	—	—	—	—	—	—	—	—	76.4	76.7	82.6	81.8	79.1	83.6	78.6	81.1	81.3	85.3	81.7
Take crack regularly [h]	18	—	—	—	—	—	—	—	84.6	84.8	85.6	91.6	90.1	89.3	87.5	89.6	88.6	88.0	86.2	85.3
	19–22	—	—	—	—	—	—	—	89.6	91.1	94.1	94.9	95.6	93.4	96.2	96.0	94.2	94.7	93.3	92.8
	23–26	—	—	—	—	—	—	—	88.0	89.2	91.5	94.2	95.4	94.1	93.4	94.9	95.5	96.1	91.4	95.6
	27–30	—	—	—	—	—	—	—	—	89.6	89.5	95.3	94.4	93.3	93.5	93.0	94.0	94.3	96.0	94.3
Try cocaine powder once or twice [i]	18	—	—	—	—	—	—	—	45.3	51.7	53.8	53.9	53.6	57.1	53.2	55.4	52.0	53.2	51.4	48.5
	19–22	—	—	—	—	—	—	—	44.0	48.6	51.1	54.5	52.7	56.2	49.7	62.0	55.8	57.1	53.8	53.0
	23–26	—	—	—	—	—	—	—	41.0	43.6	48.4	48.9	47.4	45.9	45.6	52.5	48.9	57.2	53.6	54.1
	27–30	—	—	—	—	—	—	—	—	42.0	45.1	46.2	43.3	42.3	49.9	47.1	48.2	48.9	49.1	49.8
Take cocaine powder occasionally [i]	18	—	—	—	—	—	—	—	56.8	61.9	65.8	71.1	69.8	70.8	68.6	70.6	69.1	68.8	67.7	65.4
	19–22	—	—	—	—	—	—	—	58.0	59.0	63.2	70.0	69.9	72.6	70.6	75.4	73.0	77.4	70.7	73.0
	23–26	—	—	—	—	—	—	—	50.0	53.2	62.2	63.3	67.0	65.8	64.0	68.8	68.8	76.1	72.8	77.0
	27–30	—	—	—	—	—	—	—	—	53.6	52.7	60.9	59.2	61.2	64.3	61.0	65.9	68.2	69.7	68.5
Take cocaine powder regularly [i]	18	—	—	—	—	—	—	—	81.4	82.9	83.9	90.2	88.9	88.4	87.0	88.6	87.8	86.8	86.0	84.1
	19–22	—	—	—	—	—	—	—	86.6	87.6	91.3	92.5	93.8	92.1	94.0	94.9	93.5	93.8	92.8	91.5
	23–26	—	—	—	—	—	—	—	82.9	84.1	88.5	92.4	93.8	91.3	92.4	92.8	92.1	94.8	90.8	93.7
	27–30	—	—	—	—	—	—	—	—	85.1	86.7	92.7	91.1	91.5	92.5	90.7	92.7	91.7	93.0	92.3
Try heroin once or twice [g]	18	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	50.9	52.5	56.7	57.8
	19–22	57.8	56.8	54.4	52.5	58.7	51.0	55.5	57.9	58.9	59.6	58.3	59.9	59.8	58.9	60.8	58.9	61.0	63.9	60.7
	23–26	—	—	—	—	58.2	59.2	60.8	66.6	65.4	62.3	64.1	62.4	63.7	65.0	63.3	64.1	63.5	67.3	67.3
	27–30	—	—	—	—	—	—	—	—	66.0	69.7	67.5	66.1	66.5	69.3	69.6	66.4	66.4	67.9	69.7
Take heroin occasionally [g]	18	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	71.0	74.8	76.3	76.9
	19–22	77.5	77.8	73.6	74.5	74.9	73.6	77.2	77.6	77.5	79.8	80.8	80.2	81.6	78.8	79.0	77.9	82.1	84.7	80.4
	23–26	—	—	—	—	81.2	80.7	78.9	84.5	82.4	80.8	83.4	84.4	81.5	82.1	80.8	85.3	82.4	86.5	83.9
	27–30	—	—	—	—	—	—	—	—	86.0	86.8	85.3	84.3	84.9	86.2	86.8	83.1	83.8	85.8	86.6
Take heroin regularly [g]	18	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	87.2	89.5	88.9	89.1
	19–22	87.2	89.9	87.5	88.6	86.8	90.2	90.7	90.2	89.6	90.8	91.2	91.5	92.2	89.2	91.2	89.9	94.0	93.7	92.4
	23–26	—	—	—	—	92.0	90.1	90.6	92.8	91.5	91.3	91.0	92.6	91.3	91.6	93.0	93.5	92.7	94.4	93.4
	27–30	—	—	—	—	—	—	—	—	92.7	93.5	93.0	90.7	91.3	92.6	93.8	92.4	92.1	93.8	95.0
Try narcotics other than heroin once or twice [h]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try narcotics other than heroin regularly [h]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try amphetamines once or twice [b,h]	18	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	28.8	30.8	31.0	35.3
	19–22	24.6	24.6	27.8	24.8	26.9	23.9	27.1	27.4	31.7	28.9	35.6	32.8	34.5	33.3	36.3	32.9	36.8	30.1	31.7
	23–26	—	—	—	—	29.6	29.4	29.4	34.1	33.2	32.5	35.3	31.0	32.7	32.6	32.9	34.3	34.9	37.8	40.9
	27–30	—	—	—	—	—	—	—	—	35.2	37.5	36.9	36.5	36.2	34.0	37.5	36.0	36.2	34.5	37.6
Take amphetamines regularly [b,h]	18	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	65.9	66.8	66.0	67.7
	19–22	71.9	69.9	68.3	69.9	68.4	68.5	72.3	72.0	73.9	71.3	74.0	77.1	73.5	73.5	71.6	72.2	75.8	72.3	71.9
	23–26	—	—	—	—	75.8	77.2	75.6	78.2	77.4	76.7	77.8	79.4	76.4	76.2	73.6	80.5	78.5	79.1	77.5
	27–30	—	—	—	—	—	—	—	—	80.6	82.9	83.3	79.4	80.3	79.8	78.4	77.7	75.6	77.4	81.1
Try crystal methamphetamine (ice) [h]	18	—	—	—	—	—	—	—	—	—	—	—	61.6	61.9	57.5	58.3	54.4	55.3	54.4	52.7
	19-22	—	—	—	—	—	—	—	—	—	—	57.8	58.6	57.7	57.5	61.4	58.9	61.1	56.4	55.8
	23–26	—	—	—	—	—	—	—	—	—	—	56.5	56.0	55.6	52.0	61.0	57.8	64.1	60.7	58.2
	27–30	—	—	—	—	—	—	—	—	—	—	59.6	57.2	52.7	60.3	57.9	58.5	59.1	59.8	59.9

(Table continued on next page.)

TABLE 6-1 (cont.)
Trends in Harmfulness as Perceived by
Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. How much do you think people risk harming themselves (physically or in other ways), if they . . .	Age Group	Percentage saying "great risk" [a] 1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Try crack once or twice [h]	18	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	53.6	53.9	51.6	-2.3
	19–22	56.1	52.9	54.1	54.1	55.1	56.8	56.6	55.3	51.9	54.9	54.9	53.7	56.6	—	—	—	—	—	—	—
	23–26	64.6	63.2	59.8	60.9	58.5	56.4	60.6	54.7	58.4	50.5	50.6	58.4	61.6	—	—	—	—	—	—	—
	27–30	65.0	62.9	69.3	67.4	66.0	62.6	61.9	56.8	64.1	56.2	56.2	62.2	60.4	—	—	—	—	—	—	—
Take crack occasionally [h]	18	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	67.8	66.2	65.3	-0.9
	19–22	75.5	74.9	72.3	75.3	75.3	76.0	75.0	72.8	77.7	75.7	75.7	73.6	74.8	—	—	—	—	—	—	—
	23–26	81.6	84.0	80.1	82.2	77.1	76.4	78.6	76.8	79.8	75.2	75.2	77.7	82.8	—	—	—	—	—	—	—
	27–30	79.8	81.6	84.4	81.5	81.9	82.1	79.5	82.8	79.1	77.3	77.3	80.1	79.6	—	—	—	—	—	—	—
Take crack regularly [h]	18	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	81.2	81.9	79.8	-2.2
	19–22	92.3	91.1	89.6	91.1	93.8	93.3	92.5	90.3	90.3	93.6	93.6	93.1	90.8	—	—	—	—	—	—	—
	23–26	94.4	95.6	93.4	94.7	92.2	92.5	93.1	93.3	93.1	91.8	91.8	93.7	94.1	—	—	—	—	—	—	—
	27–30	95.2	93.5	96.8	94.2	94.4	94.0	95.2	94.1	93.6	93.1	93.1	93.9	92.6	—	—	—	—	—	—	—
Try cocaine powder once or twice [i]	18	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	49.0	49.3	45.1	-4.1 s
	19–22	47.9	48.0	47.1	47.9	49.4	48.7	50.2	48.7	46.8	48.3	48.3	44.4	51.3	52.2	51.3	52.8	52.9	52.6	50.4	-2.1
	23–26	53.8	53.2	53.9	52.5	50.8	46.0	53.3	45.8	48.1	44.1	44.2	43.9	47.4	52.5	47.4	48.9	49.2	48.4	47.0	-1.4
	27–30	49.7	52.2	53.3	54.4	56.6	52.5	52.9	49.0	53.6	47.2	47.2	52.1	48.3	53.5	48.3	51.2	49.8	48.5	45.5	-3.0
Take cocaine powder occasionally [i]	18	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	62.8	62.9	60.1	-2.8
	19–22	69.3	69.3	64.4	68.9	69.3	68.6	68.1	66.4	67.1	68.5	68.5	63.7	64.5	69.4	64.5	69.7	70.3	68.2	67.8	-0.4
	23–26	70.8	76.0	70.5	73.7	67.9	64.6	69.9	66.7	69.9	64.5	64.5	65.5	68.2	73.0	68.2	65.9	66.6	64.1	63.9	-0.2
	27–30	70.1	71.3	73.5	71.9	71.7	71.5	71.7	73.1	69.3	64.9	65.0	68.9	68.8	71.0	68.8	67.3	64.8	64.2	62.7	-1.5
Take cocaine powder regularly [i]	18	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	80.1	80.7	78.8	-1.9
	19–22	92.4	90.7	89.8	91.0	92.0	91.6	90.7	89.1	89.5	92.3	92.3	90.7	91.0	88.3	90.2	88.6	89.6	89.8	87.3	-2.5
	23–26	93.6	94.2	92.2	93.4	89.1	89.4	91.2	92.9	92.3	90.5	90.5	91.0	93.8	90.6	88.7	86.1	88.1	87.3	88.4	+1.1
	27–30	93.1	91.5	94.0	93.3	94.1	93.1	93.9	92.4	92.5	90.1	90.2	92.1	91.5	92.2	90.9	89.2	91.4	89.2	85.3	-4.0 s
Try heroin once or twice [g]	18	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	64.0	64.5	63.0	-1.5
	19–22	63.5	63.2	64.0	63.1	64.6	67.3	66.5	65.0	69.6	67.7	67.3	64.2	66.5	66.8	68.9	66.1	70.4	70.5	70.9	+0.4
	23–26	68.0	70.7	71.9	69.8	70.6	67.5	69.2	67.0	68.3	70.1	69.2	75.6	71.3	74.8	69.2	70.8	72.0	74.2	73.7	-0.5
	27–30	70.1	67.4	68.2	70.9	72.3	68.4	74.4	70.8	70.2	70.2	67.6	69.6	69.1	70.4	72.7	71.7	74.5	72.6	74.3	+1.7
Take heroin occasionally [g]	18	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	78.0	78.7	74.6	-4.1 s
	19–22	82.5	82.0	83.6	82.2	84.9	85.1	83.8	84.3	85.4	84.5	83.3	81.3	82.9	82.1	85.0	83.3	85.8	85.9	86.3	+0.4
	23–26	88.5	86.6	88.4	90.0	88.3	86.7	87.5	85.2	86.5	88.0	87.8	90.0	88.6	84.2	85.1	85.9	86.0	87.4	87.1	-0.3
	27–30	87.1	86.5	86.4	87.9	87.4	88.6	91.2	88.3	88.5	87.7	87.7	90.1	85.8	86.2	88.6	83.7	88.2	85.0	89.4	+4.5 s
Take heroin regularly [g]	18	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	84.8	85.4	83.3	-2.2
	19–22	92.8	94.0	91.3	92.6	93.9	94.3	94.9	94.2	93.6	92.3	92.6	90.8	91.8	93.8	93.5	94.0	93.3	93.2	94.9	+1.7
	23–26	93.7	94.8	95.9	96.3	96.5	96.0	94.8	95.8	93.1	95.7	94.5	97.1	94.2	92.5	95.0	96.2	92.5	95.3	94.8	-0.6
	27–30	93.7	94.2	94.5	95.9	94.9	95.0	97.3	95.3	94.8	95.4	93.9	97.2	94.7	93.6	96.2	96.1	95.6	94.5	95.9	+1.4
Try narcotics other than heroin once or twice [h]	18	—	—	—	—	—	—	—	—	—	—	—	40.4	39.9	38.4	43.1	42.7	44.1	43.6	42.0	-1.6
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	47.3	46.1	49.8	50.6	49.9	47.8	-2.1
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	45.3	44.1	45.2	46.4	45.8	45.7	-0.1
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	43.0	47.3	48.5	45.6	45.8	43.7	-2.1
Try narcotics other than heroin regularly [h]	18	—	—	—	—	—	—	—	—	—	—	—	74.9	75.5	73.9	75.8	72.7	73.9	72.4	70.8	-1.6
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	70.3	74.9	76.0	76.2	76.2	73.2	-3.0
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	78.2	75.6	75.8	75.6	76.3	77.8	+1.6
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	76.2	75.7	76.0	74.9	76.7	78.1	+1.4
Try amphetamines once or twice [b,h]	18	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	34.0	31.1	31.9	+0.8
	19–22	33.7	35.0	34.2	38.1	40.2	36.8	38.3	40.0	38.4	42.1	39.3	40.8	34.7	31.9	33.8	32.8	34.5	32.2	36.8	+4.6
	23–26	41.8	39.9	41.6	38.0	38.3	33.2	39.1	37.0	38.0	40.8	40.7	42.2	31.4	37.8	31.4	37.4	33.5	34.0	26.1	-7.8 s
	27–30	36.3	39.4	38.5	39.0	40.5	39.2	38.2	39.7	37.4	36.5	36.2	38.5	36.9	35.3	34.0	30.4	32.1	30.5	31.6	+1.1
Take amphetamines regularly [b,h]	18	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	54.3	51.3	50.0	-1.3
	19–22	72.4	73.4	71.1	72.7	75.0	72.4	74.1	72.1	73.8	74.2	74.7	76.9	66.1	69.8	63.9	65.3	63.8	61.5	60.4	-1.0
	23–26	78.7	79.0	77.7	77.9	80.1	75.1	80.1	78.3	77.0	76.5	73.9	80.8	69.7	68.3	64.9	68.5	59.0	65.8	57.8	-8.0
	27–30	82.6	80.8	79.9	79.8	81.5	77.6	78.9	78.9	77.6	78.9	80.1	81.3	75.1	73.5	67.8	65.6	65.1	62.6	64.9	+2.4
Try crystal methamphetamine (ice) [h]	18	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	70.0	70.0	69.3	-0.6
	19-22	50.6	49.2	52.5	56.5	60.0	60.3	63.1	63.5	65.0	70.0	70.0	70.7	74.2	—	—	—	—	—	—	—
	23–26	61.3	60.1	59.2	57.7	58.6	55.9	63.9	63.9	66.6	65.6	65.6	70.1	74.6	—	—	—	—	—	—	—
	27–30	61.0	59.7	66.4	62.5	66.6	62.8	62.6	64.9	67.9	62.0	62.0	70.2	72.9	—	—	—	—	—	—	—

↓
(List of drugs continued.)

TABLE 6-1 (cont.)
Trends in Harmfulness as Perceived by
Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Percentage saying "great risk" [a] → (Years Cont.)

Q. How much do you think people risk harming themselves (physically or in other ways), if they . . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Try bath salts (synthetic stimulants) once or twice [h]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try bath salts (synthetic stimulants) occasionally [h]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try Adderall once or twice [h]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take Adderall occasionally [h]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try sedatives/ barbiturates once or twice [c,h]	18	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	26.3	29.1	26.9	29.0
	19–22	27.6	26.4	30.5	25.4	29.9	25.0	30.7	29.6	32.7	30.5	36.4	33.5	33.5	33.4	35.0	30.5	34.1	31.4	27.7
	23–26	—	—	—	—	32.2	29.9	30.2	35.5	35.8	32.9	37.9	31.8	33.5	32.8	34.0	34.8	35.8	37.3	40.3
	27–30	—	—	—	—	—	—	—	—	37.2	38.7	39.0	37.0	38.2	36.5	40.5	36.6	37.2	35.7	36.7
Take sedatives/ barbiturates regularly [c,h]	18	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	61.6	60.4	56.8	56.3
	19–22	74.0	73.3	72.7	71.3	71.6	71.7	74.5	73.0	74.0	71.7	75.5	75.5	73.6	71.1	69.4	66.4	70.7	69.5	65.1
	23–26	—	—	—	—	77.4	77.0	74.9	79.9	79.8	76.6	80.5	77.7	76.3	75.0	74.3	77.6	77.1	75.2	73.9
	27–30	—	—	—	—	—	—	—	—	81.5	83.7	84.0	79.6	78.6	80.2	78.3	77.7	74.1	77.1	79.9
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) [i]	18	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	5.9	7.3	6.7	8.0
	19–22	3.0	3.4	3.1	2.3	4.7	3.1	5.4	3.5	3.9	5.9	6.1	5.4	5.8	6.6	6.5	4.5	3.3	3.2	4.2
	23–26	—	—	—	—	5.5	3.0	6.5	6.6	4.2	5.1	5.7	4.4	5.6	3.2	4.5	4.3	4.8	4.4	4.4
	27–30	—	—	—	—	—	—	—	—	5.0	6.3	4.4	6.6	5.6	4.7	4.1	6.7	4.7	4.0	6.2
Take one or two drinks nearly every day [i]	18	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	24.8	25.1	24.8	24.3
	19–22	22.7	22.9	23.2	23.2	25.0	26.3	27.3	26.1	26.5	28.1	30.1	29.1	30.2	28.0	27.5	24.0	23.0	24.2	22.1
	23–26	—	—	—	—	27.8	27.4	26.9	30.2	29.1	27.8	31.1	30.4	31.6	25.9	26.2	26.1	22.0	20.2	21.0
	27–30	—	—	—	—	—	—	—	—	27.4	31.7	32.2	31.7	30.9	28.0	27.4	27.2	24.0	24.8	20.8
Take four or five drinks nearly every day [i]	18	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	62.8	65.6	63.0	62.1
	19–22	71.2	72.7	73.3	72.7	76.2	74.1	74.0	76.4	72.8	75.7	76.1	75.5	71.8	72.1	70.3	72.5	68.5	71.4	70.4
	23–26	—	—	—	—	76.7	77.9	80.1	77.2	81.8	76.9	79.7	80.2	78.0	76.7	77.5	75.2	72.0	75.1	69.3
	27–30	—	—	—	—	—	—	—	—	79.3	81.7	84.7	79.1	79.9	79.1	76.6	82.2	76.1	79.3	75.7
Have five or more drinks once or twice each weekend [i]	18	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	45.2	49.5	43.0	42.8
	19–22	34.2	30.1	33.5	36.6	37.9	40.2	34.6	36.7	36.9	42.4	40.6	40.8	41.8	42.4	41.9	39.9	40.7	36.6	42.0
	23–26	—	—	—	—	38.4	39.7	39.1	39.8	35.8	37.7	40.2	39.3	37.6	36.2	40.2	37.9	39.1	37.4	41.1
	27–30	—	—	—	—	—	—	—	—	41.0	42.3	44.1	42.2	45.1	42.9	43.2	44.6	41.5	40.0	40.2
Smoke one or more packs of cigarettes per day [f]	18	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	65.6	68.2	68.7	70.8
	19–22	66.5	61.7	64.0	62.1	69.1	71.4	70.4	70.6	71.0	73.4	72.5	77.9	72.6	76.0	71.2	71.6	73.8	76.3	77.2
	23–26	—	—	—	—	71.1	70.1	75.7	73.6	75.5	71.4	78.5	75.3	76.3	78.4	76.4	76.0	76.0	77.6	76.5
	27–30	—	—	—	—	—	—	—	—	72.8	75.2	77.8	75.4	77.6	75.0	75.3	75.6	73.0	80.3	80.9
Use electronic cigarettes (e-cigarettes) regularly	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use smokeless tobacco regularly [h]	18	—	—	—	—	—	—	25.8	30.0	33.2	32.9	34.2	37.4	35.5	38.9	36.6	33.2	37.4	38.6	40.9
	19–22	—	—	—	—	—	—	29.7	34.1	31.1	37.1	33.5	38.9	40.1	43.3	37.6	42.3	40.9	46.5	47.4
	23–26	—	—	—	—	—	—	37.0	38.5	35.8	37.9	40.1	38.9	41.6	44.6	42.9	46.6	47.2	46.2	48.4
	27–30	—	—	—	—	—	—	—	—	42.8	42.8	43.8	44.3	44.1	47.3	46.3	44.2	43.6	50.2	52.6
Approximate Weighted N Per Form =	18	*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*	*2,603*	*2,449*	*2,579*	*2,564*
	19–22	*590*	*585*	*583*	*585*	*579*	*547*	*581*	*570*	*551*	*565*	*552*	*533*	*527*	*480*	*490*	*500*	*469*	*464*	*431*
	23–26					*540*	*512*	*545*	*531*	*527*	*498*	*511*	*505*	*518*	*503*	*465*	*446*	*438*	*420*	*413*
	27–30									*513*	*587*	*490*	*486*	*482*	*473*	*443*	*450*	*422*	*434*	*416*

(Table continued on next page.)

TABLE 6-1 (cont.)
Trends in Harmfulness as Perceived by
Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. How much do you think people risk harming themselves (physically or in other ways), if they . . .	Age Group	Percentage saying "great risk" [a] 1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Try bath salts (synthetic stimulants) once or twice [h]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	33.2	59.5	59.2	57.5	54.9	51.3	-3.6
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	44.5	62.7	68.8	65.2	69.6	68.4	-1.2
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	46.7	66.3	67.3	69.4	70.9	68.6	-2.3
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	48.7	64.5	73.7	72.4	73.3	72.1	-1.2
Take bath salts (synthetic stimulants) occasionally [h]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	45.0	69.9	68.8	67.4	64.2	61.5	-2.7
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	52.6	70.1	76.1	75.3	78.8	78.6	-0.2
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	54.0	75.3	76.7	77.7	78.7	78.8	+0.1
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	55.9	71.5	78.4	77.4	80.7	81.4	+0.7
Try Adderall once or twice [h]	18	—	—	—	—	—	—	—	—	—	—	—	33.3	31.2	27.2	31.8	33.6	34.3	32.5	32.0	-0.5
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	30.0	27.7	31.5	27.5	30.6	32.9	+2.3
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	28.9	32.9	32.2	29.8	32.9	27.5	-5.4
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	29.4	32.7	35.9	33.2	37.0	32.4	-4.6
Take Adderall occasionally [h]	18	—	—	—	—	—	—	—	—	—	—	—	41.6	40.8	35.3	38.8	41.5	41.6	40.9	40.6	-0.3
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	38.8	39.8	41.8	40.2	43.0	45.4	+2.5
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	39.7	44.8	44.9	41.3	42.5	37.1	-5.4
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	44.1	45.0	45.3	44.2	47.7	46.5	-1.2
Try sedatives/ barbiturates once or twice [c,h]	18	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	28.9	27.4	26.9	-0.5
	19–22	28.5	30.3	30.0	30.7	32.7	26.7	26.9	28.9	28.1	31.9	26.2	28.7	30.1	32.8	30.5	32.7	32.1	33.5	37.1	+3.6
	23–26	39.4	37.0	38.5	34.7	36.5	22.2	29.8	26.3	25.9	28.4	31.1	36.2	28.8	35.9	31.8	34.8	33.9	31.3	30.6	-0.7
	27–30	35.2	36.3	40.9	37.3	38.6	31.4	31.7	28.8	28.0	27.8	27.5	27.4	34.4	28.7	31.9	25.0	34.2	34.8	30.4	-4.4
Take sedatives/ barbiturates regularly [c,h]	18	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	50.6	47.0	44.0	-3.0
	19–22	64.7	64.6	61.8	64.5	63.8	60.2	64.4	61.3	63.2	64.0	59.4	64.6	63.6	68.2	64.7	66.9	63.0	63.8	64.6	+0.8
	23–26	75.1	73.8	73.1	73.1	72.8	63.9	67.0	67.6	64.8	66.8	64.4	69.6	64.9	71.4	67.6	72.3	64.5	65.2	62.9	-2.3
	27–30	80.7	75.5	78.2	75.4	79.0	70.1	75.2	68.0	70.0	70.4	69.0	71.1	71.4	70.7	72.6	64.2	67.0	66.6	64.4	-2.1
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) [i]	18	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	10.3	9.5	9.3	-0.2
	19–22	5.7	5.4	4.8	6.6	7.5	5.1	3.8	7.7	5.1	7.9	4.1	6.8	7.2	6.4	5.8	5.7	4.9	4.9	6.5	+1.7
	23–26	6.6	3.5	5.5	5.1	5.7	4.7	5.3	5.1	4.8	6.5	5.7	5.5	4.0	3.5	4.3	5.4	5.1	3.9	4.1	+0.2
	27–30	5.9	4.7	5.5	3.1	6.9	4.6	7.3	4.2	6.2	3.4	4.1	4.7	6.6	4.8	4.0	3.8	3.5	3.4	3.3	-0.1
Take one or two drinks nearly every day [i]	18	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	21.5	21.6	21.6	+0.1
	19–22	23.9	22.1	19.6	22.7	19.8	21.3	22.1	22.0	19.0	24.4	20.6	20.8	20.1	23.1	20.0	22.4	19.9	18.6	17.8	-0.7
	23–26	26.0	21.7	23.5	23.4	19.1	22.9	19.9	22.5	21.2	21.0	21.1	20.8	14.4	18.4	18.8	17.5	17.2	17.4	15.4	-2.1
	27–30	25.3	22.0	22.7	21.7	21.4	21.8	23.7	20.2	21.5	21.5	20.6	18.2	16.9	19.8	17.4	16.5	15.9	15.9	15.4	-0.5
Take four or five drinks nearly every day [i]	18	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	59.1	59.1	58.7	-0.4
	19–22	69.9	69.9	64.5	71.1	66.4	65.3	63.0	66.6	68.8	68.5	67.1	65.6	67.4	69.6	68.7	67.9	70.2	70.4	65.1	-5.4 s
	23–26	72.8	71.7	75.8	74.9	71.1	74.2	71.2	72.4	70.2	70.0	67.8	68.3	69.9	73.1	69.7	69.2	71.2	70.7	70.1	-0.6
	27–30	75.1	77.4	72.8	76.2	70.6	72.1	77.5	73.0	76.5	77.1	71.6	71.6	73.8	71.2	68.3	72.6	69.4	71.1	70.0	-1.1
Have five or more drinks once or twice each weekend [i]	18	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	46.9	48.4	45.7	-2.7
	19–22	37.2	38.9	37.2	37.8	40.4	38.1	37.5	37.2	43.4	41.7	35.2	40.7	40.1	41.6	40.6	43.8	41.8	43.6	39.6	-4.0
	23–26	40.2	34.9	39.0	36.8	36.3	37.9	36.8	38.4	39.7	37.0	36.2	35.8	33.6	39.5	40.2	38.7	40.8	39.7	37.8	-1.9
	27–30	41.9	37.9	41.6	40.6	42.5	40.5	44.0	39.1	40.4	40.4	40.1	38.6	42.0	41.6	37.2	41.2	40.6	39.6	42.0	+2.4
Smoke one or more packs of cigarettes per day [f]	18	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	75.9	76.5	74.9	-1.6
	19–22	75.7	77.1	76.6	80.6	77.8	81.1	80.5	80.8	79.3	79.5	80.3	79.7	81.5	82.3	82.8	82.8	83.5	84.8	83.8	-1.0
	23–26	80.9	79.7	83.9	85.1	83.6	84.1	81.6	86.4	80.7	83.6	82.0	83.2	84.8	83.1	82.9	82.8	85.1	84.2	84.3	+0.1
	27–30	80.7	78.4	82.7	80.6	82.0	81.7	84.1	83.8	84.3	86.6	83.6	89.3	86.6	84.6	84.1	83.9	85.9	85.4	86.3	+0.8
Use electronic cigarettes (e-cigarettes) regularly [l]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.2	16.2	18.2	16.1	-2.1
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.8	21.6	27.7	26.6	-1.1
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.7	23.0	28.6	28.2	-0.4
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.0	27.6	30.8	32.3	+1.5
Use smokeless tobacco regularly [h]	18	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	38.5	38.1	38.4	+0.2
	19–22	47.0	52.0	48.4	53.6	50.8	49.9	47.6	46.4	48.9	48.7	44.6	45.8	46.0	56.7	52.8	47.8	47.8	48.7	51.4	+2.7
	23–26	53.1	49.8	59.8	61.4	58.9	57.8	55.8	59.1	55.3	51.0	52.2	54.2	53.7	59.4	53.5	53.4	47.3	52.5	54.6	+2.1
	27–30	53.6	49.9	53.2	56.7	58.2	55.7	58.9	57.5	61.4	61.7	53.6	59.2	62.5	59.6	58.5	51.6	57.1	59.8	55.8	-4.0
Approximate Weighted N	18	*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*	*2,174*	*1,992*	*2,175*	
Per Form =	19–22	*447*	*424*	*430*	*395*	*402*	*447*	*412*	*411*	*375*	*377*	*393*	*363*	*374*	*345*	*337*	*314*	*315*	*270*	*281*	
	23–26	*418*	*400*	*392*	*382*	*401*	*426*	*408*	*361*	*351*	*375*	*345*	*363*	*366*	*323*	*337*	*319*	*296*	*284*	*264*	
	27–30	*400*	*377*	*384*	*369*	*380*	*388*	*374*	*358*	*344*	*350*	*337*	*343*	*319*	*335*	*320*	*282*	*312*	*259*	*284*	

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

TABLE 6-2
Trends in Proportions Disapproving of Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. Do you disapprove of people (who are 18 or older) doing each of the following?	Age Group	Percentage disapproving [e]																			(Years Cont.)
		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	
Trying marijuana once or twice [j]	18	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	56.7	52.5	51.0	51.6	
	19–22	38.2	36.1	37.0	42.0	44.1	46.6	51.6	52.8	55.8	62.4	59.6	60.4	57.8	60.6	63.5	57.1	55.4	56.2	55.9	
	23–26	—	—	—	—	41.2	38.6	42.6	49.1	48.7	52.5	57.5	58.8	55.0	54.6	52.3	51.9	56.3	54.5	55.3	
	27–30	—	—	—	—	—	—	—	—	49.0	50.9	53.8	54.6	51.9	56.8	55.7	57.5	54.1	59.0	55.7	
Smoking marijuana occasionally [j]	18	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	66.7	62.9	63.2	64.4	
	19–22	49.6	49.1	51.3	56.0	60.4	62.6	66.7	67.2	69.5	77.3	76.3	77.0	74.8	75.8	76.9	70.4	68.9	70.2	67.8	
	23–26	—	—	—	—	54.8	52.8	57.0	64.9	63.4	69.4	73.7	73.3	74.0	71.9	70.9	68.1	72.5	69.2	70.4	
	27–30	—	—	—	—	—	—	—	—	65.3	67.1	68.9	73.0	67.2	72.2	69.4	72.5	70.5	74.5	72.4	
Smoking marijuana regularly [j]	18	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	81.9	80.0	78.8	81.2	
	19–22	74.3	77.2	80.0	81.8	84.9	86.7	89.2	88.7	89.1	91.2	93.1	91.3	89.5	90.2	90.1	86.8	87.7	88.1	85.3	
	23–26	—	—	—	—	80.6	81.3	83.3	87.4	86.9	90.4	91.0	89.6	90.2	92.1	90.3	90.1	88.9	88.1	87.5	
	27–30	—	—	—	—	—	—	—	—	87.6	87.5	89.7	89.6	87.2	89.4	88.7	91.9	89.9	92.1	89.2	
Trying LSD once or twice [h]	18	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	81.1	79.6	80.5	82.1	
	19–22	87.4	84.8	85.9	88.4	88.1	89.1	90.4	90.0	90.9	89.3	90.5	88.4	84.6	88.5	86.8	84.2	83.0	83.1	80.8	
	23–26	—	—	—	—	87.3	87.1	88.0	89.9	91.4	91.0	90.7	89.1	88.8	86.9	87.3	87.1	86.7	87.9	84.1	
	27–30	—	—	—	—	—	—	—	—	91.0	87.2	89.7	87.9	85.6	88.8	88.2	87.4	88.7	88.7	87.3	
Taking LSD regularly [h]	18	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	92.5	93.2	92.9	93.5	
	19–22	98.2	97.4	97.7	97.6	97.6	98.8	98.5	98.0	98.1	97.5	99.1	97.5	97.0	97.8	97.7	96.8	97.0	97.4	96.3	
	23–26	—	—	—	—	99.2	98.0	98.5	99.0	98.0	98.4	98.3	98.4	98.3	98.1	97.7	96.7	97.7	96.1	97.6	
	27–30	—	—	—	—	—	—	—	—	98.8	97.1	98.9	98.9	97.5	98.5	98.7	98.6	98.1	97.5	97.4	
Trying ecstasy (MDMA, Molly) once or twice [h]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	82.2	82.5	
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Taking ecstasy (MDMA, Molly) occasionally [h]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Trying cocaine once or twice [h]	18	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	90.3	90.0	88.0	89.5	
	19–22	73.0	69.3	69.9	74.1	72.5	77.6	78.9	82.3	85.3	88.8	90.1	91.2	90.6	92.7	93.9	94.2	92.0	91.7	89.9	
	23–26	—	—	—	—	70.2	70.5	72.1	80.0	82.9	85.5	88.3	88.0	87.3	89.2	89.2	91.8	90.7	91.5	89.0	
	27–30	—	—	—	—	—	—	—	—	82.1	81.0	85.5	86.9	83.9	85.7	86.6	86.6	88.3	89.2	90.3	
Taking cocaine regularly [h]	18	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	96.1	95.6	96.0	95.6	
	19–22	91.6	89.3	91.9	94.6	95.0	96.3	97.0	97.2	97.9	97.4	98.9	97.9	98.4	97.8	98.8	98.2	97.9	98.0	97.8	
	23–26	—	—	—	—	95.7	95.3	97.3	98.1	97.6	98.3	98.4	98.5	98.7	98.4	98.8	97.7	97.8	96.9	98.5	
	27–30	—	—	—	—	—	—	—	—	98.1	97.0	99.3	99.0	97.2	98.7	99.0	98.9	98.5	97.9	97.8	
Trying heroin once or twice [h]	18	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	92.8	92.1	92.3	93.7	
	19–22	96.3	95.4	95.6	95.2	95.1	96.2	96.8	96.3	97.1	96.4	98.3	95.9	95.9	96.3	96.6	95.6	95.2	95.6	95.1	
	23–26	—	—	—	—	96.7	94.9	96.4	97.1	97.4	96.7	96.8	96.9	96.3	95.4	96.5	95.9	96.1	95.2	94.6	
	27–30	—	—	—	—	—	—	—	—	97.9	95.8	97.5	96.6	94.8	97.3	94.7	96.3	96.0	96.9	95.9	
Taking heroin occasionally [h]	18	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	95.7	95.0	95.4	96.1	
	19–22	98.6	97.8	98.3	98.3	98.6	98.7	98.3	98.3	98.3	97.9	99.2	98.2	98.1	98.1	98.3	97.7	97.9	97.8	98.2	
	23–26	—	—	—	—	99.2	98.2	98.8	99.1	98.4	98.3	98.1	99.0	98.7	98.4	98.6	97.7	98.7	97.4	97.5	
	27–30	—	—	—	—	—	—	—	—	99.2	97.3	99.0	98.9	97.0	98.9	98.7	98.9	98.0	98.7	97.6	
Taking heroin regularly [h]	18	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	96.4	96.3	96.4	96.6	
	19–22	99.2	98.5	98.6	98.7	98.7	99.1	98.9	98.6	98.4	98.3	99.5	98.5	98.3	98.4	98.8	98.4	98.3	98.1	98.3	
	23–26	—	—	—	—	99.4	98.8	99.1	99.4	98.7	98.7	98.5	99.3	99.2	98.9	98.8	98.7	98.9	97.6	98.5	
	27–30	—	—	—	—	—	—	—	—	99.4	97.6	99.4	99.0	97.8	99.0	99.4	99.1	98.6	98.4	98.1	

(Table continued on next page.)

TABLE 6-2 (cont.)
Trends in Proportions Disapproving of Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. Do you disapprove of people (who are 18 or older) doing each of the following?	Age Group	Percentage disapproving [e] 1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Trying marijuana once or twice [j]	18	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	45.5	43.1	39.0	-4.1 s
	19–22	54.0	55.2	49.3	48.7	54.2	48.3	50.3	51.2	47.6	52.7	46.7	50.5	49.0	46.0	44.2	39.7	37.4	36.7	33.6	-3.1
	23–26	55.7	54.8	51.2	52.4	47.8	53.4	47.7	47.5	54.6	46.2	44.9	42.5	38.8	40.9	38.1	37.8	34.6	36.3	29.2	-7.1 sss
	27–30	52.6	58.0	54.4	56.9	54.9	55.4	52.1	52.0	50.9	49.3	49.3	48.5	46.5	42.7	38.7	35.1	33.0	31.5	27.8	-3.6
Smoking marijuana occasionally [j]	18	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	52.9	50.5	46.7	-3.8
	19–22	66.4	70.7	64.6	62.3	68.0	64.3	67.9	62.6	64.1	63.3	59.8	61.3	61.7	58.2	54.9	50.7	50.0	45.9	42.7	-3.2
	23–26	71.1	68.6	67.4	64.0	63.8	69.3	65.6	62.2	68.0	64.5	62.4	59.1	53.1	55.8	51.3	51.3	49.1	46.8	41.5	-5.2 s
	27–30	71.5	72.2	70.9	69.1	71.2	69.1	68.2	68.7	67.5	63.7	63.7	62.7	63.7	58.3	55.0	50.0	47.3	44.0	39.8	-4.2 s
Smoking marijuana regularly [j]	18	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	70.7	68.5	64.7	-3.9 s
	19–22	84.5	86.6	84.5	82.8	84.8	82.7	84.4	82.5	83.7	83.6	80.8	80.7	78.1	77.0	75.7	71.3	71.0	70.6	67.3	-3.4
	23–26	86.1	83.9	86.4	81.7	82.3	87.4	84.3	81.9	85.3	84.3	80.2	78.3	76.4	76.7	73.6	71.4	70.4	68.8	65.0	-3.8
	27–30	90.0	89.5	89.3	88.8	87.7	88.6	86.3	86.4	86.8	86.0	84.4	81.7	83.2	77.8	75.9	75.0	71.8	69.0	63.5	-5.5 ss
Trying LSD once or twice [h]	18	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	81.7	82.4	78.0	-4.4 s
	19–22	83.2	82.3	81.4	83.7	86.2	85.0	87.6	85.4	88.5	86.5	83.0	86.7	83.3	84.0	83.5	77.8	75.5	70.3	72.5	+2.2
	23–26	84.8	80.3	83.0	79.2	80.1	84.0	84.0	84.5	87.6	81.8	85.0	82.6	80.1	83.3	79.7	79.8	76.8	73.9	73.9	+0.1
	27–30	86.6	87.2	85.7	82.7	85.6	82.5	82.2	82.0	84.1	82.7	84.5	85.1	85.1	82.4	81.4	82.2	77.9	80.0	71.8	-8.2 s
Taking LSD regularly [h]	18	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	92.5	92.4	92.7	+0.3
	19–22	97.0	96.8	96.5	96.9	98.4	97.3	98.9	97.8	97.7	96.8	96.8	96.6	96.5	96.0	96.7	97.0	95.2	95.4	93.9	-1.5
	23–26	98.0	97.0	97.1	97.9	96.9	97.1	98.7	97.0	98.4	97.4	98.2	96.5	95.9	97.4	96.1	95.8	96.6	93.1	95.9	+2.8
	27–30	97.9	98.6	98.2	98.0	98.2	98.2	97.2	96.7	97.2	97.1	98.6	98.6	97.1	97.3	97.2	97.3	96.0	96.4	94.0	-2.4
Trying ecstasy (MDMA, Molly) once or twice [h,m]	18	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	84.5	84.0	85.1	+1.2
	19–22	—	—	81.5	80.3	87.2	83.5	90.3	87.5	88.5	89.5	89.1	91.4	85.9	87.9	83.9	83.7	79.7	83.2	78.2	-5.0
	23–26	—	—	80.6	80.6	80.2	83.1	83.9	83.9	87.4	83.9	85.0	86.9	85.1	85.2	79.9	83.6	79.1	82.8	79.9	-2.9
	27–30	—	—	84.2	84.0	86.3	83.2	82.4	82.2	81.8	82.7	83.0	81.9	86.6	83.7	84.5	81.9	84.6	81.5	78.6	-3.0
Taking ecstasy (MDMA, Molly) occasionally [h,m]	18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	19–22	—	—	92.8	91.8	95.6	93.8	96.7	94.0	95.3	94.8	95.2	95.3	91.8	94.4	92.3	94.6	90.7	90.2	93.1	+2.9
	23–26	—	—	90.5	91.8	92.1	93.3	94.4	93.7	94.3	94.0	95.4	94.3	92.5	93.3	92.1	93.5	90.7	91.6	91.7	+0.1
	27–30	—	—	91.7	93.0	94.3	91.0	92.1	93.4	92.8	94.1	93.6	92.6	94.5	93.5	93.0	93.9	93.2	92.0	88.1	-3.9
Trying cocaine once or twice [h]	18	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	89.0	88.4	88.0	-0.4
	19–22	90.9	89.9	87.7	87.9	89.3	87.7	92.3	88.2	89.2	85.8	87.8	87.1	90.1	89.7	90.5	86.7	86.0	84.3	85.6	+1.3
	23–26	91.3	87.1	90.1	85.8	86.4	87.4	88.3	84.4	87.6	84.5	86.2	86.0	82.7	86.0	85.7	84.8	82.9	77.5	80.8	+3.2
	27–30	90.4	89.4	90.3	88.5	91.5	88.0	87.0	85.8	87.7	87.4	88.3	87.3	87.0	85.6	82.5	85.0	79.1	83.7	75.8	-7.9 s
Taking cocaine regularly [h]	18	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	95.2	94.8	94.8	-0.1
	19–22	97.6	98.0	97.2	97.0	98.2	98.5	98.7	98.9	99.0	97.6	97.6	97.6	97.2	97.6	97.4	97.8	97.8	97.2	97.0	-0.2
	23–26	98.3	97.8	97.5	97.5	97.6	98.1	98.9	97.3	98.1	98.0	98.7	97.6	97.3	98.8	97.8	97.7	97.5	94.5	97.0	+2.5
	27–30	98.8	98.7	98.4	97.8	98.8	98.8	97.8	97.2	97.9	97.3	99.0	99.0	98.4	98.5	98.0	97.6	98.0	96.9	96.1	-0.8
Trying heroin once or twice [h]	18	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	94.2	94.1	93.7	-0.4
	19–22	95.5	94.1	94.2	95.0	96.4	95.9	98.8	95.6	97.6	95.7	95.5	95.8	96.7	95.9	96.3	96.5	96.1	94.9	96.8	+1.8
	23–26	96.3	93.1	95.0	94.8	95.0	95.0	96.1	93.7	97.2	95.6	94.9	94.5	95.5	95.7	94.7	97.2	96.5	93.4	96.6	+3.2
	27–30	96.7	95.9	96.4	94.4	97.6	94.9	95.6	93.9	96.4	96.2	95.4	96.3	95.7	95.9	94.8	95.3	95.2	95.9	95.5	-0.4
Taking heroin occasionally [h]	18	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	95.3	95.5	95.5	0.0
	19–22	97.2	98.0	97.9	97.9	98.3	98.9	99.4	98.2	98.8	97.3	97.9	97.5	97.7	97.4	98.0	97.8	97.5	97.4	97.7	+0.3
	23–26	98.5	98.2	97.8	97.5	97.2	98.5	98.3	97.7	98.8	98.3	98.5	97.1	99.0	99.0	98.1	98.1	98.1	96.6	97.7	+1.0
	27–30	98.8	98.6	98.4	98.6	98.7	98.1	97.7	97.1	98.1	98.2	98.6	99.3	98.1	97.9	97.7	97.3	98.0	98.3	97.4	-0.9
Taking heroin regularly [h]	18	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	96.4	95.7	95.9	+0.2
	19–22	98.2	98.5	98.2	98.3	98.8	99.0	99.2	98.9	99.1	98.3	98.1	97.6	97.9	98.3	98.4	97.9	98.1	97.6	97.7	+0.1
	23–26	98.7	98.8	98.4	98.3	98.6	98.9	98.9	98.0	99.0	99.1	99.2	97.6	99.3	99.1	98.3	98.9	98.1	97.0	98.4	+1.4
	27–30	98.8	98.7	98.7	98.4	99.3	98.8	99.1	97.5	98.2	98.4	99.0	99.3	98.6	98.3	97.9	97.6	98.5	98.9	98.0	-1.0

(List of drugs continued.)

TABLE 6-2 (cont.)
Trends in Proportions Disapproving of Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Percentage disapproving [e]

Q. Do you disapprove of people (who are 18 or older) doing each of the following?	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Trying amphetamines once or twice [b,h]	18	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	82.2	79.9	81.3	82.5
	19–22	74.5	70.5	68.9	74.0	73.0	75.6	78.9	79.9	81.8	85.3	84.4	83.9	83.8	87.2	88.3	85.0	84.4	83.3	84.6
	23–26	—	—	—	—	74.2	74.2	74.6	80.3	83.5	83.3	84.1	84.8	83.4	84.8	82.7	86.0	86.4	85.7	83.5
	27–30	—	—	—	—	—	—	—	—	83.5	81.0	84.3	83.7	80.9	83.5	82.0	83.1	85.8	86.3	85.9
Taking amphetamines regularly [b,h]	18	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	94.3	93.5	94.3	94.0
	19–22	94.8	93.3	94.3	93.4	94.9	96.6	96.9	95.1	97.5	96.8	97.5	97.7	96.7	97.3	97.9	96.8	97.2	97.8	96.7
	23–26	—	—	—	—	96.6	95.9	96.6	97.0	97.2	98.1	97.9	97.9	97.7	98.4	97.7	97.0	97.9	97.0	98.0
	27–30	—	—	—	—	—	—	—	—	98.1	96.5	98.6	97.8	96.8	97.7	99.0	98.9	98.2	98.1	97.7
Trying sedatives/ barbiturates once or twice [c,h]	18	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	87.3	84.9	86.4	86.0
	19–22	83.5	82.3	83.8	85.1	85.2	86.1	88.3	87.5	90.1	92.0	91.1	90.4	88.8	90.7	91.1	90.5	89.1	86.6	85.8
	23–26	—	—	—	—	84.0	84.5	84.4	89.8	90.7	89.4	88.8	87.9	88.8	88.5	88.0	89.3	88.3	88.3	87.4
	27–30	—	—	—	—	—	—	—	—	90.5	88.3	88.4	88.8	86.6	88.9	87.6	88.0	89.4	88.8	88.4
Taking sedatives/ barbiturates regularly [c,h]	18	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	95.2	94.8	95.3	94.6
	19–22	96.6	95.6	97.3	96.5	96.6	98.1	98.0	97.0	97.9	97.7	98.7	98.0	97.9	98.2	98.7	97.7	97.9	97.7	97.7
	23–26	—	—	—	—	98.4	98.5	97.7	98.6	98.3	98.3	98.5	98.5	98.6	98.5	98.5	97.4	98.4	97.4	98.5
	27–30	—	—	—	—	—	—	—	—	98.4	97.1	99.1	98.5	97.7	98.4	99.1	99.0	98.5	97.9	97.7
Trying one or two drinks of an alcoholic beverage (beer, wine, liquor) [j]	18	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	27.3	26.5	26.1	24.5
	19–22	14.8	14.5	13.9	15.5	15.3	15.4	16.9	16.0	18.4	22.4	17.6	22.2	16.9	20.8	22.2	22.0	22.0	18.3	21.5
	23–26	—	—	—	—	17.4	16.1	13.2	17.7	13.7	17.5	18.6	19.5	17.4	18.1	17.6	16.5	18.0	15.8	18.6
	27–30	—	—	—	—	—	—	—	—	19.5	19.1	18.7	18.8	17.9	19.5	18.6	18.2	16.1	17.4	15.2
Taking one or two drinks nearly every day [j]	18	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	73.3	70.8	70.0	69.4
	19–22	67.8	69.7	71.3	73.3	74.3	71.3	77.4	75.3	76.5	80.0	79.7	77.1	76.0	75.0	78.0	74.7	73.5	73.2	70.3
	23–26	—	—	—	—	71.4	73.7	71.6	72.7	74.6	74.4	77.6	76.9	75.5	74.2	73.3	69.7	70.6	68.4	70.2
	27–30	—	—	—	—	—	—	—	—	76.0	73.9	73.3	76.1	69.5	73.5	72.4	71.8	71.4	71.8	69.8
Taking four or five drinks nearly every day [j]	18	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	88.8	89.4	88.6	86.7
	19–22	95.2	93.4	94.6	94.6	94.6	94.8	94.9	95.7	94.8	96.1	95.8	96.4	95.5	95.1	96.2	95.5	94.2	93.9	92.4
	23–26	—	—	—	—	96.2	95.0	95.5	96.9	94.3	95.9	96.9	96.1	95.7	95.7	95.7	95.2	96.5	93.8	96.1
	27–30	—	—	—	—	—	—	—	—	97.4	94.6	96.1	95.3	94.8	94.8	96.4	96.7	96.4	96.2	95.0
Having five or more drinks once or twice each weekend [j]	18	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	66.7	64.7	65.0	63.8
	19–22	57.1	56.1	58.2	61.0	59.7	59.4	60.3	61.6	64.1	66.3	67.1	62.4	65.6	63.5	68.1	66.0	69.2	66.5	63.2
	23–26	—	—	—	—	66.2	68.3	66.5	67.5	65.2	63.2	66.9	64.6	69.6	66.8	66.9	65.3	70.9	66.6	69.5
	27–30	—	—	—	—	—	—	—	—	73.9	71.4	73.1	72.1	68.4	73.4	73.5	73.7	72.4	73.0	71.1
Smoking one or more packs of cigarettes per day [j]	18	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	68.2	67.2	67.1	68.8
	19–22	68.7	68.1	66.3	71.6	69.0	70.5	71.4	72.7	73.8	75.6	73.7	73.2	72.6	72.8	75.3	69.8	72.2	74.3	72.3
	23–26	—	—	—	—	69.9	68.7	67.5	69.7	66.4	71.1	71.5	77.2	73.6	72.9	70.3	72.2	73.0	71.7	73.9
	27–30	—	—	—	—	—	—	—	—	72.8	69.4	73.5	71.2	70.7	73.8	72.3	73.9	72.7	74.3	71.7
Approximate Weighted N Per Form =	18	*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*	*2,603*	*2,399*	*2,601*	*2,545*
	19–22	*588*	*573*	*605*	*579*	*586*	*551*	*605*	*587*	*560*	*567*	*569*	*533*	*530*	*489*	*474*	*465*	*480*	*470*	*446*
	23–26					*542*	*535*	*560*	*532*	*538*	*516*	*524*	*495*	*538*	*514*	*475*	*466*	*449*	*423*	*401*
	27–30									*526*	*509*	*513*	*485*	*512*	*462*	*442*	*450*	*430*	*453*	*449*

(Years Cont.)

(Table continued on next page.)

TABLE 6-2 (cont.)
Trends in Proportions Disapproving of Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. Do you disapprove of people (who are 18 or older) doing each of the following?	Age Group	Percentage disapproving [e] 1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Trying amphetamines once or twice [b,h]	18	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	81.4	82.1	81.9	-0.2
	19–22	84.9	83.8	82.1	81.4	86.3	82.1	88.2	84.9	84.8	86.7	85.4	86.9	80.5	81.3	83.7	73.6	76.4	70.9	80.0	+9.0 s
	23–26	84.5	82.4	83.9	83.5	79.9	81.6	81.3	79.0	85.8	79.7	84.4	84.1	76.5	80.7	77.3	81.4	76.9	72.9	75.5	+2.6
	27–30	86.4	84.5	86.0	86.4	84.9	82.4	81.3	81.1	84.5	83.7	82.9	84.3	81.1	81.9	81.5	80.8	74.6	78.6	73.8	-4.8
Taking amphetamines regularly [b,h]	18	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	92.2	92.2	92.0	-0.2
	19–22	97.5	96.1	97.3	96.4	97.1	97.1	98.4	97.5	98.6	96.2	96.8	96.2	92.1	94.1	94.4	92.8	94.0	93.3	93.6	+0.3
	23–26	97.0	97.6	96.8	96.3	97.2	95.9	98.3	96.2	97.6	97.3	98.1	96.8	94.8	95.9	94.6	92.4	93.7	90.4	94.4	+3.9
	27–30	98.2	98.5	97.6	97.4	98.1	98.0	97.6	96.4	98.4	97.2	98.1	98.0	97.5	95.8	96.8	96.3	94.8	94.6	94.6	0.0
Trying sedatives/ barbiturates once or twice [c,h]	18	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	87.4	86.5	85.9	-0.5
	19–22	86.6	84.2	85.2	84.2	87.7	81.8	86.6	83.4	82.7	82.1	84.7	85.2	85.4	88.0	88.6	86.3	87.1	80.3	87.6	+7.2 s
	23–26	87.3	85.2	86.9	86.8	81.8	80.3	81.6	80.5	84.3	77.7	83.3	80.9	80.6	83.8	84.4	84.4	84.5	82.1	80.9	-1.2
	27–30	87.6	87.3	88.5	86.9	89.2	81.8	78.7	80.1	83.5	80.5	82.5	80.3	83.3	83.1	82.6	82.5	81.2	79.2	75.9	-3.3
Taking sedatives/ barbiturates regularly [c,h]	18	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	94.7	94.8	94.4	-0.4
	19–22	97.3	97.4	96.9	97.8	98.5	96.6	98.3	98.1	98.3	96.7	96.7	96.3	96.7	96.4	96.5	97.8	96.7	95.4	96.6	+1.2
	23–26	97.6	97.4	97.0	97.1	97.1	96.1	98.0	96.3	97.8	96.7	98.4	95.7	98.1	97.3	97.2	96.6	95.7	94.9	95.5	+0.6
	27–30	98.5	98.1	98.4	97.2	98.4	98.1	96.5	95.6	97.4	97.4	98.4	98.6	97.0	97.7	97.1	97.4	97.7	98.0	95.9	-2.1
Trying one or two drinks of an alcoholic beverage (beer, wine, liquor) [j]	18	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	28.9	28.8	27.2	-1.6
	19–22	18.3	18.4	16.3	18.3	20.1	20.7	22.3	17.8	17.3	20.5	19.1	23.7	21.6	21.4	19.6	17.9	17.5	18.3	17.7	-0.5
	23–26	19.1	19.9	15.9	18.1	13.0	16.3	13.5	14.7	14.9	12.5	16.0	15.4	10.9	14.1	13.5	14.2	12.8	15.5	14.7	-0.8
	27–30	15.9	14.8	15.9	18.4	15.4	18.8	16.1	15.0	14.2	11.9	11.5	13.3	11.8	14.7	13.2	11.7	12.1	11.4	11.5	+0.2
Taking one or two drinks nearly every day [j]	18	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	71.1	71.8	70.8	-1.1
	19–22	67.3	66.7	68.3	63.9	66.9	68.1	64.6	68.2	65.1	65.2	67.4	68.4	71.0	65.7	64.0	61.6	63.3	64.2	62.1	-2.1
	23–26	73.4	66.3	66.5	62.7	65.0	61.7	64.4	62.0	62.4	66.4	62.0	62.5	55.7	53.9	54.4	53.3	53.4	58.6	53.9	-4.7
	27–30	67.9	65.9	68.9	70.9	63.1	66.7	60.5	62.0	65.8	59.5	63.7	61.4	61.7	55.6	51.3	52.0	54.8	50.0	50.0	0.0
Taking four or five drinks nearly every day [j]	18	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	89.7	91.1	90.7	-0.3
	19–22	92.4	92.8	94.2	92.6	92.5	92.2	93.2	92.9	92.9	94.0	93.6	92.2	93.9	91.9	92.1	91.1	92.1	92.0	92.6	+0.6
	23–26	95.1	94.3	93.5	93.7	92.6	93.1	94.8	92.9	95.6	94.9	94.6	93.9	94.7	92.8	91.8	91.4	92.4	93.6	91.4	-2.2
	27–30	97.2	95.3	96.1	95.4	95.6	96.0	92.8	92.7	95.0	93.9	96.0	94.3	95.8	92.1	92.1	93.4	91.8	91.2	90.5	-0.8
Having five or more drinks once or twice each weekend [j]	18	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	71.9	74.2	72.5	-1.7
	19–22	63.5	65.1	58.3	57.5	61.9	59.4	60.1	59.3	59.1	63.4	62.3	62.7	65.4	64.7	66.3	64.7	66.6	68.6	65.4	-3.2
	23–26	68.1	66.2	66.0	61.2	65.5	60.9	64.5	59.7	62.4	63.0	59.5	61.7	55.9	63.0	63.3	62.0	62.6	69.4	64.4	-5.0 s
	27–30	73.1	73.1	73.0	70.9	71.5	73.8	67.5	67.3	71.5	66.4	65.8	67.5	64.9	63.3	65.0	64.1	66.1	64.0	65.8	+1.8
Smoking one or more packs of cigarettes per day [j]	18	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	84.1	85.3	86.6	+1.3
	19–22	70.1	73.1	73.2	73.4	73.4	74.8	81.5	77.2	81.0	80.4	81.8	82.9	83.8	79.5	81.0	80.6	82.7	85.7	85.4	-0.3
	23–26	73.8	72.7	77.3	74.8	75.7	76.2	74.8	74.1	76.2	77.9	77.3	77.9	80.3	78.2	77.8	80.0	80.3	83.5	85.0	+1.5
	27–30	71.0	78.6	75.2	78.8	76.2	77.6	77.3	73.9	81.1	74.5	80.9	79.6	79.5	79.1	79.9	79.9	82.2	82.2	81.1	-1.1
Approximate Weighted N Per Form =	18	*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*	*2,193*	*2,000*	*2,129*	
	19–22	*449*	*416*	*413*	*402*	*396*	*431*	*378*	*378*	*333*	*365*	*368*	*364*	*340*	*356*	*280*	*316*	*264*	*252*	*225*	
	23–26	*397*	*389*	*404*	*346*	*385*	*403*	*374*	*364*	*325*	*335*	*328*	*347*	*309*	*334*	*312*	*308*	*284*	*271*	*234*	
	27–30	*429*	*395*	*368*	*359*	*346*	*370*	*367*	*330*	*355*	*339*	*325*	*334*	*306*	*312*	*301*	*304*	*262*	*258*	*276*	

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

Footnotes for Tables 6-1 through 6-2

Notes. Level of significance of difference between the two most recent years: 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.
The illicit drugs not listed here show a daily prevalence of 0.2% or less in all years.
' * ' indicates a prevalence rate of less than 0.05%.
' — ' indicates data not available.

[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 2011 the list of examples was changed from upper, pep pills, bennies, and speed to uppers, speed, Adderall, Ritalin, etc. These changes likely explain the discontinuity in the 2011 results.

[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 2003 and 2004 results.

[d]For 12th graders only: In 2011 the question on perceived risk of using salvia once or twice appeared at the end of a questionnaire 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 result.

[e]Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

[f]Age 18 data based on one questionnaire form for all years reported. For ages 19-30 only: Prior to 2012, data based on one questionnaire form. In 2012 and following data based on five questionnaire forms.

[g]Age 18 data based on one questionnaire form for all years reported. For ages 19-30 only: Prior to 2012, data based on one questionnaire form. In 2012 and following data based on two questionnaire forms.

[h]Data based on one questionnaire form.

[i]Age 18 data based on one questionnaire form for all years reported. For ages 19-30 only: Prior to 2012, data based on one questionnaire form. In 2012 and following data based on three questionnaire forms.

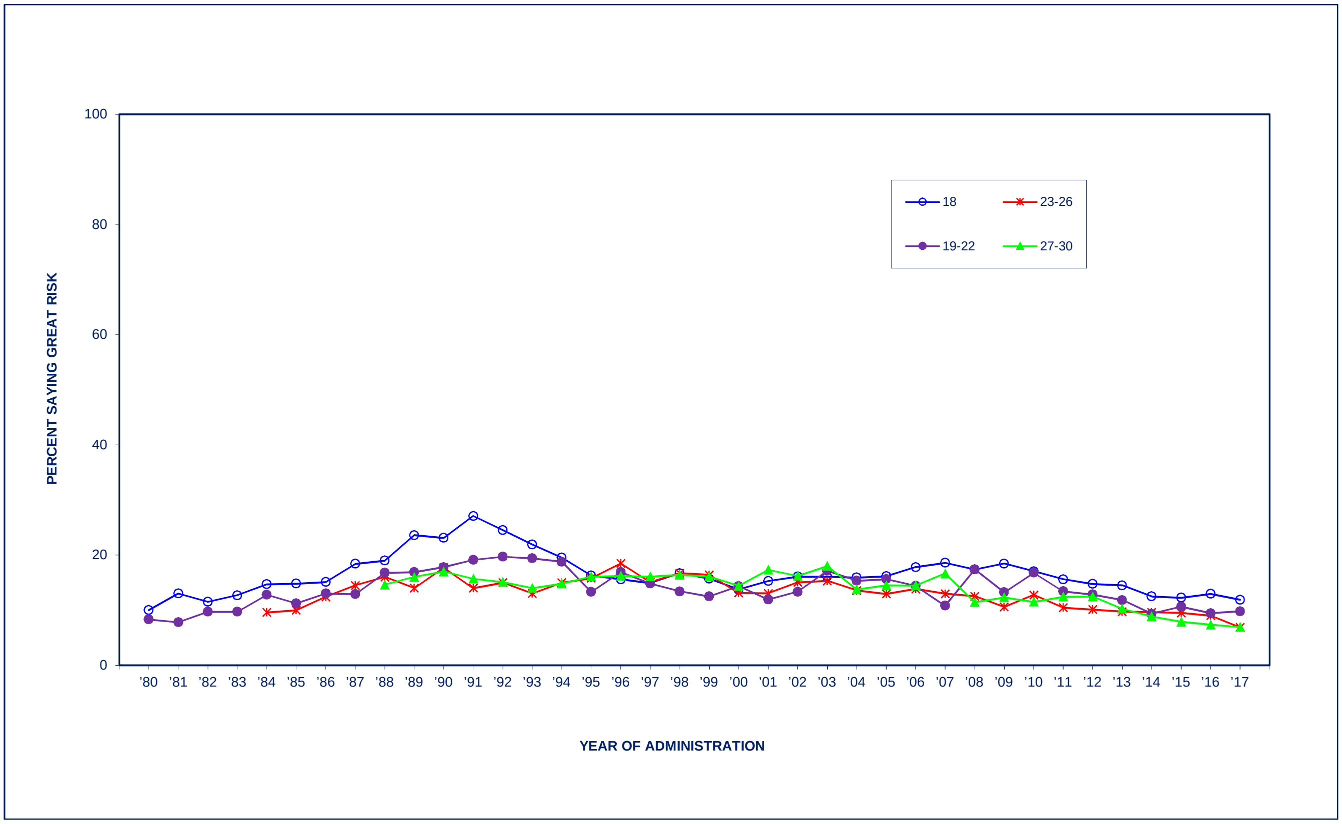
[j]Age 18 data based on one questionnaire form for all years reported. For ages 19-30 only: Prior to 2012, data based on one questionnaire form. In 2012 and following data based on four questionnaire forms.

[k]Age 18 data based on one questionnaire form for all years reported. For ages 19-30 only: Prior to 2012, data based on one questionnaire form. In 2012 and 2013 two questionnaire forms. Data based on one questionnaire form in 2014 and following.

[l]Data based on two questionnaire forms for all years reported.

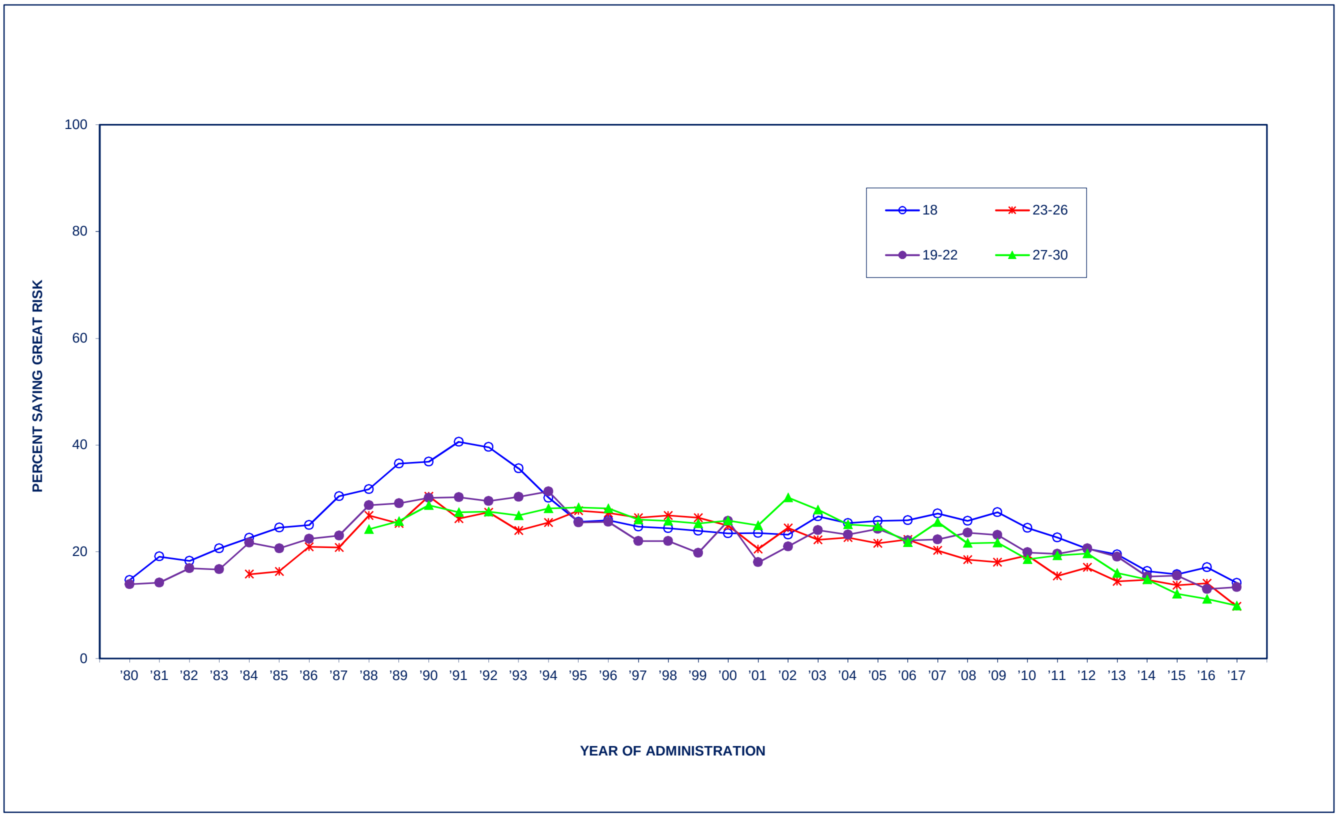
[m]Beginning in 2014 for Age 18 and 2015 for the other age groups, "molly" was added to the questions on perceived risk of using MDMA. The same change was made to the questions on disapproval of MDMA use for all age groups in 2015. Data for the two versions of the questions are not comparable due to this change in the question text.

FIGURE 6-1
Trends in Harmfulness of MARIJUANA Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Trying Once or Twice



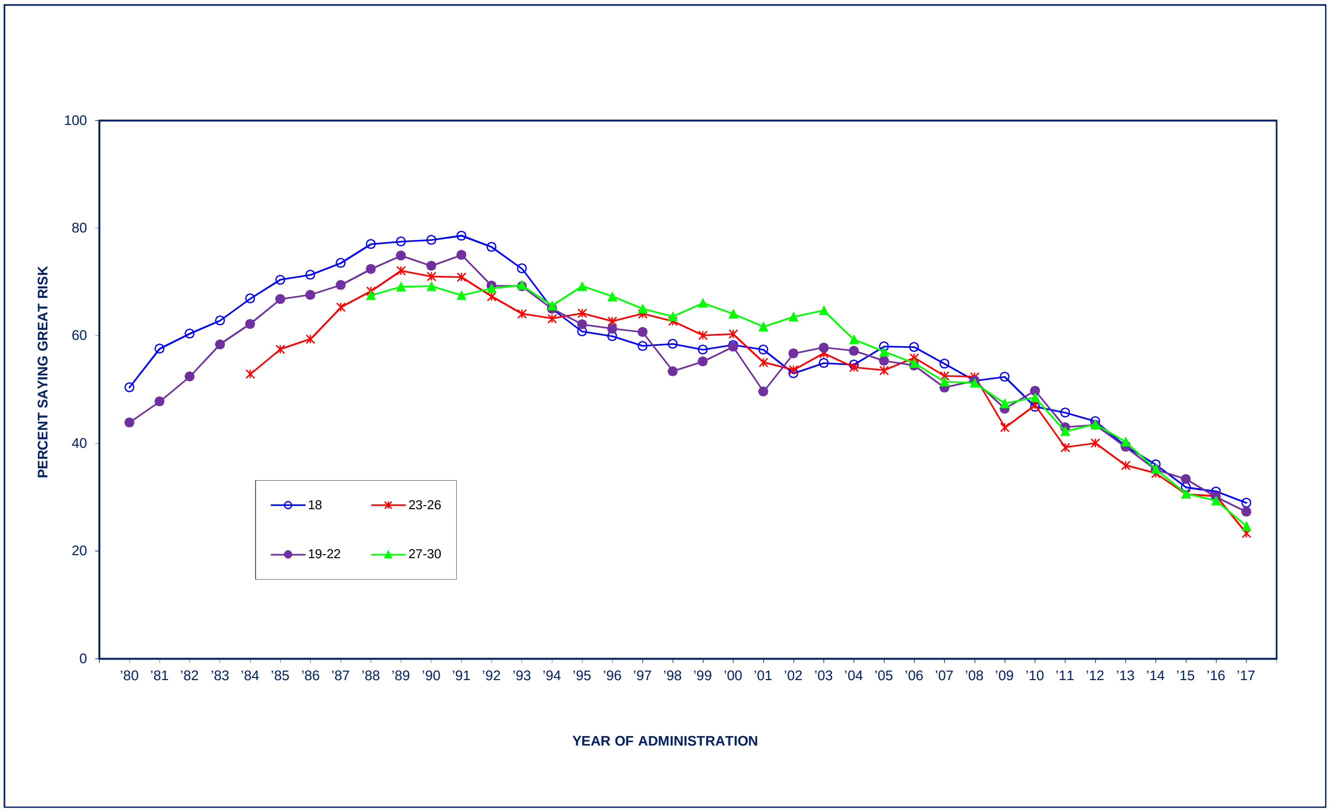
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-2
Trends in Harmfulness of MARIJUANA Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Occasional Use



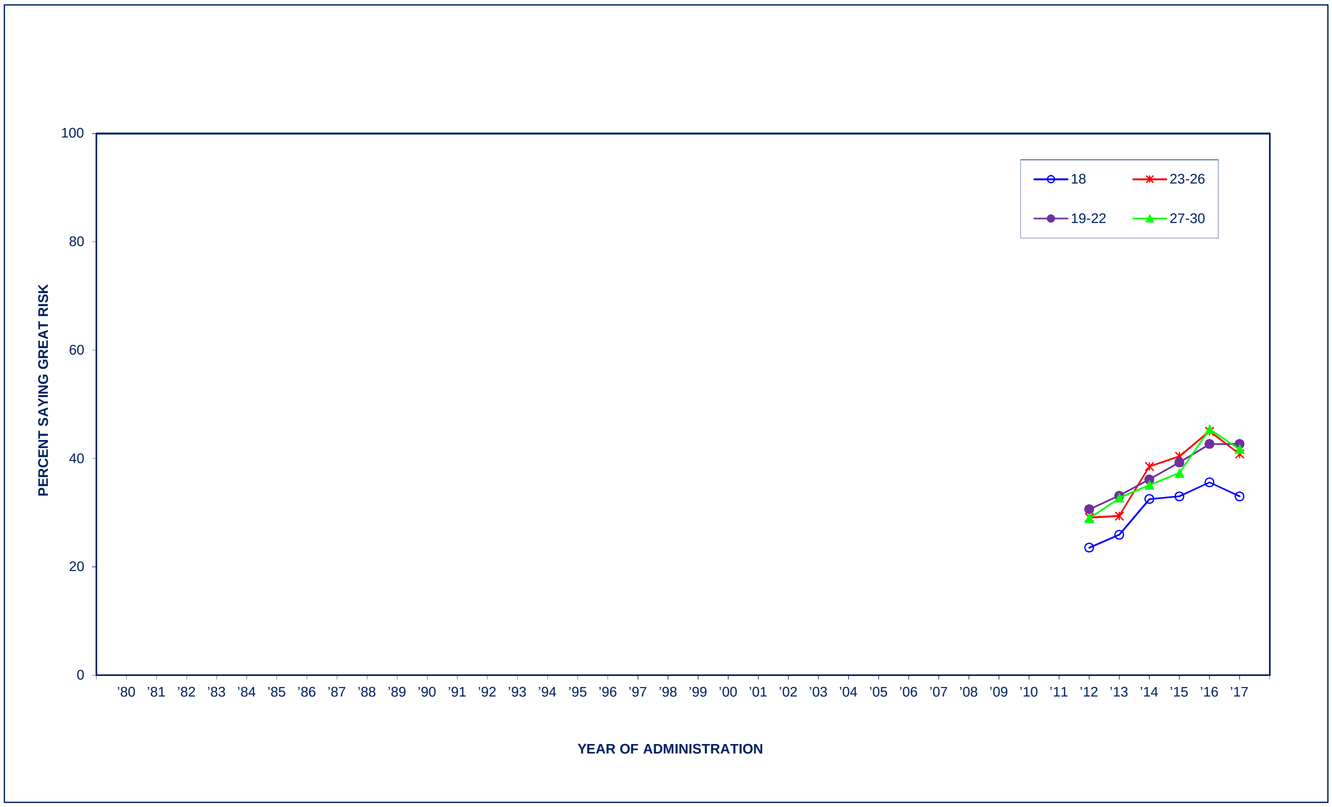
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-3
Trends in Harmfulness of MARIJUANA Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Regular Use



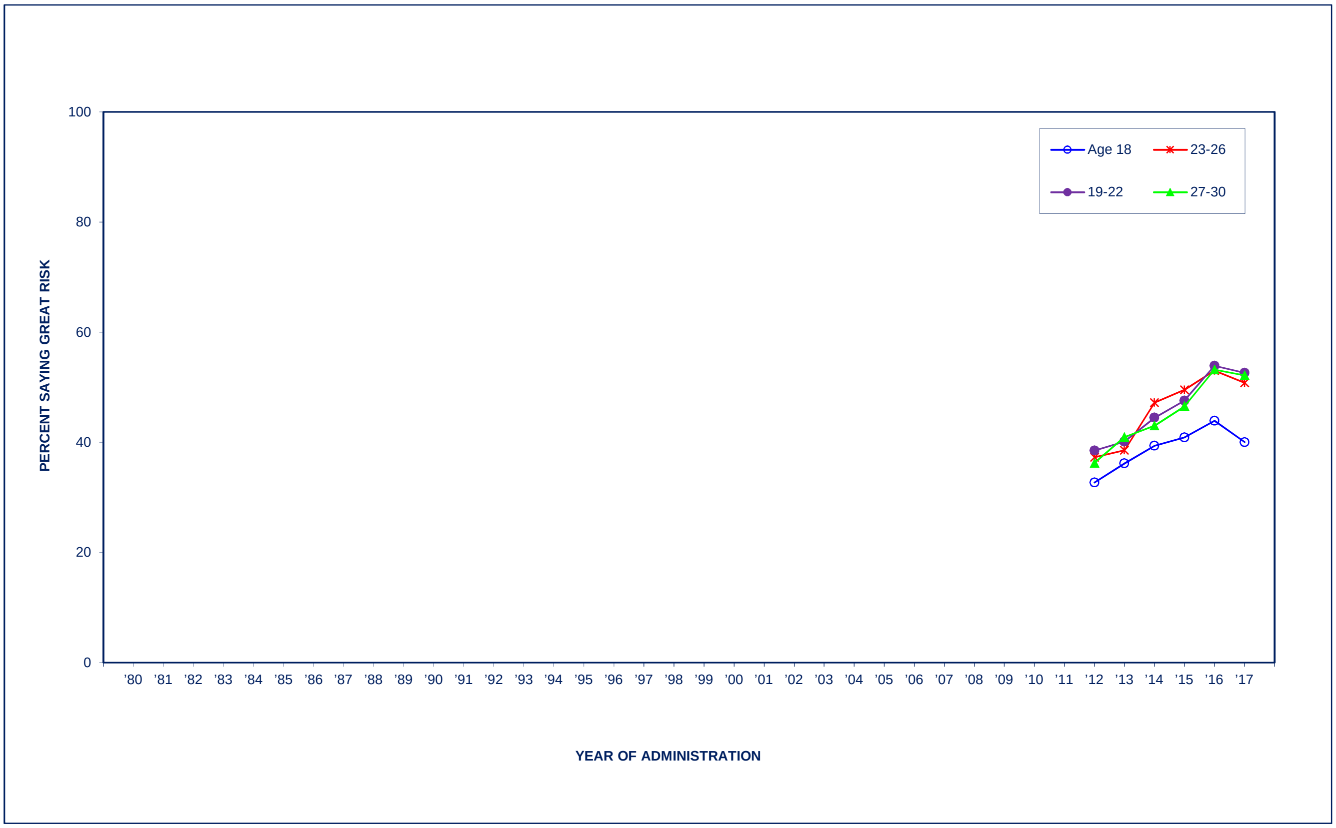
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-4
Trends in Harmfulness of SYNTHETIC MARIJUANA Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Trying Once or Twice



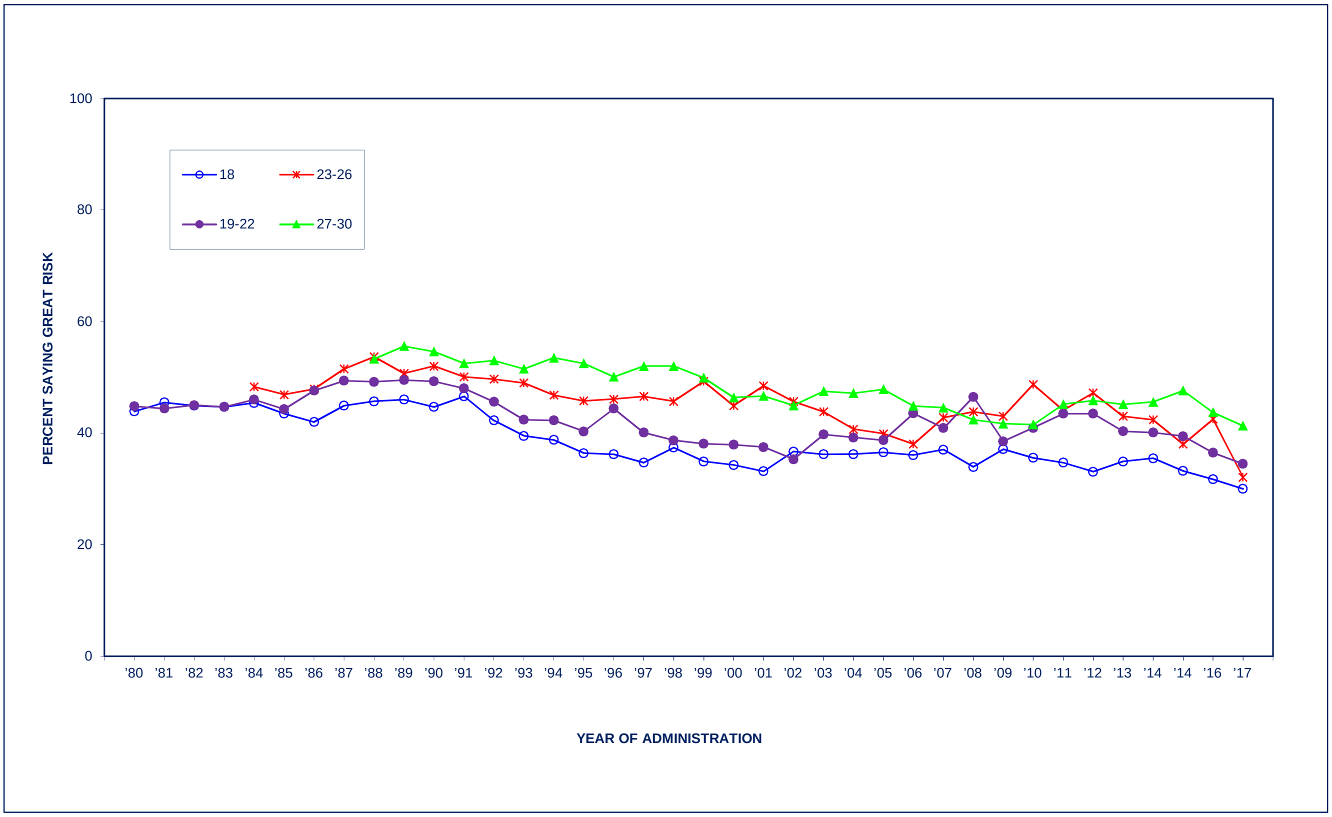
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-5
Trends in Harmfulness of SYNTHETIC MARIJUANA Use as Perceived by Respondents in Modal Age Groups of 19–22, 23–26, and 27–30
Occasional Use



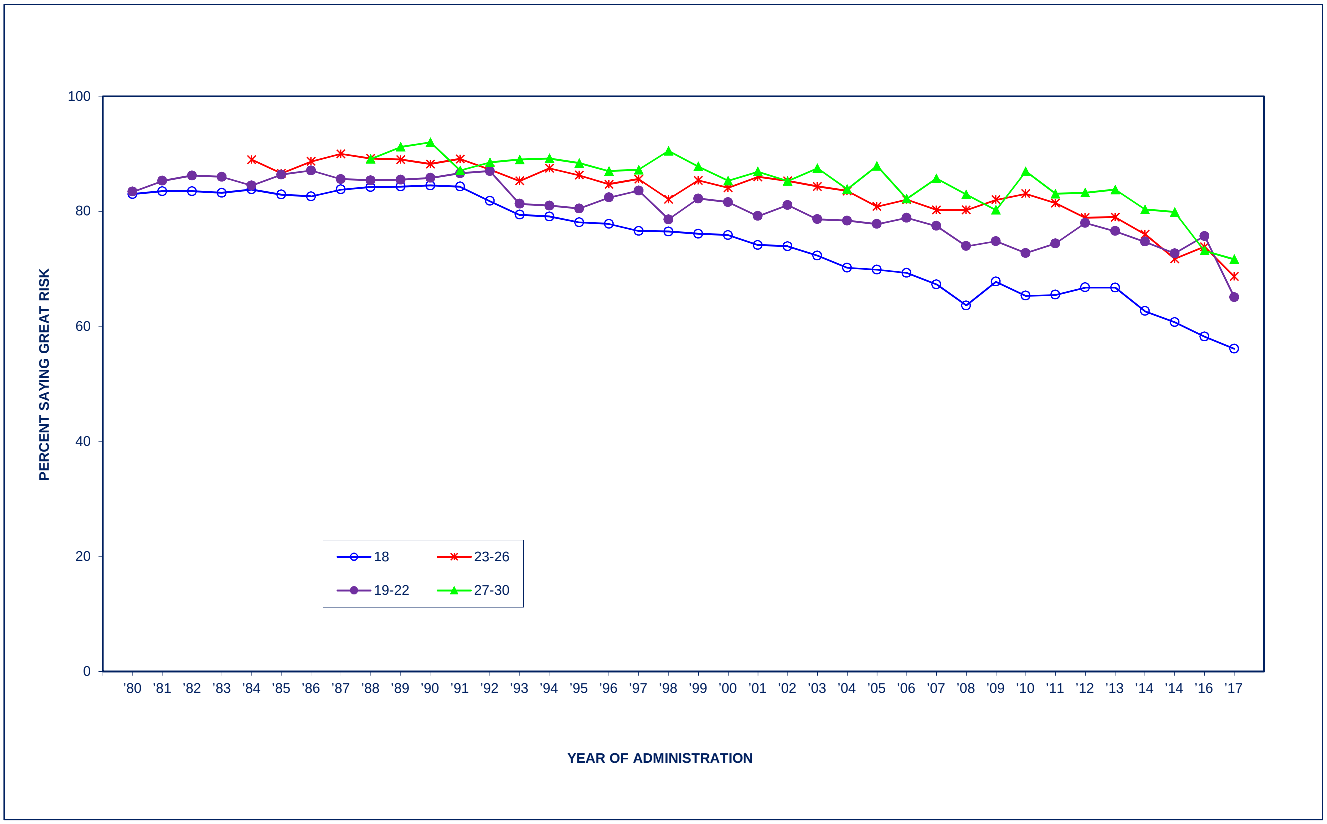
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-6
Trends in Harmfulness of LSD Use as Perceived by
Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Trying Once or Twice



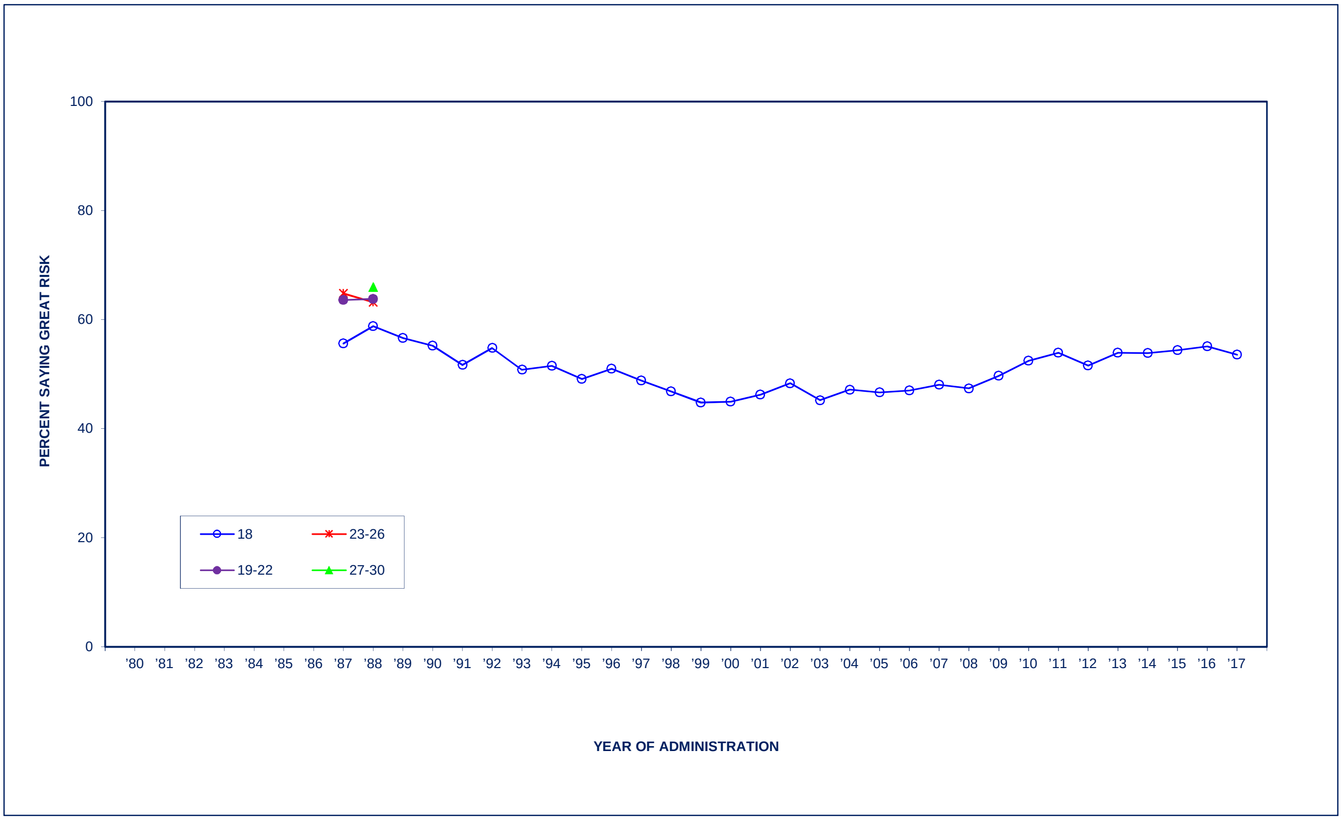
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-7
Trends in Harmfulness of LSD Use as Perceived by
Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Regular Use



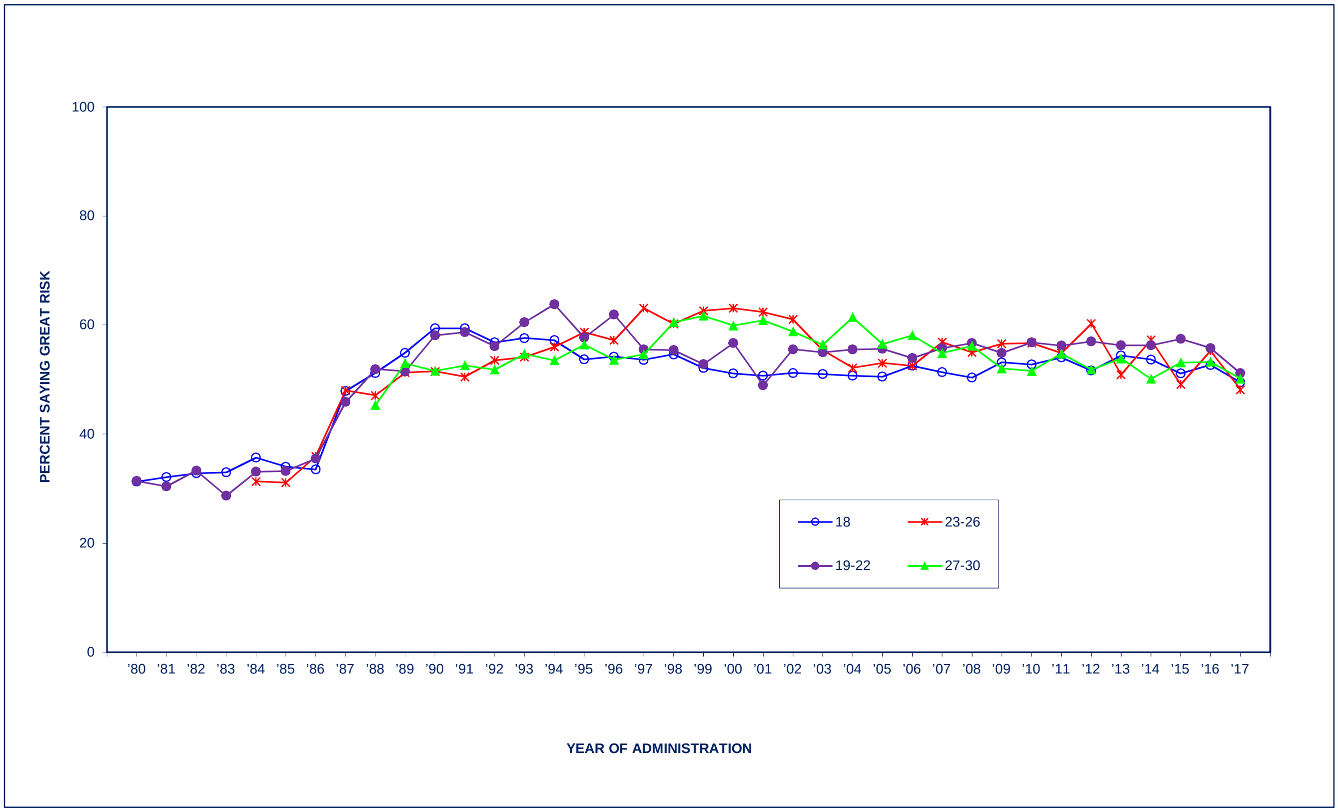
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-8
Trends in Harmfulness of PCP Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Trying Once or Twice



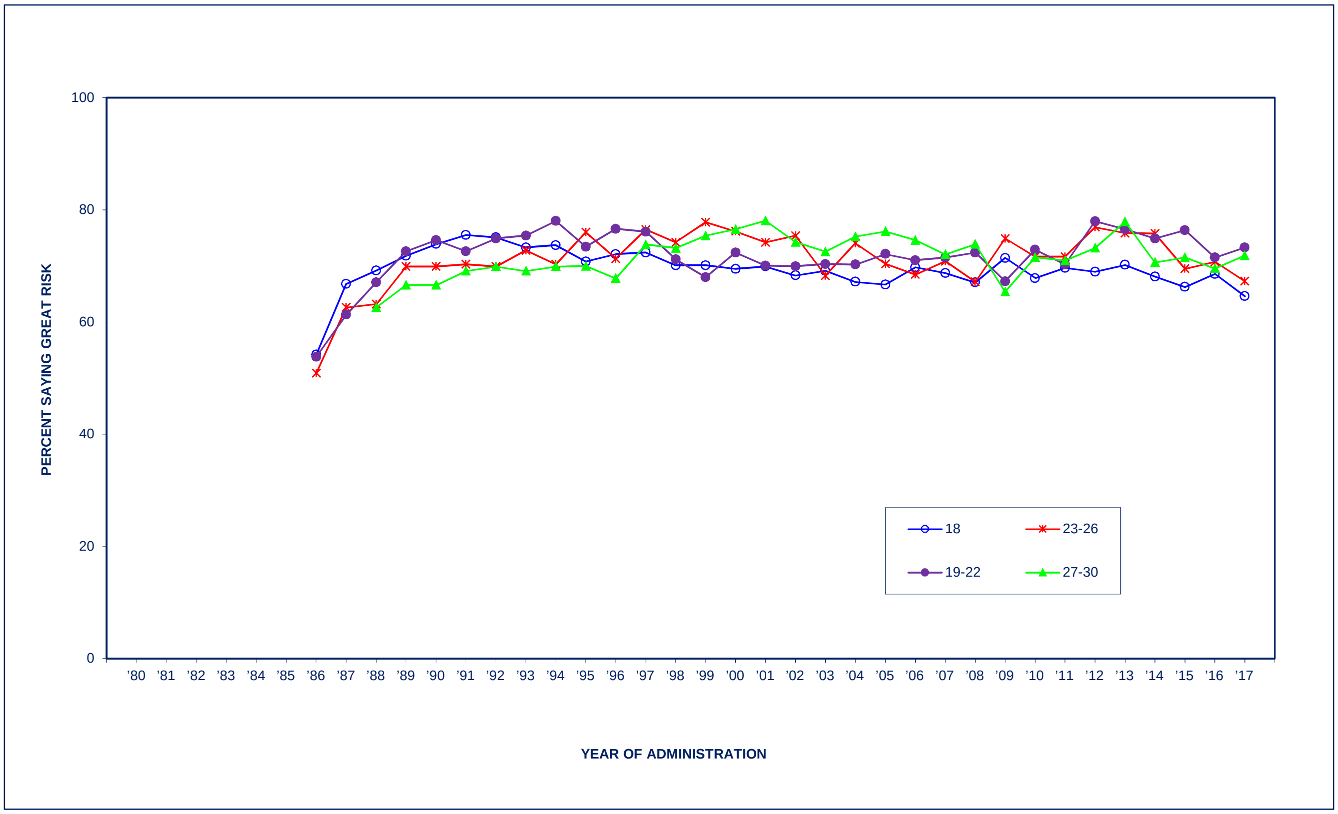
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-9
Trends in Harmfulness of COCAINE Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Trying Once or Twice



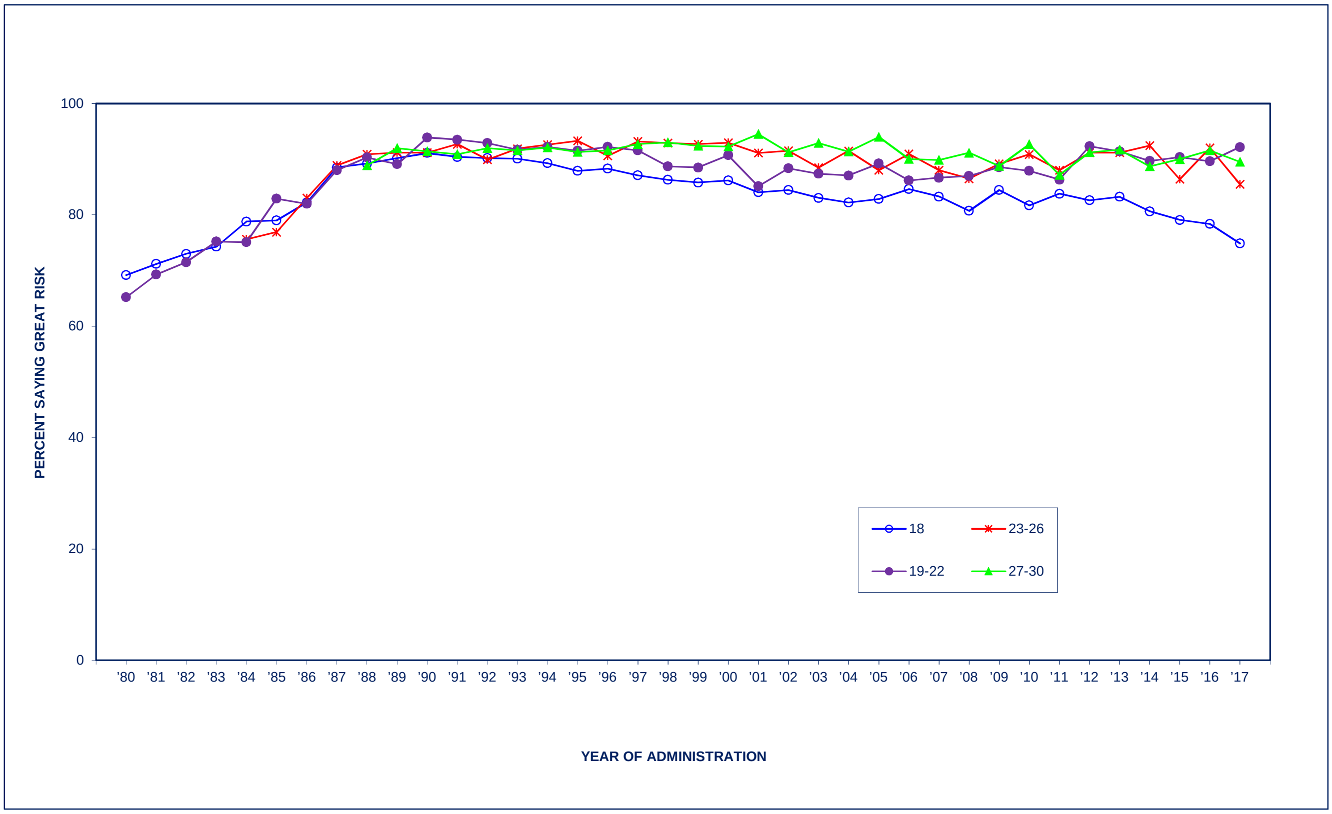
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-10
Trends in Harmfulness of COCAINE Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Occasional Use



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

FIGURE 6-11
Trends in Harmfulness of COCAINE Use as Perceived by
Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Regular Use

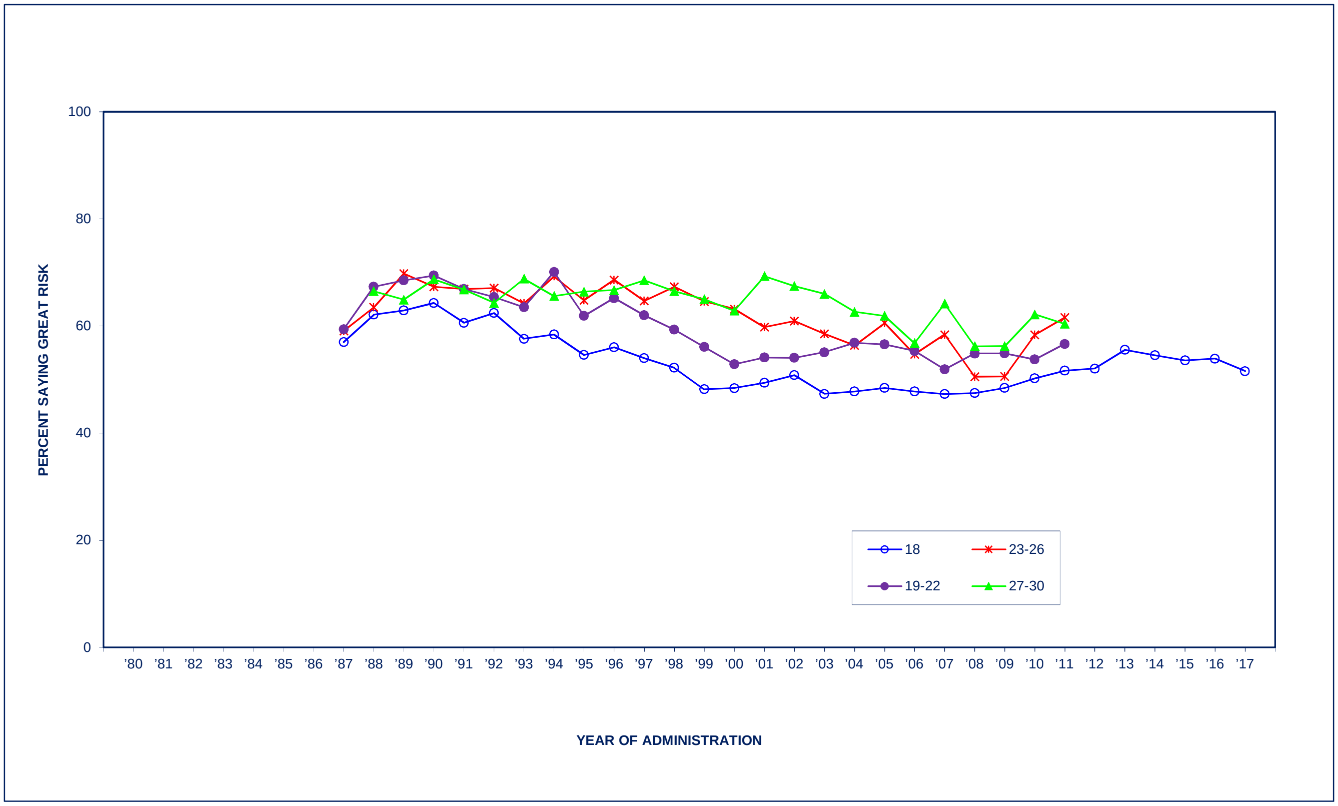


Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-12

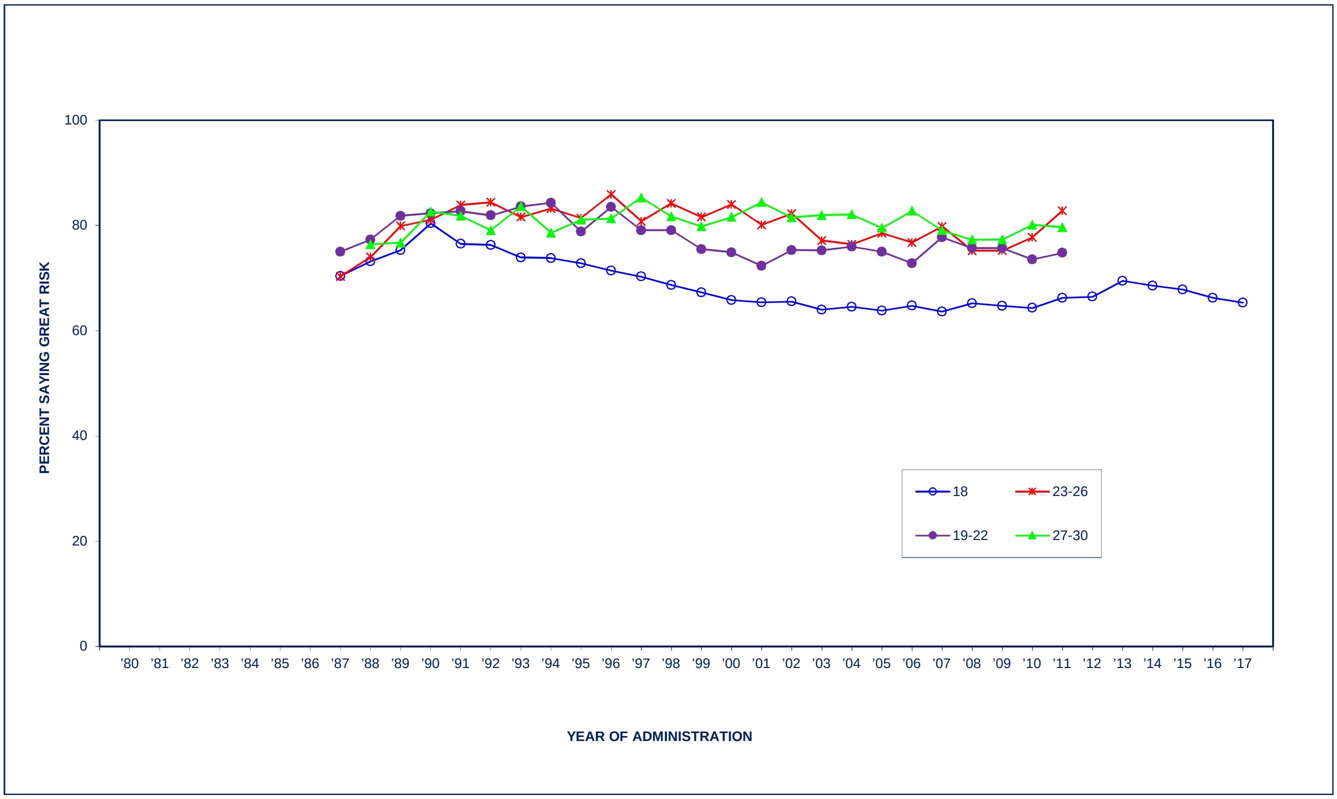
Trends in Harmfulness of CRACK COCAINE Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Trying Once or Twice



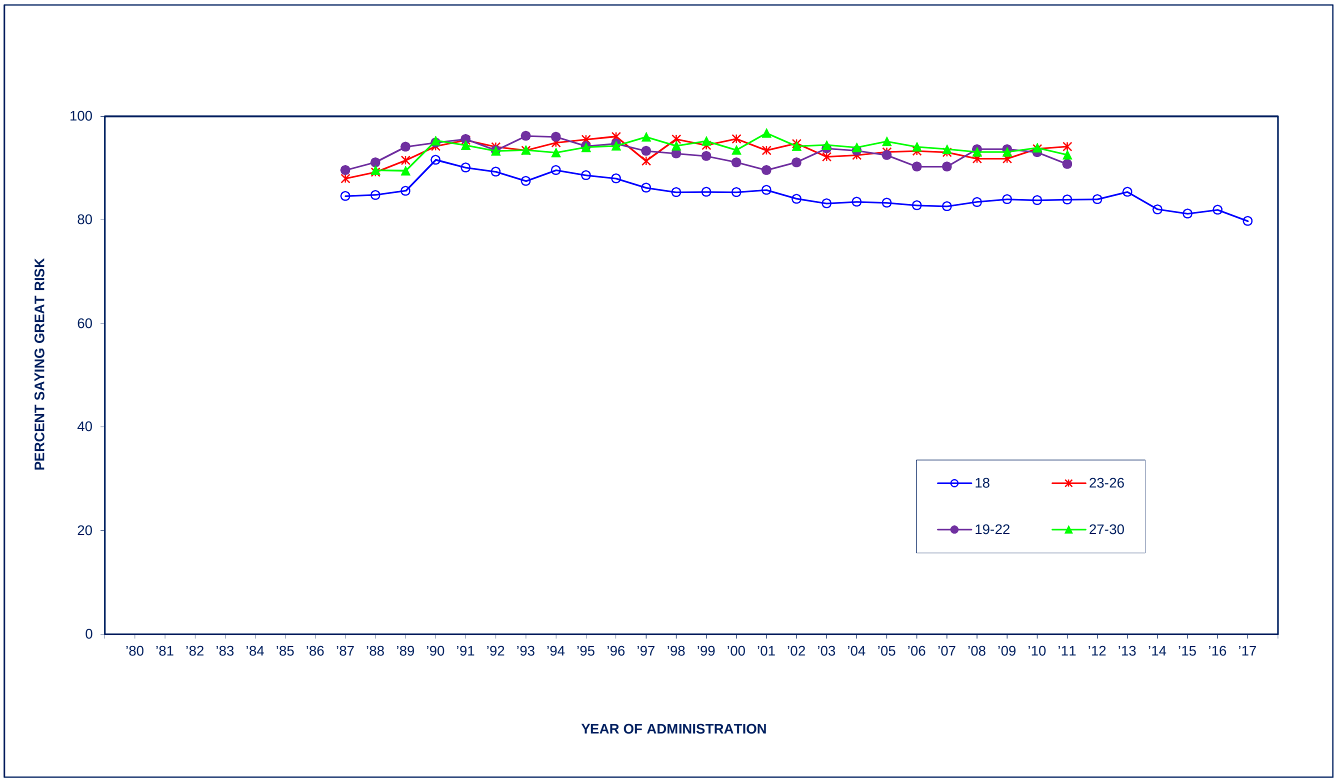
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-13
Trends in Harmfulness of CRACK COCAINE Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Occasional Use



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

FIGURE 6-14
Trends in Harmfulness of CRACK COCAINE Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Regular Use

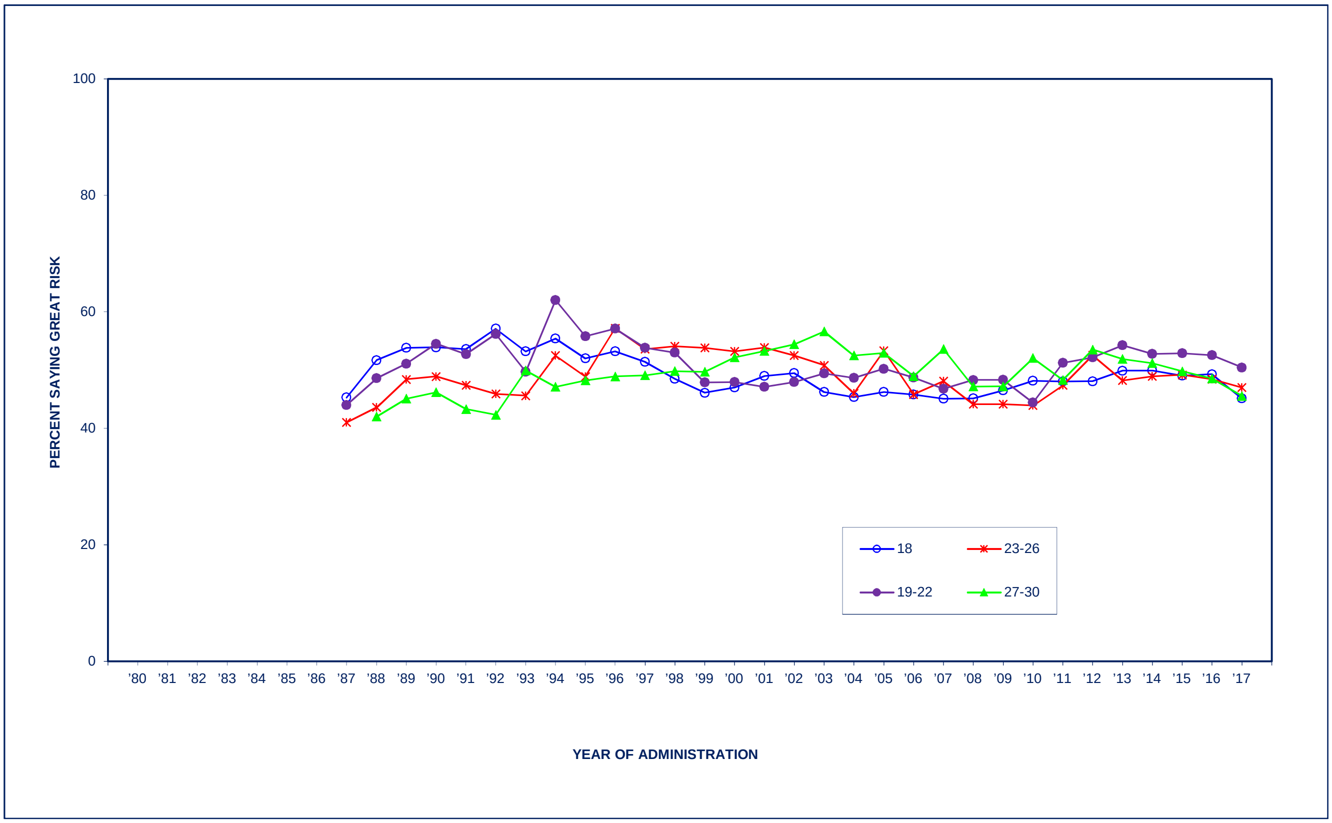


Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-15

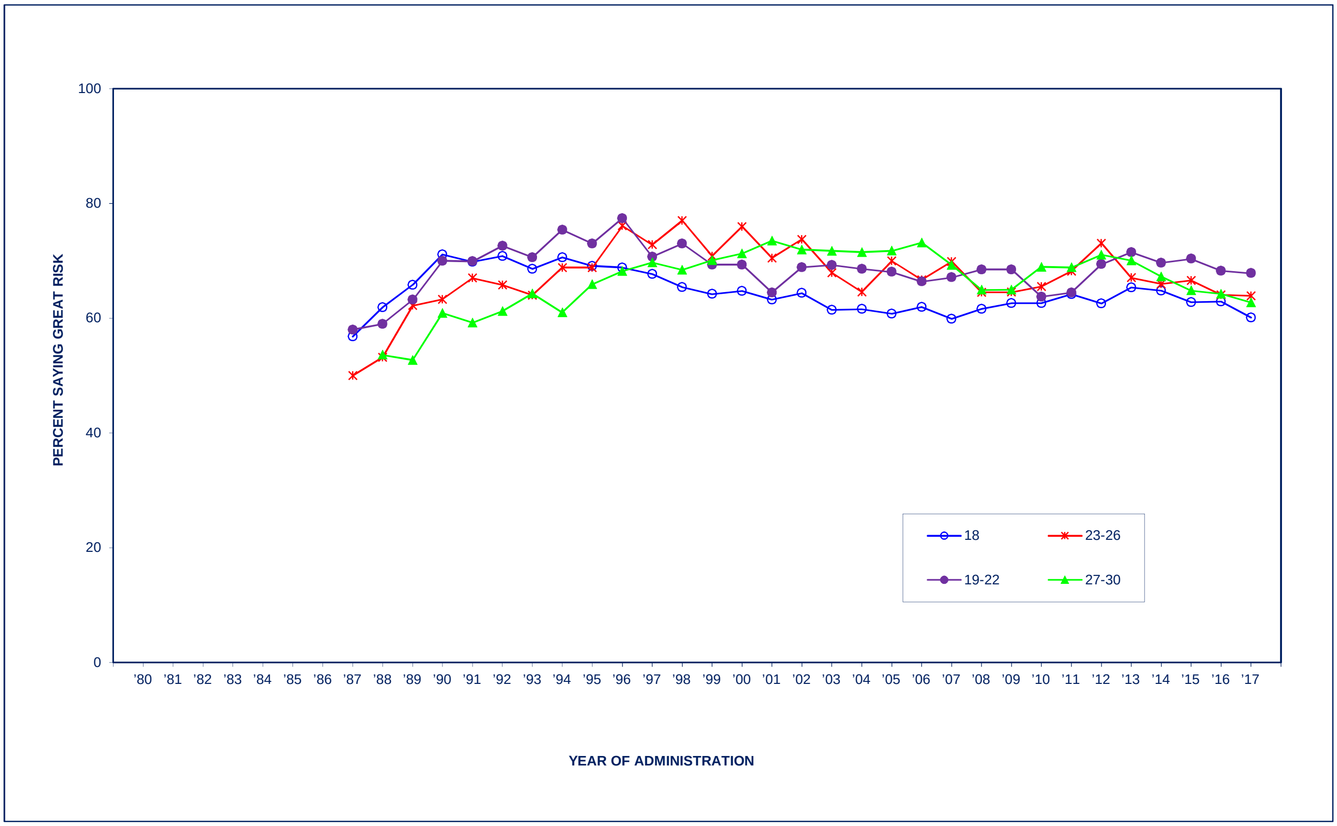
Trends in Harmfulness of COCAINE POWDER Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Trying Once or Twice



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

FIGURE 6-16
Trends in Harmfulness of COCAINE POWDER Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Occasional Use

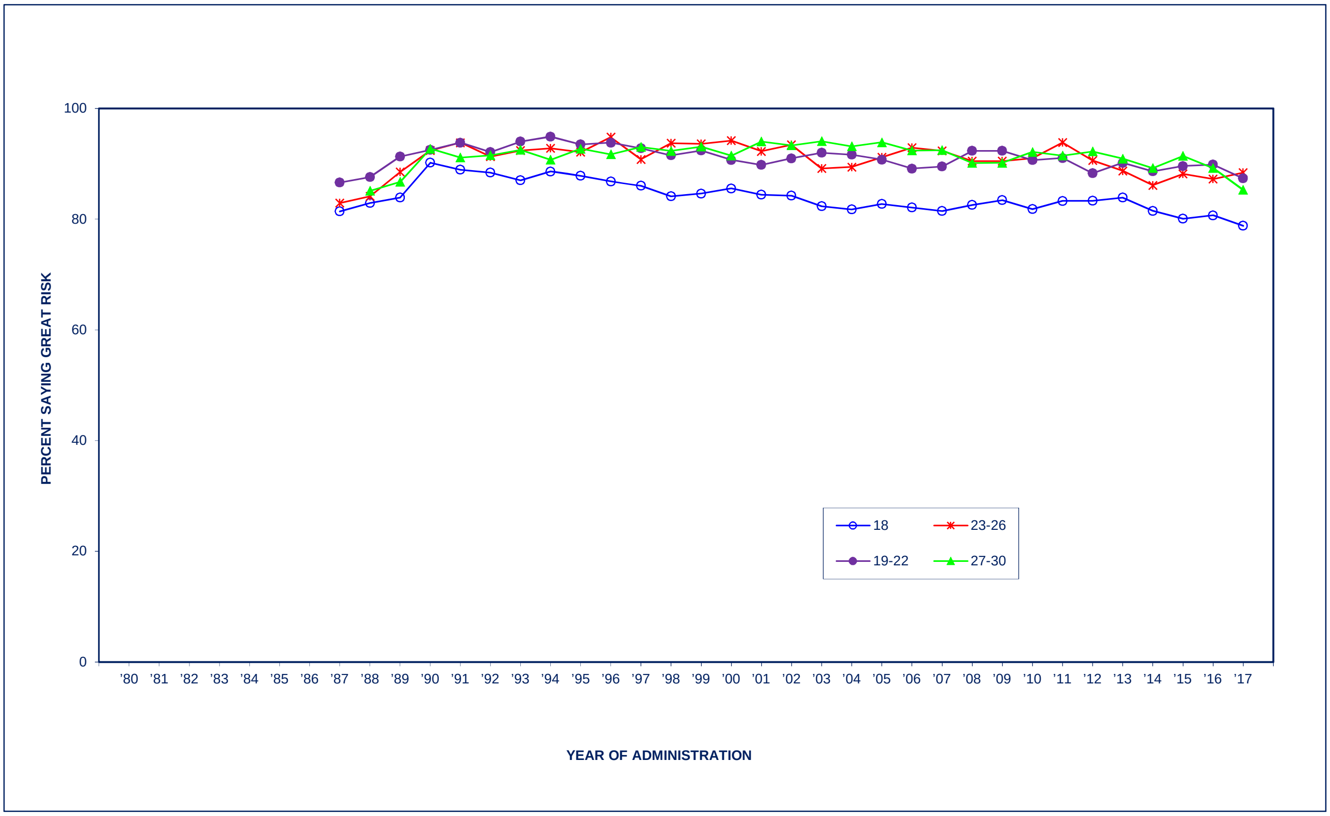


Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-17

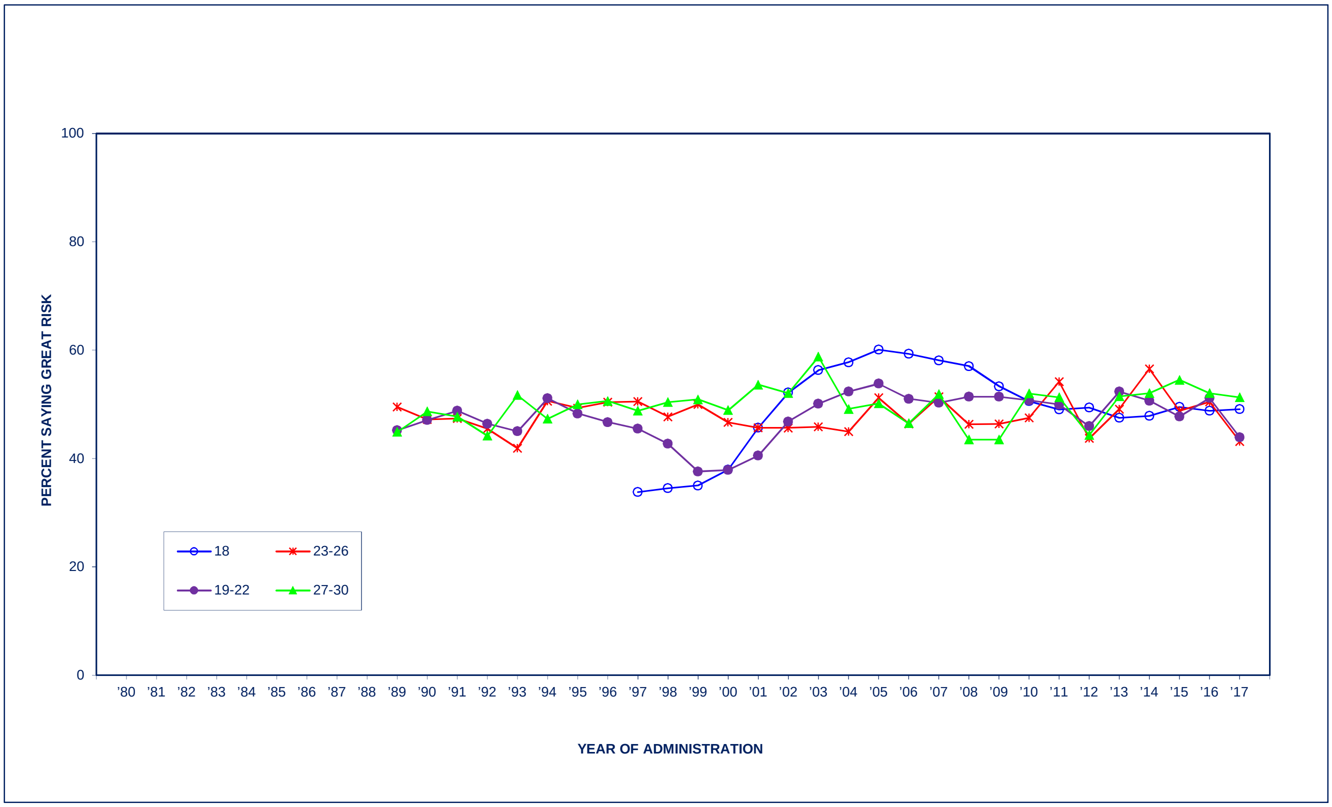
Trends in Harmfulness of COCAINE POWDER Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Regular Use



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

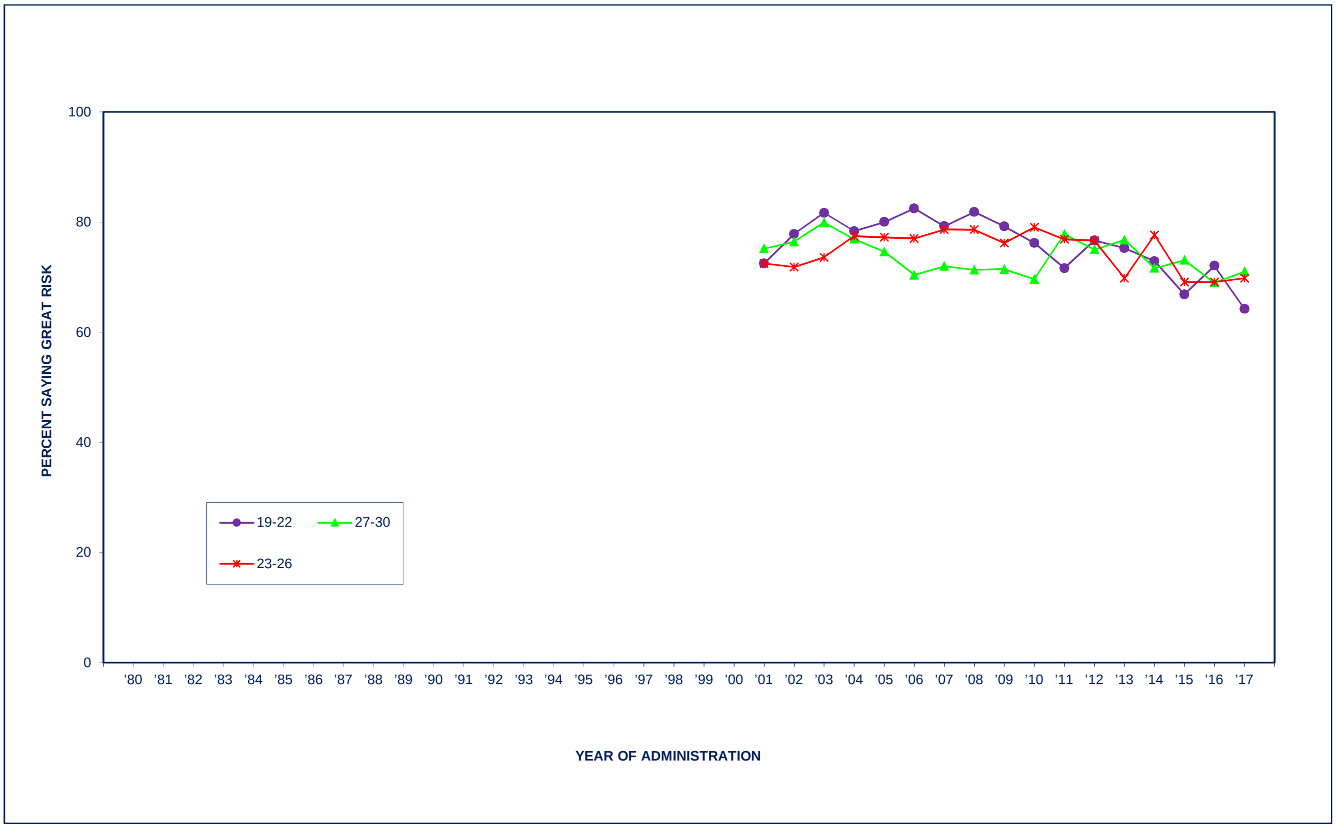
FIGURE 6-18
Trends in Harmfulness of ECSTASY (MDMA, Molly)[a] Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Trying Once or Twice



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

[a] In 2014 in the Age 18 questionnaire, "molly" was added to the question text. In 2015, the same change was made to the questionnaires for the other age groups. This likely explains the discontinuity in results for the affected years.

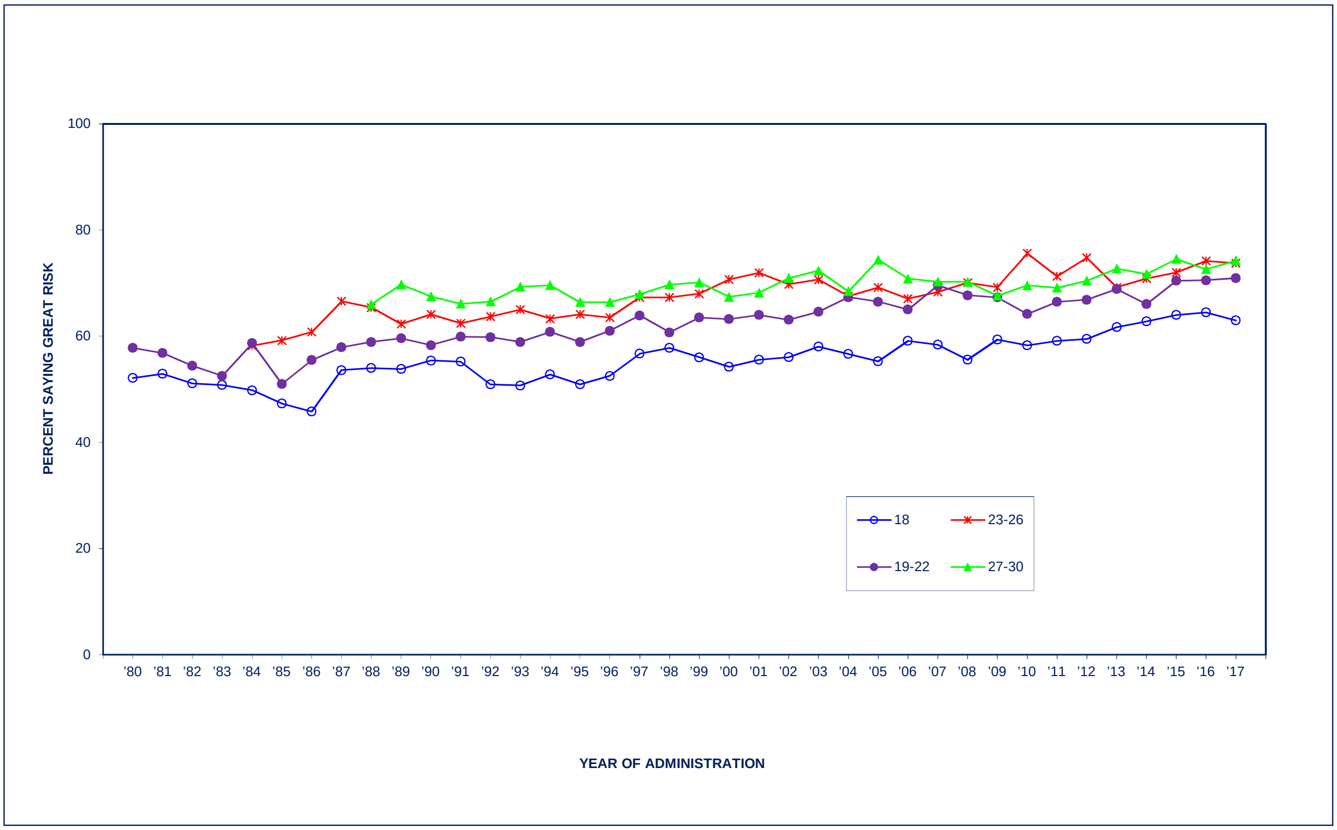
FIGURE 6-19
Trends in Harmfulness of ECSTASY (MDMA, Molly)[a] Use as Perceived by Respondents in Modal Age Groups of 19–22, 23–26, and 27–30
Occasional Use



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

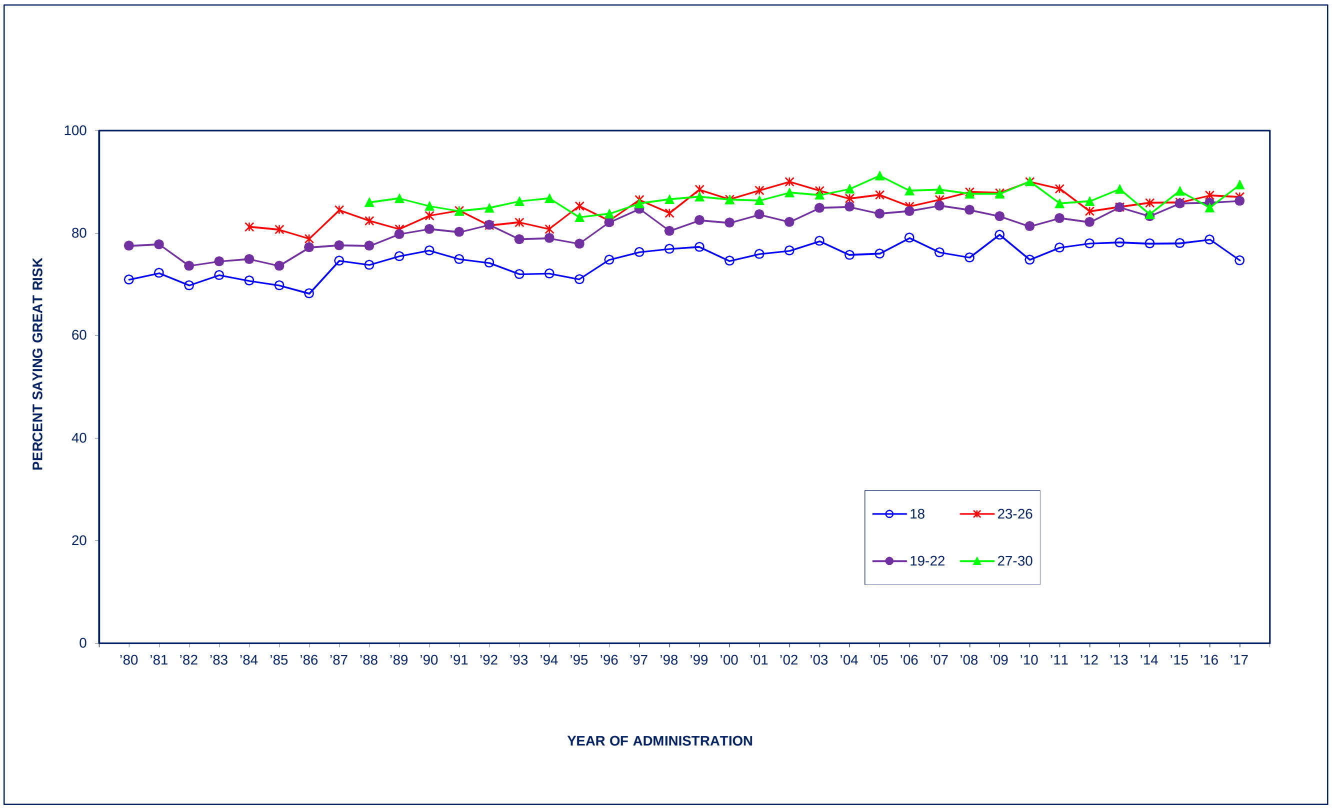
[a] In 2015, "molly" was added to the question text. This likely explains the discontinuity in results for the affected years.

FIGURE 6-20
Trends in Harmfulness of HEROIN Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Trying Once or Twice



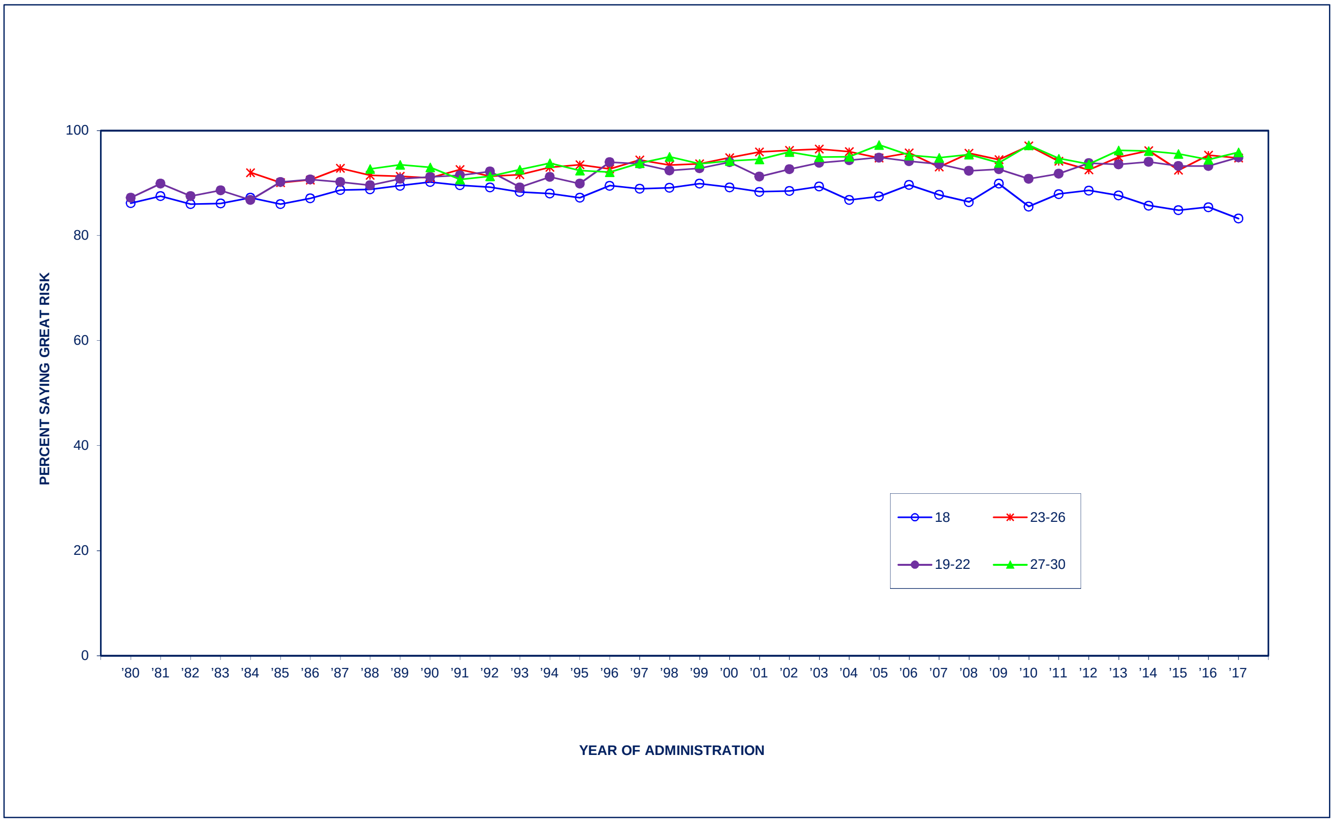
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-21
Trends in Harmfulness of HEROIN Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Occasional Use



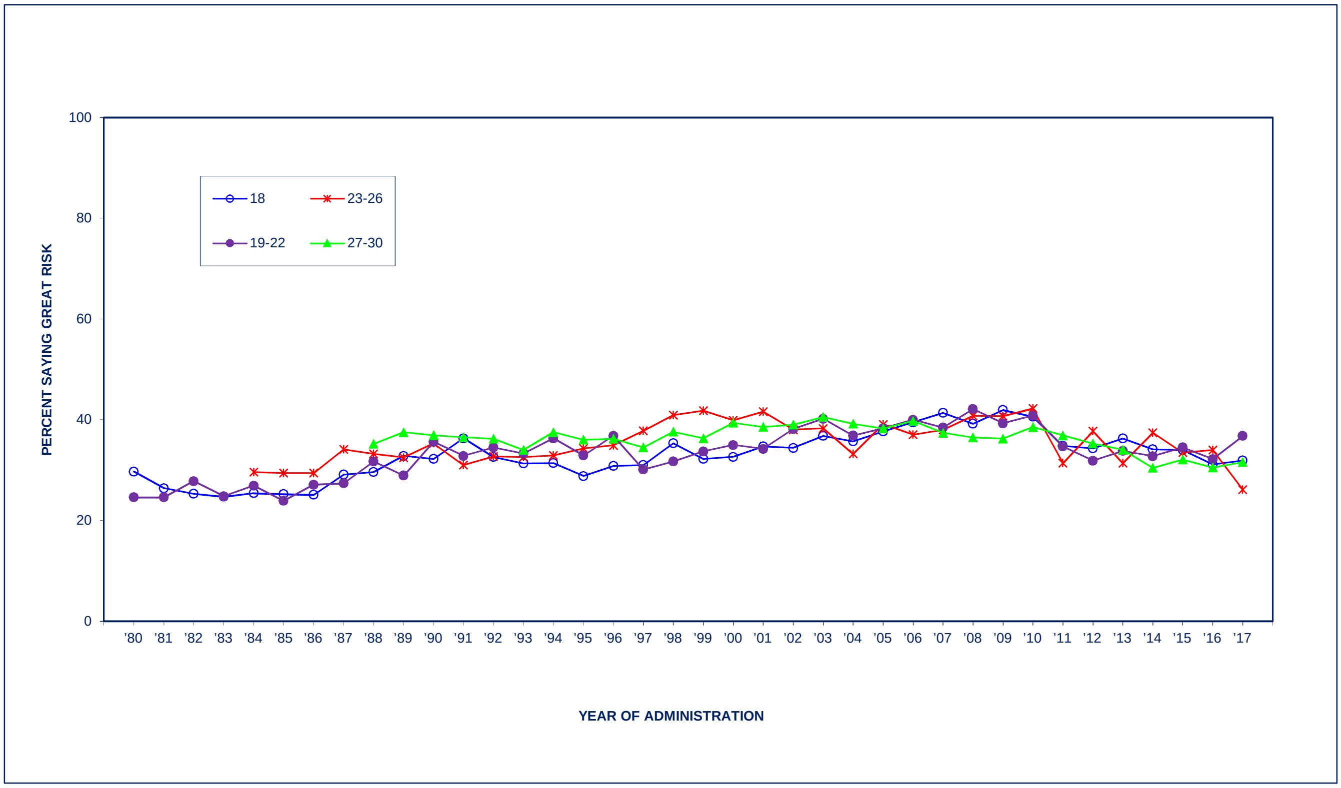
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-22
Trends in Harmfulness of HEROIN Use as Perceived by
Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Regular Use



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

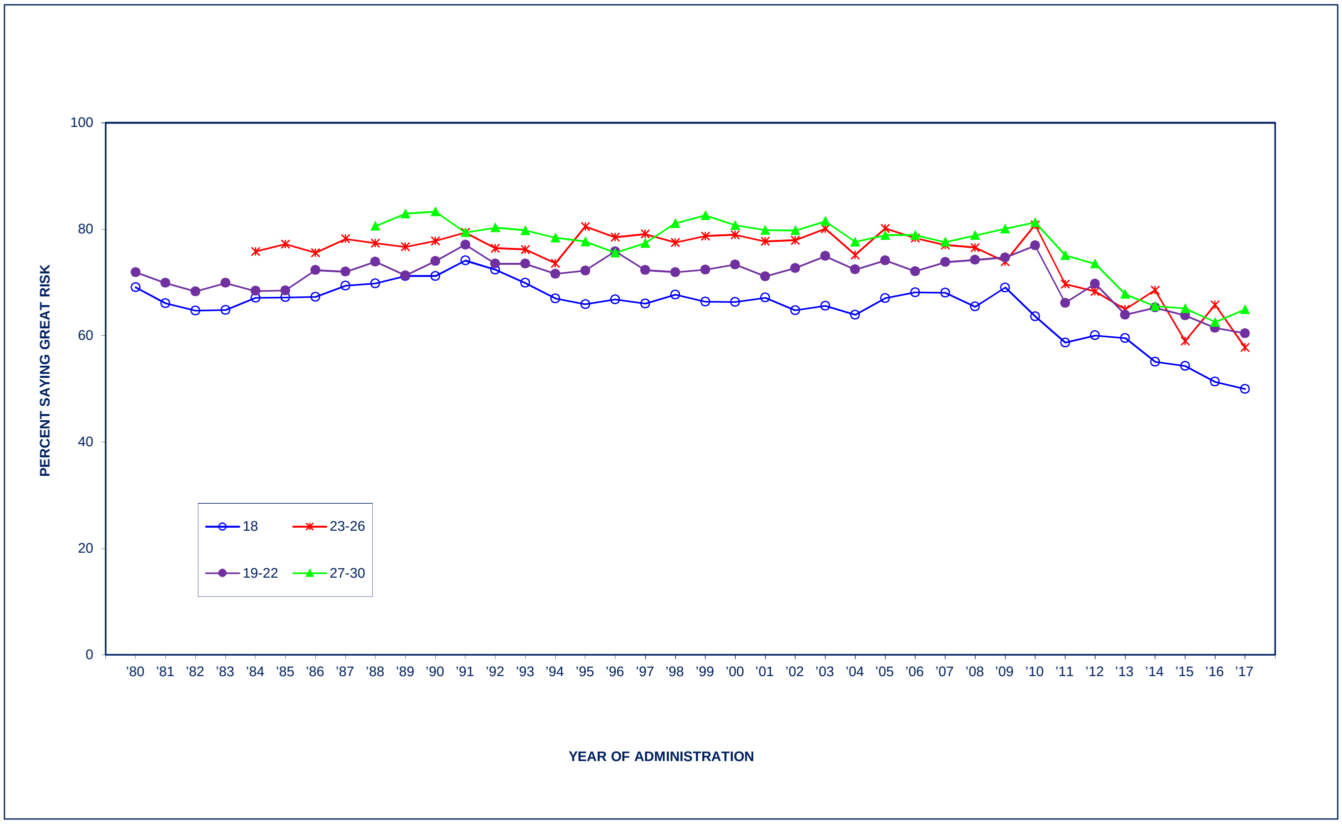
FIGURE 6-23
Trends in Harmfulness of AMPHETAMINE[a] Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Trying Once or Twice



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

[a]In 2011 the list of examples was changed from upper, pep pills, bennies, and speed to uppers, speed, Adderall, Ritalin, etc. These changes likely explain the discontinuity in the 2011 results.

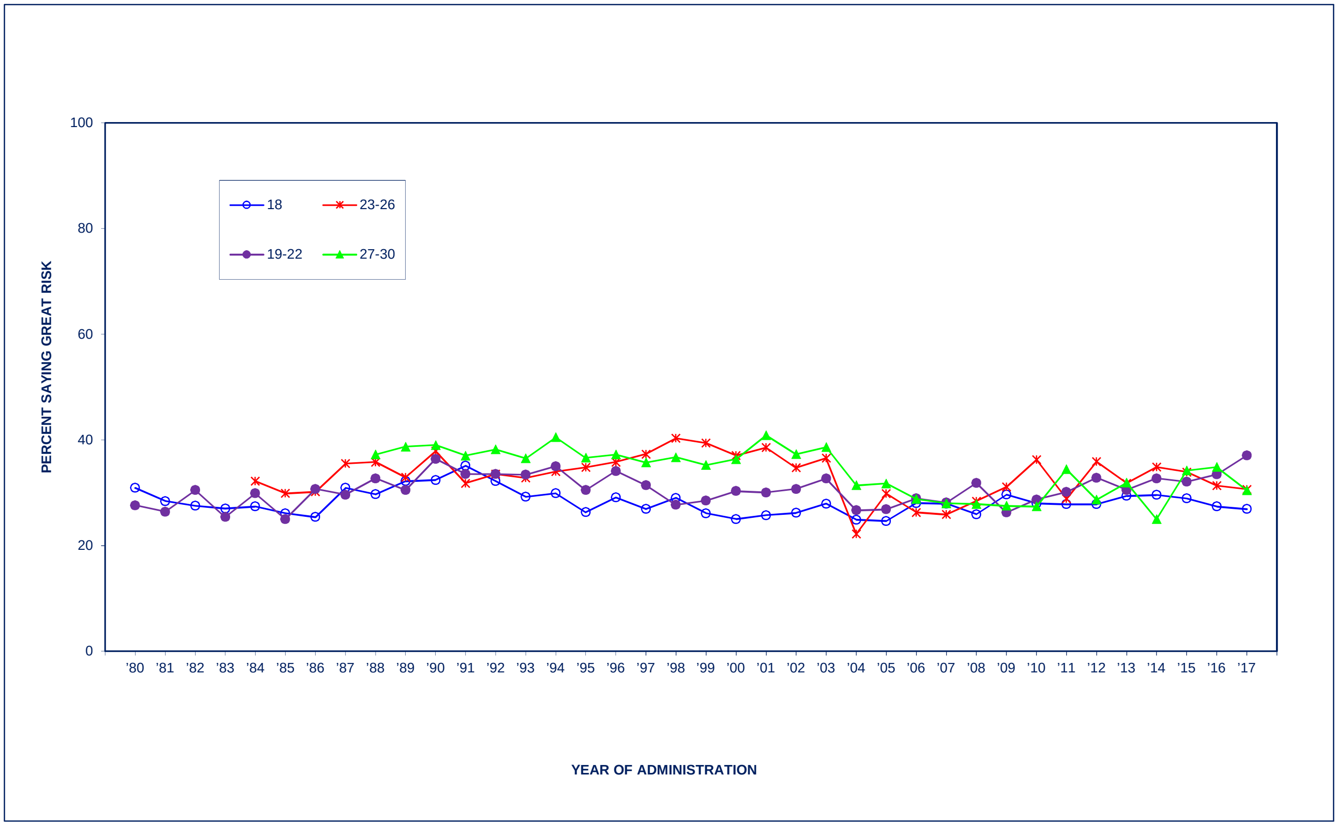
FIGURE 6-24
Trends in Harmfulness of AMPHETAMINE[a] Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Regular Use



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

[a]In 2011 the list of examples was changed from upper, pep pills, bennies, and speed to uppers, speed, Adderall, Ritalin, etc. These changes likely explain the discontinuity in the 2011 results.

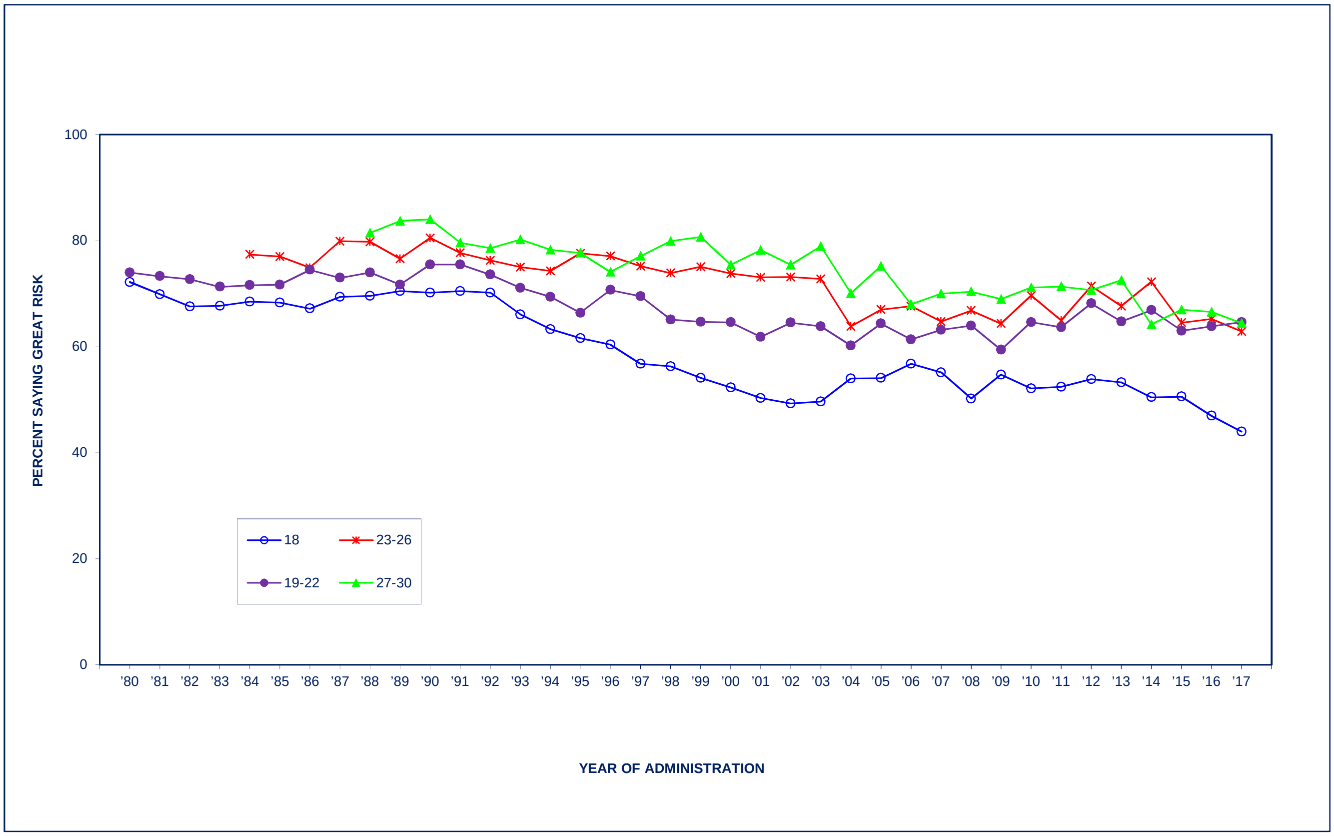
FIGURE 6-25
Trends in Harmfulness of SEDATIVE (BARBITURATE)[a] Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Trying Once or Twice



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

[a]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 2003 and 2004 results.

FIGURE 6-26
Trends in Harmfulness of SEDATIVE (BARBITURATE)[a] Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Regular Use



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

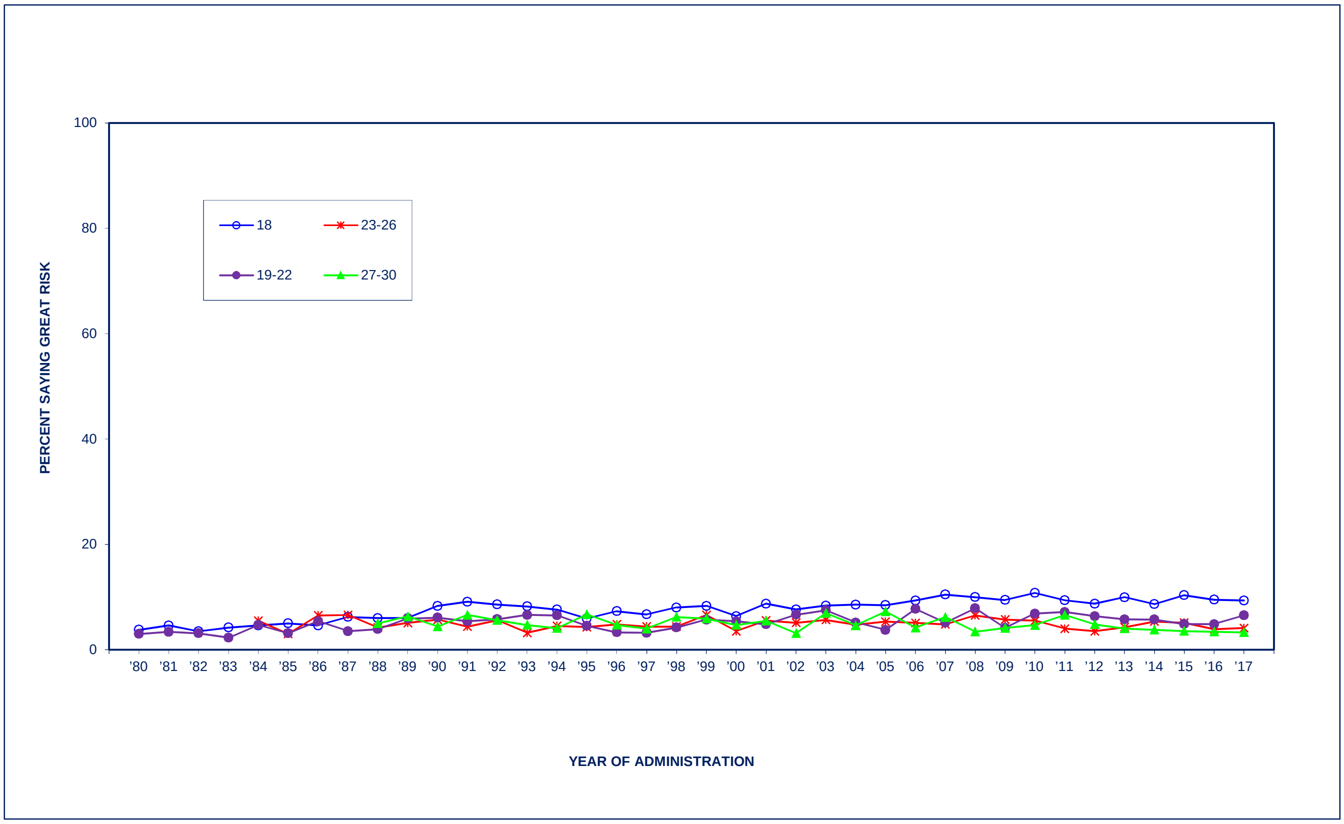
[a]In 2004 the question text was changed from barbiturates to sedatives/barbiturates and the list of examples was changed from downers, goofballs, reds, yellows, etc. to just downers.

These changes likely explain the discontinuity in the 2003 and 2004 results.

FIGURE 6-27

Trends in Harmfulness of ALCOHOL Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Trying Once or Twice

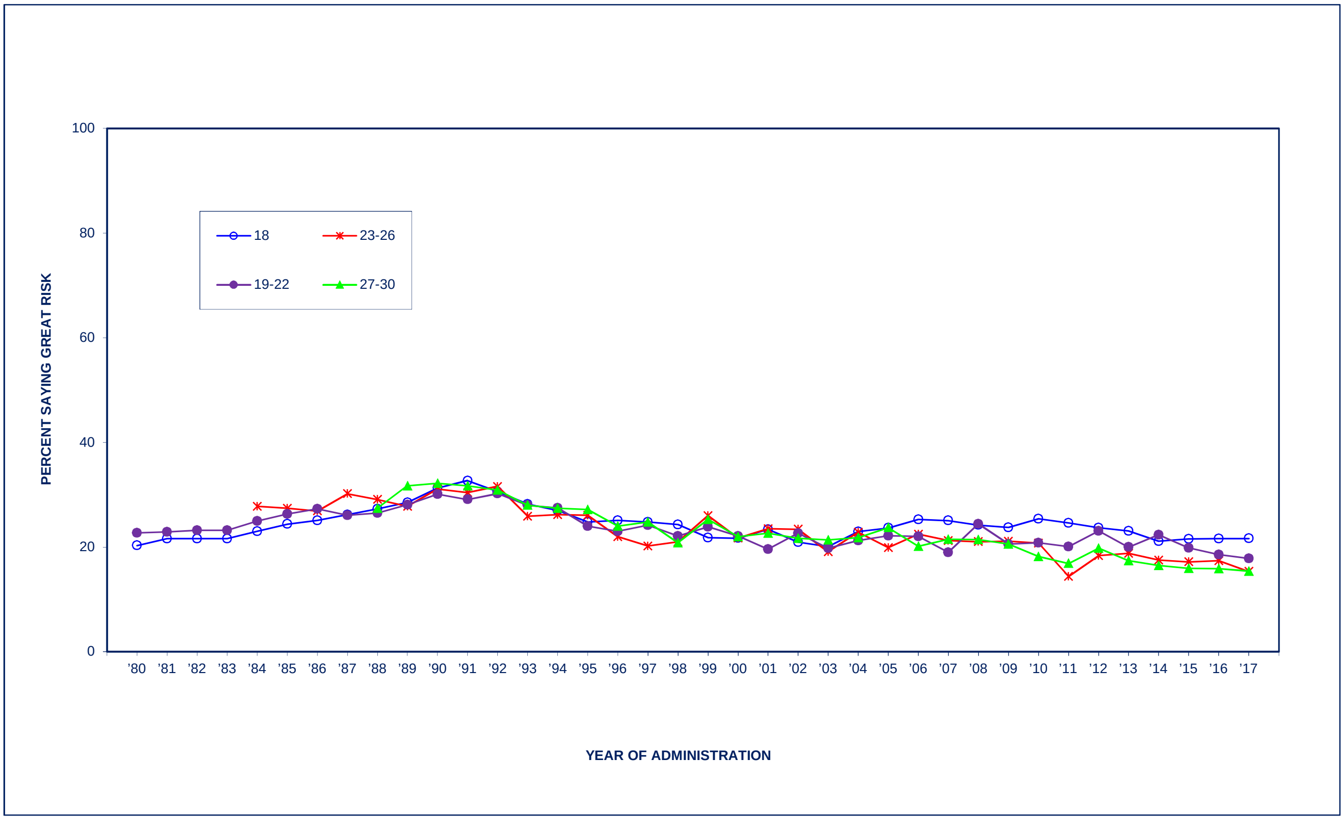


Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-28

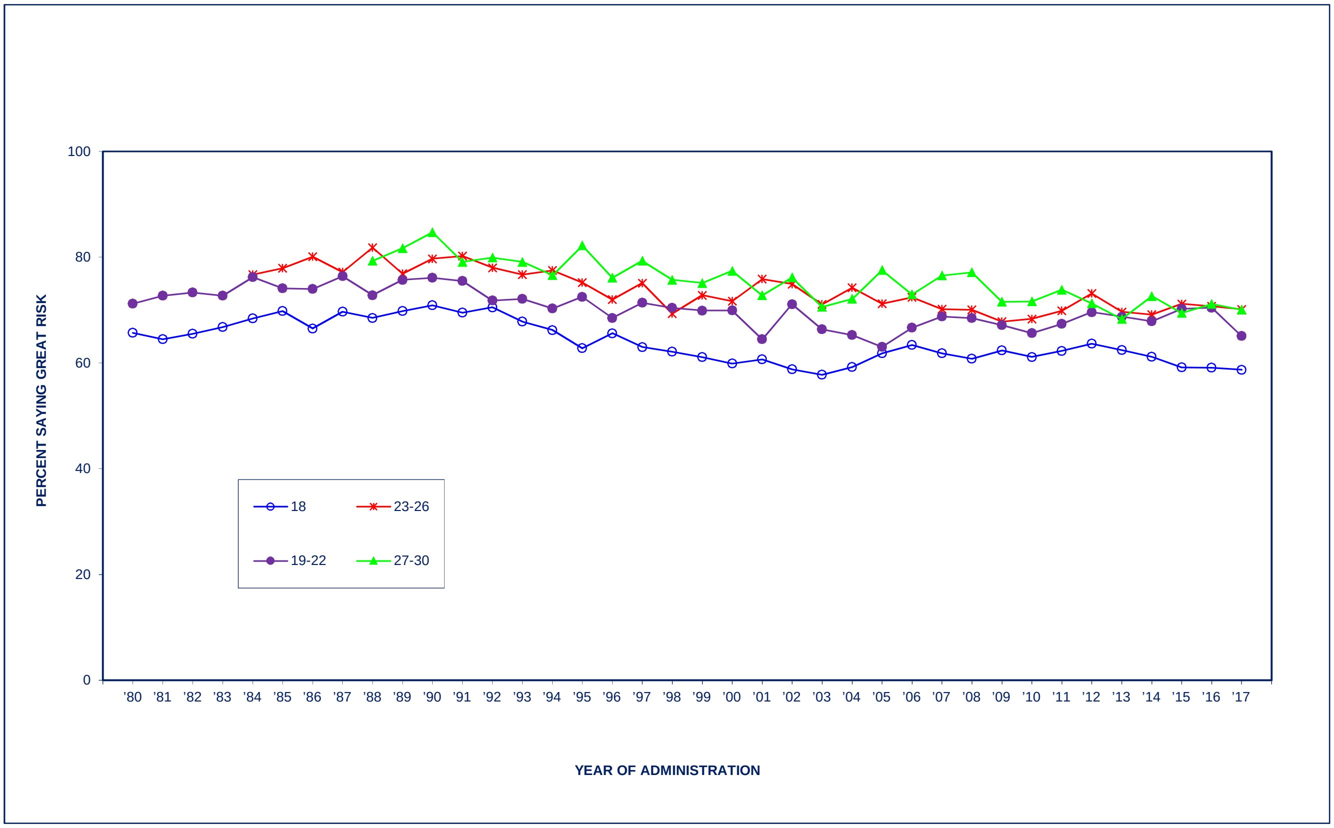
Trends in Harmfulness of ALCOHOL Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Having One or Two Drinks per Day



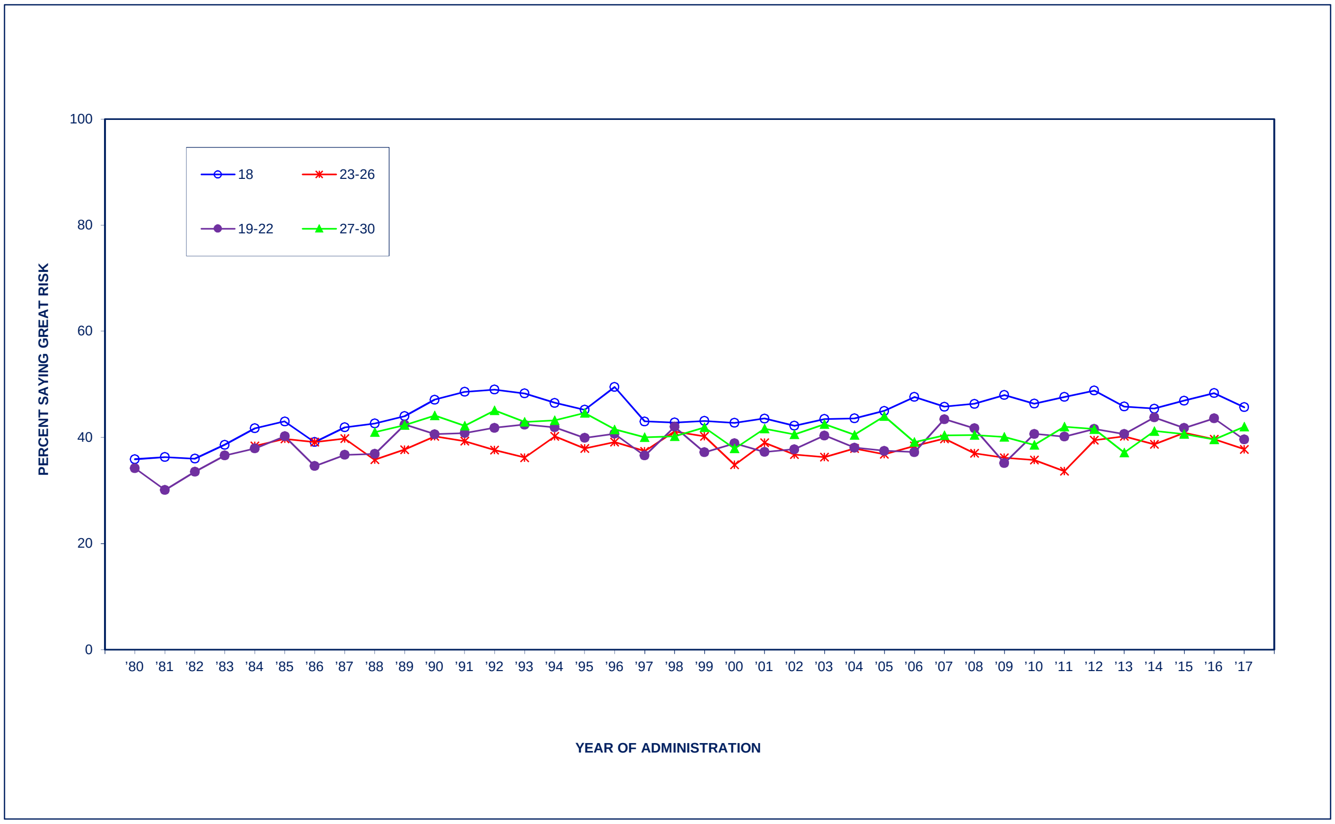
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-29
Trends in Harmfulness of ALCOHOL Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Having Four or Five Drinks per Day



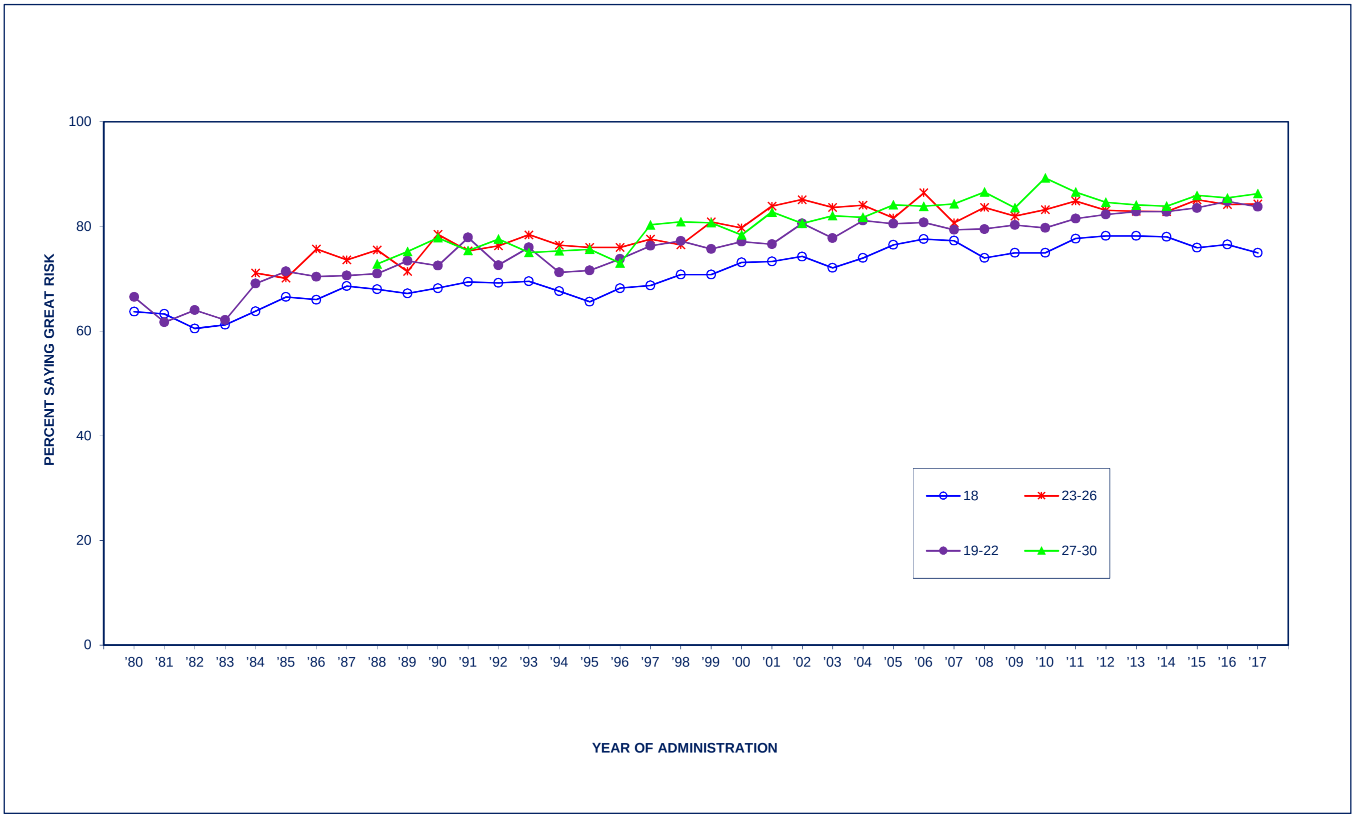
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-30
Trends in Harmfulness of BINGE DRINKING as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Having Five or More Drinks Once or Twice Each Weekend



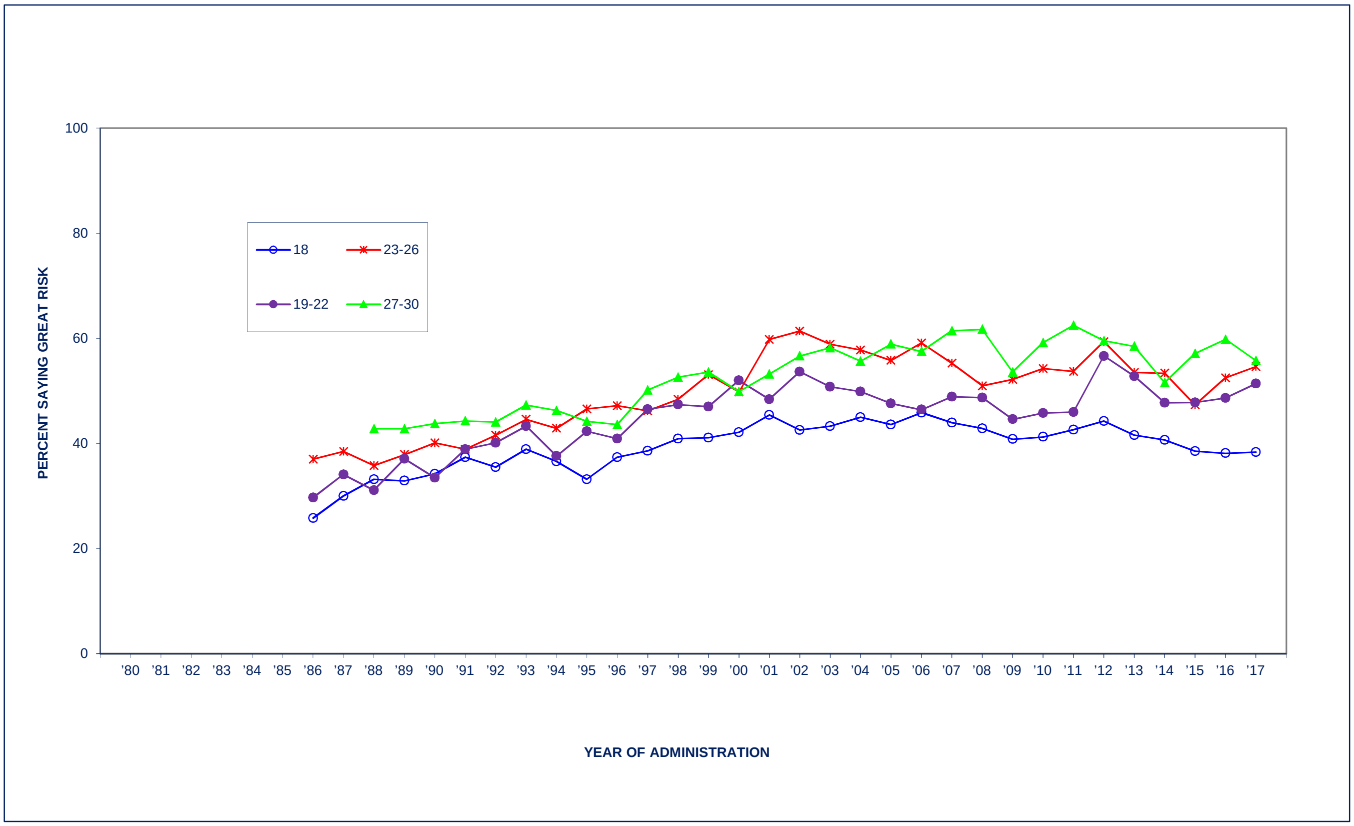
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 6-31
Trends in Harmfulness of TOBACCO Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Smoking One or More Packs of Cigarettes per Day



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

FIGURE 6-32
Trends in Harmfulness of SMOKELESS TOBACCO Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
Regular Use



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

Chapter 7

THE SOCIAL CONTEXT

The social contexts in which individuals place and otherwise find themselves can influence the likelihood of using drugs in a number of ways. The context can provide social modeling and social norms for either use or abstention from use. Through friends and friends' contacts it can also influence the availability of drugs and bring about an awareness of new drugs, including knowledge of their existence and their potential for altering mood and consciousness. Since its inception, MTF has measured three important features of the social context: (1) peer groups' norms about drug use, (2) amount of direct exposure to drug use by friends and others, and (3) perceived availability of drugs. All three factors are measured by self-reports and are therefore measures of the perceived context, though evidence suggests that they bear a strong correlation with the actual context (e.g., consistency between one's own reported attitudes and behaviors regarding substance use and perceived peer attitudes and behaviors). We believe that these three factors exert important influences on substance use at both the individual (micro) and the aggregate (macro) level.

In *Volume I*, we examined these factors among secondary school students. In this chapter, we do the same for the young adult population ages 19 to 30, whose social contexts typically differ considerably from what they were in high school. Most high school graduates today enter college, many get civilian jobs, and some enter military service. These transitions almost always change the institutional contexts experienced by young adults (e.g., colleges, work organizations, military services) and therefore the circles of people to whom they are exposed and with whom they develop friendships. Such transitions also alter the potential consequences of drug use if it is discovered by authorities in the relevant institution; for example, consequences today can be quite severe for those in military service, and we have shown that illicit drug use drops when young people enter the military.[1]

Each of the question sets discussed here is contained in only one of the six questionnaire forms, so the case counts are lower than those presented in most chapters in this volume. Therefore, these prevalence and trend estimates are more subject to random fluctuation or "noise" compared to those based on more questionnaire forms in this volume as well as those covered in *Volume I* (MTF's cross-sectional secondary school samples are much larger than its young adult samples). As we did in Chapter 6, when examining age variation within those aged 19-30, we use four-year age bands (19-22, 23-26, 27-30) to increase the available sample sizes to about 250–600 weighted cases per year for each age band, thereby improving the reliability of the estimates. (The numbers of weighted cases are given at the end of Table 7-1. The actual numbers of respondents are somewhat larger.)

In addition, we include consideration of norms, exposure, and availability where relevant among those age 35 and older. In such cases, the data are based on larger numbers because just one form is used for all respondents at each particular age.

---

[1] Bachman, J. G., Freedman-Doan, P., O'Malley, P. M., Johnston, L. D., & Segal, D. R. (1999). Changing patterns of drug use among U.S. military recruits before and after enlistment. *American Journal of Public Health, 89,* 672-677.

PEER NORMS AMONG YOUNG ADULTS (AGES 18–30)

Table 7-1 provides current levels and trends in perceived friends' disapproval of experimental, occasional and regular use of marijuana, alcohol, and cigarettes as reported by 12th graders, 19- to 22-year-olds, 23- to 26-year-olds, and 27- to 30-year-olds. Trend data are available since 1980, 1984, and 1988, respectively, for these three 4-year age groupings of young adults. The survey question reads, "How do you think your close friends feel (or would feel) about you… [smoking marijuana once or twice]?" The answer categories are "don't disapprove," "disapprove," and "strongly disapprove." Percentages discussed below are for the last two categories combined.

The results for perceived peer norms are generally quite consistent with those for personal disapproval in the aggregate. Exceptions are trying marijuana once or twice and smoking one or more packs of cigarettes per day, for which friends' attitudes are consistently reported as more disapproving than respondents' own attitudes (especially in the oldest age band), and heavy weekend drinking, for which friends' attitudes are seen as less disapproving than their own. The question set regarding friends' disapproval employs a shorter list of drug-using behaviors but includes the same answer scale, stated in terms of strength of disapproval associated with different use levels of the various drugs, as do the questions on the respondent's own attitudes about those behaviors (discussed in Chapter 6). While peer disapproval and personal disapproval questions appear on different questionnaire forms and therefore have different sets of respondents, the forms are distributed randomly in respondents' senior year of high school and should leave no systematic sample differences.

Perceptions of Close Friends' Attitudes (Ages 18 to 30)

Table 7-1 provides trends for each age band in the proportions of respondents indicating how their close friends would feel about the respondent engaging in various drug-using behaviors. For purposes of simplification, we begin by addressing results across the entire 19- to 30-year age band (tabular data for the entire age band are not presented). Then we distinguish among the three young adult age bands: 19–22, 23–26, and 27–30, along with 18-year-olds. In 2010 questions about friends' disapproval were dropped from the young adult follow-up questionnaires for all drugs except ***marijuana***, ***occasions of heavy drinking***, and ***cigarettes***. The dropped questions had shown a high degree of redundancy with respondents' reports of their own attitudes in the aggregate, and thus were deleted to make room for other items.

- Generally, the peer norms reported by young adults one to 12 years past high school have been quite similar to those reported by 12th graders.

- In 2017, with regard to ***marijuana***, about 4-in-10 young adults (41%) thought their close friends would disapprove of their trying it, about half (49%) thought their close friends would disapprove of occasional use, and about 7 in 10 (69%) thought close friends would disapprove of regular use. Clearly the norms differ as a function of level of marijuana use, but for all levels of use they tend to be fairly restrictive for a good portion of young adults. In comparison, in 2017, corresponding rates for 12th graders were 44%, 51%, and 65%, showing somewhat less differentiation as a function of level of marijuana use than young adults show.

- For each of the ***illicit drugs other than marijuana***, 2009 was the last year in which results on peer norms were available. At that time, the great majority of young adults, nearly 9-in-10, said that their close friends would disapprove of their even *trying* such drugs once or twice; 89% indicated this for ***cocaine***, 87% for ***LSD***, and 87% for ***amphetamines***. (We stopped asking these questions beginning in 2010 to make space for new items on the survey and because the data that they provided on peer norms so closely tracked what their own attitudes were in the aggregate; below we provide a quick summary of trends for these three measures up through 2009.)

- In 2017, with regard to friends' disapproval of ***heavy drinking on weekends***, about half (52% to 56%) of any of the young adult age groups thought that their close friends would disapprove of their having five or more drinks once or twice each weekend. These levels of disapproval are considerably lower than among 18-year-olds (69%). These levels are also lower than perceived disapproval of daily drinking. In 2009 (when we last asked these questions), nearly two thirds (63%) of young adults said their close friends would disapprove if they were ***daily drinkers***, and 9 out of 10 (91%) thought friends would disapprove if they had ***four or five drinks nearly every day***.

- Peer disapproval of ***cigarette*** smoking is very high in all four age bands: In 2017, 85% of 12th graders said their friends would disapprove of pack-a-day smoking, as did 90% to 91% of 19- to 30-year-olds.

Trends in Peer Norms (Ages 18 to 30)

Important changes in the social acceptability of drug-using behaviors among both 12th graders' and young adults' peers have occurred since MTF began (see Table 7-1). We present summaries of trends, summarizing previous years to set the stage for recent trends.

- In 2017, perceived peer disapproval of experimental, occasional, and regular use of ***marijuana*** among young adults were at or near historic lows since the early 1980s. This follows a period of declines in perceived peer disapproval for nearly a decade, as summarized below.

  Among 12th graders, the proportion saying their close friends would disapprove of their *trying* marijuana rose from 41% in 1979 to 73% in 1992—a period of substantial decline in use. Friends' disapproval also grew substantially stronger in all of the young adult age bands in the years for which data are available. For example, among 19- to 22-year-olds, the proportion thinking their close friends would disapprove if they even tried marijuana rose from 41% in 1981 to 65% in 1992 (Table 7-1). A similar peak in disapproval occurred for 23- to 26-year-olds in 1992 and 1993, and among 27- to 30-year-olds in 1994 and 1995—66% for both age bands; these trends suggest some cohort effects as classes of higher disapproving 12th graders grew older. In all age groups, peer disapproval subsequently declined, though the declines were earliest and greatest among 12th graders, again consistent with cohort effects. The decline ended in 1997 for 12th graders and began to reverse, but continued through 2002 among 19- to 26-year-olds. There was little systematic change for several years among 19- to 26-year-olds, but more recently—since about 2008—their friends' disapproval declined appreciably for all three levels of marijuana use. In 2013 all young adult age groups showed a further decline in disapproval of experimental marijuana use; indeed, the declines for the older two age bands were large and statistically significant. For example, the percent of 23- to 26-year-olds and 27- to 30-year-olds saying that their close friends would disapprove of their trying marijuana fell by about 9 percentage points in that one year, possibly reflecting both cohort effects and a secular trend. In 2013, about half of each age group (48% to 52%) said that their close friends would disapprove of their trying marijuana, down from between 57–62% as recently as 2008. Since 2013, perceived peer disapproval has continued to decline, reaching 41% to 42% in 2017, which is at or near new historic lows since the early 1980s.

Close friends' disapproval of occasional and regular marijuana use also rose until the early 1990s among 18-year-olds, and then declined between 1992 and 1997. It declined through 1999 among 19- to 22-year-olds and continued to decline among 23- to 30-year-olds through 2003. Recent peak years of friends' disapproval of trying marijuana were 2006 for 12th graders, 2008 for 19- to 26-year-olds, and 2010 for 27- to 30-year-olds. In essence, peer norms have moved in a way consistent with the existence of some lasting cohort differences in these norms, as well as in use. A more formal analysis of age, period, and cohort effects in disapproval came to the same conclusion.[2] In the past decade or so, there have been continuing declines in friends' disapproval of occasional and regular use among all age groups, suggesting more of a secular trend effect. In 2017 about half of young adults (48% to 49%) said that their close friends would disapprove of their smoking marijuana occasionally, and a large majority still said they would disapprove regular use (68% to 71%). 2017 levels of close friends' disapproval of occasional and regular marijuana use are at or near historic lows since the early 1980s. *Clearly peer norms among young adults, as well as teens, have become more accepting of marijuana use in recent years, corresponding to their increased use.*

- There was a gradual increase in peer disapproval of *trying* an ***amphetamine*** for all age groups (18–30) through 1991, followed by a small decline evident among 12th graders through 1997. Between 1997 and 2009—the last year we asked this question of young adults and for which data are available—levels of disapproval among 18- to 30-year-olds increased to some extent, though not dramatically. In 2009, disapproval levels for trying an amphetamine were at 87% for all four age groups. Based on the data available on trends in respondents' own disapproval (see Chapter 6), it seems likely that peer disapproval among young adults has weakened in recent years, as it has for 12th graders.

- Perceived peer norms for ***LSD*** were measured from 1980 through 2009 among the follow-up respondents. Through 1991, peer disapproval of trying LSD showed very little change in any of the age bands, but it fell some in the 1990s, especially among 18-year-olds and subsequently among 19- to 22-year-olds. These declines bottomed out in a staggered fashion, beginning with the 12th graders in 1997, which thereafter showed a seven-percentage-point increase in peer disapproval. There was a five-percentage-point increase among 19- to 22-year-olds (after 2000), and a three-percentage-point increase among 23-

[2] Keyes, K. M., Schulenberg, J. E., O'Malley, P. M., Johnston, L. D., Bachman, J. G., Li, G., & Hasin, D. (2011). The social norms of birth cohorts and adolescent marijuana use in the United States, 1976-2007. *Addiction*, *106*(10), 1790-1800.

to 26-year-olds (after 2001)—again suggestive of a cohort effect in these norms. In 2009, the last year we asked, there was almost no difference among the age groups, with 85% to 87% of respondents in each age group saying their friends would disapprove of their trying LSD.

- Perceived peer norms regarding ***cocaine*** use were measured from 1986 through 2009, after which such questions were dropped. In the eight-year interval from 1986 to 1994, self-reported cocaine use declined substantially as peer norms in all age bands shifted toward disapproval. For example, by 1994, 95% of the 19- to 22-year-olds thought their close friends would disapprove of their trying cocaine once or twice. After 1994, peer norms against use continued to strengthen a bit in the upper age bands, perhaps through generational replacement, but weakened slightly in the younger age bands, likely reflecting a new cohort effect. By 2009 (the last year we asked) there was little difference by age in peer norms against cocaine use, with 85% to 91% saying their friends would disapprove of their even trying it. By way of contrast, in 1986 that statistic ranged between 71% and 80% among 18- to 26-year-olds.

- Peer norms against ***occasions of heavy drinking*** on weekends (five or more drinks once or twice each weekend) among the three young adult age groups have tended to be weakest for the 19- to 22-year-old age group, in which such behavior is most common, and strongest for the 27- to 30-year-old group. Since 2002, disapproval of such drinking has also been low for the 23- to 26-year-old group relative to the other two age bands. Among 12th graders, friends' attitudes had become somewhat more restrictive between 1981 and 1992 (and respondents' own occasions of heavy drinking declined during that interval), but attitudes were fairly level for some years and then rose from 56% in 2002 to 69% by 2017). There was a similar upward trend in peer disapproval among the various young adult age bands that followed a staggered pattern, again likely reflecting a cohort effect in these norms. However, between 1997 and 2000 the 19- to 22-year-old age group became somewhat less disapproving of occasions of heavy drinking on weekends; this was followed by a decline in perceived peer disapproval between 2001 and 2004 among 23- to 26-year-olds, and a decline from 2004 to 2009 among 27- to 30-year-olds. Despite some increases in peer disapproval over the years, this potentially health-compromising form of drinking has the *least* restrictive perceived peer norms of all of the substance-using behaviors measured in MTF, yet about half still report peer disapproval. The recent increase in peer disapproval among 12th graders was not mirrored among the older age strata; thus peer disapproval of binge drinking became highest among the 12th graders, contrary to the situation in the late 1990s when 12th graders were the lowest. In 2017 the proportions saying that their friends would disapprove of such heavy weekend drinking was between 52% and 56% for the three young adult age bands compared to 69% among the 12th graders.

- Peer norms against ***cigarette smoking*** one or more packs per day have strengthened in staggered fashion among 18-year-olds and the young adult age groups. Between 1998 and 2008, the proportion saying that their close friends would disapprove of their smoking a pack or more of cigarettes per day rose from 69% to 83% among 18-year-olds and from 69% to 86% among 19- to 22-year-olds. The two older strata did not see a comparable change until peer disapproval among 23- to 26-year-olds rose from 77% in 2005 to 88% in 2009, at which time their disapproval leveled. The change did not manifest itself among the 27- to 30-year-olds until 2010; their rates of peer disapproval of smoking, which for some years had the highest rates of disapproval for smoking among the four age groups, stayed fairly level after 2000, until there was a 4.4-percentage-point jump in 2010, followed by a leveling. This pattern again suggests some cohort effects in peer norms working their way up the age spectrum. In 2017, very large proportions across the age bands reported that their friends would disapprove of pack-a-day smoking, ranging from 85% among 18-year-olds to 90–91% among the young adult age groups.

In the early years of MTF, peer disapproval of smoking a pack or more of cigarettes per day rose among 12th graders from 64% (1975) to 73% (1979). There was little further net change for 13 years through 1992, when friends' disapproval stood at 76%. During the relapse in the drug epidemic between 1992/1993 and 1997/1998, all age groups showed a decrease in perceived peer disapproval of smoking—consistent with a secular trend.

- It is noteworthy that peer norms for so many drugs have shown cohort effects in their patterns of change across age bands. In addition to cohort effects, secular trend effects are evident, with the recent declines in peer disapproval of marijuana use, similar for all four age groups, suggesting a secular trend.

ADULTS' EXPOSURE TO DRUG USE THROUGH FRIENDS AND OTHERS (AGES 18–55)

Exposure to drug use is important because it provides both the modeling of the behavior by peers (possibly including direct encouragement to use) and immediate access. Exposure is measured by two sets of questions, each appearing on a (different) single questionnaire form. The first set asks the respondent to estimate what proportion of his or her friends use each drug, while the second set asks, "During the LAST TWELVE MONTHS how often were you around people who were using each of the following to get high?" The same questions are asked of 12th graders, and their results are included here for comparison purposes in Tables 7-2 and 7-3 and Figures 7-1 through 7-24. (Questions about direct exposure to drug use were not included in the questionnaires for 35- to 55-year-olds due to the space limitations imposed by the use of a single questionnaire form at each of these ages.) We continue to present four-year age bands for the friends' use measures in order to increase the reliability of the estimates. Ages 35, 40, 45, 50, and 55 are shown as one-year age bands, with both half-samples from each of those cohorts being surveyed at those modal ages. Starting with age 35, each year has a larger number of cases than single years at the earlier ages because *all* respondents in a cohort at later ages complete the relevant questionnaire items, compared with only one sixth of those at younger ages. At the end of each table in this chapter is a summary of the weighted number of cases upon which each annual estimate is based. (The actual numbers of cases are somewhat higher.)

Exposure to Drug Use (Ages 18 to 55)

- Relatively high proportions of young adults in all of these age bands have had at least *some* friends who use ***some illicit drug*** (including marijuana); that proportion varies considerably with age, with older respondents reporting that fewer of their friends use (Table 7-2). In

2017, illicit drug use by at least some friends was reported by 80% of 12th graders, 84% of 19- to 20-year-olds, 79% of 23- to-26-year-olds, 78% of 27- to 30-year-olds, 63% of 35-year-olds, 49% of 40-year-olds, 44% of 45-year-olds, 44% of 50-year-olds, and 42% of 55-year-olds; for the 27-30, 35, 40, 45, 50, and 55 year old groups, the 2017 levels constitute all-time highs (largely due to continued increase in friends' use of marijuana as discussed below).[3]

Clearly, among adults, the older the respondent, the less likely he or she is to report having friends who use any illicit drugs. In 2017, the proportions who said that *most or all* of their friends use one or more of the illicit drugs were much lower: 26% for 12th graders, between 10% and 26% for the 19- to 30-year-olds, and between 1% and 7% for the 35-, 40-, 45-, 50-, and 55-year-olds—quite a dramatic difference across ages and one that is consistent with the large differences in their own self-reported current use.

- With regard to ***illicit drugs other than marijuana***, taken as a whole, considerably fewer respondents reported that *any* of their friends use compared to what is true for marijuana use (see below): 40% for 12th graders, 50–51% for 19- to 30-year-olds, and 19-29% for 35- to 55-year-olds in 2017.[3] The proportions who said that *most or all* of their friends use illicit drugs other than marijuana in 2017 were 5%, 3-6%, and less than 1%, respectively. Thus, very low proportions of the older age groups appear to be deeply immersed in a drug culture involving illicit drugs beyond marijuana.

- With respect to individual illicit drugs, exposure among all of the age groups was greatest for ***marijuana***, with the percentages in 2017 saying they have any friends who use ranging from 78% for 18-year-olds to 37% for 55-year-olds; for the age groups 27-30 through 55, the 2017 levels constitute new historic highs as discussed further below.

- The next-highest exposures were for ***amphetamines*** (21% among 12th graders, 35% among 19- to 22-year-olds, 32% among 23- to 26-year-olds, and 30% among 27- to 30-year-olds) and ***narcotics other than heroin*** (18% among 12th graders, 19% among19- to 22-year-olds, 19% among 23- to 26-year-olds, and 27% among 27- to 30-year-olds) followed by ***cocaine***, ***hallucinogens other than LSD***, and ***MDMA*** (ecstasy and, more recently, Molly). (Use of several illicit drugs was not asked of the age groups above 30 due to space limitations in the single questionnaire form used at each of those ages. See Table 7-2.)

- For the remaining illicit drugs, the proportion of young adults reporting that some friends use a given drug was 10% or higher in at least one of the four young age strata for the following drugs: ***sedatives*** (***barbiturates***) (12–15%), ***LSD*** (14–23%), ***steroids*** (9–14%), and ***tranquilizers*** (8–11%). See Table 7-2 for specifics.

- For most illicit drugs, the proportion of young adults having any friends who use them decreases with each higher age band, consistent with the age differentials in self-reported

[3] Due to a printing error in the young adult questionnaire in 2015, data cannot be reported for friends' use in the young adult age bands in that one year for this index as well as for some individual drugs that were directly affected. We believe that the 2014 data present a reasonable approximation of what the values likely would be in 2015. This applies to some but not all of the measures of the individual drugs. This situation was remedied in the 2016 surveys.

use. The steepest declines occur with ***inhalants***—in 2017, 7% of 18-year-olds reported that some friends use versus only 4% of 27- to 30-year-olds. (Inhalant use is not asked of the age groups above 30, precisely because of this sharp decline in use with age.) As reported in *Volume I*, the decline with age in inhalant use is actually well under way by 10th grade.

- In the past few years, reported friends' use of ***cocaine*** has been highest among young adults, and this continued in 2017 with 17% for 12th graders, and 23% to 29% for 19-30 year olds. Those 35, 40, 45, 50, and 55 years old are asked separately about cocaine powder and crack use; in 2017 far fewer reported having friends who use cocaine powder—13% for age 35 and 4% to 7% for the four older groups.

- For ***crack***, however, the story is different, with reported friends' use of crack declining with age. In 2017, 8% of 12th graders reported having any friends using crack, versus 5% to 8% of 19- to 30-year-olds, and 1% to 2% of 35- to 55-year-olds.

- The proportions who report having any friends who take ***heroin*** are now showing uneven age differences. In 2017, these percentages were 5.3%, 3.6%, 7.0%, and 3.7% for the age groups of 18, 19-22, 23-26, and 27-30, respectively. These age differences are much smaller than in earlier years, due to greater declines with time among the younger age groups. (This question is not asked of those age 35 and over.)

- At present, the percentages reporting any friends who use ***narcotics other than heroin*** are higher among older respondents: in 2017, 18% of 18-year-olds, 19% of the 19- to 22-year-olds, 19% of the 23- to 26-year-olds, and 27% of 27- to 30-year-olds. This was not always the case. In the late 1990s and early 2000s perceptions of friends' use were lower among older respondents (Table 7-2).

- In general, it appears that some respondents who report that their friends use ***illicit drugs*** are themselves not directly exposed to that use by their friends, judging by the differences in proportions saying they have some friends who use (Table 7-2) and the proportions who say they have been around people who were using during the prior year (Table 7-3 and Figure 7-1). That is, as has been true all along, more respondents report use by friends than report being around others who were using. When considering trends in the next section, we give more attention to findings from the exposure measure concerning being around others who use.

- With respect to ***alcohol*** use, the great majority of young adults have at least *some* friends who ***get drunk at least once a week***, although this peaks in their early to mid-20s and then drops off gradually with age: in 2017, 58% of 12th graders, 77% of 19- to 22-year-olds, 76% of 23- to 26-year-olds, 79% of 27- to 30-year-olds, 68% of 35-year-olds, 59% of 40-year-olds, 54% of 45-year-olds, 47% of 50-year-olds, and 39% of 55-year-olds.[4] Given the potential serious consequences of this behavior, these rates are troublingly high across a wide age range. The proportions who say *most or all* of their friends get drunk once a week differ more substantially by age, with a peak in the respondents' early 20s. In 2017, 12%

[4] Due to the previously mentioned printing error, data are not available for the three young adult age bands in 2015, though they are included for the other age bands in Table 7-2. This situation was remedied for 2016 data.

of 12th graders, 26% of 19- to 22-year-olds, 20% of 23- to 26-year-olds, 17% of 27- to 30-year-olds, and 10% for 35-year-olds to 3% of 55-year-olds responded that most or all of their friends get drunk once a week. Note in particular how high these rates are among the high school and college-age populations, most of whom are underage. In terms of having any direct exposure during the prior year to people who were drinking alcohol “to get high or for ‘kicks’,” having some such exposure was almost universal in the three age groups of young adults: 82%, 90%, and 84%, respectively, as well as among 18-year-olds (79%) (Table 7-3 and Figure 7-23).

- From ages 19 through 30, 76% to 79% reported in 2017 having at least a few friends who ***smoke cigarettes***, compared to 54% of the 12th graders; there is a falloff through middle adulthood, reaching 49% at age 55. Similarly, 5% to 8% of the 18- to 30-year-olds state that *most or all* of their friends smoke. Above those ages, the proportions decline to 5% for 35-year-olds and 2–4% for those 40 years of age and older.

Trends in Exposure to Drug Use (Ages 18 to 55)

Tables 7-2 and 7-3 also provide trend data on the proportions of respondents’ friends using drugs and the proportion of respondents who say they have been exposed to drug use by others. Both of these measures of exposure to use will be discussed in this section. As noted previously, trends are available for 19- to 22-year-olds since 1980, for 23- to 26-year-olds since 1984, and for 27- to 30-year-olds since 1988. Data for 35-, 40-, 45-, 50-, and 55-year-olds are available on friends’ use since 1994, 1998, 2003, 2008, and 2013, respectively. (Questions about being around drug users were not included in the questionnaires administered to respondents age 35 and older, so those age bands are not included in Table 7-3 or Figures 7-1 through 7-24. However, they were asked about the proportions of their friends using.) Twelfth-grade data have also been included in these tables for comparison purposes.

Figures 7-1 through 7-24 provide graphic presentation of trends in exposure to use.

- An examination of Table 7-3 and Figures 7-1 through 7-6 shows that exposure to illicit drug use (in the 12 months preceding the survey) generally declines across the age bands for ***any illicit drug***, ***marijuana***, and ***any illicit drug other than marijuana***, as well as many of the specific other illicit drugs (Figures 7-7 through 7-24). Up until the past few years, this age-band ordering was consistent across different historical periods; however, as summarized below, the past few years have shown some re-ordering of age groups, with, for example, 19- to 22-year-olds having higher exposure than 12th graders for ***any illicit drug other than marijuana*** and for ***amphetamines***. An important exception to the long-standing age group ordering of exposure is ***cocaine***, which did not show a decline in exposure with increasing age until after 1996. (Prior to that it showed an increase with increasing age.) Thus, up until the past few years, with the exception of cocaine, the consistent ordering of declining exposure across the age groups reflect age effects (changes with age observed across multiple cohorts) in both exposure to use and in personal use of most drugs.

- Until 1992, young adults’ trends in exposure to use tended to parallel those observed for 12th graders. From 1980 to 1992, that meant a decreasing number of respondents were exposed to ***any illicit drug*** use (Table 7-3 and Figure 7-1) or reported any such use in their own friendship circle (Table 7-2). After 1992, however, an important *divergence* in trends emerged: 12th graders showed a substantial increase in both friends' use and exposure to use (as well as self-reported use); 19- to 22-year-olds showed a similar rise, but lagged by a few years; 23- to 26-year-olds subsequently showed some rise; while the 27- to 30-year-old age band did not show a rise until 2002. As discussed in earlier chapters, this pattern no doubt reflects the emergence of lasting cohort differences that emerged in secondary school and, driven by generational replacement, continued up the age spectrum as the secondary school students grew older. The age differentials expanded in the 1990s during the relapse phase in the drug epidemic; first observed among the 12th graders, the increases in use then occurred on a staggered basis. The age differentials have diminished considerably during the 2000s, and especially since 2009, as exposure generally leveled among the younger age groups but rose among the older ones as the cohort effect worked its way up the age spectrum (see Figure 7-1). Trends were mostly level between 2012 and 2016, with some modest increase among those aged 19-22 and 23-26. In 2017, exposure increased five percentage points for 23-26 year olds (nonsignificant) and ten percentage points for 27-30 year olds (significant), bringing them to all-time highs and further reducing the age gap (largely due to exposure to marijuana use as discussed next).

- ***Marijuana*** showed a very similar pattern of change compared to any illicit drug. It is particularly noteworthy that, while 34% of 19- to 22-year-olds in 1980 said *most or all* of their friends used marijuana, only 8% said the same in 1991 (Table 7-2). Clearly, the number of friendship groupings in which marijuana use was widespread dropped dramatically in the 1980s. This measure of friends' use more than doubled to 19% by 1999 during the relapse phase in the larger epidemic, where it remained for a couple of years before falling to 12% by 2008, then increasing to 24% by 2017. Self-reported use (Figure 5-3a) and friends' use both increased significantly among 18-year-olds in 2008, which we interpreted as a turnaround in the marijuana situation.

  Since 2006, the other young adult age strata have shown a considerable increase in the proportion reporting some friends using marijuana, ranging from 78% for 23-26 year-olds to 37% for 55-year-olds in 2017 (showing a significant increase from 2016). Similar trends occurred for being around those using in the past year, as shown in Figure 7-5. In the past few years, reporting any exposure increased for the 23-26 and 27-30 age groups, while it remained level for the 12th graders and 19-22 year olds. In 2017, the two older groups increased four and nine percentage points, respectively (significantly so for the 27-30 year olds), thus reaching all-time highs for any exposure to marijuana use.

- The proportion of respondents reporting having any friends who use ***any illicit drugs other than marijuana*** began to decline after 1982 in the two younger age groups spanning 18–22 (for whom we had data at that time; see Table 7-2 regarding use by friends, and also Figure 7-3 regarding exposure to use). By 1991/1992 there had been a considerable drop in all four age groups (spanning 18–30). This drop appears to be due particularly to decreases in friends' use of ***cocaine*** and ***amphetamines***, although there were decreases for ***sedatives*** (***barbiturates***) and ***tranquilizers*** as well. The levels then began to rise among the 18- to 22-year-olds in the early 1990s, while at the same time declining further for the 23-

to 30-year-olds, reflecting lasting cohort effects, opening up a large age-related difference in friends' use in the 1990s and into the early 2000s. The 23- to 26-year-olds showed a later increase in friends' use and the 27- to 30-year-olds showed a still later increase. After 2001 there was some decline in reported friends' use in the two youngest age strata while friends' use continued to climb in the older two strata. The net effect was to narrow the age differences among the young adult strata considerably.

More recently, the gap among the four age bands covering ages 18-30 has narrowed for the proportions saying that they have any friends who use ***some illicit drug other than marijuana***. Between 2003 and 2012, there was little change among 18-year-olds, followed by a consistent decrease through 2017. For 19-22 year-olds, the trend has remained fairly level from 2003 through 2017. For 23-30 year-olds, there was an unsteady increase for the past decade through 2017. Among those aged 35 and older, considerably fewer report having any friends who use, but the past few years have shown increasing trends for 35-year-olds, with fairly level trends for those 40 and older (see Table 7-2 for the specifics). The similar trends in exposure to use are shown in Figure 7-3, though it is noteworthy that exposure has been increasing unevenly for the young adults. Also, the proportions indicating "often" being exposed to the use of any illicit drugs other than marijuana (Figure 7-4) has not changed a great deal in recent years except for a gradual increase continuing in the older three age groups, also reflecting a lasting cohort effect.

- Between 1986 and about 1992, all four age groups showed a considerable drop in the proportion of respondents with friends who used ***cocaine*** (Table 7-2) and in exposure to cocaine use (Figure 7-11). (Self-reported use declined sharply in the same period.) After that decline, the rates of friends' use peaked in 1998 among 18- and 19-22 year-olds, remained fairly steady through 2007, and declined since through 2017, with the 19-22 year olds showing a nonsignificant increase in 2017. For 23-26 year-olds, friends' use increased through 2004 and then declined unsteadily through 2016, showing a nonsignificant increase in 2017. For 27-30 year-olds, friends' use peaked in 2009 and has remained fairly steady since then. These changes, staggered somewhat by age since the mid-1990s, reflect cohort effects. For 35-55 year olds (who are asked about cocaine powder specifically), there have been some recent modest increases for the 35- and 40-year-olds, with the recent trends remaining fairly steady for the 45-55 year olds. Regarding recent trends in being around those who use cocaine (Figure 7-11 and Table 7-3), any exposure has remained fairly steady for 18-year-olds across the last five years (2013-2017) and showed some uneven increase among the young adult age groups such that age differences were slight in 2017. The story for ***crack*** has been fairly similar to that for cocaine regarding friends' use (Table 7-2).

- There were substantial increases between the early 1990s and about 2000 in the proportion of 18-year-olds and 19- to 22-year-olds reporting that they have friends using ***narcotics other than heroin*** without medical supervision, and there were smaller increases among 23- to 30-year-olds, resulting in some considerable age-related differences. After 2002, the proportions of 18-year-olds and 19- to 22-year-olds declined some, while the 23- to 30-year-olds continued to increase in a classic cohort-effect pattern of change, thus narrowing the age differences by 2009. There was a wording change in 2010 that served to increase the rates considerably for all age groups. After 2010, all four of these age bands have shown a decline through 2017 in exposure to use and in having any friends who use these narcotic drugs (Tables 7-2 and 7-3, Figure 7-15); the exception is that for the 27-30 year olds, any exposure increased significantly in 2017. The proportional declines have been largest in the younger age bands.

- The proportions saying that any of their friends use ***MDMA (***ecstasy, and more recently, Molly) increased sharply in all age groups between 1992 and 2001 or 2002, though in a staggered fashion (Table 7-2). Twelfth graders showed the first sharp increase beginning after 1992, 19- to 22-year-olds after 1994, 23- to 26-year-olds after 1996 and 27- to 30-year-olds after 1997. These sharp increases ended among 12th graders in 2001 and among 19- to 30-year-olds a year later. Since those peak levels, the proportions saying that they had any friends using ecstasy have generally declined through about 2012 and 2013 for all age groups. Friends' use continued to decline modestly for 12th graders through 2017, whereas it has shown some uneven increases for the young adults. The staggered nature of past increases suggests a cohort effect at work, but the nearly simultaneous decline in the early 2000s strongly suggests a secular trend, likely due to the heavy media coverage during that period of adverse consequences associated with ecstasy use.

- For all four of the youngest age groups (spanning ages 18–30), the proportions saying that they were *often* exposed to others drinking ***alcohol*** declined modestly between 1987 and 1992 (Figure 7-24, Table 7-3). The next decade saw rather little change in the four youngest age bands. Since 2002, however, exposure among the 18-year-olds declined considerably through 2017. The recent trend for 19-22 year-olds peaked in 2007, declined through 2013, and then increased modestly through 2016 and then decreased nonsignificantly in 2017; it peaked in 2012 for 23-26 year-olds, declined through 2014 and then increased modestly again through 2017; and it peaked in 2012 for 27-30 year-olds and showed some modest decline through 2017. This is again indicative of a cohort effect with staggered decreases radiating up the age spectrum as the cohorts age. The continuing decline among the 18-year-olds, along with the recent increases among young adults, has served to widen the age gap in the past few years.

- The age groups above age 30 have consistently been much less likely to report that any of their friends ***get drunk*** at least once a week, compared with those ages 18 to 30 (Table 7-2). These proportions increased starting at different times: after 1998 among 35-year-olds, after 2004 among 40-year-olds, and after 2005 among 45-year-olds, suggesting somewhat enduring cohort differences. The net effect has been to reduce the differences separating those in their 20s from those older in terms of the proportion having any friends who get drunk at least once a week. In the past decade, this trend toward smaller age differences among adults continued, with 18-year-olds showing consistent declines, 19-26 year olds showing modest declines, and those 27 and above showing modest increases. In 2017, it remained the case that the majority of those aged 18 through 45 have friends who get drunk at least once a week, with those aged 50 and 55 at 47% and 39%, respectively. On the other hand, the proportions saying that most or all of their friends get drunk often are considerably smaller and decline sharply with age.

- Among 12th graders, the proportion who said *most or all of their friends smoked* ***cigarettes*** declined appreciably between 1975 and 1981, the same period in which self-reported use declined (Table 7-2). After that, neither measure showed much change until about 1992. Thereafter, substantial increases in both measures occurred. By 1997, one-third (34%) of 12th graders reported that most or all of their friends smoked cigarettes (up from 21% in 1992); since then, that statistic declined (along with self-reported use) to 14% in 2008, where it leveled for a few years, and then declined again reaching 7% in 2017. Among 19- to 22-year-olds, a decline in friends' use occurred between 1980 (or possibly earlier) and 1985, followed by a leveling through 1994. The percentage saying most or all of their friends smoke increased from 22% in 1994 to 29% in 2000, before declining steadily and considerably to a new low of 5% in 2017. Among 23- to 26-year-olds, a downturn was evident between 1984 (the first year for which data are available) and 1988, after which reported friends' use leveled (8% in 2017). After 2002, some slight increases occurred through 2005 among the 27-30 year olds, followed by an unsteady decline through 2016, reaching a new low of 6% in 2016 and 2017. These staggered changes, until about 1998, illustrate that cohort effects were moving up the age spectrum. Among those aged 35-55, the proportion of those responding that most or all of their friends smoked cigarettes have consistently declined over the years since they entered the study (except 35-year-olds who showed some increase in the middle 1990s). Since 1998 (or the earliest year available for the age bands above age 30), the proportion saying that *any* of their friends smoked cigarettes showed consistent decline for all age groups through 2017.

Implications for Validity

Nearly all of these changes in exposure to drug use parallel changes in self-reported use by these age groups. This pattern reinforces the validity of self-report data, because there would presumably be less motivation to distort answers about the proportion of an unnamed set of friends who use a drug than about one's own use. The systematic nature of the patterns of change across age strata (whether in terms of parallel changes consistent with a secular trend, or systematically staggered ones consistent with a cohort-related trend) is also supportive of the data validity.

PERCEIVED AVAILABILITY OF DRUGS AMONG ADULTS (AGES 18–55)

Adults participating in the follow-up surveys receive questions identical to those asked of 12th graders regarding how difficult they think it would be to get each of the various drugs if they wanted them. The questions are contained in only one of the six questionnaire forms used through modal age 30. Data for the young adult follow-up samples, which are grouped into the same four-year age bands used above (19–22, 23–26, 27–30), are presented in Table 7-4, along with data for 12th graders and 35-, 40-, 45-, 50-, and 55-year-olds. Sample sizes are presented at the bottom of the table. The availability question is not asked for all drugs in the adult samples, as may be seen in Table 7-4.

Perceived Availability

Much like 12th graders, substantial proportions of the American adult population have access to various illicit drugs. (We do not ask about access to alcohol and cigarettes because we assume these are readily available to all adults.) Table 7-4 presents trends in perceived availability for the various substances.

- ***Marijuana*** was by far the most readily available of the illicit drugs in 2017 (and in all previous years) with 87–90% of the young adult age groups (19–30) saying it would be "fairly easy" or "very easy" to get if they wanted some. Perceived access decreased somewhat with age after age 30, but even at age 55, over three quarters of respondents (77%) say they could get marijuana fairly or very easily (Table 7-4). *That is, as of 2017, well over 80% of adults aged 19-45, and 77% of those aged 50 and 55, report marijuana being readily available if they wanted it.*

- Though less available than marijuana, ***amphetamines*** were still fairly available, with 53-58% of young adults and 33–36% of those 35, 40, 45, 50, and 55 years old reporting that amphetamines would be fairly or very easy to get (Table 7-4).

- ***Cocaine*** was reported as readily available in 2017 by a significant proportion of young adults, with 37–40% saying it would be easy to get—higher than the 27% observed among the18-year-olds (Table 7-4). ***Powdered cocaine*** availability was highest among those ages 23 to 35 at 34–36% in 2017. ***Crack*** was seen as available to smaller proportions than powdered cocaine and was most available to those ages 23 and above (23–29%) in 2017. Interestingly, perceived availability for both forms of cocaine tended to rise as age increased from 19-22 to 27-30.

- In 2017 about one fifth (19%) of 12th graders, and about one fifth (20–22%) of 19-26 year-olds said that they could get ***heroin*** fairly or very easily, though far fewer report having used heroin (Table 7-4). Reported availability was higher for the 27- to 30-year-olds (29%), again showing that availability tended to rise with age. (The question is not asked of respondents above age 30.)

- Perceived availability of ***narcotics other than heroin*** also rose with age. In 2017, the percentage of those who said that such drugs would be fairly or very easy to get was 36%, 40%, 48%, and 58%, respectively across the four age groups (Table 7-4). (The question is not asked of respondents above age 30.)

- Perceived availability of ***sedatives*** (***barbiturates***) showed some increase with age in 2017: 23%, 30%, 28%, and 37% across the four age groups, respectively (Table 7-4). (The question is not asked of respondents above age 30.)

- ***Tranquilizers*** were reported as available in 2017 by considerably fewer respondents (15–18%), which historically was not always the case (Table 7-4). (The question is not asked of respondents above age 30.)

- ***Ecstasy*** (***MDMA***) was seen as readily available to 29–35% of young adults and 12th graders in 2017 (Table 7-4). (The question is not asked of respondents above age 30.)

- ***Hallucinogens other than LSD*** (such as psilocybin) were reported as fairly or very easy to get in 2017 by 28% of 12th graders, and 32%, 30%, and 27% for the three young adult age groups, respectively, showing a peak of availability among 19-22 year olds (Table 7-4). (The question is not asked of respondents above age 30.)

- Perceived availability of ***LSD*** was also highest for the 19-22 year olds at 33% (a significant increase over 2016 level of 25%); it was 26% for 12th graders, 23% for 23-26 year olds, and 18–22% among those 27 to 50 years old (Table 7-4).

- ***Crystal methamphetamine*** (***ice***) was perceived to be fairly or very easy to get by 14% of 12th graders, and by 11%, 16%, and 18% of the young adult age groups, respectively (Table 7-4). (The question is not asked of respondents above age 30.)

- ***Anabolic steroids*** were perceived to be fairly or very easy to get by between 19% and 24% of all four age strata (Table 7-4). (The question is not asked of respondents above age 30.)

Trends in Perceived Availability

- ***Marijuana*** has been almost universally perceived to be available by older adolescents and young and middle adults throughout the historical periods covered by the data. Overall, perceived availability has risen in the six older age groups on whom trend data are available during the 2000s—that is, from 27- through 55-year-olds—but has simultaneously declined among 12th graders and held relatively steady among 19- to 23-year-olds. As a result, there is now less variability by age in the reported availability of marijuana (Table 7-4). From the peak year in 1979, perceived availability decreased slightly through 1991 among 12th graders and decreased slightly more from 1980 through 1991 among 19- to 22-year-olds. After the late 1990s, the trends in availability across the 18 through 30 age bands had generally been quite parallel, suggesting secular trends in prevailing conditions that affected availability. Perceived availability has increased in the past several years through 2017 for those aged 35 to 55, resulting in it being only somewhat higher for those aged 18-30 (80-90%) than for those aged 35 to 55 (77–85%), and with it now being at all-time highs for the latter group.

- Historic highs in perceived availability of ***cocaine*** occurred in the 1980s among all three young adult age strata (ages 19–30), reaching highest proportions in 1988 and 1989, at which time the older young adult age strata had higher availability than the younger ages. (From a policy perspective, it is worth noting that in 1987 the perceived availability of cocaine *increased* while use actually dropped sharply.) In the early 1990s, all four groups reported decreased availability by 4–7 percentage points—quite parallel to the drop in numbers of those who had friends who were users and to the decline in personal use. Until about 2000, there was some falloff in perceived cocaine availability in all age strata through age 30—particularly among those ages 23 through 30—and an increasing convergence. From about 2007 through 2012 and 2013, all four age strata showed considerable declines in reported cocaine availability, followed by a leveling for all age groups except the 19-22 year-olds who have shown a modest increase through 2017. (The question is not asked of respondents above age 30.)

- ***Crack*** availability peaked in 1988–1989 for all age groups (it was first assessed in 1987) and declined through 1992, with little further change until 1995. Since 1995 through 2017, crack availability has declined substantially in all of the lower four age strata (ages 18–30). Data on 35-, 40-, 45-, and 50-year-olds are available for shorter intervals, but also show appreciable declines from initial measurements.

- In 2017, between 17% and 33% of each age group said they could get ***LSD*** fairly easily, which contrasts quite dramatically with the mid-1990s, when over 50% of those in the younger age strata said they could get it. Across the decades measured, the trends in LSD availability among young adults have had some parallels to those among 12th graders. For 12th graders, there was a drop of about 10 percentage points in the mid-1970s, and a later drop from 1980 to 1986. The latter drop, at least, was paralleled in the data from 19- to 22-year-olds. After 1986, LSD availability increased considerably in all age bands, reaching its peak levels by 1995 during the relapse phase of the illicit drug epidemic. At that time a considerable age-related difference developed, with availability lower in the older age groups. Since 1995, availability has fallen substantially in all age bands but particularly in the youngest two age bands, narrowing the differences among the age groups. Indeed, the drop-off in availability of LSD to 12th graders and 19- to 22-year-olds was quite sharp in 2002, probably contributing to the steep decline in use that year because changes in attitudes and beliefs about LSD cannot explain it. Over the past decade through 2017, availability has either remained largely steady (among 18-year-olds and those 40 and older) or declined somewhat (among 23-35 year olds); in contrast, it rose significantly for those aged 19-22. Across all age bands in 2017, availability was the highest among 19-22 year olds (33%) and considerably lower among those ages 27 and above (18–22%). Fifty-five-year-olds are not asked the question.

- Since 2001 through 2017, the general pattern among young adults regarding the availability of ***hallucinogens other than LSD*** has been one of decline. Levels of availability are more differentiated by age than in prior decades, with it being higher for younger respondents, though these differences have diminished in recent years. (This question is not asked of respondents over age 30.) In the early 1980s, there was a fair decline among all age groups in the availability of hallucinogens other than LSD. There was little additional change through 1992. From 1992 to 1995, the three youngest age groups all showed an increase in availability, with 12th graders showing the largest increase. From 1996 to 2000, availability was fairly steady. All age groups showed substantial increases in 2001, undoubtedly due to the changed question wording which added *shrooms*, among other substances, to the examples of hallucinogens. (Shrooms refer primarily to psilocybin mushrooms.) It appears that the inclusion of shrooms as an example introduced a greater variability with age in reported availability of hallucinogens other than LSD taken as a class.

- ***MDMA (ecstasy*** and, more recently including ***Molly)*** questions were first introduced in MTF surveys in 1989 and 1990 (and are not asked of those over age 30). Availability rose very substantially in all of these age groups during the 1990s and early 2000s. Among 12th graders, reported availability nearly tripled from 22% in 1989 to 62% in 2001—the peak year of use for 12th graders. All four age groupings showed sharp increases in 2000 and 2001, with the older age groups continuing to increase through 2002—their peak year for use. The availability of ecstasy showed considerable declines through 2017 among the two youngest strata after 2002 and among the 23- to 30-year-olds since about 2004. Reported availability of ecstasy varied little by age in 2017, ranging between 29% and 35% among 18-year-olds and the three young adult strata covered.

- All four age groups have shown some gradual, modest decline in ***heroin*** availability since about 1997 or 1998, during which interval there has been rather little variability in heroin availability across the 18-to-30 age range. (The question is not asked of respondents over age 30.) Heroin availability varied within a fairly narrow range from 1980 to 1985, then increased in all age groups through 1990. For the younger ages (18–22) heroin availability rose further through 1995 while in the older two age groups it increased some later in the 1990s. It is clear that heroin was much more available to all of these age groups in the 1990s than it was in the 1980s. This increase in the availability—and purity—of heroin most likely led to the emergence of non-injection forms of heroin use observed during this period. In the past decade, heroin availability declined for 12th graders through 2017; it declined somewhat for young adults through 2012, and then increased modestly or leveled for all young adult age groups.

- The availability of ***narcotics other than heroin*** rose slowly among all four age groups from 1980 until recent years, with the exception of a period of considerable stability from 1989 through 1994. (Respondents over age 30 are not asked this question.) After 1994, the modest increase in availability was accompanied by steadily rising use. Recent years showed a very slight falloff in availability among all age strata except the 27- to 30-year-olds, who continued to show an increase through 2013, followed by a sharp and significant 8.2 percentage point drop in 2014. Indeed, all four age strata showed substantial drops in the availability of narcotics in 2014, three of which were statistically significant. Across 2015 through 2017, the two younger age strata showed further (nonsignificant) declines, whereas the 23-30 year-olds showed some leveling or uneven declines. *It seems clear that availability of these drugs has been going down since 2011, especially in the younger age strata, likely in response to state and federal efforts to reduce their abuse by reducing availability with state registries, etc.* (Note that reported availability jumped in 2010, when new drugs, including Vicodin and OxyContin, were added to the list of examples in the question.) For the most part, there has not been a consistent difference by age in the availability of narcotics other than heroin among those ages 18 to 30; prior to 2011 the predominant trend was one of increasing availability over a long period of time in the 23- to 30-year-old segment. The addition of newer drugs, like OxyContin and Vicodin, to the list of examples resulted in some further increase, which suggests that availability climbed considerably more over the previous decade or so than the data based on the original question had suggested.

- In general, the age groups above age 30 have reported somewhat lower availability of ***amphetamines*** than the younger strata, but not dramatically lower. Furthermore, the ages 19 to 30 have had the highest levels of availability in recent years, partly because availability among 12th graders declined appreciably since 1998, when they had the highest level of availability. These differential rates of reported availability across the age groups emerged after 1992, when prevalence of use began to rise among 12th graders. In 1982, availability peaked for both 12th graders and 19- to 22-year-olds, after which it fell through 1991 by 14–15 percentage points. Among 23- to 26-year-olds, there was a decline of 14 percentage points between 1984 (when data were first available) and 2005. For 27- to 30-year-olds, reported availability decreased by nine percentage points between 1988 (the first measurement point) and 2005. Decreases also occurred among 35-year-olds in the 2000s but some reversal has been evident in recent years. In 2011 all age strata from age 18 through age 35 showed an increase in perceived availability for amphetamines, statistically significant for those 19-22 and 23-26 years old, followed by an uneven decrease for 18-year-olds and most other age groups through 2017, the exceptions being uneven increases for the 19-22 and 27-30 year olds (with the 2017 increase for the latter group being significant). It should be noted that the examples of amphetamines used in the question text were updated in 2011 to include Adderall and Ritalin, while "pep pills" and "bennies" were eliminated as outdated examples. Therefore, the sharp rise in reported *availabilit*y of amphetamines in 2011 among young adults may be due to the revision of the examples provided.

- By way of contrast to amphetamines, ***crystal methamphetamine*** or "***ice***" exhibited an increase in availability in the 1990s, rising for all four age strata from 1991 to 1998/1999 before stabilizing with similar rates of availability from ages 18 to 30. (This question was not asked of those over 30.) All four strata have shown some decline in recent years through 2017, starting with the youngest three age strata after 2006 and the 27- to 30-year-olds after 2008. In recent years through 2017, availability has been lowest for the youngest three age bands—a reversal of the situation in the early 1990s (Table 7-4).

- ***Sedatives*** (***barbiturates***) exhibited a long-term decline in availability over more than two decades from about 1981 or 1982 through 2003 in the two younger groups—a 20-percentage-point drop among 12th graders and a 23-percentage-point drop among 19- to 22-year-olds. All groups showed increased perceived availability in 2004—no doubt due primarily to an updating of the examples given in the question—followed by an overall decline. As of 2017, there was a decline of 23 percentage points among 12th graders since 2004, of 17 percentage points among the 19- to 22-year-olds since 2007, of 23 percentage points among 23- to 26-year-olds since 2006, and of 11 percentage points among 27- to 30-year-olds since 2007. In 2017, perceived availability was higher in the 27- to 30-year-old group (37%) than in the 18-year-old group (23%).

- ***Tranquilizer*** availability has declined long-term by about four fifths among 12th graders, from 72% in 1975 to 15% in 2017. Since 1980, when data were first collected for 19- to 22-year-olds, tranquilizer availability has declined by over three fourths (from 67% in 1980 to 15% in 2017), such that previous differences in availability between these two groups were eliminated by 1992. The older young adult age groups have also shown a considerable decline in the availability of tranquilizers through 2017, thus narrowing the differences among them. For the most part, trend lines for the different age groups have been quite parallel, as has been true for sedatives (barbiturates). Indeed, tranquilizers have shown the most consistent pattern of change in perceived availability since MTF began. By 2017 only 15% of the 18-year-olds said that tranquilizers were fairly or very easy to get, and only 15% to 18% of the three young adult age bands said the same.

- Data on ***steroid*** availability were first gathered in 1990 (Table 7-4). There has been some decline in availability in all age groups since about 2000, including a sharper rate of decline in the youngest three age strata after 2007. (This question was not asked of those over 30.) While younger respondents used to report higher levels of availability than those in the older strata, by 2017 there was not much difference among them (from 19% to 24%). Eighteen-year-olds reported the lowest level of perceived availability in 2014 due to a significant decrease of 6.6 percentage points that year, bringing 18-year-olds to 22% (20% in 2017)—a decline of more than half since 1991. In fact, all of the age groups were at or near their lowest point in 2017.

TABLE 7-1
Trends in Proportions of Respondents Reporting Their Close Friends Disapproving of Drug Use among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Percentage saying friends disapprove [a]

Q. How do you think your close friends feel (or would feel) about you. . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Trying marijuana once or twice	18	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	58.1	55.8	53.0	53.8
	19–22	41.0	40.6	46.9	47.1	51.6	54.5	55.2	54.7	58.7	63.0	63.6	64.7	64.7	63.4	63.7	58.5	64.3	58.4	57.0
	23–26	—	—	—	—	47.7	47.0	49.1	53.9	58.2	62.6	61.3	64.5	65.6	65.5	63.2	63.8	61.2	59.3	66.5
	27–30	—	—	—	—	—	—	—	—	58.6	58.7	61.4	64.6	63.5	64.4	66.3	66.1	65.8	65.0	65.4
Smoking marijuana occasionally	18	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	65.4	63.1	59.9	60.4
	19–22	50.9	49.2	54.0	57.9	59.4	64.6	64.4	65.1	69.8	71.5	74.1	73.9	74.3	73.1	73.0	66.6	71.3	65.1	65.1
	23–26	—	—	—	—	54.3	56.4	57.1	63.1	68.1	73.2	71.8	72.5	75.3	73.5	72.2	70.7	70.8	68.5	73.6
	27–30	—	—	—	—	—	—	—	—	67.8	69.4	71.9	73.7	76.0	75.1	76.4	73.8	75.6	72.4	74.9
Smoking marijuana regularly	18	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	78.9	76.1	74.1	74.7
	19–22	70.3	75.2	75.7	79.5	80.0	82.7	83.5	84.8	86.9	87.5	89.1	88.4	89.1	87.6	85.9	83.9	84.5	83.3	81.1
	23–26	—	—	—	—	77.8	78.4	80.9	82.0	85.8	89.2	88.1	87.9	90.3	89.1	88.8	84.9	89.5	85.6	87.1
	27–30	—	—	—	—	—	—	—	—	85.4	86.0	88.4	89.2	88.7	88.2	88.9	89.7	89.6	87.8	90.8
Trying LSD once or twice	18	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	82.6	80.8	79.3	81.7
	19–22	87.4	90.5	88.0	89.3	89.3	91.1	90.5	91.8	90.8	91.2	89.1	89.9	87.2	87.7	87.9	84.6	85.3	83.6	81.7
	23–26	—	—	—	—	87.4	90.8	88.6	89.8	88.9	91.0	90.1	92.4	88.9	87.7	86.3	85.3	88.5	85.4	87.6
	27–30	—	—	—	—	—	—	—	—	88.8	89.7	92.3	91.1	91.4	89.9	91.2	89.7	89.3	88.5	88.7
Trying cocaine once or twice	18	—	—	—	—	—	—	79.6	83.9	88.1	88.9	90.5	91.8	92.2	91.1	91.4	91.1	89.2	87.3	88.8
	19–22	—	—	—	—	—	—	76.4	—	84.8	87.7	89.2	92.3	91.9	92.4	94.7	91.7	91.5	91.8	90.0
	23–26	—	—	—	—	—	—	70.8	—	81.4	84.5	84.1	86.7	87.4	87.7	87.9	90.4	90.0	91.1	92.0
	27–30	—	—	—	—	—	—	—	—	81.8	81.1	83.7	83.5	84.4	86.1	87.8	87.5	88.7	89.4	89.3
Taking cocaine occasionally	18	—	—	—	—	—	—	87.3	89.7	92.1	92.1	94.2	94.7	94.4	93.7	93.9	93.8	92.5	90.8	92.2
	19–22	—	—	—	—	—	—	84.9	—	91.0	93.8	94.2	95.6	95.9	95.6	97.5	95.6	95.7	96.6	93.1
	23–26	—	—	—	—	—	—	81.7	—	88.2	91.5	92.4	94.1	93.8	93.5	94.3	94.6	95.4	95.1	95.2
	27–30	—	—	—	—	—	—	—	—	87.7	89.5	90.0	92.2	92.3	92.8	94.6	94.1	94.6	94.2	96.1
Trying an amphetamine once or twice	18	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	81.9	80.6	80.4	82.6
	19–22	75.8	76.7	75.3	74.3	77.0	79.7	81.5	81.3	83.0	83.5	84.5	86.5	83.8	85.0	87.2	83.1	86.0	84.5	84.0
	23–26	—	—	—	—	78.4	79.1	76.7	81.7	83.0	85.6	84.3	85.0	83.6	84.2	84.7	87.6	86.5	83.3	87.0
	27–30	—	—	—	—	—	—	—	—	82.7	84.1	84.9	84.6	84.7	84.1	85.9	85.5	85.6	85.9	85.8
Taking one or two drinks nearly every day	18	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	72.6	72.9	71.5	72.3
	19–22	71.9	72.1	68.6	73.5	71.6	72.2	72.7	70.2	73.9	77.1	73.3	73.7	74.0	71.2	73.0	68.3	68.9	73.5	67.3
	23–26	—	—	—	—	63.6	66.8	67.7	68.3	69.2	70.8	72.7	72.5	72.1	67.6	71.5	68.2	72.8	68.1	66.9
	27–30	—	—	—	—	—	—	—	—	71.0	68.0	70.4	71.9	68.8	73.2	70.9	68.8	65.7	67.3	66.7
Taking four or five drinks nearly every day	18	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	84.1	82.6	82.5	82.8
	19–22	93.7	91.7	89.9	91.9	91.7	92.5	91.5	90.8	90.4	92.5	89.9	91.7	92.6	89.6	90.1	88.8	88.1	90.0	85.9
	23–26	—	—	—	—	90.8	90.2	92.5	92.8	93.7	92.1	92.1	92.4	91.1	93.1	92.1	92.2	92.6	90.7	93.7
	27–30	—	—	—	—	—	—	—	—	92.8	92.0	92.9	92.7	92.7	93.9	94.0	92.9	91.9	93.8	92.1
Having five or more drinks once or twice each weekend	18	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	58.0	57.8	56.4	55.5
	19–22	53.5	51.7	51.7	53.3	50.8	53.3	47.0	49.4	50.5	56.8	53.1	51.4	53.6	51.9	54.4	55.5	52.1	56.4	52.8
	23–26	—	—	—	—	53.8	57.3	61.0	57.2	58.8	57.5	55.1	56.8	58.4	57.6	61.4	58.9	58.4	55.6	60.0
	27–30	—	—	—	—	—	—	—	—	61.9	65.1	66.3	68.2	66.2	66.7	63.7	64.6	61.6	64.0	63.0
Smoking one or more packs of cigarettes per day	18	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	69.2	69.3	68.5	69.0
	19–22	75.6	75.1	75.4	78.5	76.2	79.7	77.7	78.6	80.2	78.4	77.5	78.3	79.0	76.0	73.8	70.9	73.9	76.5	69.2
	23–26	—	—	—	—	73.9	77.3	80.3	80.5	79.5	80.5	78.5	83.3	82.3	77.4	80.1	78.8	78.3	75.8	76.5
	27–30	—	—	—	—	—	—	—	—	81.2	80.9	82.9	84.5	83.1	86.8	82.5	83.4	81.9	80.5	81.9
Approximate Weighted N =	18	*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*	*2,177*	*2,030*	*2,095*	*2,037*
	19–22	*569*	*597*	*580*	*577*	*582*	*556*	*577*	*595*	*584*	*555*	*559*	*537*	*520*	*510*	*470*	*480*	*471*	*466*	*436*
	23–26					*510*	*548*	*549*	*540*	*510*	*513*	*516*	*516*	*507*	*481*	*463*	*445*	*436*	*419*	*425*
	27–30									*483*	*518*	*479*	*480*	*451*	*451*	*457*	*439*	*439*	*422*	*440*

(Years Cont.)

(Table continued on next page.)

TABLE 7-1 (cont.)
Trends in Proportions of Respondents Reporting Their Close Friends Disapproving of Drug Use among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. How do you think your close friends feel (or would feel) about you. . .	Age Group	Percentage saying friends disapprove [a] 1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Trying marijuana once or twice	18	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	51.0	48.6	44.3	-4.3
	19–22	56.5	56.0	54.2	53.4	56.5	61.0	57.9	60.5	58.4	62.4	57.0	57.4	52.4	54.6	52.2	50.7	46.7	40.5	41.1	+0.6
	23–26	62.6	64.6	55.2	53.8	51.4	57.7	55.9	60.7	55.8	62.1	57.1	58.0	55.5	59.3	50.2	50.1	43.7	44.7	40.0	-4.7
	27–30	61.8	63.9	64.9	67.1	61.9	67.2	61.2	64.1	58.2	57.1	55.6	60.5	57.1	56.8	48.2	49.5	45.5	42.1	41.6	-0.5
Smoking marijuana occasionally	18	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	58.1	54.9	51.4	-3.5
	19–22	64.6	61.8	61.0	62.6	63.3	70.1	67.2	68.8	70.6	67.5	65.9	67.1	60.6	60.9	59.0	59.5	54.1	48.0	48.4	+0.3
	23–26	70.2	70.9	63.9	64.5	61.6	63.5	65.5	71.3	63.8	70.1	66.8	63.4	64.7	69.3	60.9	57.6	54.9	52.6	49.1	-3.6
	27–30	74.5	75.0	74.2	72.9	71.4	76.9	70.4	74.9	66.4	67.0	64.6	68.3	64.9	67.1	59.7	60.1	57.8	51.5	48.4	-3.1
Smoking marijuana regularly	18	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	70.9	68.4	65.2	-3.2
	19–22	78.2	78.5	80.0	80.5	79.1	84.4	82.2	84.1	83.7	81.4	81.9	81.1	76.3	74.5	75.2	77.1	74.3	67.1	71.4	+4.3
	23–26	86.8	86.9	83.7	82.8	80.0	79.2	82.7	83.7	81.9	87.1	81.9	83.5	82.7	83.8	77.7	76.7	71.6	71.3	68.4	-2.9
	27–30	89.2	91.6	90.1	87.9	87.2	88.0	87.7	88.2	84.3	84.5	83.4	87.5	83.4	86.1	80.8	81.5	76.2	74.8	68.1	-6.7
Trying LSD once or twice [b]	18	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	81.9	83.3	81.3	-2.0
	19–22	82.0	82.1	85.2	86.9	86.9	88.6	90.5	90.4	90.0	90.0	87.1	—	—	—	—	—	—	—	—	—
	23–26	84.5	85.3	82.8	83.6	79.3	82.4	85.6	89.3	90.4	88.4	88.3	—	—	—	—	—	—	—	—	—
	27–30	88.4	85.6	87.4	86.3	87.1	87.7	86.9	88.5	83.5	85.3	84.6	—	—	—	—	—	—	—	—	—
Trying cocaine once or twice [b]	18	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	87.0	89.1	88.5	-0.6
	19–22	91.2	89.4	89.1	91.7	90.6	90.3	90.3	91.2	93.3	90.2	91.2	—	—	—	—	—	—	—	—	—
	23–26	89.6	90.5	88.0	88.5	83.6	84.2	84.6	88.7	91.7	91.0	91.0	—	—	—	—	—	—	—	—	—
	27–30	90.5	90.4	89.3	88.8	89.9	91.8	89.5	92.0	86.4	88.0	84.5	—	—	—	—	—	—	—	—	—
Taking cocaine occasionally [b]	18	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	90.6	91.5	91.7	+0.2
	19–22	95.7	94.7	94.5	95.6	95.1	96.0	95.3	96.1	97.1	95.5	95.6	—	—	—	—	—	—	—	—	—
	23–26	95.2	96.7	94.7	93.2	91.2	90.1	93.0	94.9	95.9	96.6	95.6	—	—	—	—	—	—	—	—	—
	27–30	95.4	95.9	94.2	94.0	95.1	96.3	94.5	95.4	93.2	94.3	94.3	—	—	—	—	—	—	—	—	—
Trying an amphetamine once or twice [b]	18	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	83.2	83.2	83.7	+0.5
	19–22	85.8	81.6	84.5	87.6	87.6	89.4	88.9	89.4	89.1	90.2	87.4	—	—	—	—	—	—	—	—	—
	23–26	85.9	85.1	83.1	83.9	81.5	82.7	86.2	89.9	89.3	89.6	87.2	—	—	—	—	—	—	—	—	—
	27–30	87.2	87.8	86.4	86.0	87.9	88.9	87.5	88.5	82.9	85.3	85.6	—	—	—	—	—	—	—	—	—
Taking one or two drinks nearly every day [b]	18	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	76.3	76.3	77.3	1.0
	19–22	68.6	66.6	64.9	68.5	64.4	72.4	68.3	68.7	68.4	69.5	68.8	—	—	—	—	—	—	—	—	—
	23–26	66.1	65.4	64.4	61.6	62.1	61.8	62.3	66.1	62.5	63.4	59.4	—	—	—	—	—	—	—	—	—
	27–30	64.3	67.3	67.1	64.0	64.5	65.0	62.8	64.9	59.4	58.9	59.8	—	—	—	—	—	—	—	—	—
Taking four or five drinks nearly every day [b]	18	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	85.3	85.6	87.3	+1.7
	19–22	87.9	86.6	84.6	87.7	86.8	89.8	86.8	89.0	90.7	88.8	89.9	—	—	—	—	—	—	—	—	—
	23–26	89.9	92.5	91.1	88.1	89.3	87.8	89.1	90.8	87.8	93.8	89.1	—	—	—	—	—	—	—	—	—
	27–30	95.3	92.4	91.2	92.7	92.6	92.5	93.4	92.3	91.3	89.0	93.1	—	—	—	—	—	—	—	—	—
Having five or more drinks once or twice each weekend	18	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	68.5	70.7	69.0	-1.8
	19–22	51.8	45.2	47.4	50.4	47.9	52.4	53.2	54.8	54.4	55.2	54.6	47.7	48.7	53.9	53.0	54.5	50.4	51.9	54.7	+2.7
	23–26	54.5	56.6	56.9	52.9	49.5	49.5	51.9	56.0	51.3	55.3	51.0	51.2	50.7	53.4	48.5	52.3	49.7	51.1	52.1	+1.0
	27–30	57.7	65.8	58.8	63.3	59.6	64.6	56.9	62.7	56.3	57.3	52.7	52.9	50.6	53.7	52.7	57.1	52.8	54.1	56.4	+2.3
Smoking one or more packs of cigarettes per day	18	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	85.1	87.1	85.3	-1.8
	19–22	73.9	71.1	74.3	77.3	78.3	82.1	82.7	84.8	87.0	85.5	86.8	85.7	84.8	89.2	87.9	90.9	90.7	90.2	89.5	-0.7
	23–26	78.0	79.9	77.0	75.4	78.3	77.6	77.4	84.4	82.6	88.2	88.1	88.0	88.2	90.6	85.5	89.6	88.5	90.0	90.5	+0.5
	27–30	82.6	84.0	83.6	86.1	84.0	84.6	82.2	84.1	81.3	83.9	85.0	89.5	88.4	88.1	90.0	89.4	92.2	91.2	90.1	-1.1
Approximate Weighted N =	18	*1,945*	*1,775*	*1,862*	*1,820*	*2,133*	*2,208*	*2,183*	*2,183*	*2,161*	*2,090*	*2,033*	*2,101*	*2,132*	*2,126*	*1,916*	*1,863*	*1,992*	*1,763*	*1,922*	
	19–22	*430*	*379*	*402*	*361*	*399*	*427*	*395*	*395*	*361*	*370*	*389*	*347*	*364*	*337*	*309*	*289*	*263*	*246*	*255*	
	23–26	*394*	*398*	*378*	*366*	*363*	*377*	*361*	*344*	*349*	*336*	*322*	*355*	*320*	*329*	*327*	*284*	*299*	*238*	*244*	
	27–30	*397*	*394*	*374*	*364*	*346*	*408*	*362*	*327*	*330*	*318*	*333*	*322*	*321*	*285*	*303*	*288*	*265*	*272*	*279*	

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

Notes. Level of significance of difference between the two most recent years: 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. ' — ' indicates data not available.

[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 questions were dropped from the questionnaires beginning in 2010.

TABLE 7-2

Trends in Friends' Use of Drugs as Estimated by
Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

		Percentage saying friends use [a]																		
Q. How many of your friends would you estimate. . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Take any illicit drug [b]																				
% saying any	18	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	78.6	80.6	83.4	84.6
	19–22	90.2	88.0	86.8	85.0	82.3	82.9	80.5	76.7	77.2	78.4	72.7	71.5	66.8	71.7	71.6	71.6	76.2	77.2	79.8
	23–26	—	—	—	—	83.6	82.7	80.3	80.9	74.4	73.8	65.8	63.0	67.3	64.6	66.7	65.3	64.6	67.0	67.6
	27–30	—	—	—	—	—	—	—	—	74.8	72.9	69.6	67.1	61.5	60.2	57.1	58.5	59.1	60.9	58.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	38.1	37.4	39.7	39.2	38.4
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39.2
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	21.7	23.8	23.7	25.9
	19–22	34.9	32.8	28.1	22.4	21.9	18.2	16.2	14.0	13.5	10.9	10.5	8.8	9.0	10.4	14.9	13.1	17.3	16.2	16.8
	23–26	—	—	—	—	19.6	15.4	16.2	11.7	9.5	9.7	9.5	7.4	6.2	6.4	8.7	7.6	8.8	10.5	9.6
	27–30	—	—	—	—	—	—	—	—	8.6	6.4	5.9	2.9	5.8	5.0	5.6	6.1	3.6	4.5	5.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.1	1.9	2.0	3.0	3.1
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.3
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take any illicit drug other than marijuana [b]	18	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	53.7	54.5	55.1	55.6
% saying any	19–22	67.9	67.8	66.7	65.2	60.8	62.1	61.0	57.3	53.5	60.8	53.4	51.5	45.3	51.4	46.3	46.4	46.5	49.7	53.3
	23–26	—	—	—	—	63.7	64.0	59.0	61.1	55.1	54.2	47.8	41.8	46.1	42.3	39.4	40.3	32.8	35.1	35.4
	27–30	—	—	—	—	—	—	—	—	55.9	55.0	49.7	47.2	37.7	38.5	33.9	37.7	36.4	33.9	34.1
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.4	21.6	22.1	19.2	19.3
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.9
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	7.7	8.9	7.0	8.9
	19–22	9.8	12.9	11.8	9.8	9.3	8.6	7.6	5.0	5.3	4.0	3.2	2.6	3.3	4.0	4.4	3.5	6.2	4.1	4.3
	23–26	—	—	—	—	10.6	6.6	8.6	5.2	3.9	4.2	3.4	1.6	1.8	2.8	2.5	1.9	1.9	2.6	2.8
	27–30	—	—	—	—	—	—	—	—	4.6	3.0	2.8	1.0	1.4	1.5	1.5	1.5	0.9	1.2	0.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	0.5	0.7	0.5	0.7
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.4
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smoke marijuana																				
% saying any	18	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	76.1	78.0	81.4	83.2
	19–22	88.8	86.4	85.2	83.8	81.6	81.1	78.5	75.3	75.1	73.8	67.6	68.0	63.5	67.6	67.4	68.8	74.9	74.7	77.2
	23–26	—	—	—	—	82.0	80.8	77.7	79.4	71.6	69.8	61.8	59.6	61.3	61.2	62.6	63.2	62.6	63.5	65.0
	27–30	—	—	—	—	—	—	—	—	71.8	68.2	65.1	62.6	58.0	57.4	52.3	55.7	55.1	58.3	55.5
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.9	36.3	36.3	35.0	34.6
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	34.6
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	20.7	22.2	22.5	23.8
	19–22	34.1	30.6	25.6	20.6	19.4	16.0	13.3	12.5	12.2	9.0	9.2	8.3	8.2	8.5	13.0	12.5	16.3	16.2	16.4
	23–26	—	—	—	—	17.0	14.3	13.7	10.4	7.8	8.6	8.3	6.9	5.6	5.6	7.5	6.6	8.2	9.8	9.0
	27–30	—	—	—	—	—	—	—	—	6.8	4.4	4.0	2.8	5.1	5.2	5.0	5.6	3.5	3.9	4.8
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.0	2.5	2.9	2.9	2.8
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.1
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

→ (Years Cont.)

(Table continued on next page.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

		Percentage saying friends use [a]																			
Q. How many of your friends would you estimate. . .	Age Group	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Take any illicit drug [b,g]																					
% saying any	18	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	78.2	79.9	79.6	-0.3
	19–22	77.3	83.1	81.1	78.3	79.4	78.1	78.6	74.7	79.8	77.4	80.3	78.6	78.1	78.8	78.3	79.4	—	83.5	83.8	+0.4
	23–26	67.9	67.8	66.9	73.4	70.8	70.8	74.2	72.2	71.3	72.2	74.5	75.7	80.3	74.2	76.9	78.5	—	80.2	79.1	-1.1
	27–30	59.6	55.6	57.2	61.8	58.6	63.1	63.7	62.3	62.7	66.7	70.0	66.9	69.2	72.3	72.9	73.6	—	74.5	78.0	+3.5
	35	36.3	37.7	39.1	40.9	37.5	37.9	40.0	40.4	42.1	44.9	44.4	45.0	50.8	49.0	52.7	55.3	55.9	60.9	62.9	+2.0
	40	38.2	38.0	38.4	36.2	36.5	34.6	36.2	35.4	34.6	35.9	39.0	37.3	36.6	40.3	42.1	42.0	44.0	48.0	49.0	+1.0
	45	—	—	—	—	37.8	38.3	34.3	36.7	38.5	35.9	36.1	37.7	36.2	39.2	39.5	41.3	39.6	42.8	43.8	+1.1
	50	—	—	—	—	—	—	—	—	—	39.3	37.0	36.5	36.0	38.4	39.1	39.8	41.1	40.4	44.0	+3.6
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.2	36.2	38.0	38.7	41.7	+3.0
% saying most or all	18	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	28.0	24.9	26.1	+1.2
	19–22	20.6	18.9	20.3	20.2	17.3	14.7	15.8	16.8	14.5	13.7	16.0	17.2	21.8	17.3	22.1	20.5	—	22.3	25.5	+3.2
	23–26	8.4	9.7	10.4	10.3	10.3	11.7	9.7	11.1	8.1	8.9	12.7	13.9	10.5	9.1	13.6	15.3	—	14.0	18.3	+4.3
	27–30	5.7	5.3	7.1	6.9	6.9	3.9	4.7	5.4	6.5	6.3	6.4	6.6	7.1	6.8	6.7	8.3	—	9.1	10.3	+1.3
	35	2.8	3.1	3.2	2.9	3.2	2.8	2.5	2.1	2.2	2.2	2.5	3.7	4.5	3.3	4.7	5.1	6.4	6.3	6.5	+0.1
	40	2.0	2.0	1.6	2.2	1.6	1.6	2.1	2.5	2.0	1.3	1.3	2.1	1.9	1.2	2.3	3.3	3.4	4.1	3.9	-0.2
	45	—	—	—	—	2.2	1.5	1.4	1.7	1.3	1.3	1.2	1.5	1.2	1.0	1.5	1.9	1.6	2.2	2.1	-0.1
	50	—	—	—	—	—	—	—	—	—	1.4	1.4	1.4	1.8	1.8	1.0	1.4	1.9	2.0	1.4	-0.6
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.0	0.9	2.2	1.3	2.0	+0.7
Take any illicit drug other than marijuana [b]																					
% saying any	18	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	41.2	44.2	40.3	-3.9
	19–22	54.8	56.1	60.0	57.2	50.8	53.4	54.9	49.5	52.5	46.4	47.5	52.0	52.0	49.3	52.4	50.3	—	46.2	51.2	+5.0
	23–26	41.1	42.5	42.6	49.4	42.3	47.1	46.6	45.6	42.6	45.9	44.4	52.4	50.5	46.6	45.3	53.3	—	50.3	49.6	-0.8
	27–30	35.2	31.7	33.5	36.0	34.7	35.8	33.1	36.2	34.2	36.4	41.6	40.1	40.9	50.1	44.6	48.2	—	45.1	50.7	+5.6
	35	19.0	17.9	18.7	20.4	18.5	20.2	18.5	18.1	20.7	23.7	20.2	23.9	26.4	25.7	25.2	26.5	27.2	28.3	29.3	+1.1
	40	21.0	21.9	21.4	21.0	20.2	18.5	21.0	20.3	20.3	19.8	20.6	18.8	17.4	20.2	18.7	17.9	21.3	23.5	20.3	-3.2
	45	—	—	—	—	23.4	25.1	20.8	22.7	25.0	21.2	20.7	20.9	21.5	22.6	20.9	19.7	18.3	18.3	19.8	+1.5
	50	—	—	—	—	—	—	—	—	—	24.5	24.8	21.7	22.8	22.2	20.1	21.3	20.5	18.9	20.7	+1.8
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.9	19.0	21.0	20.1	18.8	-1.3
% saying most or all	18	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	6.0	4.6	4.6	+0.1
	19–22	5.1	7.7	8.0	5.7	5.1	3.5	4.8	4.2	3.9	3.4	3.6	4.8	7.4	4.6	6.6	5.5	—	4.6	5.7	+1.1
	23–26	2.2	3.8	3.7	2.8	3.7	3.1	3.2	3.2	1.0	1.5	2.9	3.2	3.1	3.2	3.3	5.3	—	3.5	4.6	+1.1
	27–30	1.3	1.5	2.6	2.3	0.7	0.8	0.9	1.4	2.2	2.5	1.7	1.5	2.5	1.5	0.7	1.6	—	2.4	2.5	+0.1
	35	0.9	1.0	0.9	0.6	0.6	0.4	0.5	0.5	0.6	0.5	0.5	1.0	0.7	0.8	1.3	0.9	1.2	0.9	0.7	-0.2
	40	0.8	0.7	0.5	0.3	0.3	0.2	0.5	0.7	0.6	0.7	0.3	*	0.2	0.1	0.2	0.4	0.6	0.4	0.5	+0.2
	45	—	—	—	—	0.7	0.7	0.4	0.9	0.5	0.5	0.3	0.3	0.1	0.2	0.4	0.5	0.2	0.3	0.5	+0.2
	50	—	—	—	—	—	—	—	—	—	0.5	0.4	0.3	0.8	0.4	0.2	0.3	0.3	0.5	0.2	-0.3
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.4	0.4	0.4	0.3	0.2	-0.1
Smoke marijuana																					
% saying any	18	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	76.9	78.9	78.2	-0.7
	19–22	73.9	81.2	78.4	77.2	76.5	75.6	75.8	72.0	76.6	74.7	77.7	75.6	74.7	76.8	76.2	77.5	78.4	82.9	82.8	-0.1
	23–26	64.4	64.8	64.5	68.8	67.7	68.4	70.7	67.6	69.0	67.7	71.7	71.9	77.5	71.5	73.4	74.7	74.6	79.2	77.5	-1.7
	27–30	57.0	51.7	56.5	59.0	55.8	60.4	60.8	61.0	60.2	64.2	65.2	62.3	65.9	66.6	69.2	69.4	76.2	72.2	76.2	4.0
	35	33.3	34.9	35.6	37.4	32.9	34.7	37.2	37.3	38.6	42.1	40.6	41.3	47.4	45.1	48.8	54.0	53.4	57.0	60.7	+3.8
	40	32.5	32.3	31.8	31.4	30.7	29.9	30.4	29.4	29.2	29.6	33.6	32.1	32.4	35.8	38.0	38.2	39.4	45.0	46.4	+1.3
	45	—	—	—	—	31.1	29.4	26.3	28.4	30.0	28.6	29.4	32.6	30.3	33.0	34.5	36.4	34.8	37.6	40.4	+2.8
	50	—	—	—	—	—	—	—	—	—	30.1	26.9	28.0	27.9	31.3	33.0	34.0	36.2	36.1	39.4	+3.3
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	29.5	28.9	31.6	31.9	37.0	+5.2 s
% saying most or all	18	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	25.9	23.8	24.3	0.5
	19–22	19.4	16.6	18.5	18.6	16.0	15.0	13.4	15.7	13.4	11.5	14.5	15.4	19.1	16.2	19.7	18.3	23.1	20.5	23.9	3.4
	23–26	8.5	8.2	9.0	8.7	9.3	9.8	8.0	10.1	7.9	8.5	12.2	12.3	9.6	8.3	12.8	13.7	17.1	12.8	15.2	+2.5
	27–30	5.5	4.9	6.3	6.2	6.7	3.5	4.3	5.0	6.6	5.0	5.8	6.3	5.8	5.6	6.6	7.8	7.4	8.0	9.4	+1.4
	35	2.6	2.8	2.6	2.7	3.1	2.7	2.3	2.0	2.1	1.9	2.3	3.4	4.2	2.9	4.3	4.9	6.2	6.1	6.1	0.0
	40	1.4	1.9	1.2	2.0	1.4	1.6	1.8	2.1	1.6	0.9	1.2	2.1	1.7	1.2	2.1	3.1	3.1	3.8	3.9	+0.1
	45	—	—	—	—	1.9	0.9	1.3	1.1	1.0	1.0	1.1	1.3	1.1	0.9	1.3	1.6	1.5	2.1	2.0	-0.1
	50	—	—	—	—	—	—	—	—	—	1.2	1.2	1.2	1.3	1.5	1.0	1.2	1.6	1.6	1.4	-0.3
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.8	0.7	1.9	1.1	1.9	0.8

↓

(List of drugs continued.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

Percentage saying friends use [a]

→ (Years Cont.)

Q. How many of your friends would you estimate. . .		1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Use inhalants																				
% saying any	18	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	27.5	27.2	27.4	25.9
	19–22	11.9	13.2	13.8	12.3	11.7	9.6	10.9	12.7	10.9	11.7	13.0	12.2	12.6	13.8	14.0	14.2	16.2	13.7	16.2
	23–26	—	—	—	—	7.7	6.7	7.2	6.1	6.2	5.9	6.1	4.4	5.1	6.3	7.0	9.3	5.6	7.5	6.2
	27–30	—	—	—	—	—	—	—	—	4.6	3.5	2.9	2.5	3.3	2.9	3.5	4.0	4.1	3.6	3.8
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	2.0	2.4	1.9	2.7
	19–22	0.5	0.4	0.7	0.3	0.5	0.6	0.7	0.7	0.7	0.4	0.6	0.2	0.8	0.7	0.7	0.6	1.1	0.7	1.3
	23–26	—	—	—	—	0.6	0.2	0.6	0.1	0.2	0.4	0.4	0.1	*	0.1	0.2	0.7	0.5	0.8	*
	27–30	—	—	—	—	—	—	—	—	0.3	*	0.2	0.2	*	0.2	*	*	*	*	*
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use nitrites																				
% saying any	18	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	10.7	11.2	11.9	12.9
	19–22	18.4	16.0	14.2	13.8	8.9	9.9	11.7	13.2	10.2	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	10.8	7.8	8.0	7.9	5.2	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	6.6	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	0.8	0.8	0.7	1.0
	19–22	0.3	0.4	0.9	0.6	0.6	0.6	0.4	0.4	0.2	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	0.8	0.3	0.4	0.3	0.1	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	0.5	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take LSD																				
% saying any	18	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	36.9	37.9	36.5	36.8
	19–22	30.9	25.9	26.5	22.6	21.6	18.8	18.7	18.2	19.0	20.1	20.1	22.0	22.2	28.8	23.8	26.9	28.6	24.7	29.4
	23–26	—	—	—	—	21.5	17.2	15.4	15.9	13.3	14.1	12.3	12.5	15.0	17.2	17.3	21.5	15.3	18.2	15.2
	27–30	—	—	—	—	—	—	—	—	10.4	7.7	9.1	8.6	10.9	8.7	8.1	12.0	11.6	12.3	12.6
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	4.8	5.0	3.7	4.7
	19–22	1.2	0.8	0.9	1.0	0.6	0.8	0.9	0.6	1.3	0.4	1.2	1.4	1.9	2.1	2.5	2.3	3.8	1.4	2.5
	23–26	—	—	—	—	0.8	0.5	1.0	0.2	0.6	0.5	0.6	0.2	0.4	0.7	1.1	0.7	0.7	0.6	1.0
	27–30	—	—	—	—	—	—	—	—	0.3	0.2	0.3	0.3	*	0.3	0.4	0.3	0.4	0.4	0.1
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(Table continued on next page.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

Q. How many of your friends would you estimate. . .	Age Group	Percentage saying friends use [a]																			2016–2017 change
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Use inhalants																					
% saying any	18	21.6	23.5	22.2	21.0	17.5	17.9	18.1	18.9	17.9	18.0	18.0	19.0	16.4	12.3	12.1	9.4	8.7	8.8	7.2	-1.6
	19–22	16.3	13.7	13.7	10.4	10.0	9.5	11.1	11.0	9.6	7.4	6.6	8.3	11.9	8.2	7.3	5.5	7.5	3.5	5.4	1.9
	23–26	7.9	6.9	7.5	7.4	7.9	6.2	5.8	5.2	3.7	6.1	6.5	6.0	4.8	5.4	4.1	4.4	2.7	4.1	5.3	+1.2
	27–30	4.2	3.6	6.0	4.5	3.2	2.6	3.2	3.3	2.8	2.7	3.6	1.7	3.2	3.8	2.9	5.4	1.7	3.7	4.2	+0.5
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	0.8	0.8	0.7	-0.1
	19–22	0.8	0.6	1.2	0.4	0.6	*	0.1	0.5	0.3	0.6	*	0.6	0.6	0.1	0.9	*	0.5	*	*	0.0
	23–26	0.1	0.7	0.1	0.4	0.3	*	0.1	0.3	*	*	*	0.1	0.1	*	0.3	0.3	*	*	0.4	+0.4
	27–30	*	*	0.3	0.3	*	*	*	*	*	0.3	0.3	*	0.3	*	0.1	0.5	*	*	0.4	+0.4
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use nitrites																					
% saying any	18	10.9	11.0	11.9	11.2	8.5	9.4	9.1	8.1	7.7	7.3	7.7	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	0.7	1.0	0.6	0.8	1.0	1.2	1.0	0.5	0.7	0.5	0.2	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take LSD																					
% saying any	18	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	18.9	22.7	20.1	-2.6
	19–22	28.2	27.8	28.4	24.0	15.4	15.9	13.9	14.2	15.1	12.5	12.8	16.0	18.0	15.7	23.3	17.1	22.0	17.1	26.3	+9.2 s
	23–26	18.1	19.3	16.8	15.8	16.1	14.4	12.0	11.7	11.2	9.2	11.0	11.9	10.2	11.5	13.4	16.7	16.8	17.0	22.7	+5.7
	27–30	13.4	11.8	12.5	13.1	11.4	8.9	6.6	9.1	7.6	8.8	7.6	8.2	7.6	7.7	10.6	9.7	8.4	12.8	14.3	+1.5
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	1.6	1.0	1.5	+0.5
	19–22	1.8	2.1	2.7	1.6	0.8	0.3	0.3	0.2	0.8	0.2	0.3	1.4	0.7	1.0	1.0	0.9	1.8	0.7	0.9	+0.2
	23–26	1.5	0.9	0.3	0.4	0.8	0.4	0.2	0.3	*	0.1	0.5	0.1	0.6	0.4	0.3	0.6	0.4	0.4	1.0	+0.6
	27–30	0.6	0.4	0.4	0.3	0.1	*	0.3	0.4	0.4	*	0.5	0.2	0.1	*	*	0.3	*	*	0.4	+0.4
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(List of drugs continued.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by
Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

Percentage saying friends use [a] → (Years Cont.)

Q. How many of your friends would you estimate. . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1997	1998
Take other hallucinogens [c]																					
% saying any	18	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	23.8	26.4	26.3	26.3	27.4
	19–22	33.4	25.5	25.1	21.0	20.2	16.6	15.8	15.0	16.1	13.9	15.3	14.2	12.0	15.0	13.8	14.9	17.2	17.2	17.2	19.1
	23–26	—	—	—	—	20.0	16.7	13.2	13.2	11.7	9.6	8.7	8.5	9.8	9.4	10.3	11.7	10.4	13.0	13.0	11.7
	27–30	—	—	—	—	—	—	—	—	10.6	7.4	7.1	6.8	7.9	7.1	6.6	7.9	7.5	6.8	6.8	7.8
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	2.2	2.3	2.6	2.6	3.1
	19–22	1.5	0.9	1.1	1.2	0.7	1.0	0.7	0.6	0.9	0.2	0.5	0.8	0.7	0.9	1.6	1.5	1.0	1.1	1.1	1.7
	23–26	—	—	—	—	0.8	0.3	0.5	0.3	0.2	0.3	0.8	0.1	0.4	0.7	0.6	0.8	0.1	0.8	0.8	0.7
	27–30	—	—	—	—	—	—	—	—	0.2	0.1	0.3	0.2	*	0.2	0.3	0.1	0.2	0.3	0.3	0.2
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take PCP																					
% saying any	18	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	18.3	20.3	19.7	19.7	20.2
	19–22	24.1	15.3	15.3	12.6	9.5	8.9	10.1	9.7	10.1	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	11.6	6.8	7.4	6.9	5.1	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	6.7	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	1.2	1.3	1.4	1.4	1.6
	19–22	0.5	0.3	0.3	0.5	0.7	0.7	0.2	0.1	0.3	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	0.6	*	0.4	*	0.2	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	0.4	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take ecstasy (MDMA)																					
% saying any	18	—	—	—	—	—	—	—	—	—	—	12.4	11.9	10.7	12.8	15.9	20.7	24.2	27.7	27.7	24.5
	19–22	—	—	—	—	—	—	—	—	—	16.3	14.3	12.0	12.9	13.7	11.3	17.2	20.7	21.4	21.4	26.0
	23–26	—	—	—	—	—	—	—	—	—	7.6	9.0	9.5	11.0	9.8	11.4	11.2	11.3	15.1	15.1	13.7
	27–30	—	—	—	—	—	—	—	—	—	5.6	6.3	5.4	4.6	6.6	5.8	6.9	10.1	7.4	7.4	8.5
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	—	—	—	—	—	—	—	—	—	—	2.2	1.7	2.1	1.2	1.7	2.8	3.0	2.6	2.6	2.5
	19–22	—	—	—	—	—	—	—	—	—	0.4	0.7	0.2	0.7	0.7	0.5	0.5	0.8	1.7	1.7	2.0
	23–26	—	—	—	—	—	—	—	—	—	0.5	0.2	0.1	0.1	0.5	0.1	0.4	0.1	0.8	0.8	0.8
	27–30	—	—	—	—	—	—	—	—	—	0.5	0.3	*	0.1	0.3	0.2	0.5	0.1	0.3	0.3	*
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(Table continued on next page.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by
Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

		Percentage saying friends use [a]																			
Q. How many of your friends would you estimate. . .	Age Group	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Take other																					
hallucinogens [c]	18	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	22.1	23.7	20.0	-3.7
% saying any	19–22	18.9	20.9	33.6	33.5	24.8	26.8	25.1	27.8	26.7	21.9	21.8	26.4	26.4	22.6	28.3	19.9	27.1	23.2	26.8	+3.6
	23–26	9.6	11.3	18.6	22.4	20.2	24.5	18.5	18.9	15.9	21.1	19.6	22.6	16.5	17.5	17.4	25.5	20.3	21.1	24.2	+3.1
	27–30	9.4	8.0	14.6	14.9	13.5	12.4	9.4	14.9	10.6	16.9	12.1	14.9	13.9	17.1	16.5	15.6	18.8	17.3	19.4	+2.0
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	1.7	1.0	1.2	+0.2
	19–22	0.8	2.0	2.3	2.2	1.5	1.1	0.6	0.9	1.0	1.3	0.6	0.9	0.7	0.8	1.0	1.0	1.3	0.7	0.9	+0.2
	23–26	0.8	0.3	0.6	0.7	1.0	0.8	0.7	1.0	0.4	0.4	1.2	0.2	0.7	0.5	1.2	1.1	0.5	0.6	1.4	+0.8
	27–30	0.2	0.4	0.6	1.0	0.1	*	0.4	0.4	0.4	0.4	0.6	0.7	0.5	0.3	0.4	0.1	*	0.3	0.4	0.0
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take PCP																					
% saying any	18	16.8	17.5	19.1	17.2	13.6	11.8	10.1	10.6	9.4	9.4	9.3	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	1.5	1.7	1.3	1.0	1.5	1.1	1.0	0.5	0.8	0.5	0.5	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take ecstasy (MDMA)																					
% saying any	18	26.7	37.3	41.9	38.0	34.2	28.9	23.1	23.0	23.6	24.7	23.5	25.9	27.5	26.8	25.6	24.3	26.3	24.4	22.4	-2.0
	19–22	30.7	42.4	43.3	43.4	31.3	27.6	28.3	25.2	21.6	19.3	24.4	20.4	22.0	18.9	27.4	19.9	—	23.8	26.5	+2.8
	23–26	15.2	25.9	29.4	36.8	27.0	31.2	25.3	23.4	16.5	20.8	19.7	20.7	19.5	18.8	19.1	22.7	—	24.9	29.0	+4.0
	27–30	12.4	13.1	17.8	20.6	19.4	20.6	15.6	22.6	15.9	17.8	17.0	12.7	10.6	15.8	13.5	17.7	—	20.5	24.1	+3.6
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	2.0	1.0	1.2	+0.2
	19–22	2.9	4.9	5.8	2.7	1.9	1.9	1.1	0.7	0.8	0.9	1.6	1.3	2.9	1.2	2.0	1.5	—	2.6	1.3	-1.3
	23–26	0.4	2.9	1.7	1.2	2.0	1.1	1.3	0.9	0.3	0.4	0.7	0.6	0.4	1.7	1.0	2.2	—	0.6	0.4	-0.2
	27–30	0.8	0.4	0.3	0.9	0.5	0.6	0.2	*	0.1	0.9	0.7	0.1	0.5	0.3	0.1	0.8	—	1.3	0.4	-0.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(List of drugs continued.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

Percentage saying friends use [a] → (Years Cont.)

Q. How many of your friends would you estimate. . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Take cocaine																				
% saying any	18	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	24.8	28.1	28.2	31.2
	19–22	51.0	48.9	49.8	46.5	47.6	45.9	48.3	45.7	42.0	42.7	33.2	29.7	22.8	24.3	21.5	22.0	19.4	22.2	26.8
	23–26	—	—	—	—	52.4	53.2	51.6	50.7	47.1	40.8	34.8	29.0	28.8	27.1	22.3	24.4	18.1	19.7	18.7
	27–30	—	—	—	—	—	—	—	—	47.9	43.3	38.3	35.7	29.9	27.6	22.6	26.2	20.8	21.5	18.6
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	2.0	2.2	2.0	3.2
	19–22	7.0	8.6	7.8	6.1	6.3	6.1	6.1	3.3	3.5	2.1	1.2	1.1	1.0	0.5	1.5	0.9	1.0	0.8	1.5
	23–26	—	—	—	—	9.1	5.3	7.0	4.1	3.1	2.7	2.1	0.6	0.9	0.8	1.0	0.3	0.4	1.1	0.9
	27–30	—	—	—	—	—	—	—	—	3.8	2.0	2.3	0.9	1.2	0.8	0.8	0.4	0.4	0.6	0.1
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take crack																				
% saying any	18	—	—	—	—	—	—	—	27.4	25.4	26.1	19.2	17.6	17.8	17.9	20.0	19.2	21.6	22.2	24.4
	19–22	—	—	—	—	—	—	—	23.8	21.8	20.6	14.6	14.3	11.8	13.6	13.8	14.0	9.4	13.1	16.4
	23–26	—	—	—	—	—	—	—	26.4	22.4	19.8	14.4	10.8	10.8	8.8	8.8	11.1	8.2	8.3	8.3
	27–30	—	—	—	—	—	—	—	—	22.1	18.4	16.6	11.6	10.3	10.2	10.4	10.3	8.6	6.3	6.4
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.5	5.1	4.4	3.1	2.8
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.8
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	—	—	—	—	—	—	—	2.2	1.1	2.1	0.6	0.6	0.7	0.9	1.0	1.1	0.9	1.1	1.7
	19–22	—	—	—	—	—	—	—	0.7	0.8	1.0	0.6	0.2	0.1	0.3	0.4	0.3	0.5	0.3	0.9
	23–26	—	—	—	—	—	—	—	0.8	0.9	0.8	0.5	0.1	0.1	0.5	0.2	*	0.3	0.5	0.4
	27–30	—	—	—	—	—	—	—	—	1.2	0.9	0.9	0.3	*	0.6	0.3	0.1	0.2	0.2	0.1
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.6	0.3	0.4	*	0.1
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	*
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take cocaine powder																				
% saying any	18	—	—	—	—	—	—	—	—	—	25.3	24.6	19.8	19.7	18.1	20.7	19.2	22.8	24.8	22.9
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.2	12.9	15.4	11.1	10.4
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.8
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	—	—	—	—	—	—	—	—	—	2.3	2.5	1.8	2.0	1.6	1.9	1.7	1.9	2.0	1.9
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8	0.3	0.6	0.4	0.4
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.2
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(Table continued on next page.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by
Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

		Percentage saying friends use [a]																			
Q. How many of your friends would you estimate. . .	Age Group	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Take cocaine																					
% saying any	18	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	18.3	16.9	17.0	+0.1
	19–22	25.7	24.8	27.4	28.2	25.5	26.2	27.2	26.6	29.4	21.8	21.2	21.8	22.3	15.9	19.5	20.5	21.4	18.2	24.6	+6.4
	23–26	20.1	20.3	19.4	23.7	21.9	27.4	25.6	24.6	23.1	23.1	23.5	28.0	23.7	21.6	18.9	20.3	22.0	22.2	28.5	+6.3
	27–30	20.7	16.5	19.7	16.0	17.0	17.0	17.9	19.5	18.6	20.7	22.1	19.2	16.1	21.6	18.4	20.8	24.7	22.4	23.4	+0.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	1.5	0.9	1.1	+0.3
	19–22	1.1	1.0	1.8	1.0	1.4	0.7	2.1	1.0	1.1	1.3	0.5	0.2	0.5	0.3	0.9	0.6	1.1	0.8	2.6	+1.8
	23–26	0.5	0.8	1.6	1.0	1.6	1.0	1.5	1.4	0.8	0.6	1.7	0.9	0.4	0.6	0.9	1.1	1.0	0.6	2.0	+1.4
	27–30	0.4	0.4	0.5	0.6	0.3	0.3	*	*	1.4	0.9	0.7	0.2	0.5	0.6	0.5	0.4	0.4	0.5	0.8	+0.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take crack																					
% saying any	18	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	10.1	8.0	8.0	0.0
	19–22	15.7	16.5	17.4	18.0	11.8	16.0	14.9	14.5	16.0	12.2	11.3	7.2	8.3	5.1	8.3	6.9	—	5.9	4.9	-1.1
	23–26	8.8	7.9	8.6	10.1	10.4	10.8	10.8	10.0	8.7	9.8	8.5	7.0	6.7	6.5	7.5	5.0	—	5.4	8.4	+3.0
	27–30	8.7	6.0	7.1	6.4	6.5	5.2	8.5	9.1	6.9	5.8	9.5	3.6	4.2	3.6	4.6	4.2	—	4.8	5.2	+0.4
	35	3.2	3.9	2.8	3.2	2.8	3.1	2.6	2.8	3.0	2.8	2.5	3.4	2.1	1.3	2.9	3.5	3.4	2.6	2.1	-0.5
	40	3.0	2.9	3.5	2.6	2.7	2.6	2.8	2.3	3.1	1.9	1.2	1.5	1.2	1.2	1.2	2.1	1.9	1.1	1.2	0.0
	45	—	—	—	—	3.7	3.3	2.4	3.0	2.9	1.8	2.3	2.2	1.8	1.6	2.1	1.2	1.0	1.0	0.5	-0.5
	50	—	—	—	—	—	—	—	—	—	2.0	1.6	1.8	1.4	1.1	1.2	1.9	1.3	0.9	0.9	0.0
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.1	1.2	1.1	0.9	0.8	-0.1
% saying most or all	18	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	1.0	0.7	1.0	0.3
	19–22	0.9	0.5	0.3	0.2	0.4	0.1	1.0	0.8	0.3	0.4	0.3	*	0.3	0.3	0.6	0.1	—	0.4	*	-0.4
	23–26	*	0.5	0.3	*	0.3	0.5	0.2	0.7	0.1	0.3	*	0.4	0.1	*	0.3	0.1	—	1.2	0.9	-0.3
	27–30	*	*	*	0.3	0.1	*	0.1	*	0.3	0.6	0.3	*	*	*	0.5	*	—	0.2	0.4	+0.2
	35	0.3	0.5	0.2	0.3	0.3	0.1	0.2	0.2	0.2	*	0.1	0.3	*	0.1	*	*	0.3	0.2	0.1	-0.1
	40	0.2	0.2	0.1	*	*	*	0.1	0.2	0.1	0.0	*	*	*	*	0.1	*	0.3	*	0.1	0.1
	45	—	—	—	—	0.4	0.3	0.2	0.2	*	*	0.1	*	*	0.1	0.1	0.2	*	0.1	*	-0.1
	50	—	—	—	—	—	—	—	—	—	0.2	0.1	0.2	0.1	0.0	0.2	0.1	*	0.2	0.1	-0.1
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.2	0.0	0.2	0.0	0.1	0.1
Take cocaine powder																					
% saying any	18	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	14.7	16.0	17.1	+1.1
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	10.0	10.3	9.4	9.4	8.2	9.2	8.3	8.4	9.1	11.4	8.7	10.5	12.8	9.0	11.6	12.8	13.2	12.0	13.4	+1.5
	40	8.9	8.8	8.8	8.5	7.6	7.6	8.9	7.3	6.7	6.2	6.5	4.9	4.8	5.2	6.6	6.6	6.2	8.1	7.3	-0.8
	45	—	—	—	—	8.3	8.0	7.0	7.4	8.0	6.7	6.4	5.9	5.8	6.0	6.0	5.2	4.6	4.8	4.8	0.0
	50	—	—	—	—	—	—	—	—	—	6.0	5.4	5.3	4.9	4.9	4.4	4.6	5.1	4.3	4.5	+0.2
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.1	3.0	3.8	3.5	3.9	0.4
% saying most or all	18	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	1.2	2.2	2.2	* *
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	0.6	0.7	0.4	0.4	0.4	0.2	0.2	0.2	0.4	0.2	0.2	0.4	0.0	0.1	0.7	0.1	0.8	0.4	0.6	+0.2
	40	0.2	*	0.2	0.1	0.1	0.1	0.2	0.5	0.2	0.2	0.1	*	*	*	*	*	0.3	*	0.2	+0.2
	45	—	—	—	—	0.5	0.5	0.2	0.4	0.1	0.1	*	*	*	0.1	0.3	0.2	*	0.1	0.3	+0.2
	50	—	—	—	—	—	—	—	—	—	0.2	0.2	0.2	0.0	0.0	0.1	0.2	*	0.4	0.1	-0.3
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.2	0.1	0.2	0.1	0.1	0.0

(List of drugs continued.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by
Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

Percentage saying friends use [a] →

Q. How many of your friends would you estimate. . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Take heroin																				
% saying any	18	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	14.5	15.6	15.6	16.5
	19–22	11.0	8.1	9.4	7.5	7.1	6.5	8.5	8.5	7.8	6.8	6.5	6.1	4.7	7.0	8.1	10.4	6.7	7.4	9.4
	23–26	—	—	—	—	6.1	4.4	4.3	6.5	3.6	5.2	4.2	3.6	3.8	4.5	4.9	5.8	4.0	6.2	5.8
	27–30	—	—	—	—	—	—	—	—	3.8	2.8	4.5	2.7	3.1	3.6	4.2	3.6	4.4	4.2	3.5
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	1.1	0.9	0.8	1.3
	19–22	0.3	0.5	0.1	0.2	0.4	0.6	0.2	0.3	0.2	0.2	0.3	0.2	0.1	0.2	0.4	0.4	0.4	0.2	0.5
	23–26	—	—	—	—	0.4	0.2	0.2	*	0.2	0.4	0.2	0.3	0.4	0.1	0.2	0.2	*	0.7	*
	27–30	—	—	—	—	—	—	—	—	0.2	0.1	0.2	0.2	*	0.2	0.3	*	*	*	0.1
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take other narcotics [d]																				
% saying any	18	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	19.5	21.8	22.2	24.8
	19–22	22.8	20.4	21.9	17.9	17.4	16.9	14.6	15.4	14.1	15.0	12.9	14.1	10.8	13.2	10.5	15.9	13.4	13.2	15.2
	23–26	—	—	—	—	16.0	14.9	14.0	13.0	10.6	10.8	10.5	8.5	8.4	8.7	8.0	10.5	8.9	9.9	9.4
	27–30	—	—	—	—	—	—	—	—	12.1	8.6	9.1	9.3	7.5	8.2	8.0	7.7	9.5	7.9	8.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	1.6	1.5	1.4	2.9
	19–22	0.9	0.7	0.6	0.5	0.8	1.0	0.5	0.4	0.9	0.1	0.6	0.4	0.5	0.6	0.6	0.6	0.4	0.4	0.8
	23–26	—	—	—	—	0.4	0.3	0.7	*	0.3	0.2	0.2	*	*	*	0.3	0.2	*	0.6	0.3
	27–30	—	—	—	—	—	—	—	—	0.3	*	0.2	0.2	0.1	0.2	0.2	*	0.2	*	*
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take amphetamines [e]																				
% saying any	18	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	30.3	32.2	32.7	33.8
	19–22	54.1	52.2	51.3	49.7	46.1	42.1	38.5	34.5	26.8	29.6	23.3	26.2	19.5	21.0	20.9	21.7	21.6	21.1	24.4
	23–26	—	—	—	—	45.6	40.1	33.5	32.1	28.4	23.1	20.6	17.1	15.1	16.8	16.2	18.2	12.5	14.4	14.1
	27–30	—	—	—	—	—	—	—	—	26.1	21.6	19.3	17.0	15.3	14.0	13.1	13.7	15.5	12.9	11.0
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	2.0	2.8	2.4	3.4
	19–22	3.8	5.7	4.6	3.8	3.3	2.9	1.3	1.9	1.4	0.7	1.0	0.6	0.9	0.2	1.1	1.2	0.7	0.7	1.2
	23–26	—	—	—	—	1.9	1.8	1.7	1.2	0.3	0.6	0.7	0.8	0.4	1.5	0.9	0.5	0.2	0.8	0.5
	27–30	—	—	—	—	—	—	—	—	0.6	0.4	0.5	0.5	0.1	0.5	0.5	0.3	0.3	0.1	0.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(Years Cont.)

(Table continued on next page.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

Q. How many of your friends would you estimate. . .	Age Group	Percentage saying friends use [a] 1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Take heroin																					
% saying any	18	12.7	14.9	13.1	12.9	10.3	12.7	13.1	12.7	12.9	11.2	12.7	12.4	10.2	7.7	8.5	7.9	7.1	6.0	5.3	-0.8
	19–22	9.7	7.7	8.7	8.9	5.3	7.0	6.4	7.5	9.0	6.4	3.9	5.3	6.2	6.4	4.8	4.6	5.6	6.6	3.6	-3.0
	23–26	4.8	4.7	5.0	5.2	6.1	2.9	5.1	3.5	4.3	3.1	5.9	6.9	3.9	5.9	4.6	3.9	3.0	4.4	7.0	+2.6
	27–30	3.8	2.8	4.3	3.9	3.4	3.0	3.8	2.5	3.0	2.1	3.9	3.3	2.6	3.5	4.6	3.3	4.9	4.6	3.7	-0.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	0.7	0.7	0.9	+0.1
	19–22	0.1	0.3	0.6	*	0.3	*	0.3	0.4	0.3	0.6	*	*	0.5	0.1	0.6	*	0.6	*	*	0.0
	23–26	*	0.3	*	0.1	*	*	0.3	0.3	*	*	0.1	0.5	0.1	0.1	0.8	0.3	0.5	0.2	0.6	+0.4
	27–30	*	*	*	0.3	*	*	*	*	*	*	0.3	*	0.3	*	0.1	0.1	*	0.2	0.4	+0.2
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take other narcotics [d]																					
% saying any	18	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	20.0	20.5	18.4	-2.1
	19–22	19.8	23.2	23.0	21.8	21.9	22.6	19.9	17.6	23.7	16.8	15.3	31.4	31.3	25.7	29.5	20.9	21.7	17.1	19.1	+2.0
	23–26	10.4	11.2	13.5	14.6	18.4	16.8	18.3	17.6	14.2	16.0	19.3	36.7	30.4	27.9	25.6	29.2	24.4	24.2	18.8	-5.4
	27–30	7.2	8.4	11.2	11.8	11.0	12.0	12.5	13.1	10.6	14.3	14.2	28.4	29.8	32.9	30.4	29.6	28.7	25.5	26.8	+1.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	1.8	2.0	2.0	2.1	2.4	2.4	1.9	1.8	2.6	1.3	1.9	3.8	2.6	1.8	1.9	1.8	1.5	1.7	1.7	0.0
	19–22	0.4	1.2	1.8	1.3	1.0	0.5	1.0	0.9	0.3	1.3	0.4	1.8	2.1	1.4	2.7	0.5	1.1	0.5	0.3	-0.1
	23–26	*	0.4	0.5	0.6	0.6	0.5	0.8	0.5	0.3	0.1	0.9	1.6	1.1	1.0	1.6	1.2	1.0	0.6	1.0	+0.4
	27–30	0.2	*	*	0.3	0.1	*	*	0.6	*	0.6	0.6	0.9	1.2	0.1	0.5	0.5	*	0.5	0.9	+0.4
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take amphetamines [e]																					
% saying any	18	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	24.2	27.3	21.4	-5.9
	19–22	25.5	28.4	28.0	28.6	24.0	23.5	25.9	25.4	26.9	19.9	26.6	27.3	29.5	30.5	37.9	33.4	38.5	30.6	35.2	+4.6
	23–26	14.2	14.5	17.5	18.4	18.0	18.8	18.4	19.7	17.6	17.9	21.3	23.8	27.7	26.1	27.0	31.5	28.5	30.5	32.4	+1.9
	27–30	11.8	11.9	12.9	12.3	12.0	13.5	11.8	12.5	10.0	12.8	16.4	16.4	17.2	22.9	24.7	24.1	27.0	25.4	30.0	+4.6
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	2.5	2.4	1.7	-0.7
	19–22	0.7	1.7	1.6	1.3	1.2	0.5	0.7	1.1	0.4	1.3	1.6	1.2	4.3	2.0	3.5	3.8	4.3	2.4	3.0	+0.7
	23–26	0.6	0.3	0.5	0.3	0.7	0.1	0.3	0.7	*	0.1	0.3	0.8	1.3	1.5	1.9	2.2	1.3	1.9	2.4	+0.5
	27–30	0.6	0.1	0.5	0.9	0.1	*	0.4	0.4	0.4	0.3	0.5	0.3	0.3	0.3	0.1	0.3	0.8	0.5	1.1	+0.6
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(List of drugs continued.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

Q. How many of your friends would you estimate. . .	Age Group	Percentage saying friends use[a] 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	→ (Years Cont.)
Take sedatives/ barbiturates[f]																					
% saying any	18	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	17.8	21.6	20.4	22.8	
	19–22	33.2	27.9	27.7	23.6	22.0	17.2	18.8	15.5	14.0	14.1	11.9	12.8	10.7	11.7	9.7	13.3	11.6	12.1	14.8	
	23–26	—	—	—	—	22.2	18.7	16.3	14.1	11.2	10.4	8.9	8.3	8.7	8.2	7.6	9.6	6.9	8.4	7.9	
	27–30	—	—	—	—	—	—	—	—	12.0	8.5	8.8	7.1	6.6	6.7	7.4	7.2	6.7	6.5	6.1	
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
% saying most or all	18	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	1.4	1.6	1.1	2.5	
	19–22	1.1	1.3	1.0	0.8	0.8	0.5	0.3	0.4	0.8	0.1	0.2	0.3	0.1	0.1	0.3	0.8	0.2	0.7	0.4	
	23–26	—	—	—	—	0.4	0.3	0.3	0.3	0.1	0.2	0.2	0.1	0.1	0.3	0.2	*	*	0.8	*	
	27–30	—	—	—	—	—	—	—	—	0.2	*	0.4	0.2	0.2	0.2	*	*	0.3	*	*	
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Take quaaludes																					
% saying any	18	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	15.5	18.1	16.1	17.4	
	19–22	38.3	36.2	35.4	30.5	24.6	19.9	20.3	16.9	12.5	10.9	10.0	10.6	9.2	10.0	7.8	11.5	10.1	9.3	10.6	
	23–26	—	—	—	—	25.7	21.0	17.4	15.0	12.1	10.3	8.6	5.9	6.4	7.6	7.7	9.0	6.3	6.5	6.6	
	27–30	—	—	—	—	—	—	—	—	11.8	7.9	8.2	7.0	7.1	6.5	6.6	4.5	6.9	4.9	4.1	
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
% saying most or all	18	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	1.3	1.7	1.1	2.0	
	19–22	1.9	2.7	1.2	1.3	1.2	0.6	0.2	0.4	0.4	0.2	0.6	0.2	0.1	0.1	0.2	0.7	0.1	0.6	0.5	
	23–26	—	—	—	—	0.6	0.3	0.7	0.2	0.2	0.4	0.2	0.1	0.2	0.6	0.2	0.2	*	0.8	*	
	27–30	—	—	—	—	—	—	—	—	0.5	0.2	0.2	0.2	*	0.2	*	*	0.2	*	*	
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Take tranquilizers																					
% saying any	18	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	15.8	18.1	17.9	19.7	
	19–22	37.5	33.9	28.7	22.9	22.0	19.7	20.6	18.0	16.4	14.8	13.4	13.0	11.3	11.9	9.5	13.6	10.5	11.7	13.7	
	23–26	—	—	—	—	29.3	26.3	22.3	20.8	15.5	13.1	14.8	12.1	12.5	11.0	13.4	10.4	10.7	9.6	8.5	
	27–30	—	—	—	—	—	—	—	—	20.1	16.6	16.9	14.9	12.0	12.5	13.9	11.9	11.0	10.8	12.6	
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.3	12.2	13.1	10.8	10.7	
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.7	
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
% saying most or all	18	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	1.1	1.4	0.8	2.3	
	19–22	0.7	0.9	0.5	0.8	0.3	0.7	0.3	0.6	0.4	0.1	0.4	0.5	0.1	0.1	0.2	0.7	0.7	0.8	0.6	
	23–26	—	—	—	—	0.4	0.3	0.5	*	0.3	0.4	0.2	0.3	0.1	0.4	0.2	*	*	1.1	0.1	
	27–30	—	—	—	—	—	—	—	—	0.5	0.3	0.4	0.2	0.1	0.2	0.4	*	0.2	*	*	
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.5	0.3	0.3	0.1	0.2	
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.0	
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

(Table continued on next page.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by
Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

		Percentage saying friends use [a]																			
Q. How many of your friends would you estimate. . .	Age Group	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Take sedatives/ barbiturates [f]																					
% saying any	18	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	14.5	15.1	12.9	-2.2
	19–22	16.0	15.2	18.6	17.1	14.4	18.8	19.6	18.7	20.1	17.8	16.4	19.1	14.5	13.7	19.0	13.6	18.2	12.0	14.9	+2.9
	23–26	8.3	6.6	11.1	10.9	12.9	16.7	15.7	16.2	16.5	13.4	18.6	17.6	12.2	11.8	14.3	15.0	11.9	15.4	11.6	-3.8
	27–30	5.7	6.4	7.9	7.4	7.3	11.5	10.5	13.5	12.5	15.2	12.7	15.3	13.7	14.5	16.5	13.0	13.1	13.0	14.8	+1.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	1.4	1.4	1.0	-0.4
	19–22	0.4	1.0	0.9	0.8	0.7	0.3	0.3	0.2	0.6	0.5	1.0	0.6	0.6	0.3	1.2	0.7	1.3	*	0.2	+0.2
	23–26	*	0.4	0.4	*	0.2	0.4	0.2	0.5	*	0.4	0.4	0.5	0.3	0.4	0.7	0.4	0.7	0.8	1.0	+0.2
	27–30	0.2	*	0.3	0.6	0.1	*	0.5	0.4	0.6	0.1	0.9	0.4	0.2	*	0.1	0.1	0.4	0.6	0.4	-0.2
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take quaaludes																					
% saying any	18	15.5	16.2	17.8	18.0	14.2	16.6	13.6	13.4	13.6	11.2	14.3	—	—	—	—	—	—	—	—	—
	19–22	11.4	13.1	14.6	13.0	10.3	8.3	8.2	8.6	8.8	5.9	5.3	—	—	—	—	—	—	—	—	—
	23–26	6.4	4.9	7.7	8.5	8.9	6.5	7.7	5.6	5.6	4.1	8.0	—	—	—	—	—	—	—	—	—
	27–30	5.1	5.0	4.9	6.6	4.3	4.4	3.6	4.9	4.3	5.8	4.5	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	1.4	1.4	1.2	1.2	1.2	1.6	1.3	1.3	1.6	0.8	1.1	—	—	—	—	—	—	—	—	—
	19–22	0.4	0.9	0.8	0.1	0.4	*	0.4	0.2	*	0.2	*	—	—	—	—	—	—	—	—	—
	23–26	0.2	0.3	0.3	0.1	0.2	0.1	0.2	0.3	0.3	*	0.1	—	—	—	—	—	—	—	—	—
	27–30	0.2	0.3	*	0.3	*	*	0.3	0.7	*	0.3	0.5	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take tranquilizers																					
% saying any	18	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	11.5	12.0	11.1	-0.9
	19–22	16.2	16.7	21.3	18.1	14.5	12.3	11.5	13.0	17.2	11.6	11.1	11.6	8.2	10.2	12.7	8.6	10.8	7.2	7.9	+0.7
	23–26	9.8	11.2	12.4	14.9	12.9	15.1	13.1	10.7	12.3	12.6	15.5	13.4	9.9	7.3	9.3	8.9	7.5	7.9	8.0	+0.1
	27–30	10.4	10.6	9.6	10.6	10.4	9.9	9.7	8.5	9.1	12.3	10.3	9.5	9.4	12.6	12.3	8.7	11.6	7.1	9.3	+2.2
	35	11.4	10.8	12.2	12.5	11.4	12.7	12.4	12.2	14.7	16.1	14.8	17.6	17.7	17.9	17.3	17.7	19.2	19.5	18.7	-0.8
	40	14.8	15.2	15.1	15.6	15.0	13.6	14.1	16.1	16.0	15.0	15.1	13.6	12.9	15.8	14.5	13.2	14.5	17.1	14.7	-2.4
	45	—	—	—	—	17.3	19.8	15.4	18.3	20.7	17.3	17.5	16.3	16.7	18.8	16.7	15.8	14.5	14.2	13.7	-0.6
	50	—	—	—	—	—	—	—	—	—	19.7	21.0	17.8	19.1	18.1	16.7	17.9	15.7	15.0	16.3	+1.3
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.0	16.6	17.0	16.8	15.8	-1.0
% saying most or all	18	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	1.5	1.1	1.0	-0.1
	19–22	0.3	0.6	0.9	0.4	0.4	0.3	0.3	0.3	0.3	0.1	0.1	0.6	0.6	0.2	0.6	0.4	0.8	*	0.7	+0.7
	23–26	*	0.5	0.8	0.1	*	0.5	0.7	0.4	*	0.1	0.3	0.2	0.1	0.3	0.3	0.3	0.2	0.4	0.4	0.0
	27–30	0.4	*	0.4	0.6	0.1	*	0.2	0.2	*	0.1	0.5	*	*	*	0.1	0.1	0.6	0.4	0.4	0.0
	35	0.6	0.6	0.2	0.1	0.2	0.3	0.5	0.3	0.5	0.3	0.4	0.6	0.3	0.4	0.4	0.5	0.4	0.4	0.1	-0.3
	40	0.4	0.1	0.3	0.2	*	0.2	0.2	0.3	0.3	0.3	0.1	*	*	0.1	*	0.2	*	0.1	0.4	+0.3
	45	—	—	—	—	0.3	0.2	0.2	0.1	0.3	*	0.2	0.1	0.1	*	0.2	0.2	0.1	0.1	0.1	0.0
	50	—	—	—	—	—	—	—	—	—	0.3	0.1	0.1	0.4	0.2	0.1	0.2	0.2	0.2	0.2	-0.1
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.3	0.4	0.2	0.2	0.1	-0.1

↓

(List of drugs continued.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by
Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

Q. How many of your friends would you estimate. . .	Age Group	Percentage saying friends use [a] 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	→ (Years Cont.)
Drink alcoholic beverages																					
% saying any	18	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	90.9	89.6	90.7	91.2	
	19–22	96.3	96.7	96.6	97.3	96.8	95.8	96.9	95.6	97.0	97.6	96.1	95.2	93.1	95.1	92.5	94.8	93.7	94.5	94.5	
	23–26	—	—	—	—	96.8	96.8	96.2	95.9	95.3	95.4	94.7	93.9	95.1	94.4	94.0	94.1	92.7	95.4	95.5	
	27–30	—	—	—	—	—	—	—	—	96.1	96.0	95.2	94.4	95.6	93.4	93.3	93.3	93.1	95.1	93.1	
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	89.6	89.9	90.3	89.5	88.1	
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	88.4	
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
% saying most or all	18	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	56.4	56.4	60.9	61.0	
	19–22	76.6	77.6	75.2	75.1	74.9	71.9	74.2	71.3	73.4	74.1	70.0	71.4	67.4	66.5	68.7	63.9	67.0	63.8	69.4	
	23–26	—	—	—	—	73.2	74.4	69.5	74.9	68.9	69.8	67.1	69.3	68.8	68.7	70.7	67.0	68.9	66.6	67.4	
	27–30	—	—	—	—	—	—	—	—	66.7	67.8	62.0	62.7	63.3	61.3	63.2	62.6	64.1	66.6	62.9	
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	43.8	45.1	49.5	46.6	47.1	
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	37.7	
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Get drunk at least once a week																					
% saying any	18	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	78.9	78.5	82.4	81.1	
	19–22	80.9	79.9	80.0	80.4	79.8	76.7	82.0	81.1	80.6	80.4	80.1	80.8	76.5	81.1	79.6	83.2	80.9	79.2	82.3	
	23–26	—	—	—	—	73.1	72.7	73.5	73.7	72.1	73.1	72.2	74.0	73.1	74.3	72.1	73.1	74.5	71.9	74.1	
	27–30	—	—	—	—	—	—	—	—	66.3	61.8	65.4	65.2	65.5	64.5	62.7	67.1	66.7	65.4	65.5	
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	44.3	43.2	44.9	42.9	46.1	
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	41.6	
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
% saying most or all	18	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	27.4	29.0	30.9	31.7	
	19–22	21.9	23.3	22.0	20.2	22.7	21.7	20.8	21.3	24.0	22.6	23.6	24.9	22.6	28.8	26.3	28.2	26.0	26.6	29.8	
	23–26	—	—	—	—	11.4	11.6	12.5	11.9	12.8	12.0	13.9	11.6	14.6	13.2	15.2	15.2	14.0	17.0	16.0	
	27–30	—	—	—	—	—	—	—	—	5.2	6.3	6.7	6.6	5.9	6.7	6.4	7.9	8.6	7.7	9.3	
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.6	3.6	5.4	3.2	4.4	
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.8	
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Smoke cigarettes																					
% saying any	18	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	87.9	88.3	89.9	89.5	
	19–22	94.4	94.3	93.4	93.1	91.9	91.6	91.1	90.3	89.3	90.0	86.1	86.1	86.7	86.7	86.1	88.8	89.2	91.3	92.6	
	23–26	—	—	—	—	93.9	95.0	91.6	92.1	89.8	90.1	88.7	89.6	85.6	88.3	86.4	86.8	85.3	85.4	88.7	
	27–30	—	—	—	—	—	—	—	—	92.6	89.8	90.7	90.4	88.0	85.8	84.8	84.9	85.4	84.1	81.1	
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	72.7	71.7	71.7	72.4	71.8	
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	70.2	
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
% saying most or all	18	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	27.5	30.4	34.4	33.9	
	19–22	31.8	27.6	25.6	25.2	25.6	22.7	21.9	22.5	19.3	19.9	19.2	20.2	20.3	22.2	21.7	28.4	24.0	25.1	28.8	
	23–26	—	—	—	—	25.6	22.7	19.7	18.5	16.5	20.5	16.9	18.1	16.0	15.5	16.6	13.9	17.6	17.0	16.8	
	27–30	—	—	—	—	—	—	—	—	15.8	14.2	11.6	12.9	11.9	14.3	10.9	12.3	10.4	12.1	12.3	
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.9	7.2	9.3	7.2	8.0	
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.1	
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	

(Table continued on next page.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by
Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

Q. How many of your friends would you estimate. . .	Age Group	Percentage saying friends use [a] 1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Drink alcoholic beverages																					
% saying any	18	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	75.5	77.2	75.7	-1.4
	19–22	92.8	95.2	93.4	94.5	92.5	90.4	95.0	91.9	94.0	92.6	93.2	90.9	88.9	93.3	92.0	91.0	—	87.7	86.8	-0.9
	23–26	93.3	94.5	93.1	95.3	92.8	94.9	91.6	93.6	94.7	93.3	95.0	95.3	95.3	92.3	92.5	94.1	—	91.6	91.9	+0.3
	27–30	94.4	92.7	91.4	92.8	90.5	94.4	93.7	95.6	92.4	91.7	93.9	93.0	92.5	93.4	91.6	95.1	—	94.7	92.5	-2.2
	35	88.7	89.6	89.3	90.1	87.4	93.4	91.3	90.6	90.5	91.0	90.4	93.3	93.0	92.7	93.2	92.6	92.6	94.3	93.2	-1.1
	40	88.9	90.7	89.6	90.5	89.2	90.5	92.1	90.8	93.0	89.3	92.6	92.1	92.4	91.3	91.9	90.8	91.2	91.4	91.2	-0.2
	45	—	—	—	—	87.9	90.3	89.8	90.1	89.8	90.5	89.5	90.6	90.8	90.1	91.4	92.4	92.5	91.3	90.0	-1.4
	50	—	—	—	—	—	—	—	—	—	88.9	90.2	89.9	90.4	90.1	89.2	92.0	90.3	91.4	91.2	-0.2
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	87.6	89.3	89.5	88.3	89.9	+1.6
% saying most or all	18	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	42.3	39.2	39.7	+0.4
	19–22	67.8	70.1	65.4	68.8	63.9	66.4	71.8	65.4	71.1	64.4	69.7	69.1	63.3	66.3	63.2	63.4	—	66.1	62.4	-3.8
	23–26	63.6	70.8	65.7	73.4	66.0	71.3	69.3	69.2	70.2	76.3	76.9	75.5	79.7	74.3	73.7	76.5	—	66.5	65.4	-3.1
	27–30	64.4	64.8	64.9	66.3	61.5	69.0	66.2	70.7	65.6	67.1	74.0	72.2	70.9	74.9	72.9	74.7	—	75.1	76.3	+1.2
	35	46.0	49.1	48.4	52.9	51.6	53.7	55.5	55.2	56.1	55.7	53.2	56.9	61.9	58.7	62.1	66.1	64.2	66.5	65.4	-1.1
	40	41.4	42.5	44.7	44.8	47.2	43.3	47.2	45.9	50.3	48.9	54.5	54.7	54.3	55.9	56.6	53.6	55.2	57.6	60.2	+2.6
	45	—	—	—	—	38.9	41.7	42.4	45.1	46.6	47.0	45.9	46.7	47.2	53.5	52.0	56.1	57.8	55.1	56.5	+1.4
	50	—	—	—	—	—	—	—	—	—	37.7	39.3	41.9	43.5	45.8	48.2	48.6	48.8	50.0	50.7	+0.7
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39.1	41.0	42.4	46.9	47.7	+0.8
Get drunk at least once a week																					
% saying any	18	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	58.9	59.0	58.0	-0.9
	19–22	82.8	82.2	81.9	81.5	81.5	80.5	85.1	81.7	84.4	81.3	82.8	81.2	78.3	83.6	77.7	78.2	—	75.6	76.5	+0.9
	23–26	71.0	76.5	74.7	81.0	76.4	75.8	80.7	80.9	80.4	79.5	83.0	83.7	83.9	79.7	83.1	85.6	—	81.2	76.1	-5.1
	27–30	65.9	64.3	64.7	68.9	66.5	73.8	72.4	74.6	72.0	71.7	78.7	78.2	78.3	80.1	74.4	77.2	—	77.9	79.2	+1.3
	35	44.5	46.9	47.6	48.3	47.9	52.0	50.7	52.6	55.0	56.0	56.0	59.2	63.2	62.4	63.9	65.4	68.0	67.8	68.2	+0.4
	40	40.6	42.2	41.3	42.6	42.9	43.2	48.4	47.2	46.3	48.2	53.7	49.6	48.5	54.9	54.7	53.4	58.0	57.4	58.9	+1.5
	45	—	—	—	—	41.6	42.2	41.6	40.0	42.7	45.7	45.4	49.1	45.9	50.0	50.5	52.1	52.8	52.3	54.3	+2.0
	50	—	—	—	—	—	—	—	—	—	40.0	38.3	39.6	42.4	42.5	45.0	45.5	46.7	48.7	47.3	-1.4
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35.1	35.4	39.2	39.7	38.9	-0.9
% saying most or all	18	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	15.5	11.5	12.4	+0.9
	19–22	29.3	28.1	30.2	31.0	29.6	29.0	31.2	32.9	32.0	28.9	31.4	27.7	27.6	27.2	28.1	28.7	—	21.6	25.8	+4.2
	23–26	16.8	17.4	19.1	19.2	18.3	24.0	24.0	20.3	22.8	23.1	23.2	24.0	22.6	20.0	23.4	20.2	—	23.5	20.1	-3.3
	27–30	12.1	9.8	11.7	8.9	13.0	9.4	11.2	13.5	12.2	10.9	17.1	13.7	13.2	13.5	13.2	15.2	—	16.7	17.2	+0.5
	35	4.9	4.6	4.8	4.5	5.2	5.3	5.3	5.6	6.1	7.3	5.9	7.4	8.4	6.8	8.3	10.7	10.8	8.6	10.2	+1.5
	40	3.0	2.5	2.9	3.8	3.9	3.0	3.6	4.0	3.4	4.8	4.6	4.8	4.8	4.3	4.2	5.7	5.6	5.6	6.7	+1.1
	45	—	—	—	—	3.6	2.7	2.7	3.1	3.7	4.1	3.2	3.2	3.5	4.3	5.1	5.1	5.5	4.2	3.5	-0.7
	50	—	—	—	—	—	—	—	—	—	3.2	2.7	2.0	2.9	2.5	3.6	4.1	3.6	4.0	3.0	-0.9
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.0	1.9	3.2	3.1	2.9	-0.2
Smoke cigarettes																					
% saying any	18	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	60.2	58.4	54.0	-4.4
	19–22	91.0	90.9	90.9	89.7	86.5	89.7	89.3	85.8	86.8	84.4	88.3	81.8	79.4	78.2	77.4	76.5	76.0	70.8	63.9	-7.0
	23–26	84.1	86.5	86.7	86.4	86.5	87.0	87.3	85.4	84.1	86.8	85.3	87.7	86.5	83.1	80.3	82.2	79.8	77.5	72.9	-4.5
	27–30	86.3	85.1	84.9	87.0	82.8	83.5	81.0	84.4	81.7	82.1	84.1	84.6	83.8	85.2	81.6	84.4	78.6	74.5	77.5	+3.0
	35	69.9	70.8	69.2	66.6	67.0	67.7	65.5	67.0	64.8	67.6	62.2	65.4	66.1	66.4	63.2	63.8	65.2	65.0	62.6	-2.4
	40	70.0	67.8	64.3	65.5	65.1	62.4	63.8	64.6	59.2	59.7	60.5	57.4	57.4	56.7	59.1	56.2	54.5	54.8	52.4	-2.4
	45	—	—	—	—	66.1	67.0	62.9	60.9	58.5	56.1	57.7	60.6	58.0	57.4	54.3	56.0	49.7	52.1	50.4	-1.7
	50	—	—	—	—	—	—	—	—	—	62.1	61.3	59.2	55.9	57.4	54.7	55.4	55.4	52.4	52.8	+0.4
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	56.5	52.4	52.9	48.5	49.4	+0.9
% saying most or all	18	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	6.5	5.9	6.6	+0.7
	19–22	26.8	29.4	27.0	25.7	20.2	20.7	20.4	15.2	17.9	12.9	15.3	16.7	13.7	13.6	10.8	9.4	8.9	5.4	5.0	-0.4
	23–26	17.5	17.0	15.5	15.1	18.3	19.8	19.6	13.9	14.7	15.0	13.4	15.0	11.1	10.6	13.5	11.4	9.5	5.6	7.9	+2.3
	27–30	13.4	11.7	10.2	12.9	12.2	9.2	12.6	12.6	12.7	10.8	12.4	7.9	7.4	10.0	6.8	7.7	5.9	5.8	6.3	+0.5
	35	9.0	6.7	8.8	6.6	6.3	6.9	6.0	6.8	5.7	5.9	6.4	6.8	6.2	5.5	4.9	5.8	6.0	4.0	4.5	+0.5
	40	7.4	6.8	5.7	5.8	5.9	6.0	7.0	5.1	4.7	4.5	3.9	4.0	4.2	2.9	3.8	4.0	4.1	2.7	3.5	+0.9
	45	—	—	—	—	5.7	5.9	6.1	5.4	4.5	3.7	4.8	5.2	3.8	3.4	4.6	2.5	3.3	2.8	1.3	-1.4 s
	50	—	—	—	—	—	—	—	—	—	4.0	4.3	4.2	3.6	2.6	2.3	4.4	3.4	2.6	2.5	-0.2 s
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.3	2.2	2.7	1.9	1.7	-0.3

↓

(List of drugs continued.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

Percentage saying friends use [a] →

Q. How many of your friends would you estimate. . .	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Take steroids																				
% saying any	18	—	—	—	—	—	—	—	—	—	—	25.9	24.7	21.5	19.0	18.1	19.5	17.9	18.9	18.3
	19–22	—	—	—	—	—	—	—	—	—	23.4	21.5	22.2	19.7	20.7	16.8	16.6	16.1	16.8	20.0
	23–26	—	—	—	—	—	—	—	—	—	15.3	15.0	12.3	14.5	11.1	10.5	12.4	7.3	13.0	9.2
	27–30	—	—	—	—	—	—	—	—	—	9.9	10.5	7.5	8.0	8.0	8.0	8.0	10.2	9.1	7.0
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	—	—	—	—	—	—	—	—	—	—	1.8	1.0	1.7	0.9	1.2	1.3	0.8	1.7	1.4
	19–22	—	—	—	—	—	—	—	—	—	0.2	0.6	*	0.1	0.4	0.2	0.1	*	0.1	0.3
	23–26	—	—	—	—	—	—	—	—	—	0.4	*	*	0.2	0.1	0.1	*	*	0.5	*
	27–30	—	—	—	—	—	—	—	—	—	0.5	*	*	*	0.2	0.1	*	*	*	*
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate Weighted N =	18	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	2,379	2,156	2,292	*2,313*
	19–22	576	592	564	579	543	554	579	572	562	579	556	526	510	468	435	470	469	467	*437*
	23–26					527	534	546	528	528	506	510	507	516	495	449	456	416	419	*394*
	27–30									516	507	499	476	478	461	419	450	464	454	*428*
	35															1,200	1,187	1,187	1,209	*1,067*
	40																			*1,098*
	45																			
	50																			
	55																			

(Years Cont.)

(Table continued on next page.)

TABLE 7-2 (cont.)
Trends in Friends' Use of Drugs as Estimated by
Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

		Percentage saying friends use [a]																			
Q. How many of your friends would you estimate. . .	Age Group	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Take steroids																					
% saying any	18	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	12.8	15.5	13.7	-1.8
	19–22	20.6	18.9	20.0	19.3	17.1	21.4	20.1	21.0	18.3	14.8	16.8	13.8	15.3	12.6	11.1	16.4	12.7	8.6	9.6	+1.0
	23–26	15.0	12.2	13.6	14.3	12.9	12.4	11.6	13.4	13.8	13.3	12.8	11.7	13.9	10.0	11.6	12.7	8.7	11.9	10.6	-1.3
	27–30	11.2	9.3	10.7	6.4	11.6	10.1	7.4	7.5	6.7	6.6	12.0	9.2	8.5	11.6	10.0	9.1	11.0	9.4	10.9	+1.4
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
% saying most or all	18	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	1.0	1.9	1.7	-0.3
	19–22	0.1	0.3	0.7	0.7	0.4	*	0.1	0.3	0.3	0.3	*	0.7	0.6	0.4	0.7	0.5	0.4	*	*	0.0
	23–26	0.1	0.3	0.2	0.1	*	0.1	0.3	0.3	*	*	0.7	*	0.1	0.1	0.3	0.1	*	0.9	0.4	-0.5
	27–30	*	*	*	0.3	*	*	0.1	*	*	*	0.3	*	*	*	*	*	0.2	*	0.4	+0.4
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate	18	*2,060*	1,838	1,923	1,968	2,233	2,271	2,266	2,266	2,253	2,125	2,110	2,195	2,208	2,144	1,973	1,920	2,055	1,795	1,955	
Weighted N =	19–22	*426*	402	402	375	388	443	395	377	362	375	382	376	353	348	340	315	297	251	269	
	23–26	*414*	387	403	358	362	411	361	336	340	355	311	359	314	330	328	305	305	272	268	
	27–30	*424*	363	359	348	369	396	363	350	324	332	309	340	325	333	284	307	260	287	287	
	35	*1,071*	1,033	1,005	918	968	985	1,041	953	884	905	974	922	858	877	848	776	741	740	731	
	40	*1,156*	1,144	1,119	1,083	945	1,004	975	951	896	924	905	952	877	852	844	919	808	782	819	
	45					976	1,074	1,052	1,009	999	904	937	889	887	874	844	825	889	812	773	
	50										940	1,009	1,016	974	987	840	891	830	845	793	
	50															880	943	933	926	941	

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

Notes. Level of significance of difference between the two most recent years: 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. ' — ' indicates data not available. ' * ' indicates a prevalence rate of less than 0.05%.

[a]Answer alternatives were: (1) None, (2) A few, (3) Some, (4) Most, (5) All. The any percentage combines categories (2)–(5). The most or all percentage combines categories (4) and (5).

[b]For the young adult sample, any illicit drug includes all of the drugs listed in this table except cigarettes and alcohol. For the 35-, 40-, 45-, and 50-year-olds, any illicit drug includes marijuana, tranquilizers, crack, cocaine powder, and other illicit drugs.

[c]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.

[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 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.

[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.

[w]No data reported in 2015 due to a printing error in the questionnaire in which this question is asked.

TABLE 7-3
Trends in Exposure to Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. 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"?	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997
		Percentage saying exposed to drug [a]																	(Years Cont.) →
Any illicit drug [b]																			
% saying any	18	84.3	82.7	81.4	79.4	77.9	77.7	75.5	73.9	71.3	68.6	67.6	64.2	61.3	66.1	70.8	75.3	78.0	78.8
	19–22	80.6	81.0	81.5	76.5	76.3	77.4	74.6	72.7	69.5	61.5	60.8	58.9	58.6	58.4	60.7	66.4	67.2	65.3
	23–26	—	—	—	—	68.9	70.2	68.0	62.4	62.7	58.3	54.6	52.1	48.2	49.9	47.1	54.2	50.3	55.4
	27–30	—	—	—	—	—	—	—	—	52.4	50.2	47.0	39.6	41.7	38.9	45.6	42.4	44.9	41.6
% saying often exposed	18	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	32.3	33.8	34.7
	19–22	34.6	34.0	32.1	24.4	24.4	23.7	21.1	18.9	19.9	16.2	16.4	17.6	21.4	16.1	18.1	23.7	20.4	25.3
	23–26	—	—	—	—	20.7	23.3	18.5	17.4	18.2	13.8	13.7	13.3	12.2	11.1	11.1	12.5	12.8	14.3
	27–30	—	—	—	—	—	—	—	—	13.7	12.0	10.8	8.2	10.5	9.0	12.5	8.5	10.1	10.3
Any illicit drug other than marijuana [b]																			
% saying any	18	58.5	62.6	62.5	59.4	59.8	59.3	55.3	51.7	47.8	47.1	45.4	40.0	41.6	42.6	45.3	47.2	49.7	47.9
	19–22	56.9	58.4	61.6	54.9	57.1	53.3	53.4	48.5	46.4	36.5	39.4	33.8	37.1	29.4	33.9	36.8	36.5	39.4
	23–26	—	—	—	—	51.5	51.9	51.5	43.6	42.9	36.8	34.0	30.0	27.3	27.8	24.9	26.8	23.2	25.6
	27–30	—	—	—	—	—	—	—	—	35.8	33.7	31.5	25.8	26.6	24.2	25.8	21.1	21.8	21.4
% saying often exposed	18	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	11.1	12.1	11.7
	19–22	11.8	15.6	13.5	11.1	10.7	10.2	8.2	8.1	7.5	6.7	4.5	4.4	5.5	4.1	5.1	7.7	3.9	7.6
	23–26	—	—	—	—	9.0	10.4	9.3	8.5	6.7	5.0	5.1	3.5	2.6	3.0	2.2	3.5	3.4	3.1
	27–30	—	—	—	—	—	—	—	—	6.0	4.7	4.1	3.2	3.7	2.4	3.4	2.9	3.4	3.2
Marijuana																			
% saying any	18	82.0	80.2	77.9	76.2	74.4	73.5	72.0	70.4	67.0	64.8	63.4	59.6	56.8	61.0	67.2	72.7	75.6	76.8
	19–22	79.8	79.8	78.7	72.7	74.1	75.5	72.4	70.5	66.3	59.3	57.5	55.0	56.4	55.4	56.8	64.0	64.8	63.4
	23–26	—	—	—	—	65.3	66.0	64.1	59.0	57.6	55.0	50.6	47.9	44.6	45.9	44.4	51.0	47.8	53.1
	27–30	—	—	—	—	—	—	—	—	49.1	47.4	42.1	36.0	38.2	35.3	41.9	38.3	41.8	39.1
% saying often exposed	18	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	30.7	31.8	32.9
	19–22	32.6	30.5	30.3	21.1	21.9	20.3	18.6	16.4	18.3	14.2	14.7	15.9	19.9	14.7	17.0	22.1	20.3	23.7
	23–26	—	—	—	—	17.5	20.6	14.6	14.8	15.6	11.6	11.2	11.6	10.9	10.4	10.4	11.1	11.5	12.9
	27–30	—	—	—	—	—	—	—	—	10.9	9.8	8.5	6.7	8.9	7.6	10.7	7.4	9.1	8.9
LSD																			
% saying any	18	17.2	17.4	16.1	13.8	12.5	13.2	13.1	12.9	13.4	15.0	14.9	15.7	17.8	21.0	24.2	26.1	27.6	25.9
	19–22	17.4	15.8	16.0	13.5	12.8	12.7	10.8	10.9	12.0	12.0	12.1	13.1	19.3	13.4	16.5	18.6	20.7	22.3
	23–26	—	—	—	—	8.3	9.3	8.8	7.3	6.3	6.7	8.4	8.6	8.8	7.8	8.4	9.9	8.6	7.6
	27–30	—	—	—	—	—	—	—	—	3.6	3.2	3.3	3.6	3.9	4.9	5.3	5.5	4.3	3.9
% saying often exposed	18	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	6.1	4.7	5.1
	19–22	1.4	1.5	1.4	0.6	0.8	0.7	0.5	1.2	0.6	1.1	1.2	1.0	2.0	1.1	0.4	3.6	1.4	1.8
	23–26	—	—	—	—	0.3	0.4	0.4	0.7	0.6	0.3	0.5	0.2	0.8	0.3	0.5	0.5	0.4	0.2
	27–30	—	—	—	—	—	—	—	—	0.3	0.2	0.5	0.2	0.2	0.5	0.5	0.2	0.2	*
Other hallucinogens [c]																			
% saying any	18	20.4	17.6	16.8	13.1	12.7	12.5	11.8	10.0	9.0	8.8	9.4	9.4	9.7	12.1	14.0	15.8	16.6	17.8
	19–22	18.3	16.3	16.3	12.5	10.5	11.0	9.2	9.1	7.7	8.4	8.3	8.9	10.6	6.7	8.3	12.8	13.1	15.0
	23–26	—	—	—	—	8.4	8.9	9.1	6.0	5.1	4.8	5.7	5.5	5.1	5.7	5.2	5.5	6.9	5.6
	27–30	—	—	—	—	—	—	—	—	5.0	3.4	3.4	3.4	2.1	3.7	3.4	4.2	3.2	2.9
% saying often exposed	18	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	2.5	2.7	2.8
	19–22	1.1	0.9	0.9	0.7	0.8	0.8	0.2	0.8	0.3	0.4	0.4	0.5	0.7	0.4	0.2	1.6	0.7	0.7
	23–26	—	—	—	—	0.1	0.3	0.5	0.6	0.8	0.1	0.4	0.4	*	0.2	0.4	0.3	0.3	0.2
	27–30	—	—	—	—	—	—	—	—	0.2	0.4	0.5	0.3	0.1	0.5	0.2	0.3	0.2	0.5

(Table continued on next page.)

TABLE 7-3 (cont.)
Trends in Exposure to Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. 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"?

Percentage saying exposed to drug [a]

	Age Group	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Any illicit drug [b]																						
% saying any	18	77.2	77.9	76.0	76.5	76.5	73.6	74.3	73.0	73.7	70.8	71.9	74.1	76.0	76.6	76.4	75.4	75.2	75.4	75.1	74.8	-0.2
	19–22	69.1	65.8	64.7	69.7	65.7	68.0	67.6	68.8	67.1	67.4	66.2	69.8	66.0	68.3	70.4	72.1	73.6	72.5	73.1	72.3	-0.8
	23–26	50.6	50.5	55.1	56.4	56.5	57.0	53.5	53.9	56.7	58.3	56.3	57.7	56.3	62.6	67.0	65.2	65.1	68.2	68.9	73.9	+5.1
	27–30	37.5	41.1	40.8	42.2	47.0	46.7	43.3	45.7	48.4	44.1	48.7	42.5	49.3	51.6	58.9	57.2	57.1	56.7	58.6	69.0	+10.3 s
% saying often exposed	18	33.2	35.6	32.6	33.6	32.6	31.8	30.4	29.9	29.7	27.8	28.6	31.4	33.2	34.6	34.9	32.3	31.3	32.5	33.1	32.8	-0.3
	19–22	24.2	24.0	21.3	26.1	25.2	26.5	26.8	25.2	24.2	22.8	20.1	23.7	26.5	24.8	27.3	24.6	29.8	26.2	32.1	28.0	-4.1
	23–26	14.2	15.0	15.9	16.4	15.9	17.8	15.1	18.7	14.9	18.9	15.4	14.9	18.8	19.4	21.2	20.8	20.1	23.2	23.3	22.9	-0.4
	27–30	8.5	9.6	9.4	10.4	13.8	13.9	10.3	14.5	13.2	9.7	9.7	12.1	13.2	13.6	15.7	18.5	16.1	18.9	19.8	21.1	+1.4
Any illicit drug other than marijuana [b]																						
% saying any	18	47.3	46.5	47.2	49.9	49.3	46.3	48.3	45.9	45.4	45.4	43.8	44.3	47.2	46.6	45.0	44.2	41.0	44.3	43.8	41.7	-2.1
	19–22	40.0	36.4	38.1	39.2	38.0	40.2	40.9	41.1	38.5	42.7	38.2	37.1	38.5	38.5	41.8	38.9	44.0	42.3	49.3	44.2	-5.1
	23–26	27.1	28.0	31.0	31.4	31.5	32.2	32.6	32.3	34.5	33.1	31.3	33.0	34.8	39.9	37.8	37.4	33.9	38.6	38.5	39.4	+0.9
	27–30	15.4	19.5	17.2	22.2	23.1	26.1	23.2	27.1	27.4	24.8	27.7	22.8	29.3	33.4	35.2	34.4	30.1	35.9	31.6	37.1	+5.5
% saying often exposed	18	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	9.2	10.3	10.7	+0.5
	19–22	7.0	4.8	6.4	7.8	8.6	5.2	7.9	8.0	6.7	6.9	6.6	6.8	6.6	6.9	10.1	8.1	9.4	7.0	9.6	7.5	-2.1
	23–26	3.1	4.3	3.5	3.4	5.0	5.4	5.4	4.0	5.4	6.7	5.4	3.8	6.4	6.3	7.6	5.8	7.0	5.8	8.1	6.6	-1.5
	27–30	1.0	2.5	1.6	3.7	4.7	4.9	2.4	5.6	4.0	3.4	2.3	3.0	4.8	4.2	4.5	4.8	4.9	6.6	6.0	4.4	-1.6
Marijuana																						
% saying any	18	75.5	75.8	73.8	74.9	74.2	71.4	72.2	70.8	71.4	68.4	69.8	71.8	74.2	74.6	75.1	73.7	73.4	73.2	73.1	73.5	+0.4
	19–22	67.1	63.5	63.9	68.0	64.6	64.8	65.1	66.8	65.4	66.3	64.3	67.5	64.9	65.7	67.6	69.0	71.1	70.3	71.9	70.6	-1.4
	23–26	48.8	48.1	51.8	54.2	53.5	54.4	50.6	49.7	51.9	53.3	54.0	55.5	54.0	57.9	63.9	63.4	61.1	63.6	66.7	70.9	+4.2
	27–30	35.7	38.7	38.8	37.0	44.6	44.1	40.4	42.4	44.1	40.7	44.8	39.8	43.5	46.1	56.0	52.3	54.4	53.3	58.1	67.4	+9.3 s
% saying often exposed	18	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	30.5	31.2	30.4	-0.8
	19–22	22.8	23.0	20.4	24.5	24.8	24.2	24.5	23.6	23.1	20.1	18.3	22.6	25.2	22.9	24.2	22.6	28.2	25.7	30.1	26.7	-3.4
	23–26	13.6	13.2	15.2	15.6	14.9	16.2	13.7	17.8	12.5	16.2	13.7	13.5	17.0	18.0	19.7	18.3	18.8	21.2	21.5	21.0	-0.5
	27–30	8.1	8.8	8.6	8.4	11.7	11.7	9.6	12.2	11.5	8.2	8.5	12.3	10.8	10.9	13.9	16.0	14.7	16.5	17.7	20.4	+2.6
LSD																						
% saying any	18	23.1	23.6	22.0	21.6	17.2	14.2	12.4	10.8	11.6	12.4	12.1	11.9	14.1	13.5	13.0	13.8	12.9	15.7	15.5	17.4	+1.9
	19–22	21.0	20.1	15.9	15.2	13.6	10.0	8.5	7.2	10.4	6.3	9.2	9.1	9.7	10.1	12.2	10.0	13.1	13.4	19.3	15.5	-3.8
	23–26	9.8	9.4	9.8	11.1	9.3	5.5	4.4	4.7	5.6	4.5	4.8	3.7	5.7	8.9	9.6	8.3	7.6	6.1	10.3	11.4	+1.2
	27–30	3.2	3.7	3.2	4.3	4.8	3.0	4.7	4.0	3.4	3.9	1.7	3.8	4.2	4.1	4.2	4.7	4.6	7.7	6.2	9.8	+3.5
% saying often exposed	18	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	1.9	2.1	2.4	+0.3
	19–22	2.0	1.7	1.4	2.4	0.9	0.2	0.1	0.7	0.7	0.3	0.7	0.3	0.1	0.2	0.6	0.9	0.4	0.9	1.0	0.7	-0.3
	23–26	0.1	0.3	0.2	*	0.3	0.3	*	0.3	*	0.5	0.6	*	0.6	0.3	1.4	0.1	0.8	0.1	0.8	0.2	-0.6
	27–30	*	0.1	*	*	*	0.3	0.3	0.6	*	0.1	*	0.3	0.5	0.5	0.6	1.0	0.3	0.9	0.2	0.6	+0.4
Other hallucinogens [c]																						
% saying any	18	15.9	17.7	16.3	28.1	26.4	25.8	24.8	24.3	23.8	23.5	23.6	22.0	25.0	23.8	22.7	22.3	19.8	20.4	18.6	17.5	-1.1
	19–22	15.0	12.4	11.8	22.8	23.4	18.9	18.7	19.5	17.8	20.2	17.5	17.5	19.6	17.5	17.0	14.6	19.1	17.1	18.7	13.1	-5.6
	23–26	8.7	5.8	8.9	14.8	14.7	11.9	10.1	11.3	10.3	9.8	9.8	9.9	12.5	13.8	13.6	14.6	10.3	11.8	11.4	12.2	+0.8
	27–30	2.6	3.0	3.0	6.4	7.7	6.3	7.9	8.8	7.8	6.8	5.2	7.5	5.0	8.1	7.8	7.2	8.3	12.0	5.9	13.4	+7.5 ss
% saying often exposed	18	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	1.9	2.4	2.5	+0.1
	19–22	0.5	0.6	0.8	2.6	2.4	0.4	0.7	1.2	0.7	0.7	0.9	0.9	1.1	1.3	0.8	*	0.9	0.6	0.6	1.1	+0.5
	23–26	*	*	0.4	0.2	0.4	*	*	0.5	*	0.6	0.7	0.1	0.7	0.3	1.1	0.3	1.1	*	0.8	0.2	-0.6
	27–30	*	0.1	*	0.4	*	*	0.3	0.6	*	0.4	0.3	0.3	0.7	0.5	0.8	0.9	0.9	1.2	0.2	0.6	+0.4

↓

(List of drugs continued.)

TABLE 7-3 (cont.)
Trends in Exposure to Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. 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"?	Age Group	Percentage saying exposed to drug [a] 1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	→ (Years Cont.)
Cocaine																				
% saying any	18	37.7	36.3	34.9	33.3	35.6	38.3	37.4	34.9	30.2	30.2	27.7	21.3	19.8	19.2	18.8	21.6	25.0	25.6	
	19–22	37.6	42.3	43.6	36.6	38.9	39.4	41.5	37.0	36.2	26.6	24.0	18.5	19.8	13.5	14.7	14.1	19.3	18.8	
	23–26	—	—	—	—	38.5	40.6	42.0	34.5	35.9	28.0	24.0	19.9	16.7	14.6	14.3	14.1	12.5	14.0	
	27–30	—	—	—	—	—	—	—	—	28.9	28.3	24.2	18.6	19.4	16.6	14.3	11.4	12.1	11.4	
% saying often exposed	18	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	3.2	4.0	4.2	
	19–22	5.8	7.6	6.5	4.3	6.5	7.0	5.4	5.2	4.8	4.3	2.2	1.6	1.7	1.7	1.8	1.7	1.2	2.4	
	23–26	—	—	—	—	5.3	8.5	7.0	6.0	5.4	3.5	2.5	1.7	1.4	1.7	1.0	1.7	1.3	1.8	
	27–30	—	—	—	—	—	—	—	—	4.4	3.9	2.9	2.2	2.0	1.2	1.5	1.4	1.9	1.6	
Heroin																				
% saying any	18	7.4	6.6	7.1	5.1	6.0	5.5	6.0	5.8	5.7	6.5	5.4	5.1	5.4	5.7	7.3	7.9	8.6	9.1	
	19–22	4.4	3.3	4.1	2.9	3.1	4.8	2.9	2.9	2.9	2.9	2.5	3.0	2.7	2.0	3.7	3.8	3.6	3.7	
	23–26	—	—	—	—	2.3	3.3	3.2	2.9	1.7	2.3	2.3	1.8	1.7	1.5	1.9	2.8	2.9	2.7	
	27–30	—	—	—	—	—	—	—	—	2.1	1.4	1.5	0.9	1.0	2.0	2.0	1.7	1.5	1.3	
% saying often exposed	18	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	1.2	1.6	1.2	
	19–22	0.2	0.3	0.3	0.1	0.2	0.5	0.2	0.1	0.2	0.1	0.2	0.4	0.6	0.4	0.6	1.2	0.2	0.4	
	23–26	—	—	—	—	*	0.7	0.3	0.6	0.4	0.3	0.6	0.3	*	*	*	0.2	0.2	0.3	
	27–30	—	—	—	—	—	—	—	—	0.3	0.3	0.5	0.2	0.2	0.9	0.3	0.6	0.6	*	
Other narcotics [d]																				
% saying any	18	19.6	17.5	18.5	17.3	18.0	18.4	15.6	14.4	14.8	13.8	14.2	11.3	11.1	12.4	14.9	15.5	18.5	20.4	
	19–22	14.4	14.4	15.2	10.9	12.4	13.7	9.8	12.2	11.2	9.0	9.4	9.2	8.5	6.8	10.1	12.1	11.5	14.5	
	23–26	—	—	—	—	9.0	12.3	9.2	9.7	7.4	8.0	5.9	8.3	7.0	4.6	6.9	7.8	7.4	6.5	
	27–30	—	—	—	—	—	—	—	—	6.5	6.5	5.8	5.5	3.7	5.6	5.9	5.7	4.7	4.9	
% saying often exposed	18	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	2.1	3.4	2.5	
	19–22	0.7	0.5	0.5	0.9	0.7	1.0	0.5	0.4	0.9	0.3	0.2	1.0	0.9	0.6	0.8	1.4	0.7	1.5	
	23–26	—	—	—	—	0.4	0.5	1.3	0.8	0.8	0.5	1.6	0.7	0.1	0.3	0.1	0.1	0.3	0.7	
	27–30	—	—	—	—	—	—	—	—	0.7	0.5	1.0	0.3	0.8	1.2	0.8	0.8	0.7	0.5	
Amphetamines																				
% saying any	18	40.8	49.5	50.2	46.1	45.0	41.0	36.5	31.7	27.9	27.4	28.3	23.6	24.5	24.7	28.2	28.1	31.5	31.0	
	19–22	42.3	48.6	48.4	39.7	41.3	35.9	31.3	26.7	21.2	18.5	19.5	17.4	21.3	15.1	20.3	21.0	22.3	24.6	
	23–26	—	—	—	—	32.3	30.5	29.1	20.9	18.8	14.0	16.8	14.6	11.8	13.2	11.2	13.0	11.1	11.7	
	27–30	—	—	—	—	—	—	—	—	15.6	14.3	13.5	10.7	11.4	11.3	11.0	10.6	7.6	9.1	
% saying often exposed	18	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	4.5	5.6	5.2	
	19–22	7.4	9.9	7.7	6.9	5.4	4.4	3.1	3.3	2.2	1.5	1.1	1.9	2.6	1.5	3.3	5.0	1.3	4.1	
	23–26	—	—	—	—	3.9	3.2	2.2	3.3	1.9	0.7	2.0	1.3	0.2	0.8	0.9	1.6	1.3	1.4	
	27–30	—	—	—	—	—	—	—	—	2.0	2.0	1.2	0.8	0.8	1.3	0.7	1.6	1.8	1.0	

(Table continued on next page.)

TABLE 7-3 (cont.)
Trends in Exposure to Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. 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"?	Age Group	Percentage saying exposed to drug [a] 1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Cocaine																						
% saying any	18	26.6	25.8	24.2	24.5	24.9	24.8	24.4	25.7	28.2	25.2	24.1	20.0	20.0	19.3	17.4	16.7	17.6	18.0	18.2	17.6	-0.7
	19–22	21.6	18.5	19.1	20.6	22.5	18.4	23.6	22.7	22.9	22.5	22.7	18.6	17.8	15.5	18.9	11.5	17.6	18.0	28.7	18.6	-10.1 ss
	23–26	16.0	18.2	16.4	16.9	18.3	17.4	18.7	19.2	19.3	19.0	18.2	15.3	14.7	20.5	17.2	14.4	15.6	15.7	20.0	20.0	-0.1
	27–30	8.6	11.6	10.2	11.6	12.2	12.6	13.0	15.8	16.0	14.1	14.8	13.2	11.4	13.1	14.2	15.0	12.1	17.8	15.4	19.3	+3.8
% saying often exposed	18	3.7	4.6	4.6	4.5	5.3	5.0	4.7	4.2	5.3	4.6	3.6	2.6	2.1	2.3	2.8	2.1	2.2	2.3	3.0	3.0	0.0
	19–22	3.2	1.4	3.8	3.0	4.1	1.6	2.6	4.0	2.6	1.8	2.6	2.6	0.7	1.2	3.2	1.7	2.4	1.2	1.8	1.5	-0.2
	23–26	1.5	2.2	1.8	1.0	2.5	1.9	2.9	1.8	2.0	3.2	1.0	1.0	1.2	1.4	2.0	1.0	2.1	0.8	3.4	3.2	-0.1
	27–30	0.8	1.5	0.3	1.6	2.4	1.7	0.7	2.4	0.8	0.7	1.4	0.8	0.1	1.4	0.8	1.6	1.8	2.0	2.2	1.9	-0.3
Heroin																						
% saying any	18	8.7	8.1	9.1	8.7	8.3	7.3	6.6	7.3	9.0	8.6	6.8	7.3	8.3	6.4	6.0	6.6	5.2	5.6	5.3	6.4	+1.0
	19–22	6.4	3.2	5.2	3.2	5.3	3.4	3.0	3.2	3.7	3.3	4.8	4.3	3.2	4.0	3.6	3.4	3.6	3.2	2.9	4.4	+1.5
	23–26	3.1	2.9	2.6	2.4	3.8	2.0	3.1	2.6	3.5	3.6	1.8	1.8	4.1	4.8	2.4	2.3	2.4	3.9	5.1	5.2	+0.1
	27–30	1.4	1.9	1.9	2.3	2.7	1.3	3.2	2.9	2.3	3.0	2.2	1.9	1.5	3.5	3.0	3.9	5.3	2.6	3.4	5.5	+2.1
% saying often exposed	18	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	1.2	0.9	1.1	+0.2
	19–22	0.7	0.8	0.7	0.8	0.6	0.2	*	0.8	0.1	*	0.6	*	0.4	0.7	1.0	1.0	0.9	*	*	0.5	+0.5
	23–26	0.5	1.0	*	*	0.8	0.5	0.5	0.3	0.6	0.3	*	*	1.2	0.3	0.2	*	0.3	1.1	0.8	0.6	-0.2
	27–30	*	0.2	*	*	0.7	0.3	*	0.4	0.3	0.4	0.3	0.6	*	1.2	0.7	1.3	0.5	1.0	0.9	1.0	0.0
Other narcotics [d]																						
% saying any	18	20.7	21.9	21.1	21.6	22.5	21.8	20.3	19.0	18.9	18.9	16.3	16.3	30.3	27.5	27.1	22.9	20.9	21.0	21.0	19.9	-1.1
	19–22	15.3	13.9	17.0	18.3	18.7	13.6	14.5	16.8	15.3	12.5	13.2	14.2	27.5	23.7	25.2	19.5	21.3	17.8	19.9	15.3	-4.6
	23–26	8.1	9.4	10.9	12.2	12.0	12.6	12.6	12.4	13.0	14.4	11.2	13.2	25.9	25.3	24.1	22.5	17.8	19.6	20.4	16.7	-3.7
	27–30	3.6	5.2	6.5	9.0	7.9	9.5	8.8	11.6	10.6	9.2	9.1	9.7	23.4	22.7	23.6	24.5	19.4	19.1	14.8	22.8	+8.0 s
% saying often exposed	18	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	2.8	3.8	3.4	-0.4
	19–22	1.7	1.1	2.4	1.6	3.0	1.2	0.8	2.4	1.9	1.7	1.9	1.6	3.3	2.1	1.6	2.2	2.0	1.7	0.4	0.7	+0.3
	23–26	0.5	1.1	0.7	1.0	0.9	1.6	1.4	1.3	1.1	1.8	1.0	1.3	4.4	2.5	3.6	1.5	2.3	2.0	4.0	1.6	-2.4
	27–30	*	0.2	1.1	1.0	0.7	1.2	0.1	1.7	0.7	0.8	0.4	1.4	3.0	3.1	2.3	3.1	2.6	2.3	2.6	1.4	-1.1
Amphetamines [e]																						
% saying any	18	29.9	30.1	29.5	31.5	30.6	27.4	27.2	26.4	26.6	23.8	23.3	23.8	23.6	28.0	26.2	25.4	23.7	25.7	24.3	22.4	-1.9
	19–22	24.8	21.2	24.8	23.3	25.5	21.6	23.7	22.2	22.7	22.8	17.6	18.0	19.4	26.0	27.4	26.2	30.4	30.3	34.2	26.3	-7.9
	23–26	14.6	12.3	18.5	18.2	17.9	15.4	18.8	15.6	18.7	16.6	13.7	15.3	15.8	24.2	23.1	21.4	22.0	23.5	25.8	23.0	-2.9
	27–30	6.6	10.4	7.4	11.1	11.5	12.2	11.4	12.2	14.1	10.0	10.3	10.3	12.6	16.4	19.0	19.1	17.7	23.1	19.9	20.3	+0.4
% saying often exposed	18	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	5.2	5.0	5.0	0.0
	19–22	2.9	2.2	2.4	2.6	5.6	1.7	4.1	3.1	2.9	2.3	2.1	3.0	3.9	3.3	5.5	3.7	6.8	5.4	8.2	4.9	-3.3
	23–26	2.2	1.7	1.4	2.2	0.7	1.3	1.7	1.6	2.6	1.6	1.8	1.1	1.6	3.1	4.1	3.2	3.6	2.3	3.6	3.0	-0.5
	27–30	0.2	1.1	0.4	0.6	1.5	1.0	1.2	1.0	0.8	1.1	0.3	0.7	0.6	1.7	3.0	2.7	2.0	3.5	2.7	1.8	-0.9

↓ (List of drugs continued.)

TABLE 7-3 (cont.)
Trends in Exposure to Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. 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"?	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	(Years Cont.) →
		Percentage saying exposed to drug [a]																		
Sedatives/barbiturates [e]																				
% saying any	18	25.2	25.9	25.7	22.5	21.2	18.9	15.8	13.1	12.4	11.8	13.3	10.0	10.2	11.9	13.0	14.5	15.5	16.1	
	19–22	25.6	23.1	21.8	18.3	15.7	14.7	12.8	12.0	8.2	8.3	6.5	7.9	7.3	7.2	7.4	10.1	8.8	11.7	
	23–26	—	—	—	—	16.1	13.1	11.0	7.1	7.1	6.6	6.9	5.9	6.5	3.8	4.2	5.7	6.6	4.9	
	27–30	—	—	—	—	—	—	—	—	8.0	6.8	5.9	5.4	5.2	5.7	4.5	5.2	3.5	3.8	
% saying often exposed	18	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	2.0	2.9	2.5	
	19–22	2.5	2.8	1.1	1.4	0.7	1.3	0.5	0.7	0.7	0.3	0.7	0.4	0.7	0.7	1.3	1.3	0.4	0.9	
	23–26	—	—	—	—	0.7	0.9	1.7	0.8	0.6	0.3	1.1	0.3	0.3	*	*	0.2	0.3	0.8	
	27–30	—	—	—	—	—	—	—	—	0.7	0.4	0.6	0.2	0.4	1.2	0.2	0.6	0.5	0.2	
Tranquilizers [f]																				
% saying any	18	29.1	29.0	26.6	23.5	23.1	23.4	19.6	18.4	18.2	15.1	16.3	14.2	12.7	13.8	16.5	15.7	17.9	18.9	
	19–22	29.6	26.9	28.5	19.5	21.2	19.5	16.4	18.5	13.8	12.0	12.7	12.6	11.0	10.0	12.0	11.8	10.7	15.6	
	23–26	—	—	—	—	23.1	21.0	16.9	15.9	13.4	12.9	12.0	10.4	9.7	10.9	9.8	10.3	10.1	9.4	
	27–30	—	—	—	—	—	—	—	—	15.0	11.6	11.1	9.7	10.3	10.4	9.0	11.2	9.6	9.6	
% saying often exposed	18	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	2.3	3.5	3.2	
	19–22	3.2	2.6	1.8	2.1	1.5	1.7	0.9	1.1	1.8	1.0	1.1	1.1	1.5	1.1	1.3	1.5	0.5	1.3	
	23–26	—	—	—	—	2.0	1.6	2.6	1.8	1.2	0.8	0.5	1.0	0.6	0.7	0.1	1.1	1.5	0.7	
	27–30	—	—	—	—	—	—	—	—	1.4	0.3	1.7	0.8	1.3	1.3	1.0	1.1	0.8	1.2	
Alcoholic beverages																				
% saying any	18	94.7	94.0	94.0	94.0	94.0	94.0	94.1	93.9	93.1	92.3	93.6	91.7	90.6	91.8	90.0	91.2	91.5	91.4	
	19–22	94.3	93.8	94.5	93.4	94.2	92.7	93.6	94.4	92.5	91.8	92.4	94.0	93.3	92.9	93.7	93.1	93.7	93.1	
	23–26	—	—	—	—	90.3	92.7	91.4	90.6	91.1	92.9	91.3	91.0	91.4	90.3	89.5	91.9	89.6	93.1	
	27–30	—	—	—	—	—	—	—	—	87.1	88.4	86.2	87.7	87.3	86.6	86.2	89.3	89.2	86.4	
% saying often exposed	18	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	54.0	54.5	53.9	
	19–22	59.6	61.2	62.5	56.6	59.3	61.8	59.9	61.4	55.4	53.8	56.0	53.9	56.1	56.8	57.0	56.3	52.3	54.2	
	23–26	—	—	—	—	52.1	54.8	51.4	53.0	48.1	50.9	49.7	48.4	45.4	45.4	43.3	47.5	44.8	49.8	
	27–30	—	—	—	—	—	—	—	—	39.9	39.5	38.7	38.0	39.9	38.1	39.3	38.0	34.7	37.1	
Approximate	18	*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*	*2,608*	*2,407*	*2,595*	
Weighted N =	19–22	*582*	*574*	*601*	*569*	*578*	*549*	*591*	*582*	*556*	*567*	*567*	*532*	*528*	*489*	*460*	*464*	*485*	*471*	
	23–26					*533*	*532*	*557*	*529*	*531*	*514*	*523*	*494*	*532*	*513*	*471*	*467*	*447*	*424*	
	27–30									*522*	*507*	*506*	*478*	*502*	*457*	*425*	*452*	*432*	*455*	

(Table continued on next page.)

TABLE 7-3 (cont.)
Trends in Exposure to Drug Use
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

Q. 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"?	Age Group	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
		Percentage saying exposed to drug [a]																				
Sedatives/barbiturates [f]																						
% saying any	18	16.1	17.1	16.3	17.1	17.7	14.8	21.5	20.4	21.3	18.8	16.7	17.6	18.8	16.2	16.0	15.0	13.4	13.5	12.8	11.2	-1.6
	19–22	13.4	11.6	13.1	13.1	16.0	11.9	17.2	17.8	16.0	16.1	15.2	17.3	16.1	12.2	14.8	10.7	14.2	13.1	16.9	9.3	-7.6 s
	23–26	8.5	7.1	9.3	9.0	9.8	7.9	15.9	12.5	14.8	13.1	12.4	12.7	13.4	15.2	14.9	10.6	11.9	11.5	13.3	12.1	-1.3
	27–30	2.7	4.1	2.9	5.3	6.0	6.1	9.2	12.4	11.9	10.3	10.1	9.9	11.6	10.4	11.7	10.1	11.8	12.1	10.5	13.1	+2.6
% saying often exposed	18	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	1.8	2.5	2.3	-0.3
	19–22	1.4	0.9	1.6	1.2	1.8	0.8	1.7	2.1	2.5	1.4	2.2	1.9	0.9	1.2	1.7	1.0	1.5	1.9	1.5	0.9	-0.6
	23–26	0.5	0.9	0.7	0.2	0.3	0.4	0.7	1.1	1.1	1.6	1.7	0.7	1.0	1.0	1.5	0.8	1.3	0.5	1.4	0.8	-0.6
	27–30	*	0.6	0.2	0.9	0.4	0.6	0.4	1.7	0.7	1.3	0.4	1.7	0.9	1.3	1.1	2.0	0.6	1.4	0.2	1.4	+1.2
Tranquilizers [g]																						
% saying any	18	17.3	18.2	17.7	23.8	22.7	21.0	22.1	20.9	21.8	19.3	19.9	20.0	18.2	17.0	17.6	16.4	16.0	19.7	22.2	22.6	+0.4
	19–22	16.9	14.3	18.5	21.3	23.6	20.0	21.9	20.6	23.1	21.4	20.0	19.6	18.1	16.6	19.0	13.3	18.3	16.8	24.4	18.1	-6.3
	23–26	10.9	10.8	12.3	16.4	20.1	18.7	19.9	20.1	19.9	18.8	18.4	17.5	21.4	19.6	21.0	19.5	15.5	17.9	19.3	18.0	-1.3
	27–30	6.1	8.8	7.6	12.6	13.6	15.3	14.6	18.1	19.2	16.7	16.8	13.5	18.6	16.5	19.5	17.5	16.3	17.4	13.8	23.5	+9.7 ss
% saying often exposed	18	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	2.6	4.6	4.7	+0.1
	19–22	1.6	1.5	1.7	3.1	3.6	2.3	2.7	2.7	3.2	3.0	3.2	2.1	1.7	2.9	2.0	1.7	2.3	2.0	2.7	1.8	-0.9
	23–26	1.1	1.5	1.7	1.3	2.1	1.6	2.0	1.3	2.6	2.4	3.6	1.5	3.2	2.6	2.5	1.6	1.8	1.2	1.9	3.1	+1.2
	27–30	0.2	0.9	0.4	1.6	1.6	1.9	0.8	3.5	2.9	2.6	1.0	2.0	1.7	2.0	2.3	1.8	1.9	3.6	2.0	1.9	0.0
Alcoholic beverages																						
% saying any	18	92.2	91.8	90.7	90.8	89.5	88.3	87.6	87.4	87.6	86.5	85.7	86.5	85.2	85.0	85.3	84.8	82.1	80.5	80.4	78.9	-1.5
	19–22	91.8	91.0	93.3	94.3	93.7	93.6	92.5	92.7	92.0	91.8	90.5	91.2	86.5	87.5	85.8	82.8	89.7	85.5	86.9	81.6	-5.3
	23–26	89.1	91.5	92.1	90.1	91.9	91.8	92.2	90.0	94.0	94.5	92.0	93.0	91.1	94.2	88.7	88.7	82.7	87.2	86.9	90.2	+3.3
	27–30	88.4	88.7	89.8	91.2	89.0	90.0	85.3	92.2	91.8	89.6	94.4	91.0	91.2	92.5	90.5	88.8	85.6	89.3	85.3	83.6	-1.7
% saying often exposed	18	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	38.0	37.4	35.4	-2.0
	19–22	57.9	54.7	54.3	53.4	54.9	55.7	54.3	58.9	55.0	60.7	53.9	53.4	48.5	46.0	50.6	45.3	49.5	51.1	53.2	43.2	-9.9 s
	23–26	44.6	45.7	49.6	48.8	46.3	50.5	48.3	46.4	57.1	54.2	49.6	53.8	51.3	52.5	55.6	49.3	44.4	49.3	47.6	52.3	+4.7
	27–30	36.6	38.3	34.4	40.0	39.6	40.6	36.8	43.6	47.3	44.3	47.8	45.2	43.0	49.3	50.4	48.1	47.7	47.4	48.7	46.5	-2.1
Approximate Weighted N =	18	*2,541*	*2,312*	*2,153*	*2,147*	*2,162*	*2,454*	*2,456*	*2,469*	*2,469*	*2,448*	*2,332*	*2,274*	*2,434*	*2,372*	*2,299*	*2,150*	*2,075*	*2,177*	*2,018*	*2,086*	
	19–22	*445*	*450*	*415*	*412*	*403*	*396*	*432*	*377*	*378*	*333*	*365*	*368*	*364*	*340*	*356*	*281*	*316*	*264*	*251*	*228*	
	23–26	*400*	*398*	*389*	*406*	*345*	*385*	*404*	*374*	*363*	*327*	*333*	*328*	*347*	*308*	*334*	*311*	*308*	*286*	*271*	*237*	
	27–30	*449*	*430*	*395*	*369*	*359*	*347*	*370*	*370*	*330*	*356*	*339*	*324*	*336*	*306*	*312*	*301*	*303*	*263*	*259*	*276*	

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

Notes. Level of significance of difference between the two most recent years: 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. ' — ' indicates data not available. ' * ' indicates a prevalence rate of less than 0.05%.

[a]Answer alternatives were: (1) Not at all, (2) Once or twice, (3) Occasionally, (4) Often. The "any" percentage combines categories (2)–(4).

[b]These estimates were derived from responses to the question for the following drugs: marijuana, LSD, other hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), and tranquilizers.

[c]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.

[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 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.

[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]In 2001 Xanax was added to the list of examples. This change likely explains the discontinuity in the 2001 results.

TABLE 7-4
Trends in Availability of Drugs as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

Q. 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] → (Years Cont.)

	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Marijuana	18	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	88.5	88.7	89.6	90.4
	19–22	95.6	91.1	92.4	89.7	88.3	89.5	87.2	85.9	87.1	87.1	86.2	86.0	87.8	85.6	87.2	87.9	89.3	90.6	89.9
	23–26	—	—	—	—	92.5	88.8	88.8	90.3	86.9	88.7	83.3	82.5	83.8	84.6	87.1	86.2	85.3	84.4	87.5
	27–30	—	—	—	—	—	—	—	—	89.3	86.0	83.1	83.8	80.7	82.8	80.3	83.3	82.6	84.5	82.1
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	75.7	75.6	73.0	77.1	76.0
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	73.4
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amyl & butyl nitrites	18	—	—	—	—	—	—	—	23.9	25.9	26.8	24.4	22.7	25.9	25.9	26.7	26.0	23.9	23.8	25.1
	19–22	—	—	—	—	—	—	—	22.8	26.0	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	23.1	28.0	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	26.7	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LSD	18	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	53.8	51.3	50.7	48.8
	19–22	39.6	38.4	35.1	31.8	32.7	29.6	30.5	29.9	33.9	36.4	36.6	37.8	42.5	44.9	43.7	50.5	50.8	47.7	51.1
	23–26	—	—	—	—	32.7	29.1	30.0	27.5	32.7	32.6	30.2	32.8	33.5	33.4	40.1	41.0	43.6	39.2	40.4
	27–30	—	—	—	—	—	—	—	—	29.4	29.9	32.3	27.0	30.9	30.5	27.2	35.6	33.6	35.2	32.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.8	32.4	28.4	32.9	31.2
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	31.1
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other hallucinogens [b]	18	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	35.8	33.9	33.9	35.1
	19–22	42.1	37.7	33.5	31.0	28.9	28.7	26.3	27.5	28.7	28.1	28.9	26.6	28.3	29.5	28.6	31.5	31.5	33.4	34.1
	23–26	—	—	—	—	31.8	29.6	26.4	25.6	29.6	28.7	27.0	25.7	27.7	25.3	28.3	29.2	32.6	31.0	32.4
	27–30	—	—	—	—	—	—	—	—	28.6	29.6	30.8	24.9	24.8	25.4	24.7	29.3	25.9	28.0	25.2
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PCP	18	—	—	—	—	—	—	—	22.8	24.9	28.9	27.7	27.6	31.7	31.7	31.4	31.0	30.5	30.0	30.7
	19–22	—	—	—	—	—	—	—	21.7	24.6	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	21.2	27.6	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	24.3	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ecstasy (MDMA)	18	—	—	—	—	—	—	—	—	—	21.7	22.0	22.1	24.2	28.1	31.2	34.2	36.9	38.8	38.2
	19–22	—	—	—	—	—	—	—	—	—	—	26.6	24.9	27.1	23.9	27.0	29.3	33.4	35.6	39.4
	23–26	—	—	—	—	—	—	—	—	—	—	21.4	23.1	26.4	24.0	26.0	27.8	28.7	31.1	30.1
	27–30	—	—	—	—	—	—	—	—	—	—	27.1	20.8	22.2	22.8	21.9	27.1	29.3	24.3	26.4
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(Table continued on next page.)

TABLE 7-4 (cont.)
Trends in Availability of Drugs as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Age Group	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
		Percentage saying fairly easy or very easy to get [a]																			
Marijuana	18	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	79.5	81.0	79.8	-1.1
	19–22	87.4	89.6	91.7	88.1	87.7	87.3	88.0	86.8	88.4	87.5	83.0	84.2	82.9	85.4	83.9	85.7	88.7	86.5	90.1	+3.6
	23–26	85.9	88.4	87.0	89.1	87.2	88.8	87.0	86.8	87.6	85.3	89.4	83.3	88.3	87.0	87.4	87.7	87.4	88.5	88.8	+0.2
	27–30	83.0	81.5	84.8	83.6	81.8	86.0	84.6	87.6	87.8	86.4	88.9	84.6	85.6	85.1	86.8	86.4	91.5	86.8	87.0	+0.3
	35	74.9	77.1	75.3	76.5	75.1	75.6	73.8	75.1	75.5	76.4	75.7	75.6	80.4	80.5	80.2	84.4	85.5	84.7	84.9	+0.2
	40	71.7	73.1	70.4	72.1	72.3	68.9	73.6	69.7	71.2	72.5	72.9	73.6	74.6	74.6	78.8	76.0	77.3	80.7	82.3	+1.6
	45	—	—	—	—	68.5	69.9	70.1	67.9	70.1	68.1	67.9	73.4	69.8	71.8	73.6	76.9	77.2	81.1	82.6	+1.6
	50	—	—	—	—	—	—	—	—	—	64.4	65.8	67.9	65.8	68.9	70.1	71.9	75.8	74.5	76.6	+2.1
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	68.8	72.1	71.7	72.8	76.7	+3.9
Amyl & butyl nitrites	18	21.4	23.3	22.5	22.3	19.7	20.0	19.7	18.4	18.1	16.9	15.7	—	—	—	—	—	—	—	—	—
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
LSD	18	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	26.5	28.0	26.3	-1.7
	19–22	43.8	47.1	42.5	37.9	34.1	30.3	27.7	29.0	23.0	19.7	24.2	26.1	24.8	23.2	26.2	22.3	25.8	24.6	33.3	+8.7 s
	23–26	41.2	40.4	38.3	37.2	34.1	38.5	26.5	30.3	25.2	24.1	26.1	24.2	21.4	19.3	22.8	17.2	20.5	17.7	23.0	+5.3
	27–30	35.7	35.6	38.3	32.3	33.5	30.0	29.3	29.7	26.8	28.1	22.5	25.2	26.6	19.1	21.7	21.1	15.5	20.4	17.9	-2.6
	35	27.7	32.2	28.7	29.1	29.8	25.6	24.0	28.7	26.6	26.4	26.9	25.5	24.0	23.0	24.1	22.2	19.3	20.8	18.5	-2.3
	40	31.0	28.5	25.7	27.4	25.0	24.4	24.3	23.9	21.5	25.1	22.2	23.3	22.6	21.6	20.1	23.0	20.6	21.4	18.8	-2.6
	45	—	—	—	—	24.2	27.0	25.4	23.7	23.6	21.1	19.4	23.6	21.3	18.9	23.4	21.2	17.9	19.7	21.6	+2.0
	50	—	—	—	—	—	—	—	—	—	19.0	21.9	18.6	20.3	18.1	17.1	17.7	19.7	19.5	17.3	-2.2
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Other hallucinogens [b]	18	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	31.4	32.5	28.4	-4.0
	19–22	31.1	33.4	45.9	48.8	45.1	46.9	48.5	41.9	39.3	34.7	38.1	39.1	37.5	36.4	34.1	31.2	35.4	30.6	32.4	+1.7
	23–26	31.5	28.5	38.3	39.7	39.2	44.4	39.2	41.5	36.8	39.3	39.2	32.3	35.0	32.7	31.8	27.5	31.1	29.6	30.1	+0.5
	27–30	30.3	25.0	38.6	33.3	35.6	31.2	30.8	32.1	30.0	36.2	32.0	34.7	33.4	31.4	33.3	31.0	27.3	24.3	27.2	+2.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
PCP	18	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	11.0	13.8	12.6	10.6	-2.0
	19–22	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	23–26	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	27–30	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ecstasy (MDMA)	18	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	37.1	32.5	29.3	-3.2
	19–22	43.2	49.9	55.5	59.7	52.1	45.8	43.5	41.2	38.4	34.7	37.1	30.4	37.9	28.3	33.9	32.9	38.6	33.4	32.0	-1.4
	23–26	34.9	41.8	51.5	52.9	49.3	51.3	46.4	44.6	42.2	41.5	36.8	35.2	34.0	32.2	35.7	30.9	36.3	30.8	35.0	+4.2
	27–30	30.0	35.5	40.6	41.2	41.0	41.1	38.0	40.5	40.7	42.2	38.0	31.2	33.8	32.8	28.6	29.7	33.2	35.8	33.1	-2.7
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

↓

(List of drugs continued.)

TABLE 7-4 (cont.)
Trends in Availability of Drugs as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

Percentage saying fairly easy or very easy to get [a] →

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Cocaine	18	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	47.7	48.1	48.5	51.3
	19–22		56.2	57.1	55.2	56.2	56.9	60.4	65.0	64.9	66.8	61.7	54.3	54.5	49.2	49.9	49.4	44.4	49.7	47.7
	23–26	—	—	—	—	63.7	67.2	65.8	69.0	71.7	70.0	65.6	58.0	61.1	53.8	54.4	54.7	50.2	46.9	51.8
	27–30	—	—	—	—	—	—	—	—	68.6	68.2	64.0	60.0	63.1	56.8	53.1	57.0	53.0	50.4	46.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Crack	18	—	—	—	—	—	—	—	41.1	42.1	47.0	42.4	39.9	43.5	43.6	40.5	41.9	40.7	40.6	43.8
	19–22	—	—	—	—	—	—	—	41.9	47.3	47.2	46.9	42.1	42.1	38.4	41.6	40.7	32.9	39.9	40.0
	23–26	—	—	—	—	—	—	—	44.5	53.0	49.9	46.9	42.0	42.6	42.5	42.4	42.3	37.9	37.2	38.4
	27–30	—	—	—	—	—	—	—	—	46.5	46.8	46.8	43.1	45.2	45.8	41.1	44.7	39.9	36.5	33.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	49.6	48.2	43.1	44.3	45.0
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	43.3
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocaine powder	18	—	—	—	—	—	—	—	52.9	50.3	53.7	49.0	46.0	48.0	45.4	43.7	43.8	44.4	43.3	45.7
	19–22	—	—	—	—	—	—	—	58.7	60.2	61.7	56.5	52.5	48.9	45.7	47.8	45.5	41.3	46.0	47.1
	23–26	—	—	—	—	—	—	—	64.9	69.1	60.1	58.6	53.2	56.4	50.5	49.7	49.6	45.9	43.6	44.4
	27–30	—	—	—	—	—	—	—	—	63.5	62.8	57.9	55.8	56.8	55.0	48.9	52.9	48.4	45.1	43.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	53.9	52.1	46.7	48.3	47.0
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	46.0
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Heroin	18	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	35.1	32.2	33.8	35.6
	19–22	18.9	19.4	19.3	16.4	17.2	20.8	21.2	24.4	28.5	31.6	30.7	25.3	30.2	30.0	33.2	35.2	29.1	31.4	32.1
	23–26	—	—	—	—	18.6	18.1	21.0	22.3	28.4	31.2	28.1	25.6	25.7	25.7	29.2	29.3	32.3	30.5	35.1
	27–30	—	—	—	—	—	—	—	—	23.6	27.4	29.5	22.1	25.6	28.5	24.4	30.7	29.5	30.0	28.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Some other narcotic [c]	18	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	39.8	40.0	38.9	42.8
	19–22	32.7	32.4	30.8	31.0	28.7	34.3	32.6	33.8	37.9	37.9	35.6	35.4	35.2	33.5	35.1	38.7	37.3	38.3	38.9
	23–26	—	—	—	—	32.8	32.1	33.6	32.2	35.9	36.4	34.7	33.2	33.9	33.1	35.8	32.6	36.7	35.7	39.9
	27–30	—	—	—	—	—	—	—	—	31.6	36.2	36.1	29.0	31.8	33.0	34.8	36.9	37.2	35.2	32.2
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amphetamines	18	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	62.8	59.4	59.8	60.8
	19–22	71.7	72.6	73.5	69.7	69.1	69.1	63.1	61.8	61.3	62.2	57.7	58.3	56.3	56.0	56.6	60.3	56.9	55.5	56.3
	23–26	—	—	—	—	65.8	66.0	64.5	65.3	62.2	60.1	55.8	54.8	54.5	52.6	52.9	56.0	52.8	51.2	53.2
	27–30	—	—	—	—	—	—	—	—	54.3	58.6	55.3	54.4	50.4	52.9	48.3	53.7	51.7	48.1	41.4
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	45.6	43.5	39.1	40.9	39.4
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	41.0
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(Years Cont.)

(Table continued on next page.)

TABLE 7-4 (cont.)
Trends in Availability of Drugs as Perceived by
Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Age Group	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
		Percentage saying fairly easy or very easy to get [a]																			
Cocaine	18	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	29.1	28.6	27.3	-1.3
	19–22	52.6	52.1	49.6	47.6	46.7	47.0	50.0	47.4	47.3	44.0	38.5	37.2	39.2	32.9	28.1	34.4	33.3	37.3	37.0	-0.3
	23–26	45.7	45.0	44.6	47.8	40.8	50.7	48.4	51.2	47.4	45.5	44.0	41.1	37.8	37.4	36.8	36.8	36.2	36.8	38.0	+1.2
	27–30	50.0	44.6	45.5	46.3	42.9	38.0	43.1	43.2	45.8	50.6	43.6	40.8	44.2	42.3	35.0	41.6	39.4	39.7	40.1	+0.4
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Crack	18	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	22.0	19.8	18.1	-1.7
	19–22	40.8	40.2	37.3	35.7	37.5	33.7	34.0	35.2	35.7	31.4	27.3	27.2	27.3	20.6	20.8	23.3	21.0	20.0	18.3	-1.7
	23–26	35.0	31.9	37.1	33.9	32.8	36.5	35.1	34.0	31.4	33.1	27.4	27.1	25.3	27.6	24.2	26.7	21.9	19.4	23.6	+4.2
	27–30	38.8	35.9	36.9	33.4	33.7	28.0	34.4	29.6	36.4	36.1	33.1	27.5	28.9	25.2	24.6	26.5	26.5	28.4	22.6	-5.8
	35	41.6	45.0	41.2	38.9	40.5	36.1	34.2	37.1	35.1	33.2	31.6	30.0	30.4	27.3	28.7	25.7	26.1	26.3	24.3	-1.9
	40	44.3	42.0	38.7	39.5	39.0	35.8	38.6	37.1	32.7	35.2	33.2	30.9	30.1	27.9	25.5	28.1	24.7	25.0	22.7	-2.2
	45	—	—	—	—	37.0	40.0	40.6	36.2	37.0	34.2	31.7	36.2	32.3	28.2	32.3	27.3	24.7	28.8	26.5	-2.3
	50	—	—	—	—	—	—	—	—	—	32.8	36.3	32.4	29.5	30.5	30.0	27.2	29.9	28.6	24.2	-4.4 s
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.2	34.6	28.7	28.0	28.6	+0.6
Cocaine powder	18	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	25.8	22.9	21.3	-1.6
	19–22	45.2	45.2	43.3	43.9	45.5	43.2	44.3	44.2	44.5	39.0	36.1	35.6	35.4	26.0	25.1	31.8	33.0	29.2	29.2	0.0
	23–26	44.3	41.8	44.4	40.7	43.4	48.5	45.1	46.4	45.0	41.4	41.6	40.3	37.5	37.0	35.1	34.0	34.3	32.4	34.5	+2.1
	27–30	46.5	43.9	42.7	42.4	39.7	37.9	40.2	42.7	43.0	47.5	41.3	38.2	38.4	37.0	35.4	36.9	40.7	38.1	36.1	-2.0
	35	43.4	47.9	43.1	41.7	42.0	39.6	35.8	39.5	37.4	38.6	34.9	35.5	35.3	31.4	35.2	31.9	34.2	35.3	33.7	-1.6
	40	46.7	44.7	41.5	41.5	40.7	38.5	40.3	37.8	35.2	36.5	33.9	33.5	31.8	29.5	29.8	31.6	28.6	30.2	27.7	-2.5
	45	—	—	—	—	39.0	40.2	40.6	37.3	38.2	34.1	31.5	37.2	33.2	28.7	34.0	29.9	26.6	29.6	29.6	0.0
	50	—	—	—	—	—	—	—	—	—	32.6	35.9	32.8	31.0	30.8	30.3	27.8	30.7	29.3	27.0	-2.2
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.6	35.3	30.4	29.8	30.9	+1.1
Heroin	18	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	20.4	20.0	19.1	-0.9
	19–22	32.7	29.4	30.2	26.4	26.9	22.6	25.4	25.3	26.5	24.2	19.4	22.0	21.2	19.3	16.0	20.2	21.1	24.5	20.0	-4.5
	23–26	31.9	25.7	26.6	27.2	25.5	30.9	22.5	28.1	22.2	23.4	23.4	23.1	21.1	22.7	23.1	21.1	21.2	24.9	22.1	-2.8
	27–30	33.0	29.3	29.9	27.0	27.5	22.0	27.8	25.4	27.5	26.3	25.2	25.2	28.0	23.3	20.9	25.5	26.9	28.7	28.9	+0.2
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Some other narcotic [c]	18	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	39.0	39.3	35.8	-3.5
	19–22	39.5	41.1	44.1	40.4	40.6	39.4	41.4	38.5	38.3	38.0	35.3	55.2	53.8	52.2	53.5	49.7	47.5	46.8	40.1	-6.7
	23–26	38.2	38.1	35.8	40.0	40.3	47.7	44.7	45.5	41.7	41.2	42.5	56.2	59.6	58.6	62.1	52.1	52.6	55.0	48.3	-6.7
	27–30	36.9	32.4	39.4	38.5	38.9	35.8	37.7	39.8	41.3	39.4	43.5	62.3	65.2	59.8	64.4	56.2	60.9	55.2	57.6	+2.3
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amphetamines [d]	18	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	41.9	41.1	38.0	-3.2
	19–22	57.6	60.2	56.5	53.7	55.1	53.9	56.9	52.3	55.8	49.5	49.8	43.6	52.3	54.4	54.0	55.3	57.4	54.8	57.9	+3.1
	23–26	49.1	51.1	49.4	48.2	50.3	51.8	51.9	58.0	53.7	46.9	51.0	45.5	55.5	55.6	59.4	54.3	54.7	52.5	52.7	+0.2
	27–30	48.2	47.6	49.3	45.6	48.7	43.9	45.3	49.2	48.1	45.0	51.1	46.4	49.9	54.6	54.2	55.5	56.6	49.2	58.0	+8.8 s
	35	38.5	42.2	39.6	39.2	39.2	35.4	35.4	40.3	40.4	40.6	39.2	37.1	40.4	37.5	40.7	38.9	37.3	38.9	36.2	-2.6
	40	41.9	39.4	37.5	39.4	38.7	37.9	41.1	38.4	37.6	39.2	37.2	37.0	34.3	35.8	34.6	35.6	34.0	36.7	34.8	-1.9
	45	—	—	—	—	35.8	39.8	39.3	37.1	38.3	36.8	33.0	39.8	37.0	34.5	39.3	35.2	32.4	35.2	34.9	-0.3
	50	—	—	—	—	—	—	—	—	—	32.8	38.0	34.4	33.9	32.3	33.0	31.1	33.5	34.9	32.7	-2.2
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	36.8	39.6	35.3	35.2	34.8	-0.3

(List of drugs continued.)

TABLE 7-4 (cont.)
Trends in Availability of Drugs as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

Percentage saying "fairly easy" or "very easy" to get [a] → (Years Cont.)

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Age Group	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998
Crystal methamphetamine (ice)	18	—	—	—	—	—	—	—	—	—	—	24.0	24.3	26.0	26.6	25.6	27.0	26.9	27.6	29.8
	19–22	—	—	—	—	—	—	—	—	—	—	24.0	21.8	22.5	20.9	24.7	25.5	25.4	29.3	31.0
	23–26	—	—	—	—	—	—	—	—	—	—	22.3	20.0	21.3	22.9	24.5	24.7	24.7	25.8	30.2
	27–30	—	—	—	—	—	—	—	—	—	—	27.3	19.7	22.0	21.2	21.7	25.8	26.1	25.1	22.6
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sedatives/ barbiturates [d]	18	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	42.3	41.4	40.0	40.7
	19–22	59.5	61.1	56.8	54.2	48.1	52.7	46.8	44.6	45.5	47.7	44.2	41.7	43.4	41.9	40.6	42.9	41.1	39.8	39.2
	23–26	—	—	—	—	52.7	47.7	46.4	45.9	47.4	44.8	41.6	39.6	42.0	38.8	40.3	42.1	40.6	39.1	42.6
	27–30	—	—	—	—	—	—	—	—	43.2	44.5	44.2	38.5	37.8	39.7	37.4	39.9	41.2	39.1	33.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers	18	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	37.8	36.0	35.4	36.2
	19–22	67.4	62.8	62.0	62.3	52.5	55.6	52.9	50.3	50.0	49.4	45.4	44.8	40.7	40.9	41.0	40.2	37.6	37.8	36.8
	23–26	—	—	—	—	60.2	54.3	54.1	56.3	52.8	51.4	47.8	45.1	48.1	43.2	45.9	44.3	42.3	36.4	39.4
	27–30	—	—	—	—	—	—	—	—	55.3	54.4	54.9	47.5	47.8	47.4	44.4	44.8	46.2	41.9	39.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids	18	—	—	—	—	—	—	—	—	—	—	—	46.7	46.8	44.8	42.9	45.5	40.3	41.7	44.5
	19–22	—	—	—	—	—	—	—	—	—	—	44.1	44.8	46.3	41.7	40.9	41.8	40.8	39.2	39.2
	23–26	—	—	—	—	—	—	—	—	—	—	37.6	35.8	39.3	35.8	37.0	37.4	33.9	35.5	34.9
	27–30	—	—	—	—	—	—	—	—	—	—	36.4	30.6	35.0	31.6	30.5	33.1	35.6	32.5	30.5
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate Weighted N =	18	*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*	*2,552*	*2,340*	*2,517*	*2,520*
	19–22	*582*	*601*	*582*	*588*	*559*	*571*	*592*	*581*	*568*	*572*	*571*	*534*	*512*	*480*	*459*	*470*	*467*	*463*	*433*
	23–26					*540*	*541*	*548*	*539*	*526*	*514*	*532*	*511*	*523*	*500*	*463*	*449*	*418*	*419*	*395*
	27–30									*519*	*513*	*510*	*487*	*475*	*473*	*437*	*446*	*468*	*459*	*425*
	35															*1,142*	*1,141*	*1,146*	*1,150*	*1,032*
	40																			*1,029*
	45																			
	50																			
	55																			

(Table continued on next page.)

TABLE 7-4 (cont.)
Trends in Availability of Drugs as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, 27–30, 35, 40, 45, 50, and 55

Q. How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	Age Group	Percentage saying "fairly easy" or "very easy" to get [a]																			2016–2017 change
		1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	
Crystal methamphetamine (ice)	18	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	15.3	14.5	13.6	-0.9
	19–22	31.8	27.4	28.4	31.2	26.5	27.1	28.9	29.1	27.7	24.1	19.2	19.3	19.4	13.5	15.3	15.3	15.0	15.7	10.9	-4.8
	23–26	28.5	25.8	26.4	25.1	26.4	32.3	27.8	32.3	27.8	27.7	23.1	26.1	18.2	23.5	16.3	16.0	15.1	14.0	16.2	+2.2
	27–30	29.1	25.3	27.6	29.5	30.9	25.5	27.4	31.8	29.7	31.4	27.7	27.6	26.2	24.2	22.3	22.0	20.3	22.6	17.9	-4.7
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sedatives/ barbiturates [e]	18	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	25.0	25.7	23.4	-2.3
	19–22	42.3	40.6	39.3	40.8	38.4	43.8	47.8	42.6	47.5	43.2	42.6	39.6	38.1	31.6	32.1	32.6	35.3	31.1	30.3	-0.8
	23–26	39.7	37.6	36.1	36.4	37.8	49.4	48.4	51.4	46.5	43.3	47.7	40.4	41.3	40.1	42.2	33.2	35.1	32.0	28.2	-3.8
	27–30	38.4	36.1	38.1	34.8	35.6	40.5	42.9	43.3	46.4	44.7	48.5	43.1	42.9	42.3	44.8	39.9	42.9	35.9	36.5	+0.6
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers	18	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	14.9	15.2	14.9	-0.3
	19–22	37.1	36.5	34.9	34.6	34.2	29.7	30.1	22.8	28.5	23.3	18.3	20.2	18.6	17.3	17.4	16.8	19.7	17.8	15.0	-2.8
	23–26	38.3	37.6	38.7	33.7	32.5	36.6	32.9	33.0	31.7	30.3	27.7	21.8	23.0	22.1	18.5	17.5	16.6	13.3	15.9	+2.7
	27–30	41.5	36.7	42.9	38.1	35.9	30.6	33.5	32.1	32.4	33.1	30.1	30.6	27.1	25.7	28.1	21.2	22.1	20.3	18.1	-2.2
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids	18	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	23.7	21.3	20.1	-1.2
	19–22	40.5	40.3	38.1	41.4	39.4	37.8	37.6	37.1	37.9	33.5	28.7	25.1	24.3	21.2	20.6	25.7	25.1	24.8	19.8	-4.9
	23–26	37.1	34.0	34.7	33.1	31.1	34.7	31.2	34.2	33.3	30.2	28.6	22.2	29.2	25.6	23.6	24.1	18.3	18.7	18.5	-0.2
	27–30	34.5	36.2	34.6	33.0	32.6	30.6	32.4	29.7	30.9	31.0	31.9	27.6	27.0	23.9	22.3	22.6	23.9	22.5	23.5	+0.9
	35	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	45	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	50	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
	55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Approximate Weighted N =	18	*2,215*	*2,095*	*1,850*	*2,138*	*2,391*	*2,169*	*2,161*	*2,161*	*2,420*	*2,276*	*2,243*	*2,395*	*2,337*	*2,280*	*2,092*	*2,066*	*2,181*	*1,966*	*1,882*	
	19–22	*425*	*400*	*398*	*375*	*386*	*441*	*392*	*376*	*362*	*380*	*377*	*377*	*355*	*341*	*342*	*313*	*294*	*252*	*266*	
	23–26	*415*	*388*	*401*	*362*	*356*	*411*	*359*	*335*	*338*	*355*	*312*	*358*	*313*	*332*	*325*	*309*	*305*	*271*	*267*	
	27–30	*424*	*365*	*357*	*349*	*368*	*393*	*359*	*347*	*324*	*334*	*305*	*340*	*325*	*334*	*281*	*310*	*258*	*284*	*291*	
	35	*1,022*	*981*	*977*	*890*	*934*	*963*	*1,009*	*925*	*863*	*898*	*952*	*895*	*852*	*875*	*844*	*769*	*726*	*732*	*727*	
	40	*1,093*	*1,096*	*1,065*	*1,037*	*898*	*967*	*928*	*919*	*868*	*881*	*870*	*911*	*850*	*823*	*820*	*883*	*787*	*765*	*796*	
	45					*911*	*1,026*	*1,005*	*972*	*954*	*851*	*888*	*846*	*852*	*842*	*806*	*785*	*839*	*783*	*738*	
	50										*902*	*975*	*989*	*939*	*958*	*819*	*868*	*802*	*827*	*776*	
	55															*832*	*903*	*907*	*909*	*920*	

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

Notes. Level of significance of difference between the two most recent years: 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.

' — ' indicates data not available.

[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.

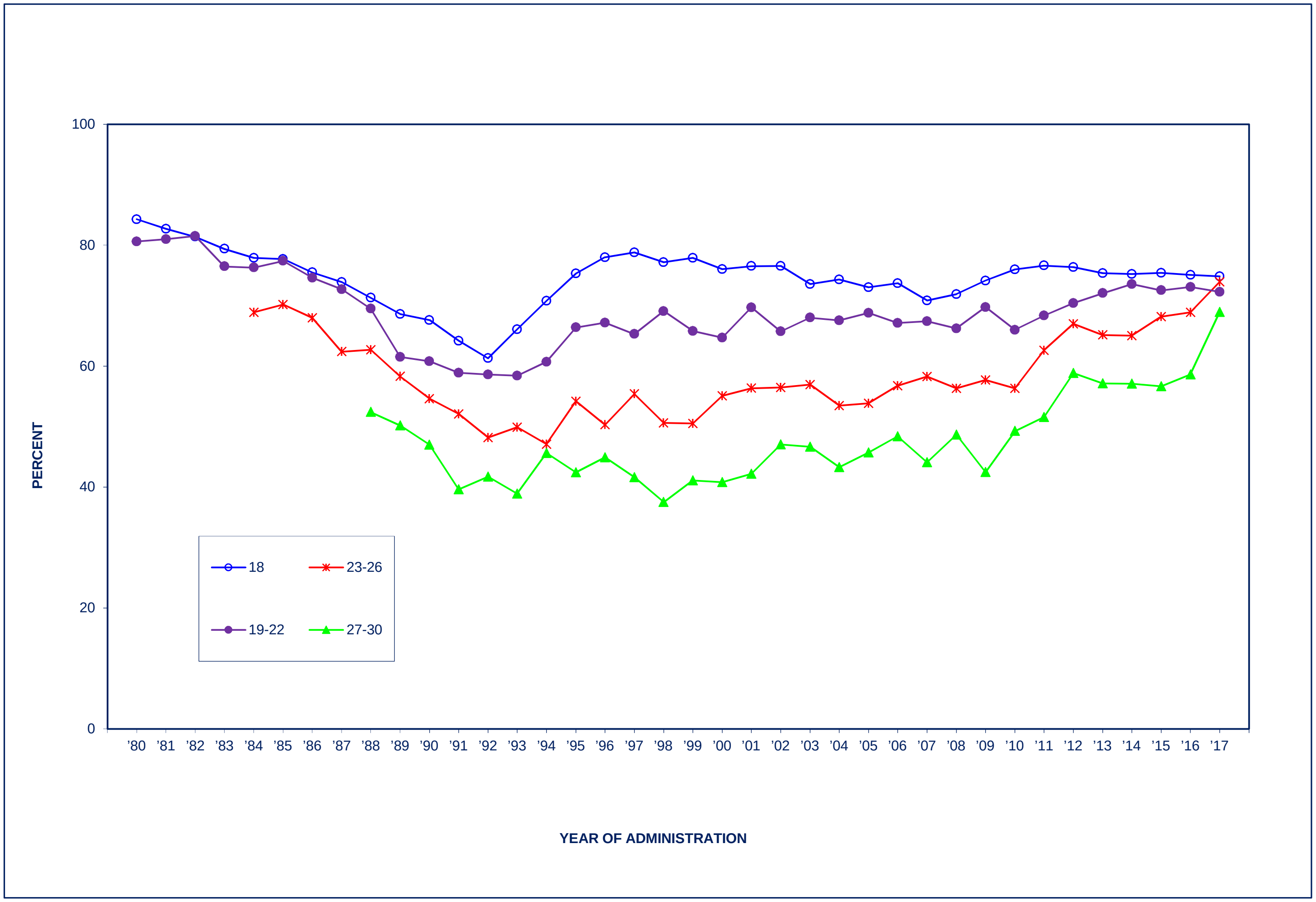
[c]In 2010 the list of examples for narcotics other than heroin was changed from methadone, opium to Vicodin,OxyContin, Percocet, etc. This change likely explains the discontinuity in the 2010 results.

[d]In 2011 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.

FIGURE 7-1
Trends in Exposure to Use of ANY ILLICIT DRUGS
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

% Saying Any Exposure



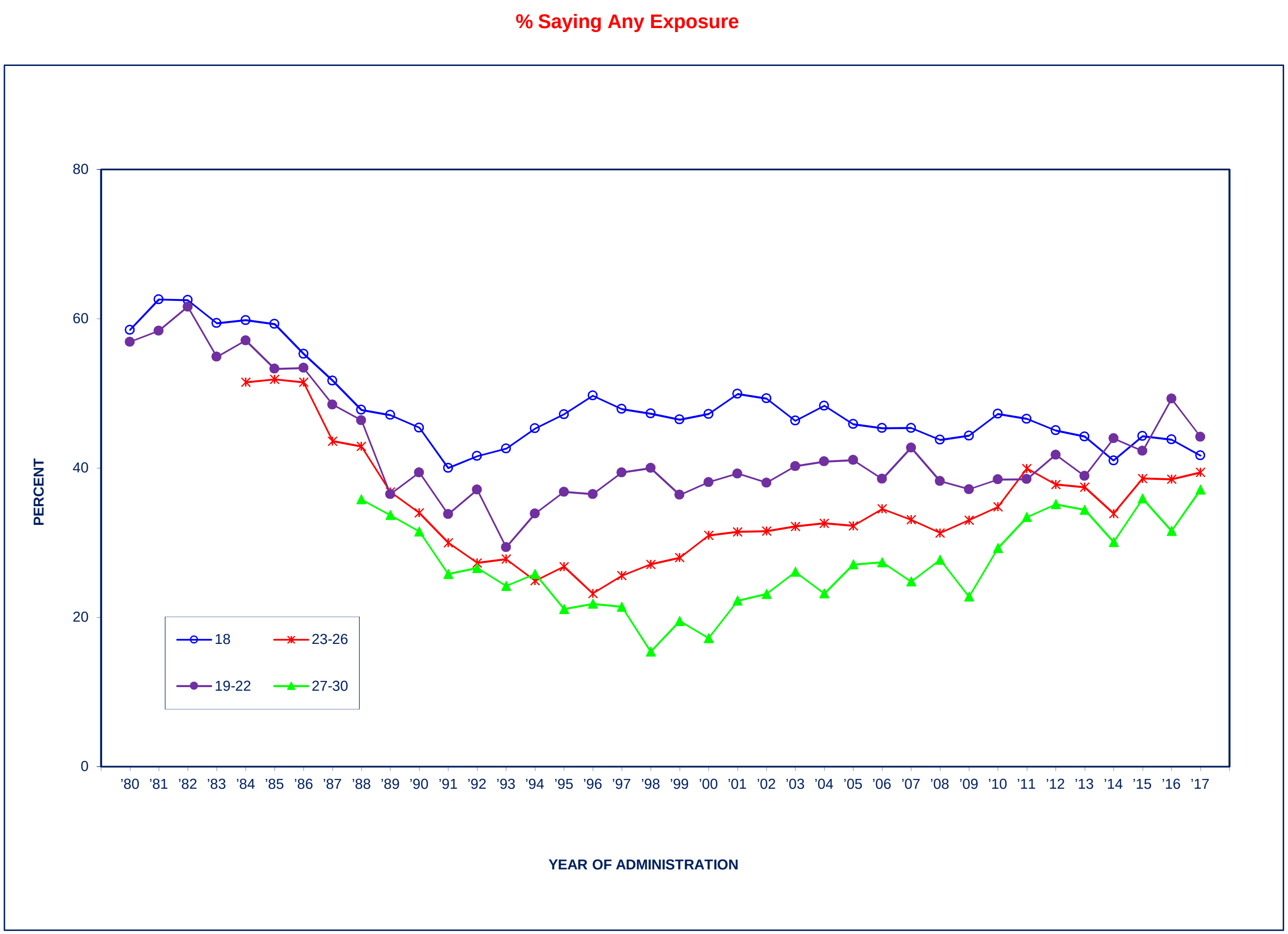
Source. The Monitoring the Future study, the University of Michigan.

FIGURE 7-2
Trends in Exposure to Use of ANY ILLICIT DRUGS
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

% Saying Often Exposed

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

FIGURE 7-3
Trends in Exposure to Use of ANY ILLICIT DRUG OTHER THAN MARIJUANA[a]
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

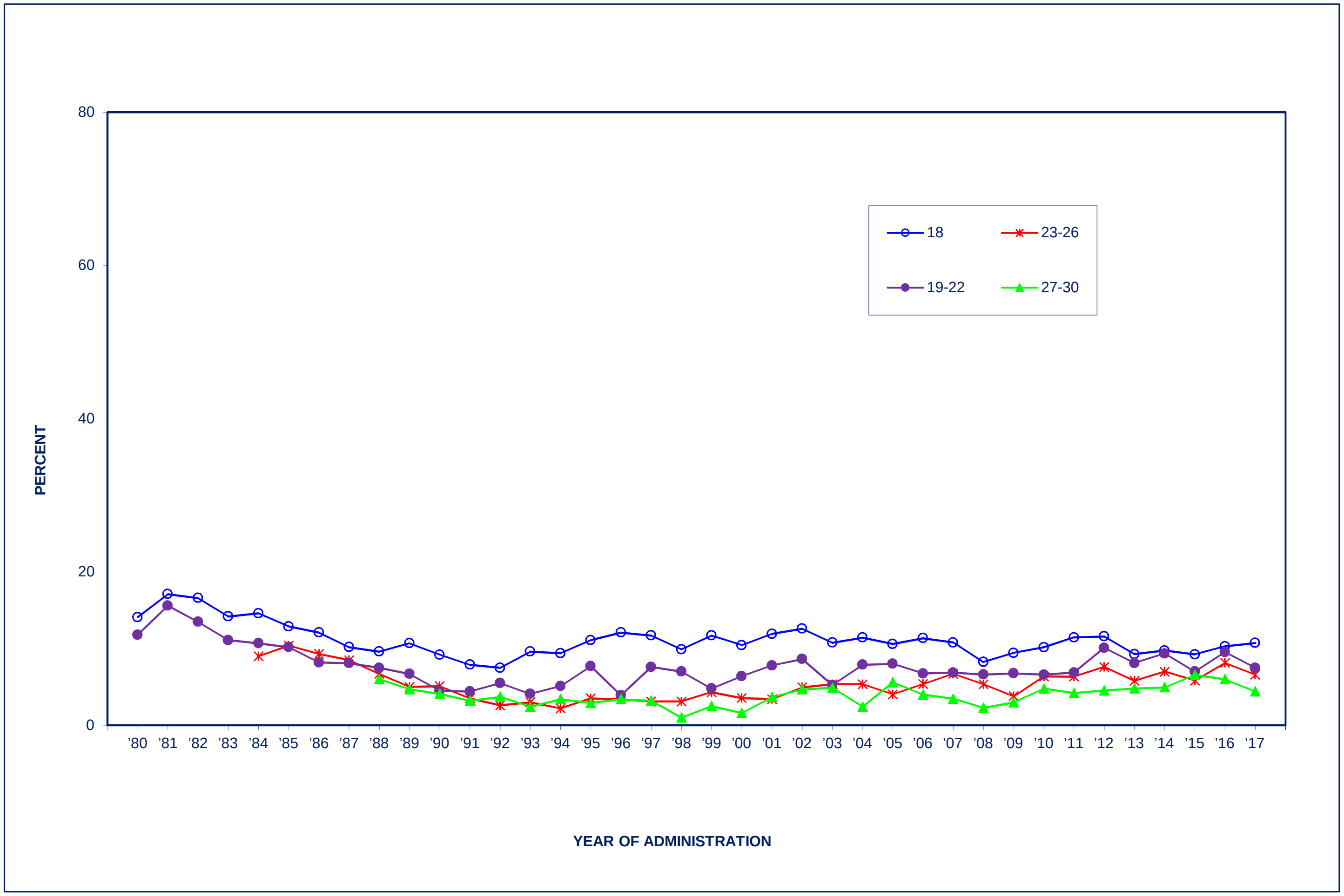


Source. The Monitoring the Future study, the University of Michigan.

[a]These estimates were derived from responses to the question for the following drugs: marijuana, LSD, other hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), and tranquilizers.

FIGURE 7-4
Trends in Exposure to Use of ANY ILLICIT DRUG OTHER THAN MARIJUANA[a]
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

% Saying Often Exposed

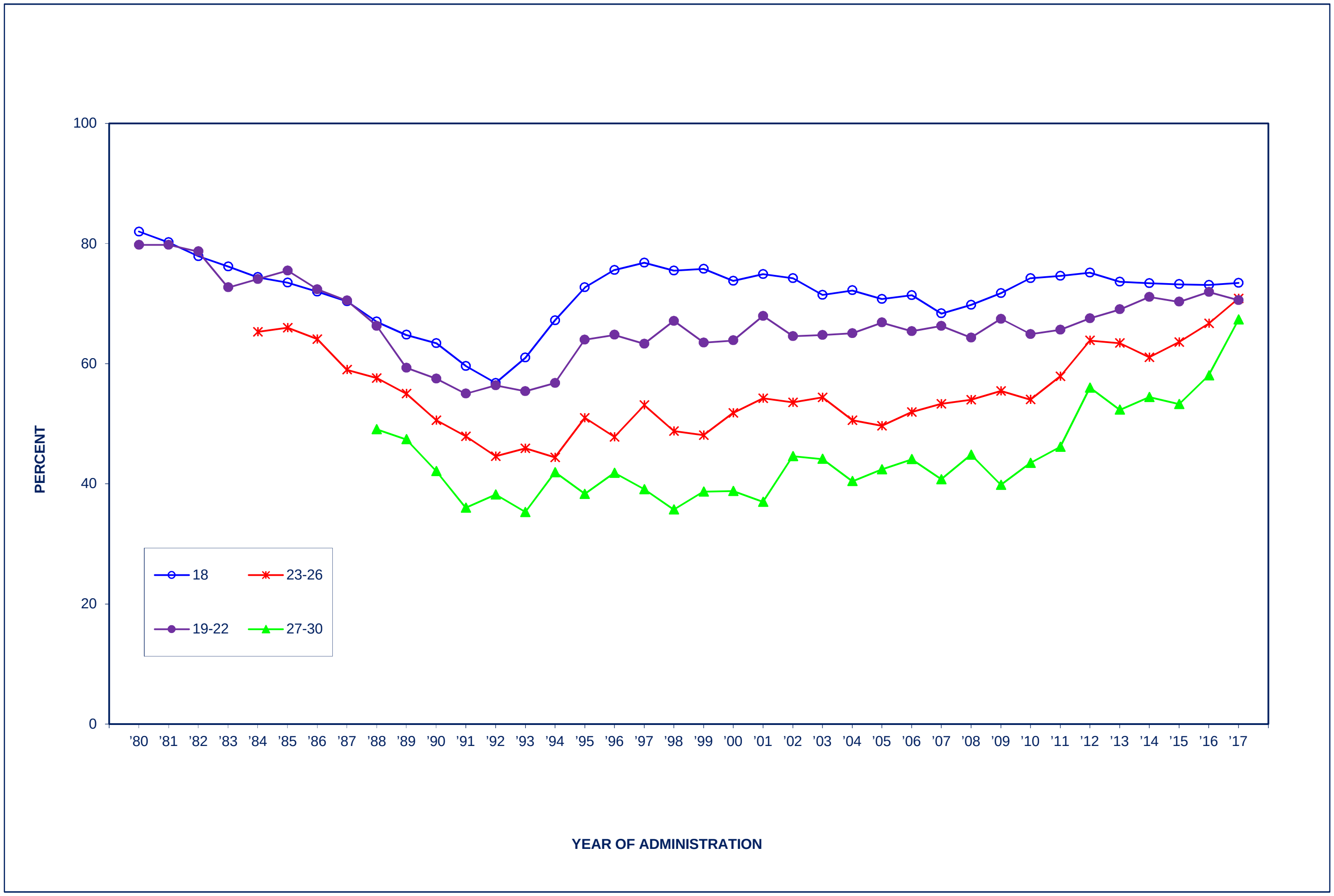


Source. The Monitoring the Future study, the University of Michigan.

[a]These estimates were derived from responses to the question for the following drugs: marijuana, LSD, other hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), and tranquilizers.

FIGURE 7-5
Trends in Exposure to Use of MARIJUANA
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

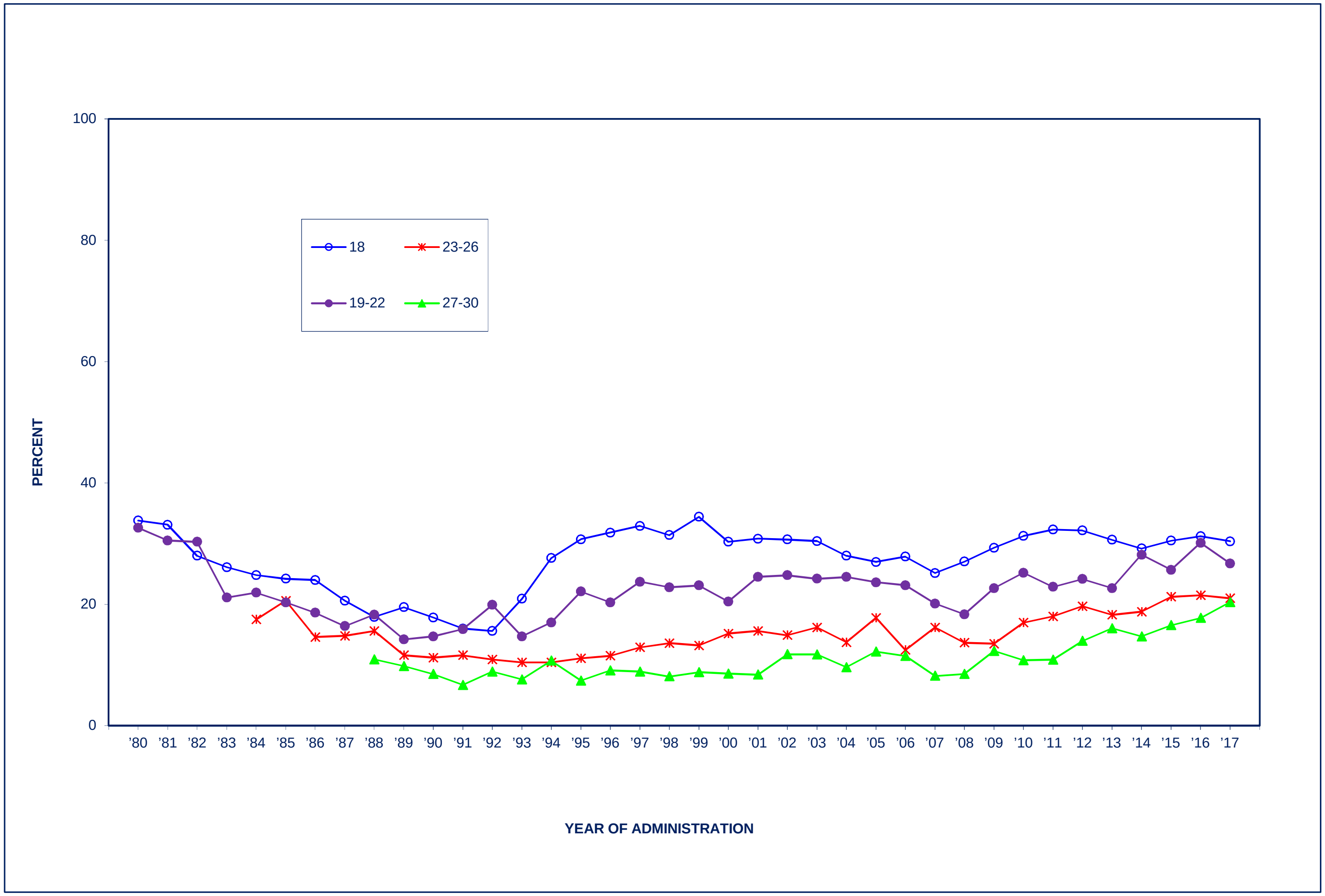
% Saying Any Exposure



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

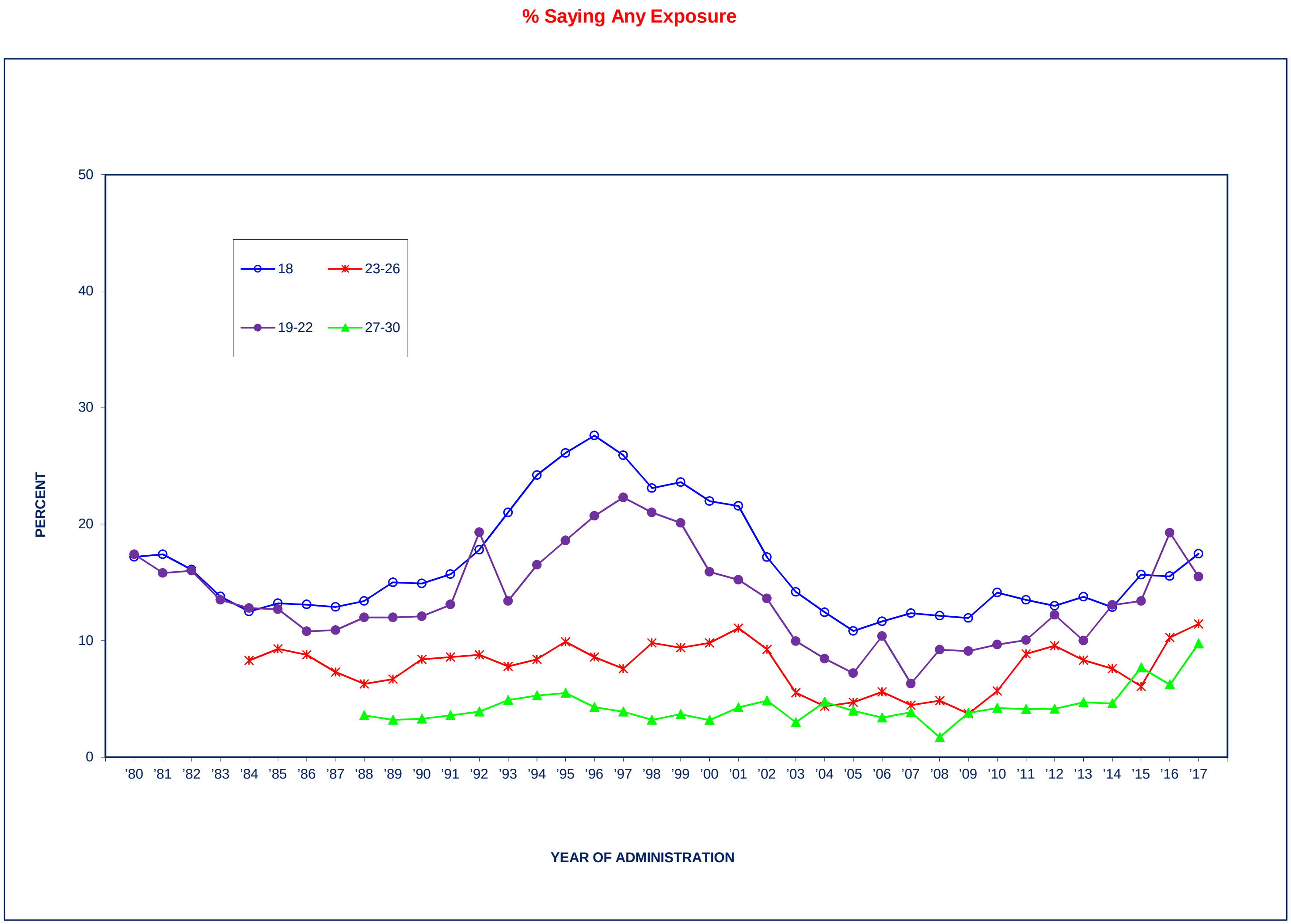
FIGURE 7-6
Trends in Exposure to Use of MARIJUANA
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

% Saying Often Exposed



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

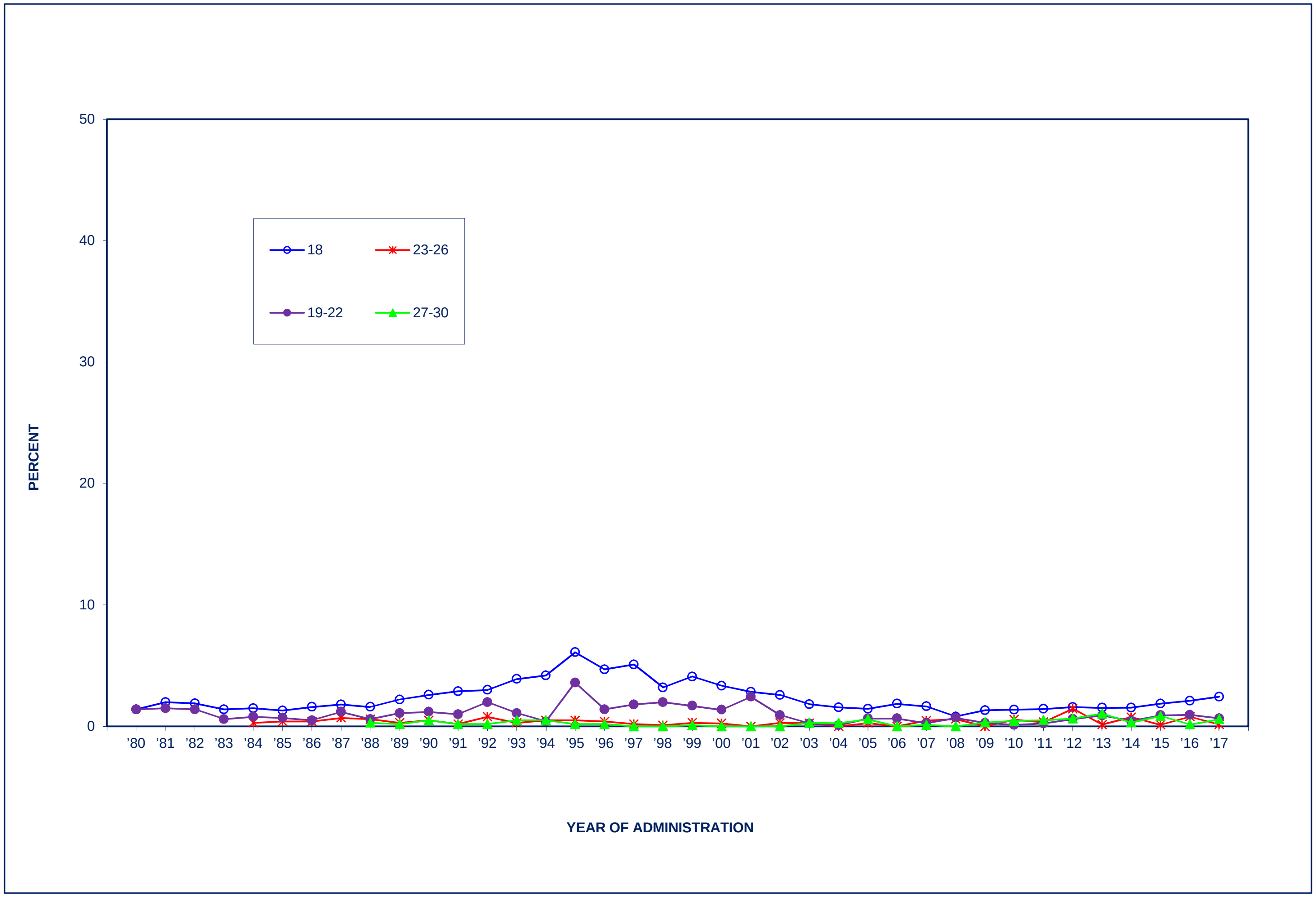
FIGURE 7-7
Trends in Exposure to Use of LSD
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30



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

FIGURE 7-8
Trends in Exposure to Use of LSD
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

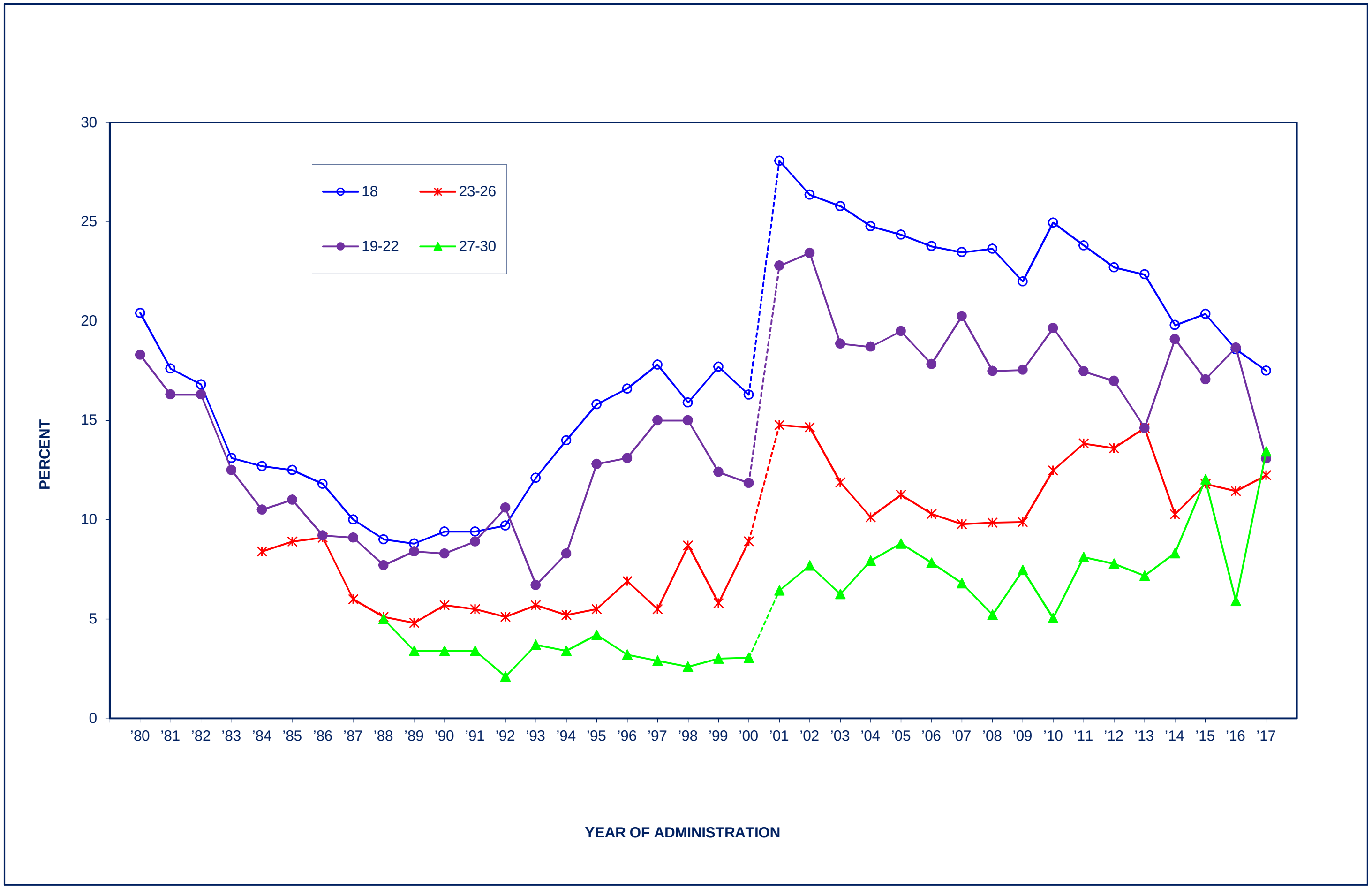
% Saying Often Exposed



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

FIGURE 7-9
Trends in Exposure to Use of HALLUCINOGENS OTHER THAN LSD[a]
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

% Saying Any Exposure

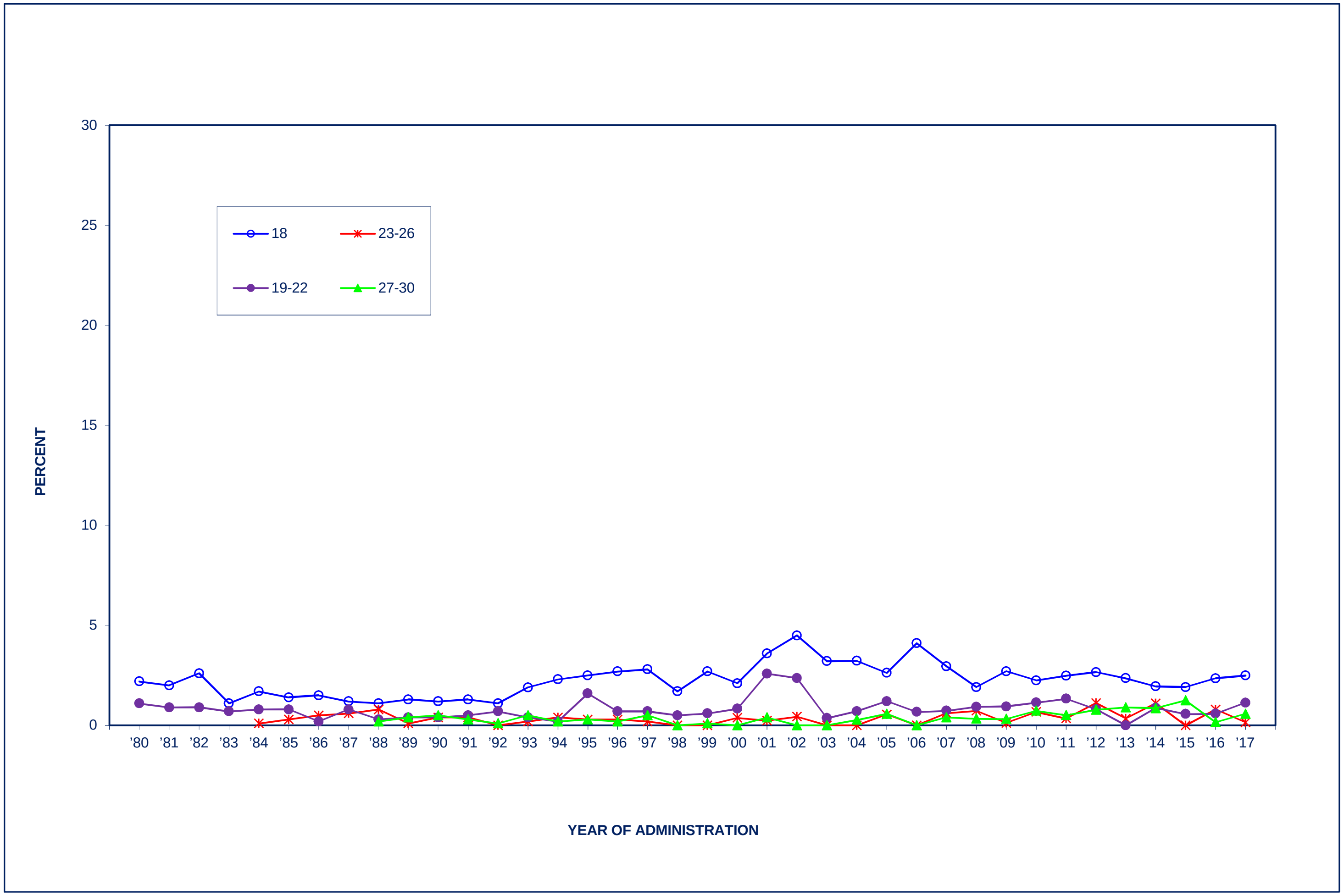


Source. The Monitoring the Future study, the University of Michigan.

[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 7-10
Trends in Exposure to Use of HALLUCINOGENS OTHER THAN LSD[a]
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

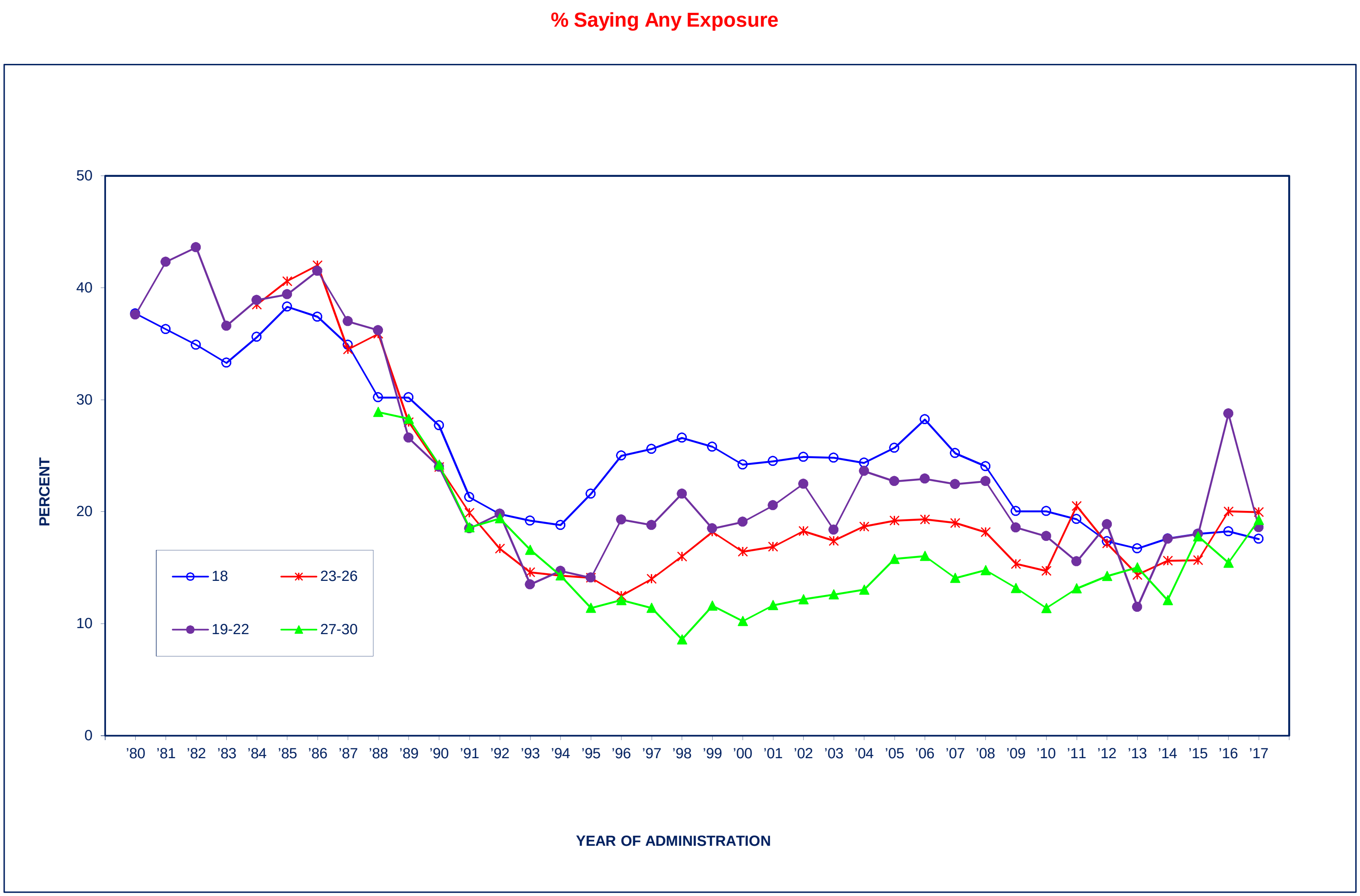
% Saying Often Exposed



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.

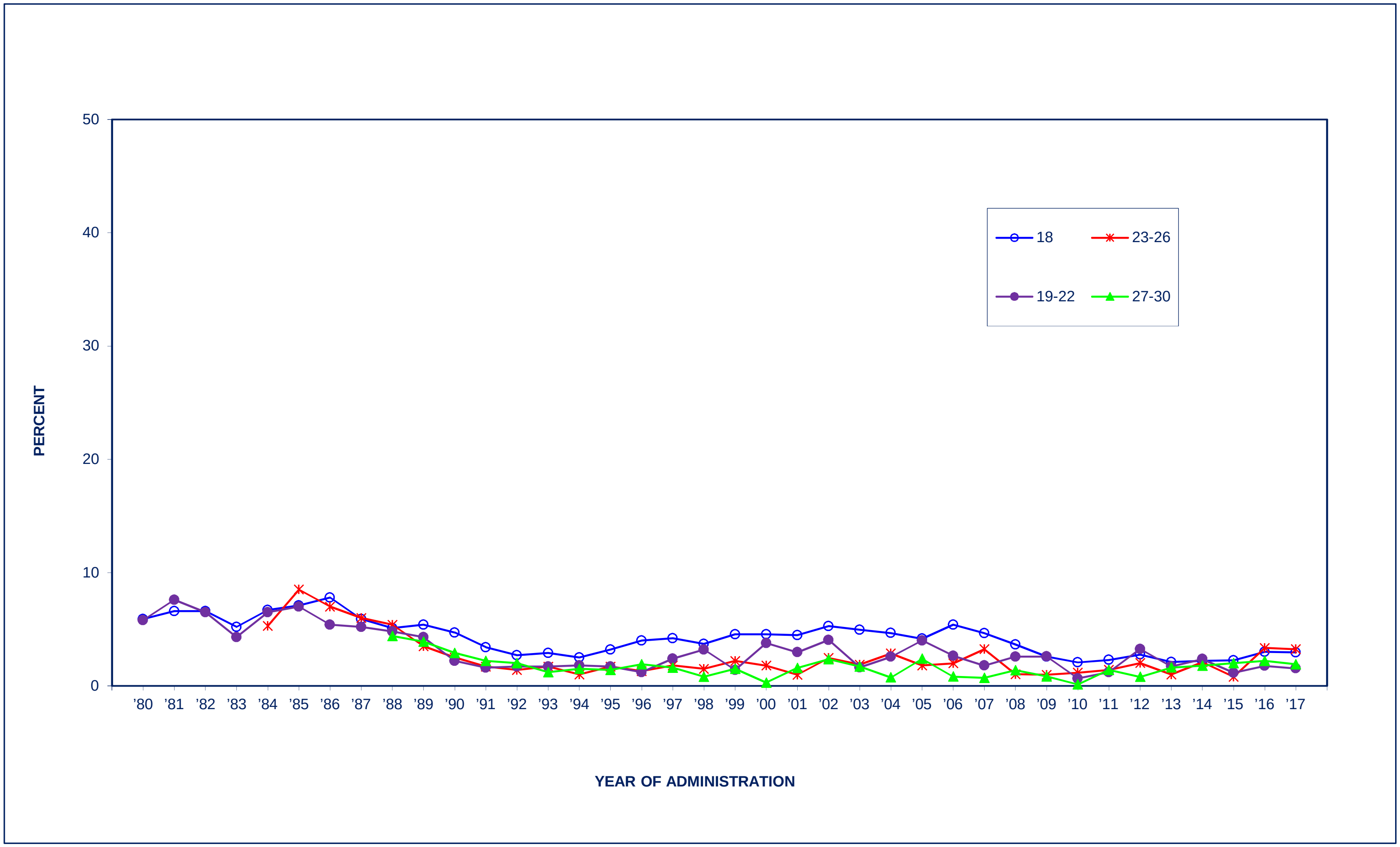
FIGURE 7-11
Trends in Exposure to Use of COCAINE
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30



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

FIGURE 7-12
Trends in Exposure to Use of COCAINE
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

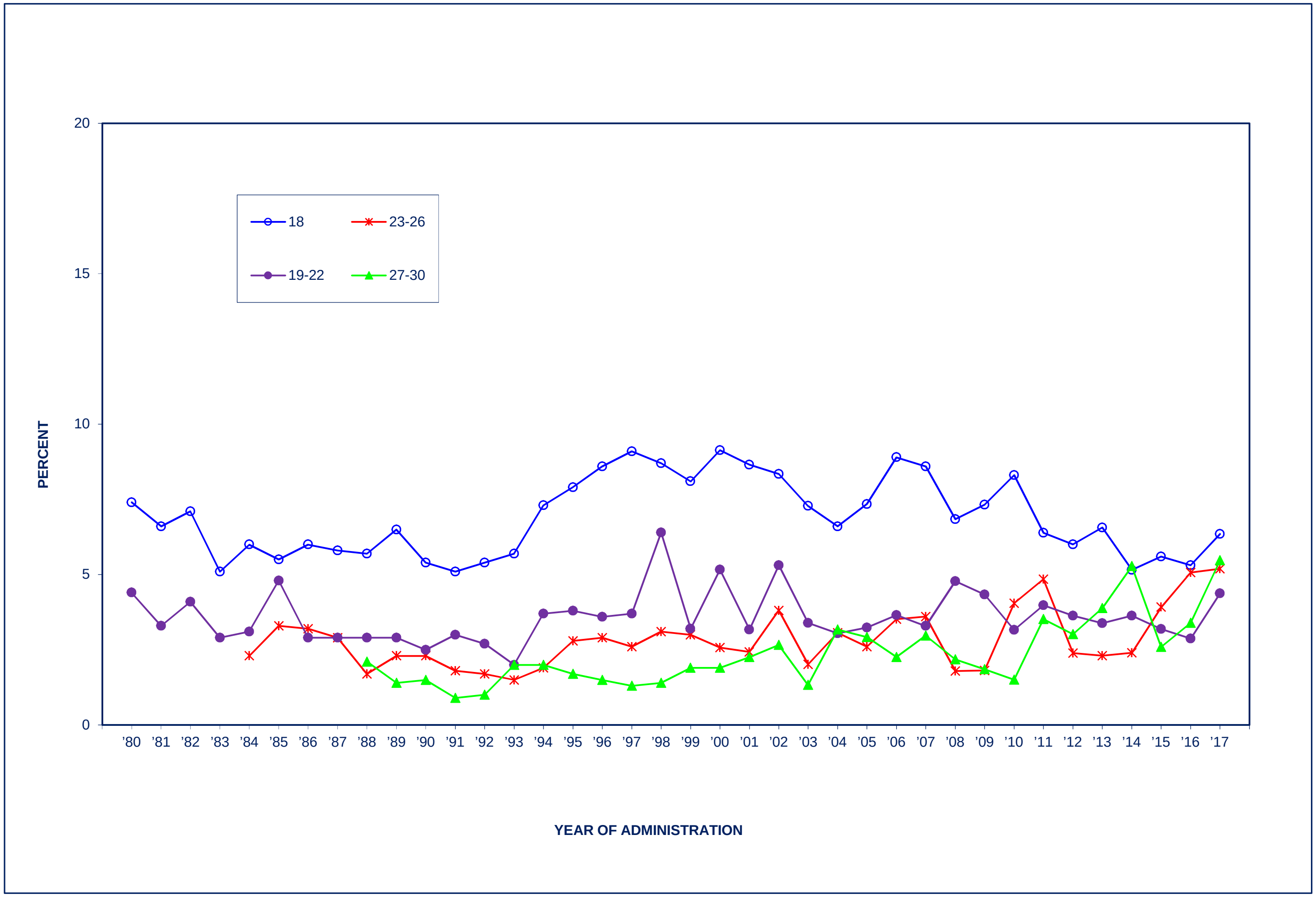
% Saying Often Exposed



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

FIGURE 7-13
Trends in Exposure to Use of HEROIN
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

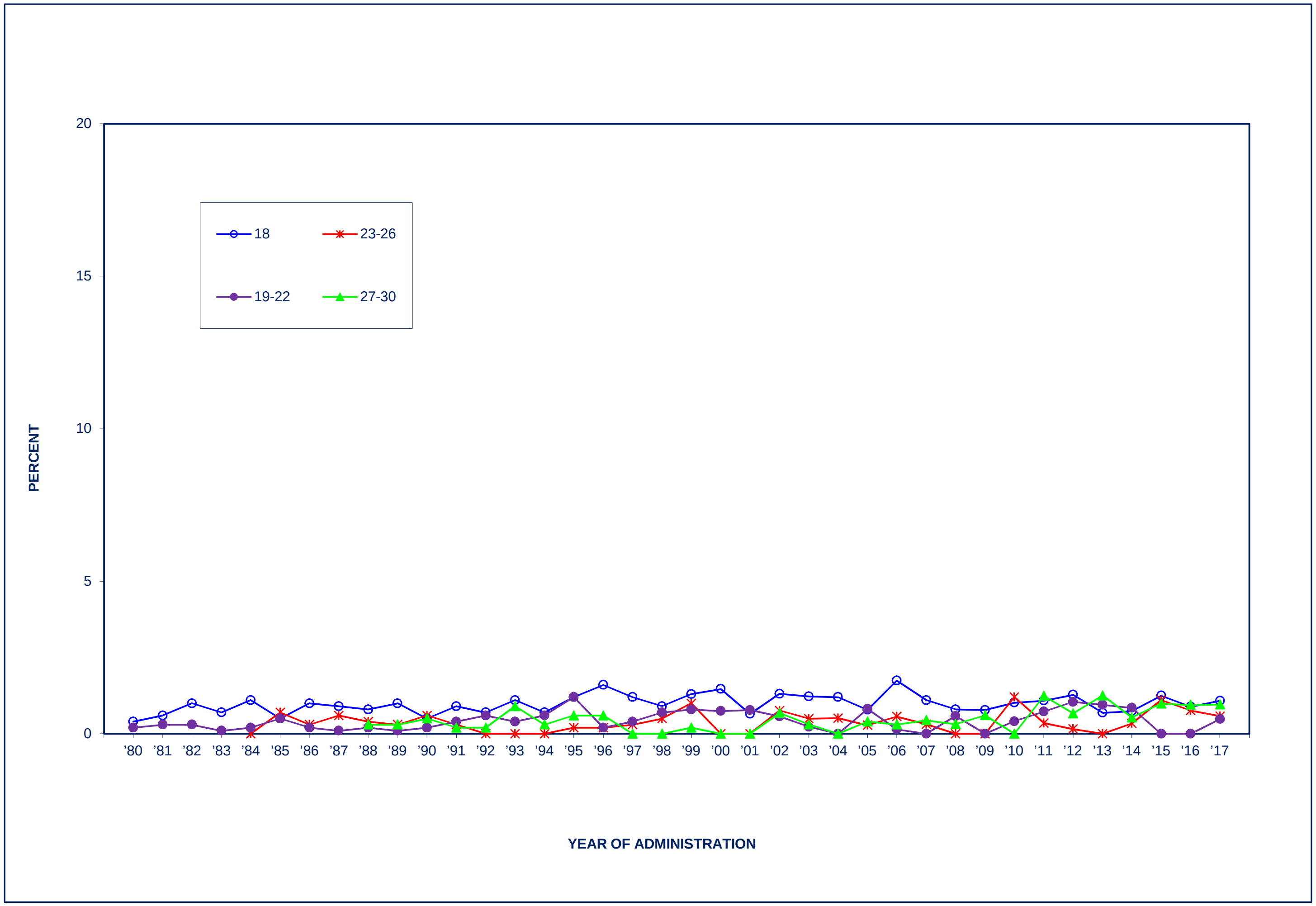
% Saying Any Exposure



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

FIGURE 7-14
Trends in Exposure to Use of HEROIN
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

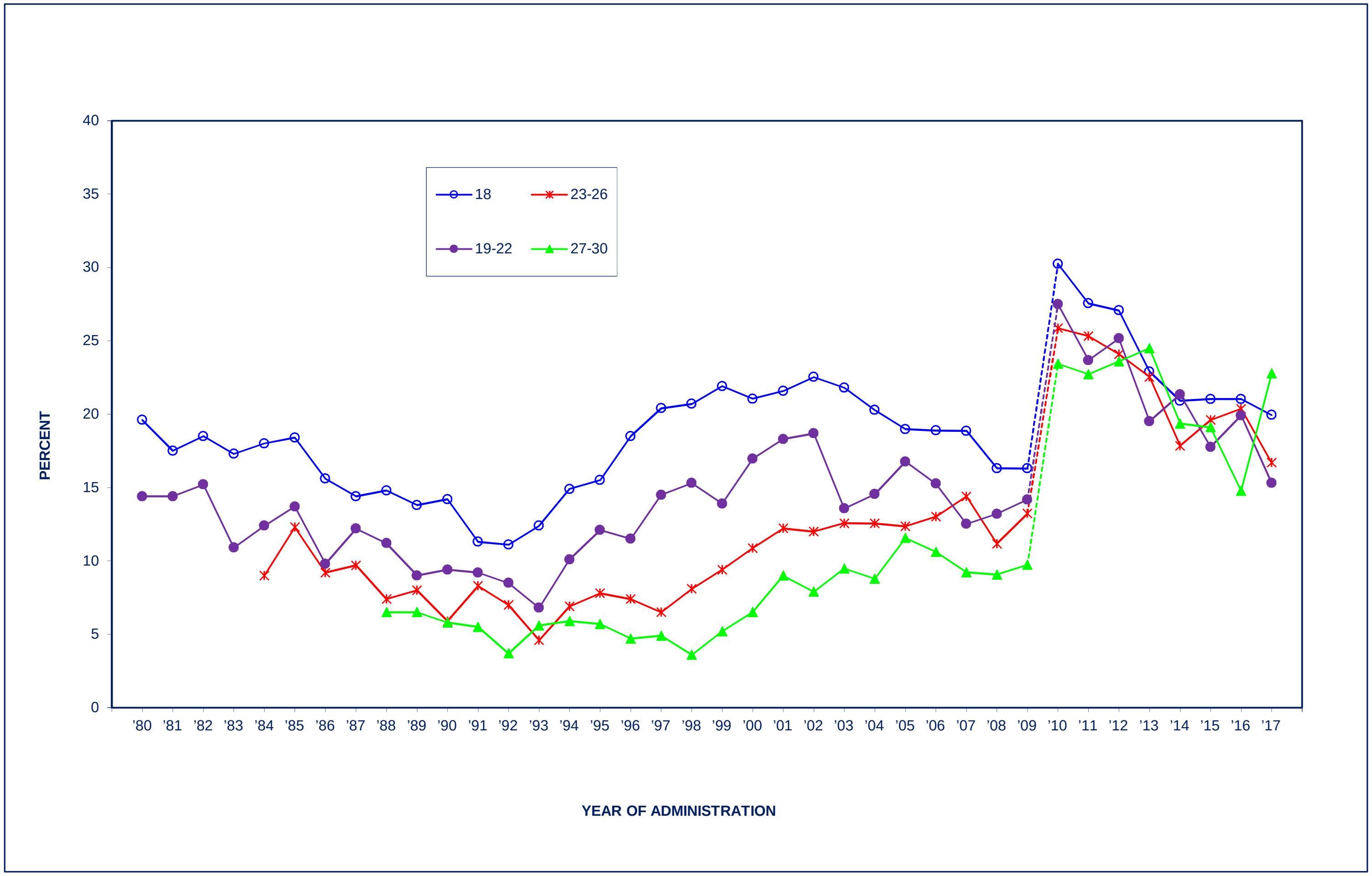
% Saying Often Exposed



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

FIGURE 7-15
Trends in Exposure to Use of NARCOTICS OTHER THAN HEROIN[a]
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

% Saying Any Exposure

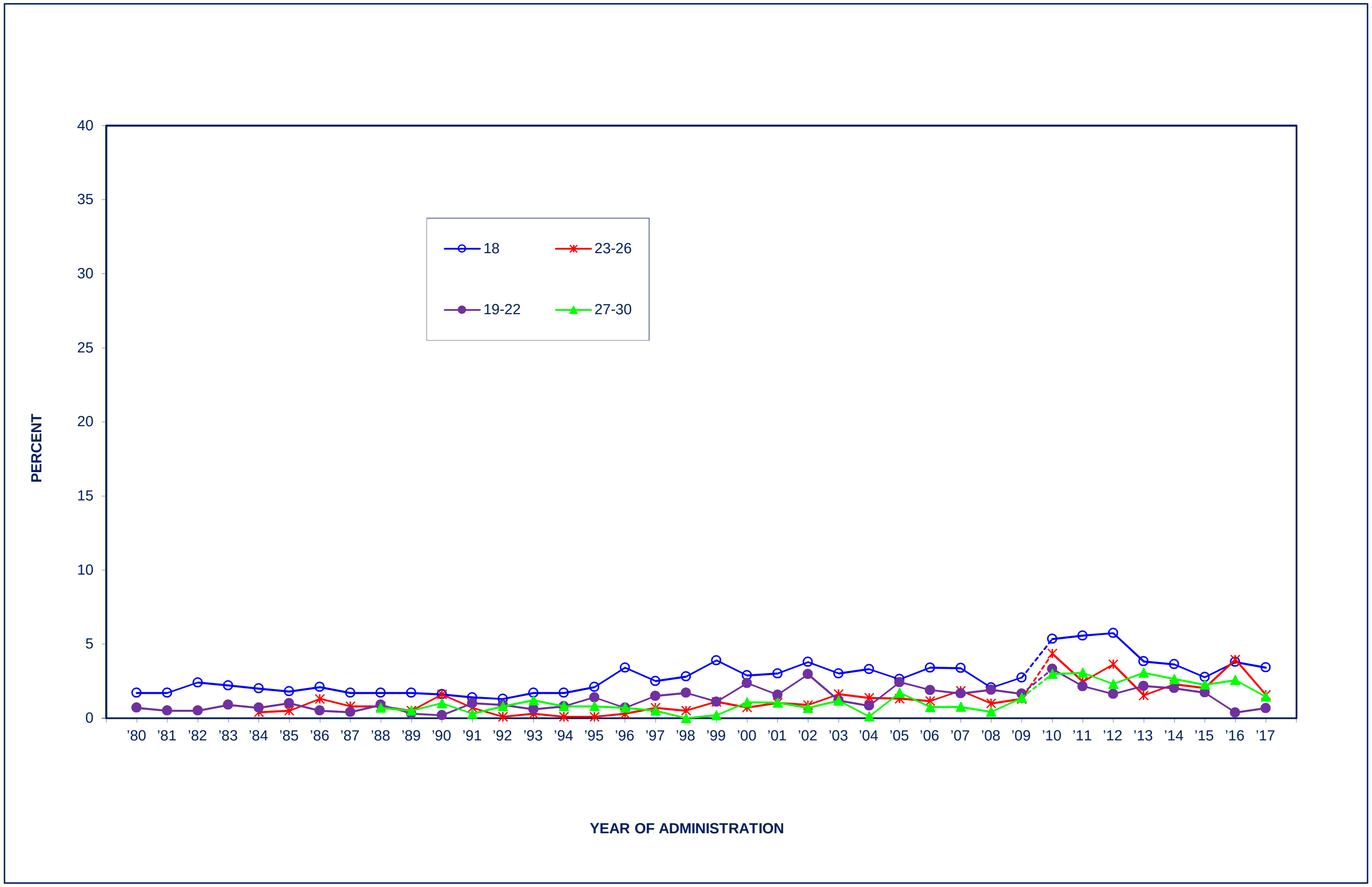


Source. The Monitoring the Future study, the University of Michigan.

[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.

FIGURE 7-16
Trends in Exposure to Use of NARCOTICS OTHER THAN HEROIN[a] among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

% Saying Often Exposed

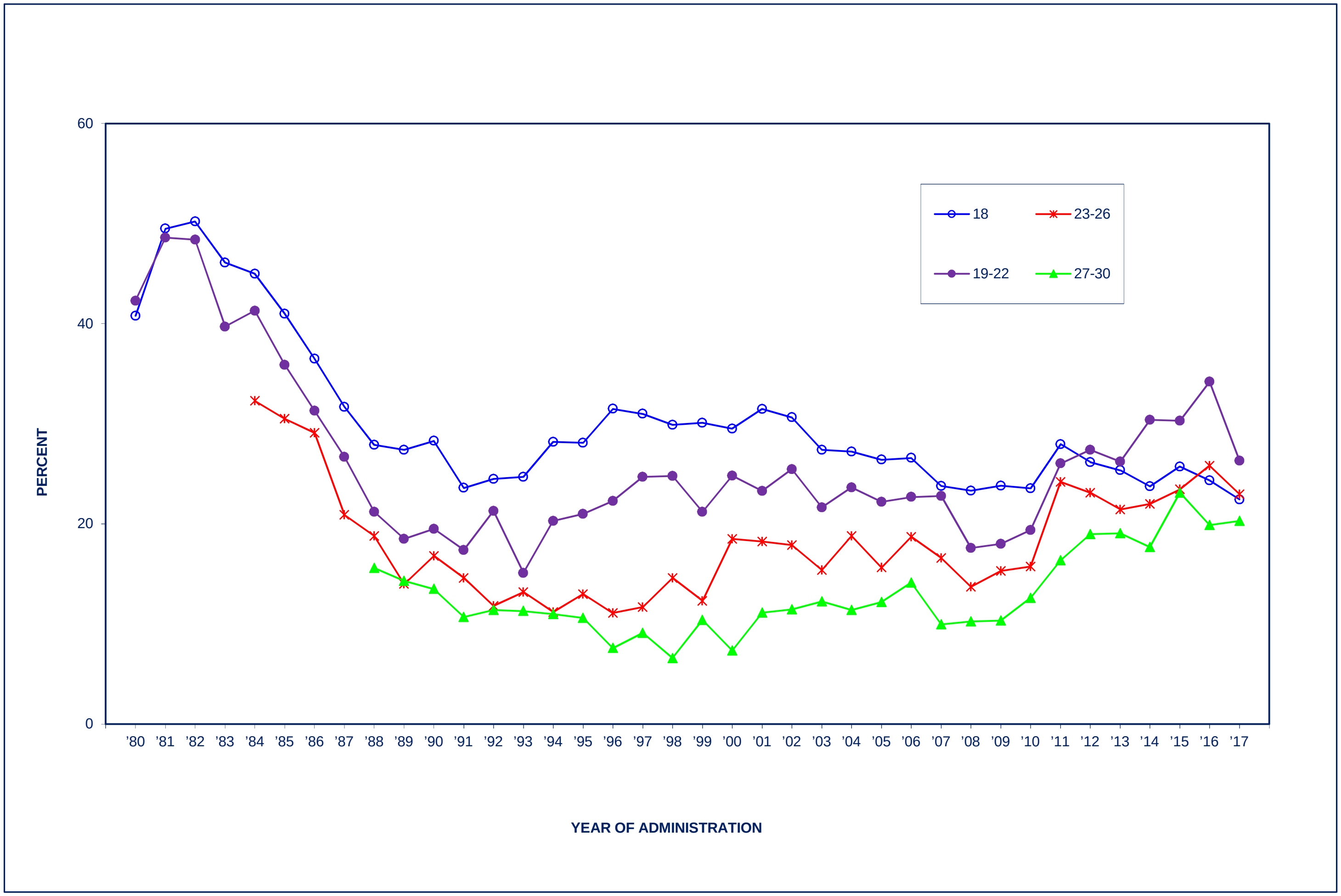


Source. The Monitoring the Future study, the University of Michigan.

[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.

FIGURE 7-17
Trends in Exposure to Use of AMPHETAMINES[a]
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

% Saying Any Exposure

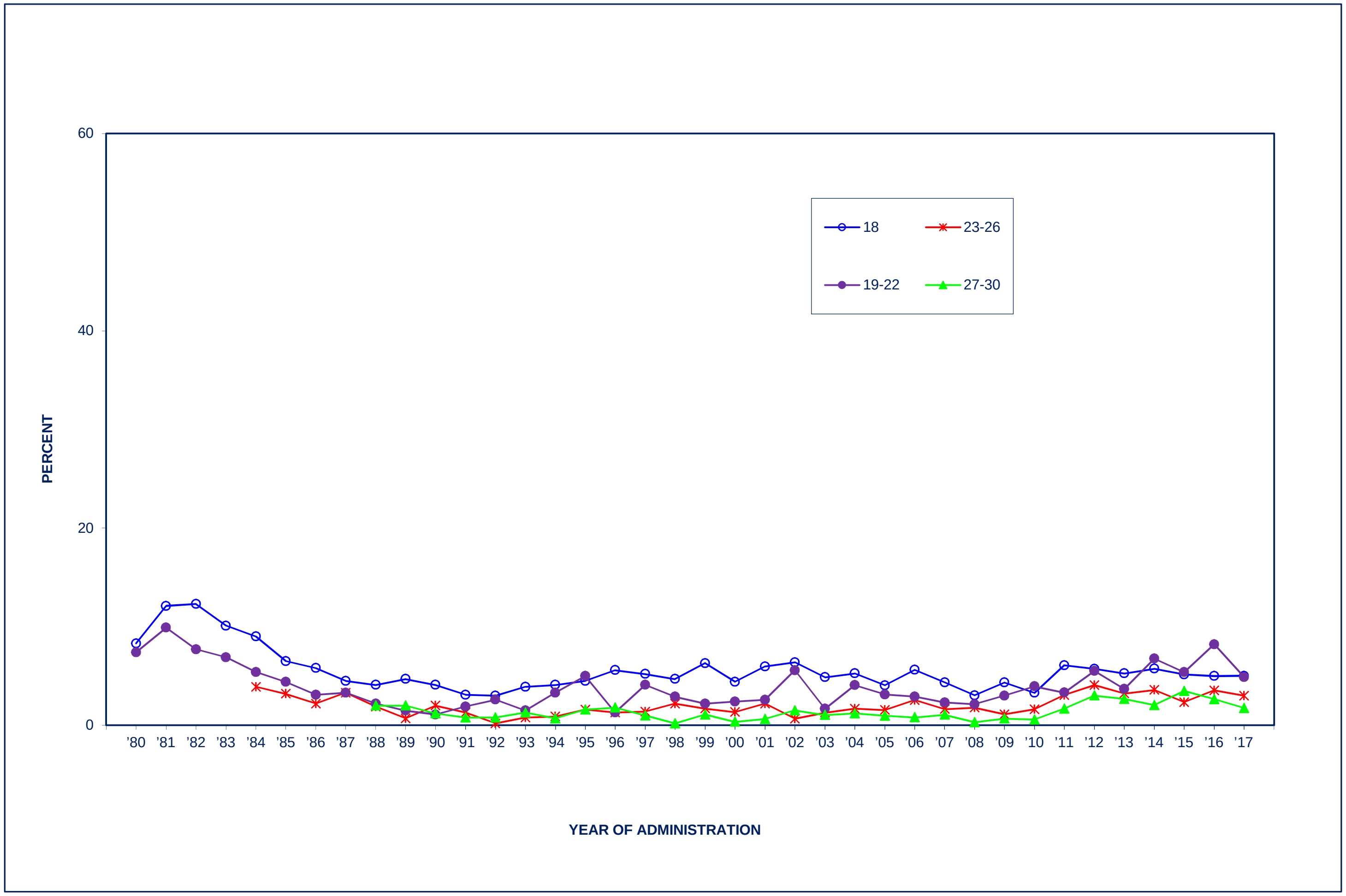


Source. The Monitoring the Future study, the University of Michigan.

[a]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.

FIGURE 7-18
Trends in Exposure to Use of AMPHETAMINES[a]
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

% Saying Often Exposed



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

[a]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.

FIGURE 7-19
Trends in Exposure to Use of SEDATIVES (BARBITURATES)[a]
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

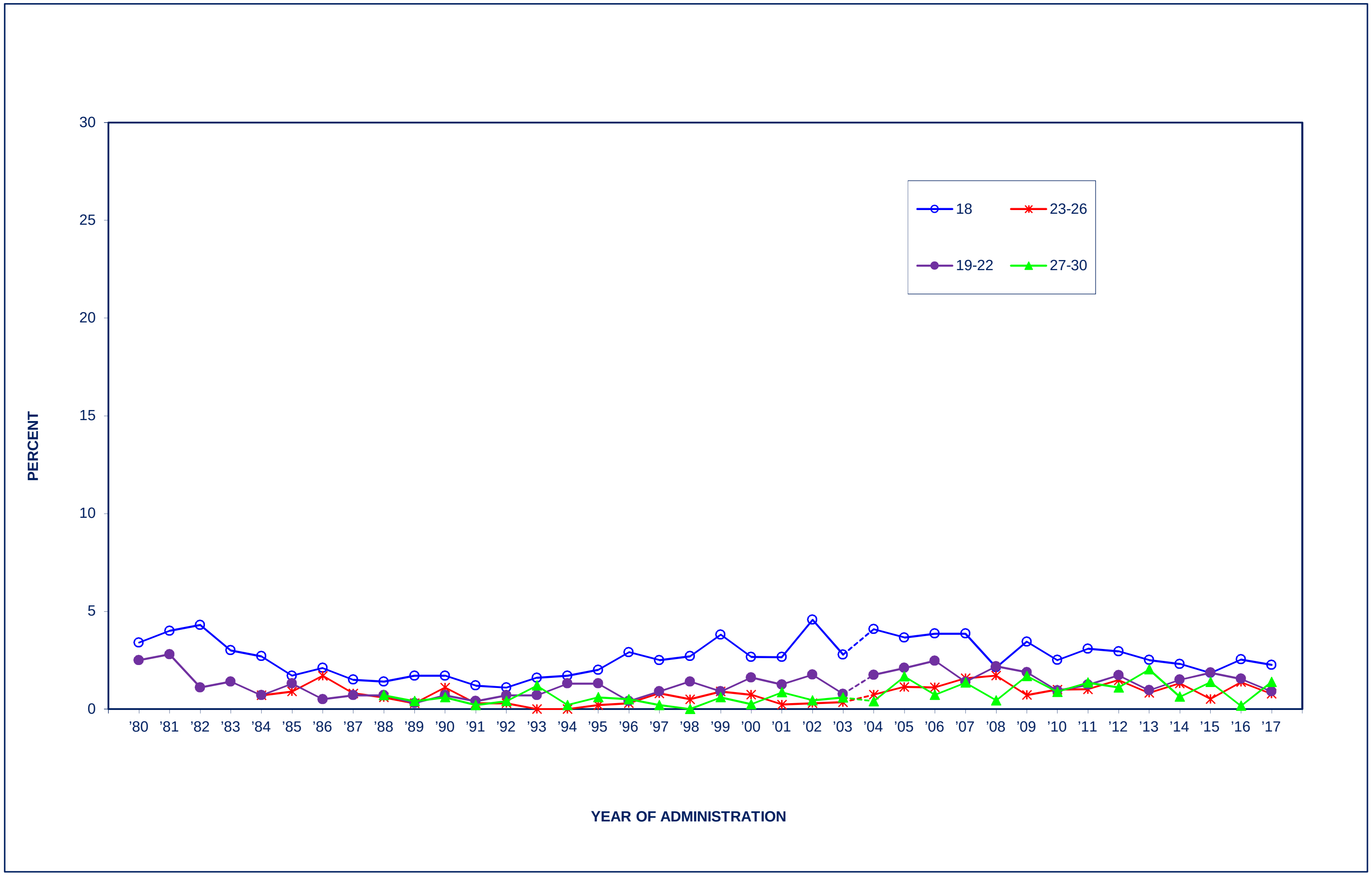
% Saying Any Exposure

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

[a]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 7-20
Trends in Exposure to Use of SEDATIVES (BARBITURATES)[a]
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

% Saying Often Exposed

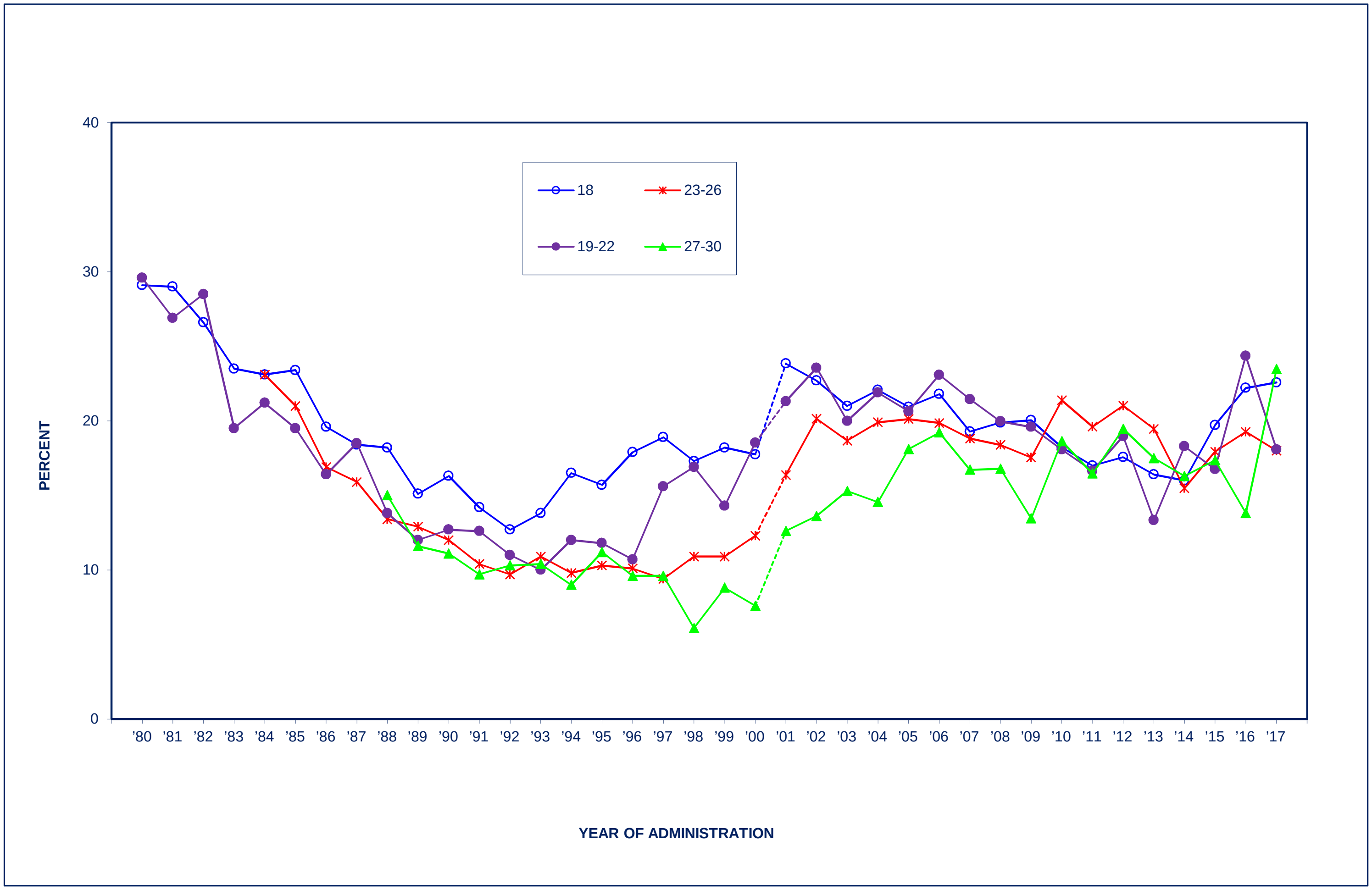


Source. The Monitoring the Future study, the University of Michigan.

[a]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 7-21
Trends in Exposure to Use of TRANQUILIZERS[a]
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

% Saying Any Exposure

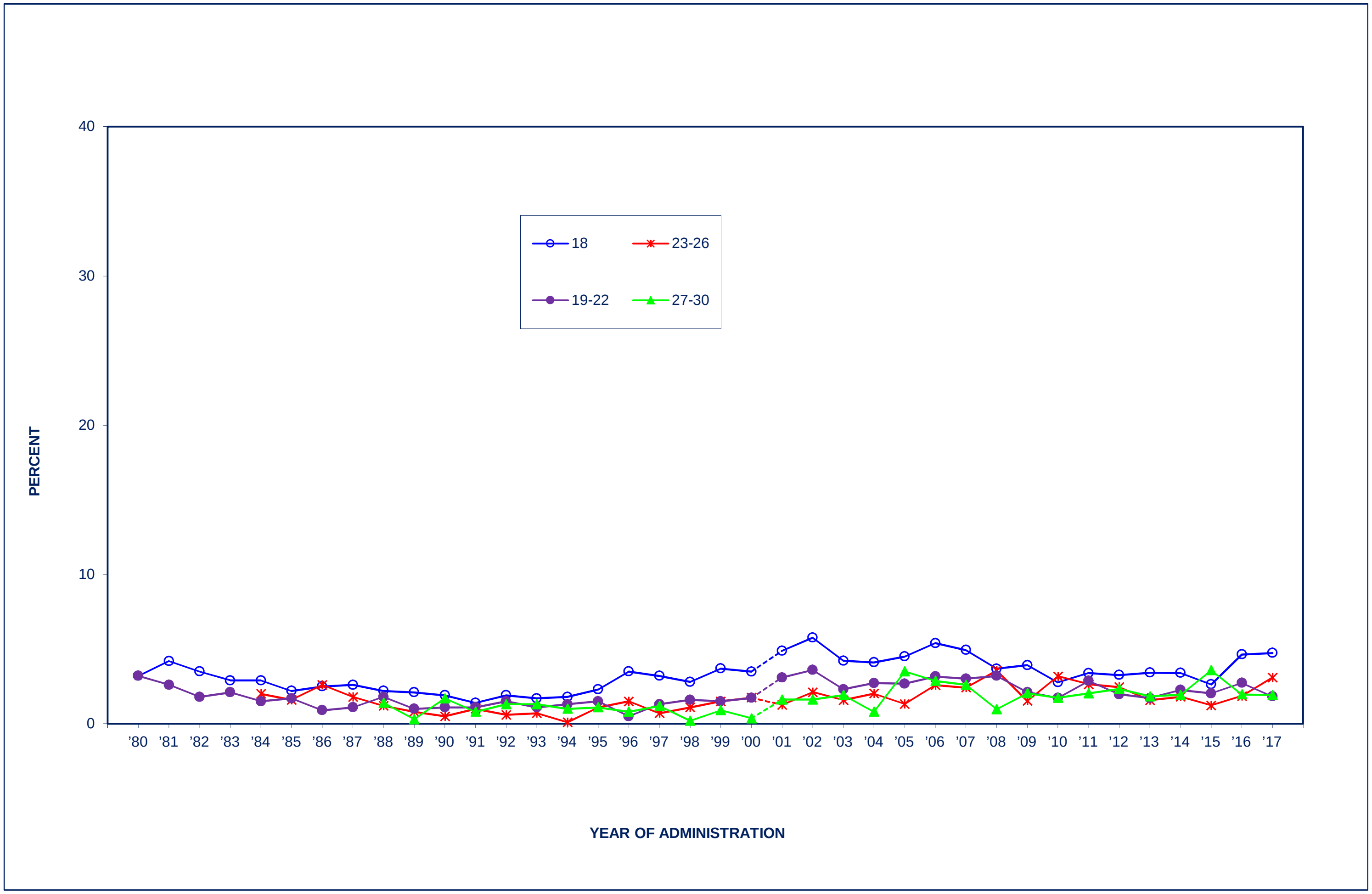


Source. The Monitoring the Future study, the University of Michigan.

[a]In 2001 Xanax was added to the list of examples. This change likely explains the discontinuity in the 2001 results.

FIGURE 7-22
Trends in Exposure to Use of TRANQUILIZERS[a]
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

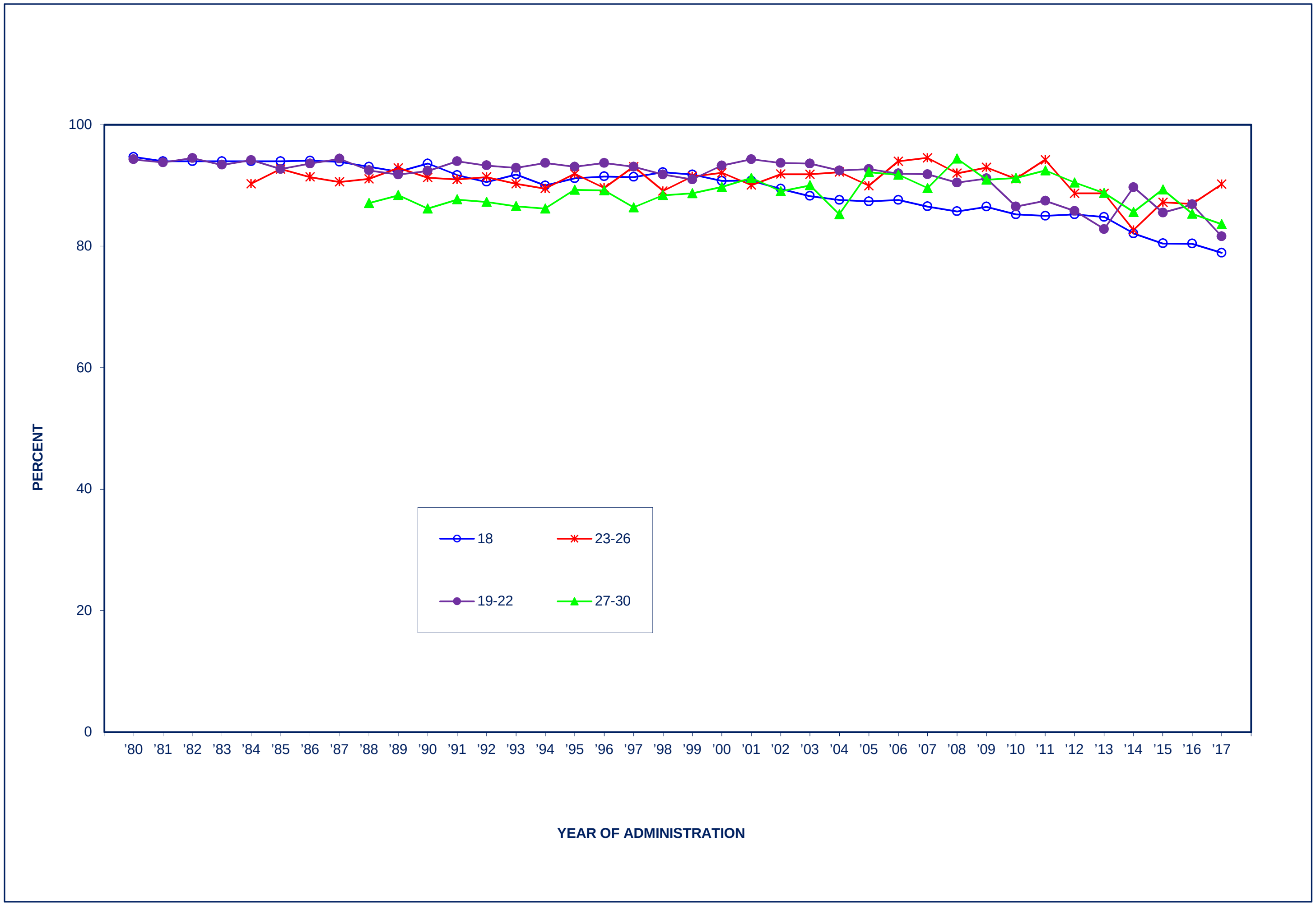
% Saying Often Exposed



Source. The Monitoring the Future study, the University of Michigan.
[a]In 2001 Xanax was added to the list of examples. This change likely explains the discontinuity in the 2001 results.

FIGURE 7-23
Trends in Exposure to Use of ALCOHOL
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

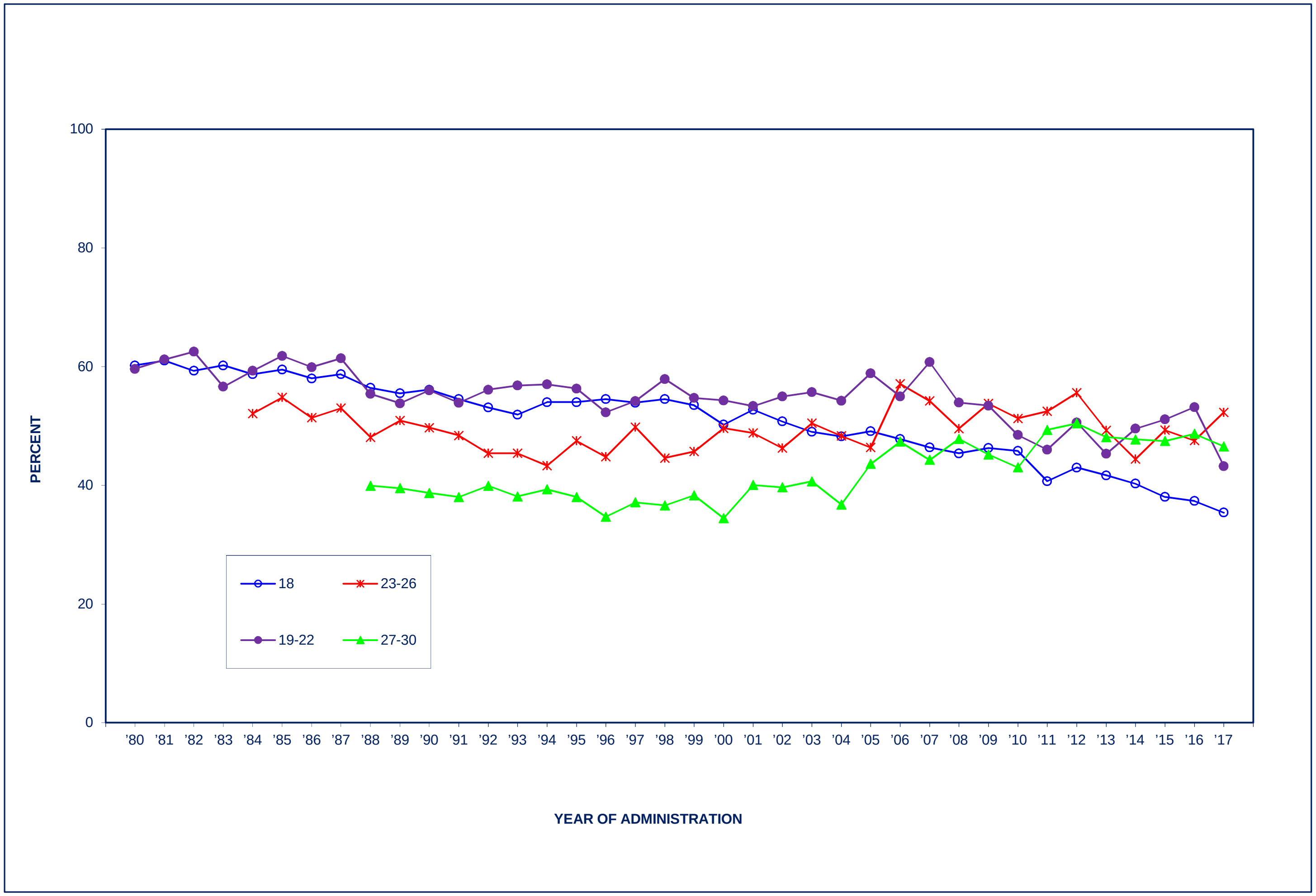
% Saying Any Exposure



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

FIGURE 7-24
Trends in Exposure to Use of ALCOHOL
among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

% Saying Often Exposed



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

Chapter 8

PREVALENCE OF DRUG USE AMONG COLLEGE STUDENTS AND THEIR NONCOLLEGE PEERS

College students have often been the harbingers of social and political changes that eventually spread to other segments of the population up and down the age spectrum. The Monitoring the Future (MTF) study tracks multiple forms of substance use among U.S. college students and has done so for nearly four decades. In this process, MTF has documented the fluctuations in college substance use as well as some patterns of influence on or by other age groups. This chapter focuses on the prevalence of drug use in 2017 by college students and their age-peers not in college; the next chapter (Chapter 9) focuses on historical trends in drug use in these two groups.

Definition of College Students

College students are defined in this volume as those follow-up respondents *one to four years past high school* who report that they were taking courses as *full-time students* in a *two- or four-year undergraduate college* at the *beginning of March* of the year in question. Note that full-time students at two-year colleges, such as community colleges, are included.

The definition excludes those who are currently enrolled in college part-time and those who previously may have been college students or may have graduated from college by March one to four years after high school. MTF has been able to generate an unparalleled national sample of college students and peers not in college every year since 1980 by following representative samples of sequential high school classes after they graduate. The graduating class of 1976 was the first such class followed after graduation, and by 1980 the survey included college students one to four years past high school.

The absence of dropouts in the original high school senior samples has practically no effect on the representativeness of these college samples, because very few high school dropouts go on to college. One notable limitation of the present design for the purpose of characterizing college students is that it limits the age range of the college sample. For trend estimation purposes (covered primarily in Chapter 9), we decided to limit the age band to the most typical one for college attendance, that is, one to four years past high school, which corresponds to modal ages 19 through 22. According to statistics available from the United States Census Bureau,[1] this age band should encompass about 75% of all undergraduate college students enrolled full-time in 2014, down slightly from the 79% covered in 1989. Although expanding the age band to include an additional two years would cover 79% of all enrolled college students of any age, it would slightly reduce the homogeneity of the college experience by including older classmates, it would bring four-year college graduates into the noncollege group, and it would limit historical comparability. Special analyses conducted in 1985, and replicated in 1997, 2011, and 2017 indicated extremely small differences in the estimates of drug use prevalence under the two definitions for college students on noncollege youth. In all the years we evaluated this, the annual prevalence of all drugs shifted 0.5 percentage points or less, with few exceptions. Based on the 2017 analyses, the difference was 0.6 percentage points for hallucinogens other than LSD, and 0.7 percentage points for MDMA

[1] U.S. Census Bureau, October 2014. Available at: http://www.census.gov/

(ecstasy, molly). Thus, for purposes of estimating prevalence, the four- and six-year intervals are nearly interchangeable, suggesting that this limitation is negligible for our purposes of estimating current prevalence and historical trends (in Chapter 9).

The MTF panels also include high school graduates one to four years past high school who were *not* attending college during March in the year in question. Having data for both groups is a rare and valuable feature of the MTF follow-up design and makes it possible to compare differences and changes in the use of various substances after high school for each group. Full-time college students as defined here now constitute almost two-thirds (63%) of the entire follow-up sample one to four years past high school. If data from the missing high school dropout segment—which has declined from around 15% to roughly 7% of a class cohort as summarized in Chapter 1—were available for inclusion as part of the noncollege segment, any difference between the two groups in terms of their substance use would likely be enlarged; therefore, any difference observed here is only an indication of the direction and relative size of difference between the college and the *entire* noncollege population, not an absolute estimate of the difference.

PREVALENCE OF DRUG USE AMONG COLLEGE STUDENTS VERSUS THEIR NONCOLLEGE PEERS

In 2017, prevalence of use for most illicit drugs among college students was *lower* compared with use among their noncollege peers, but the degree of difference varied considerably by drug, as Tables 8-1 through 8-4 show.

- In 2017, annual prevalence of use of ***any illicit drug*** was 43% for college students as well as for noncollege respondents (Table 8-2). Similarly, annual prevalence of using ***any illicit drug other than marijuana*** was 18% among college students and also noncollege respondents. Thirty-day prevalence was lower among college than among noncollege youth for use of any illicit drug (24% vs. 27%, respectively) and use of any illicit other than marijuana (7.0% vs. 8.4%, respectively) (Table 8-3).

- The annual prevalence of ***marijuana*** use was lower among college students than noncollege respondents in 2017 (38% vs. 41%, respectively) (Table 8-2); the same was true regarding 30-day marijuana prevalence (21% versus 28%, respectively) (Table 8-3). The rate of current ***daily marijuana*** use was three times higher for the noncollege group (13.2%) compared to the college students (4.4%) (Table 8-4). It is noteworthy that proportional differences between college and noncollege youth for marijuana use increase for measures of more frequent use.

- With regard to ***vaping marijuana***, based on new questions added to the surveys in 2017, prevalence was higher among noncollege youth than college students. For the two groups respectively, annual prevalence was 14% and 11% (Table 8-2); 30-day prevalence was 7.8% and 5.2% (Table 8-3).

- It is clear that use of a number of ***illicit drugs other than marijuana*** tended to be distinctly higher among those not in college. (As previously noted, such differences would likely be larger if the noncollege sample included high school dropouts.) In fact, several of the less commonly used drugs showed annual use rates for noncollege respondents in 2017 that were two or more times the college student rates, including ***synthetic marijuana***, ***salvia, crack cocaine, heroin***, ***methamphetamine, crystal methamphetamine***, and ***bath salts*** (***synthetic stimulants***).

- In 2017, 4.1% of the noncollege group and 3.1% of the college group reported past-year use of ***narcotics other than heroin*** without medical supervision (Table 8-2). With respect to specific drugs in this class, ***Vicodin*** was used by 1.8% of the noncollege group vs. 1.1% of college students; the corresponding numbers for ***OxyContin*** were 2.6% and 1.8%.

- By way of contrast, ***amphetamine*** use was somewhat higher among college students than among their noncollege age-mates. Annual prevalence of amphetamine use among college students was 8.6% in 2017, compared to 7.3% in the noncollege group. Specifically, annual prevalence of ***Adderall*** use without medical supervision (Table 8-2) was higher for college students (9.5%) than for noncollege respondents (6.7%), as has been the case for the last several years. The higher use by college students is very likely because this amphetamine drug, intended for the treatment of attention deficit hyperactivity disorder (ADHD), is sometimes used by students to stay awake and alert in order to complete course work and to study for exams. The nonmedical use of ***Ritalin***, another but now less common stimulant drug prescribed for ADHD, was similarly low in the college and noncollege groups in 2017 (annual prevalence of 1.5% vs. 1.4%, respectively).

- In addition, for most all measures of annual and current ***alcohol*** use, 2017 prevalence was somewhat higher for the college group than the noncollege group. This was true for both annual prevalence (76% vs. 72%) (Table 8-2) and 30-day prevalence (62% vs. 56%) (Table 8-3).

- College students also had a higher prevalence (33%) of ***occasions of heavy or binge drinking*** (five or more drinks in a row in the past two weeks) than their noncollege peers (28%) in 2017 (Table 8-4). Similarly, more college students (35%) reported having ***been drunk*** in the prior 30 days, compared to noncollege respondents (30%) (Table 8-3). Both groups had relatively low ***daily drinking*** prevalence, with it being lower in 2017 among college students (2.2%) than their noncollege peers (4.0%) (Table 8-4). *In high school, college-bound students, especially in earlier grades, were far less likely to drink alcohol at any level compared to their noncollege-bound peers (see Volume I); thus, both relative and absolute increases in most indices of alcohol use among college students in the first few years following high school are quite striking.*

- Beginning in 2005, we have given explicit attention to the problem of ***extreme binge drinking*** (also referred to as high intensity drinking), introducing a set of questions on the subject into one of the six questionnaire forms used with young adults, including college students. The questions asked respondents about the frequency in the past two weeks of having 10 or more drinks in a row and of having 15 or more drinks in a row. The low numbers of cases that resulted from a single questionnaire form necessitate combining multiple years of data (2005–2017), making 2,520 weighted cases available from the college student segment and 1,467 for the noncollege segment of the same age. Across the 13 years from 2005 to 2017, about one in eight college students (12%) reported having ***10 or more drinks in a row*** at least once in the prior two weeks, and one in twenty-five (4%)

reported ***15 or more drinks in a row*** at least once in the prior two weeks.[2] The noncollege respondents had similar respective rates (11% and 5%). Clearly, this type of extreme binge drinking is worrisome among both college students and noncollege youth.[3,4] Trends since 2005 are considered in Chapter 9 (Tables 9-4, 9-5, and 9-6), where we document a general downward trend, especially for college students. As will be discussed below, there are dramatic gender differences in the prevalence of these behaviors.

- In 2017, 60% of college students reported using ***flavored alcoholic beverages*** in the prior year, similar to 61% for the noncollege group (Table 8-2).

- In 2017, prevalence of ***alcohol beverages containing caffeine*** was slightly higher for the college than the noncollege group (32% versus 27% respectively) (Table 8-2).

- Among all substances studied, the largest differences for annual, 30-day, and daily prevalence rates between college and noncollege groups occur for ***cigarette smoking***. For example, the prevalence of daily smoking for college students was 2.0% versus 14.4% for noncollege respondents in 2017 (Table 8-4). Smoking at the rate of a half pack or more per day stood at 0.2% versus 7.9% % for these two groups, respectively. The 12th grade data show the college-bound to have much lower smoking rates in high school than the non-college-bound; thus, in contrast to what was true for alcohol use, these substantial differences observed at college age actually largely preceded college attendance.[5] The smoking differences would be even greater if dropouts were included in the noncollege group, because dropouts have consistently shown an exceptionally high rate of smoking.[6]

- In 2017, we expanded the ***vaping*** questions to get at specific substances being vaped including nicotine, marijuana, and just flavoring. With regard to ***vaping nicotine***, annual prevalence was lower for college youth (13%) than noncollege youth (21%) (Table 8-2); this was also true regarding 30-day prevalence (6.0% versus 7.9%, respectively) (Table 8-3). ***Vaping just flavoring*** was similar for college students and noncollege youth; for the two groups, respectively, annual prevalence was 13% and 15% (Table 8-2) and 30-day prevalence was 4.2% and 4.7% (Table 8-3).

In sum, as has been true for many years, the noncollege segment of the modal age 19-22 population was generally more drug-involved than the college student segment in 2017, especially regarding most forms of illicit drug and tobacco use. This pattern is a continuation of the high school pattern

---

[2] See Patrick & Terry-McElrath (2017) for differences in 5+, 10+, and 15+ drinking by non-attenders, part-time college attenders, 2-year college attenders, and 4-year college attenders. Patrick, M. E., & Terry-McElrath, Y. M. (2017). High-intensity drinking by underage young adults in the United States. *Addiction, 112*, 82-93.

[3] Patrick, M. E., Terry-McElrath, Y. M., Kloska, D. D., & Schulenberg, J. E. (2016). High-intensity drinking among young adults in the United States: Prevalence, frequency, and developmental change. *Alcoholism: Clinical and Experimental Research, 40*, 1905-1912.

[4] Patrick, M. E., Terry-McElrath, Y. M., Miech, R. A., Schulenberg, J. E., O'Malley, P. M., & Johnston, L. D. (2017). Age-specific prevalence of binge and high-intensity drinking among U.S. young adults: Changes from 2005 to 2015. *Alcoholism: Clinical and Experimental Research*, *41*, 1319-1328.

[5] See also 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.

[6] For an 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.

in which those without college plans are more likely to use drugs. The only substances that college students were appreciably more likely to use than their noncollege peers were ***amphetamines*** (including ***Adderall*** in particular) and ***alcohol*** (particularly ***getting drunk*** and ***binge drinking***). The higher rates of alcohol use among college students emerged only after high school; during high school alcohol use was lower among those who would later go on to college.

GENDER DIFFERENCES IN PREVALENCE OF USE AMONG COLLEGE STUDENTS AND THEIR NONCOLLEGE PEERS

Data stratified by gender (and college student status) are provided in Tables 8-1 to 8-4.

- Most gender differences among college students and noncollege youth replicated those discussed in Chapter 4 for all young adults one to 12 years past high school, which in turn replicated gender differences among secondary school students. Thus among college students and noncollege youth, males had higher annual prevalence rates for most illicit drugs.

- Among college students in 2017, annual prevalence of use of ***any illicit drug*** and ***any illicit drug other than marijuana*** was higher for males than females (46% vs. 40% for any illicit drug, and 20% vs. 17% for any illicit drug other than marijuana). Gender differences were similar in the noncollege group (Table 8-2).

- Annual ***marijuana*** use was slightly higher among college males than females (41% vs. 37%) in 2017, but the opposite was true for the noncollege group (40% vs. 42%) (Table 8-2)***. Thirty-day marijuana*** use was higher among college males than females (24% vs. 19%), as well as for noncollege males than females (29% vs. 27%) (Table 8-3). ***Daily marijuana*** use was about twice as high among male college students compared to female college students (6.4% vs. 3.1% respectively); and also higher for noncollege males than females (15% vs. 12%, respectively), although the rates of use for both genders were much higher for the noncollege than college group (Table 8-4).

- With regard to ***vaping marijuana***, based on new questions added to the surveys in 2017, annual prevalence was higher among college males than females (13% vs. 9.3%), as well as among noncollege males than females (16% vs. 12%) (Table 8-2). Among college students, 30-day prevalence was higher among males than females (8.7% vs. 2.9%); however, among noncollege youth the opposite was true (6.6% vs. 8.6%) (Table 8-3).

- Among college students, annual prevalence of any ***hallucinogens*** in 2017 was twice as high for males than for females (6.0% vs. 2.9%), and the same was true for ***LSD*** specifically (4.1% vs. 2.1%); corresponding prevalence for ***hallucinogens other than LSD*** was 3.3% and 2.0%, and for ***MDMA*** (ecstasy, and more recently Molly) it was 3.1% and 2.2%. Among noncollege respondents, annual prevalence was about twice as high for males than for females for use of any hallucinogens (7.8% vs. 4.0%), for use of LSD specifically (5.7% vs. 2.9%), and for use of hallucinogens other than LSD (5.3% vs. 1.9%); however, annual prevalence was *lower* for males than for females for MDMA (ecstasy, and more recently Molly) (4.2% vs. 5.1%), as well as for rarely used ***salvia*** (1.4% vs. 3.2%) (Table 8-2).

- Among college students, annual prevalence of ***narcotics other than heroin*** without medical supervision was slightly higher for males (3.7%) than for females (2.7%) in 2017, whereas in the noncollege group annual prevalence was similar for males (4.2%) and females (4.1%) (Table 8-2). For the specific narcotic ***Vicodin,*** use among college students was slightly higher for males than females (1.4% vs. 0.9%), as was the case in the noncollege group (2.1% vs. 1.6%). For ***OxyContin*** use, males were slightly higher than females among college students (2.6% vs. 1.2%), with the opposite being true for noncollege youth (1.9% vs. 3.0%).

- Annual ***amphetamine*** use in 2017 was higher among college females (9.2%) than college males (7.7%), with it being similar among noncollege females and males (7.2% versus 7.5%) (Table 8-2).

- Annual ***Ritalin*** use without medical supervision in 2017 was similar among college males (1.4%) and females (1.5%), and in the noncollege segment use among males was lower than among females (0.8% vs. 1.8%, respectively) (Table 8-2).

- The annual prevalence of ***Adderall*** use outside of medical supervision in 2017 was similar among male and female college students (9.8% and 9.2%, respectively), whereas use was higher among females than among males in the noncollege segment (7.4% vs. 5.7%, respectively) (Table 8-2). Again, the higher use of amphetamines among male and female college students compared with male and female noncollege respondents suggests that some college students of both genders could be using these drugs to try to enhance their academic performance.

- ***Binge drinking*** (5+ drinks in a row in the past two weeks) was higher for males than for females among both college students (39% vs. 29%) and noncollege youth (32% vs. 26%) (Table 8-4). Similarly, among college students, males were more likely than females to report ***being drunk*** in the past 30 days (38% vs. 33%) in 2017; however, for the noncollege segment, males were lower than females (25% vs. 33%) (Table 8-3).

- ***Extreme binge drinking*** (10+ or 15+ drinks in a row in the past two weeks) showed a large gender difference in both groups. For the years 2005–2017 combined (as discussed above), the prevalence of having ***10 or more drinks in a row*** in the prior two weeks was about three times higher among college males (21%) than among college females (7%), and similarly higher among noncollege males (17%) than noncollege females (7%). Prevalence of 10+ extreme binge drinking for college males (21%) exceeded that for noncollege males (17%), whereas college and noncollege females were similar (at 7%). Regarding the prevalence of having ***15 or more drinks in a row***, gender differences were similar across college and noncollege respondents: it was 8.5% and 9.1% for college and noncollege males, respectively, and 1.6% and 2.1% for college and noncollege females, respectively. *Put another way, about one in five college males and one in six noncollege males had 10 or more drinks at least once during the prior two weeks, and one in eleven males regardless of college student status reported having 15 or more drinks at least once in the past two* *weeks; corresponding rates for females regardless of college student status were about one in fifteen and one in fifty, respectively.*[7]

- ***Flavored alcoholic beverages*** were *more* likely to be consumed by college females than college males (68% vs. 45% reporting past-year use), as was the case for the noncollege group (67% of females vs. 53% of males) in 2017 (Table 8-2).

- Annual prevalence of ***alcoholic beverages containing caffeine*** in 2017 was higher among college males (36%) than college females (28%); it was also slightly higher among noncollege males (29%) than noncollege females (26%) (Table 8-2). These findings suggest that college males in particular are at risk for this potentially dangerous behavior.

- Among college students, 30-day prevalence of ***cigarette smoking*** was higher for males (11%) than for females (6%) in 2017, and that was true to a lesser extent for the noncollege segment (24% and 20%, respectively) (Table 8-3); rates for both genders were much higher in the noncollege group. ***Daily smoking*** was also higher for males than females in the college segment (3.4% and 1.1%, respectively); the rates again were much higher in the noncollege segment (15% for males and 14% for females) (Table 8-4). *Put another way, daily smoking was five times as high among males in the noncollege segment as among male college students (15% vs. 3%), and eight times as high among females in the noncollege segment as among female college students (8% vs. 1%).* Rates of ***smoking a half pack or more per day*** among college students were 0.6% for males and <.01% for females, compared with 7.2% and 8.3% for the noncollege segment, respectively.

- Prevalence of most other types of tobacco use was higher among males than females in both the college and noncollege groups in 2017 as shown in Tables 8-2 and 8-3.

- With regard to ***vaping nicotine***, annual prevalence was twice as high among college males compared to college females (19% versus 9.4%); among noncollege youth, it was also somewhat higher among males than females (25% versus 19%) (Table 8-2). Thirty-day prevalence was much higher for males than females among both college students (11% versus 3.2%) and noncollege youth (12% versus 4.9%) (Table 8-3).

In sum, most licit and illicit drugs were used by a higher proportion of college males than college females, with the largest proportional differences occurring for ***daily marijuana use***, ***two-week extreme binge drinking, 30-day vaping of marijuana and nicotine,*** and ***annual hallucinogen use***. In general, gender differences in the college segment were similar to those in the noncollege segment, with noteworthy differences in 2017 regarding ***30-day marijuana vaping*** and ***binge drinking***. Compared with noncollege males, college males were more frequent users of ***alcohol*** and ***Adderall*** (outside of medical supervision), but considerably less likely to use ***marijuana daily***, and this same pattern held for noncollege versus college females. The most impressive difference between the college and noncollege segments is for ***cigarette smoking***, with noncollege males and females showing much higher use than college males and females.

[7] For additional information on 10+ drinking by gender and college attendance, see Patrick, M. E., Terry-McElrath, Y. M., Kloska, D. D., & Schulenberg, J. E. (2016). High-intensity drinking among young adults in the United States: Prevalence, frequency, and developmental change. *Alcoholism: Clinical and Experimental Research, 40*, 1905-1912.

TABLE 8-1

Lifetime Prevalence of Use for Various Types of Drugs, 2017: Full-Time College Students vs. Others among Respondents 1 to 4 Years beyond High School by Gender

(Entries are percentages.)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Any Illicit Drug [a]	55.5	63.3	57.8	61.7	54.1	64.4
Any Illicit Drug other than Marijuana [a]	26.3	31.3	27.0	33.8	25.8	29.5
Marijuana	50.6	59.6	52.6	60.2	49.3	59.2
Inhalants [b]	3.4	3.6	2.9	4.4	3.7	3.0
Hallucinogens [c]	7.3	12.1	9.2	14.7	6.1	10.3
LSD [c]	5.3	8.5	6.1	10.1	4.7	7.4
Hallucinogens other than LSD [c]	5.0	8.1	6.7	10.7	4.0	6.4
Ecstasy (MDMA) [d]	5.3	11.3	4.6	11.6	5.8	11.1
Cocaine	6.6	9.8	8.5	10.5	5.3	9.4
Crack [c]	0.6	1.4	1.0	0.4	0.3	2.0
Other Cocaine [d]	6.1	9.8	7.3	12.1	5.4	8.2
Heroin	0.1	1.1	0.1	1.2	*	1.0
With a Needle [e]	.	0.7	.	0.8	.	0.6
Without a Needle [e]	0.1	1.3	0.4	2.3	*	0.6
Narcotics other than Heroin [f]	6.9	10.5	7.2	11.8	6.7	9.7
Amphetamines, Adjusted [f,g]	12.7	14.2	11.9	16.2	13.2	12.9
Methamphetamine [e]	0.6	4.8	1.1	5.3	0.3	4.6
Crystal Methamphetamine (Ice) [e]	0.4	2.2	0.9	1.8	*	2.4
Sedatives (Barbiturates) [f]	3.9	4.8	4.8	5.4	3.3	4.5
Tranquilizers [f]	6.7	11.4	6.8	12.2	6.7	10.9
Alcohol	79.0	77.1	75.9	76.2	81.0	77.7
Been Drunk [b]	64.8	63.7	67.2	64.8	63.1	63.1
Flavored Alcoholic Beverages [h]	72.2	74.9	63.1	70.6	77.0	78.5
Cigarettes	—	—	—	—	—	—
Any Vaping [e]	36.1	37.0	37.5	43.4	35.2	32.9
Vaping Marijuana [e]	14.3	18.8	14.9	22.2	14.0	16.6
Vaping Nicotine [e]	22.5	29.2	26.5	32.4	20.0	27.2
Vaping Just Flavoring [e]	26.7	32.5	22.3	36.3	29.4	30.1
Steroids [e]	1.2	1.2	2.7	2.7	0.2	0.4
Approximate Weighted N =	*870*	*500*	*340*	*200*	*530*	*300*

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

Notes. ' * ' indicates a prevalence rate of less than 0.05%.

' — ' indicates data not available.

See footnotes following Table 8-4.

TABLE 8-2
Annual Prevalence of Use for Various Types of Drugs, 2017: Full-Time College Students vs. Others among Respondents 1 to 4 Years beyond High School by Gender

(Entries are percentages.)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Any Illicit Drug [a]	42.5	43.0	46.4	39.8	40.0	45.1
Any Illicit Drug other than Marijuana [a]	18.2	18.0	19.8	19.9	17.1	16.7
Marijuana	38.3	41.3	40.8	39.8	36.7	42.4
Synthetic Marijuana [b]	0.5	2.4	0.9	3.8	0.4	1.6
Inhalants [b]	1.7	0.6	2.3	1.5	1.4	*
Hallucinogens [c]	4.1	5.5	6.0	7.8	2.9	4.0
LSD [c]	2.9	4.0	4.1	5.7	2.1	2.9
Hallucinogens other than LSD [c]	2.5	3.2	3.3	5.3	2.0	1.9
Ecstasy (MDMA) [d]	2.6	4.7	3.1	4.2	2.2	5.1
Salvia [b]	0.3	2.5	0.9	1.4	*	3.2
Cocaine	4.8	5.2	6.6	3.9	3.6	6.0
Crack [c]	0.2	0.7	0.5	0.4	*	0.9
Other Cocaine [d]	4.5	4.8	5.2	3.9	4.0	5.3
Heroin	*	0.3	*	*	*	0.4
With a Needle [e]	*	*	*	*	*	*
Without a Needle [e]	*	*	*	*	*	*
Narcotics other than Heroin [f]	3.1	4.1	3.7	4.2	2.7	4.1
OxyContin [b,f]	1.8	2.6	2.6	1.9	1.2	3.0
Vicodin [b,f]	1.1	1.8	1.4	2.1	0.9	1.6
Amphetamines, Adjusted [f,g]	8.6	7.3	7.7	7.5	9.2	7.2
Ritalin [b,f]	1.5	1.4	1.4	0.8	1.5	1.8
Adderall [b,f]	9.5	6.7	9.8	5.7	9.2	7.4
Methamphetamine [e]	0.4	1.8	1.1	0.7	*	2.5
Crystal Methamphetamine (Ice) [e]	0.4	1.1	0.9	*	*	1.9
Bath Salts (synthetic stimulants) [b]	0.2	1.5	0.6	2.4	*	1.0
Sedatives (Barbiturates) [f]	1.9	2.4	2.4	3.1	1.6	1.9
Tranquilizers [f]	3.7	4.5	4.0	4.8	3.4	4.4
GHB [e]	*	*	*	*	*	*
Ketamine [e]	0.3	0.5	0.9	1.4	*	*
Alcohol	75.7	72.0	73.6	71.4	77.1	72.4
Been Drunk [b]	58.4	52.2	62.8	51.2	55.4	52.8
Flavored Alcoholic Beverages [h]	60.1	60.9	45.2	53.3	67.9	67.1
Alcoholic Beverages containing Caffeine [e,j]	31.5	26.7	36.1	28.8	28.2	25.6

(Table continued on next page.)

TABLE 8-2 (cont.)
Annual Prevalence of Use for Various Types of Drugs, 2017: Full-Time College Students vs. Others among Respondents 1 to 4 Years beyond High School by Gender

(Entries are percentages.)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Cigarettes	16.6	30.4	20.0	35.5	14.4	26.9
Tobacco using a Hookah [b]	10.1	16.8	12.9	17.7	8.3	16.2
Small Cigars [e]	13.7	20.8	26.9	30.8	4.5	14.4
Dissolvable Tobacco [e]	0.7	1.4	1.7	0.5	*	2.0
Snus [e]	4.3	4.9	8.2	10.8	1.6	1.2
Any Vaping [e]	23.5	24.8	27.1	29.5	21.2	21.7
Vaping Marijuana [e]	10.7	13.7	12.9	16.2	9.3	12.0
Vaping Nicotine [e]	12.9	21.0	18.5	24.8	9.4	18.5
Vaping Just Flavoring [e]	13.1	15.0	12.5	13.1	13.5	16.3
Steroids [e]	0.6	0.6	1.6	0.9	*	0.4
Approximate Weighted N =	*870*	*500*	*340*	*200*	*530*	*300*

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

Notes. ' * ' indicates a prevalence rate of less than 0.05%.

See footnotes following Table 8-4.

TABLE 8-3

Thirty-Day Prevalence of Use for Various Types of Drugs, 2017: Full-Time College Students vs. Others among Respondents 1 to 4 Years beyond High School by Gender

(Entries are percentages.)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Any Illicit Drug [a]	23.5	27.2	26.4	27.7	21.5	27.0
Any Illicit Drug other than Marijuana [a]	7.0	8.4	7.2	9.4	6.9	7.8
Marijuana	21.3	27.6	24.4	28.8	19.3	26.8
Inhalants [b]	0.9	*	0.6	*	1.0	*
Hallucinogens [c]	1.2	1.5	1.2	2.1	1.3	1.1
LSD [c]	0.9	1.0	1.1	1.1	0.7	0.9
Hallucinogens other than LSD [c]	0.6	0.5	0.3	0.9	0.8	0.2
Ecstasy (MDMA) [d]	0.5	1.2	0.6	0.7	0.4	1.6
Cocaine	1.3	1.2	1.4	1.4	1.3	1.2
Crack [c]	*	0.4	*	*	*	0.7
Other Cocaine [d]	1.1	0.7	1.1	1.6	1.1	*
Heroin	*	0.3	*	*	*	0.4
Narcotics other than Heroin [f]	0.7	1.4	0.6	1.5	0.7	1.3
Amphetamines, Adjusted [f,g]	3.7	3.1	3.9	3.2	3.5	3.0
Crystal Methamphetamine (Ice) [e]	0.4	0.9	0.9	*	*	1.5
Sedatives (Barbiturates) [f]	0.5	0.9	0.7	1.2	0.4	0.8
Tranquilizers [f]	0.9	1.6	0.6	1.7	1.1	1.5
Alcohol	62.0	56.4	63.2	56.3	61.2	56.4
Been Drunk [b]	35.0	29.9	37.5	25.3	33.3	32.5
Flavored Alcoholic Beverages [h]	36.3	27.3	19.1	28.8	45.3	26.0
Cigarettes	7.9	21.7	11.3	24.4	5.8	19.9
Any Vaping [e]	11.2	13.7	16.6	15.9	7.8	12.3
Vaping Marijuana [e]	5.2	7.8	8.7	6.6	2.9	8.6
Vaping Nicotine [e]	6.0	7.9	10.6	12.4	3.2	4.9
Vaping Just Flavoring [e]	4.2	4.7	5.6	7.4	3.3	3.0
Large Cigars [h]	1.7	5.5	5.1	2.2	*	7.9
Flavored Little Cigars [h]	4.9	10.4	8.1	9.1	3.1	11.3
Regular Little Cigars [h]	1.7	5.3	3.1	7.2	1.0	3.9
Steroids [e]	0.3	0.3	0.8	*	*	0.4
Approximate Weighted N =	*870*	*500*	*340*	*200*	*530*	*300*

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

Notes. ' * ' indicates a prevalence rate of less than 0.05%.

See footnotes following Table 8-4.

TABLE 8-4
Thirty-Day Prevalence of Daily [i] Use for Various Types of Drugs, 2017: Full-Time College Students vs. Others among Respondents 1 to 4 Years beyond High School by Gender

(Entries are percentages.)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Marijuana	4.4	13.2	6.4	15.4	3.1	11.7
Cocaine	*	0.1	*	0.2	*	*
Amphetamines, Adjusted [f,g]	0.1	0.4	0.1	0.3	0.1	0.5
Alcohol						
Daily	2.2	4.0	3.7	8.2	1.1	1.1
5+ Drinks in a Row in Last 2 Weeks	32.9	28.1	38.6	31.5	29.2	25.8
Cigarettes						
Daily	2.0	14.4	3.4	14.5	1.1	14.4
1/2 Pack+/Day	0.2	7.9	0.6	7.2	*	8.3
Approximate Weighted N =	*870*	*500*	*340*	*200*	*530*	*300*

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

Notes. ' * ' indicates a prevalence rate of less than 0.05%.

See footnotes on the following page.

TABLE 8-4
Thirty-Day Prevalence of Daily [i] Use for Various Types of Drugs, 2017: Full-Time College Students vs. Others among Respondents 1 to 4 Years beyond High School by Gender

(Entries are percentages.)

	Total		Males		Females	
	Full-Time College	Others	Full-Time College	Others	Full-Time College	Others
Marijuana	4.4	13.2	6.4	15.4	3.1	11.7
Cocaine	*	0.1	*	0.2	*	*
Amphetamines, Adjusted [f,g]	0.1	0.4	0.1	0.3	0.1	0.5
Alcohol						
Daily	2.2	4.0	3.7	8.2	1.1	1.1
5+ Drinks in a Row in Last 2 Weeks	32.9	28.1	38.6	31.5	29.2	25.8
10+ Drinks in a Row in Last 2 Weeks [h]	10.2	9.3	14.5	11.8	7.8	7.2
15+ Drinks in a Row in Last 2 Weeks [h]	1.3	5.0	2.0	7.4	0.9	3.2
Cigarettes						
Daily	2.0	14.4	3.4	14.5	1.1	14.4
1/2 Pack+/Day	0.2	7.9	0.6	7.2	*	8.3
Approximate Weighted N =	*870*	*500*	*340*	*200*	*530*	*300*

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

Notes. ' * ' indicates a prevalence rate of less than 0.05%.

See footnotes on the following page.

Footnotes for Tables 8-1 through 8-4

[a]Use of any illicit drug includes any use of marijuana, hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), or tranquilizers not under a doctor's orders.

[b]This drug was asked about in three of the six questionnaire forms. Total *N* in 2017 for college students is approximately 440.

[c]This drug was asked about in five of the six questionnaire forms. Total *N* in 2017 for college students is approximately 730.

[d]This drug was asked about in four of the six questionnaire forms. Total *N* in 2017 for college students is approximately 580.

[e]This drug was asked about in two of the six questionnaire forms. Total *N* in 2017 for college students is approximately 290.

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

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

[h]This drug was asked about in one of the six questionnaire forms. Total *N* in 2017 for college students is approximately 150.

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

[j]In 2012 the alcoholic beverage containing caffeine question text was changed to alcoholic beverage mixed with energy drink. The data for 2011 and 2012 are not comparable due to this question change.

Chapter 9

TRENDS IN DRUG USE AMONG COLLEGE STUDENTS AND THEIR NONCOLLEGE PEERS

In this chapter, we consider current and past trends in substance use among college students and their noncollege peers. To put current trends in historical context, we note that between about 2000 and 2009, years college students and high school seniors showed simultaneous decreases and increases in marijuana use as well as in the index of any illicit drug use. This secular trend (where change occurs similarly regardless of age/cohort) differed from prior trends in which drug use increases among college students either preceded or followed those among younger students. During the 1960–70s drug epidemic, illicit drug use increased dramatically among U.S. college students, then spread quickly to their noncollege-attending peers and eventually down the age spectrum to high school and even middle school students. The diffusion process seemed to have reversed during the subsequent epidemic relapse in the 1990s, when drug use increased first among those in early adolescence and then radiated *up* the age spectrum as those cohorts grew older (reflecting a cohort effect). Use subsequently declined among adolescents; this decline, like the preceding increase, radiated up the age spectrum—again a sign of a cohort effect.

There has been some evidence of a more recent cohort effect emerging particularly regarding marijuana: marijuana use first rose among high school seniors, particularly from 2009 through 2012 (followed by a leveling that continued through 2015 and nonsignificant increases in 2016 and 2017) and then rose among college students and their noncollege peers, starting in 2011 and continuing into 2016. In 2017, there was a nonsignificant decline among college students and leveling among noncollege youth who had a slightly higher annual prevalence. See Figure 9-3a.

Again, we define college students as *follow-up respondents (i.e., high school graduates) one to four years past high school who report that they were taking courses as full-time students in a two- or four-year undergraduate college at the beginning of March in the year in question.* For more information, see the "Definition of College Students" subsection in Chapter 8.

Trend data are also provided here on the other high school graduates, those follow-up respondents who are one to four years past high school but do not meet our definition of full-time college students (Figures 9-1 through 9-16c). These young people may be working full- or part-time, not working at all, and/or attending a two- or four-year college part-time. This is an important group by itself, given less is known about their substance use, as well as an important comparison group for the college students.

The proportion of young adult high school graduates one to four years beyond high school who attend college full-time has increased considerably since the MTF follow-ups began. In 2017, about 63% of the weighted number of follow-up respondents one to four years past high school met our definition of college students, compared with only 38% in the 1980 survey—the first survey to provide the full sampling of college students. This means, of course, that the proportion of our annual follow-up samples that is in the noncollege group of the same age has diminished considerably.

The difference between the college group and the noncollege group provides an estimate of the degree to which college students' usage levels for various substances are above or below other high school graduates in this age band. If we were able to include the high school dropout segment in the calculations for the noncollege group, many of the differences with the college-enrolled would be accentuated.[1]

For each year, approximately 900–1,500 weighted respondents constitute the college student sample (see Table 9-7 for numbers [*N*s] per year) and roughly 600–1,700 respondents constitute the noncollege group one to four years beyond high school. Trend comparisons for these two groups are provided in this chapter. The reported results begin with 1980, the first year that enough follow-up surveys had accrued to characterize young high school graduates one to four years past high school. The 2017 survey is thus the 38th in the annual series on college students and non-college-attending youth 1 to 4 years out of high school.

Throughout much of the chapter, trends for the 12th grade samples are included for comparison purposes. It is important to keep in mind that the total 12th grade samples are shown and that there are substantial differences in rates of substance use *within* those samples between the college-bound and those who do not plan to complete college. As shown extensively in *Volume I*[2] and in *Occasional Paper 91*,[3] 12th grade students expecting to complete college are far less likely to smoke cigarettes and also less likely to use most other substances. So when considering figures that show higher rates of use among *all* 12th graders (regardless of college expectations) than among college students, it should not be concluded that usage declined after college entrance; the college-bound were already lower in usage rates than other 12th graders for almost all substances.

One additional point is relevant to interpreting differences over time for those attending college and those not attending college, both in terms of the differences between them and trends over time for either taken separately: the proportion of college students who are female has risen substantially since 1980. In 1980, females constituted about 50% of the college respondents, but by 2017 they constituted 61%. Females thus are a declining proportion of the noncollege group. As will be discussed below, we have charted the trends separately for male and female college students to permit an assessment of what effect these changing proportions may have on the overall rates observed for college students.

TRENDS IN PREVALENCE, 1980–2017: COLLEGE STUDENTS VERSUS THOSE NOT ENROLLED IN COLLEGE AND 12TH GRADERS

- Among college students, the annual prevalence of using ***any illicit drug*** rose gradually from a recent low of 34% in 2006 to 43% in 2016, the highest it had been for three decades

[1] Panel analyses of samples from the high school classes of 1995–1997, followed for an eight-year period beginning when they were in 8th grade, clearly show that those who dropped out of high school had distinctly higher rates of substance use both before and after they left 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, drinking, drug use, and delinquency*. New York: Lawrence Erlbaum Associates/Taylor & Francis.

[2] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2018). *Monitoring the Future national survey results on drug use, 1975-2017: Volume I, secondary school students*. Ann Arbor, MI: Institute for Social Research, The University of Michigan.

[3] Johnston, L. D., Schulenberg, J. E., O'Malley, P. M., Miech, R. A., & Bachman, J. G. (2018). *Demographic subgroup trends among young adults in the use of various licit and illicit drugs, 1988-2017* (Monitoring the Future Occasional Paper No. 91). Ann Arbor, MI: Institute for Social Research, University of Michigan.

(Table 9-2 and Figure 9-1); this increase through 2016 was driven primarily by an increase in marijuana use. In 2017, however, there was a nonsignificant decrease in annual prevalence of any illicit drug (and of marijuana use, summarized below). This nonsignificant decline is in contrast to the nonsignificant increases that we found in 2017 among 19-28 year olds overall, as summarized in Chapter 5; however, as we note in Chapter 5, the increases were greater among young adults in their mid- and late-20s. The evidence converges to suggest that while annual prevalence of any illicit drug use (and marijuana use in particular) has been rising among young adults age 19-28 through 2017, it appears to have leveled in 2017 among those aged 19-22 (college students and noncollege youth).

Back during the first decade of MTF college student data, between 1980 and 1991, college student annual use of any illicit drug dropped fairly steadily—from 56% to 29%, a decrease of nearly half. After 1991, annual prevalence held fairly steady for a couple of years before beginning to rise, reaching 38% in 1998 and again in 2001 before leveling at between 34% and 37% through 2012; since 2013 it increased to 2016 prevalence of 43%, a recent high level (but still well below the 1980 peak of 56%); in 2017, annual prevalence of any illicit drug use dropped slightly to 42%. Annual use of any illicit drug among noncollege youth moved similarly until 2000, when their annual use exhibited a four-percentage-point increase due largely to their sharper increases in marijuana, amphetamine, and tranquilizer use. In recent years the noncollege annual prevalence has not differed much from the rate for college students, though in some of the past few years, it was higher for noncollege youth, reaching a recent high of 47% in 2016. In 2017, it dropped nonsignificantly to 43%, a level similar to college students. (We should mention that because of the diminishing sample sizes for the noncollege group, their estimates have become less stable in recent years, as is illustrated in Figure 9-1.)

Twelfth-graders' annual use of any illicit drug showed a declining trajectory parallel to the other two groups from 1980 through 1991, but then followed with a much steeper increase through 1997, leaving their prevalence considerably above the two older groups. Their use leveled after 1998 and then declined some after 1999 (by about six percentage points), whereas among college students there was a continued increase through 2001, followed by a leveling as use among 12th graders continued to decline. As a result, all three groups had quite similar prevalence rates by 2007. After 2009, use increased among the high school seniors but did so somewhat later among the college students, creating some new divergence before they converged in 2013. Between 2013 and 2016, annual prevalence remained fairly steady for 12th graders and increased for both the college and noncollege groups; in 2017, there was a nonsignificant increase for 12th graders and nonsignificant declines for college students and noncollege youth.

The divergences and convergences over the years among the three groups likely reflect cohort effects. After 2007 (2006 for college students), all three groups showed some increase in the annual prevalence of any illicit drug use—due largely to a turnaround in their use of marijuana, as described below—but the increase was greater and longer from 2007 to 2011 among the 12th graders, compared to college students, likely once again reflecting a cohort effect. The divergence we are now seeing between 12th graders and college students may reflect another emerging cohort effect. Usage estimates for the noncollege segment have been rather unstable in recent years (see Figure 9-1), likely due to the smaller sample sizes that comprise that segment; but overall they show a rise in use since 2010.

- Annual prevalence of ***any illicit drug other than marijuana*** has diverged among the three groups since 2012 (when it was 17% to 18% for all three groups), declining considerably for 12th graders (13% in 2017) and remaining fairly steady for college students (20% in 2016 with a nonsignificant decline to 18% in 2017). For noncollege youth, it showed some uneven increase through 2016 (24%), and then decreased significantly in 2017 to 18%. Figure 9-2 shows that since 1980, of the three groups the noncollege segment has usually had the highest levels of use of any illicit drug other than marijuana. The exception was during most of the 1990s (the relapse phase in the epidemic), when use among 12th graders rose sharply and exceeded use in the noncollege segment. The noncollege group also showed an increase during that phase, though slightly lagged, and passed the 12th graders in the early 2000s.

  An increase in use of any illicit drug other than marijuana among college students also occurred after around 1994, but it lagged considerably behind the upturn among 12th graders, reflecting a cohort effect. From 1986 through 2009, college students exhibited the lowest rates of use. In the earlier period from 1980 to 1994, use of any illicit drug other than marijuana declined appreciably among college students, with their annual prevalence dropping by nearly two thirds from 32% to 12% (Table 9-2). This generally paralleled the trends for the noncollege group and the 12th graders, indicating a secular trend during that period. All three groups showed some increase in use during the early 1990s; however, the rise in use of illicit drugs other than marijuana was again not as sharp among college students as it was in the other two groups, and it began two years later than among the 12th graders and one year later than among the noncollege group (Figure 9-2). This pattern is more consistent with a cohort effect.

  After 1999, use among 12th graders leveled off, whereas the college students and noncollege segment showed a continuing increase. In fact, the college students and noncollege respondents continued to show an increase in their annual prevalence rate from 1998 through 2004, before declining from 2005 through 2007 among the noncollege group and through 2008 among the college students. From 2008 to 2012 the rate increased among the college students and declined steadily among those in the noncollege group, closing the considerable gap between the noncollege group and both college students and 12th graders. Between 2009 and 2012, annual prevalence for college students and 12th graders converged. In 2012 all three groups had comparable annual prevalence rates at 17%–18%.

  As summarized above, starting in 2013, the three groups began diverging again. In 2013 and again in 2014, college students and their noncollege peers showed increases in use while use among 12th graders remained unchanged in 2013 and declined after 2014. The increase in use of any illicit drug other than marijuana among college students, from 15% in 2008 to 21% in 2014, was significant (Table 9-1). Thus by 2014 annual use of any illicit drug other than marijuana by college students exceeded that by 12th graders, approached that of the noncollege segment, and reached a new recent peak rate. This increase appeared attributable mostly to college students' increased use of ***amphetamines*** (without a doctor's orders) and of ***ecstasy*****.** However, in 2015 all three groups showed a decline in their annual use of any illicit drug other than marijuana—the noncollege group declined by a significant 5.3 percentage points and the college students by a nonsignificant 2.4%. The net effect was to essentially eliminate the difference between those two groups; but their use remained above that of 12th graders and has in the years since then. In 2016, annual prevalence showed a rebound, with increases for college and noncollege youth and continued decline for 12th graders. In 2017, there was again a decline for college and noncollege youth (with the decline for noncollege youth significant), resulting in similar prevalence across these two groups.

- Annual prevalence of ***marijuana*** use among college students and noncollege youth rose from recent lows in 2006 (for college students at 30%) and 2007 (for noncollege youth at 32%) through 2016, reaching the highest levels over the past three decades at 39% and 41% respectively, both increasing about 5 percentage points in 2015 and 2016 (Figure 9-3a); however, in 2017, both groups showed nonsignificant declines or leveling to 38% and 41%, respectively. In contrast, prevalence for 12th graders increased from a recent low of 32% in 2007 through 2011 (to 36%), leveled for several years, and then showed nonsignificant increases in 2016 (to 36%) and in 2017 (to 37%). Whereas there was little distinction among the three groups for most of the past decade, annual prevalence began to show some divergence in the past few years with use becoming higher for the young adult groups than for 12th graders. However, as a result of nonsignificant declines and leveling in 2017 for college students and noncollege youth, along with nonsignificant increases among 12th graders in 2016 and 2017, some convergence again appears among the three groups. As summarized in Chapter 5, annual marijuana use increased nonsignificantly in 2017 among 19-28 year olds; however, as noted in that chapter this overall increase pertains primarily to those in their mid- to late-20s. As mentioned above, the evidence suggests that although marijuana use is continuing to rise through 2017 among older young adults, it appears to have leveled in 2017 among 19-22 year olds (including college students and noncollege youth).

  In an earlier period, from 1981 through 1991, annual prevalence of marijuana use dropped by nearly half from 51% to 27% among college students (Figure 9-3a). The noncollege group showed a comparable decline over the same time interval, as did the 12th graders; trends in annual prevalence for all three groups were fairly comparable across that interval, reflecting a secular trend. Use among 12th graders rose sharply after 1992, while use among college students and noncollege respondents rose more gradually. From 1991 through 1998, annual prevalence rose by 14 percentage points among 12th graders, compared to 10 percentage points among college students and 7 percentage points among the noncollege group. As a result, the 12th graders came to exhibit the highest rate of marijuana use in the last half of the 1990s, but they were the first to show a leveling off in marijuana use (in 1998), followed by the college students in 1999 and the noncollege group in 2002. This suggests that a cohort effect was present during this period. All three groups had very similar rates of use by 2005 after use showed some decline, particularly among the 12th graders. The college students and 12th graders both showed some continuing decline in

2006, but they then both showed a gradual increase in their marijuana use from 2006 through 2011, with the sharpest increase occurring among the 12th graders, indicating in both cases the end of the gradual decline in marijuana use seen earlier in the decade.

- From 2007–2014, ***daily marijuana use*** among college students rose from 3.5% to 5.9%, which was the highest rate observed since 1980 (Figure 9-3b). In 2015 they showed a nonsignificant decline to 4.6%, and that was the year after 12th graders showed some decline in daily use to 5.9%. Since 2015, daily use showed slight uneven changes for college students, appearing to level (4.4% in 2017); similarly, for 12th graders, daily use has leveled since 2014 (5.9% in 2017). In a rather dramatic contrast, daily marijuana use has continued to rise for noncollege youth, reaching its highest levels in 2016 (12.8%) and 2017 (13.2%). *As a result, daily marijuana use is now over twice as high among noncollege youth as among college students and* 12th *graders.*

  Of the three groups, college students have had the lowest rate of daily marijuana use throughout, with the single exception of 2014, when the college and 12th graders converged The differences have been greatest in periods of relatively high use and diminished considerably when use was at its nadir at the beginning of the 1990s. Daily marijuana use has varied widely in all three groups since 1980. The period from 1980 through 1992 saw a large proportional decline in daily use in all three groups, with rates falling by half or more. Since 1992, the rates have climbed substantially in all three groups, though there were periods of leveling: among high school seniors from 1999 through 2009, among college students from roughly 2003 through 2006, and among the noncollege group from 2003 through 2010.

- ***Synthetic marijuana*** (Figure 9-4) was first included in the study in 2011 and had an annual prevalence among college students of 8.5% at that time. Since then, use of this drug has dropped precipitously, reaching 0.9% in 2014, including a significant 1.4 percentage point decline between 2013 and 2014, followed by small rebounds in 2015 and 2016 (to 1.5% and 1.3%, respectively); in 2017, it declined nonsignificantly to 0.5%. Annual use among the noncollege and 12th grade segments also has declined sharply since 2011, reaching 2.4% and 3.7%, respectively, in 2017, still higher than among college students. Throughout the past six years, the 12th graders have shown the highest annual prevalence and college students the lowest.

- Use of ***salvia***, another fairly recent arrival to the drug scene, was added to the MTF questionnaires in 2009. It has likewise seen a sharp decline in popularity among college students. Annual prevalence was 5.8% in 2009 but fell to 0.3% by 2017 (Table 9-2). Annual prevalence was somewhat higher in the noncollege group in 2017, at 2.5% (Table 8-2 in Chapter 8).

- ***Bath salts—***containing cathinones, a synthetic stimulant—the use of which was first measured in 2012, have shown only trace levels of use among college students in the years since then (0.3% or less, and 0.2% in 2017; Table 9-2). Among the noncollege group, use in 2017 was at 1.5% (Table 8.2).

- In recent years annual ***amphetamine*** use without medical supervision rose substantially among college students (Figure 9-12) from 2008 (5.7%) through 2012 (11.1%) but has since declined (8.6% in 2017). Similarly, there has been a recent decline among 12th graders since 2013, and among noncollege youth since 2014. The 1980s saw a dramatic decline of annual prevalence among college students, from 22% in 1981 to 4% in 1991. Proportionately, this was a larger drop than that among 12th graders, who also showed a considerable decline, but fairly parallel to the overall change among the noncollege group. These large declines in all three groups suggest a secular trend in that period. Amphetamine use among college students and their noncollege peers began to increase during the relapse phase in the drug epidemic after 1992 and 1993, respectively, through 2001, with a leveling in 2002. Still, during the 1990s and early 2000s, the prevalence rates for amphetamine use in all three groups remained well below the rates observed in the early 1980s. Since 2002, there have been some divergence among the three groups, with amphetamine use among college students (who consistently had the lowest rate of use from the mid-1980s through the mid-2000s) holding steady through 2008, while use among 12th graders and the noncollege group declined, nearly closing the gaps among the three groups. In 2009, prevalence rates were similar for the college and noncollege groups (7.5% and 7.7%), and slightly lower among 12th graders (6.6%). Despite the recent declines for college students, their annual prevalence has remained the highest among the three groups since 2010. *It seems very likely that this is due to their higher interest in using these drugs to improve academic performance*.[4] In 2017 ***Adderall*** was used by about six times as many college students (9.5%) as was ***Ritalin*** (1.5%).

- Use of ***inhalants*** has been very low among both college and noncollege respondents since 1980, when rates were first measured (Figure 9-5). Although it dropped for college students from a peak of 4.1% in 1997 to a low of 0.2% in 2016, it increased significantly in 2017 to 1.7%, the highest it has been since 2004; whether this constitutes a new upward trend will await next year's data. For noncollege youth, 2017 annual prevalence declined to 0.6%, the lowest level since 1980 when MTF began tracking it; this is down from its peak of 3.5% in 2006. Twelfth graders have consistently had considerably higher rates of inhalant use than either of these segments of the young adult population – until 2017; and as is documented in *Volume I*, the 8th and 10th graders have had still higher levels of use. With the one exception of 2017, there has thus been a consistent age effect, with use of inhalants declining considerably with increasing age. The college, noncollege, and 12th grade groups have trended largely in parallel across the years, but the increase through the mid-1990s and subsequent decline were substantially more pronounced among 12th graders, opening and then shrinking the gap between them and the two young adult groups.

- Annual prevalence of ***LSD*** remained fairly low among college students in 2017 (2.8%), compared with 3.9% in the noncollege group and 3.3% among 12th graders (Figure 9-7). Annual prevalence for the three groups was similar in 2012 (at about 2%), with the noncollege group showing a relatively large increase through 2016 and declining somewhat

[4] Data from high school seniors in 2012 on their reasons for using amphetamines showed "To help me study" was the most frequently chosen reason among 17 reasons, and was mentioned by 59% of the college-bound vs. by only 18% of those not college bound. Bachman, J. G., Johnston, L. D., & O'Malley, P. M. (2014). *Monitoring the Future: Questionnaire responses from the nation's high school seniors, 2012*. Ann Arbor, MI: Institute for Social Research, University of Michigan.

in 2017; a similar pattern is evident for annual prevalence of ***hallucinogens*** overall, of which LSD is one component (Figure 9-6). During the early 1980s, one of the largest proportional declines observed among college students occurred with LSD: annual prevalence fell from 6.3% in 1982 to 2.2% in 1985. After 1989, use in all three groups increased, with the prevalence among college students reaching 6.9% by 1995. After 1995, use fell gradually among college students, their noncollege peers, and 12th graders until 2001, followed in 2002 by a particularly sharp decrease in all groups. As a result, there was a considerable convergence in usage rates, which remained for some years. College students maintained lower levels of use than the other two groups for most of the life of the study until 2007. Use rose some in all three groups between 2007 and 2012, with little consistent difference among them suggesting a secular trend. Beginning in 2013, noncollege use increased through 2016, while the other two groups remained fairly level. In 2017, the three groups converged somewhat again.

- Among college students the annual prevalence for ***hallucinogens other than LSD*** was 2.5% in 2017, a nonsignificant decline but new low for the study; it also dropped nonsignificantly for the noncollege group, while remaining steady for 12th graders. The three groups converged in 2012 at about 3.9%, after which use showed a slow decline for 12th graders (to 2.9% in 2017) and an uneven increase then decrease for noncollege youth (to 3.2% in 2017) (Figure 9-8); based on the 2017 prevalence, it appears the three groups are again converging at recent lows. Use of hallucinogens other than LSD (which primarily involves the use of psilocybin known as mushrooms or "shrooms") followed a track somewhat parallel to LSD use, at least up until about 2000. Other hallucinogen use declined in all three groups from the early 1980s through the early 1990s, followed by rising use during the relapse in drug use in the 1990s, and then some leveling. But the secular trends for these other hallucinogens diverged from those for LSD after about 2000, with an increase in their use, including among college students, just before and after the drop off in LSD use in 2002. While overall annual prevalence of LSD across the three groups was higher than that of the other hallucinogens in the first two decades of the study, overall annual prevalence is now about the same for these two drugs.

- The use of ***MDMA (ecstasy*** and, more recently, ***Molly***) by college students and noncollege youth declined significantly in 2017 to 2.5% and 4.7%, respectively. This follows a leveling in 2016 for college students (4.7%) and an increase in 2016 for noncollege youth (8.6%). In contrast, use among 12th graders has continued to decline in the past three years (Figure 9-9). Use by college students and their noncollege peers began to rise after 1994 and their rates tracked closely through about 2000 (Figure 9-9). Questions about ecstasy use were added to the 12th grade survey in 1996 and usage rates tracked similarly with those of the other two groups through about 2000. After 1997 there was a sharp increase in use in all three groups. The annual prevalence for college students, for example, rose from 2.4% in 1997 to 9.2% in 2001 and rose considerably more among the noncollege group. Use in all three groups declined sharply from 2001 to 2004, when annual rates were back to 2.2% for college students, 2.7% for 12th graders, and 4.0% for the noncollege segment. Both the college and noncollege groups showed some increase in use by 2012, after which use by college students began a decline while use in the noncollege group began an uneven increase. It is worth noting that "Molly"—which is a purer form of MDMA than ecstasy and has its own street name—was added as an example of MDMA in half of the questionnaires in 2014 and in all of them a year later. Figure 9-9 shows in 2014 the prevalence reported by respondents with and without Molly included. There is rather little difference in the level for the two older groups, but the 12th graders show a fair difference, with the inclusion of Molly leading to a higher prevalence. In 2015, even with Molly included, all three groups showed a decline in annual prevalence, a decline that continued into 2017 for 12th graders. In 2016, the college group and especially the noncollege group showed an increase, reaching levels that constituted a doubling of prevalence since 2007; 2017 saw significant declines for all three groups.

- Annual prevalence of nonmedical ***sedative (barbiturate)*** use declined nonsignificantly in 2017 for college students (1.9%) and noncollege youth (2.4%), and showed a leveling for 12th graders (Figure 9-13). Throughout the time data have been available in this study (1980 through 2017), college students have had the lowest prevalence of use among the three groups. At that early date, sedative (barbiturate) use was already quite low among college students (at 2.9%), but it still fell by more than half to 1.3% by 1985. This proportional decline was sharper than among 12th graders and less sharp than among the noncollege respondents: both groups started at considerably higher levels of use than college students. Annual prevalence remained essentially unchanged between 1985 and 1993 for all three groups. A gradual increase in use occurred between 1994 and 2004 for college students and between 1993 and 2005 for the other two groups. After 2005, declines in use appeared in all three groups through 2011 (2012 for the noncollege stratum), before showing a rise in use through 2013 and 2014. In fact, among college students sedative (barbiturate) use rose from 1.7% in 2011 to 3.1% in 2014, before nonsignificant declines in use in the past three years; 12th graders have shown a similar recent trend, whereas noncollege youth have shown an uneven decline since 2014.

- Similar to what was found for sedatives, annual prevalence of nonmedical ***tranquilizer*** use declined nonsignificantly in 2017 for college students (3.6%) and noncollege youth (4.5%), and showed a leveling (at 4.7%) for 12th graders (Figure 9-14). For a few years prior to 2017, the annual prevalence of nonmedical tranquilizer use increased slightly among college students and noncollege youth, reaching 4.9% and 7.1% respectively in 2016, while 12th grade prevalence remained level. For college and noncollege youth, the increases through 2016 reflected a reversal of a longer term downward trend that began in the early 2000s; 12th graders have also shown a long-term decrease since early 2000s. In general, tranquilizer annual prevalence trends have been similar to those for sedatives. Between 1980 and 1994, annual tranquilizer use among college students dropped by nearly three fourths from 6.9% to 1.8%—a period in which use declined in the other two groups as well. After this long period of decline, tranquilizer use by college students increased gradually, returning to 6.9% by 2003. Use by the noncollege segment and by 12th graders dropped more sharply from 1980 through 1992, eliminating the differences among the three groups. Use rose after 1992 for all, but the noncollege group showed the largest gain after 1999, again creating some differences. By 2002, tranquilizer use was once again at or near its recent high in all three groups, followed by a period of decline, until 2014, after which there was some slight increase in use through 2016 and decrease in 2017 among the college and noncollege groups.

- The nonmedical use of ***narcotics other than heroin***[5] (Figure 9-11a) has been declining for all three groups in the past decade, dropping from peak levels in the mid-2000s. These declines continued into 2017, with annual use declining nonsignificantly for college students (3.1%), noncollege youth (4.1%), and 12th graders (4.2%); these declines resulted in the lowest levels for all three groups since the late 1990s.The overall trends in use have been quite parallel to those for sedatives (barbiturates) and tranquilizers. From 1980 through the mid-1990s, there was a slight decline for all groups, with little distinctions among the groups. Annual prevalence then rose considerably after about the mid-1990s in all three groups. Prior to then, the use of narcotics other than heroin by college students was down to about half by 1994 from what it was in 1980 (2.4% in 1994 vs. 5.1% in 1980) as a result of a fairly gradual decline over that 14-year interval. This trend closely paralleled use among participants' noncollege counterparts and 12th graders. As with a number of other drugs, use among 12th graders began to rise after 1992, but use among college students did not begin to increase until after 1994, likely due to a cohort effect. In 2003, annual prevalence among college students reached a historic high point of 8.7% before leveling for three years. It then declined from 8.8% in 2006 to the recent low of 3.1% in 2017. For the past decade, college students have shown the lowest prevalence among the three groups. Use among 12th graders leveled after reaching a historic high of 9.5% in 2004, but it then declined fairly steadily to a recent low of 4.2% in 2017. The noncollege group emerged after 2000 as the most heavily using group for the first time, supplanting the high school seniors, as their use kept increasing through 2005, reaching an all-time high of 13%. After that, use in the noncollege group declined to recent low of 4.1% in 2017. *It thus appears that all three groups have shown fairly steady and parallel declines in the use of these dangerous drugs since the early to mid-2000s, following a substantial increase in use by all three in the 1990s and into the early 2000s. Although there was a nonsignificant increase in 2016 for college and noncollege youth, the 2017 results suggest that the overall declines for these two groups over the past decade are continuing.*

- Although data about nonmedical use of the specific narcotic drugs, ***OxyContin*** and ***Vicodin,*** were not collected until 2002 (Figures 9-11b and 9-11c and Table 8-2), these drugs help to account for past differences between the college and noncollege segments in use of narcotics other than heroin. The noncollege group had annual prevalence rates up to twice that for college students in the use of both drugs when their use was first measured in 2002, but the differences among the three groups have changed since then.

  Annual prevalence of nonmedical ***OxyContin*** use among college students rose fairly steadily, from 1.5% in 2002 to 5.0% in 2009, before dropping significantly to 1.2% in 2012; it has since shown an uneven increase to 1.7% in 2017 (Figure 9-11c). Use in the noncollege segment rose from 2002 (3.3%) to 2005 (6.2%) and then declined to 4% by 2010 and remained fairly level through 2015; in 2016, it declined to 2.1% and then increased nonsignificantly to 2.6% in 2017. The trend line has been quite uneven, likely due to the limited numbers of cases in this segment. (Questions about OxyContin and Vicodin are in only three of the six questionnaire forms.) Among 12th graders, OxyContin

[5] As discussed in Chapters 4 and 5, because the questions about narcotics other than heroin were changed in 2002, the prevalence figures are adjusted estimates. See the earlier discussion for details.

use rose from 4.0% in 2002 to 5.1% in 2010 and then leveled for several years, before declining to 2.7% by 2017. It is clear that OxyContin use increased among college students between 2002 and 2009, closing the previously existing gaps among the three groups; however, use has declined sharply among the college students since then, again opening a sizeable gap between them and the other two groups until 2016 and 2017, with the evidence suggesting that the three groups are now converging again.

Vicodin use without medical supervision (Figure 9-11b) showed a somewhat different pattern of change, with annual prevalence among all three groups remaining fairly level—and substantially higher than use of OxyContin—from 2002 through about 2008. Since then, annual prevalence for all three groups declined sharply, reaching its lowest point in 2017 for college students (1.1%), noncollege youth (1.8%), and 12th graders (2.0%). As with OxyContin, the noncollege segment has consistently had higher Vicodin use than the college students. Twelfth-grade levels of Vicodin use have fallen in between. The 2017 data show a convergence among the three groups at historical lows. Because of the limited numbers of cases, as with OxyContin, trend data for use of Vicodin have generally been uneven in the young adult groups.

- Over recent years, the rates of ***cocaine*** use among college students, noncollege peers, and 12th graders (Figure 9-10) generally have declined to levels below those in the 1990s and far below those in the 1980s. The trend line for college students showed an increase in cocaine use in 2014 as annual prevalence among college students increased a significant 1.7 percentage points to 4.4%. In 2017 this higher level of cocaine use among college students held at 4.8%. In the noncollege group there was also a bump up in cocaine use in 2014, which has held for recent years, increasing to 6.5% in 2016 and then declining nonsignificantly to 4.1% in 2017, suggesting a leveling over the past five years. So cocaine use is no longer declining among these young adults, nor is it declining among 12th graders, who have the lowest prevalence of the three groups (2.7% in 2017).

  The early to mid-1980s saw a level period during which cocaine use was considerably greater among college students and their noncollege peers than among 12th graders. It was followed by a dramatic drop in annual prevalence among college students (nearly nine tenths, from 17.1% in 1986 to 2.0% by 1994) and noncollege counterparts (from 18.9% in 1986 to 5.1% in 1994). A cohort effect emerged as cocaine use began to rise among 12th graders after 1992, among the college segment after 1994, and among the noncollege segment after 1995. Since 2000 the 12th graders and college students have had similar rates of use and parallel trends, while use in the noncollege stratum has been considerably higher. After around 2006 all three groups showed declines in use until 2012 among the noncollege group and 2013 among college students, after which use rose for a year and then leveled. All three groups now have rates of cocaine use below those attained in the relapse phase of the illicit drug epidemic in the 1990s, with the noncollege group showing the greatest decline but still the highest level of use. These patterns of change suggest that a secular trend was underway through most of the 1980s, combined with a considerable age effect. After 1992 a cohort effect emerged through most of the 1990s, and since 2000 or so through 2012 a secular trend re-emerged with all three groups moving in parallel for the most part. After 2012 the three groups diverged.

- Despite different trend patterns among the three groups, college students have exhibited the highest levels and greatest constancy in ***occasions of heavy drinking*** (also known as binge drinking) since the first measurement in the MTF surveys in 1980 (Figure 9-15d). Heavy or "binge" drinking is defined as having five or more drinks in a row at least once during the prior two weeks. From 1980 through 2017, college students' prevalence of such drinking declined 11 percentage points (from 44% to 33%), while noncollege respondents' prevalence declined 13 percentage points (41% to 28%) and high school seniors' prevalence declined 24 percentage points (41% to 17%).

  As can be seen in Figure 9-15d, both the noncollege segment and 12th graders showed fairly substantial declines in the prevalence of occasions of heavy drinking from 1981 through 1990. In contrast, college students showed no decline from 1981 to 1986 and then only a modest decline of five percentage points from 1986 through 1993. Between 1981 (when all three populations were very close in use) and 1992, this measure of heavy drinking dropped by 14 percentage points among 12th graders, by 11 percentage points among the noncollege respondents, but by only two percentage points among college students. After 1992, occasions of heavy drinking began to rise among 12th graders, while still declining some among college students—likely reflecting a cohort effect emerging during this period, similar to that observed for a number of illicit drugs—narrowing the gap somewhat. Drinking at that level subsequently began to increase among the noncollege segment after 1995, and by less among college students after 1996—modest increases that continued into 2001. Between 2001 and 2008, college students held fairly steady in their rates before showing some decline through 2015 and leveling since then, while the noncollege segment held steady from roughly 2003 to 2007, followed by some decline and then an uneven leveling through 2017. Meanwhile, among 12th graders, occasions of heavy drinking started a gradual decline after 1998 that continued into 2016 and leveled in 2017, enlarging the difference between them and the two older groups. Once again there is evidence of cohort effects since the early 1990s, with the inflection points occurring later for the older strata.

  Why did college students' heavy drinking decline so little for a decade (1981–1991) compared to their noncollege peers and 12th graders? One possibility is that campuses provided some insulation from the effects of changes in the drinking age laws that took place in many states during that interval. Similarly, entrenched in many college campuses is a culture of binge drinking that has proven impervious to many societal trends and intervention attempts.[6] Also, individuals who are under the legal drinking age in college are mixed in with peers who are of legal age to purchase alcohol; this was no longer true in high schools by the mid-1980s and was less true, perhaps, for many of those ages 19 to 22 who were not in college. Finally, much alcohol advertising and promotion was and is directed specifically at the college student population.

  Starting in 2005, we included a set of questions concerning ***extreme binge drinking***, also known as high-intensity drinking, in one of the six questionnaire forms used with young adults, including college students. The questions asked respondents about the frequency in

[6] Schulenberg, J. E., & Maggs, J. L. (2002). A developmental perspective on alcohol use and heavy drinking during adolescence and the transition to young adulthood. *Journal of Studies on Alcohol,* Supplement 14, 54–70.

the past two weeks of having 10 or more drinks in a row and also of having 15 or more drinks in a row. The low numbers of cases that result from a single questionnaire form necessitate combining multiple years of data. By combining data across 2005 through 2011 and across 2012 through 2017, we find that extreme binge drinking has declined for college students and noncollege youth. As shown in Table 9-5, prevalence of ***10 or more drinks in a row*** at least once in the prior two weeks decreased for college students from 13.6% in 2005-2011 to 10.1% in 2012-2017; corresponding prevalence for noncollege youth declined from 11.8% to 10.3%. Prevalence of ***15 or more drinks in a row*** at least once in the prior two weeks decreased for college students from 5.0% in 2005-2011 to 3.1% in 2012-2017; corresponding prevalence for noncollege youth was level at 5.2% and 5.1%, respectively (Table 9-6). In table 9-4, extreme binge drinking prevalence levels (for both 10 or more and 15 or more drinks) are shown for college students each year from 2005 through 2017. These levels are based on small sample sizes and thus show uneven trend lines from year to year. Nonetheless, the overall downward trends are evident, with notable recent declines in 10 or more drinks after 2012, and notable recent declines in 15 or more drinks after 2014. These recent declines in prevalence of extreme binge drinking are consistent with declines in occasions of heavy drinking (at the 5+ drinks level) for college students and noncollege youth.[7] As we summarize below (and also discuss in Chapter 8), extreme binge drinking is much higher among males than females in both college and noncollege youth.

College students' ***daily drinking*** estimates (Figure 9-15c) showed a significant decline in 2017 to 2.2%, dropping by half (from 4.3% in 2016) and reaching a historic low. For noncollege youth, it remained level at 3.9% and for 12th graders, it continued on a long-term decline to 1.6%. Earlier trend data for college students appeared a little less stable, perhaps due to smaller sample sizes at those times, going from around 6.5% in the early 1980s to a considerable decline from 1984 through 1995 (to 3.0%), followed by a period of some increase during and after the relapse phase in the drug epidemic in the 1990s, reaching 5.0% in 2002. From 2002 through 2016, daily drinking among college students fluctuated at about 4% without a clear downward trend; however, 2017 showed a clear and significant downward trend. Twelfth graders showed a somewhat similar pattern of daily drinking with a long period of decline, followed by an earlier reversal beginning in 1994. After 1998, 12th grade daily drinking resumed its decline, reaching its lowest level of 1.3% in 2016, with a nonsignificant increase to 1.6% in 2017. Of the three groups, 12th graders have typically had the lowest rates of daily drinking. The noncollege respondents have generally had the highest rate of current daily drinking and have shown the most change in daily drinking trends. After a 2008 decline in daily use among noncollege respondents, daily drinking levels have been fairly comparable between the college students and their noncollege peers; and both of them showed some decline in daily use in 2015 and then a rebound in 2016 to 4.3% for college students and 3.8% for noncollege respondents. In 2017, this rebound remained for the noncollege youth (3.9%), while daily drinking declined to 2.2% among college students, a level just above that for 12th graders.

[7] Patrick, M. E., Terry-McElrath, Y. M., Miech, R. A., Schulenberg, J. E., O'Malley, P. M., & Johnston, L. D. (2017). Age-specific prevalence of binge and high-intensity drinking among U.S. young adults: Changes from 2005 to 2015. *Alcoholism: Clinical and Experimental Research*, *41*, 1319-1328.

- The 30-day prevalence of ***cigarette smoking*** (Figure 9-16a) among college students has declined dramatically for the past decade and a half, falling by nearly three-fourths from a recent high of 31% in 1999 to an all-time low of 8% in 2017, and their *daily* smoking rate has fallen by about nine-tenths over the same interval, from 19% to 2% (also to an all-time low in 2017) (Figure 9-16b). In the early 1980s, cigarette smoking among U.S. college students declined modestly, and by less than their noncollege peers. Thirty-day prevalence for college students fell from 26% to 22% between 1980 and 1984, remained fairly stable through 1990 (22%), then increased gradually but substantially, reaching 31% by 1999. In 2000 the first evidence of a new decline in smoking among college students began to appear, two years after smoking had begun to decline among 12th graders—this lag reflecting a cohort effect. The noncollege group, which has consistently had the highest smoking rate of the three groups, showed a fairly consistent decline in 30-day prevalence from 1980 through 1990, an offsetting increase from 1990 through 2001 (44%), and a considerable decline since then to an all-time low of 19% in 2016; in 2017, it showed a slight but nonsignificant increase to 22%. Over the past decade and a half, 30-day use has declined in parallel form for noncollege and college youth, with smoking being about twice as high among noncollege youth as among college students across the past seven years. Across the same period, prevalence of *daily* smoking also decreased in parallel form; it was three to four times as high among noncollege youth as among college students in recent years (Figure 9-16b and Table 8-4).

  While smoking rates have consistently been lower among college students than the noncollege segment, the trend lines for these two groups converged some after 1984, as smoking rates more or less stabilized among college students but continued to decline among young adults not in college (Figure 9-16a). In fact, between 1989 and 1991, use began to rise among college students while continuing to decline among noncollege respondents. Both groups showed fairly parallel increases in smoking between about 1991 and 1999, after which use continued to increase among the noncollege segment but began to decline among college students, opening up a large difference between them. (Twelfth graders exhibited an increase from 1992 to 1997— peaking two to three years prior to the older groups—reflecting a cohort effect, and their use has declined significantly since then.) All three groups have seen very substantial declines since those peaks, and the rates for college students and 12th graders have largely converged, but use among the noncollege group remains far higher than the other two groups.

  The popularity of Camel cigarettes among the college-bound may have helped to explain some of the narrowing of the gap between college students and their noncollege-attending peers in the 1990s. The Joe Camel advertising and promotion campaign, which commenced in the late 1980s and ended in the late 1990s, may have succeeded in initiating more college and college-bound students (particularly males) to smoking than had been the case previously or has been the case since.[8]

- In sum, quite a number of drugs have been fading in popularity on American college campuses in recent years, and a similar pattern is found among noncollege youth. Two of

[8] 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, University of Michigan.

the newer ***drugs—synthetic marijuana*** and ***salvia***—have shown steep declines in use. Other drugs have shown more gradual declines over the past several years, including ***narcotic drugs other than heroin***, ***sedatives***, and ***tranquilizers***—all used nonmedically—as well as ***inhalants, cocaine, hallucinogens, alcohol***, and ***cigarettes***. Evidence from the past few years, however, suggests that the declines in cocaine and hallucinogen use may have stopped; and against the historical downward trend, inhalant use showed a significant increase for college students in 2017. In addition, annual ***marijuana*** use increased from 2006 through 2016 reaching its recent highest level in 2016 for college students (39%) and noncollege youth (41%); in 2017, it dropped slightly for college students (38%) and leveled for noncollege youth (41%). ***Daily marijuana*** use grew since 2007, reaching the highest level seen in the past 35 years in 2014 for college students (5.9%) before declining over the past few years to 4.4% in 2017; for noncollege youth daily marijuana use has increased sharply, reaching an all-time high of 13.2% in 2017. *That is, as of 2017 over one in twenty-five college students and one in eight noncollege youth are daily marijuana users.* ***Amphetamine*** use grew fairly sharply on campuses between 2008 and 2012, and it then stabilized and declined in 2017, though still at high levels not seen since the mid-1980s. ***MDMA (***including ecstasy and, more recently, Molly) use had made somewhat of a rebound since the recent low observed among college students and noncollege youth in 2007, but then has shown some decline for college students in the past few years, including a significant decrease in 2017.

The trend findings over the years concerning divergences and convergences among the three groups highlight the importance of cohort effects in determining the source of changes. The overall drug use trends among college students parallel the trends among 12th graders, though after the early 1990s they were generally lagged by a few years; still, declines in many drugs from 1980 to 1990 were proportionately larger among 19- to 22-year-olds (both college and noncollege) than among 12th graders. Despite parallel trends in the early 1990s, 12th graders showed larger, and usually earlier, increases in the use of a number of drugs in the years since; as indicated in *Volume I*, 8th and 10th graders showed increases a year earlier than 12th graders. Clearly the upsurge, or what we have called a "relapse phase" in the illicit drug epidemic during the 1990s, did not originate on the nation's college campuses, as did the earlier epidemic. The relapse originated among secondary school students—and the younger ones at that—and was carried up the age spectrum through generational replacement. In other words, it exhibited a cohort effect.

GENDER DIFFERENCES IN TRENDS AMONG COLLEGE STUDENTS

As mentioned earlier, recent decades have seen a gradual rise in the proportion of college students who are female. Females constituted 50% of the 1980 sample of college students compared to 61% of our 2017 sample. Given that substantial gender differences exist in the use of some drugs, we have been concerned that apparent long-term trends in the levels of drug use among college students (and/or among the noncollege group) might actually be attributable to changes in the gender composition of each population. For this reason, in particular, we present separate trend lines for college males and females in the lower panels of Figures 9-1 through 9-16c. We do not focus on noncollege youth in these figures or this subsection in large part due to the limited numbers of cases for subgroups.

In general, college student trends in use of the various drugs have been highly parallel for men and women, as an examination of the relevant figures will show. The most noteworthy exceptions are mentioned below.

- Certain drug use measures showed a convergence between the genders as use rates declined to low levels in the early 1990s. This was true for annual use of ***any illicit drug*** and ***any illicit drug other than marijuana***. After 1991 the genders diverged again, with a recent convergence especially for any illicit drug, due largely to a convergence for marijuana, discussed next.

- ***Marijuana*** use has been consistently higher among college males than among college females. There was some gender convergence in annual prevalence of marijuana use between 1980 and 1991 as overall use declined, and then some gender divergence between 1991 and 1999 as usage rates rose. After 2001, the two genders diverged further, with use among males remaining essentially unchanged through 2008 and use among females decreasing (Figure 9-3a). Since 2010, use among college males has remained fairly steady, whereas use among college females increased from 2010 through 2016, reaching a level not seen since the 1980s—narrowing the gap considerably; use decreased nonsignificantly for both genders in 2017, to 41% for males and 37% for females.

- ***Daily marijuana use*** (Figure 9-3b) has generally been about twice as high among college males as their female counterparts throughout the study; since the mid-1990s, such use has risen more among males, especially since 2007, opening a wide difference. In 2017, after some recent decline in daily use by males, the rates for college males and females, respectively, were 6.4% and 3.1%.

- From 1999 to 2005, ***LSD*** use dropped more steeply among males than among females, offsetting sizeable previous differences in which males had higher use and bringing the genders close together at very low prevalence rates (Figure 9-7). The small increases in use that have occurred since 2005 have been greater among males.

- Use of ***hallucinogens other than LSD*** has dropped for both genders since 2002 or 2003, with percentages for males generally twice as high or more as those for females; in the past few years, as it dropped more for males than for females, there has been some convergence (Figure 9-8).

- Until recently, annual prevalence of ***MDMA (ecstasy*** and, more recently, ***Molly***) use have been quite similar for male and female college students since measures were first introduced in 1989, and changes in their usage levels have tracked closely (Figure 9-9). Between 2006-2007 and 2012-2013, males showed more increase than females; since then, both have showed some uneven declines, with a trend toward convergence in 2017 (3.1% for college males and 2.2% for college females). (Starting in 2014, Molly was included as an example of MDMA. See Figure 9-9.)

- Trends in the nonmedical use of ***narcotics other than heroin*** have generally moved in parallel for both male and female college students, with males generally higher, except during the nadir in use at the beginning of the 1990s when their rates were equivalent. (Figure 9-11a). Both genders have shown considerable declines in their use since about 2005 or 2006, with the past few years showing some convergence.

- After 1986, ***cocaine*** use, which had been substantially higher among males up until then, dropped more steeply for males than for females in general, and among male college students in particular, considerably narrowing the sizable gap between genders (Figure 9-10). Since 1991, both genders have moved in parallel, with males reporting higher annual usage rates. Both genders showed small and nonsignificant upticks in use in 2014, which continued for males into 2017 (6.6% for males versus 3.6% for females).

- Nonmedical ***amphetamine*** use (Figure 9-12) also showed some convergence in the 1980s due to a greater decline among males; the two genders showed virtually equivalent annual prevalence from 1986 through 1998. From 1998 through 2016 males have had higher annual prevalence rates generally, as use increased for both through 2012. Use continued to increase for males through 2015 while it declined for females; these trends reversed in 2016 and 2017 and as a result college females showed higher annual prevalence than college males in 2017 (9.2% and 7.7%, respectively).

- The gender differences for nonmedical ***sedative*** (***barbiturate***) and ***tranquilizer*** use have been modest through most of the life of the study, with college males usually having slightly higher rates than their female counterparts (Figures 9-13 and 9-14). After 1995, a somewhat larger gap emerged for tranquilizers, again with males being higher. Tranquilizer use by college females peaked in 2003, briefly closing the gender gap, but use by males has consistently been slightly higher since then, showing slight increases or leveling in the past few years. Both genders have shown declines in annual use of sedatives from the early 2000s through 2011 and converging during this period; both then showed a slight rebound through 2014, declining or leveling since then.

- Among college students, the *annual* prevalence of ***alcohol*** use has been virtually identical for the two genders since 1980, when use by college students and their noncollege peers was first reported (Figure 9-15a). Both college males and females have shown a very gradual and modest decline over the past 34 years. Prior to 2000, *30-day* alcohol prevalence showed modest differences, with males slightly higher (Figure 9-15b); however, that difference largely disappeared by 2000. Since then, college males have had very slightly higher 30-day rates more years than not.

  College males have consistently had considerably higher rates of *daily drinking* than college females (Figures 9-15c and 9-15d). But since about 2004 or 2005 the gender gap in daily drinking has narrowed, with little change among college females but an overall decrease among college males. Both showed declines in 2017 to historic low levels.

- ***Binge drinking*** (having one or more occasions of having five or more drinks in a row in the prior two weeks) has shown a considerable gender gap, but a gradual long-term decline among college males since about 1985 that continued into 2016, reducing the gap (Figure 9-15d). As there has been less change among college females, whose use has been consistently less than that of college males, the gender gap has narrowed. The gap in 2016 was the lowest it had been, with males at 35% and females at 31%; however, in 2017 males showed a nonsignificant increase (39%) and females showed a nonsignificant decrease (29%), increasing the gap again. The gender gap in ***extreme binge drinking*** also shows signs of decreasing, though two-week prevalence remains much higher among males (Tables 9-5 and 9-6). Between 2005-2011 and 2012-2017, having ten or more drinks in a row dropped from 24% to 16% for college males, whereas it remained steady for college females at 7%; corresponding prevalence for having 15 or more drinks in a row dropped for males from 10.1% to 6.0%, and dropped from 2.0% to 1.3% for females.

- For the interval between 1980 and 1988, the *30-day* prevalence of ***cigarette smoking*** was higher among college females than males (Figure 9-16a). However, the gaps in 30-day prevalence narrowed because use by female college students declined considerably between 1980 and 1989, while use by male college students did not decline. After 1989, as prevalence for both genders increased considerably, the gaps remained quite small and the genders reversed position, with college males catching up to and passing females in their rate of smoking by 1994 and then generally remaining higher thereafter. (A similar reversal had occurred among 12th graders a few years earlier, so the reversal among college students probably reflected a cohort effect.) Both genders exhibited a considerable decrease in 30-day smoking between 1999 and 2011, leaving only a modest difference between them (although the trend line for college males was irregular during this interval). Use then leveled for males through 2015 and continued to drop for females, widening the gap somewhat. In 2016 it dropped for males more than for females. In 2017 the 30-day prevalence levels were 11% and 6% for college males and females, respectively, at historic lows. *Daily smoking* and *half-pack-a-day smoking* (Figure 9-16b and c) also were initially higher among college females than among college males—this time up through 1994—after which the two genders have tracked rather closely, both reaching historic lows in 2017. It thus appears that college males in recent years have been more likely than college females to smoke at a less than daily rate but about equally likely as females to smoke at more frequent rates.

TABLE 9-1
Trends in Lifetime Prevalence of Various Types of Drugs among College Students 1 to 4 Years beyond High School

(Entries are percentages.)

→ (Years cont.)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Approximate Weighted N =	*1,040*	*1,130*	*1,150*	*1,170*	*1,110*	*1,080*	*1,190*	*1,220*	*1,310*	*1,300*	*1,400*	*1,410*	*1,490*	*1,490*	*1,410*	*1,450*	*1,450*	*1,480*	*1,440*	*1,440*
Any Illicit Drug [a]	69.4	66.8	64.6	66.9	62.7	65.2	61.8	60.0	58.4	55.6	54.0	50.4	48.8	45.9	45.5	45.5	47.4	49.0	52.9	53.2
Any Illicit Drug other than Marijuana [a]	42.2	41.3	39.6	41.7	38.6	40.0	37.5	35.7	33.4	30.5	28.4	25.8	26.1	24.3	22.0	24.5	22.7	24.4	24.8	25.5
Marijuana	65.0	63.3	60.5	63.1	59.0	60.6	57.9	55.8	54.3	51.3	49.1	46.3	44.1	42.0	42.2	41.7	45.1	46.1	49.9	50.8
Inhalants [b]	10.2	8.8	10.6	11.0	10.4	10.6	11.0	13.2	12.6	15.0	13.9	14.4	14.2	14.8	12.0	13.8	11.4	12.4	12.8	12.4
Hallucinogens [c,x]	15.0	12.0	15.0	12.2	12.9	11.4	11.2	10.9	10.2	10.7	11.2	11.3	12.0	11.8	10.0	13.0	12.6	13.8	15.2	14.8
LSD [x]	10.3	8.5	11.5	8.8	9.4	7.4	7.7	8.0	7.5	7.8	9.1	9.6	10.6	10.6	9.2	11.5	10.8	11.7	13.1	12.7
Hallucinogens other than LSD [c,x]	11.6	9.0	10.6	8.3	9.2	8.1	7.8	6.8	6.2	6.2	6.0	6.0	5.7	5.4	4.4	6.5	6.5	7.5	8.7	8.8
Ecstasy (MDMA), original [d,z]	—	—	—	—	—	—	—	—	—	3.8	3.9	2.0	2.9	2.3	2.1	3.1	4.3	4.6	6.8	8.4
Ecstasy (MDMA), revised [d,z]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocaine	22.0	21.5	22.4	23.1	21.7	22.9	23.3	20.6	15.8	14.6	11.4	9.4	7.9	6.3	5.0	5.5	5.0	5.6	8.1	8.4
Crack [e]	—	—	—	—	—	—	—	3.3	3.4	2.4	1.4	1.5	1.7	1.3	1.0	1.8	1.2	1.4	2.2	2.4
Other Cocaine [f]	—	—	—	—	—	—	—	18.1	14.2	16.0	10.2	9.0	7.6	6.3	4.6	5.2	4.6	5.0	7.4	7.8
Heroin	0.9	0.6	0.5	0.3	0.5	0.4	0.4	0.6	0.3	0.7	0.3	0.5	0.5	0.6	0.1	0.6	0.7	0.9	1.7	0.9
Narcotics other than Heroin [g,h]	8.9	8.3	8.1	8.4	8.9	6.3	8.8	7.6	6.3	7.6	6.8	7.3	7.3	6.2	5.1	7.2	5.7	8.2	8.7	8.7
Amphetamines [g,i]	29.5	29.4	30.1	27.8	27.8	25.4	22.3	19.8	17.7	14.6	13.2	13.0	10.5	10.1	9.2	10.7	9.5	10.6	10.6	11.9
Methamphetamine [j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.1
Crystal Methamphetamine (Ice) [j]	—	—	—	—	—	—	—	—	—	—	1.0	1.3	0.6	1.6	1.3	1.0	0.8	1.6	2.2	2.8
Sedatives (Barbiturates) [g,t]	8.1	7.8	8.2	6.6	6.4	4.9	5.4	3.5	3.6	3.2	3.8	3.5	3.8	3.5	3.2	4.0	4.6	5.2	5.7	6.7
Sedatives, Adjusted [g,k]	13.7	14.2	14.1	12.2	10.8	9.3	8.0	6.1	4.7	4.1	—	—	—	—	—	—	—	—	—	—
Methaqualone [g]	10.3	10.4	11.1	9.2	9.0	7.2	5.8	4.1	2.2	2.4	—	—	—	—	—	—	—	—	—	—
Tranquilizers [g,l]	15.2	11.4	11.7	10.8	10.8	9.8	10.7	8.7	8.0	8.0	7.1	6.8	6.9	6.3	4.4	5.4	5.4	6.9	7.7	8.2
Alcohol [m]	94.3	95.2	95.2	95.0	94.2	95.3	94.9	94.1	94.9	93.7	93.1	93.6	91.8	89.3	88.2	88.5	88.4	87.3	88.5	88.0
Been Drunk [n]	—	—	—	—	—	—	—	—	—	—	—	79.6	76.8	76.4	74.4	76.6	76.2	77.0	76.8	75.1
Flavored Alcoholic Beverages [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cigarettes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Any Vaping [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping Marijuana [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping Nicotine [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping Just Flavoring [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids [p]	—	—	—	—	—	—	—	—	—	0.4	1.5	1.4	1.7	1.9	0.5	0.8	0.6	1.6	0.9	1.3

(Table continued on next page.)

TABLE 9-1 (cont.)
Trends in Lifetime Prevalence of Various Types of Drugs among College Students 1 to 4 Years beyond High School

(Entries are percentages.)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Approximate Weighted N =	*1,350*	*1,340*	*1,260*	*1,270*	*1,400*	*1,360*	*1,280*	*1,250*	*1,270*	*1,320*	*1,260*	*1,230*	*1,150*	*1,090*	*1,030*	*1,020*	*870*	*880*	
Any Illicit Drug [a]	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	53.4	54.4	55.4	+1.0
Any Illicit Drug other than Marijuana [a]	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	26.4	26.5	26.1	-0.4
Marijuana	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	50.4	51.0	50.5	-0.5
Inhalants [b]	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	3.1	3.2	3.4	+0.2
Hallucinogens [c,x]	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	6.5	7.7	7.2	-0.4
LSD [x]	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	4.8	5.1	5.3	+0.1
Hallucinogens other than LSD [c,x]	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	5.1	6.6	5.0	-1.6
Ecstasy (MDMA), original [d,z]	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	—	—	—	—
Ecstasy (MDMA), revised [d,z]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.1	8.9	8.4	5.3	-3.2 s
Cocaine	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	6.1	5.3	6.5	+1.2
Crack [e]	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	0.5	0.4	0.6	+0.2
Other Cocaine [f]	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	6.4	6.5	6.1	-0.4
Heroin	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	0.5	0.1	-0.4
Narcotics other than Heroin [g,h]	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	6.6	7.4	6.8	-0.6
Amphetamines [g,i]	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	13.9	13.6	12.6	-1.0
Methamphetamine [j]	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	0.8	0.6	0.6	+0.1
Crystal Methamphetamine (Ice) [j]	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	0.6	0.4	-0.3
Sedatives (Barbiturates) [g,t]	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	4.4	3.3	3.9	+0.6
Sedatives, Adjusted [g,k]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methaqualone [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers [g,l]	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	7.8	6.5	6.7	+0.2
Alcohol [m]	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	81.4	81.3	79.1	-2.2
Been Drunk [n]	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	68.6	66.7	64.8	-1.9
Flavored Alcoholic Beverages [o]	—	—	—	—	79.0	84.5	80.9	80.6	78.6	78.1	77.4	76.7	76.6	67.5	72.7	74.8	76.1	72.4	-3.7
Cigarettes	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Any Vaping [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26.0	26.8	36.0	—
Vaping Marijuana [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.4	—
Vaping Nicotine [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22.5	—
Vaping Just Flavoring [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26.7	—
Steroids [p]	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	0.6	0.8	1.2	+0.5

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

See footnotes following Table 9-7.

TABLE 9-2
Trends in Annual Prevalence of Various Types of Drugs among College Students 1 to 4 Years beyond High School

(Entries are percentages.)

→ (Years cont.)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Approximate Weighted N =	*1,040*	*1,130*	*1,150*	*1,170*	*1,110*	*1,080*	*1,190*	*1,220*	*1,310*	*1,300*	*1,400*	*1,410*	*1,490*	*1,490*	*1,410*	*1,450*	*1,450*	*1,480*	*1,440*	*1,440*
Any Illicit Drug [a]	56.2	55.0	49.5	49.8	45.1	46.3	45.0	40.1	37.4	36.7	33.3	29.2	30.6	30.6	31.4	33.5	34.2	34.1	37.8	36.9
Any Illicit Drug other than Marijuana [a]	32.3	31.7	29.9	29.9	27.2	26.7	25.0	21.3	19.2	16.4	15.2	13.2	13.1	12.5	12.2	15.9	12.8	15.8	14.0	15.4
Synthetic Marijuana [u]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Marijuana	51.2	51.3	44.7	45.2	40.7	41.7	40.9	37.0	34.6	33.6	29.4	26.5	27.7	27.9	29.3	31.2	33.1	31.6	35.9	35.2
Inhalants [b]	3.0	2.5	2.5	2.8	2.4	3.1	3.9	3.7	4.1	3.7	3.9	3.5	3.1	3.8	3.0	3.9	3.6	4.1	3.0	3.2
Hallucinogens [c,x]	8.5	7.0	8.7	6.5	6.2	5.0	6.0	5.9	5.3	5.1	5.4	6.3	6.8	6.0	6.2	8.2	6.9	7.7	7.2	7.8
LSD [x]	6.0	4.6	6.3	4.3	3.7	2.2	3.9	4.0	3.6	3.4	4.3	5.1	5.7	5.1	5.2	6.9	5.2	5.0	4.4	5.4
Hallucinogens other than LSD [c,x]	5.2	4.7	5.4	3.9	4.1	3.9	3.8	3.1	3.4	3.1	3.0	3.1	2.6	2.7	2.8	4.0	4.1	4.9	4.4	4.5
Ecstasy (MDMA), original [d,z]	—	—	—	—	—	—	—	—	—	2.3	2.3	0.9	2.0	0.8	0.5	2.4	2.8	2.4	3.9	5.5
Ecstasy (MDMA), revised [d,z]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Salvia [v]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocaine	16.8	16.0	17.2	17.3	16.3	17.3	17.1	13.7	10.0	8.2	5.6	3.6	3.0	2.7	2.0	3.6	2.9	3.4	4.6	4.6
Crack [e]	—	—	—	—	—	—	—	2.0	1.4	1.5	0.6	0.5	0.4	0.6	0.5	1.1	0.6	0.4	1.0	0.9
Other Cocaine [f]	—	—	—	—	—	—	—	10.7	10.6	9.3	5.1	3.2	2.4	2.5	1.8	3.3	2.3	3.0	4.2	4.2
Heroin	0.4	0.2	0.1	*	0.1	0.2	0.1	0.2	0.2	0.1	0.1	0.1	0.1	0.1	0.1	0.3	0.4	0.3	0.6	0.2
Narcotics other than Heroin [g,h]	5.1	4.3	3.8	3.8	3.8	2.4	4.0	3.1	3.1	3.2	2.9	2.7	2.7	2.5	2.4	3.8	3.1	4.2	4.2	4.3
OxyContin [g,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vicodin [g,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amphetamines [g,i]	22.4	22.2	21.1	17.3	15.7	11.9	10.3	7.2	6.2	4.6	4.5	3.9	3.6	4.2	4.2	5.4	4.2	5.7	5.1	5.8
Ritalin [g,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Adderall [g,j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methamphetamine [j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.3
Crystal Methamphetamine (Ice) [j]	—	—	—	—	—	—	—	—	—	—	0.1	0.1	0.2	0.7	0.8	1.1	0.4	0.8	1.0	0.5
Bath Salts (synthetic stimulants) [n]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sedatives (Barbiturates) [g,t]	2.9	2.8	3.2	2.2	1.9	1.3	2.0	1.2	1.1	1.0	1.4	1.2	1.4	1.5	1.2	2.0	2.3	3.0	2.5	3.2
Sedatives, Adjusted [g,k]	8.3	8.0	8.0	4.5	3.5	2.5	2.6	1.7	1.5	1.0	—	—	—	—	—	—	—	—	—	—
Methaqualone [g]	7.2	6.5	6.6	3.1	2.5	1.4	1.2	0.8	0.5	0.2	—	—	—	—	—	—	—	—	—	—
Tranquilizers [g,l]	6.9	4.8	4.7	4.6	3.5	3.6	4.4	3.8	3.1	2.6	3.0	2.4	2.9	2.4	1.8	2.9	2.8	3.8	3.9	3.8
Rohypnol [j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
GHB [w]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ketamine [w]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol [m]	90.5	92.5	92.2	91.6	90.0	92.0	91.5	90.9	89.6	89.6	89.0	88.3	86.9	85.1	82.7	83.2	83.0	82.4	84.6	83.6
Been Drunk [n]	—	—	—	—	—	—	—	—	—	—	—	69.1	67.3	65.6	63.1	62.1	64.2	66.8	67.0	65.4
Flavored Alcoholic Beverages [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcoholic Beverages containing Caffeine [j,s]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cigarettes	36.2	37.6	34.3	36.1	33.2	35.0	35.3	38.0	36.6	34.2	35.5	35.6	37.3	38.8	37.6	39.3	41.4	43.6	44.3	44.5
Any Vaping [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping Marijuana [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping Nicotine [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping Just Flavoring [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tobacco Using a Hookah [j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Small Cigars [y]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Snus [j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dissolvable Tobacco [j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids [p]	—	—	—	—	—	—	—	—	—	0.4	0.5	0.6	0.2	0.9	0.2	0.4	0.2	0.7	0.2	0.9

(Table continued on next page.)

TABLE 9-2 (cont.)
Trends in Annual Prevalence of Various Types of Drugs among College Students 1 to 4 Years beyond High School

(Entries are percentages.)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Approximate Weighted N =	*1,350*	*1,340*	*1,260*	*1,270*	*1,400*	*1,360*	*1,280*	*1,250*	*1,270*	*1,320*	*1,260*	*1,230*	*1,150*	*1,090*	*1,030*	*1,020*	*870*	*880*	
Any Illicit Drug [a]	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	41.4	42.8	42.4	-0.4
Any Illicit Drug other than Marijuana [a]	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	18.5	19.7	18.1	-1.6
Synthetic Marijuana [u]	—	—	—	—	—	—	—	—	—	—	—	8.5	5.3	2.3	0.9	1.5	1.3	0.5	-0.8
Marijuana	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	37.9	39.3	38.3	-1.1
Inhalants [b]	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	0.6	0.2	1.7	+1.5 s
Hallucinogens [c,x]	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	4.3	4.5	4.1	-0.5
LSD [x]	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	3.0	3.1	2.8	-0.2
Hallucinogens other than LSD [c,x]	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	3.0	3.4	2.5	-0.9
Ecstasy (MDMA), original [d,z]	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	—	—	—	—
Ecstasy (MDMA), revised [d,z]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.9	4.2	4.7	2.5	-2.2 s
Salvia [v]	—	—	—	—	—	—	—	—	—	5.8	3.5	3.1	1.5	1.0	1.1	0.4	0.7	0.3	-0.4
Cocaine	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	4.3	4.0	4.8	+0.8
Crack [e]	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	0.2	0.0	0.2	+0.2
Other Cocaine [f]	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	4.2	4.7	4.4	-0.3
Heroin	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	0.1	0.2	*	-0.2
Narcotics other than Heroin [g,h]	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	3.3	3.8	3.1	-0.8
OxyContin [g,q]	—	—	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	1.5	1.9	1.7	-0.2
Vicodin [g,q]	—	—	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	1.3	1.1	-0.2
Amphetamines [g,i]	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	9.7	9.8	8.6	-1.2
Ritalin [g,q]	—	—	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	2.0	2.4	1.4	-0.9
Adderall [g,q]	—	—	—	—	—	—	—	—	—	10.2	9.0	9.8	9.0	10.7	9.6	10.7	9.9	9.4	-0.5
Methamphetamine [j]	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	0.5	0.0	0.4	+0.4
Crystal Methamphetamine (Ice) [j]	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	*	*	*	*	0.4	+0.4
Bath Salts (synthetic stimulants) [n]	—	—	—	—	—	—	—	—	—	—	—	—	0.3	0.1	0.2	0.1	0.0	0.2	+0.2
Sedatives (Barbiturates) [g,t]	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	2.3	2.1	1.9	-0.1
Sedatives, Adjusted [g,k]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methaqualone [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers [g,l]	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	4.3	4.9	3.6	-1.2
Rohypnol [j]	—	—	0.7	0.4	0.3	0.1	0.2	0.1	0.3	*	—	—	—	—	—	—	—	—	—
GHB [w]	—	—	0.6	0.3	0.7	0.4	*	0.1	0.2	*	0.1	0.1	*	0.1	0.2	*	—	—	—
Ketamine [w]	—	—	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	0.6	0.5	0.3	-0.1
Alcohol [m]	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	79.0	78.9	75.8	-3.2
Been Drunk [n]	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	61.6	60.7	58.0	-2.7
Flavored Alcoholic Beverages [o]	—	—	—	—	63.2	67.0	63.5	62.6	65.0	66.1	60.3	63.0	58.1	57.6	64.2	64.5	68.5	60.3	-8.2
Alcoholic Beverages containing Caffeine [j]	—	—	—	—	—	—	—	—	—	—	—	33.6	33.8	39.1	32.8	34.1	29.4	31.3	+1.9
Cigarettes	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	20.1	18.7	16.7	-1.9
Any Vaping [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.5	—
Vaping Marijuana [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.7	—
Vaping Nicotine [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.0	—
Vaping Just Flavoring [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.1	—
Tobacco Using a Hookah [j]	—	—	—	—	—	—	—	—	—	—	—	27.9	25.7	26.1	32.7	23.4	16.9	10.0	-6.8 ss
Small Cigars [y]	—	—	—	—	—	—	—	—	—	—	—	23.6	20.3	19.0	24.2	19.6	17.6	14.0	-3.6
Snus [j]	—	—	—	—	—	—	—	—	—	—	—	6.5	4.7	4.8	5.0	5.8	3.3	4.3	+1.0
Dissolvable Tobacco [j]	—	—	—	—	—	—	—	—	—	—	—	*	0.3	0.2	0.5	1.1	0.3	0.7	+0.4
Steroids [p]	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	0.0	0.6	+0.6

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

See footnotes following Table 9-7.

TABLE 9-3
Trends in 30-Day Prevalence of Various Types of Drugs among College Students 1 to 4 Years beyond High School

(Entries are percentages.)

→ (Years cont.)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Approximate Weighted N =	*1,040*	*1,130*	*1,150*	*1,170*	*1,110*	*1,080*	*1,190*	*1,220*	*1,310*	*1,300*	*1,400*	*1,410*	*1,490*	*1,490*	*1,410*	*1,450*	*1,450*	*1,480*	*1,440*	*1,440*
Any Illicit Drug [a]	38.4	37.6	31.3	29.3	27.0	26.1	25.9	22.4	18.5	18.2	15.2	15.2	16.1	15.1	16.0	19.1	17.6	19.2	19.7	21.6
Any Illicit Drug other than Marijuana [a]	20.7	18.6	17.1	13.9	13.8	11.8	11.6	8.8	8.5	6.9	4.4	4.3	4.6	5.4	4.6	6.3	4.5	6.8	6.1	6.4
Marijuana	34.0	33.2	26.8	26.2	23.0	23.6	22.3	20.3	16.8	16.3	14.0	14.1	14.6	14.2	15.1	18.6	17.5	17.7	18.6	20.7
Inhalants [b]	1.5	0.9	0.8	0.7	0.7	1.0	1.1	0.9	1.3	0.8	1.0	0.9	1.1	1.3	0.6	1.6	0.8	0.7	0.6	1.5
Hallucinogens [c,x]	2.7	2.3	2.6	1.8	1.8	1.3	2.2	2.0	1.7	2.3	1.4	1.2	2.3	2.5	2.1	3.3	1.9	2.1	2.1	2.0
LSD [x]	1.4	1.4	1.7	0.9	0.8	0.7	1.4	1.4	1.1	1.4	1.1	0.8	1.8	1.6	1.8	2.5	0.9	1.1	1.5	1.2
Hallucinogens other than LSD [c,x]	1.9	1.2	1.4	1.0	1.2	0.7	1.2	0.8	0.8	1.1	0.8	0.6	0.7	1.1	0.8	1.6	1.2	1.2	0.7	1.2
Ecstasy (MDMA), original [d,z]	—	—	—	—	—	—	—	—	—	0.3	0.6	0.2	0.4	0.3	0.2	0.7	0.7	0.8	0.8	2.1
Ecstasy (MDMA), revised [d,z]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocaine	6.9	7.3	7.9	6.5	7.6	6.9	7.0	4.6	4.2	2.8	1.2	1.0	1.0	0.7	0.6	0.7	0.8	1.6	1.6	1.2
Crack [e]	—	—	—	—	—	—	1.3	0.4	0.5	0.2	0.1	0.3	0.1	0.1	0.1	0.1	0.1	0.2	0.2	0.3
Other Cocaine [f]	—	—	—	—	—	—	—	3.5	3.2	3.2	1.0	1.0	0.9	0.6	0.3	0.8	0.6	1.3	1.5	1.0
Heroin	0.3	*	*	*	*	*	*	0.1	0.1	0.1	*	0.1	*	*	*	0.1	*	0.2	0.1	0.1
Narcotics other than Heroin [g,h]	1.8	1.1	0.9	1.1	1.4	0.7	0.6	0.8	0.8	0.7	0.5	0.6	1.0	0.7	0.4	1.2	0.7	1.3	1.1	1.0
Amphetamines [g,i]	13.4	12.3	9.9	7.0	5.5	4.2	3.7	2.3	1.8	1.3	1.4	1.0	1.1	1.5	1.5	2.2	0.9	2.1	1.7	2.3
Methamphetamine [j]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.2
Crystal Methamphetamine (Ice) [j]	—	—	—	—	—	—	—	—	—	—	*	*	*	0.3	0.5	0.3	0.1	0.2	0.3	*
Sedatives (Barbiturates) [g,t]	0.9	0.8	1.0	0.5	0.7	0.4	0.6	0.5	0.5	0.2	0.2	0.3	0.7	0.4	0.4	0.5	0.8	1.2	1.1	1.1
Sedatives, Adjusted [g,k]	3.8	3.4	2.5	1.1	1.0	0.7	0.6	0.6	0.6	0.2	—	—	—	—	—	—	—	—	—	—
Methaqualone [g]	3.1	3.0	1.9	0.7	0.5	0.3	0.1	0.2	0.1	0.0	—	—	—	—	—	—	—	—	—	—
Tranquilizers [g,l]	2.0	1.4	1.4	1.2	1.1	1.4	1.9	1.0	1.1	0.8	0.5	0.6	0.6	0.4	0.4	0.5	0.7	1.2	1.3	1.1
Alcohol [m]	81.8	81.9	82.8	80.3	79.1	80.3	79.7	78.4	77.0	76.2	74.5	74.7	71.4	70.1	67.8	67.5	67.0	65.8	68.1	69.6
Been Drunk [n]	—	—	—	—	—	—	—	—	—	—	—	45.0	45.0	43.8	42.8	37.9	40.3	46.4	44.3	44.6
Flavored Alcoholic Beverages [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cigarettes	25.8	25.9	24.4	24.7	21.5	22.4	22.4	24.0	22.6	21.1	21.5	23.2	23.5	24.5	23.5	26.8	27.9	28.3	30.0	30.6
Any Vaping [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping Marijuana [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping Nicotine [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping Just Flavoring [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Large Cigars [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Flavored Little Cigars [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regular Little Cigars [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids [p]	—	—	—	—	—	—	—	—	—	*	0.2	0.3	0.2	0.2	0.2	0.1	*	0.2	0.2	0.4

(Table continued on next page.)

TABLE 9-3 (cont.)
Trends in 30-Day Prevalence of Various Types of Drugs among College Students 1 to 4 Years beyond High School

(Entries are percentages.)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Approximate Weighted N =	*1,350*	*1,340*	*1,260*	*1,270*	*1,400*	*1,360*	*1,280*	*1,250*	*1,270*	*1,320*	*1,260*	*1,230*	*1,150*	*1,090*	*1,030*	*1,020*	*870*	*880*	
Any Illicit Drug [a]	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	23.4	24.3	23.3	-0.9
Any Illicit Drug other than Marijuana [a]	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	9.2	8.4	7.0	-1.5
Marijuana	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	21.1	22.2	21.2	-1.0
Inhalants [b]	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	*	0.9	+0.9 s
Hallucinogens [c,x]	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	1.4	0.8	1.2	+0.4
LSD [x]	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	0.7	0.4	0.8	+0.5
Hallucinogens other than LSD [c,x]	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	0.9	0.5	0.6	+0.1
Ecstasy (MDMA), original [d,z]	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	1.3	—	—	—	—
Ecstasy (MDMA), revised [d,z]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.0	0.7	1.0	0.5	-0.5
Cocaine	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	1.5	1.4	1.3	-0.1
Crack [e]	0.3	0.1	0.3	0.4	0.4	0.1	*	0.1	0.1	0.1	0.1	0.1	*	0.3	0.1	*	*	*	0.0
Other Cocaine [f]	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	1.4	1.7	1.1	-0.6
Heroin	0.2	0.1	*	*	0.1	0.1	0.2	0.1	*	0.1	*	*	0.1	0.2	*	*	0.2	*	-0.2
Narcotics other than Heroin [g,h]	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	1.3	1.1	0.7	-0.5
Amphetamines [g,i]	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	4.2	3.8	3.6	-0.2
Methamphetamine [j]	0.2	0.5	0.2	0.6	0.2	0.1	0.2	0.1	*	0.1	*	*	*	*	0.1	*	*	*	0.0
Crystal Methamphetamine (Ice) [j]	*	0.1	*	0.3	0.1	0.2	*	0.1	*	*	0.2	*	0.3	*	*	*	*	0.4	+0.4
Sedatives (Barbiturates) [g,t]	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	1.0	0.9	0.5	-0.4
Sedatives, Adjusted [g,k]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methaqualone [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers [g,l]	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	1.6	1.8	0.9	-0.9
Alcohol [m]	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	63.2	63.2	62.0	-1.2
Been Drunk [n]	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	38.4	40.8	34.8	-6.0
Flavored Alcoholic Beverages [o]	—	—	—	—	34.0	30.9	26.2	27.5	35.8	32.3	31.5	29.5	31.3	29.1	32.9	30.5	33.5	36.7	+3.2
Cigarettes	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	11.3	8.9	8.0	-0.9
Any Vaping [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.8	6.9	11.3	—
Vaping Marijuana [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.2	—
Vaping Nicotine [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.1	—
Vaping Just Flavoring [j,aa]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.3	—
Large Cigars [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.4	4.9	4.4	1.7	-2.7
Flavored Little Cigars [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.8	5.6	5.6	4.9	-0.8
Regular Little Cigars [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.6	4.1	3.6	1.7	-2.0
Steroids [p]	*	0.3	*	0.1	*	*	*	0.1	*	0.2	*	0.2	*	*	*	0.3	*	0.3	+0.3

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

See footnotes following Table 9-7.

TABLE 9-4

Trends in 30-Day Prevalence of Daily [r] Use of Various Types of Drugs among College Students 1 to 4 Years beyond High School

(Entries are percentages.)

→ (Years cont.)

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999
Approximate Weighted N =	*1,040*	*1,130*	*1,150*	*1,170*	*1,110*	*1,080*	*1,190*	*1,220*	*1,310*	*1,300*	*1,400*	*1,410*	*1,490*	*1,490*	*1,410*	*1,450*	*1,450*	*1,480*	*1,440*	*1,440*
Marijuana	7.2	5.6	4.2	3.8	3.6	3.1	2.1	2.3	1.8	2.6	1.7	1.8	1.6	1.9	1.8	3.7	2.8	3.7	4.0	4.0
Cocaine	0.2	*	0.3	0.1	0.4	0.1	0.1	0.1	0.1	*	*	*	*	*	0.1	*	*	*	*	*
Amphetamines [g]	0.5	0.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amphetamines, Adjusted [g,i]	—	—	0.3	0.2	0.2	*	0.1	0.1	*	*	*	0.1	*	0.1	0.1	0.1	*	0.2	0.1	0.1
Alcohol [m]																				
Daily	6.5	5.5	6.1	6.1	6.6	5.0	4.6	6.0	4.9	4.0	3.8	4.1	3.7	3.9	3.7	3.0	3.2	4.5	3.9	4.5
Been Drunk [n]	—	—	—	—	—	—	—	—	—	—	—	0.5	0.2	0.3	0.8	0.5	0.1	1.3	0.8	1.0
5+ Drinks in a Row in Last 2 Weeks	43.9	43.6	44.0	43.1	45.4	44.6	45.0	42.8	43.2	41.7	41.0	42.8	41.4	40.2	40.2	38.6	38.3	40.7	38.9	40.0
10+ Drinks in a Row in Last 2 Weeks [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
15+ Drinks in a Row in Last 2 Weeks [o]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cigarettes																				
Daily	18.3	17.1	16.2	15.3	14.7	14.2	12.7	13.9	12.4	12.2	12.1	13.8	14.1	15.2	13.2	15.8	15.9	15.2	18.0	19.3
1/2 Pack+/Day	12.7	11.9	10.5	9.6	10.2	9.4	8.3	8.2	7.3	6.7	8.2	8.0	8.9	8.9	8.0	10.2	8.5	9.1	11.3	11.0

(Table continued on next page.)

TABLE 9-4 (cont.)
Trends in 30-Day Prevalence of Daily [r] Use of Various Types of Drugs among College Students 1 to 4 Years beyond High School

(Entries are percentages.)

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Approximate Weighted N =	*1,350*	*1,340*	*1,260*	*1,270*	*1,400*	*1,360*	*1,280*	*1,250*	*1,270*	*1,320*	*1,260*	*1,230*	*1,150*	*1,090*	*1,030*	*1,020*	*870*	*880*	
Marijuana	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	4.6	4.9	4.4	-0.5
Cocaine	*	*	*	*	*	0.1	0.1	*	*	*	*	*	*	*	*	*	0.1	*	-0.1
Amphetamines [g]	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Amphetamines, Adjusted [g,i]	0.1	0.2	0.1	0.3	0.2	0.2	0.4	0.1	0.2	0.1	*	0.2	0.1	*	0.2	0.1	*	0.1	+0.1
Alcohol [m]																			
Daily	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	3.1	4.3	2.2	-2.1 s
Been Drunk [n]	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	0.7	0.4	0.0	-0.4
5+ Drinks in a Row in Last 2 Weeks	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	31.9	32.4	32.7	+0.3
10+ Drinks in a Row in Last 2 Weeks [o]	—	—	—	—	—	12.5	13.7	13.9	13.0	15.8	11.6	14.6	13.7	10.4	9.1	7.3	9.0	10.5	+1.5
15+ Drinks in a Row in Last 2 Weeks [o]	—	—	—	—	—	5.1	4.2	5.1	4.7	6.4	4.0	5.4	4.7	3.6	5.1	1.2	2.1	1.3	-0.8
Cigarettes																			
Daily	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	4.2	2.6	2.0	-0.6
1/2 Pack+/Day	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	1.4	1.7	0.2	-1.4 ss

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

See footnotes following Table 9-7.

TABLE 9-5

Trends in Having 10+ Drinks in a Row in the Last Two Weeks: Full-Time College Students vs. Others among Respondents 1 to 4 Years beyond High School by Gender

(Entries are percentages.)

Total	2005-2011	2012-2017	Change
Full-Time College	13.6	10.1	-3.5
Weighted N	*1296*	*1021*	
Others	11.8	10.3	-1.5
Weighted N	*884*	*584*	
Males			
Full-Time College	23.6	16.2	-7.4
Weighted N	*584*	*381*	
Others	17.9	16.8	-1.1
Weighted N	*373*	*264*	
Females			
Full-Time College	7.2	6.5	-0.7
Weighted N	*915*	*640*	
Others	7.4	5.0	-2.4
Weighted N	*510*	*320*	

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

Notes. ' * ' indicates a prevalence rate of less than 0.05%.

See footnotes following Table 9-7.

TABLE 9-6

Trends in Having 15+ Drinks in a Row in the Last Two Weeks: Full-Time College Students vs. Others among Respondents 1 to 4 Years beyond High School by Gender

(Entries are percentages.)

Total	2005-2011	2012-2017	Change
Full-Time College	5.0	3.1	-1.9
Weighted N	*1267*	*1021*	
Others	5.2	5.1	-0.1
Weighted N	*886*	*582*	
Males			
Full-Time College	10.1	6.0	-4.1
Weighted N	*585*	*381*	
Others	9.4	8.8	-0.7
Weighted N	*373*	*262*	
Females			
Full-Time College	1.8	1.3	-0.5
Weighted N	*913*	*640*	
Others	2.1	2.0	0.0
Weighted N	*512*	*320*	

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

Notes. ' * ' indicates a prevalence rate of less than 0.05%.

See footnotes following Table 9-7.

TABLE 9-7

Trends in Lifetime, Annual, and 30-Day Prevalence of an Illicit Drug Use Index [a] among College Students 1 to 4 Years beyond High School, by Gender

	1980 [i]	1981 [i]	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	(Years cont.)
	Percentage who used in lifetime																				
Any Illicit Drug																					
Total	69.4	66.8	64.6	66.9	62.7	65.2	61.8	60.0	58.4	55.6	54.0	50.4	48.8	45.9	45.5	45.5	47.4	49.0	52.9	53.2	
Males	71.0	67.5	68.1	71.3	66.4	69.8	64.7	63.5	56.0	56.5	52.5	51.3	50.8	45.7	49.5	47.3	50.3	52.1	54.4	58.4	
Females	67.5	66.3	61.5	63.0	59.2	61.6	59.4	57.4	60.2	54.9	55.1	49.7	47.1	46.0	42.6	44.3	45.6	46.7	52.0	49.6	
Any Illicit Drug other than Marijuana																					
Total	42.2	41.3	39.6	41.7	38.6	40.0	37.5	35.7	33.4	30.5	28.4	25.8	26.1	24.3	22.0	24.5	22.7	24.4	24.8	25.5	
Males	42.8	39.8	45.1	44.6	40.9	42.1	38.2	37.2	31.8	30.6	26.2	27.6	26.3	24.3	24.6	26.6	25.0	27.3	27.3	29.4	
Females	41.6	42.6	34.7	39.2	36.4	38.3	37.0	34.6	34.6	30.4	30.1	24.3	26.1	24.3	20.1	22.9	21.2	22.2	23.3	22.8	
	Percentage who used in last 12 months																				
Any Illicit Drug																					
Total	56.2	55.0	49.5	49.8	45.1	46.3	45.0	40.1	37.4	36.7	33.3	29.2	30.6	30.6	31.4	33.5	34.2	34.1	37.8	36.9	
Males	58.9	56.2	54.6	53.4	48.4	50.9	49.8	43.3	37.0	38.2	34.2	30.2	32.8	32.6	33.9	36.1	36.6	38.3	40.1	42.5	
Females	53.3	54.0	44.9	46.7	41.9	42.7	41.1	37.7	37.6	35.4	32.5	28.4	28.7	29.1	29.5	31.7	32.7	31.1	36.4	33.2	
Any Illicit Drug other than Marijuana																					
Total	32.3	31.7	29.9	29.9	27.2	26.7	25.0	21.3	19.2	16.4	15.2	13.2	13.1	12.5	12.2	15.9	12.8	15.8	14.0	15.4	
Males	33.7	32.8	33.4	33.5	29.2	29.7	28.6	23.5	19.4	18.7	15.7	14.4	13.8	15.0	14.9	19.5	15.1	18.1	17.0	19.0	
Females	31.1	30.8	26.9	26.8	25.2	24.4	22.1	19.6	19.0	14.6	14.8	12.1	12.6	10.5	10.2	13.3	11.3	14.1	12.1	12.8	
	Percentage who used in last 30 days																				
Any Illicit Drug																					
Total	38.4	37.6	31.3	29.3	27.0	26.1	25.9	22.4	18.5	18.2	15.2	15.2	16.1	15.1	16.0	19.1	17.6	19.2	19.7	21.6	
Males	42.9	40.6	37.7	33.8	30.4	29.9	31.0	24.0	18.8	20.0	18.2	16.0	18.0	16.0	20.5	23.7	20.6	23.4	23.1	26.7	
Females	34.0	34.8	25.6	25.5	23.7	23.2	21.7	21.1	18.3	16.7	12.7	14.6	14.5	14.5	12.7	15.7	15.8	16.2	17.6	18.1	
Any Illicit Drug other than Marijuana																					
Total	20.7	18.6	17.1	13.9	13.8	11.8	11.6	8.8	8.5	6.9	4.4	4.3	4.6	5.4	4.6	6.3	4.5	6.8	6.1	6.4	
Males	22.8	18.6	20.2	16.0	16.1	12.6	14.4	9.0	8.2	8.0	4.9	4.8	5.1	7.3	6.2	8.8	6.1	7.8	8.6	7.5	
Females	18.7	18.5	14.2	12.1	11.5	11.2	9.3	8.5	8.8	6.0	4.0	3.9	4.2	3.8	3.4	4.5	3.4	6.1	4.6	5.6	
	Approximate Weighted N																				
All Respondents																					
Total	*1,040*	*1,130*	*1,150*	*1,170*	*1,110*	*1,080*	*1,190*	*1,220*	*1,310*	*1,300*	*1,400*	*1,410*	*1,490*	*1,490*	*1,410*	*1,450*	*1,450*	*1,480*	*1,440*	*1,440*	
Males	*520*	*530*	*550*	*550*	*540*	*490*	*540*	*520*	*560*	*580*	*620*	*640*	*680*	*660*	*590*	*610*	*560*	*630*	*570*	*590*	
Females	*520*	*600*	*610*	*620*	*570*	*600*	*650*	*700*	*750*	*720*	*780*	*770*	*810*	*830*	*820*	*840*	*890*	*860*	*880*	*850*	

(Table continued on next page.)

TABLE 9-7 (cont.)
Trends in Lifetime, Annual, and 30-Day Prevalence of an Illicit Drug Use Index [a] among College Students 1 to 4 Years beyond High School, by Gender

	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2016–2017 change
Any Illicit Drug																			
Total	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	53.4	54.4	55.5	+1.1
Males	54.4	53.9	54.3	54.1	54.9	54.2	55.0	52.3	50.7	53.2	53.5	52.3	52.4	53.7	54.5	55.1	54.5	57.8	+3.3
Females	53.2	53.5	50.2	53.7	50.6	51.3	47.8	49.4	48.8	50.2	46.2	47.3	49.2	53.0	50.9	52.5	54.3	54.1	-0.2
Any Illicit Drug other than Marijuana																			
Total	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	26.4	26.5	26.3	-0.3
Males	28.9	27.0	30.4	27.6	31.1	29.0	29.2	26.5	25.2	29.9	27.8	27.8	26.0	30.4	29.8	31.0	28.1	27.0	-1.1
Females	23.5	25.9	24.6	27.5	26.2	25.1	24.4	24.6	21.0	22.7	22.8	22.1	22.2	26.8	28.3	23.8	25.6	25.8	+0.2
Any Illicit Drug																			
Total	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	41.4	42.8	42.5	-0.3
Males	38.0	38.8	39.5	39.2	40.9	40.7	39.2	38.0	38.7	37.6	40.3	41.2	39.5	41.3	39.2	45.2	44.9	46.4	+1.5
Females	34.7	37.3	35.4	34.8	33.4	34.2	30.6	33.1	32.9	35.0	31.6	33.2	35.7	40.0	38.2	39.2	41.5	40.0	-1.5
Any Illicit Drug other than Marijuana																			
Total	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	18.5	19.7	18.2	-1.5
Males	18.6	17.2	19.2	19.3	22.1	21.1	22.6	19.0	17.8	19.7	20.3	20.1	19.6	22.0	21.8	24.6	22.7	19.8	-2.8
Females	13.5	15.8	15.0	17.1	16.5	16.9	15.2	16.3	13.7	15.0	15.1	14.7	15.4	17.4	20.1	14.9	17.9	17.1	-0.8
Any Illicit Drug																			
Total	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	23.4	24.3	23.5	-0.8
Males	24.0	25.0	25.1	22.8	26.1	22.9	23.4	22.7	23.1	23.4	25.9	27.0	27.0	27.8	25.9	27.4	25.4	26.4	+1.0
Females	19.6	19.8	19.3	20.5	18.4	17.5	16.6	17.1	16.2	19.0	15.0	17.9	19.1	19.3	20.2	21.1	23.6	21.5	-2.0
Any Illicit Drug other than Marijuana																			
Total	6.9	7.5	7.8	8.2		8.2	8.2	8.1	7.3	8.4	8.1	8.2	7.8	8.8	10.0	9.2	8.4	7.0	-1.4
Males	8.2	9.0	8.4	8.1	11.3	10.3	10.3	9.5	9.6	9.0	10.4	10.6	9.2	11.2	12.4	12.9	11.8	7.2	-4.6
Females	6.0	6.4	7.4	8.3	7.8	7.0	6.9	7.2	5.8	8.0	6.7	6.7	6.8	7.2	8.3	7.1	6.4	6.9	+0.5
All Respondents																			
Total	*1,350*	*1,340*	*1,260*	*1,270*	*1,400*	*1,360*	*1,280*	*1,250*	*1,270*	*1,320*	*1,260*	*1,230*	*1,150*	*1,090*	*1,030*	*1,020*	*870*	*870*	
Males	*560*	*540*	*490*	*480*	*520*	*500*	*500*	*470*	*510*	*530*	*500*	*480*	*480*	*430*	*440*	*380*	*340*	*340*	
Females	*790*	*800*	*770*	*790*	*880*	*860*	*780*	*770*	*760*	*790*	*760*	*750*	*670*	*660*	*590*	*640*	*540*	*530*	

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

See footnotes on the following page.

Footnotes for Tables 9-1 through 9-7

Notes. Level of significance of difference between the two most recent years: 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. ' — ' indicates data not available. ' * ' indicates a prevalence rate of less than 0.05%.

[a]Any illicit drug includes use of marijuana, hallucinogens, cocaine, heroin or other narcotics, amphetamines, sedatives (barbiturates), methaqualone (until 1990), or tranquilizers not under a doctor’s orders.

[b]This drug was asked about in four of the five questionnaire forms in 1980–1989, in five of the six forms in 1990–1998, and in three of the six forms beginning in 1999.

[c]In 2001 the question text was changed on three of the six questionnaire forms. Other psychedelics was changed to other hallucinogens, and shrooms was added to the list of examples. Beginning in 2002 the remaining forms were changed to the new wording.

[d]This drug was asked about in two of the five questionnaire forms in 1989, in two of the six questionnaire forms in 1990–2001, in three of the six questionnaire forms in 2002–2015, and in four of six questionnaire forms beginning in 2015.

[e]This drug was asked about in one of the five questionnaire forms for annual use only in 1986, two of the five questionnaire forms in 1987–1989, in all six questionnaire forms in 1990–2001, and in five of the six questionnaire forms beginning in 2002..

[f]This drug was asked about in one of the five questionnaire forms in 1987–1989 and in four of six questionnaire forms beginning in 1990.

[g]Only drug use that was not under a doctor’s orders is included here.

[h]In 2002 the question text was changed on three of the six 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 by Vicodin, OxyContin, and Percocet. The 2002 data presented here are based on the changed forms only; *N* is three sixths of *N* indicated. In 2003 the remaining forms were changed to the new wording. The data are based on all forms in 2003 and beyond.

[i]Revised questions about amphetamine use were introduced in 1982 to more completely exclude inappropriate reporting of nonprescription amphetamines. In 2013 the question wording was changed slightly in thee of the six questionnaire forms. 2013 data are based on the changed forms only; N is one half of N indicated.

[j]This drug was asked about in two of the six questionnaire forms. Questions about Rohypnol use were dropped from the questionnaires beginning in 2010.

[k]Sedatives, adjusted data are a combination of barbiturate and methaqualone data.

[l]In 2001 the question text was changed on three of the six questionnaire forms. Miltown was replaced with Xanax in the list of examples. Beginning in 2002 the remaining forms were changed to the new wording.

[m]In 1993 and 1994, the question text was changed slightly in three of the six questionnaire forms to indicate that a drink meant more than just a few sips. Because this revision resulted in rather little change in reported prevalence in the surveys of high school graduates, the data for all forms combined are used in order to provide the most reliable estimate of change. After 1994 the new question text was used in all six of the questionnaire forms.

[n]This drug was asked about in three of the six questionnaire forms.

[o]This drug was asked about in one of the six questionnaire forms.

[p]This drug was asked about in one of the five questionnaire forms in 1989 and in two of the six questionnaire forms beginning in 1990.

[q]This drug was asked about in two of the six questionnaire forms through 2010 and in three of the six questionnaire forms beginning in 2011.

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

[s]In 2012 the alcoholic beverage containing caffeine question text was changed to alcoholic beverage mixed with an energy drink. The data in 2011 and 2012 are not comparable due to this question change.

[t]In 2013 the question text was changed on all forms: Tuinal, Nembutal, and Seconal were replaced with Ambien, Lunesta, and Sonata. The data in 2012 and 2013 are not comparable due to this question change.

[u]This drug was asked about in two of the six questionnaire forms in 2011-2012; N is two sixths of N indicated. Data were based on three of the six questionaire forms beginning in 2013; N is three sixths of N indicated.

[v]This drug was asked about in one of the six questionnaire forms in 2009; N is one sixth of N indicated; Data were based on two of the six questionnaire forms in 2010-2011; N is two sixths of N indicated. Data were based on three of the six questionnaire forms beginning in 2012; N is three sixths of N indicated.

[w]This drug was asked about in two of the six questionnaire forms in 2002-2009; N is two sixths of N indicated; Data were based on three of the six questionnaire forms in 2010-2011; N is three sixths of N indicated. Data were based on two of the six questionnaire forms in 2012-2015; N is two sixths of N indicated.

[x]This drug was asked about in all six questionaire forms from 1980-2013. Data based on five of six forms beginning in 2014; N is five sixths of N indicated.

[y]This drug asked about in three of six questionnaire forms from 2011-2013; N is one half of N indicated. Beginning in 2014, data based on two of six questionnaire forms; N is two sixths of N indicated.

[z]In 2014 a revised question on use of ecstasy (MDMA) including "Molly" was added to one form at each level. The 2013 and 2014 "Original wording" data reported here are for only the questionnaires using the original question wording. The 2014 and 2015 "Revised wording" data reported here are for only the questionnaires using the version which includes "Molly."

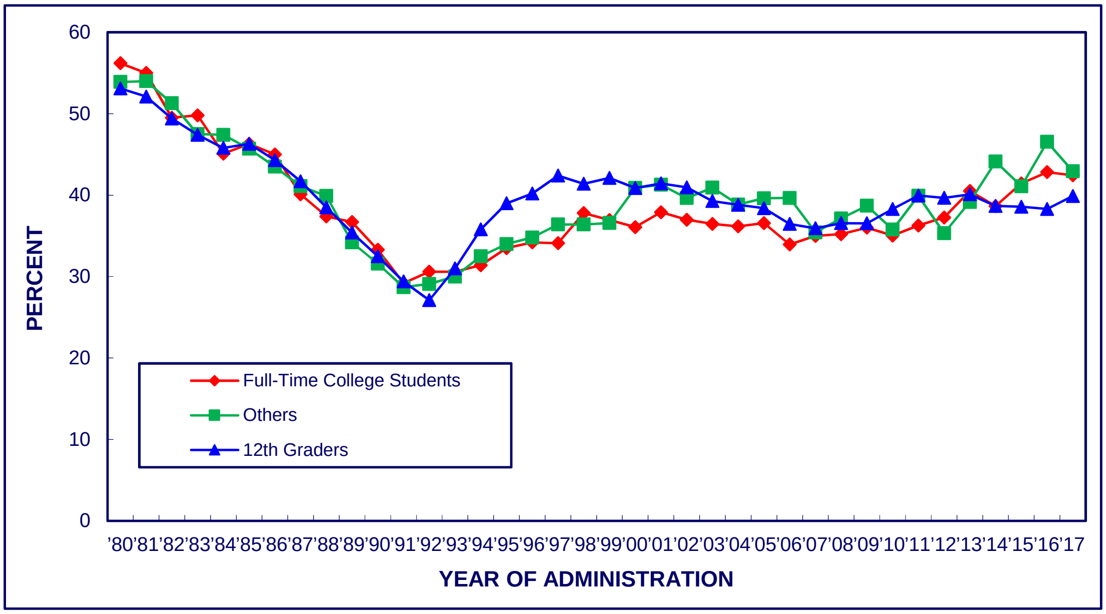
[aa]In 2017, the surveys switched from asking about vaping in general to asking separately about vaping nicotine, marijuana, and just flavoring. Beginning in 2017, data presented for any vaping are based on these new questions.

FIGURE 9-1

ANY ILLICIT DRUG

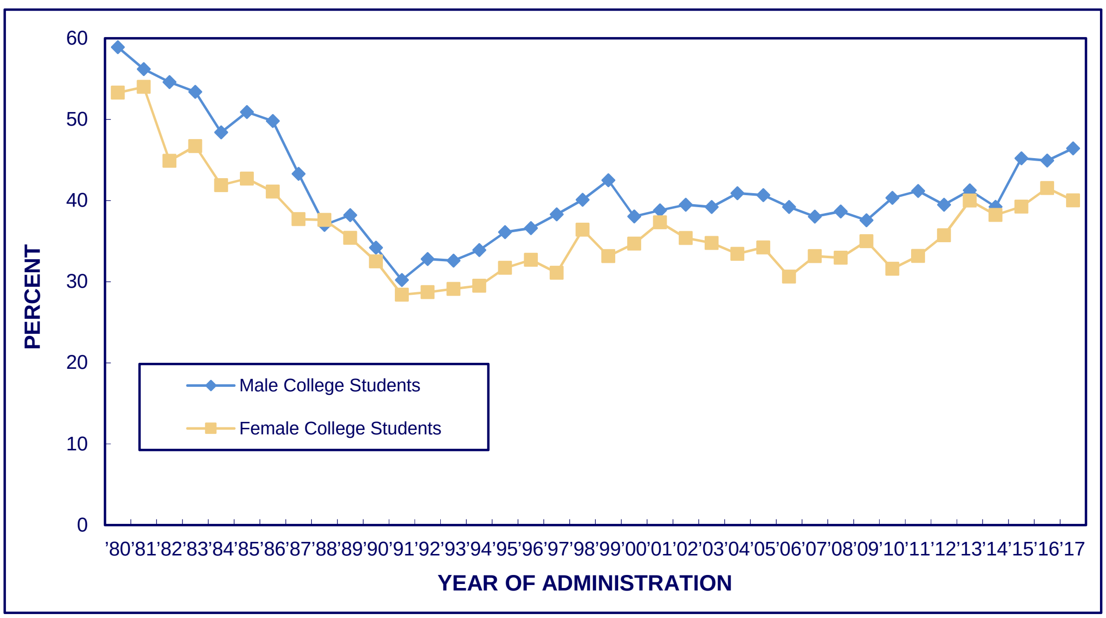
Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



ANY ILLICIT DRUG

Trends in Annual Prevalence among Male vs. Female College Students



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

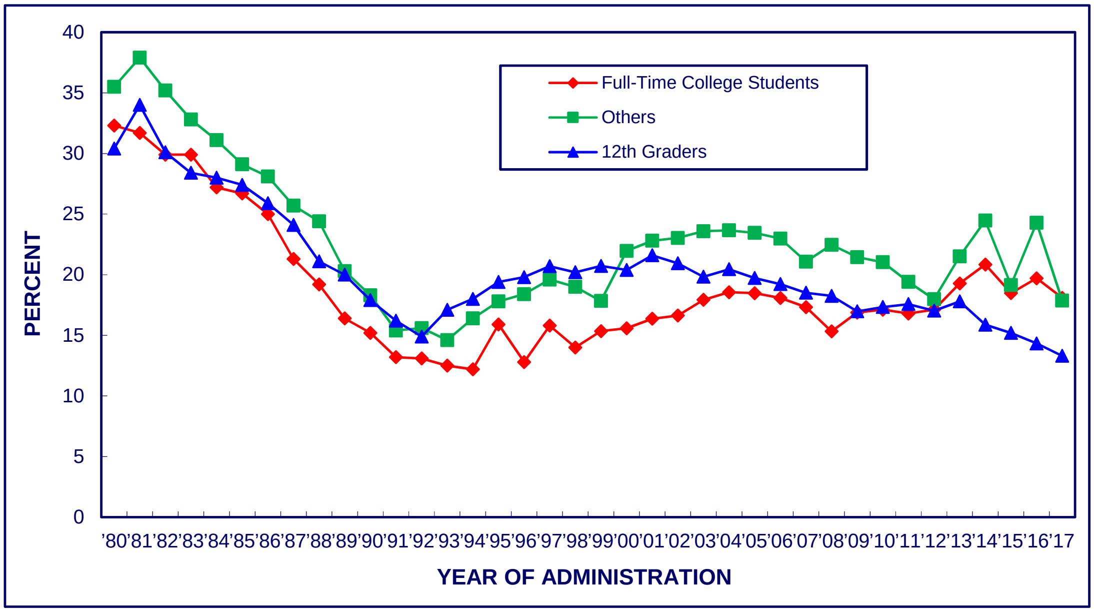
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-2

ANY ILLICIT DRUG OTHER THAN MARIJUANA

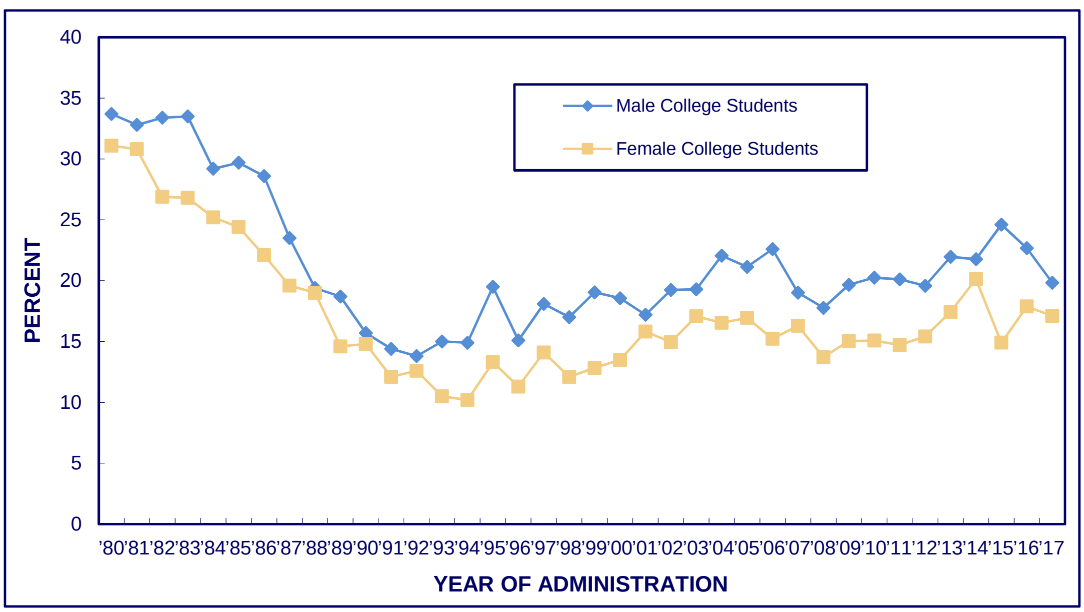
Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



ANY ILLICIT DRUG OTHER THAN MARIJUANA

Trends in Annual Prevalence among Male vs. Female College Students



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

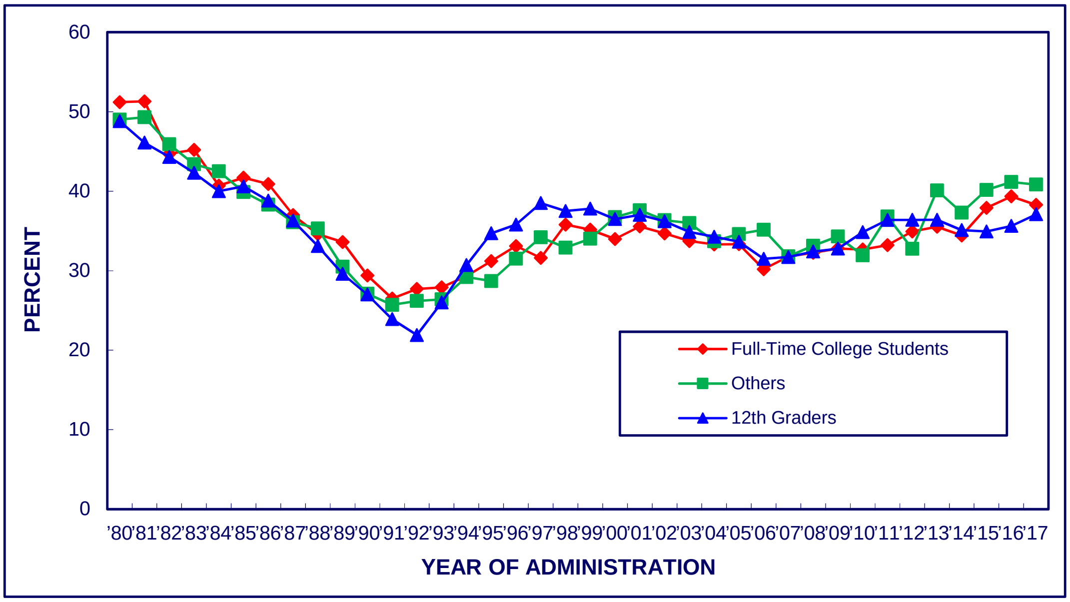
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-3a

MARIJUANA

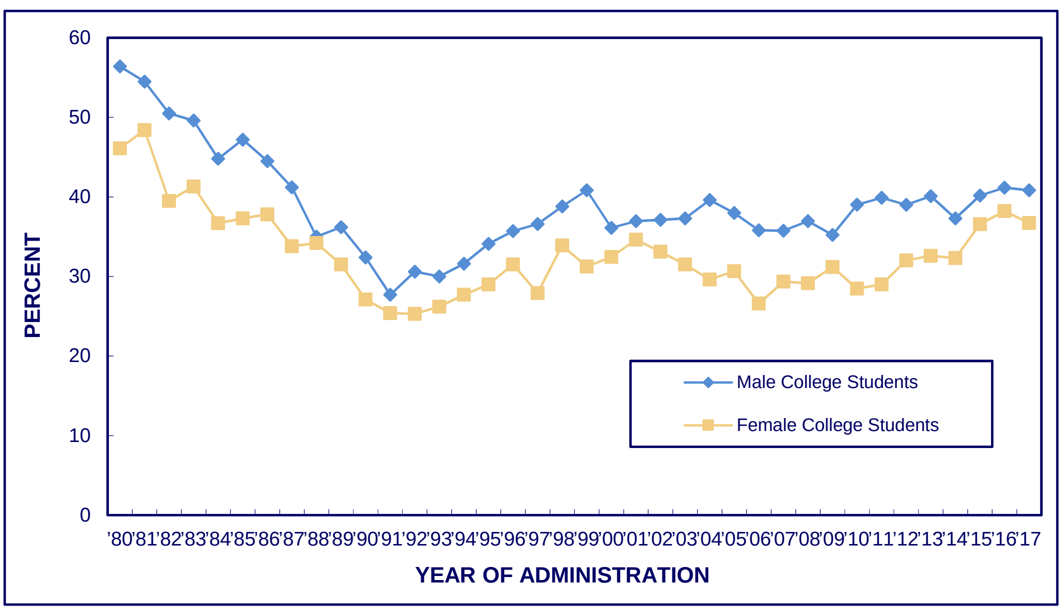
Trends in <u>Annual</u> Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



MARIJUANA

Trends in <u>Annual</u> Prevalence among Male vs. Female College Students



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

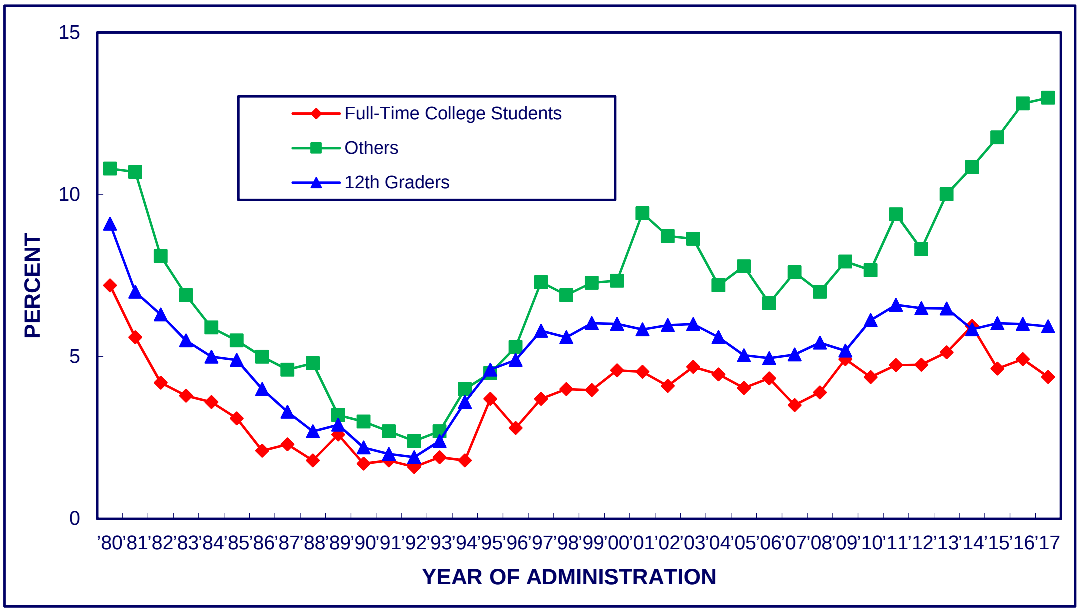
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-3b

MARIJUANA

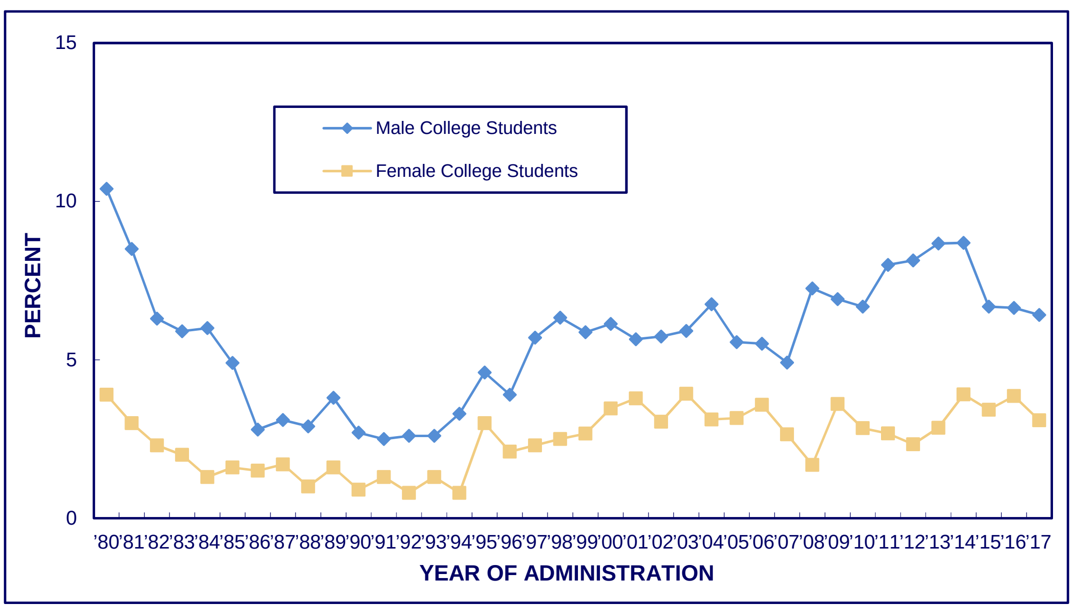
Trends in 30-Day Prevalence of Daily Use among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



MARIJUANA

Trends in 30-Day Prevalence of Daily Use among Male vs. Female College Students



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

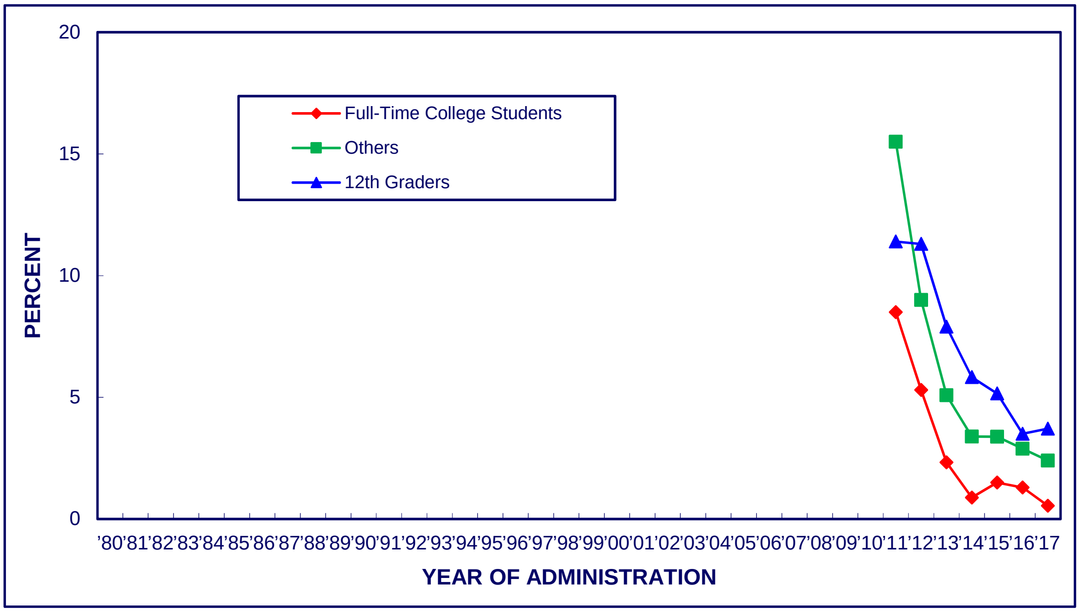
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-4

SYNTHETIC MARIJUANA

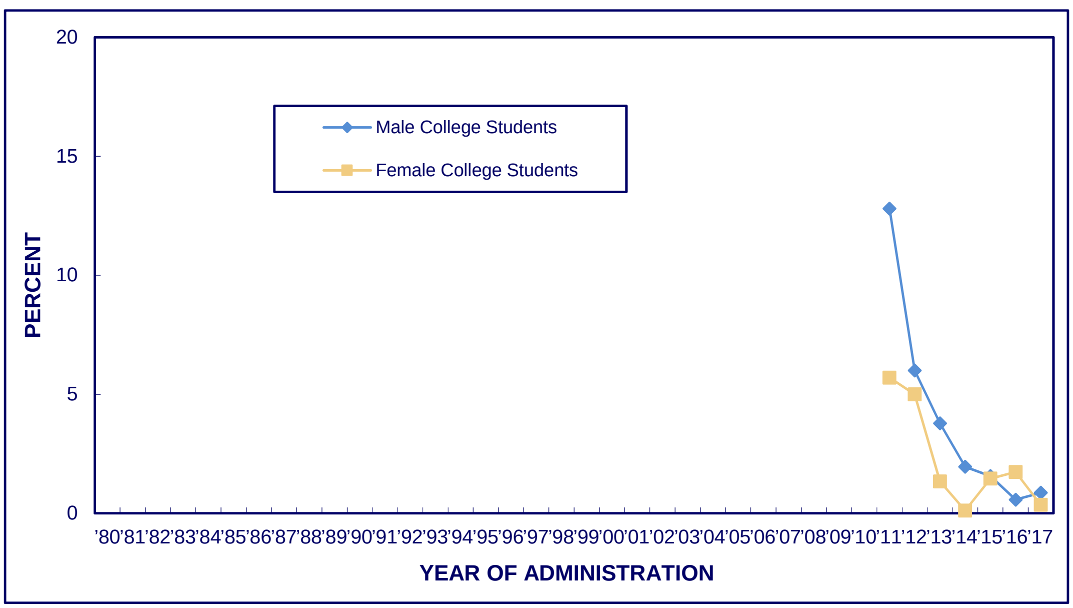
Trends in Annual Use among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



SYNTHETIC MARIJUANA

Trends in Annual Prevalence among Male vs. Female College Students



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

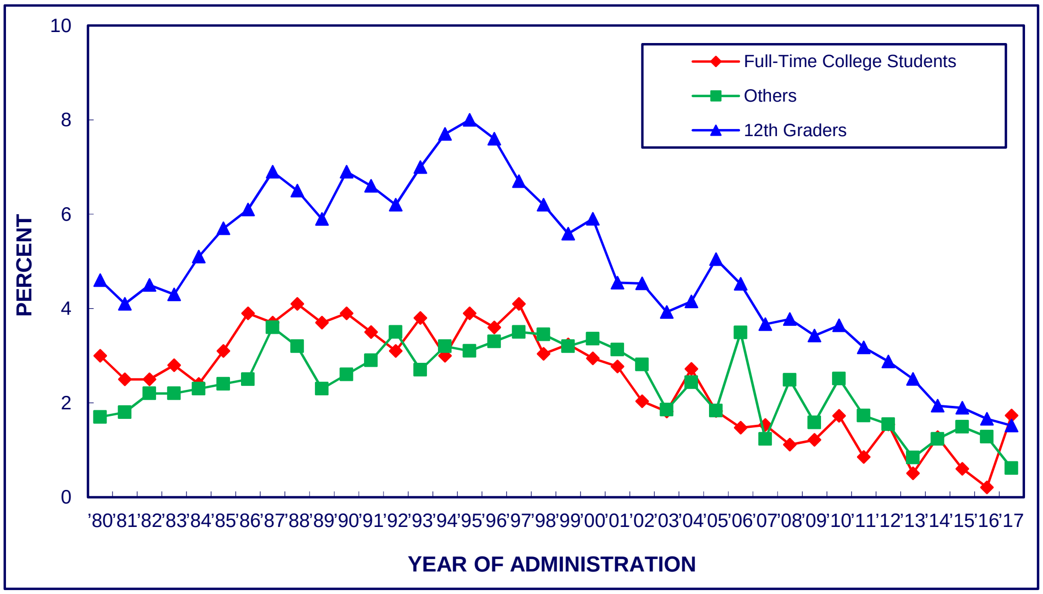
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-5

INHALANTS [a]

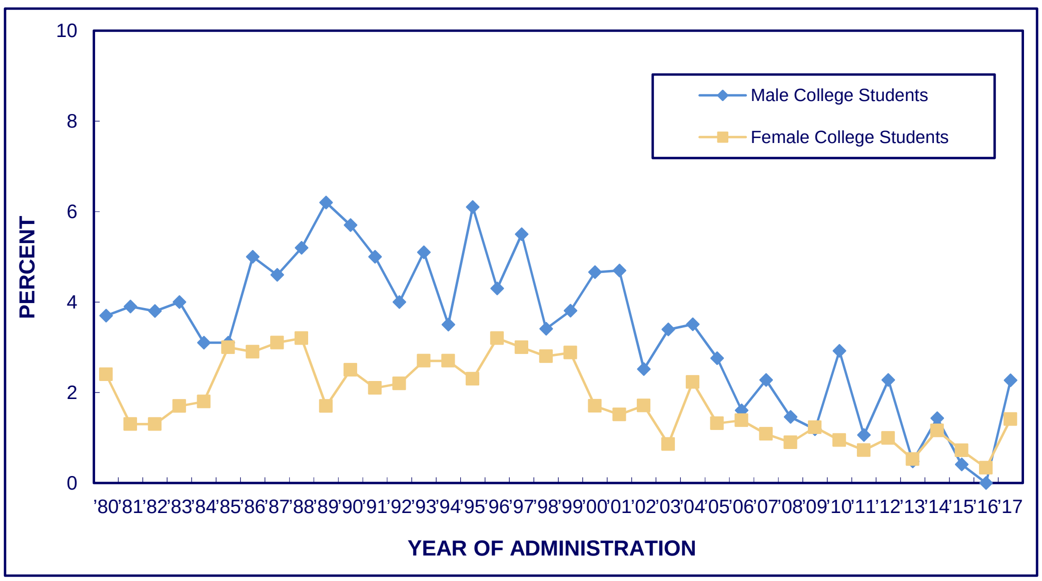
Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



INHALANTS [a]

Trends in Annual Prevalence among Male vs. Female College Students



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

Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

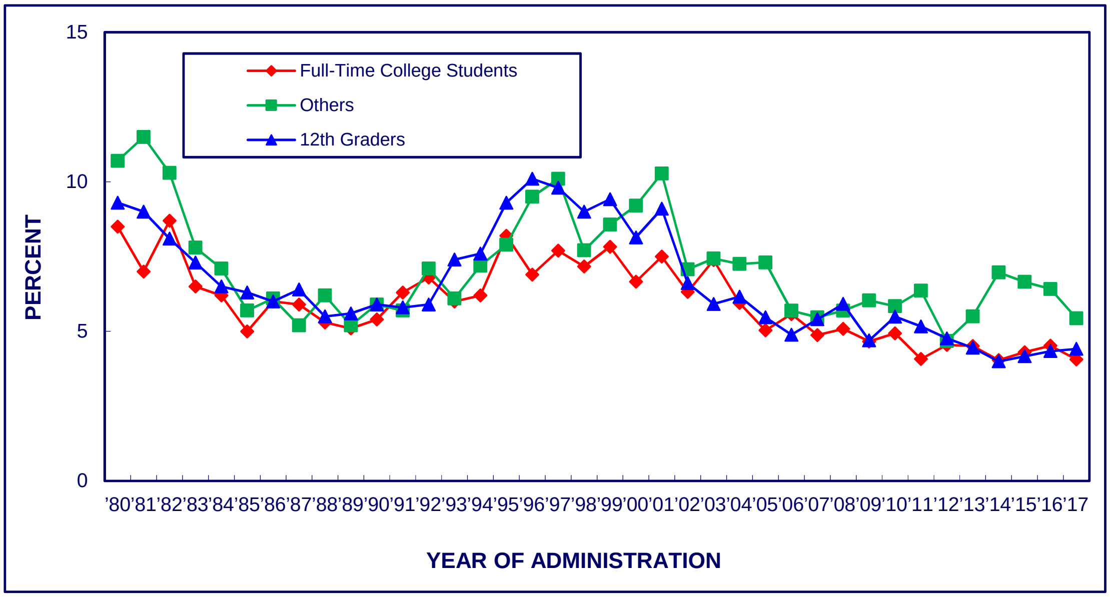
[a]Unadjusted for the possible underreporting of amyl and butyl nitrites.

FIGURE 9-6

HALLUCINOGENS [a]

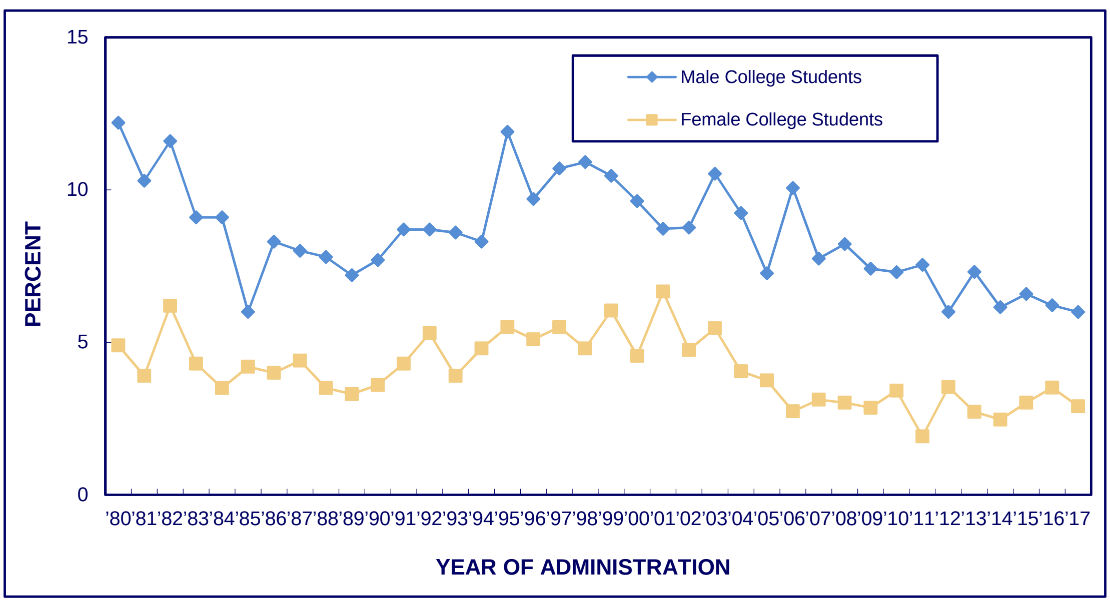
Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



HALLUCINOGENS [a]

Trends in Annual Prevalence among Male vs. Female College Students



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

Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

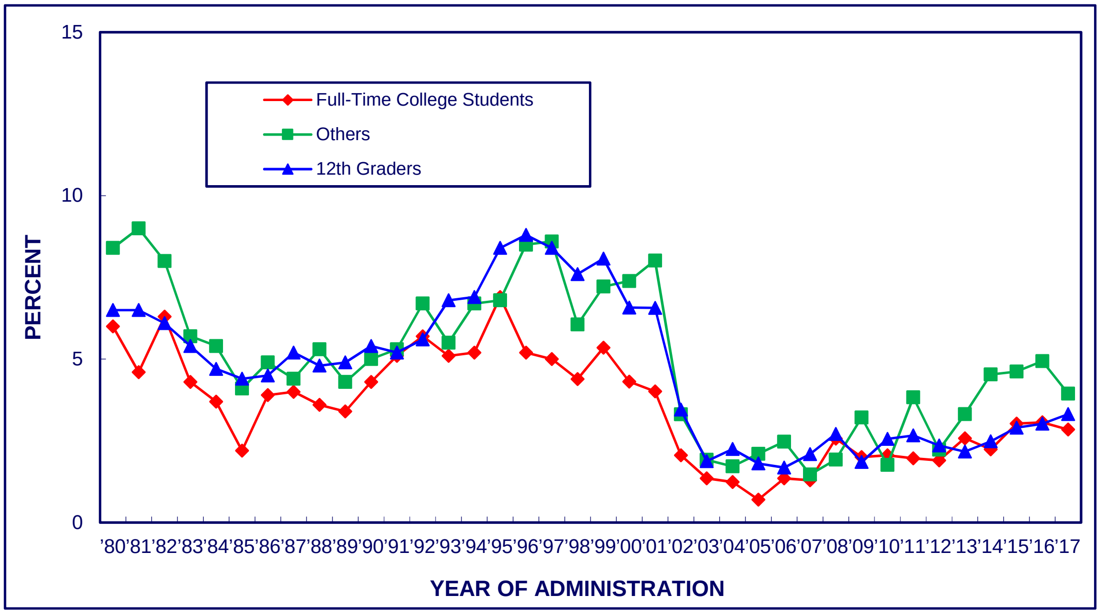
[a]Unadjusted for the possible underreporting of PCP.

FIGURE 9-7

LSD

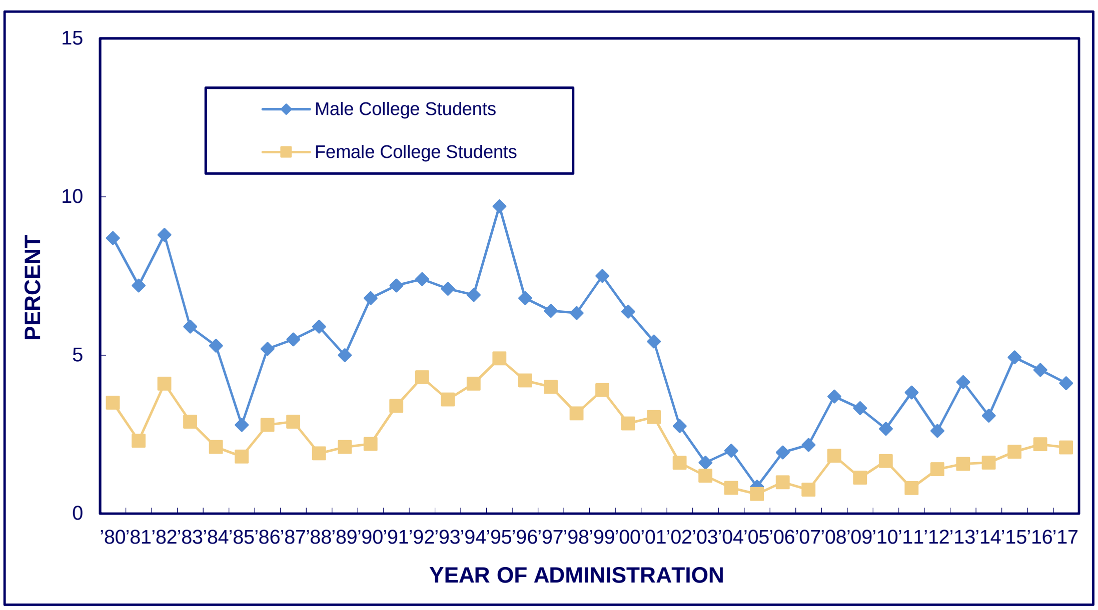
Trends in <u>Annual</u> Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



LSD

Trends in <u>Annual</u> Prevalence among Male vs. Female College Students

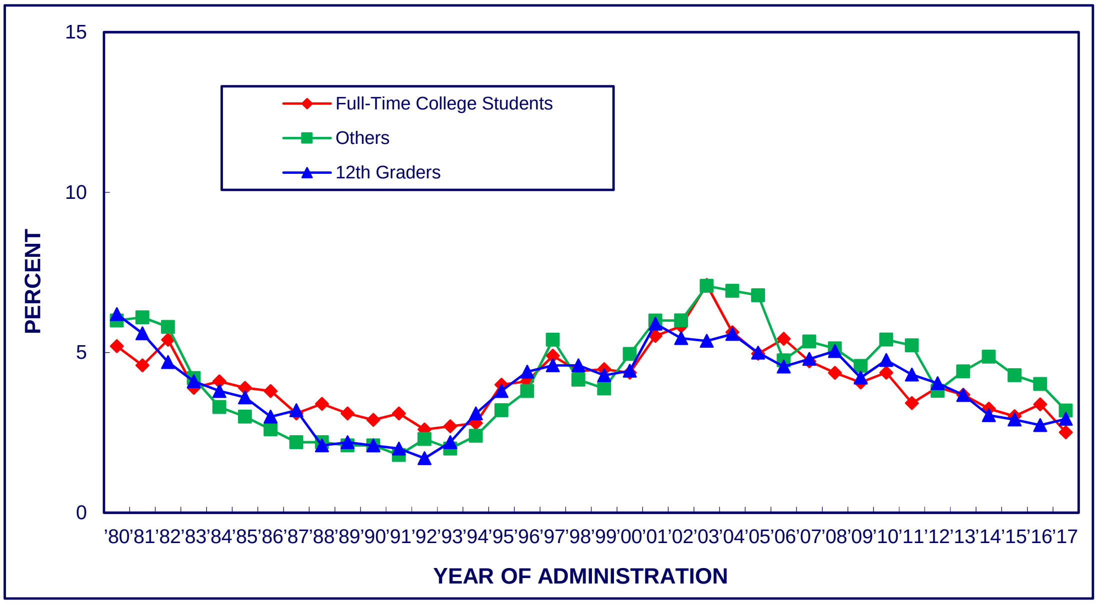


Source. The Monitoring the Future study, the University of Michigan.

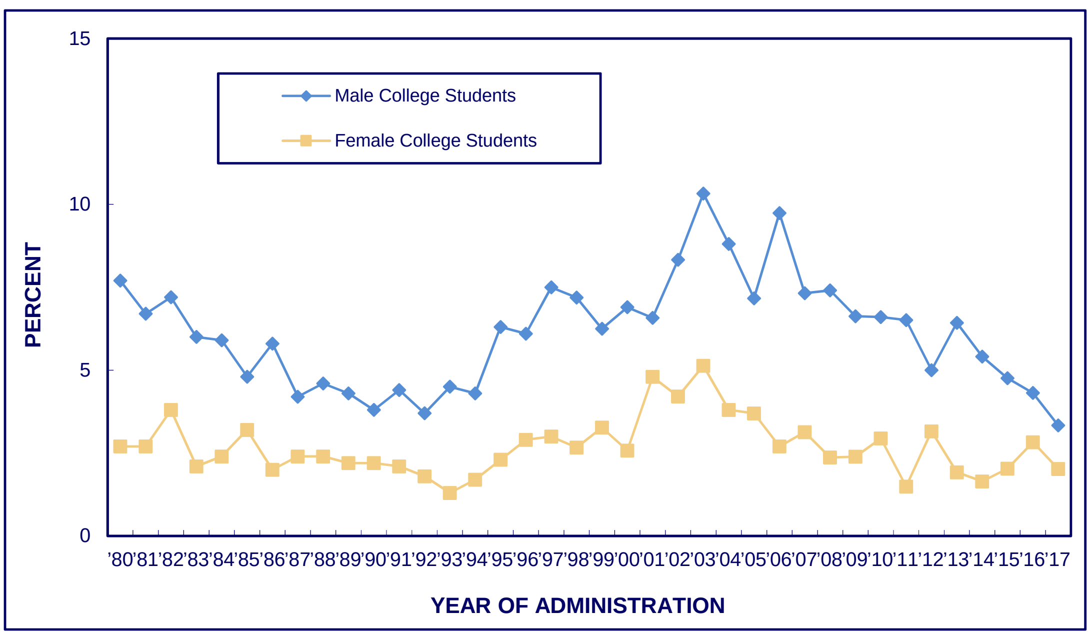
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-8
HALLUCINOGENS OTHER THAN LSD
Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



HALLUCINOGENS OTHER THAN LSD
Trends in Annual Prevalence among Male vs. Female College Students



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

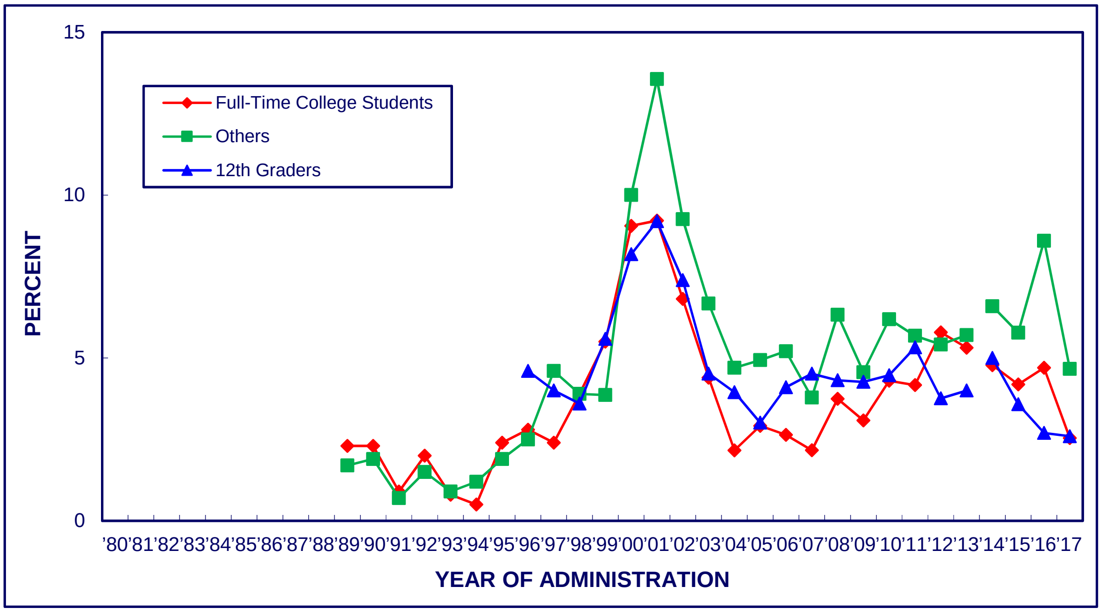
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-9

ECSTASY (MDMA, Molly) [a]

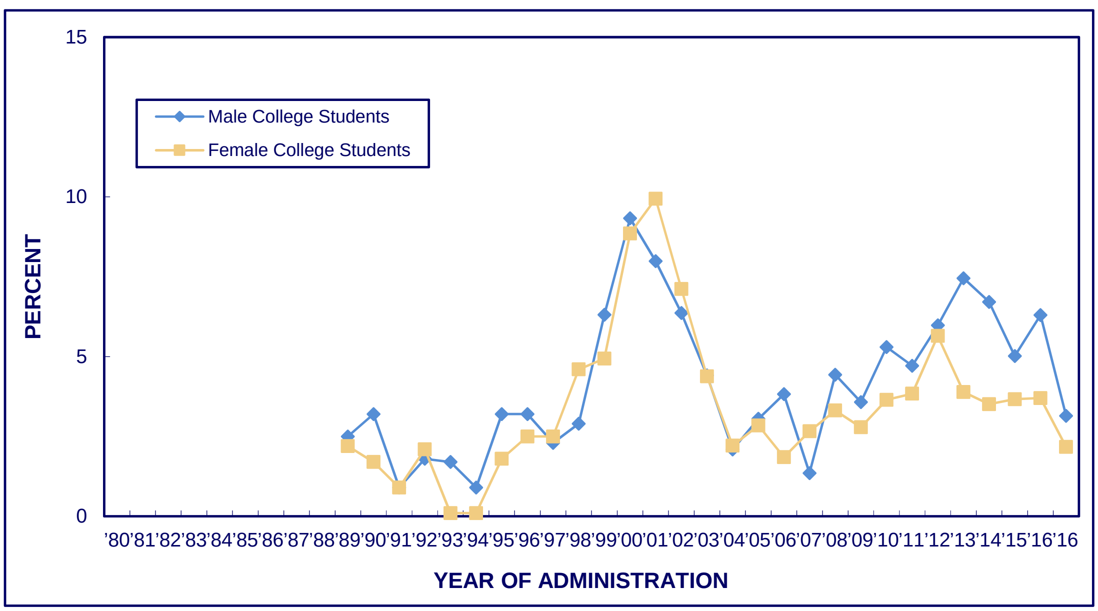
Trends in <u>Annual</u> Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



ECSTASY (MDMA, Molly) [a]

Trends in <u>Annual</u> Prevalence among Male vs. Female College Students



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

Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

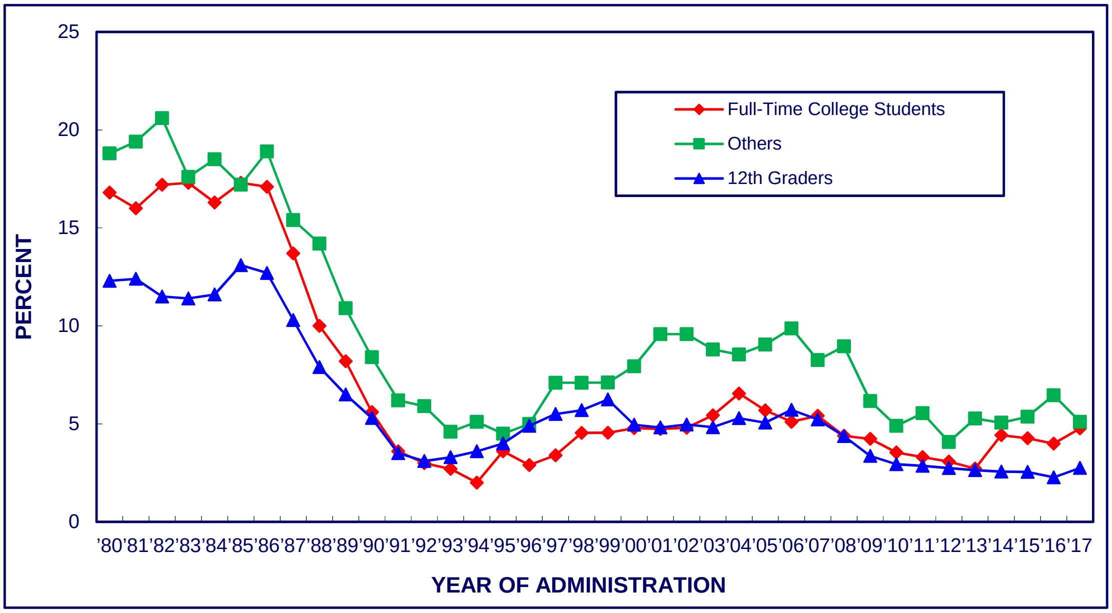
[a]In 2014, a version of the question was added to an additional form that included "molly" in the description. In 2015, the remaining forms were changed to this updated wording. Data for both versions of the question are included here.

FIGURE 9-10

COCAINE

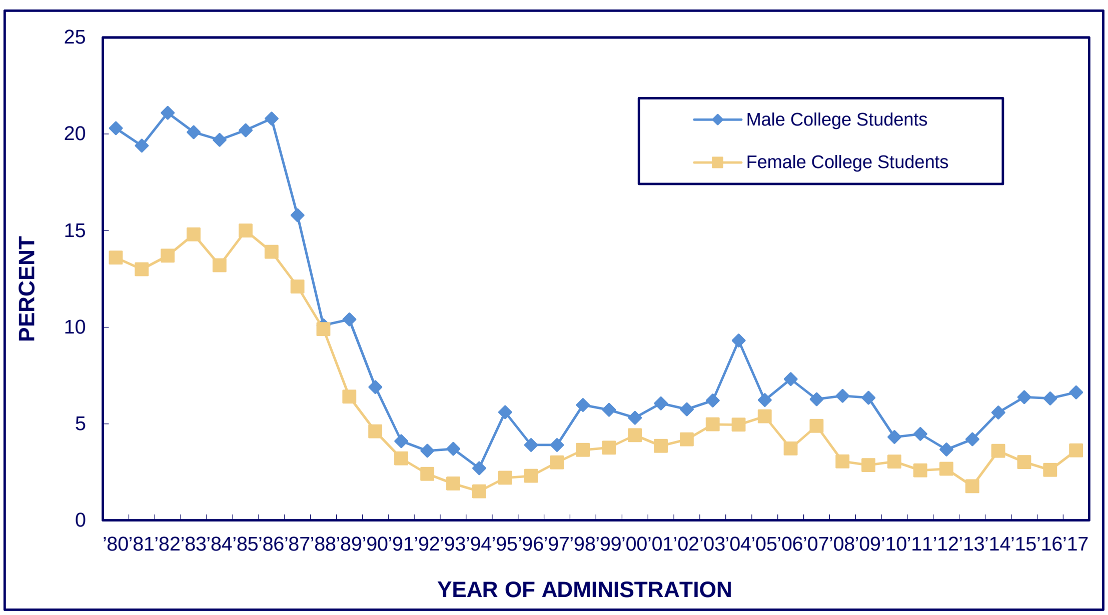
Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



COCAINE

Trends in Annual Prevalence among Male vs. Female College Students



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

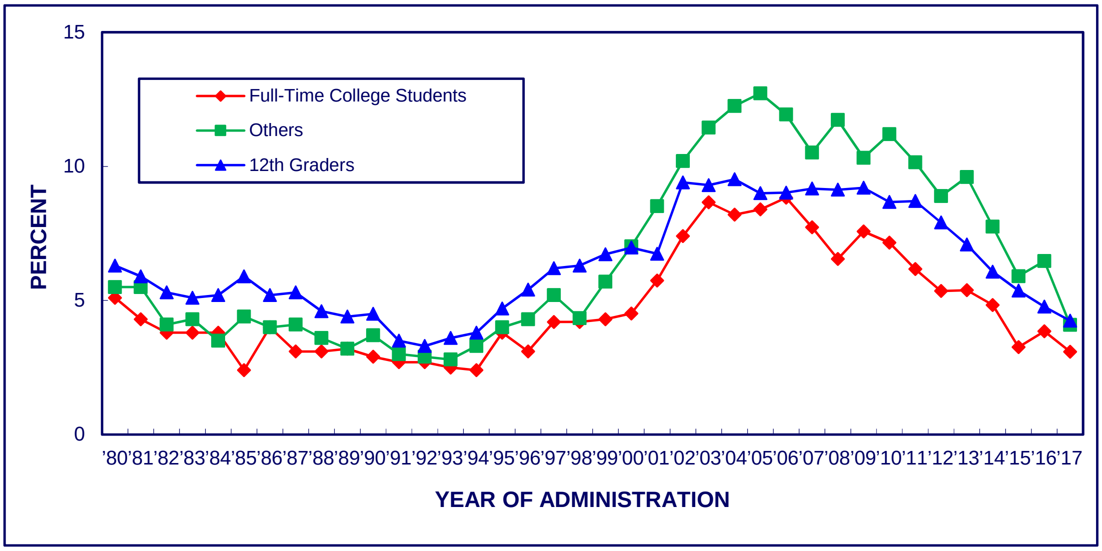
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-11a

NARCOTICS OTHER THAN HEROIN [a]

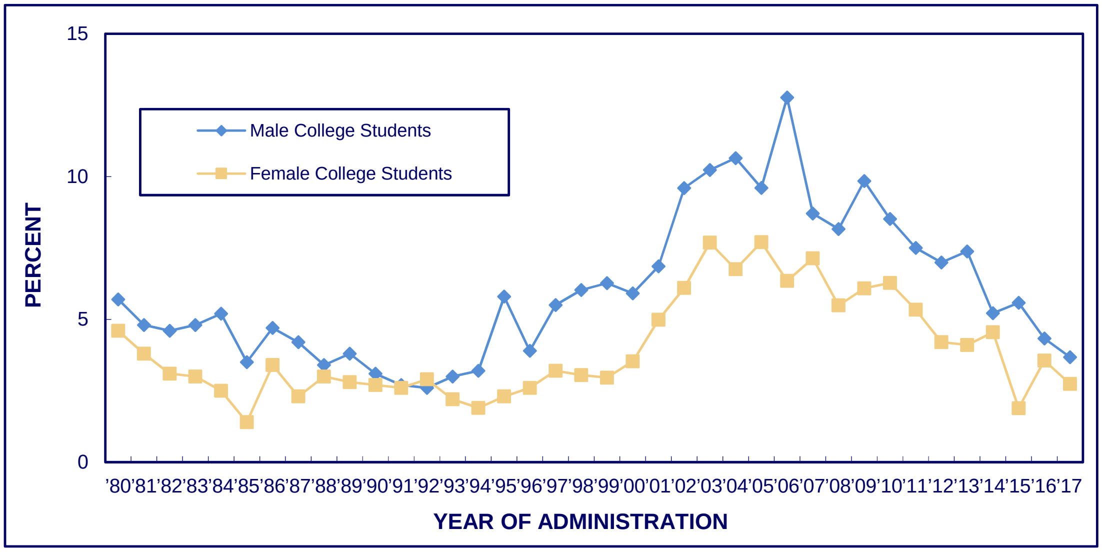
Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



NARCOTICS OTHER THAN HEROIN [a]

Trends in Annual Prevalence among Male vs. Female College Students



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

Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

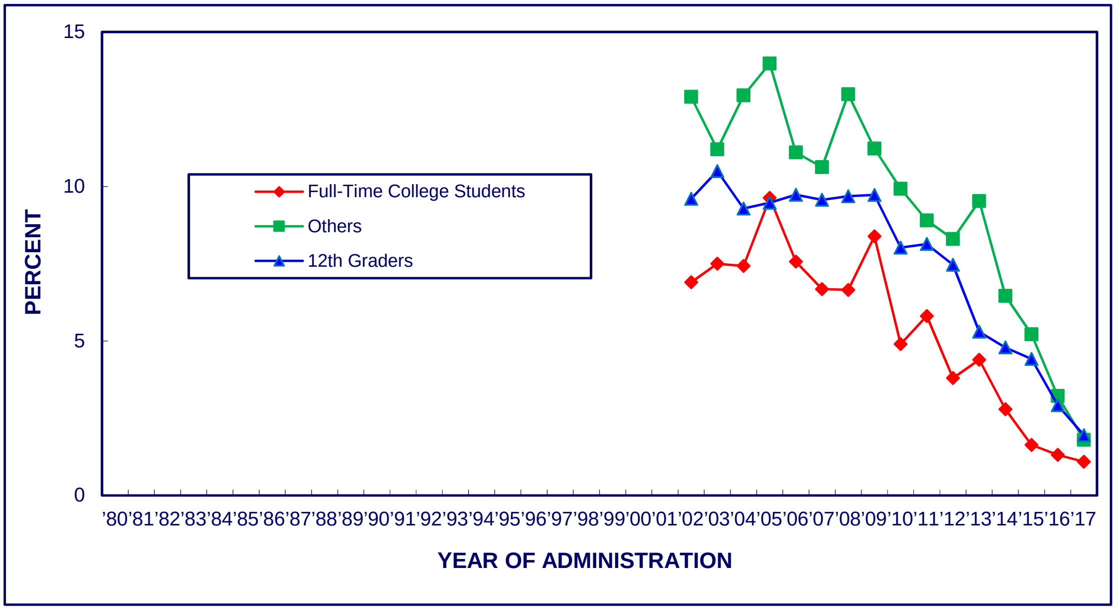
[a]In 2002 the question text was changed on half of the questionnaire forms. The list of examples of narcotics other than heroin was updated: Talwin, laudanum, and paregoric—all of which had negligible rates of use by 2001—were replaced by Vicodin, OxyContin, and Percocet. The 2002 data presented here are based on the changed forms only. In 2003 the remaining forms were changed to the new wording.

FIGURE 9-11b

VICODIN

Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



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

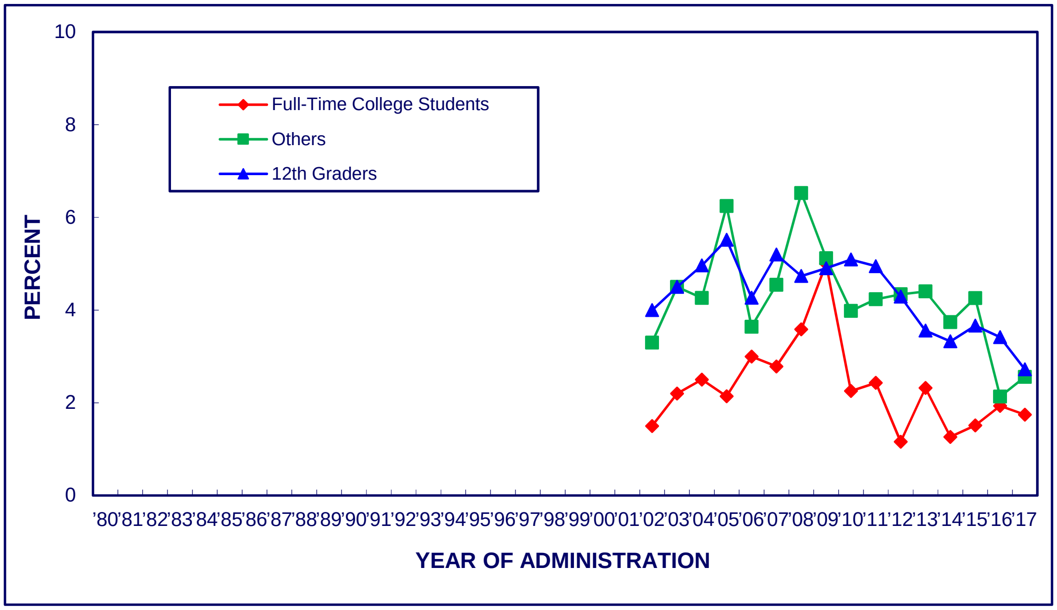
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-11c

OXYCONTIN

Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



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

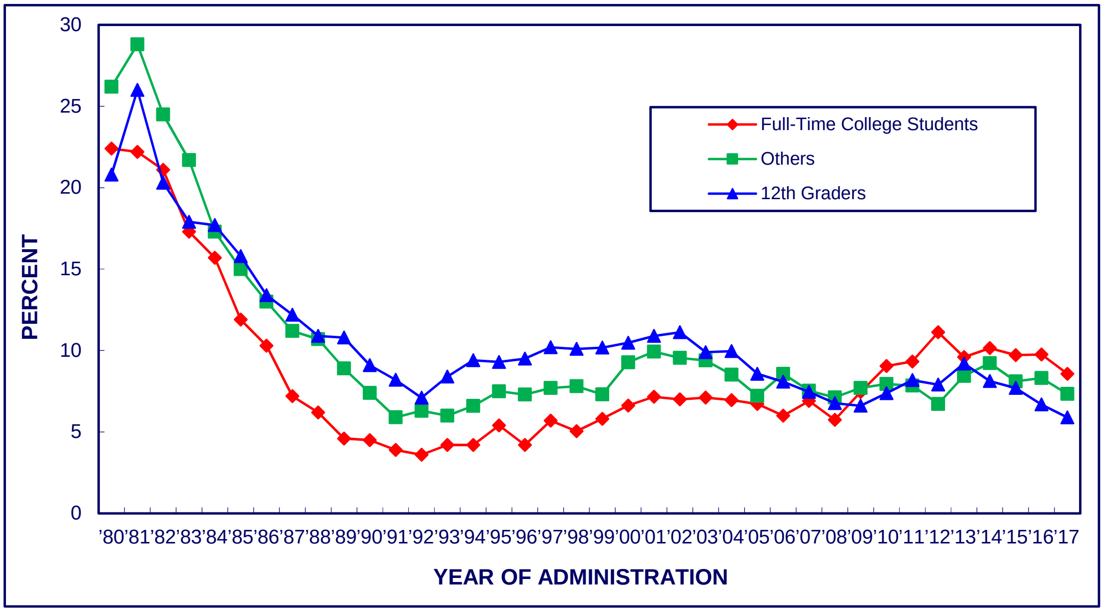
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-12

AMPHETAMINES

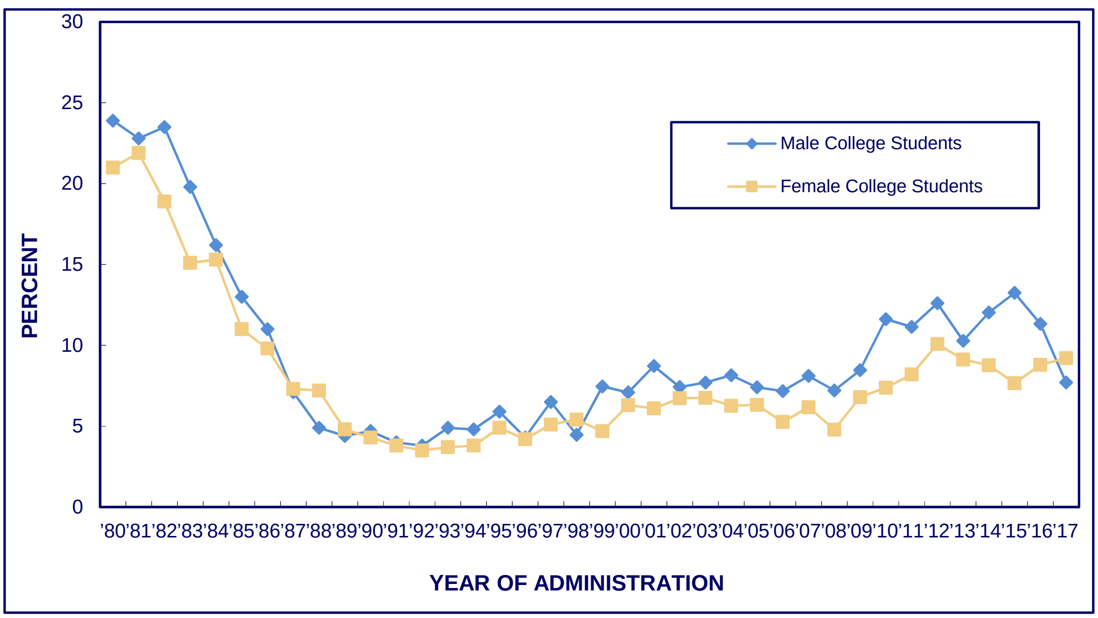
Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



AMPHETAMINES

Trends in Annual Prevalence among Male vs. Female College Students



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

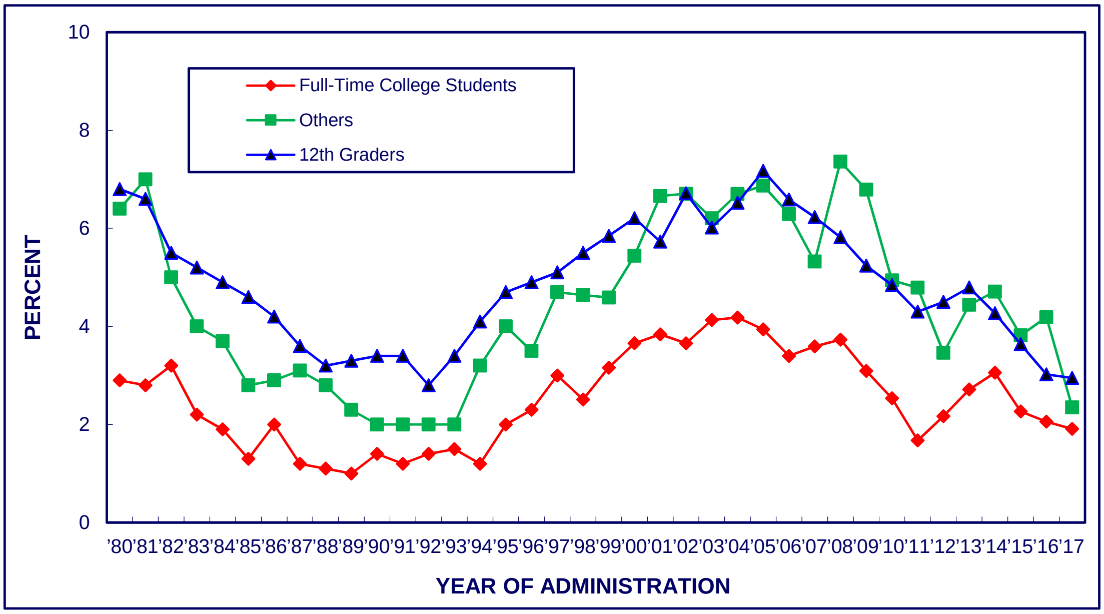
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-13

SEDATIVES (BARBITURATES)

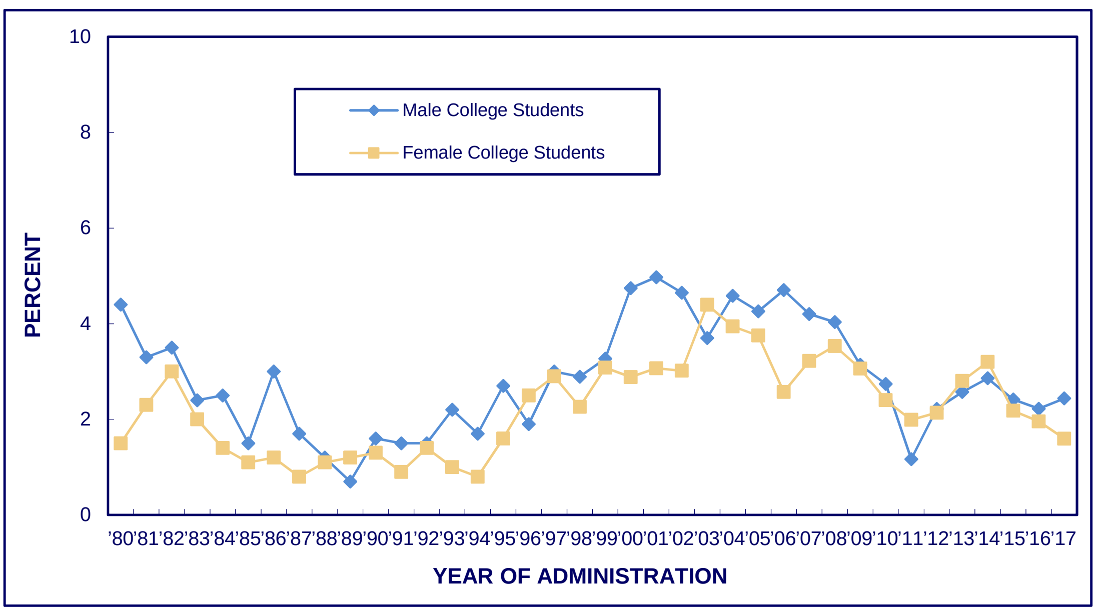
Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



SEDATIVES (BARBITURATES)

Trends in Annual Prevalence among Male vs. Female College Students



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

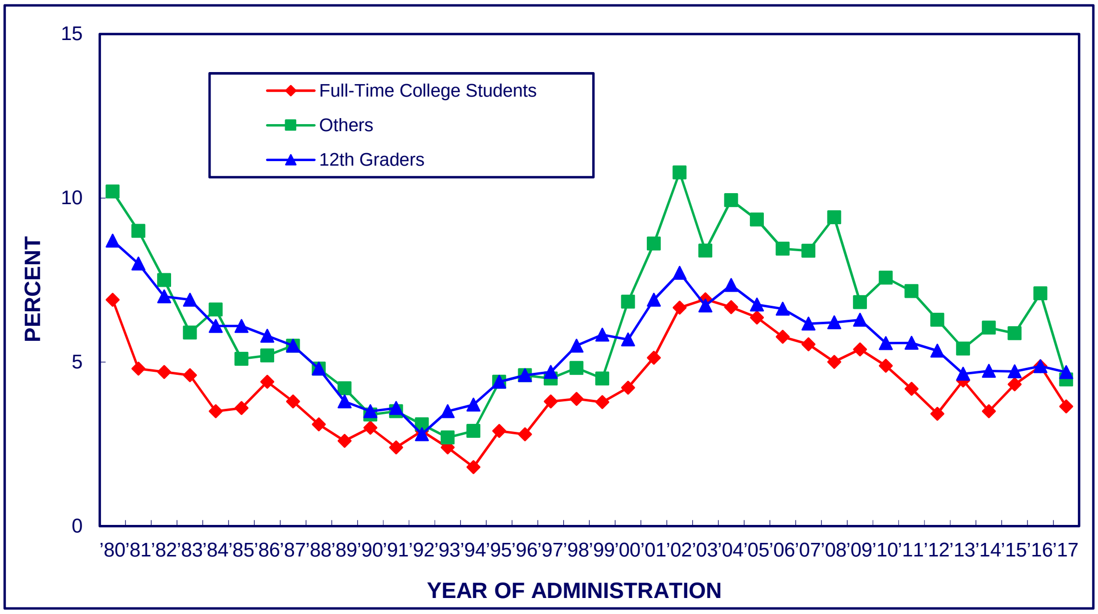
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-14

TRANQUILIZERS

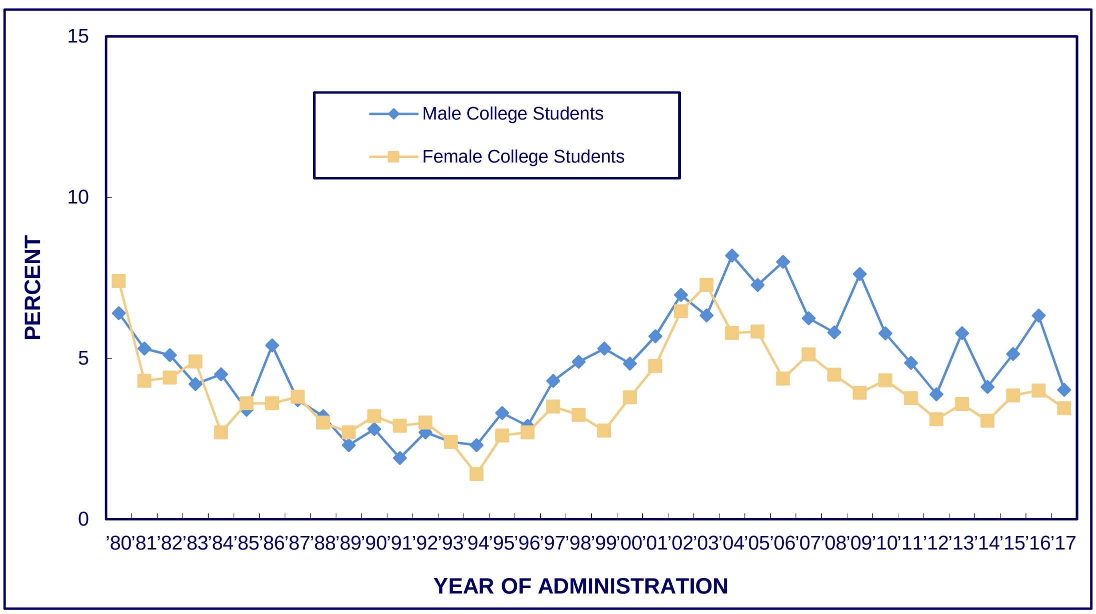
Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



TRANQUILIZERS

Trends in Annual Prevalence among Male vs. Female College Students



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

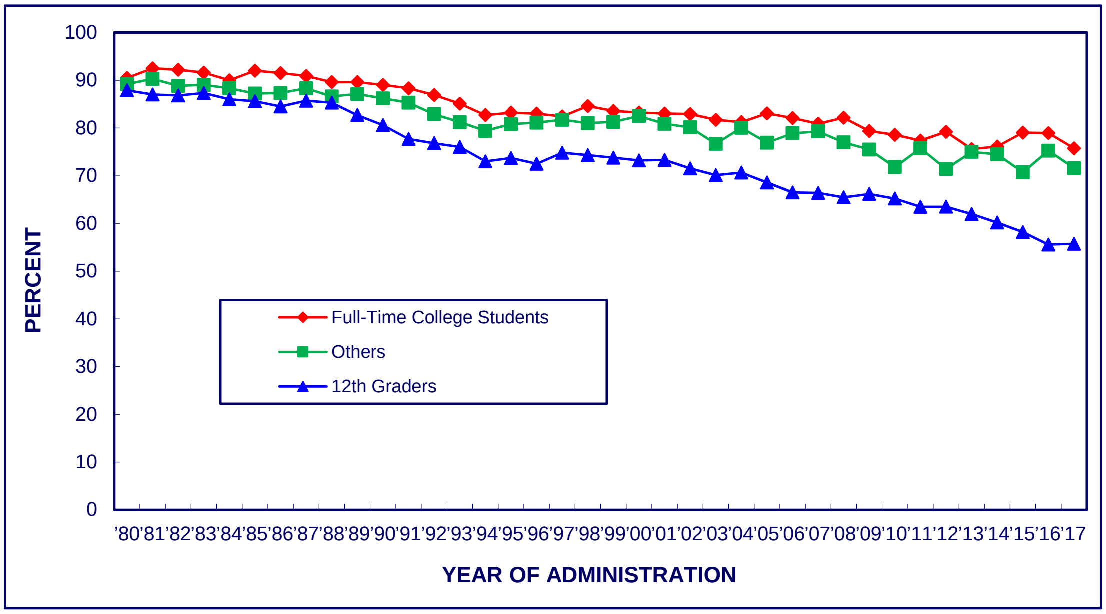
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-15a

ALCOHOL

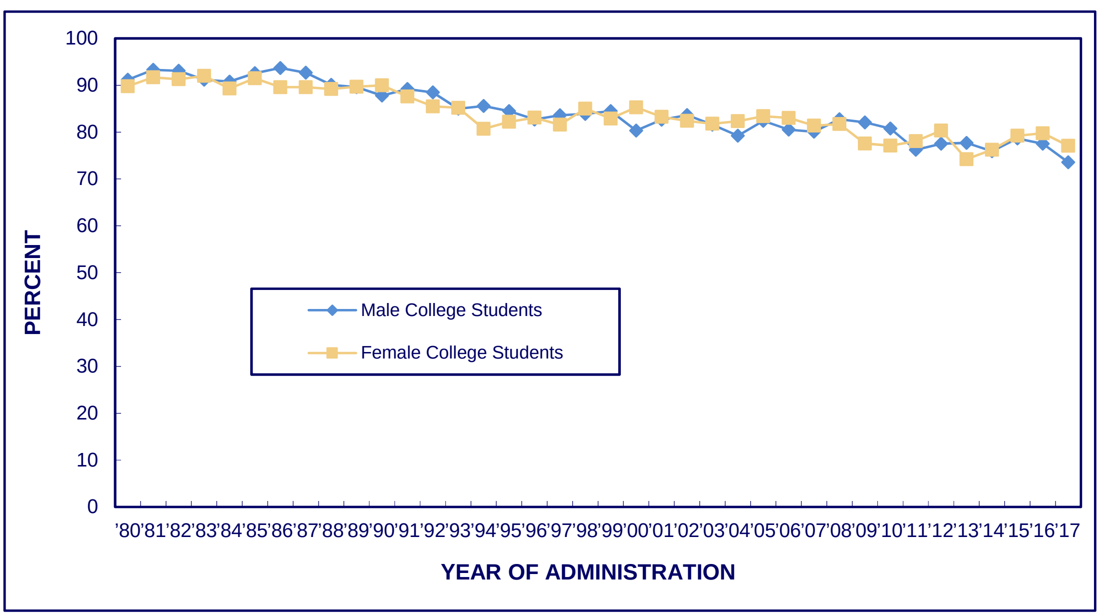
Trends in Annual Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



ALCOHOL

Trends in Annual Prevalence among Male vs. Female College Students



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

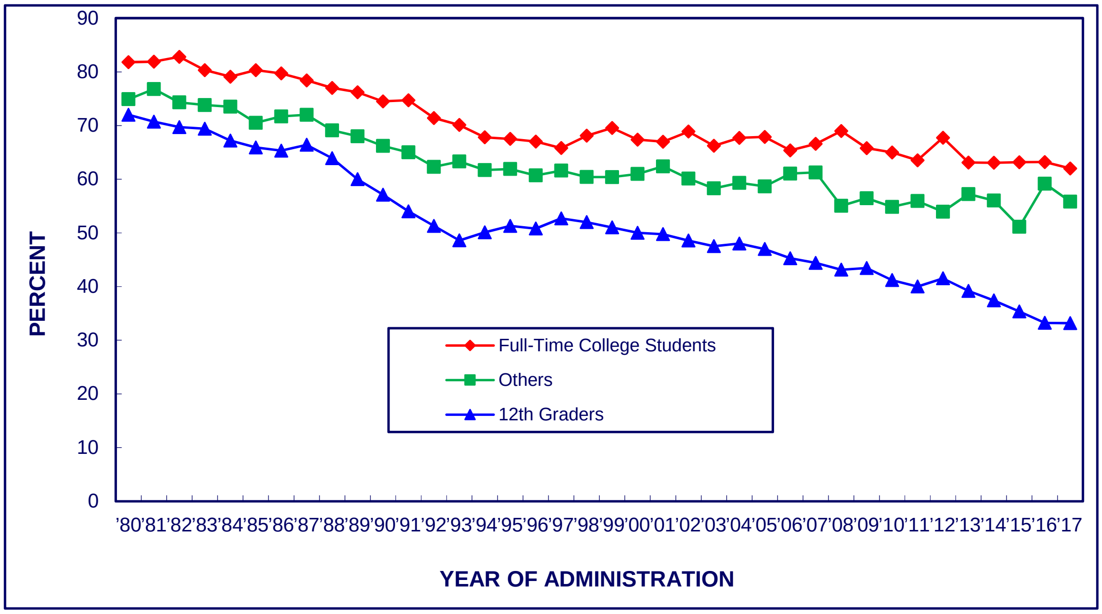
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-15b

ALCOHOL

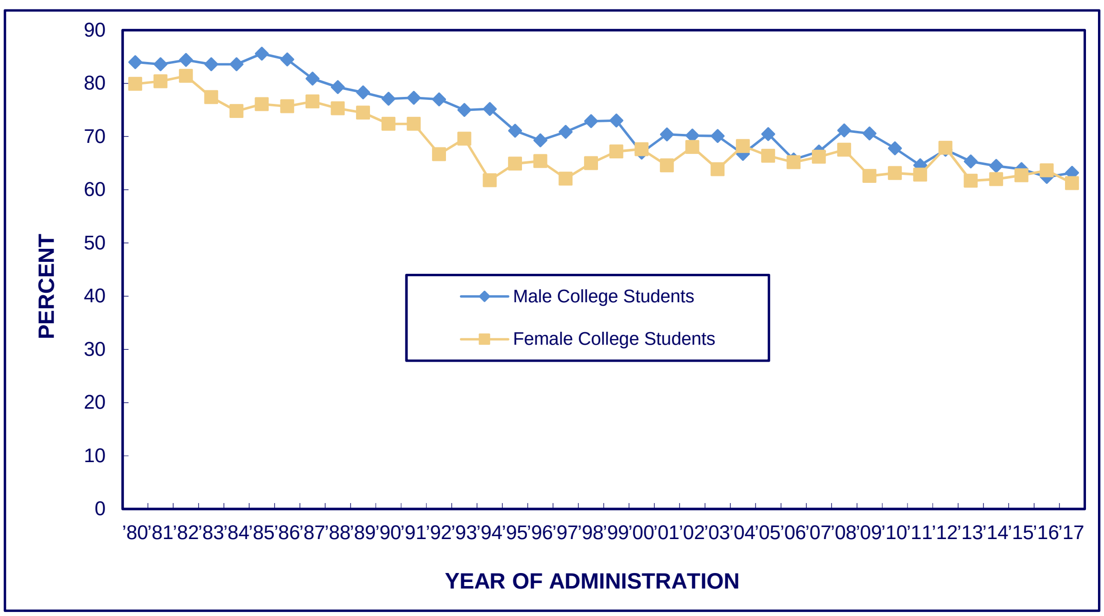
Trends in 30-Day Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



ALCOHOL

Trends in 30-Day Prevalence among Male vs. Female College Students



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

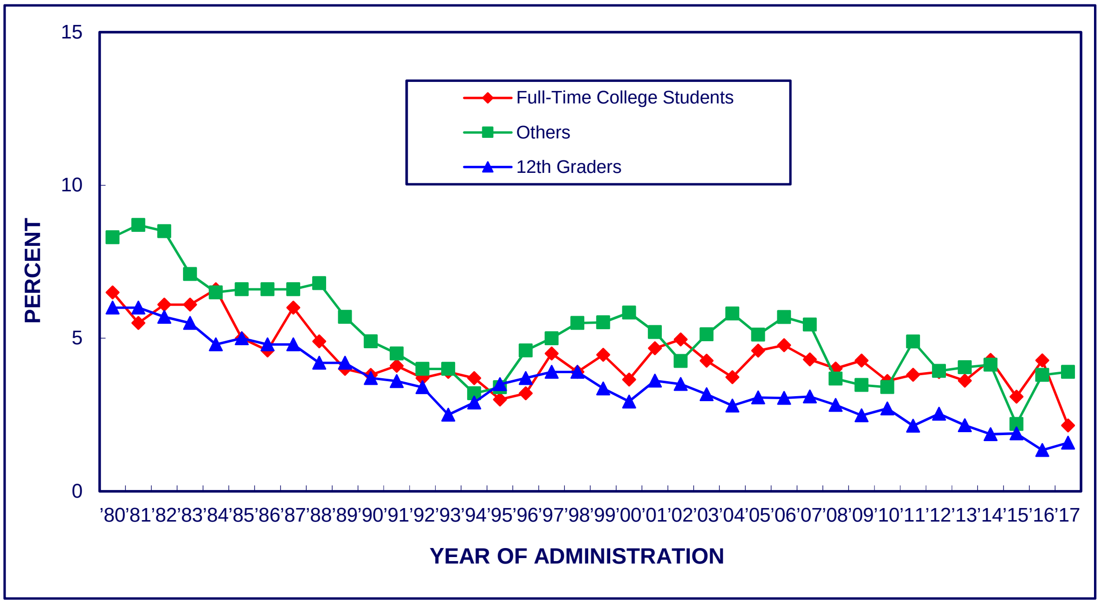
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-15c

ALCOHOL

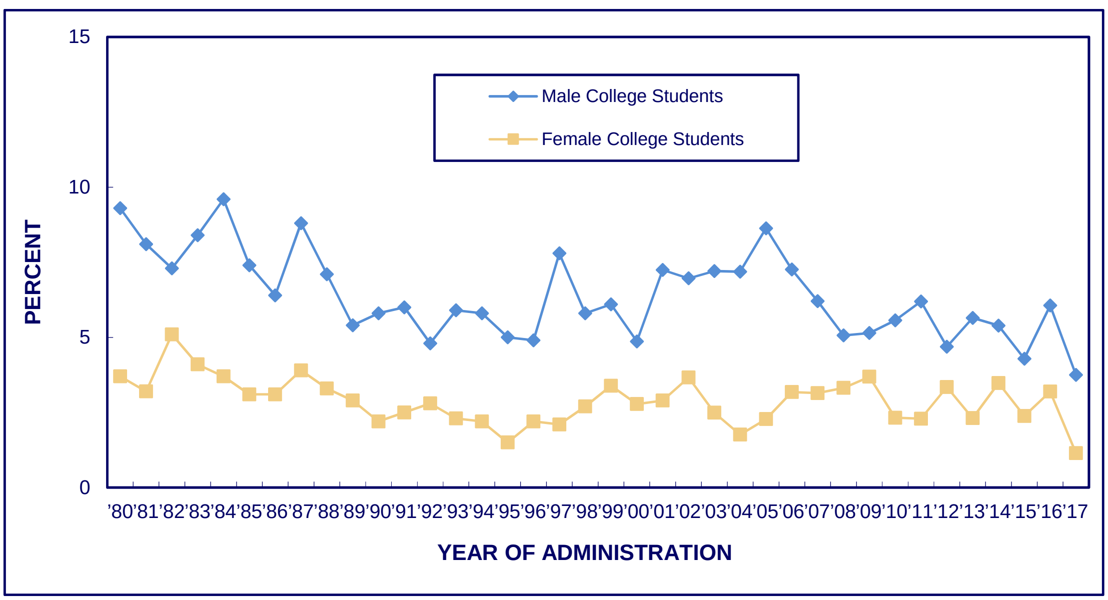
Trends in 30-Day Prevalence of <u>Daily</u> Use among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



ALCOHOL

Trends in 30-Day Prevalence of <u>Daily</u> Use among Male vs. Female College Students



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

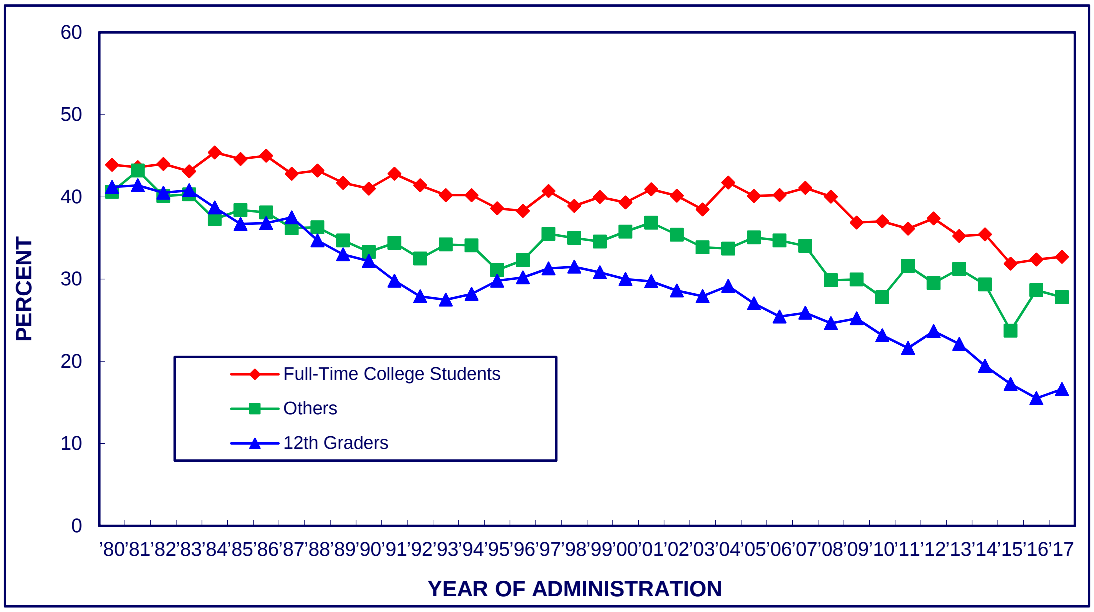
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-15d

ALCOHOL

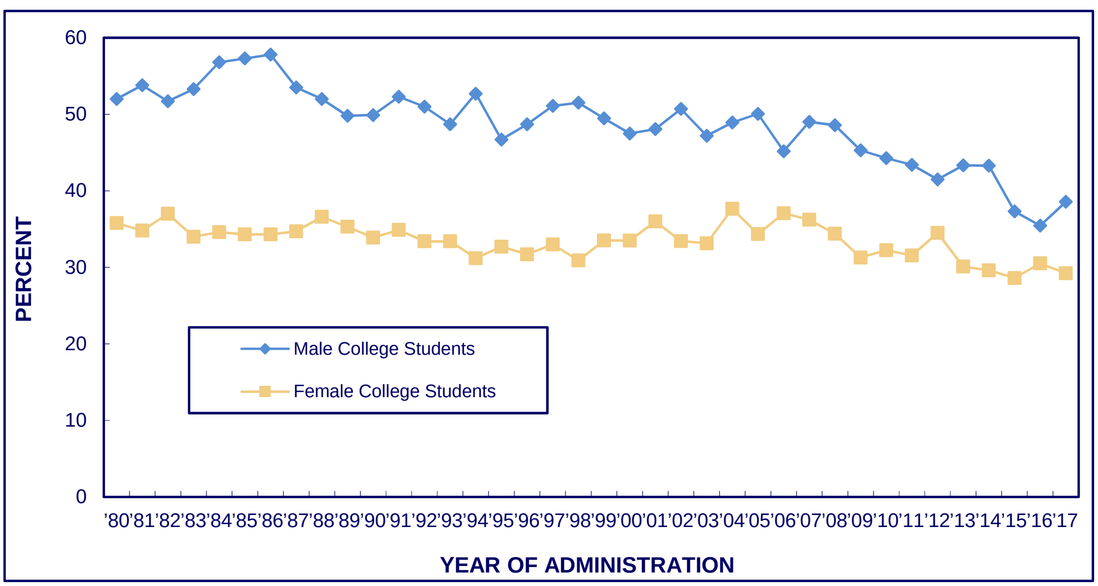
Trends in 2-Week Prevalence of 5 or More Drinks in a Row among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



ALCOHOL

Trends in 2-Week Prevalence of 5 or More Drinks in a Row among Male vs. Female College Students



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

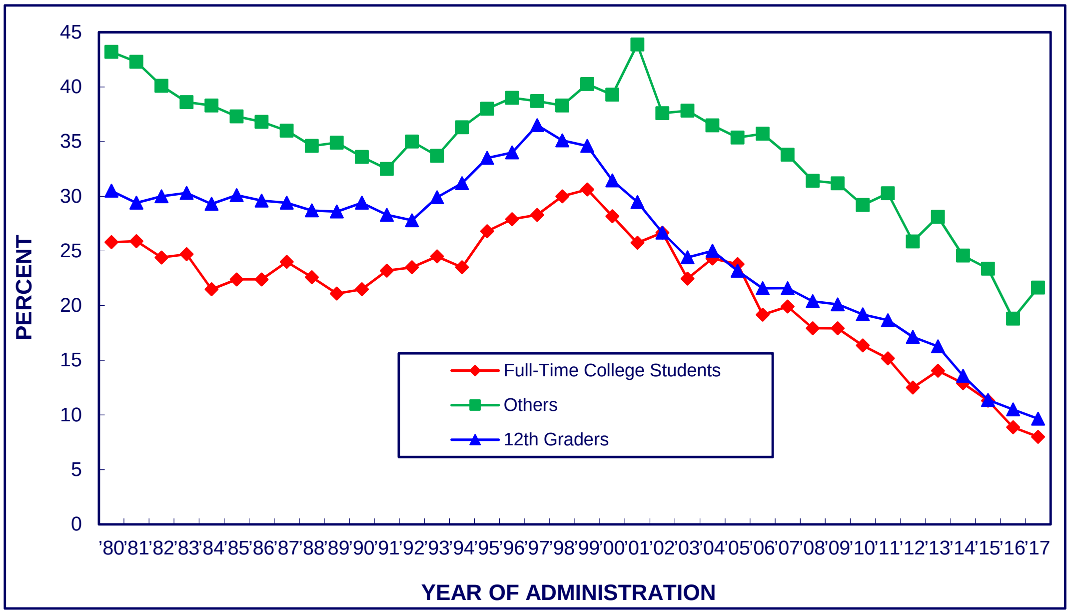
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-16a

CIGARETTES

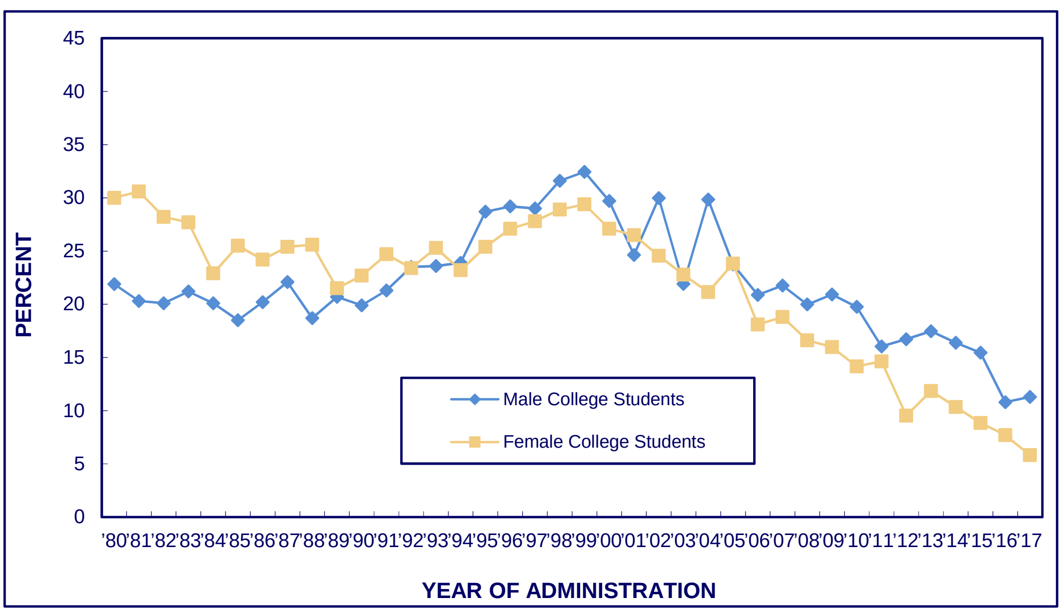
Trends in 30-Day Prevalence among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



CIGARETTES

Trends in 30-Day Prevalence among Male vs. Female College Students

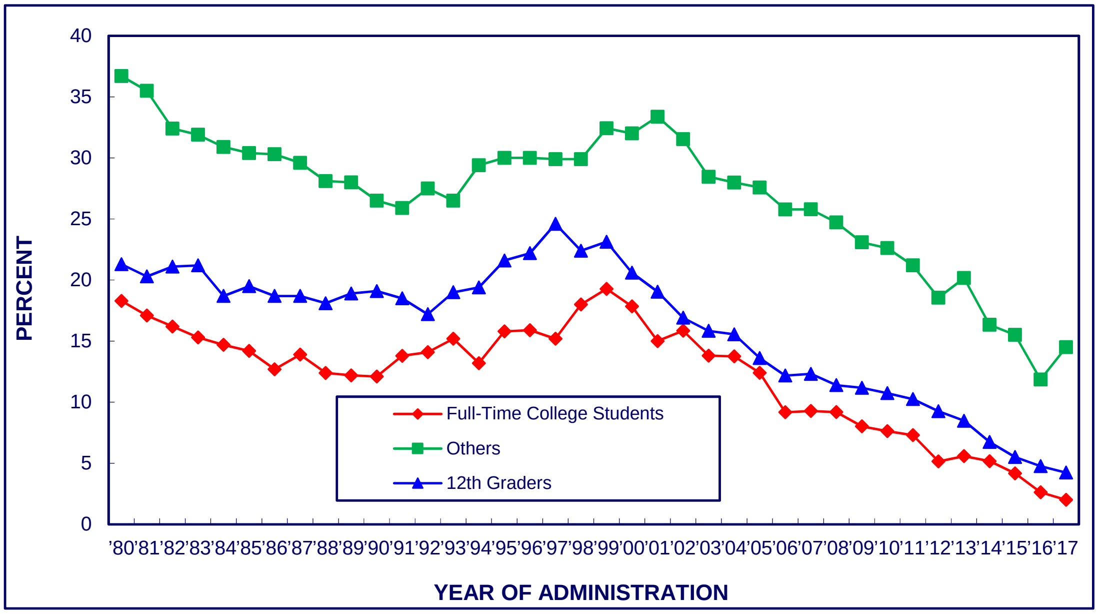


Source. The Monitoring the Future study, the University of Michigan.

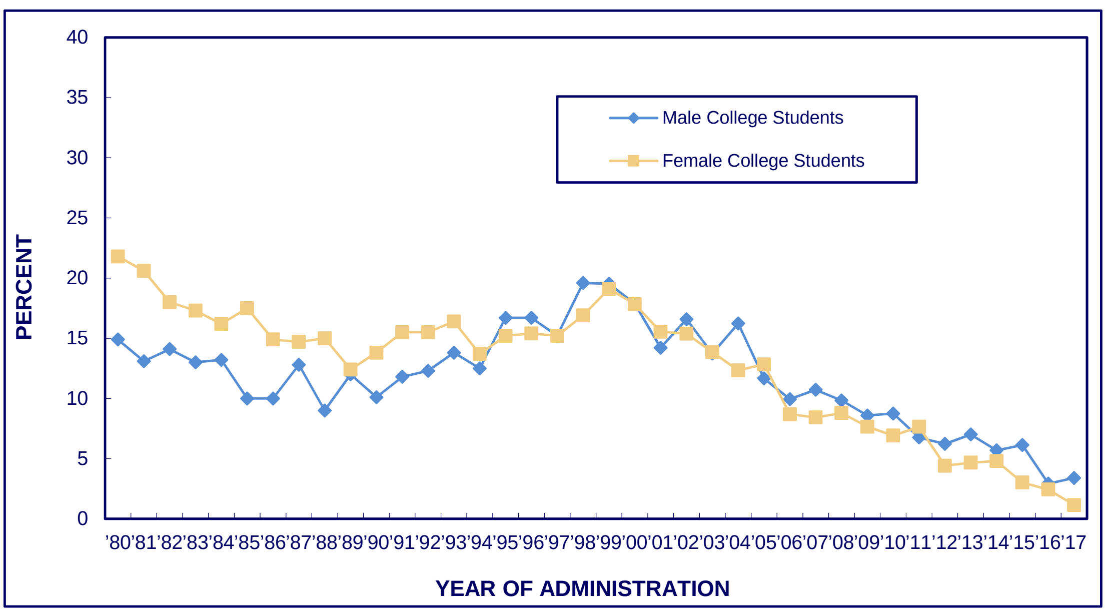
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-16b
CIGARETTES
Trends in 30-Day Prevalence of Daily Use among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



CIGARETTES
Trends in 30-Day Prevalence of Daily Use among Male vs. Female College Students



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

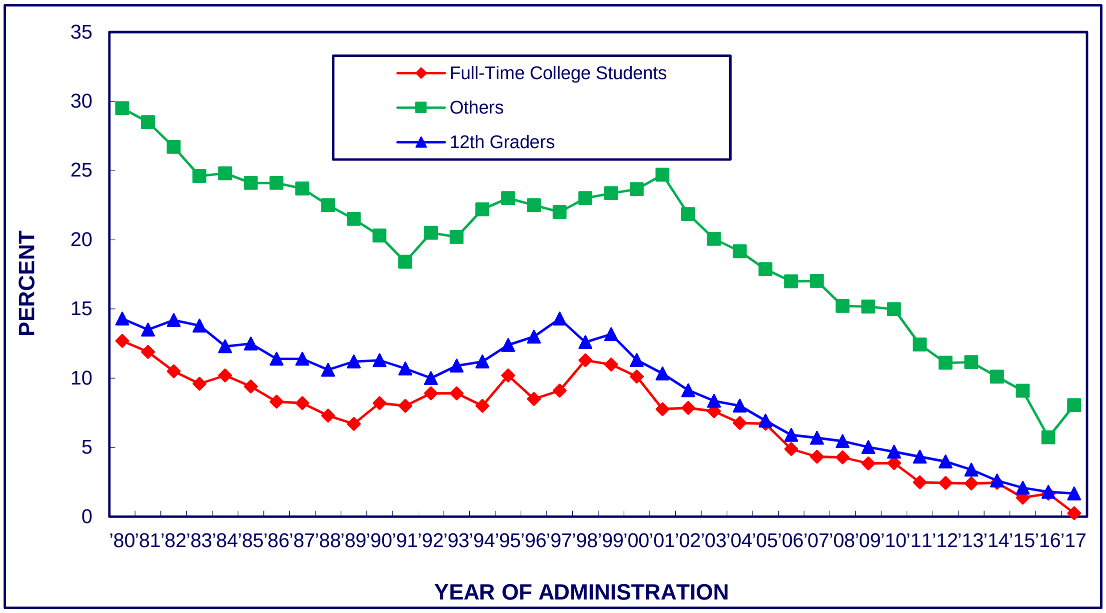
Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

FIGURE 9-16c

CIGARETTES

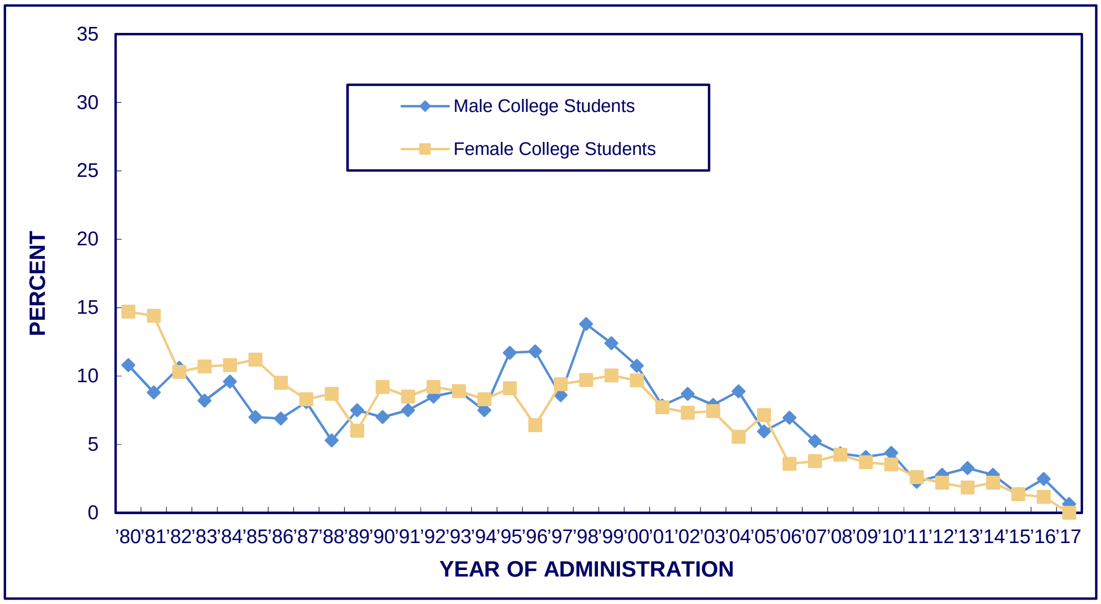
Trends in 30-Day Prevalence of Smoking a Half Pack or More per Day among College Students vs. Others 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)



CIGARETTES

Trends in 30-Day Prevalence of Smoking a Half Pack or More per Day among Male vs. Female College Students



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

Note. Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

Chapter 10

STUDY 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 on the MTF website. In this chapter, we include summaries of publications that used MTF 8th, 10th, and 12th grade samples, as well as the panel data.

Adolescents' prescription stimulant use and adult functional outcomes: A national prospective study[1]

The objective was to assess the prospective 17-year relationship between the medical and nonmedical use of prescription stimulants during adolescence (age 18 years) and educational attainment and substance use disorder (SUD) symptoms in adulthood (age 35 years). MTF nationally representative probability samples of US high school seniors from the Monitoring the Future study were surveyed (1976-1996); 8,362 of these individuals were followed longitudinally to adulthood (age 35, 1993-2013). We found that an estimated 8.1% reported medical use of prescription stimulants, and 16.7% reported nonmedical use of prescription stimulants by age 18 years. Approximately 43% of adolescent medical users of prescription stimulants had also engaged in nonmedical use of prescription stimulants during adolescence. Among past-year adolescent nonmedical users of prescription stimulants, 97.3% had used at least one other substance during the past year. Medical users of prescription stimulants without any history of nonmedical use during adolescence did not differ significantly from population controls (i.e., non-attention-deficit/hyperactivity disorder [ADHD] and non-stimulant-medicated ADHD during adolescence) in educational attainment and SUD symptoms in adulthood. In contrast, adolescent nonmedical users of prescription stimulants (with or without medical use) had lower educational attainment and more SUD symptoms in adulthood, compared to population controls and medical users of prescription stimulants without nonmedical use during adolescence. In conclusion, nonmedical use of prescription stimulants is common among adolescents prescribed these medications. The findings indicate youth should be carefully monitored for nonmedical use because this behavior is associated with lower educational attainment and more SUD symptoms in adulthood.

Age-related changes in associations between reasons for alcohol use and high-intensity drinking across young adulthood[2]

Objective Analyses focus on whether self-reported reasons for drinking alcohol change in their associations with high-intensity drinking across the transition to adulthood. **Method** Self-report data on high-intensity drinking (10+ drinks) collected from the national Monitoring the Future study in 2005 to 2014 from those ages 18–26 were used (*N* = 2,664 [60% women] for all drinkers and 1,377 for heavy episodic [5+] drinkers; up to 6,541 person-waves). Time-varying effect modeling examined changes in the direction and magnitude of associations between eight reasons

---

[1] McCabe, S. E., Veliz, P., Wilens, T. E., & Schulenberg, J. E. (2017). Adolescents' prescription stimulant use and adult functional outcomes: A national prospective study. *Journal of American Academy of Child Adolescent Psychiatry, 56*(3), 226-233.

[2] Patrick, M. E., Evans-Polce, R. J., Kloska, D. D., Maggs, J. L., & Lanza, S. T. (2017). Age-related changes in associations between reasons for alcohol use and high-intensity drinking across young adulthood. *Journal of Studies on Alcohol and Drugs, 78*(4), 558-570.

for drinking and high-intensity alcohol use across continuous age. **Results** Four reasons to drink showed quite stable associations with high-intensity drinking across age: drinking to get away from problems, to get high, to relax, and to sleep. Associations between two reasons and high-intensity drinking decreased with age: anger/frustration and to have a good time. The association between drinking because of boredom and high-intensity drinking increased with age. Drinking because it tastes good had a weak association with high-intensity drinking. Among heavy episodic drinkers, reasons for use also differentiated high-intensity drinking, with two exceptions: drinking to have a good time and to relax did not distinguish drinking 10+ drinks from drinking 5–9 drinks. **Conclusions** Reasons for drinking are differentially associated with high-intensity drinking, compared with any other drinking and compared with lower intensity heavy drinking, across age during the transition to adulthood. Intervention programs seeking to mitigate alcohol-related harms should focus on reasons for use when they are the most developmentally salient.

Age-specific prevalence of binge and high-intensity drinking among U.S. young adults: Changes from 2005 to 2015[3]

Background This study examined changes during the past decade, from 2005 to 2015, in binge and high-intensity drinking in 7 separate age groups of U.S. 12th graders and young adults. **Methods** National longitudinal data (*N* = 6,711) from Monitoring the Future were used to examine trends in consuming 5+, 10+, and 15+ drinks on the same occasion in the past 2 weeks from ages 18 to 29/30 overall and by gender. Results were compared with trends in past 12-month and 30-day alcohol use for the same age groups. **Results** Between 2005 and 2015, binge (5+) and high-intensity drinking (10+, 15+) generally decreased for individuals in their early 20s, remained somewhat stable for individuals in their mid-20s, and increased for individuals at the end of young adulthood (age 29/30). The observed historical trends in binge and high-intensity drinking were similar to those for past 12-month and past 30-day alcohol use for those aged 18 to 20, but diverged for most other age groups in young adulthood. Trends were generally similar for men and women, except that the increase in prevalence began earlier in young adulthood for women than for men. **Conclusions** Binge and high-intensity drinking among U.S. 12th graders and young adults are dynamic phenomena. Prevention and intervention efforts aimed at reducing the harms resulting from 5+, 10+, and 15+ drinking should acknowledge and focus on differences in trends in these behaviors by age and gender.

Alcohol mixed with energy drink use during young adulthood[4]

Aims Alcohol mixed with energy drink (AmED) use is associated with negative consequences including hazardous alcohol use and driving under the influence. While many studies have focused on correlates of AmED use among college samples, very few have examined patterns of AmED use during adolescence and young adulthood within the general population. Accordingly, the purpose of this study is to assess age differences in AmED use among a national sample of respondents aged 18 to 30. **Methods** The data for this study come from the Monitoring the Future panel study from 2012 to 2015. The sample consists of 2222 respondents between the ages of 18 and 30. Multiple logistic regression using generalized estimating equations (GEE) was used to

[3] Patrick, M. E., Terry-McElrath, Y. M., Miech, R. A., Schulenberg, J. E., O'Malley, P. M., & Johnston, L. D. (2017). Age-specific prevalence of binge and high-intensity drinking among U.S. young adults: Changes from 2005 to 2015. *Alcoholism: Clinical and Experimental Research, 41*(7), 1319-1328.

[4] Patrick, M. E., Veliz, P., Linden-Carmichael, A., & Terry-McElrath, Y. M. (2018). Alcohol mixed with energy drink use during young adulthood. *Addictive Behaviors, 84*, 224-230.

model past-year AmED prevalence across age and other covariates. **Results** Nearly half (45.0%) of respondents indicated past-year AmED use at some point during the study period. The lowest prevalence rates were found at age 18 (25.9%) and the highest prevalence rates at age 21/22 (43.5%). GEE analyses indicated a statistically significant positive linear and negative quadratic trend with respect to the association between age of respondent and past-year AmED use. Namely, peak use occurred in early young adulthood (age 21/22 and 23/24) and then declined, reaching 32.0% by age 29/30. College attendance and several substance use behaviors at age 18 moderated these linear and quadratic age trends. **Conclusions** AmED use peaked rapidly in early young adulthood and declined into later young adulthood. Substance use during adolescence was associated with a higher incidence of AmED use across all young adult ages and a slower decline of AmED use after age 21/22. Several sociodemographic factors were associated with AmED use, particularly college attendance at the age of 21/22.

Competitive sports participation in high school and subsequent substance use in young adulthood: Assessing differences based on level of contact[5]

The objective of this study is 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 socio-demographic 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.

Current high-intensity drinking among 8th and 10th grade students in the United States[6]

Introduction This study assessed the prevalence of current high-intensity drinking (i.e., having ten or more drinks in a row in the past 2 weeks) among national samples of U.S. eighth and tenth grade students (at modal ages 14 and 16 years, respectively). **Methods** Data on high-intensity drinking were provided by 10,210 students participating in the nationally representative Monitoring the Future study in 2016, and analyzed in 2016–2017. Prevalence levels and interactions between grade and key covariates were estimated using procedures that adjusted for the Monitoring the Future study's complex sampling design. **Results** Approximately 2% of adolescents reported current high-intensity drinking, with significant differences by grade (1.2%

---

[5] Veliz, P., Schulenberg, J. E., Patrick, M. E., Kloska, D. D., McCabe, S. E., & Zarrett, N. (2017). 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*, *52*(2), 240-259.

[6] Patrick, M. E., Terry-McElrath, Y. M., Miech, R. A., O'Malley, P. M., Schulenberg, J. E., & Johnston, L. D. (2017). Current high-intensity drinking among 8th and 10th grade students in the United States. *American Journal of Preventive Medicine*, *53*(6), 904-908.

of eighth graders; 3.1% of tenth graders) and gender (1.7% female; 2.3% male). High-intensity drinking was significantly higher among eighth and tenth grade students who reported any cigarette or marijuana use than among students who reported never using either substance. **Conclusions** A meaningful percentage of young adolescents in the U.S. engage in high-intensity drinking.

The developmental course of community service across the transition to adulthood in a national U.S. sample[7]

Despite the importance of community service for the well-being of individuals and communities, relatively little is known about the developmental course of community service during the transition to adulthood (TTA). This study tested competing hypotheses about change in community service across the TTA by estimating latent growth models from Ages 18 to 26 in a national U.S. sample. Analyses tested for cohort differences in community service and for individual differences in developmental trajectories by socioeconomic status, gender, grades, religiosity, race/ethnicity, college expectations, and college degree attainment. Using Monitoring the Future data from 1976 to 2011, the best-fitting latent growth model for community service was quadratic: Community service declined from Ages 18 to 24 and leveled off thereafter. Cohort differences in intercepts indicated that Age 18 community service increased over historical time; developmental declines in community service were consistent over 4 decades. Parent education predicted higher Age 18 community service but not growth parameters. Community service trajectories varied by gender, high school grades, religiosity, college expectations, and educational attainment, although all groups declined. Findings contribute to civic developmental theory by clarifying age and cohort effects in community service. Rising levels of community service at Age 18 may reflect heightened focus on service in high schools or the role of other socialization forces, yet these increases do not mitigate the decline across the TTA. We highlight the need for rethinking the ways in which institutions and communities can better support youth community service during the TTA.

Do alcohol use reasons and contexts differentiate adolescent high-intensity drinking? Data for U.S. high school seniors, 2005-2016[8]

The purpose of this study was to examine associations between (a) self-reported reasons for and contexts of alcohol use and (b) high-intensity drinking (i.e., having 10+ drinks in a row in the past 2 weeks) among national samples of U.S. 12th grade students. Data were obtained from 16,902 students who reported any past 12-month alcohol use from nationally representative annual 12th grade student samples from 2005–2016. When asked about drinking behavior during the past 2 weeks, 72% reported consuming less than 5 drinks at most during 1 drinking occasion; 14% reported 5–9 drinks, 7% reported 10–14 drinks, and 7% reported 15+ drinks. Adolescent drinkers in all categories (<5, 5–9, 10–14, and 15+ drinks) endorsed "to have a good time" as the most prevalent reason for alcohol use, and "at a party" as the most prevalent context of alcohol use. However, high-intensity drinking was particularly likely among adolescents drinking for coping, compulsive use, and drug effect reasons, as well as those who enjoyed the taste. Having 15+ drinks (vs. 10–14 drinks) was particularly associated with compulsive use and enjoying the taste. The relative risk of any high-intensity drinking, and of higher levels of high-intensity drinking

[7] Wray-Lake, L., Schulenberg, J. E., Keyes, K. M., & Shubert, J. (2017). The developmental course of community service across the transition to adulthood in a national U.S. sample. *Developmental Psychology, 53*(12), 2397-2408.

[8] Terry-McElrath, Y. M., Stern, S. A., & Patrick, M. E. (2017). Do alcohol use reasons and contexts differentiate adolescent high-intensity drinking? Data from U.S. High school seniors, 2005-2016. *Psychology of Addictive Behaviors, 31*(7), 775-785.

involvement, increased with the total number of reasons and contexts endorsed. Alcohol appears to serve a larger number of functions for high-intensity drinking adolescents than non-high-intensity drinking youth.

Frequent binge drinking among U.S. adolescents, 1991-2015[9]

Background and Objectives Scientific understanding of the forces involved in the decades-long decline of adolescent alcohol use in the United States is limited. This study examines specific changes in US adolescent frequent binge drinking (FBD) by age (variation due to maturation), period (variation across time that does not covary across age), and cohort (variation common to adolescents born around the same time). **Methods** We analyzed nationally representative, multicohort data from 8th, 10th, and 12th grade students sampled between 1991 and 2015 from Monitoring the Future (n = 1 065 022) to estimate age, period, and cohort effects on adolescents' FBD (defined as ≥2 occasions of ≥5 drinks in a row during the past 2 weeks). Age-Period-Cohort analyses were stratified by sex, race/ethnicity, and socioeconomic status (SES). Trends in the associations between demographics and FBD across historical time were examined. **Results** Decreases in FBD during adolescence were attributable to period and cohort effects independent of age variations. Birth cohorts between 1985 and 1990 showed the greatest decline in FBD. The Age-Period-Cohort results were consistent across sex, race/ethnicity, and SES, with the exception of slower declines seen among African American adolescents compared with white adolescents since 2007. We also found convergence in FBD by sex and divergence by SES. **Conclusions** Recent declines in adolescent FBD have been driven by period and cohort effects. Attention is warranted for the slower declines in FBD seen among African American adolescents since 2007, a narrowing difference by sex, and a growing gap by SES.

Gender- and age-varying associations of sensation seeking and substance use across young adulthood[10]

Introduction Sensation seeking is associated with elevated risk for substance use among adolescents and young adults. However, whether these associations vary across age for young men and women is not well characterized. **Methods** Using data from the Monitoring the Future (MTF) panel study, we examine the age-varying associations of sensation seeking and three types of substance use behavior (binge drinking, cigarette use, and marijuana use) across ages 18 to 30 using time-varying effect modeling. Analyses include participants in the eleven most recent MTF cohorts (12th-graders in 1994–2004), who are eligible to respond through age 29/30 (N = 6338 people; 30,237 observations). **Results** While sensation seeking levels and substance use are lower among women, the magnitude of the association of sensation seeking with binge drinking and with marijuana use among women exceeds that of men in the later 20s. Differential age trends were observed; among men, the associations generally decreased or remained constant with age. Yet among women, the associations decayed more slowly or even increased with age. Specifically, the association of sensation seeking with marijuana use among women increased during the late 20s, such that the association at age 30 exceeded that in the early 20s. **Conclusions** The significantly stronger associations of sensation seeking with binge drinking and marijuana use observed among women compared to men during the mid- to late-20s suggests divergent risk factors across genders

---

[9] Jang, B., Patrick, M. E., Keyes, K. M., Hamilton, A. D., & Schulenberg, J. E. (2017). Frequent binge drinking among U.S. adolescents, 1991-2015. *Pediatrics, 139*(6).

[10] Evans-Polce, R. J., Schuler, M. S., Schulenberg, J. E., & Patrick, M. E. (2018). Gender- and age-varying associations of sensation seeking and substance use across young adulthood. *Addictive Behaviors, 84*, 271-277.

for substance use during young adulthood, with sensation seeking remaining a strong risk factor for women but not men.

High-intensity and simultaneous alcohol and marijuana use among high school seniors in the U.S.[11]

Background Simultaneous alcohol and marijuana (SAM) use poses threats to health, particularly among adolescents. These risks would be exacerbated to the extent that high-intensity drinking (e.g., 10+ drinks in a row) and marijuana use (e.g., 1+ joints per day) are associated with a higher likelihood of SAM use. The current study examines the extent to which the intensity of alcohol use and of marijuana use are associated with adolescent SAM use prevalence, and whether associations remain after controlling for key covariates known to associate with both alcohol and marijuana use; it identifies alcohol and marijuana use intensity levels associated with the highest risk of adolescent SAM use. **Methods** Data come from nationally representative samples of US 12th graders who participated in the Monitoring the Future study from 2005 to 2014 (N = 24,203 respondents; 48.4% boys, 51.6% girls). **Results** SAM use during the past year was reported by 20% of 12th graders overall. SAM use prevalence was strongly and positively associated with alcohol and marijuana use intensity even after controlling for covariates. High school seniors at highest risk for engaging in SAM use were those who reported 10+ drinks and those smoking at least 1 joint/day. Approximately 60% of those who had 10–14 or 15+ drinks in a row during the past 2 weeks and 76%–80% of those who had 1 or 2+ joints per day on average during the past 30 days reported SAM use. **Conclusions** Results suggest that high school seniors who consume high quantities of alcohol and marijuana are very likely to consume these substances so that their effects overlap.

High-intensity drinking and nonmedical use of prescription drugs: Results from a national survey of 12th grade students[12]

Background Nearly 10% of U.S. 12th graders report high-intensity drinking (10+ or 15+ drinks in a row), but the extent to which these drinkers also engage in nonmedical use of prescription drugs (NMUPD) is largely unknown. This study examined the associations between different thresholds of past two-week high-intensity drinking and past-month NMUPD among U.S. 12th graders. **Methods** The sample consisted of eleven nationally representative cross-sections of 12th graders in the Monitoring the Future study (2005–2015) who answered questions on past two-week drinking behaviors and past-month nonmedical use of prescription opioids, sedative, stimulants, and tranquilizers (N = 26,502 respondents). **Results** High-intensity drinking during the past two-weeks was associated with an increased risk of past-month NMUPD. The odds of NMUPD were four times larger among 12th graders who indicated drinking 15 or more drinks on at least one occasion (AOR = 4.43, 95% CI = 3.18, 5.01) relative to those who had 0–4 drinks during the past two-weeks, after adjusting for relevant covariates. These associations were similar across different classes of prescription drugs and tended to be stronger among non-white respondents. A sub-analysis revealed simultaneous co-ingestion of alcohol and NMUPD was more prevalent among high-intensity drinkers. **Conclusions** More than 1 in every 4 U.S 12th graders who engage in high-intensity drinking (15+ drinks in a row) also report NMUPD. Given the greater

[11] Patrick, M. E., Veliz, P., & Terry-McElrath, Y. M. (2017). High-intensity and simultaneous alcohol and marijuana use among high school seniors in the U.S. *Substance Abuse, 38*(4), 498-503.

[12] McCabe, S. E., Veliz, P., & Patrick, M. E. (2017). High-intensity drinking and nonmedical use of prescription drugs: Results from a national survey of 12th grade students. *Drug and Alcohol Dependence, 178*, 372-379.

likelihood of simultaneous co-ingestion of alcohol and prescription drugs among high-intensity drinkers, adolescent substance use interventions need to address the risks associated with mixing alcohol and prescription drugs.

How collegiate fraternity and sorority involvement relates to substance use during young adulthood and substance use disorders in early midlife: A national longitudinal study[13]

The purpose of this study was to assess how social fraternity involvement (i.e., membership and residence) in college relates to substance use behaviors and substance use disorder symptoms during young adulthood and early midlife, using the MTF national panel data. National multi-cohort probability samples of U.S. high school seniors from MTF were assessed at baseline (age 18) and followed longitudinally via self-administered surveys across seven follow-up waves to age 35. The longitudinal sample consisted of 7019 males and 8661 females, of which 10% of males and 10% of females were active members of fraternities or sororities during college. Results show that male fraternity members who lived in fraternity houses during college had the highest levels of binge drinking and marijuana use relative to non-members and non-students in young adulthood that continued through age 35, controlling for adolescent sociodemographic and other characteristics. At age 35, 45% of the residential fraternity members reported alcohol use disorder (AUD) symptoms reflecting mild to severe AUDs; their adjusted odds of experiencing AUD symptoms at age 35 were higher than all other college and noncollege groups except non-residential fraternity members. Residential sorority members had higher odds of AUD symptoms at age 35 when compared to their noncollege female peers. In conclusion, national longitudinal data confirm binge drinking and marijuana use are most prevalent among male fraternity residents relative to non-members and non-students. The increased risk for substance-related consequences associated with fraternity involvement was not developmentally limited to college and is associated with higher levels of long-term AUD symptoms during early midlife.

Inverse propensity score weighting with a latent class exposure: Estimating the causal effect of reported reasons for alcohol use on problem alcohol use 15 years later[14]

Latent class analysis (LCA) has proven to be a useful tool for identifying qualitatively different population subgroups who may be at varying levels of risk for negative outcomes. Recent methodological work has improved techniques for linking latent class membership to distal outcomes; however, these techniques do not adjust for potential confounding variables that may provide alternative explanations for observed relations. Inverse propensity score weighting provides a way to account for many confounders simultaneously, thereby strengthening causal inference of the effects of predictors on outcomes. Although propensity score weighting has been adapted to LCA with covariates, there has been limited work adapting it to LCA with distal outcomes. The current study proposes a step-by-step approach for using inverse propensity score weighting together with the “Bolck, Croon, and Hagenaars” approach to LCA with distal outcomes (i.e., the BCH approach), in order to estimate the causal effects of reasons for alcohol use latent class membership during the year after high school (at age 19) on later problem alcohol use (at age 35) with data from the longitudinal sample in the Monitoring the Future study. A supplementary

[13] McCabe, S. E., Veliz, P., & Schulenberg, J. E. (2018). How collegiate fraternity and sorority involvement relates to substance use during young adulthood and substance use disorders in early midlife: A national longitudinal study. *Journal of Adolescent Health, 62*(3S), S35-S43.

[14] Bray, B. C., Dziak, J. J., Patrick, M. E., & Lanza, S. T. (2018). Inverse propensity score weighting with a latent class exposure: Estimating the causal effect of reported reasons for alcohol use on problem alcohol use 16 years later. *Prevention Science*.

appendix provides evidence for the accuracy of the proposed approach via a small-scale simulation study, as well as sample programming code to conduct the step-by-step approach.

Joint effects of age, period, and cohort on conduct problems among American adolescents from 1991 through 2015[15]

Although arrest rates among juveniles have substantially decreased since the 1990s, US national trends in conduct problems are unknown. Population variation in conduct problems would imply changes in the social environment, which would include emergent or receding risk factors. In the present study, we separated age, period, and cohort effects on conduct problems using nationally representative surveys of 375,879 US students conducted annually (1991–2015). The summed score of 7 items measuring the frequency of conduct problems was the outcome. Conduct problems have decreased during the past 25 years among boys; the total amount of the decrease was approximately 0.4 standard deviations ($P < 0.01$), and by item prevalence, the total amount of the decrease was 8%–11%. Declines are best explained by period effects beginning approximately in 2008, and a declining cohort effect beginning among those born after 1992, which suggests not only declines in population levels, but more rapid declines among younger cohorts of boys. Trends were also consistent with age-period-cohort effects on evenings spent out, which suggest a possible mechanism. Conduct problems among girls were lower than boys and did not demonstrate trends across time. These changes may reflect the changing nature of adolescence toward less unsupervised interaction.

Marital status as a partial mediator of the associations between young adult substance use and subsequent substance use disorder: Application of causal inference methods[16]

Objectives Young adult substance use is linked with risk of substance use disorders [SUDs] later in adulthood. Marriage may be part of this pathway both due to selection effects (early substance use reducing marriage) and socialization effects (marriage reducing later substance use and disorder). We examine whether marital status mediates the association between young adult substance use and subsequent SUDs, employing causal mediation methods to strengthen inferences. **Methods** Using panel data from high school seniors in 1990-1998, we examined whether the effects of two exposures (level of alcohol/marijuana use at age 19/20) on the outcomes (alcohol use disorder [AUD]/marijuana use disorder [MUD], non-disordered use, or abstinence at age 35) were mediated by marital status at age 29/30. Propensity score weights adjusted for potential confounding regarding both the exposures and the mediator. **Results** Moderate and heavy alcohol/marijuana use at age 19/20 were associated with higher odds of AUD/MUD and lower odds of abstinence, each relative to non-disordered use, at age 35. The association between heavy alcohol use at age 19/20 and subsequent AUD was partially mediated by being unmarried at age 29/30; the associations between moderate and heavy marijuana use at age 19/20 and subsequent marijuana abstinence were partially mediated by being unmarried at age 29/30. **Conclusions** Both selection and socialization effects related to marriage help explain the perpetuation of substance use behaviors across adulthood. Of note, selection effects on marriage seem to occur at different thresholds for young adult alcohol and marijuana use.

---

[15] Keyes, K. M., Gary, D. S., Beardslee, J., Prins, S. J., O'Malley, P. M., Rutherford, C., & Schulenberg, J. E. (2018). Joint effects of age, period, and cohort on conduct problems among American adolescents from 1991 through 2015. *American Journal of Epidemiology, 187*(3), 548-557.

[16] Jang, B., Schuler, M. S., Evans-Polce, R. J., & Patrick, M. E. (in press). Marital status as a partial mediator of the associations between young adult substance use and subsequent substance use disorder: Application of causal inference methods. *Journal of Studies on Alcohol and Drugs*.

Passing on pot: High school seniors' reasons for not using marijuana as predictors of future use[17]

As MTF has shown, marijuana use is relatively common among youth and increases during the transition to adulthood. Yet, a substantial number of adolescents and young adults do not use marijuana. The purpose of this study was to examine how high school seniors' reasons for intending not to use marijuana within the next 12 months were prospectively associated with marijuana use reported one year later. Data were drawn from the MTF national longitudinal samples of U.S. high school seniors (*n* = 3,044; 50% female; 65% White). Bivariate and multivariable logistic regression analyses were conducted to examine associations between reasons seniors indicated for intending not to use marijuana within the next 12 months and marijuana use reported one year later in the follow-up survey, controlling for sociodemographic characteristics and high school risk factors. Analyses were conducted separately among youth with and without lifetime marijuana use in high school. In multivariable models, reasons associated with marijuana abstinence one year later among prior marijuana use abstainers were concerns about becoming addicted, being against ones' beliefs, not liking marijuana users, and not having friends who use marijuana. Among prior marijuana users, not enjoying marijuana was a significant predictor of marijuana abstinence one year later. In conclusion, reasons for abstaining from marijuana have predictive utility in relation to later use, but these associations differ between those with and without prior marijuana use. Understanding the underlying reasons for stopping marijuana use or maintaining abstinence informs youth substance use prevention and intervention programs.

Patterns of high-intensity drinking among young adults in the United States: A repeated measures latent class analysis[18]

Objective Using a national sample of young adults, this study identified latent classes of alcohol use including high-intensity drinking (10+ drinks) from ages 18 to 25/26, and explored associations between time-invariant covariates measured at age 18 and class membership. **Method** Longitudinal data from the national Monitoring the Future study were available for 1078 individuals (51% female) first surveyed as 12th grade students in 2005–2008, and followed through modal age 25/26. Repeated measures latent class analysis was used to identify latent classes based on self-reported alcohol use: no past 30-day drinking, 1–9 drinks per occasion in the past 2 weeks, and 10+ drinks per occasion. **Results** Four latent classes of alcohol use from ages 18 to 25/26 were identified: (1) Non-Drinkers (21%); (2) Legal Non-High-Intensity Drinkers (23%); (3) Persistent Non-High-Intensity Drinkers (40%); and (4) High-Intensity Drinkers (16%). Membership in the High-Intensity Drinkers class was characterized by higher than average probabilities of high-intensity drinking at all ages, with the probability of high-intensity drinking increasing between ages 18 and 21/22. Both gender and race/ethnicity significantly differentiated class membership, whereas neither parental education (a proxy for socioeconomic status) nor college plans at 12th grade showed significant associations. **Conclusions** More than one in seven individuals who were seniors in high school experienced a long-term pattern of high-intensity drinking lasting into middle young adulthood. Young adult high-intensity drinking is often preceded by high-intensity drinking in high school, suggesting the importance of screening and prevention for high-intensity

[17] Martz, M. E., Schulenberg, J. E., & Patrick, M. E. (in press). Passing on pot: High school seniors' reasons for not using marijuana as predictors of future use. *Journal of Studies on Alcohol and Drugs*.

[18] Patrick, M. E., Terry-McElrath, Y. M., Schulenberg, J. E., & Bray, B. C. (2017). Patterns of high-intensity drinking among young adults in the United States: A repeated measures latent class analysis. *Addictive Behaviors, 74*, 134-139.

drinking during adolescence.

Patterns of simultaneous and concurrent alcohol and marijuana use among adolescents[19]

Background Alcohol and marijuana are the most commonly used substances among adolescents but little is known about patterns of co-use. **Objectives** This study examined patterns of concurrent (not overlapping) and simultaneous (overlapping) use of alcohol and marijuana among adolescents. **Methods** Data from US-national samples of 12th graders (*N* = 84,805, 48.4% female) who participated in the Monitoring the Future study from 1976 to 2016 and who used alcohol and/or marijuana in the past 12 months were used to identify latent classes of alcohol use, marijuana use, and simultaneous alcohol and marijuana (SAM) use. **Results** A four-class solution indicated four patterns of use among adolescents: (1) Simultaneous alcohol and marijuana (SAM) use with binge drinking and recent marijuana use (*SAM-Heavier Use*; 11.2%); (2) SAM use without binge drinking and with recent marijuana use (*SAM-Lighter Use*; 21.6%); (3) Marijuana use and alcohol use but no SAM use (*Concurrent Use*; 10.7%); and (4) Alcohol use but no marijuana or SAM use (*Alcohol-Only Use*; 56.4%). Membership in either SAM use class was associated with a higher likelihood of truancy, evenings out, and use of illicit drugs other than marijuana. *SAM-Heavier Use*, compared to SAM-Lighter Use, class members were more likely to report these behaviors and be male, and less likely to have college plans. **Conclusions** Among 12th graders who use both alcohol and marijuana, the majority use simultaneously, although not all use heavily. Given the recognized increased public health risks associated with simultaneous use, adolescent prevention programming should include focus on particular risks of simultaneous use.

Prevalence and attitudes regarding marijuana use among adolescents over the past decade[20]

Adolescent marijuana prevalence has not increased since 2005 despite a substantial decrease in the percentage of adolescents who believe marijuana use leads to great risk of harm. This finding calls into question the long-standing, inverse connection between marijuana prevalence and perceived risk of use, a connection central to many arguments opposing marijuana legalization. We tested two hypotheses for why marijuana prevalence did not increase after 2005: (1) decreases in adolescent use of cigarettes and alcohol reduced risk for marijuana use and counteracted the expected risk in marijuana prevalence, and/or (2) perceived risk of harm now plays a smaller role in marijuana use. To test these hypotheses the entire sample was stratified into three mutually exclusive and exhaustive groups on the basis of cigarette and alcohol use. Within each of the three groups, marijuana prevalence increased from 2005 to 2016. Paradoxically, when the three groups were combined into one analysis pool, overall marijuana prevalence did not increase. The seeming paradox results from a decline in the percentage of adolescents who used cigarettes; as this group grew smaller, so too did its disproportionately large contribution to overall marijuana prevalence. Perceived risk of harm from marijuana remained a strong indicator of use throughout 2005 to 2016. The paper concludes that perceived risk of marijuana remains tightly associated with use, and adolescent marijuana prevalence today would be at or near record highs if cigarette use had not declined since 2005, according to study projections.

---

[19] Patrick, M. E., Kloska, D. D., Terry-McElrath, Y. M., Lee, C. M., O'Malley, P. M., & Johnston, L. D. (2018). Patterns of simultaneous and concurrent alcohol and marijuana use among adolescents. *The American Journal of Drug and Alcohol Abuse, 44*(4), 441-451.

[20] Miech, R. A., Johnson, L. D., & O'Malley, P. M (2017). Prevalence and attitudes regarding marijuana use among adolescents over the past decade. *Pediatrics, 140*(6).

Prevalence of concussion among U.S. adolescents and correlated factors[21]

Concern with concussion among teens and adults has increased in recent years; however little is known about the prevalence of concussions among youth in the U.S. Using the 2016 MTF 8th, 10th, and 12th grade nationally representative data (N=13,088), we examined the prevalence and correlates of self-reported diagnosed concussion. We found that one out of five (19.5%) teens reported at least one concussion diagnosis during their lifetime, and 5.5 percent have had more than one concussion. Several factors were associated with higher lifetime prevalence of reporting a diagnosed concussion: being male, white, in a higher grade, and participating in competitive sports. Future research should consider associations with substance use as well as more detailed consideration of characteristics of sports most associated with concussions.

Prospective associations of 12th grade drinking intensity and age 19/20 driving-related consequences in a national sample[22]

Purpose The purpose of this study is to examine driving-related consequences associated with levels of drinking intensity among a national sample of young adult drinkers. **Methods** Data come from a nationally representative sample of 12th graders sampled annually in 2005–2014 with subsamples surveyed at age 19/20 years. Multivariable logistic regressions examined associations of 12th-grade drinking intensity (0–4, 5–9, 10–14, and 15+ drinks in a row) with driving consequences at age 19/20 years. **Results** Twelfth-grade binge drinkers (compared with nonbinge drinkers) were more likely to experience negative driving consequences at age 19/20 years. Among binge drinkers, 15+ drinkers (compared with 5–9 drinkers) in 12th grade had increased the risk of negative drinking consequences at age 19/20 years. **Conclusions** These results suggest that while underage binge drinkers are at an increased risk for having driving consequences, those who engage in higher intensity drinking are at even greater risk for these consequences. High-intensity drinkers may require additional screening or intervention to reduce future driving-related consequences.

Reasons for vaping among U.S. 12th graders: A latent class analysis[23]

Introduction Vaping has recently increased in popularity among adolescents. Little is known about heterogeneity of vapers, particularly in terms of why they vape. Identifying major subgroups of adolescent vapers by reasons for vaping is important to understand adolescent vaping behavior and to identify those most at risk for other substance use. **Methods** Monitoring Future data from 2015 and 2016 were used in a latent class analysis to identify subgroups of 12th graders based on their endorsement of 10 potential reasons for vaping. Multinomial regression with a latent class outcome was used to predict class membership. **Results** Three distinct classes of vapers were identified: adolescents who were (1) Vaping to Experiment (29.4%), (2) Vaping to Replace Cigarettes (7.3%), and (3) Vaping for Taste + Entertainment (63.4%). Vaping only flavors was associated with lower odds of membership and cigarette use was associated with higher odds of membership in the Vaping to Replace Cigarettes subgroup, and marijuana was associated with

---

[21] Veliz, P., McCabe, S. E., Eckner, J. T., & Schulenberg, J. E. (2017). Prevalence of concussion among U.S. adolescents and correlated factors. *JAMA, 318*(12), 1180-1182.

[22] Evans-Polce, R. J., Patrick, M. E., & O'Malley, P. M. (2017). Prospective associations of 12th-grade drinking intensity and age 19/20 driving-related consequences. *Journal of Adolescent Health, 61*(3), 389-391.

[23] Evans-Polce, R. J., Patrick, M. E., Lanza, S. T., Miech, R. A., O'Malley, P. M., & Johnston, L. D. (2018). Reasons for vaping among U.S. 12th graders. *Journal of Adolescent Health, 62*(4), 457-462.

lower odds of membership in the Vaping to Experiment subgroup, compared with the Vaping for Taste + Entertainment subgroup. **Conclusions** This study identified multiple subgroups of vapers based on reasons for vaping. Whereas a small subgroup vaped for reasons related to cigarette use, most adolescent vapers reported vaping for reasons unrelated to cigarette use. There were considerable differences in primary reasons for vaping and risk for traditional cigarette and other substance use, suggesting different intervention strategies may be needed for different subgroups of vapers.

Risk is still relevant: Time-varying associations between perceived risk and marijuana use among U.S. 12th grade students from 1991-2016[24]

Background: Perceived risk of harm has long been a key preventive factor for adolescent marijuana use. However, in recent years, perceived risk has decreased markedly and marijuana use has increased only slightly, leading to new questions about their association. This study investigates the magnitude and stability of the US adolescent marijuana risk/use association from 1991 to 2016, overall and by gender and race/ethnicity. **Methods**: Self-reported data on past 12-month marijuana use, perceived risk of regular marijuana use, gender, and race/ethnicity were obtained from 275,768 US 12th grade students participating in the nationally representative Monitoring the Future study. Time-varying effect modeling (TVEM) was used to examine the marijuana risk/use association over time. **Results**: Both before and after controlling for gender and race/ethnicity, perceived risk was a strong protective factor against adolescent marijuana use. The magnitude of the great risk/use association strengthened for Hispanic students; remained generally stable over time for 12th graders overall, males, females, and White students; and weakened for Black students. The magnitude of the moderate risk/use association strengthened for 12th graders overall, males, females, White and Hispanic students, but did not continue to strengthen for Black students from 2005 onwards. In general, marijuana use prevalence decreased over time within all levels of perceived risk. **Conclusions**: Perceived risk remains a strong protective factor for adolescent marijuana use, and the protective association for moderate risk (vs. no/slight risk) is actually increasing over time. Results suggest that accurate and credible information on the risks associated with marijuana use should remain a key component of prevention efforts.

A sequential mixed-mode experiment in the U.S. national Monitoring the Future study[25]

The national Monitoring the Future (MTF) study examines substance use among adolescents and adults in the United States and has used paper questionnaires since it began in 1975. The current experiment tested three conditions as compared to the standard MTF follow-up protocol (i.e., MTF Control) for the first MTF follow-up survey at ages 19/20 years (i.e., one or two years after high school graduation). The MTF Control group included participants who completed in-school baseline surveys in the 12th grade in 2012–2013 and who were selected to participate in the first follow-up survey in 2014 ($n = 2{,}451$). A supplementary sample of participants who completed the 12th grade baseline survey in 2012 or 2013 but were *not* selected to participate in the main MTF follow-up ($n = 4{,}950$) were recruited and randomly assigned to one of three experimental conditions: (1) Mail Push, (2) Web Push, (3) Web Push + E-mail. Results indicated that the overall response rate was lower in Condition 2 compared to MTF Control and to Condition 1; there were

[24] Terry-McElrath, Y. M., O'Malley, P. M., Patrick, M. E., & Miech, R. A. (2017). Risk is still relevant: Time-varying associations between perceived risk and marijuana use among U.S. 12th grade students from 1991-2016. *Addictive Behaviors, 74*, 13-19.

[25] Patrick, M. E., Couper, M. P., Laetz, V. B., Schulenberg, J. E., O'Malley, P. M., Johnston, L. D., & Miech, R. A. (2018). A sequential mixed mode experiment in the U.S. national Monitoring the Future study. *Journal of Survey Statistics and Methodology, 6*(1), 72-97.

no differences between Condition 3 and other conditions. Web response was highest in Condition 3; among web responders, smartphone response was also highest in Condition 3. Subgroup differences also emerged such that, for example, compared to white participants, Hispanics had greater odds of web (versus paper) response and blacks had greater odds of smartphone (versus computer or tablet) response. Item nonresponse was lowest in the Web Push conditions (compared to MTF Control) and on the web survey (compared to paper). Compared to MTF Control, Condition 3 respondents reported higher rates of alcohol use in the past 30 days. The total cost was lowest for Condition 3. Overall, the Condition 3 Web Push + E-mail design is promising. Future research is needed to continue to examine the implications of web and mobile response in large, national surveys.

Substance use behaviors and the timing of family formation during young adulthood[26]

The impact of substance use on the life course of young adults can be substantial, yet few studies have examined to what extent early adult substance use behaviors are related to the timing of family formation, independent of confounding factors from adolescence. Using panel data from the Monitoring the Future study (*N*~20,000), the current study examined the associations between three substance use behaviors (i.e., cigarette use, binge drinking, and marijuana use) and the timing of family formation events in young adulthood. Survival analysis and propensity score weighting addressed preexisting differences between substance users and nonusers in the estimation of the timing of union formation (i.e., marriage, cohabitation) and parenthood. Results for young adult substance users showed general patterns of reduced rates of marriage and parenthood and increased cohabitation during young adulthood. Variations were evident by substance and sex.

Technology and interactive social media use among 8th and 10th graders in the U.S. and associations with homework and school grades[27]

This study examined differences by age, gender, and race/ethnicity in the use of technology and interactive social media from 2013-2016 using data from nationally-representative samples of U.S. 8th and 10th graders (*N*=40,389). Results indicated that 8th graders watch TV and play video games more than 10th graders; boys play more video games and use interactive social media less than girls; and Black adolescents use most forms of media more often than those from other race/ethnicity groups, with the exception of using the computer for school reported most often by Asian adolescents. Mean differences showed that adolescents who spend more time on homework spend more time using the computer for school, and spend less time watching weekday TV, playing video games, and talking on the phone. Adolescents with higher grades spend more time using the computer for school and spend less time on all other types of technology and interactive social media, except for watching weekend TV. Multivariable logistic regression results indicate that watching TV on a weekday was consistently negatively associated with academic outcomes and using the computer for school was consistently positively associated with academic outcomes.

[26] Jang, B., Patrick, M. E., & Schuler, M. S. (2017). Substance use behaviors and the timing of family formation during young adulthood. *Journal of Family Issues, 39*(5), 1396-1418.

[27] Tang, S., & Patrick, M. E. (2018). Technology and interactive social media use among 8th and 10th graders in the U.S. and associations with homework and school grades. *Computers in Human Behavior, 86*, 34-44.

U.S. adolescent alcohol use by race/ethnicity: Consumption and perceived need to reduce/stop use[28]

Understanding racial/ethnic drinking patterns and service provision preferences is critical for deciding how best to use limited alcohol prevention, intervention, and treatment resources. We used nationally representative data from 150,727 U.S. high school seniors from 2005 to 2016 to examine differences in a range of alcohol use behaviors and the felt need to reduce or stop alcohol use based on detailed racial/ethnic categories, both before and after controlling for key risk/protective factors. Native students reported particularly high use but corresponding high felt need to reduce/stop use. White and dual-endorsement students reported high use but low felt need to stop/reduce alcohol use.

OTHER DATA ON CORRELATES AND TRENDS

Drug use correlates and trends not presented in this monograph or in the papers above can be calculated using the publicly available MTF data archive at the Inter-university Consortium of Political and Social Research. 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, also available at the Inter-university Consortium of Political and Social Research website.

These online resources allow users to calculate hundreds of correlates of drug use. For data previous to 2013, MTF published bivariate correlates without accompanying interpretation in a series of annual volumes entitled Monitoring the Future: Questionnaire Responses from the Nation's High School Seniors. For each year between 1975 and 2012, 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. These reference volumes are available on the MTF website and include MTF data up to 2012. They were discontinued thereafter as the online resources make it possible for interested readers to themselves calculate these statistics and any combination thereof, for 8th and 10th grade as well as for 12th grade respondents.

An annual occasional paper on subgroups[29] 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 visit the MTF website.

[28] Terry-McElrath, Y. M., & Patrick, M. E. (2018). U.S. adolescent alcohol use by race/ethnicity: Consumption and perceived need to reduce/stop use. *Journal of Ethnicity in Substance Abuse*, 1-25.

[29] Johnston, L. D., Miech, R. A., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2018). *Demographic subgroup trends among young adults in the use of various licit and illicit drugs, 1975-2017* (Monitoring the Future Occasional Paper No. 91). Ann Arbor, MI: Institute for Social Research, University of Michigan

monitoring the future

a continuing study of American youth

Monitoring the Future website:
http://www.monitoringthefuture.org

Institute for Social Research
The University of Michigan
2018