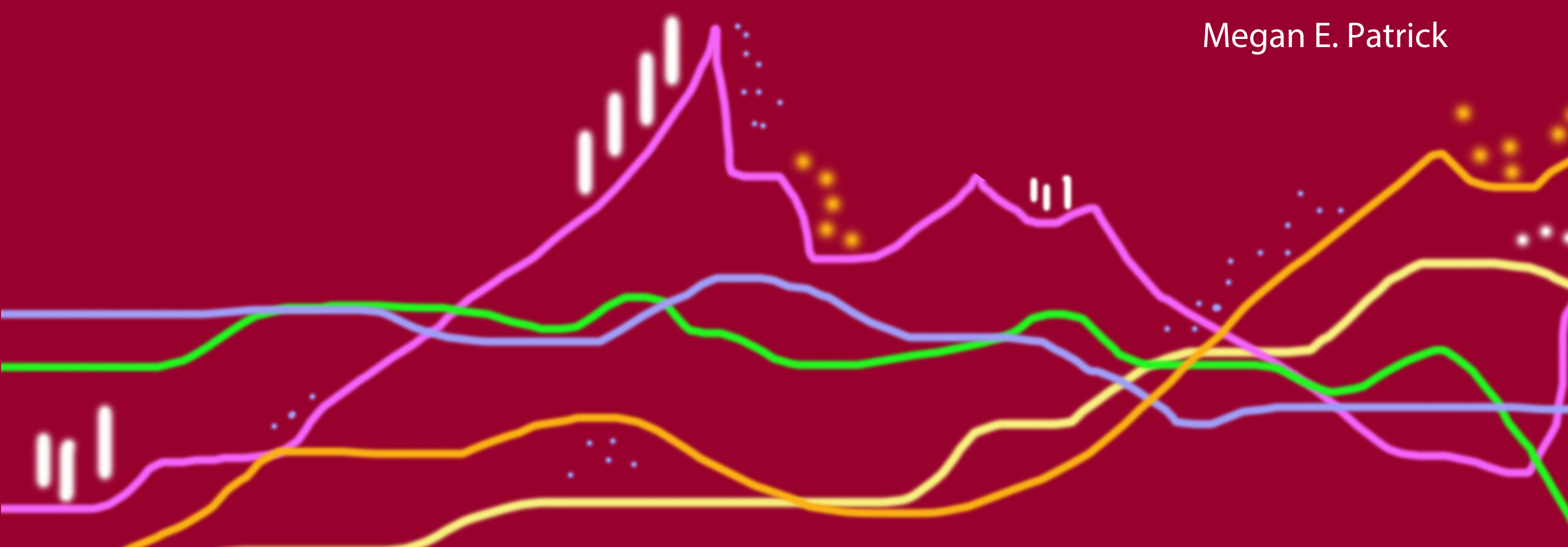
# MONITORING *the* FUTURE

NATIONAL SURVEY RESULTS
ON DRUG USE
1975-2019

# 2019
# Volume 2

## College Students & Adults Ages 19–60


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, 1975–2019

Volume II

College Students and Adults Ages 19-60

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. (2020). *Monitoring the Future national survey results on drug use, 1975–2019: Volume II, College students and adults ages 19–60*. 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 2020

## 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)

## 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)

# Chapter 1

# INTRODUCTION

The present volume presents new 2019 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 60. We report 2019 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 46th 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). Note that the data reported in this volume were collected before the COVID-19 pandemic.

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,
- same-aged youth who also are graduates from high school but not attending college full time, sometimes in the past 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, 55, and 60.

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 and web[2] on representative subsamples of the previous participants from each high school senior class. This volume presents data from the 1977 through 2019 follow-up surveys of the graduating high school classes of 1976 through 2018, as these respondents have progressed into adulthood. The oldest MTF respondents, from the classes of 1976, have been surveyed through age 60 in 2019, 43 years after their graduation.

---

[1] Halperin S. *The forgotten half revisited: American youth and young families, 1988-2008.* Washington DC: American Youth Policy Forum; 1998.

[2] For 2018 and 2019 data collections of 19-30 year olds, MTF began the transition from our typical mail-based surveys to web-based surveys. To test for survey mode differences, we randomly assigned half of the young adult respondents in both 2018 and 2019 to the typical mail survey condition and half to the new web-push condition. In general, prevalence estimates did not vary significantly between the two conditions in either year and thus the two halves are combined in a weighted average in this volume. Exceptions (that is, when estimates differ significantly between conditions) are noted. This is discussed in more detail in Chapter 3.

Other monographs in this series include the *Overview of Key Findings*,[3] which presents early results from the secondary school surveys; *Volume I*,[4] which provides an in-depth look at the secondary school survey results; and the *HIV/AIDS monograph*,[5] drawn from the follow-up surveys of 21- to 30-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[6]; the next *HIV/AIDS monograph* will be published in mid-October, 2020.

In this volume, we first provide a selective summary of key findings spanning ages 19-60 (in Chapter 2[7]). Chapter 3 (which is similar to Chapter 3 in *Volume I*) outlines the integrated study's design and procedures. Chapter 4 provides prevalence estimates, and Chapter 5 provides historical trends, for drug use for a number of age bands from age 18 through age 60. 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 same-age noncollege youth. Chapter 10 (which is similar to Chapter 10 in *Volume I*) provides a summary of other recent publications from the integrated MTF study.

## SURVEYS OF YOUNG ADULTS AND ADULTS AGES 35, 40, 45, 50, 55, AND 60

The current young adult findings are based on representative samples from each graduating class from 2006 to 2018, all surveyed in 2019 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 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 2019 the graduating classes of 2006-2018 received biennial young adult surveys, and the classes of 1977, 1982, 1987, 1992, 1997, and 2002 were sent the age-60, 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 thus 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

---

[3] Johnston, L. D., O'Malley, P. M., Miech, R. A., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). *Monitoring the Future national survey results on drug use, 1975-2019: Overview, key findings on adolescent drug use.* Ann Arbor, MI: Institute for Social Research, The University of Michigan.

[4] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). *Monitoring the Future national survey results on drug use, 1975–2019: Volume I, Secondary school students*. Ann Arbor, MI: Institute for Social Research, The University of Michigan.

[5] Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., Patrick, M. E. & Miech R. A. (2019). *HIV/AIDS: Risk & protective behaviors among adults ages 21 to 30 in the U.S., 2004–2018.* Ann Arbor, MI: Institute for Social Research, The University of Michigan.

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

[7] In previous editions of this volume, we provided a brief summary of key findings from the integrated MTF study, including 8th, 10th, and 12th graders, college students, and young adults; Appendix A now provides those tables and figures.

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 much of the life of the study, until about 2002. Since then, there has been a gradual decline, dropping to about 7% in the most recent estimate in 2019.[8] 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. 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 or will be covered in other publications by MTF.

## SURVEYS OF COLLEGE STUDENTS AND SAME-AGE NONCOLLEGE YOUTH

*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 2019 among college students and also among same-aged noncollege youth are reported in Chapter 8, and results on *trends* in substance use among college students and noncollege youth are reported in Chapter 9, covering the 39-year interval since 1980.

The MTF follow-up samples have provided excellent coverage of the U.S. college student population for four decades (1980–2019). College students tend to be a difficult population to study at the national level for a variety of reasons. In the past, 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 and then reasonable samples of the student body must be obtained.

[8] United States Census Bureau. CPS Historical Time Series Tables on School Enrollment. Published December 3, 2019. Accessed April 30, 2020

In contrast, MTF draws the college sample prospectively in the senior year of high school, so it has considerable advantages for generating a broadly representative sample of college students who emerge from each graduating high school 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 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.[9] 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 historical time and across the life course. 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

[9] 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.

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 explained by maturation as well as by social role and context transitions associated with age, as this study has demonstrated through several books, articles, and book chapters (as listed on MTF website). Such age effects, as we have shown, can vary historically, indicating the historical embeddedness of developmental course.[10,11,12] 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. Of course, 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 at various points across the past four decades, and past 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 30 in the U.S., 2004-2018[13] 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 topics mentioned above are invited to visit the MTF website at www.monitoringthefuture.org.

---

[10] 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.

[11] 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.

[12] Patrick, M. E., Terry-McElrath, Y. M., Lanza, S. T., Jager, J., Schulenberg, J. E., & O'Malley, P. M. (2019). Shifting age of peak binge drinking prevalence: Historical changes in normative trajectories among young adults aged 18 to 30. *Alcoholism: Clinical and Experimental Research, 43,* 287-298.

[13] Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., Patrick, M. E., & Miech, R. A. (2019). HIV/AIDS: Risk & protective behaviors among adults ages 21 to 30 in the U.S., 2004–2018. Ann Arbor, MI: Institute for Social Research, The University of Michigan.

# Chapter 2

## SUMMARY OF 2019 KEY FINDINGS

Monitoring the Future 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 60. For over four decades, the study has tracked and reported on the use of an ever-growing array of such substances among US national samples of adolescents and adults.

An essential feature of the MTF integrated study is the panel component of our cohort-sequential design. Beginning with the 12th grade class of 1976, the study has conducted follow-up 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 60. Annual findings from these follow-up surveys are presented in this volume. Details regarding our survey procedures, including the transition from mail to web-based surveys, are provided in Chapter 3. We note here that another essential feature of the MTF integrated study is the consistency in procedures and measures (combined with deliberate changes when necessary) across historical and developmental time over the past four decades, providing a strong foundation for detecting changes over time.

In this chapter, we provide an overview of some of the key findings from 2019, covering 2019 substance use prevalence (Chapter 4), recent trends in prevalence (Chapter 5), recent trends in attitudes and beliefs regarding substance use (Chapter 6), recent trends in the perceived social context of substance use (Chapter 7), 2019 substance use prevalence among college and non-college youth aged 19-22 (Chapter 8), and recent trends in college and noncollege youth (Chapter 9).

### 2019 PREVALENCE OF SUBSTANCE USE AMONG ADULTS: CHAPTER 4

Prevalence of annual and 30-day use of ***marijuana*** and of some illicit drugs (especially ***amphetamines***, ***cocaine***, ***hallucinogens***, and ***MDMA***) tended to be highest among those in their early to mid-20s. In particular, annual and 30-day ***marijuana*** use in 2019 was highest among 21-22 year olds (45% and 31%, respectively), with both declining mostly linearly with age to 14% and 9%, respectively, at age 60. This age-curve held in 2019 for ***near-daily marijuana*** use: prevalence peaked at 11% among 21-22 year olds, leveled at 10% among 23-28 year olds, and dropped to 2-3% among 45-60 year olds. Annual and 30-day prevalence of ***vaping marijuana*** also tended to be highest in 2019 among those in their early to mid-20s (annual use peaked at 23-25% for ages 19-24; 30-day use peaked at 14-15% among 19-22 year olds), and the same was true for ***vaping nicotine*** in 2019 (annual use peaked at 34% among 21-22 year olds; 30-day use peaked at 22% among 19-20 year olds).

Lifetime prevalence in some of the older age groups (particularly those aged 60), who passed through adolescence and early adulthood during the peak of the drug epidemic, showed remarkably high lifetime rates of illicit drug use—particularly when lifetime prevalence was corrected for the recanting (or forgetting) of previously reported use. This highlights the importance of cohort effects when considering age-related changes. However, past 30-day use of most illicit drugs was substantially lower among those over age 30 than among those in their late teens to early 20s. For use of ***alcohol*** and ***cigarettes***, the picture is different; there is less falloff in current use with age, and there are higher levels of daily alcohol use and regular cigarette smoking in the older ages.

Regarding gender differences in 2019 among 19-30 year olds, men typically were higher than women on use of most substances. Men were higher than women on prevalence of ***marijuana*** use (including annual and 30-day use, annual and 30-day ***marijuana vaping***, and near-daily marijuana use), prevalence of use of ***any illicit drug other than marijuana*** (annual and 30-day prevalence), and annual prevalence of many individual illicit drugs (***hallucinogens***, ***MDMA***, and ***cocaine***); men and women were similar on annual prevalence of other illicit drugs (including the nonmedical use of ***narcotics other than heroin***, ***amphetamines***, ***sedatives (barbiturates),*** and ***tranquillizers***). Men and women also were similar on annual and 30-day prevalence of ***alcohol*** use, but men were higher on more frequent and heavier use of alcohol (e.g., ***binge drinking***). Men had higher annual and 30-day prevalence of ***cigarette*** use than women, but they were similar on daily smoking. Men had higher annual and 30-day prevalence of ***vaping nicotine***.

Regarding regional differences in 2019 among 19-30 year olds, ***marijuana*** use tended to be higher in the West and Northeast than in the Midwest and South (this was true for annual and 30-day use, and for annual and 30-day ***marijuana vaping***). Annual use of ***any illicit drug other than marijuana*** was highest in the West (and this was also true for annual prevalence of ***LSD***, ***hallucinogens other than LSD***, ***MDMA (ecstasy, Molly)***, and ***cocaine***; across other illicit drugs, regional differences were not substantial). Annual and 30-day ***alcohol*** use was somewhat higher in the Northeast and Midwest than the South; for indices of heavy alcohol use (e.g., ***binge drinking***), prevalence tended to be lowest in the South and varied among the other regions. ***Cigarette smoking*** tended to be slightly higher in the Midwest and South and lowest in the West. ***Vaping nicotine*** was similar across the four regions.

Regarding population density differences in 2019 among 19-30 year olds, prevalence tended to be positively correlated with population density (i.e., lowest in the farm/country stratum, and highest in very large cities) for many substances. This was true for annual prevalence of ***marijuana***, of ***vaping marijuana***, of ***any illicit drug other than marijuana***, and of many individual illicit drugs including ***cocaine***, ***MDMA (ecstasy***, ***Molly)***, ***amphetamines***, and ***hallucinogens*** (including ***LSD*** and ***other than LSD***); across other illicit drugs, population density differences were not substantial. ***Alcohol use*** showed a positive correlation with population density, ***cigarette use*** showed a negative correlation with population density, and ***vaping nicotine*** was lowest in the farm/country stratum and similar in the other strata.

## RECENT TRENDS IN SUBSTANCE USE AMONG YOUNG ADULTS: CHAPTER 5

The two main sets of findings in Chapter 5 regarding recent trends among young adults are the continued increases in marijuana use and in vaping to historic highs in 2019.

***Marijuana*** use among young adults (ages 19-28) increased to all-time highs in 2019, which was true for annual use, 30-day use, and daily use; the five-year increases from 2014 to 2019 for all three levels of marijuana use were significant. As of 2019, four-in-ten young adults (40%) used marijuana at least once in the past 12 months, over one-in-four (27%) used it at least once in the past 30 days, and nearly one-in-ten (9.4%) was a daily or near-daily marijuana user in the past 30 days.

Annual and 30-day prevalence of ***vaping marijuana*** showed significant increases in 2019 for 19-28 year olds (to 22% and 13%, respectively, in 2019); the increases were especially large at ages 19-22, with this age group having the highest annual (24-25%) and 30-day (14-15%) prevalence in 2019. Annual and 30-day prevalence of ***vaping nicotine*** also showed significant increases in 2019 for 19-28 year olds (to 25% and 15%, respectively); the increases were again especially large at ages 19-22, with this age group having the highest annual (32-34%) and 30-day (19-22%) prevalence in 2019. These annual and 30-day increases in vaping marijuana and nicotine, especially among those aged 19-22, are among the largest in MTF history for any substance.

Concerning the index of ***any illicit drugs other than marijuana***, annual use has been relatively steady the last few years, with the five-year trend (2014-2019) showing a small significant decline (to 19% in 2019). This five-year modest decrease was due to a mix of changes among individual drugs that comprise this index. Specifically, there were significant five-year increases in annual prevalence of ***LSD*** (to 3.5% in 2019) and of ***cocaine*** (to 6.5% in 2019); annual prevalence of ***hallucinogens*** overall, and of ***hallucinogens other than LSD*** were level over the past five years (5.1% and 3.2%, respectively, in 2019); and there were significant five-year declines in nonmedical annual prevalence of ***narcotics other than heroin*** (to 2.6% in 2019), of ***amphetamines*** (to 6.9% in 2019), of ***sedatives (barbiturates)*** (to 2.2% in 2019), and of ***tranquilizers*** (to 3.6% in 2019). In addition, annual prevalence of ***MDMA (ecstasy***, ***Molly)*** decreased significantly over the past five years to 3.7% in 2019.

***Alcohol*** use among young adults has been level in recent years for the most part. Prevalence of annual use, 30-day use, and ***binge drinking*** (having 5 or more drinks in a row in the past two weeks) were fairly level over the past five years (81%, 67%, and 32%, respectively, in 2019). There were significant one-year and five-year increases in 30-day prevalence of ***flavored alcoholic beverages***, reaching 35% in 2019. Prevalence of ***having 10 or more drinks in the past two weeks*** (a measure of ***high intensity drinking***) showed a one-year significant increase to 12% in 2019, but the longer-term trend has been one of uneven decline for young adults.

***Cigarette*** use continued to decline to all-time lows among young adults in 2019. The five-year declines were significant for annual prevalence (to 22% in 2019), 30-day prevalence (to 12% in 2019), daily prevalence (to 6.2% in 2019), and half-pack a day prevalence (to 3.1% in 2019).

Tables, figures, and more detail about the short-term trends in substance use are provided in Chapter 5, along with consideration of longer-term trends for adults ages 19-60 (highlighting cohort effects behind the year-to-year age differences). In addition, Chapter 5 includes consideration of trends by gender, region, and population density (with accompanying figures published separately).[1] In Appendix A of this current volume, to provide an integrated view of trends across adolescence and young adulthood, we include tables and figures regarding

---

[1] Johnston, L. D., Miech, R. A., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). *Demographic subgroup trends among adolescents in the use of various licit and illicit drugs, 1975-2019* (Monitoring the Future Occasional Paper No. 95). Ann Arbor, MI: Institute for Social Research, University of Michigan.

prevalence across five groups: 8th graders, 10th graders, 12th graders, college students (ages 19-22), and young adults overall (19-28). Chapter 2 in previous editions of this volume[2] includes discussion of the trends across the five groups.

## RECENT TRENDS IN ATTITUDES AND BELIEFS ABOUT SUBSTANCE USE: CHAPTER 6

Chapter 6 presents 2019 findings and trends regarding young adults' attitudes and beliefs about substance use, specifically perceived risk of harm (also known as perceived harmfulness) and personal disapproval of the use of various substances. Perceived risk, in particular, is an important leading indicator of changes in substance use; that is, changes in perceived risk typically correspond with and often predict future changes in substance use.

Perceived risk of ***marijuana*** use continued its decline in 2018 and 2019, reaching all-time lows among young adults for experimental, occasional, and regular use of marijuana. In 2019, 5-7% of young adults (ages 19-30) perceived great risk of harm for experimental use of marijuana, and 21-24% perceived great risk of regular use.

Young adults viewed experimental use of any of the ***other illicit drugs*** as distinctly riskier than the experimental use of marijuana. In approximate rank ordering of various substances in 2019, about 28-34% of young adults thought experimental use of ***sedatives (barbiturates)*** involved great risk; the corresponding percentages were 28-34% for ***amphetamines,*** 29-34% for ***LSD,*** 32-40% for ***MDMA (ecstasy, Molly),*** 49-56% for ***cocaine***, 56-61% for ***narcotics other than heroin,*** and 73-78% for ***heroin.***

In the past five years (2014-2019), perceived risk of experimental use of ***LSD*** and ***MDMA (ecstasy, Molly)*** declined somewhat among young adults, and perceived risk of experimental use of ***heroin*** and ***narcotics other than heroin*** increased; perceived risk of experimental use of ***cocaine***, ***amphetamines***, and ***sedatives (barbiturates)*** was level or showed uneven change.

Perceived risk of ***binge drinking*** once or twice on weekends was fairly level among young adults over the past five years (37-39% in 2019). Perceived risk of smoking one or more packs of ***cigarettes*** a day was also fairly level (83-86% in 2019).

Perceived risk of ***vaping an e-liquid with nicotine*** occasionally was 19-20% among adults in 2019, and for regular use, it was 41-42%. This was the first year we asked about perceived risk of vaping nicotine in this way. Between 2014 and 2018, we asked about perceived risk of using ***e-cigarettes*** regularly, and this increased through 2016 and was then level in 2017 and 2018 (25-33%).

Personal disapproval tends to be higher than perceived risk. In 2019, the clear majority (57-61%) of young adults disapproved of regular ***marijuana*** use, and about one-quarter (23-28%) disapproved of experimental use. Personal disapproval of experimental, occasional, and regular use of marijuana among young adults has been declining, and 2019 levels were at all-time lows.

[2] Schulenberg, J. E., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Miech, R. A., & Patrick, M. E. (2019). *Monitoring the Future national survey results on drug use, 1975-2018: Volume II, college students and adults ages 19-60*. Ann Arbor: Institute for Social Research, The University of Michigan, 482 pp.

Disapproval levels of the various illicit drugs tend to be quite high. The great majority of young adults disapproved of using, or even experimenting with, each of the ***illicit drugs other than marijuana.*** For example, 92% or more of young adults in 2019 disapproved of regular use of each of the following drugs: ***LSD, cocaine, heroin,*** and ***sedatives (barbiturates).*** Fully 66% to 97% of young adults disapproved of even experimenting with each of these same drugs.

In 2019, disapproval of occasionally ***vaping an e-liquid with nicotine*** was 68-72% among young adults, and for regular use, it was 82-84%.

Tables, figures, and more detail about the trends in perceived risk and personal disapproval are provided in Chapter 6, along with consideration of policy implications.

## RECENT TRENDS IN THE PERCEIVED SOCIAL CONTEXT OF SUBSTANCE USE: CHAPTER 7

Chapter 7 presents 2019 findings and trends regarding the perceived social context of substance use, including perceived close friends' disapproval of substance use, perceived friends' use of substances, direct exposure to others using substances, and perceived availability of various substances. Peer norms and behaviors are important correlates and predictors of substance use.

In the past decade or so, there have been continuing declines in perceived close friends' disapproval of occasional and regular ***marijuana*** use among young adults (ages 19-30). In the last five years (2014-2019), perceived disapproval of occasional marijuana use declined considerably for young adults, by 16 to 20 percentage points, reaching 38-44% in 2019; disapproval of regular use dropped by 16 to 23 percentage points in the last five years, reaching 59-61% in 2019. Thus, 2019 levels of perceived close friends' disapproval of occasional and regular marijuana use are at or near historic lows since the early 1980s. Clearly, perceived peer norms indicate that young adults have become more accepting of marijuana use in recent years, corresponding to young adults' increased marijuana use.

In 2019, 48-52% of young adults reported that their close friends would disapprove of weekend ***binge drinking***, compared to 71% among 12$^{th}$ graders. Over the last five years (2014-2019), perceived disapproval increased for 12$^{th}$ graders (reaching historic highs in 2018 at 72%) and decreased somewhat for young adults (at or near historic lows in 2019).

Regarding perceived friends' use, the percentage of adults who reported that *most or all* of their (unnamed) friends used ***marijuana*** increased dramatically over the past decade (2010-2019): it nearly doubled or tripled for 19-50 year olds, increasing in 2019 to 29% for 19-22 year olds, to 18-22% for 23-30 year olds, to 6-8% for 35 and 40 year olds, and to 2-3% for 45 and 50 year olds. The 2019 percentages were historic highs, except for 19-22 year olds (their historic high was 34% in 1980).

Across the past decade (2010-2019), the proportion of respondents reporting having *any friends who use* ***any illicit drugs other than marijuana*** increased for most adults: it increased 2-12 percentage points for 19-40 year olds (to 52-55% among 19-30 year olds in 2019 and to 22-28% among 35 and 40 year olds); it decreased 3-8 percentage points for 45 and 50 year olds (to 17-18%

in 2019). Among young adults, there have been recent increases in the proportion reporting any friends who use ***MDMA*** and ***cocaine***, and decreases in proportion using any ***narcotics other than heroin***.

Over the past decade (2010-2019), there have been mixed changes across the age groups in proportions reporting that *any* of their friends ***get drunk*** at least once a week. The proportion declined substantially for 12th graders (to 54% in 2019), declined modestly for 19-26 year olds (to 75-77% in 2019), was level for 27-30 year olds (79% in 2019), and increased for 35-50 year olds (to 48-66% in 2019).

Findings regarding direct exposure to drug use and perceived availability are summarized in Chapter 7, along with descriptions of the longer-term trends in the perceived social context.

## 2019 PREVALENCE OF SUBSTANCE USE AMONG COLLEGE STUDENTS AND SAME-AGE NONCOLLEGE YOUTH: CHAPTER 8

Prevalence levels of many substances tended to be similar among 19-22 year old college students and noncollege youth in 2019. This was true for annual prevalence of ***any illicit drug*** (47% and 46% respectively), of ***any illicit drug other than marijuana*** (17% for both), and of ***marijuana*** (43% for both). Noncollege youth had somewhat higher 30-day prevalence than college students of any illicit drug use (33% and 30%, respectively) and of marijuana use (33% and 26%, respectively); but 30-day prevalence of any illicit drug other than marijuana was similar for college students (7.6%) and noncollege youth (6.9%). As has been true in recent years, noncollege youth had much higher prevalence of ***near-daily marijuana*** use than college students did (15% vs. 5.9%, respectively).

Annual prevalence of ***hallucinogens***, including ***LSD***, was somewhat higher among noncollege youth in 2019, as was true for ***MDMA*** (ecstasy, Molly). Annual prevalence of ***cocaine*** use in 2019 was similar for college students and noncollege youth. As has been true for many years, the only substances that college students were appreciably more likely than their noncollege peers to use were ***amphetamines*** (including ***Adderall*** in particular) and ***alcohol*** (particularly ***getting drunk*** and ***binge drinking***). However, ***high-intensity drinking*** (as measured by having ***10 or more drinks in a row in the past two weeks***) prevalence was similar for college and noncollege youth in 2019, with about one-in-ten engaged in this behavior. The higher levels 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. As has been true all along, cigarette use is much more common among noncollege youth than college students.

Finally, regarding vaping, 30-day and annual prevalence of ***vaping nicotine*** in 2019 was higher among college students than noncollege youth, which was also true in 2018. Regarding ***vaping marijuana***, however, differences between college students and noncollege youth in 2019 were less distinct, with 30-day prevalence being somewhat higher for noncollege youth. We next summarize the recent trends in vaping among college and noncollege youth.

## RECENT TRENDS IN SUBSTANCE USE AMONG COLLEGE STUDENTS AND SAME-AGE NONCOLLEGE YOUTH: CHAPTER 9

Vaping marijuana and vaping nicotine were found to dramatically increase among college students over the past three years (vaping questions were added to the surveys in 2017). Among college students, 30-day prevalence of ***vaping marijuana*** increased significantly from 5.2% in 2017 to 11% in 2018, and nonsignificantly to 14% in 2019, representing a significant 8.3 percentage point increase from 2017 to 2019. Among noncollege youth, it was level between 2017 (7.8%) and 2018 (7.9%), and then increased significantly to 17% in 2019.

Among college students, 30-day prevalence of ***vaping nicotine*** increased significantly from 6.1% in 2017 to 16% in 2018, and then significantly again to 22% in 2019, thus more than tripling in just two years between 2017 and 2019. Among noncollege youth, it was 7.9% in 2017, 13% in 2018, and 18% in 2019, thus more than doubling between 2017 and 2019. These annual increases in vaping marijuana and nicotine are among the largest in MTF history for any substance.

Another main finding regarding recent trends is the continued historic high levels in annual prevalence of ***marijuana*** use among college students, which reached 43% in both 2018 and 2019, a historic high since the mid-1980s; notably, the five-year trend from 2014 to 2019 showed a significant 8.6 percentage point increase. Likewise, for noncollege youth, annual marijuana use remained at 43% in 2019, also constituting a historic high since the mid-1980s. (Meanwhile, among 12th graders, annual prevalence of marijuana use remained fairly steady from 2011 through 2019 (36% in 2019), resulting in a continued divergence between them and both the college and noncollege groups.) ***Daily marijuana use*** increased slightly for college students in 2019 to 5.9%, tying the all-time high level reached in 2014; for noncollege youth, daily marijuana use reached an all-time high of 15% in 2019. Thus, as of 2019, about one-in-seven noncollege youth aged 19-22, and about one-in-seventeen college students, use marijuana on a daily or near daily basis.

Regarding annual prevalence of use of ***any illicit drug other than marijuana***, recent trends have been level for college and noncollege respondents (at 17% for both in 2019). Two illicit drugs in particular have shown recent increases among college students, though prevalence for both drugs remains relatively low. The five-year trend in annual prevalence of ***cocaine*** use increased nonsignificantly from 4.4% in 2014 to 5.6% in 2019, the highest it has been over the past decade; for noncollege respondents, annual cocaine use has declined somewhat in the past few years (5.5% in 2019). Annual prevalence of ***LSD*** has shown some uneven increases in the past few years for college students (3.7% in 2019) and especially noncollege respondents (6.0% in 2019).

The use of two illicit drugs in particular has continued to decline for college students and noncollege respondents. Annual prevalence of the nonmedical use of ***narcotic drugs other than heroin*** continued to decline for college students, with a significant five-year decline from 4.8% in 2014 to 1.5% in 2019; similarly, for noncollege respondents, there was a significant five-year decline from 7.7% in 2014 to 3.3% in 2019. The 2019 prevalence both groups was at the lowest levels since the late 1990s. The annual use of ***amphetamines*** also continued to decline modestly for college students (to 8.1% in 2019), and more so for noncollege respondents (to 5.9% in 2019).

Several illicit drugs with relatively low prevalence have shown some leveling or uneven change in recent years among college students and noncollege respondents, including ***MDMA*** (***ecstasy***, ***Molly***) (annual prevalence of 3.3% and 4.1%, respectively in 2019) and nonmedical use of ***sedatives (barbiturates)*** (2.0% and 3.0%), and ***tranquilizers*** (3.0% and 3.4%). The trend in the use of ***inhalants*** has also been fairly level and quite low among both college and noncollege youth (1.3% and 1.9%).

***Binge drinking*** continued to decline among college students and noncollege youth. In 2018 for college students, it declined significantly to 28%, representing the first time that it was below 30%; however, in 2019, it increased (nonsignificantly) to 33%. In 2019 binge drinking declined nonsignificantly to 22% for noncollege respondents, continuing an important longer-term decline. Prevalence of having ***10 or more drinks*** in the past two weeks (a measure of ***high intensity drinking***) has been fairly level for college and noncollege youth (11% for both in years 2015-2019 combined). Finally, ***cigarette*** use continues to decline, with 30-day smoking at 7.9% in 2019 for college students (a nonsignificant change from 6.8% in 2018, an all-time low); it reached a new all-time low in 2019 for noncollege respondents (16%).

Chapter 9 includes tables and figures of trends, along with additional detail about longer-term trends and gender differences.

## OTHER MTF PUBLICATIONS AND INFORMATION ABOUT MTF DATA: CHAPTER 10

Finally, Chapter 10 provides a summary of recently published MTF peer-reviewed articles concerning the epidemiology and etiology of substance use across adolescence and adulthood, as well as other topics concerning methodology and risk and protective factors. This present volume is one in a series, and the other volumes are listed. In addition, Chapter 10 provides information about access to de-identified public use MTF data, as well as to restricted MTF cross-sectional and panel data for qualified researchers.

# 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 subpopulations. Repeating these annual cross-sectional surveys over time allows an assessment of change across history in consistent age segments of the adult 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: age, period, 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 120-140 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 participating 12th graders serve as the sampling frame for the MTF panels. In addition, 12th grade prevalence and trends are included as a comparison to the older age groups throughout this volume.

[1] 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 U.S. national sample: A descriptive examination of predictors and health correlates of repeated measures latent class membership. Drug and Alcohol Dependence, 171, 70-83. McCabe, S. E., Veliz, P. T., Boyd, C. J., Schepis, T. S., McCabe, V. V., & Schulenberg, J. E. (2019). A prospective study of nonmedical use of prescription opioids during adolescence and subsequent substance use disorder symptoms in early midlife. Drug and Alcohol Dependence, 194, 377-385. Patrick, M. E., Berglund, P. A., Joshi, S., & Bray, B. C. (2020). A latent class analysis of heavy substance use in young adulthood and impacts on physical, cognitive, and mental health outcomes in middle age. Drug and Alcohol Dependence, 212. 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.

## The Population under Study

Senior year of high school is a strategic point at which to monitor drug use and related attitudes of youth. First, completion of high school represents the end of an important developmental period in this society, demarcating both the end of universal education and, for many, the end of living full-time in the parental home. Therefore, it is a logical point at which to take stock of cumulated influences. Further, completion of high school represents a jumping-off point, a point from which young people diverge into widely differing social environments and experiences. Thus senior year is a good time to take a "before" measure, allowing for the subsequent calculation of changes that 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, and divorce. 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; 7% 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 *Volume I*[5] addresses in detail the likely effects of the exclusion of dropouts (as well as absentees from school on the day of the survey administration) on estimates of drug use prevalence and trends for 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 12th graders in each school may be included. In schools with more than 350 12th graders classrooms are typically randomly sampled. 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 to accommodate the needs of the school (either by randomly sampling entire classrooms or by some other unbiased, random method). 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 for us to be

[4] United States Census Bureau. CPS Historical Time Series Tables on School Enrollment. Published December 3, 2019. Accessed April 30, 2020.
[5] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). *Monitoring the Future national survey results on drug use, 1975-2019: Volume I, Secondary school students*. Ann Arbor: Institute for Social Research, University of Michigan.

able to check observed trends in any given one-year interval, schools are asked to participate in the study for two consecutive years on a staggered schedule, with one half 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. (As described in Volume 1, the sampling and data collection procedures are the similar for 8th and 10th graders.)

### Questionnaire Administration

About two 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 by their student 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 and key drug variables are contained in this core set of measures. Many of the specific drugs that have been added over time are in one or more forms but not in the core set. 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 12$^{th}$ GRADE FOLLOW-UP SURVEYS

Beginning with the graduating class of 1976, a subset of each 12$^{th}$ grade class has been selected to be surveyed after high school. From the 12,000–19,000 12$^{th}$ graders originally surveyed in a given senior class, a representative sample of 2,450 is randomly chosen for follow-up.

*Survey mode*. Up through 2017, all follow-up surveys were conducted by mail. As described in detail below, in 2018 and in 2019 one random half of the 19-30 year old respondents received the typical MTF follow-up procedures and completed mail paper surveys; the other random half received the new web-push procedures and were encouraged to complete web-based surveys. Content is the same across the two modes. The two survey modes are discussed in detail below.

*Oversampling of substance users*. In order to ensure that drug-using populations are adequately represented in the follow-up surveys, 12$^{th}$ graders reporting 20 or more occasions of marijuana use in the previous 30 days (i.e., daily or near 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 12$^{th}$ 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; in recent years actual numbers average about 20% higher than the weighted numbers.

*Follow-up through young-, middle, and older-adulthood*. The 2,450 participants selected from each 12$^{th}$ 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. By alternating the two half-samples through young adulthood, 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 middle- and older-adult follow-ups then occur at modal ages 35, 40, 45, 50, 55, and beginning in 2018, age 60. Starting at age 35, both of the half-samples from each graduating high school class are surveyed simultaneously. These data, gathered on national samples over such a large portion the life span, are extremely rare and can provide needed insight into the etiology and life-course history of substance use and relevant behaviors, attitudes, and other factors.

### Mail Follow-Up Procedures

Using information provided by 12$^{th}$ grade respondents on a confidential tear-off card (requesting the respondent's name, address, phone numbers, and more recently, email address and cell phone numbers with consent to use text messaging), 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[6]), made payable to the respondent, is attached to the front of each questionnaire. Reminder letters and postcards are sent at fixed intervals thereafter; telephone callers attempt to gather up-to-date location information for those respondents with whom we are trying to make contact; and, finally, those whom we can contact but who have not responded receive a prompting phone call from the Survey Research Center's phone interviewing facility in Ann Arbor, Michigan. If requested by the respondent, 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 request is honored.

### Web-Based Follow-Up Procedures

The 2018 data collections among young adults (19-30) marked the first use of *web-based* surveys with our panel participants, and 2019 was the second year. In both 2018 and 2019, one random half of the sample received our typical mail surveys and the other half received the "web-push" condition (i.e., first pushed toward web-based surveys and then given the opportunity to complete paper surveys). This splitting of the sample allows us to calibrate our historical and developmental trends. For 2020 data collections, we are using web-push data collection with *all* young adults, and provide paper surveys only on request and to non-respondents; in addition, for 2020 data collections, respondents aged 35 to 60 are receiving the same random-half split of survey mode. Because it is possible that the data collection procedures can affect responses, we have been deliberate in this process of moving to web-based data collections. For the past several years, we have been conducting experiments with extra panel samples of young adults, examining feasibility and comparing our typical mail-only surveys to other designs pushing web-based surveys. Findings suggest that there are some condition and mode differences in responses, as detailed in our recent publications[7]; the paper published in 2020 assesses the survey mode effect based on 2018 MTF young adults, showing that once sociodemographic characteristics are controlled, there are very few differences in prevalence estimates of substance use by survey mode. In the 2018 and 2019 data presented in this volume, there are only a few significant differences between those randomly assigned to mail-only and web-push conditions in the prevalence estimates of the many substances we cover. Thus, as we did in last year's volume covering 2018 data, we combine the estimates across the two conditions in this volume covering 2019 data; we use a weighted average to take into account sample size of each condition due to differential response rates as noted below and note when there are significant differences.

With the web-push condition, we have kept the procedures as similar as possible to our typical mail-based procedures, following many of the same steps summarized above for the mail-based procedures, including initial contact, incentives, mailing of newsletters, and follow-up contact with non-respondents. There are important differences to note. In the web-push procedures, respondents were provided information to respond online (i.e., they were each given a link and PIN to access

[6] 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.

[7] Patrick, M. E., Couper, M. P., Jang, B. J., Laetz, V., Schulenberg, J. E., O'Malley, P. M., Bachman, J., & Johnston, L. D. (conditionally accepted). Building on a sequential mixed-mode research design in the Monitoring the Future Study. Patrick, M. E., Couper, M. P., Parks, M. J., Laetz, V., & Schulenberg, J. E. (2020). Comparison of a web-push survey research protocol with a mailed paper and pencil protocol in the Monitoring the Future panel survey. *Addiction*.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. Patrick, M. E., Couper, M. P., Jang, B., Laetz, V. B., Schulenberg, J., Johnston, L. D., Bachman, J., O'Malley, P. M. (2019). Two-year follow-up of the sequential mixed-mode experiment in the U.S. National monitoring the future study. *Survey Practice, 12*(1).

their survey) and then they were later offered a paper survey if they did not respond to the web survey. In addition to initial mail contact, respondents were also contacted by email and text message (for those who provided email and cellphone contact information in the 12th grade surveys, along with their permission to contact them by text). We ensure confidentiality of web-based responses with data being immediately encrypted. By design, respondents can pause their web surveys and then easily get back into them; we send email reminders to non-respondents and respondents who have only partially completed the survey. The web-based surveys are optimized for a variety of operating systems and devices, including computers, tablets, and smart phones.

As is typical in web-push procedures, respondents randomly assigned to this condition were also provided access to paper surveys; those who did not respond within a month of initial contact were automatically sent paper surveys. In the process of telephoning non-respondents, paper surveys were offered in addition to the survey login information. We found that 13% of respondents in the web-push condition in 2019 completed paper surveys instead of web-based surveys (20% in 2018); these respondents were included in the web-push condition in our tests for differences by assigned survey condition reported in this Volume, as appropriate given the definition of web-push procedures as well as differences in respondent contact between the two conditions. In supplemental analyses not shown in this Volume, we also tested for differences by response mode (rather than assigned condition). Findings were similar to what we report in this Volume; in general, there are very few significant differences in prevalence estimates based on survey procedures.

### 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 sent the same form of the questionnaire that they first received in 12th grade so that changes over time in their form-specific 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 beginning with the follow-up surveys of that same class. 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. The content and ordering of items are identical between the typical mail surveys and the new web-based surveys for the 19-30 year olds, although the web-based surveys have more efficient skip patterns. As indicated above, the web-surveys have been optimized for use on multiple platforms, including smart phones and other devices. 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 (on paper only through 2019). Much of the questionnaire content is maintained but streamlined with a focus on the major family and work issues relevant to respondents ages 35, 40, 45, ,50, 55, and 60; we have also added measures of substance use disorders and a number of health outcomes.

## REPRESENTATIVENESS AND SAMPLE ACCURACY OF INITIAL SCHOOL-BASED DATA

### School Participation

In this section, we consider the representativeness and sample accuracy of data collected among 8th, 10th, and 12th graders. Our focus in the current volume is on 12th graders (because they are the source of the panels); however, covered material also includes 8th and 10th graders given the interconnections of procedures. 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 2019, 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 sampling 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 indices 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 remaining 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 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 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 directly 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

[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.

are computed based on students in the half-sample of schools that participated in both 2018 and 2019, then based on the students in the half-sample that participated in both 2017 and 2018, 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 surveyed each year, 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 2019, completed questionnaires were obtained from 89% of all sampled students in 8th grade, 86% in 10th grade, and 80% in 12th grade (see Table 3-1 for student 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 *Volume I* 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 in *Volume I* for lifetime, annual, 30-day, and daily prevalence of use for 8th, 10th, and 12th grade students. Confidence intervals for lifetime prevalence for 12th graders average less than ±1.4% across a variety of drug classes. That is, if we took a large number of samples of this size from the universe of all schools containing 12th graders in the coterminous United States, 95 times out of 100 the sample would yield a result that would be less than 1.4 percentage points divergent from the result we would get from a comparable massive survey of all 12th graders in all schools. This is a high level of sampling accuracy, permitting detection of fairly small changes from one year to the next. Confidence intervals for the other prevalence periods (last 12 months, last 30 days, and current daily use) are generally smaller than those for lifetime use. In general, confidence intervals for 8th and 10th graders are very similar to those observed for 12th graders. Some drugs (smokeless tobacco, crack cocaine, PCP, and others, as indicated in the footnotes to the tables) 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 I* 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 ATTRITION AND RETENTION

We discuss here the nature of the panel attrition problem generally, the response rates for MTF panel surveys in recent years, and evidence relevant to assessing the impact of attrition on the study's research results.

### The Problem of Panel Attrition

Virtually all longitudinal studies – including MTF – experience attrition, which is often differential with respect to health risks including substance use.[9] In addition, survey response rates in general have been declining in recent decades,[10] highlighting an important challenge in the conduct of all population-based research.

A vital feature of the MTF panel studies is the very low cost per respondent. There are many advantages to collecting panel data through low-cost surveys. Indeed, given the number of MTF follow-up questionnaires sent each year (roughly 19,000) across the U.S. and internationally, we have viewed low-cost mail and web surveys as our best cost-effective options. One disadvantage of data collection by surveys is that attrition rates tend to be higher than for data obtained with much more expensive methods, such as intensive personal tracking and face-to-face interviewing. There are a few large epidemiological/etiological surveys that have better retention rates, but their procedures are extremely expensive and not realistic for an ongoing large-scale effort like MTF. Our retention rates compare favorably with those of most longitudinal studies reported in the field, including interview studies. We are working to increase response rates (or at least stem the general response rate erosion mentioned above and below), and the results of our experiments with web-based data collections appear promising in terms of response rates and cost per respondent.[11] As

---

[9] Booker, C.L., Harding, S., & Benzeval, M. (2011). A systematic review of the effect of retention methods in population-based cohort studies. *BMC Public Health, 11*, 249; Brook, J.S., Saar, N.S., Zhang, C., & Brook, D.W. (2009). Psychosocial antecedents and adverse health consequences related to substance use. *American Journal of Public Health, 99*(3), 563-568; Galea, S., & Tracy, M. (2007). Participation rates in epidemiologic studies. *Annals of Epidemiology, 17*(9), 643-653; McCabe, S.E., & West, B.T. (2016). Selective nonresponse bias in population-based survey estimates of drug use behaviors in the United States. *Social Psychiatry & Psychiatric Epidemiology, 51*(1), 141-153; McGuigan, K. A., Ellickson, P. L., Hays, R. D., & Bell, R. M. (1997). Adjusting for attrition in school-based samples: Bias, precision, and cost trade-off of three methods. *Evaluation Review, 21,* 554–567.

[10] Dillman, D.A., Smyth, J.D., & Christian, L.M. (2009). *Internet, mail, and mixed mode surveys: The tailored design method* (3rd ed.). Hoboken, NJ: John Wiley & Sons; Groves, R. (2006). Nonresponse rates and nonresponse bias in household surveys. *Public Opinion Quarterly, 70,* 646–75; Groves, R.M., Dillman, D.A., Eltinge, J.L., & Little, R.J.A. (Eds.) (2002). *Survey nonresponse.* New York: Wiley. Kim, J., Gershenson, C., Glaser, P., & Smith, T.W. (2011). The polls – trends: Trends in surveys on surveys. *Public Opinion Quarterly, 75*(1), 165-191; Groves, R.M. (2006). Nonresponse rates and nonresponse bias in household surveys. *Public Opinion Quarterly, 70(5),* 646-675; Massey, D.S., & Tourangeau, R. (2013). The nonresponse challenge to surveys and statistics. *Annals of the American Academy of Political and Social Science*, 645, 1-236; Pew Research Center. (2012). Assessing the representativeness of public opinion surveys; Wechsler, H., Lee, J.E., Kuo, M., Seibring, M., Nelson, T.F., & Lee,
H. (2002). Trends in college binge drinking during a period of increased prevention efforts: Findings from 4 Harvard School of Public Health College Alcohol Study surveys: 1993–2001. *Journal of American College Health*, 50, 203–217.

[11] Patrick, M. E., Couper, M. P., Parks, M. J., Laetz, V., & Schulenberg, J. E. (2020). Comparison of a web-push survey research protocol with a mailed paper and pencil protocol in the Monitoring the Future panel survey. *Addiction.* · 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. Patrick, M. E., Couper, M. P., Jang, B., Laetz, V. B., Schulenberg, J., Johnston, L. D., Bachman, J., O'Malley, P. M. (2019). Two-year follow-up of the sequential mixed-mode experiment in the U.S. National monitoring the

mentioned above, in 2018 and 2019, we used web-push survey procedures with a random half of young adults, and our plan for the future is to move all follow-up data collections to web-push surveys (providing paper surveys as needed).

### Retention Rates

The MTF survey data on American college students – an important subgroup in the panel surveys – now encompass 40 years. We know about our respondents' actual college attendance only from those who are invited to and do complete follow-up questionnaires; however, we can use 12th grade questionnaire answers (i.e., college intentions/expectations and program of study) to predict college attendance with a high degree of accuracy. MTF's retention of 12th graders who identified themselves as "college-bound" remains reasonably good. Among those participants in high school who were targeted for follow-up from the classes of 2012-2018, *and* who reported planning to attend college and being enrolled in a college-prep curriculum in 2019, the follow-up retention rates were: 40% in the first follow-up, one to two years past high school (based on the classes of 2017-2018); 41% in the second follow-up, three to four years past high school (based on the classes of 2015-2016); and 45% in the third follow-up, five to six years past high school (based on the classes of 2013-2014). These differences reflect cohort effects, with most recent cohorts showing lower retention rates, and trend for all such research.

Retention rates in the biennial follow-ups within each cohort across modal ages 19–30 (corresponding to the first six follow-ups) decline with the length of the follow-up interval, of course. For the five surveys from 2015 to 2019, the response rate in the first follow-up (corresponding to one to two years past high school) averaged 35%; and for the second through sixth follow-ups (corresponding to 3-12 years past high school) response rates averaged 38% (our response rate is better for 3-12 years past high school than 1-2 years past high school in 2019 reflects that response rates typically decline with successive cohorts). We found a significant difference ($p<.001$) in response rates by survey condition combining across 19-30 year olds in 2019: For typical mail condition, the response rate was 37.8%, and for web-push condition, the response rate was 46.8% (note that these response rates are higher than the retention rates listed above for this age group because those young adults already lost to follow-up were not assigned to either condition and thus the denominator in these response rates are somewhat lower than those in retention rates indicated above). With the better response rates among those who were randomly assigned to web-push survey mode in 2019 (and also in 2018 as reported in last year's volume and in a recent article), we anticipate that transitioning fully to web-push surveys for the panel will improve our retention rates.

Among long-term respondents – those 35, 40, 45, 50, 55, and 60 years old – the retention rates are quite good, apparently due to cohort differences in their propensity to respond. Among respondents surveyed from 2015-2019, the average response rates for those age 35 (17 years past high school), age 40 (22 years past high school), age 45 (27 years past high school), age 50 (32 years past high school), and age 55 (37 years past high school) were 38%, 39%, 39%, 43%, and 51%, respectively. And for 60-year-olds, an age group surveyed for the first time in 2018, the average response rate for 2018-2019 was 54%. In sum, the response rates attained under the current design range from respectable to good, especially when the low-cost nature of the procedures, the very long time intervals involved, and the substantial length of the questionnaires are taken into account. More

future study. *Survey Practice, 12*(1).

importantly, the evidence concerning validity noted throughout this volume leaves us confident that the data resulting from these follow-up panels are reasonably accurate.

## The Impact of Panel Attrition on Research Results

An important purpose of the MTF panel study is to allow estimation of drug prevalence levels among U.S. high school graduates at various ages. Thus, we have always been concerned about making the appropriate adjustments to account for panel attrition. In essence, our standard adjustment process is a post-stratification procedure in which we reweight the data obtained from the follow-up samples in such a way that, once reweighted, the distribution of their *12th grade answers* on a given drug matches the original distribution of use observed for that drug based on all participating high school seniors in their graduating class. This procedure is carried out separately for cigarettes, alcohol, and marijuana, as well as other illicit drugs (combined). As expected, it produces prevalence estimates in the follow-up data that are somewhat higher than those uncorrected for attrition, indicating a positive association between drug use and panel attrition. However, the adjustments are relatively modest.

Attrition rates by levels of 12th grade substance use differ some, but less than one might expect. For example, based on analyses conducted some years ago for the classes of 1978–2008, among all respondents who had never used marijuana by 12th grade, an average of 74% participated in the first follow-up (as noted earlier, response rates in MTF and other studies have declined appreciably over time; thus the response rates based on the classes of 1978-2008 are substantially higher than the current rates). The proportion responding was somewhat lower among those who had used marijuana once or twice in the last 12 months (67%). This proportion decreased gradually with increasing levels of marijuana use in 12th grade; but even among those who used marijuana on 20 or more occasions in the last 30 days in 12th grade, 60% participated in the first follow-up. The corresponding participation rates for the same drug use strata at the fourth follow-up (i.e., at modal ages 25/26) were 64%, 57%, and 51%, respectively.[15]

Thus, even among those who were active heavy users of marijuana in high school, response rates at the fourth follow-up were 13 percentage points lower than among those who had never used marijuana by 12th grade. That is not to say that we assume all types of drug users remain in the panels at comparably high rates. We believe that people who become dependent on or addicted to illicit drugs such as opioids, heroin, or cocaine are less likely to be retained in reasonable proportions. That is why we are careful not to quantify or characterize these special segments of the population; but we note that they constitute very low proportions of the adult population.

As a validation of our panel data on drug use several years ago, we compared MTF prevalence estimates with those from the National Survey on Drug Use and Health (NSDUH); this survey provides the best available comparison data because it is also based on national samples and uses cross-sectional surveys that do not have panel attrition. Using the NSDUH data from 2013 (Substance Abuse and Mental Health Administration, 2014[12]), we compared the prevalence rates on a set of drugs – cigarettes, alcohol, marijuana, and cocaine – for which there was reasonable similarity in question wording across the two studies. As shown in Table 3-2, these comparisons showed a high degree of comparability in the prevalence estimates of the two studies,[13] particularly

[12] Substance Abuse and Mental Health Administration. (2014). Results from the 2013 National Survey on Drug Use and Health: Summary of National Findings and Detailed Tables.

[13] For more detail on these comparisons, see Chapter 3 in: Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Miech, R. A.

with the post- stratification procedure applied to the MTF data, as presented in this volume.

In addition, attrition in the MTF panel is not necessarily as great a problem as nonresponse is in a cross-sectional study. In the MTF panel we know a great deal about each of the follow-up non-respondents, including their prior substance use, based on the detailed questionnaires administered in 12th grade (and, for many, in subsequent years as well). Thus, adjustments can be made utilizing data that are highly informative about the missing individuals.

Finally, as is evident in the prevalence estimates and trends presented in this volume, substantial proportions of drug users remain in the MTF panels. Nonetheless, as mentioned above, we are unlikely to maintain large numbers of heavy drug users in our panels, suggesting that our estimates are conservative with respect to the adult population of U.S. high school graduates, even with post-stratification weighting.

### Effects on Relational Analyses

While differential attrition (uncorrected) may contribute to some bias in point estimates and other univariate statistics, a considerable amount of empirical research has shown that such attrition tends to have less influence on *associations* among variables.[14] With MTF samples, we have found that correlations among variables at base year are very similar across groups who remain in the longitudinal study and those who do not.[15] Thus, differential attrition may be of less concern in multivariable panel analyses focused on understanding the course, causes, and consequences of substance use. Still, as we summarized above, correcting for attrition can be important, and we continue to do so using these and other correction procedures (e.g., attrition weighting, data imputation, FIML) in our publications.

---

(2015). *Monitoring the Future national survey results on drug use, 1975-2014: Volume II, college students and adults ages 19-55*. Ann Arbor: Institute for Social Research, The University of Michigan

[14] Bachman, J. G., O'Malley, P. M., & Johnston, J. (1978). *Youth in Transition: Vol. 6. Adolescence to adulthood: A study of change and stability in the lives of young men.* Ann Arbor, MI: Institute for Social Research. Cordray, S., & Polk, K. (1983). The implications of respondent loss in panel studies of deviant behavior. *Journal of Research in Crime and Delinquency, 20*(2), 214–242. Galea, S., & Tracy, M. (2007). Participation rates in epidemiologic studies. *Annals of Epidemiology, 17*(9), 643-653. Goudy, W.J. (1976). Nonresponse effects on relationships between variables. *Public Opinion Quarterly, 40,* 360–369. Groves, R. (2006). Nonresponse rates and nonresponse bias in household surveys. *Public Opinion Quarterly, 70,* 646–75. Groves, R., & Peytcheva, E. (2008). The impact of nonresponse rates on nonresponse bias: A meta-analysis. *Public Opinion Quarterly, 72,* 167–89. Martikainen, P., Laaksonen, M., Piha, K., & Lallukka, T. (2007). Does survey non-response bias the association between occupational social class and health? *Scandinavian Journal of Public Health, 35*(2), 212–215. Nohr, E.A., & Olsen, J. (2013). Commentary: Epidemiologists have debated representativeness for more than 40 years — Has the time come to move on? *International Journal of Epidemiology, 42,* 1016–1017. Peytchev, A. (2013). Consequences of survey nonresponse. *Annals of the American Academy of Political and Social Science, 645*(1), 88–111. Van Loon, A.J.M., Tijhuis, M., Picavet, H.S.J., Surtees, P.G., & Ormel, J. (2003). Survey non-response in the Netherlands: Effects on prevalence estimates and associations. *Annals of Epidemiology, 13*(2), 105–110.

[15] Bryant, A. L., Schulenberg, J. E., Bachman, J. G., O'Malley, P. M., & Johnston, L. D. (2000). Understanding the links among school misbehavior, academic achievement, and cigarette use: A national panel study of adolescents. *Prevention Science, 1*(2), 71–87. 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 towards lower intercepts and steeper, ascending slopes. *Development and Psychopathology, 25*(2), 527–543. Merline, A.C., Jager, J., & Schulenberg, J.E. (2008). Adolescent risk factors for adult alcohol use and abuse: Stability and change of predictive value across early and middle adulthood. *Addiction, 103*(Suppl. 1), 84-99. Schulenberg, J. E., Bachman, J. G., O'Malley, P. M., & Johnston, L. D. (1994). High school educational success and subsequent substance use: A panel analysis following adolescents into young adulthood. *Journal of Health and Social Behavior, 35,* 45–62. Schulenberg, J.E., Merline, A.C., Johnston, L.D., O'Malley, P.M., Bachman, J.G., & Laetz, V.B. (2005). Trajectories of marijuana use during the transition to adulthood: The big picture based on national panel data. *Journal of Drug Issues, 35,* 255–279. 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.

## 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.[16]

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.[17] 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 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 concerning 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 7. 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 non-sensitive 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.[18] 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 are or were users.[19]

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.

---

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

[17] 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.

[18] 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.

[19] 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.

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

## Consistency and Measurement of Trends

MTF is designed to be sensitive to changes from one time period to another. A great strength of this study is that the measures and procedures have been standardized and applied consistently across many years. To the extent that any biases remain because of limits in school participation and/or respondent retention, 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 they should have very little effect on our measurement of trends. Even if panel retention rates decline, our ability to adjust for differential attrition based on what we know about those lost to attrition allows us to maintain consistency in the panel samples over time. 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* |
| 2018 | 110 | 106 | 106 | 28 | 21 | 22 | 138 | 127 | 128 | 393 | 14,836 | 15,144 | 14,502 | 44,482 | *89* | *86* | *81* |
| 2019 | 114 | 104 | 108 | 29 | 22 | 20 | 143 | 126 | 128 | 397 | 14,223 | 14,595 | 13,713 | 42,531 | *89* | *86* | *80* |

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

# TABLE 3-2
## Substance Use Among Ages 19-28, Based on 2013 Data from Monitoring the Future and The National Survey on Drug Use and Health

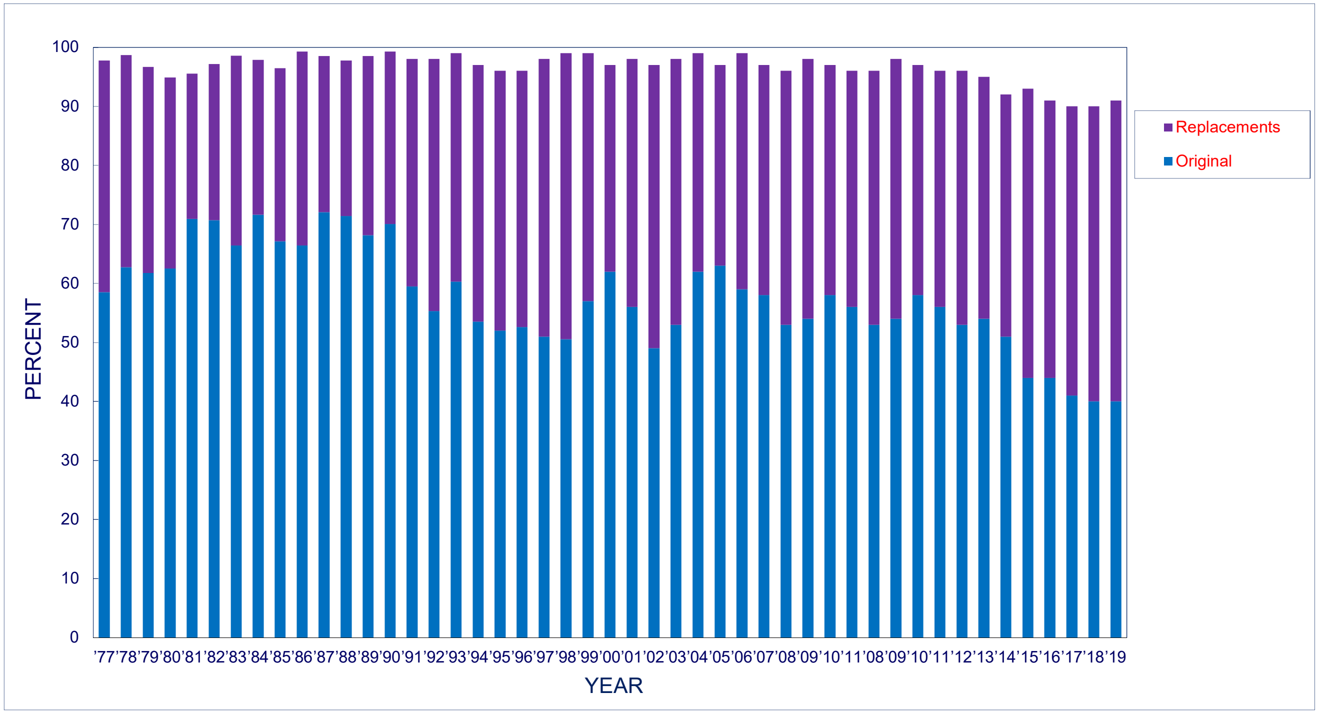
| | NSDUH | MTF (Selection Weight Only) | MTF (Post-Stratification Weight) |
|---|---|---|---|
| Marijuana (use in past month) | 17.9 | 16.9 | 19.1 |
| Cocaine (use in past year) | 4.7 | 3.5 | 3.9 |
| Alcohol (use in past month) | 65.0 | 67.7 | 68.7 |
| Cigarettes (use in past month) | 32.1 | 17.5 | 20.0 |

*Source.* The Monitoring the Future study, the University of Michigan and the National Survey on Drug Use and Health.

**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 | '08 | '09 | '10 | '11 | '12 | '13 | '14 | '15 | '16 | '17 | '18 | '19 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Original | 53 | 54 | 58 | 56 | 53 | 54 | 58 | 56 | 53 | 54 | 51 | 44 | 44 | 41 | 40 | 40 |
| Replacements | 43 | 44 | 39 | 40 | 43 | 44 | 39 | 40 | 43 | 41 | 41 | 49 | 47 | 49 | 50 | 51 |
| Total | 96 | 98 | 97 | 96 | 96 | 98 | 97 | 96 | 96 | 95 | 92 | 93 | 91 | 90 | 90 | 91 |

*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 estimates 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 often generated through household survey interviews of cross-sections of the general population. In the present study, our estimates come from self-reported 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 follow-up panels through young adulthood; one subpanel is surveyed one year after graduation and every two years after that 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]

In 2019, representative samples of the classes of 2006 through 2018—modal ages 19 to 30—were surveyed using the same set of standard young adult survey instruments at each age. (There are six

---

[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., 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.

[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.

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 19-30 year old age range as "young adults" in this chapter.

As discussed in Chapter 3, for 2019 data collections of 19-30 year olds, MTF continued the transition from our typical mail-based surveys to web-based surveys that we began with 2018 data collections. To test for survey mode differences, we randomly assigned half of the young adult respondents in 2018 and 2019 to the typical mail survey condition and half to the new web-push condition (as described in Chapter 3). We found few significant differences in estimates of prevalence of drug use between the two conditions in both 2018 and 2019; thus, we combined data from the two conditions in a weighted average in this chapter (as we did in the previous volume for 2018 data). We note exceptions when estimates differed significantly between conditions in the text and tables. At the end of the first section below on prevalence of substance use, we summarize the few significant differences in prevalence estimates across the two conditions.

To build on the 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 through age 60. 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 2019 follow-up surveys characterize the population of high school graduates of modal ages 19-30, 35, 40, 45, 50, 55, and 60. In 2019, we conducted our second age 60 follow-up survey (senior class of 1976); this volume provides the second examination of age 60 data. As discussed in Chapter 1, the high school dropout segment, between 6% and 15% across survey years, is missing from the senior year surveys and all of the follow-up surveys as well (as noted in Chapters 1 and 3, the high school dropout rate has declined for the younger cohorts). 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 4-22 contain 2019 *prevalence* data by age, corresponding to respondents ages 19-30 (for total and in two-year age groups), as well as 35, 40, 45, 50, 55, and 60 year olds. For comparison purposes, data are also included for the 2019 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 60. 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 approximate weighted sample sizes are 4,200 for 19-30 year olds, and 700-800 per two year age group (see Tables 4-1 through 4-5). The data for ages 35, 40, 45, 50, 55, and 60 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, 55, and 60 year olds. In 2019 the paired half-samples came from the high school graduating classes of 2002, 1997, 1992, 1987, 1982, and 1977, respectively. The respective weighted numbers of cases were 714, 702, 792, 736, 795, and 880. (Actual unweighted numbers are somewhat higher because those from the oversampled drug-using stratum in high school, 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 weighting 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, 55, and 60 year olds, two 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., 2019) 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* <u>*two*</u> *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 estimates are reported only for ages 21 and up; when considering the total age 19-30 sample, lifetime prevalence is also unadjusted.) 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 revised 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 previously, the cross-time stability of self-reported usage measures, taking into account both prevalence and frequency of self-reported use, is very high.[5] Note that the

[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.

divergence between the two lifetime prevalence estimates is greatest for the psychotherapeutic drugs used without a doctor's orders (including amphetamines, sedatives (barbiturates), 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.

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 *annual and 30-day* (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

Figures 4-1 through 4-22 provide 2019 prevalence estmiates for each class of drugs, covering respondents ages 18 to 60. Tables 4-1 through 4-5 provide 2019 prevalence estimates for 19-30 year olds, for the total sample and by sociodemographic characteristics.

This section discusses differences in 2019 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 at a particular point in time, 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. [7]

To begin this summary, we note three general age-related trends in 2019 prevalence; these trends were evident as they have been in our previous annual findings. ***First***, for nearly all illicit drugs considered across ages 18 to 60, *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

[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-167). Washington, DC: National Institute on Drug Abuse. Accessed at https://archives.drugabuse.gov/nida-research-monograph-index

[7] See 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.

from the highest drug using cohorts in the life of the study so far). The high levels of lifetime use among adults at age 50-60 in 2019 were especially noteworthy, with adjusted lifetime prevalence of ever using *any illicit drug* being 86-91% for 50-60 year olds in 2019. ***Second***, *annual and 30-day* illicit drug use in 2019 were highest among those in their early 20s for nearly all drugs, and then lower in subsequent age groups through age 60. Regarding marijuana in particular, annual and 30-day use were highest among 21-22 year olds (45% and 30%, respectively), with both declining mostly linearly with age to 14% and 9%, respectively, at age 60. ***Third***, these age trends of annual and 30-day use did not generally apply for alcohol and tobacco use in 2019, with most age patterns being either rather flat across age or showing increases with age. An important exception is binge drinking (five or more drinks in a row at least once in last two weeks), which was highest at age 25/26 in 2019 at 38% and then progressively lower across age groups to 18% among 60 year olds. Details of and exceptions to these general age-related trends are provided below. As we note, age-related trends likely reflect, to at least some extent, both cohort effects and secular trends.[8]

- The *adjusted lifetime prevalence* figures are most striking for today's 60 year olds (the high school class of 1977), who were passing through adolescence near the peak of the 1970s drug epidemic. Over nine out of ten (91%) reported trying ***an illicit drug*** (lifetime prevalence, adjusted), leaving only 9% who reported never having done so (Figure 4-1). Staying with the adjusted lifetime figures, more than four out of five 60 year olds (84%) said they had tried ***marijuana*** (Figure 4-3), and more than three quarters (77%) 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 50 and 55 year olds was 86% in 2019; moving down the age spectrum, prevalence for 35-45 year olds was 75-80% in 2019. 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* for adults in a growing number of states.

- In 2019, almost half (47%) of the high school seniors reported trying at least one illicit drug in their lifetime, typically marijuana (44%) as summarized below. Lifetime prevalence figures tend to be higher for those in their 20s than at earlier ages, suggesting that initiation of some drugs continues for many youth through their 20s. Among 29-30 year olds adjusted lifetime prevalence reached 78% for ***any illicit drug***, 72% for ***marijuana***, 53% for ***any illicit drug other than marijuana***, and 20% for ***cocaine***. The 29-30 year olds graduated from high school in 2007 and 2008, long after the peak of the 1970s drug epidemic and after the peak of the relapse phase in the epidemic during the 1990s; even in these relatively low drug-using cohorts, about one fifth (22%) report *never* having tried an illegal drug.

- As summarized below, despite the higher lifetime prevalence levels of illicit drugs among older age groups, these older groups generally showed *annual* or *30-day* prevalence levels

[8] See for example: Patrick, M. E., Terry-McElrath, Y. M., Lanza, S. T., Jager, J., Schulenberg, J. E., & O'Malley, P. M. (2019). Shifting age of peak binge drinking prevalence: Historical changes in normative trajectories among young adults aged 18 to 30. *Alcoholism: Clinical and Experimental Research, 43,* 287-298.

that are typically considerably lower than those of today's 12th graders and young adults. This suggests 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 30-day 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, ***binge drinking***, ***marijuana*** use, ***cocaine*** use, and most likely just about all of the other illicit drugs as well.[9]

- For use of ***any illicit drug***, *annual* prevalence in 2019 was 44% among 19-30 year olds combined (Table 4-1), peaking among 21-22 year olds (49%); it was lowest among the older age groups, ranging between 19% and 30% among 35-60 year olds (Figure 4-1). Thirty-day prevalence was 29% among 19-30 year olds combined and highest among 21-22 year olds (34%); it was lower among the older age groups (12% to 20%). Thus, the annual and 30-day use of any illicit drugs in 2019 was highest among 21-22 year olds.

- *Lifetime* prevalence for ***marijuana*** (Figure 4-3) in 2019 generally increased with age through the 20s and through middle adulthood, with adjusted lifetime prevalence reaching 72% among 29-30 year olds and 76-84% among 50-60 year olds. But, against the general pattern of increasing lifetime prevalence with age, prevalence was level or even slightly lower among 45 year olds (68%). This pattern of lifetime use leveling or even being lower among 45 year olds was also true for some other illicit drugs (cocaine, hallucinogens) and particularly psychotherapeutic drugs used without medical supervision (amphetamines, sedatives [barbiturates], tranquilizers, narcotics other than heroin); as summarized below, this relative dip in 2019 of annual prevalence of various illicit drugs sometimes pertained to adjacent age groups (ages 40 or 50) as well. The 45 year olds graduated from high school in 1992 when prevalence of marijuana and other drugs was at or near historic lows across the past four decades, thus suggesting a cohort effect.

- *Annual* prevalence for ***marijuana*** in 2019 was 40% for 19-30 year olds combined (Table 4-1), and highest at ages 21-22 (45%); it generally declined with age in a step-wise manner: it was 36-41% among 23-30 year olds, 26% among 35 and 40 year olds, 16-18% among

---

[9] See MTF website for examples including: 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; f) Jang, B., Patrick, M. E., & Schuler, M. S. (2018). Substance use behaviors and the timing of family formation during young adulthood. *Journal of Family Issues, 39*, 1396-1418; and Jang, B., Schuler, M. S., Evans-Polce, R. J., Patrick, M. E. (2018). 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, 79*, 567-577.

45-55 year olds, and 14% among 60 year olds (Figure 4-3). A similar age-group pattern held for *30-day* prevalence. It was 26% for ages 19-30 combined and highest for 21-22 year olds at 31%; it declined to 25-26% among 23-30 year olds, 16% among 35 and 40 year olds, 10%-11% among 45-55 year olds, and 9% among 60 year olds. As is evident in Figure 4-3 comparing annual and 30-day prevalence with lifetime prevalence, greater proportions—usually much greater proportions—of the older cohorts have discontinued use. Nonetheless, in 2019, about one-in-ten 45-60 year olds were current users of marijuana (i.e., they used at least once in the 30-days prior to the survey).

- Current ***daily marijuana*** use (defined as using on 20 or more occasions in the past 30 days) in 2019 was 9% among 19-30 year olds combined (Table 4-1), indicating that almost one-in-ten young adults were daily or near-daily marijuana users. Prevalence of daily marijuana use showed some age differences (see Figure 4-3 in this chapter as well as in Figure 5-3c in Chapter 5), standing at 6% at age 18, 8% at age 19-20, 11% at age 21-22, 10% at ages 23-28, 8% at age 29-30, 5-6% at ages 35 and 40, and 2-3% at ages 45-60. This suggests that many respondents who were daily users at some point in their teenage and young adult years are no longer daily users in middle to later adulthood.

- In 2019, questions about ***vaping marijuana*** were included in four of the six young adult surveys and in all age 35-60 surveys. In 2019, vaping marijuana was most common among those in their early 20s, and much more common among 19-30 year olds than among 35-60 year olds. *Lifetime* prevalence of vaping marijuana was 28%[10] among 19-30 year olds overall in 2019; across the age groups, it was 28% at ages 19-20, 31% at ages 21-24, 27% at ages 25-26, 23-24% at ages 27-30 , 10-13% at ages 35-40, and 4-6% at ages 45-60 (Table 4-2, Figure 4-21). *Annual* prevalence was 22%[11] among 19-30 year olds overall; for the young adult age groups, it was 23-25% at ages 19-24, 18-21% at ages 25-30, 9-11% at ages 35-40, and 4-5% at ages 45-60 (Table 4-3, Figure 4-21). *Thirty-day* prevalence of vaping marijuana in 2019 was 13% among 19-30 year olds overall; for the young adult age groups it was 14-15% at ages 19-22, 11-12% at ages 23-28, 14% at ages 29-30, 6-7% at ages 35-40, and 2-3% at ages 45-60 (Table 4-4, Figure 4-21). Thus, in 2019, age-patterns in annual and 30-day prevalence of marijuana vaping were similar to the age-patterns for marijuana use in general, showing a peak in the early 20s, declining some through age 30, and then dropping step-wise to ages 35-40 and to ages 45-60. The recent rapid increase in vaping among adolescents[12] may well have generated cohort differences that are reflected in these age groups and may also appear in later age groups in the future. Trends (2017-2019) in vaping marijuana among young adults are presented in Chapter 5.

- ***Synthetic marijuana*** refers to a set of substances containing 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,

[10] As noted in Table 4-2, for the 2019 estimate of lifetime vaping marijuana for 19-30 year olds, there was a significant difference (p<.001) between the typical mail condition (23.4%) and new web-push condition (31.1%) of survey administration.
[11] As noted in Table 4-3, for the 2019 estimate of annual vaping marijuana for 19-30 year olds, there was a significant difference (p<.05) between the typical mail condition (19.6%) and new web-push condition (23.4%) of survey administration.
[12] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). *Monitoring the Future national survey results on drug use, 1975-2019: Volume I, Secondary school students*. Ann Arbor: Institute for Social Research, University of Michigan.

gas stations, on the Internet, and in other venues under various brand names like “spice” and “K-2.” Only 1.1% of young adults ages 19 to 30 years reported using synthetic marijuana in the last 12 months in 2019 (Table 4-3). Prevalence was 2.0% among 21-22 year olds, and then declined unevenly with age to 0.7% among 29-30 year olds (use is not asked of those over age 30). Clearly, synthetic marijuana is currently not a commonly used drug, especially beyond the early 20s.

- Adjusted prevalence estimates for *lifetime* use of ***any illicit drug other than marijuana*** (Figure 4-2) showed an appreciable rise across age groups in 2019, reaching 53% for the 29-30 year olds and 77% among 60 year olds (Figure 4-2). In other words, *more than three quarters of all 60 year olds* have tried some illicit drug other than marijuana, and *over half of today’s 29-30 year olds* have done so.

  In 2019, both *annual* and *past 30-day* use of any illicit other than marijuana was similarly high across ages 21-30 (Figure 4-2). Annual use was 19% among 19-30 year olds combined (Table 4-1). It rose with age from 13% among 19-20 year olds to 21% among 21-22 year olds, and then was fairly level through age 29-30 (19-21%). Thirty-day use was 8% among 19-30 year olds combined (Table 4-4); it rose across age groups from 5% at ages 19-20 to 10% at age 21-22, and was 8-9% for ages 23-30. Among those age 35 and older, annual prevalence declined from 13% at age 35 to 7% at age 60; 30-day prevalence was 6% for ages 35 and 40, and 4% for ages 45-60. As summarized below, a number of the individual drugs that comprise this general category show lower annual prevalence at higher ages, usually with the highest annual prevalence observed in the early- to mid-20s. This is particularly true for ***amphetamines***, ***cocaine, hallucinogens***, ***LSD*** specifically, ***hallucinogens other than LSD***, and ***MDMA (ecstasy, Molly)***. The falloff across age strata is not as great nor as consistent for ***sedatives*** (***barbiturates***), ***tranquilizers,*** and ***narcotics other than heroin***, as well as for very low prevalence substances including ***methamphetamine***, ***crystal methamphetamine*** (***ice***), ***heroin***, and ***inhalants.*** 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* prevalence in 2019 was between 22% and 32% for the 35-50 year olds. (Hallucinogens are not included in the age 55 or age 60 survey.) Adjusted lifetime prevalence was lower at younger ages, and was at 12% at age 21-22. *Annual* prevalence in 2019 was 5% among 19-30 year olds combined (Table 4-3), ranging 4-6% in this age group; it was 2% or less at the older ages (Figure 4-10).

- ***LSD*** (Figure 4-11) had a fairly limited *adjusted lifetime* prevalence among young adults in 2019, reaching a high of 14% among 27-28 year olds. *Annual* prevalence was 4% among 19-30 year olds combined (Table 4-3), and highest among 19-20 year olds at 5%, falling thereafter to 2-4% through age 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 2019 than LSD, reaching 21% by age 29-30. *Annual* prevalence was level at 3-4% across all age groups 19 to 30. Overall, among young adults aged 19-30, annual prevalence was similar for hallucinogens other than LSD (3.2%) and for LSD (3.4%) (Table 4-3). Use was not asked of those over age 30.

- ***Inhalants*** are not commonly used by adults. In 2019, *adjusted lifetime* prevalence increased across age strata, peaking at 13% among 27-28 year olds (Figure 4-13). *Annual* prevalence was 1-2% across young adulthood, showing little change with age; *30-day* prevalence was already quite low by age 18 and did not have much more room to decline, ranging between 0% and 1% in young adulthood. Clearly, 30-day 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 was 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 31% at age 29-30 and to 54% at age 60 in 2019 (Figure 4-4). This increase with age reflects in part the addition of new users who initiated use in adulthood, but also reflects some cohort differences carried over from high school. Those aged 45 in 2019 had relatively lower lifetime amphetamine use (32%), reflecting that these respondents graduated from high school in the early 1990s when prevalence was at or near historic lows across the past four decades; in addition, adjusted lifetime amphetamine use was relatively low for 40 year olds in 2019 (31%), likely reflecting cohort effects, with this cohort experiencing adolescence (in the early 1990s) when amphetamine use was still relatively low (e.g., see Figure 5-13). 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. It was 6.9% for those age 19-30 combined, peaking at 8.8% at age 21-22 and declining to 6.6% at age 29-30 and to 1% by age 60. *Thirty-day* prevalence was 2.4% for 19-30 year olds overall (Table 4-3), ranging from 2% to 3% in this age group; it was 0-4% among those aged 35-60. 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 0.1% and 2.4% for ages 19 to 30 in 2019 (Table 4-3). Use was not asked of those over age 30.

- ***Adderall***, an amphetamine stimulant also used in the treatment of ADHD, showed a substantially higher *annual* prevalence of nonmedical use in 2019 compared to Ritalin. It was 6.8% among 19-30 year olds combined; it was highest at 9.8% among 21-22 year olds and was 6.0-7.5% among 23-30 year olds[13] (Table 4-3). The higher prevalence among

[13] The prevalence of Adderall, a subclass of amphetamines, is asked on three of the six questionnaire forms, whereas the prevalence of amphetamines is asked on all six forms. The annual prevalence of Adderall is similar to the annual prevalence of amphetamines, reflecting that Adderall is a commonly used amphetamine. In the two cases where annual prevalence of Adderall slightly exceeds the annual prevalence of amphetamines – for 21-22 and 23-24 year olds – this is likely a matter of random sample variation due to relatively small age-specific sample sizes.

those in their early 20s is consistent with the interpretation that initially Ritalin and perhaps now Adderall are sometimes used by college students because they believe it will enhance their academic performance. Use was not asked of those over age 30.

- 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 2019 *adjusted lifetime* use increased across age strata, from 3% for 21-22 year olds to 5% for 29-30 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 0.4-0.7% for ages 19-30 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 2019, *adjusted lifetime* prevalence was highest at 3% among those age 29-30. Among the 19-30 year old respondents combined, only 0.6% reported any use in the prior year, similar to the 0.6% reported by 12th graders (Table 4-3 and Figure 4-6).

- Questions regarding ***bath salts*** were included in the MTF questionnaires for young adults in 2012 through 2018. Fortunately, the estimates of use of these dangerous over-the-counter stimulants containing cathinones, which are intended to mimic the effects of amphetamines, became quite low by 2018 (*annual* prevalence of 0.6% among 12th graders and 0.2% among 19-30 year olds). Given the low estimates, questions about bath salts were removed in 2019.

- Nonmedical use of ***sedatives*** (***barbiturates***) showed *adjusted lifetime* prevalence estimates in 2019 that rose fairly linearly from age 21-22 (6%) through age 40 (25%), then showing a relative dip at ages 45 (18%) and 50 (20%) before rising to a peak at age 60 (35%) (Figure 4-14). As discussed above, this likely reflects a cohort effect with these cohorts experiencing adolescence and early adulthood in the early 1990s when substance use was relatively low. *Annual* use was 2.1% among 19-30 year olds combined (Table 4-1) and was quite level across all age groups from 18 to 60 at 2-3%. *Thirty-day* use was 0-1% across all age groups. It is noteworthy that because of the substantial long-term decline in sedative (barbiturate) use over the life of MTF, the 60 year olds had by far the highest adjusted lifetime prevalence (35%); but they were not any more likely to be currently using than the younger age groups.[14]

- Nonmedical use of ***tranquilizers*** (Figure 4-16) shows a similar picture to that for sedatives (barbiturates), with a general increase across age-bands in *adjusted lifetime* prevalence through age 35 (29%), with a slight dip among those age 45 (24%), reflecting a likely

[14] 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.

cohort effect as discussed above. Those aged 50, 55, and 60 again showed higher, indeed the highest, levels of adjusted lifetime prevalence (32%, 37%, and 43% respectively). *Annual* prevalence of nonmedical tranquilizer use was 3.7% among 19-30 year olds combined (Table 4-1) and was similar across all age groups, ranging between 2% and 5% from age 18 through age 60. 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 2019 from 8% for those age 21-22 to 25% for those age 29-30; it was 33-35% for ages 35-60, except being 30% at age 45 (reflecting the relative dip discussed above for this age group in 2019). *Annual* prevalence of narcotics other than heroin was 2.9% among 19-30 year olds combined, and increased slightly across the 20s from 1.4% at age 19-20 to 4.4% at age 29-30 (Table 4-3; Figure 4-15). Among older adults, it was level from ages 35 to 60 (2-4%). *Thirty-day* prevalence showed no difference across the age bands, with estimates at 0-1% in all age categories.

- *Adjusted lifetime* prevalence of ***cocaine*** in 2019 was lowest among 21-22 year olds (12%) and generally increased through age 40 (27%); it then dropped at age 45 (22%), continued to increase at age 50 (32%) and 55 (41%), and peaked at age 60 (47%) (Figure 4-7). This uneven age progression is indicative of a cohort effect, with the 45 year olds being from a lower drug using 12th grade cohort as discussed above (also, as discussed in Chapter 5, there have been clear cohort effects in cocaine use over the years). *Annual* prevalence in 2019 was 6.5% for ages 19-30 combined[15], peaking at 7.4-7.5% at ages 21-26; annual use was only 1-4% in the age groups beyond age 30. *Thirty-day* use was 2.2% for ages 19-30 combined, ranging from 1.2% to 3.2% among young adults. Very few (0-2%) of the 35-60 year olds today are past-30-day users of cocaine, despite the fact that so many of them used it at least once in their lifetime. Among 60 year olds, nearly half used cocaine at some time in their life but only about 1% reported using in the past year and close to 0% reported using it in the past 30 days. In other words, noncontinuation rates for cocaine are now extremely high among adults, particularly older adults.

- In 2019, *adjusted lifetime* prevalence of ***crack*** use (Figure 4-8) was much lower than general cocaine use. It was 1% among 21-24 year olds and then increased with age and peaked at 11% at age 29-30 (Note that due to very low prevalence of annual and 30-day use of crack cocaine, we deleted crack cocaine items in 2019 among adults age 35 and older; 2018 adjusted lifetime prevalence was 10-13% among 50-60 year olds, 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.) Among 19-30 year olds, *annual prevalence* was 0.3% and *30-day* prevalence was 0.1%.

- In 2019, among 19-30 year olds combined, 14.2% said they have tried ***MDMA*** (***ecstasy, Molly***) (*adjusted lifetime* prevalence), compared to 3% of 12th graders (Figure 4-17). Across the 20s, adjusted lifetime MDMA prevalence increased unevenly with age, peaking at 20% among 29-30 year olds (Figure 4-17). *Annual* prevalence was 3.6% for ages 19-30 combined, ranging from 2.2% to 5.0% (Table 4-3). *Thirty-day* MDMA use was at 1.6% or

[15] As noted in Table 4-3, for the 2019 estimate of annual cocaine prevalence for 19-30 year olds, there was a significant difference (p<.001) between the typical mail condition (6.5%) and new web-push condition (4.0%) of survey administration.

lower for all age strata between 18 and 30 years in 2019. 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. *Annual* prevalence for ages 19 through 30 combined is very low; it stood at 0.5% in 2019 (Table 4-3). *Thirty-day* use was 1% or less across ages 18-30. Older respondents are not asked the question.

- In 2019, all ***alcohol*** prevalence estimates were considerably higher among young adults than among 12th graders, and they generally increased after high school, through at least the mid-20s (Figures 4-19a and 4-19b). *Adjusted lifetime* prevalence was 86% among 21-22 year olds and ranged from 92% to 94% among 23-30 year olds; it changed very little after age 30, due in large part to a "ceiling effect" (prevalence was 97% to 99% among those age 35 to 60). *Annual* use was 52% at age 18 and 82% at ages 19-30 combined (Table 4-3); it rose sharply with age, reaching 88% at age 25-26; it was fairly level from age 27-28 through age 50 (83-88%), and then declined to 77% among 60 year olds. *Thirty-day* use was 29% at age 18 and 68% at ages 19-30 combined (Table 4-3); it rose sharply with age, peaking at 75% among 25-26 year olds, was fairly level from age 27-28 to age 50 (71-74%), and then declined through age 60 (64%). Current ***daily drinking*** (Figure 4-19b) increased gradually and substantially across the age strata, peaking at 12% at age 60.

  ***Binge drinking*** (i.e., having five or more drinks in a row on at least one occasion in the two weeks prior to the survey) was 32%[16] for young adults age 19-30 combined (Table 4-5) and showed considerable differences by age (Figure 4-19b). Prevalence was 14% at age 18 and 21% among those ages 19-20. It was highest at age 25-26 at 38% and ranged from 32% to 33% among 27-30 year olds; it was highest between ages 21-26 (34%-38%). It declined to 23% at age 40 where it remained fairly level through age 55 (22%), and then dropped to 18% at age 60. We have interpreted this increasing-then-decreasing relationship with age as reflecting an age effect, not a cohort effect, because it seems generally 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 is linked to increases binge drinking) and marriage (which is linked to decreases).[17] Clearly, binge

---

[16] As noted in Table 4-5, for the 2019 estimate of binge drinking for 19-30 year olds combined, there was a significant difference (p<.05) between the typical mail condition (30.6%) and new web-push condition (33.8%) of survey administration.

[17] 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; c) Patrick, M. E., Terry-McElrath, Y. M., Lanza, S. T., Jager, J., Schulenberg, J. E., & O'Malley, P. M. (2019). Shifting age of peak binge drinking prevalence: Historical changes in normative trajectories among young adults aged 18 to 30. *Alcoholism: Clinical and Experimental Research, 43,* 287-298.

drinking is most popular among people in their twenties and falls off after that. Still, among those age 40-55, almost one-fourth reported binge drinking in 2019.

Questions regarding ***high-intensity drinking*** (also referred to as extreme binge drinking)[18,19,20,21] were 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. In 2019, the "10 or more" item was on five of six questionnaire forms among young adults, and the "15 or more" item was on only one form.[22] Among all young adults 19-30 (Table 4-5), prevalence of having 10 or more drinks on at least one occasion in the two weeks prior to the survey was 12% in 2019; it was 7.6% at ages 19-20, 14% at ages 21-22, 11-13% at ages 23-28, and 14% 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 1.9%, ranging from 0.0% to 3.4% among ages 19 to 29-30. 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 4-20). In 2019 ***30-day (current) smoking*** prevalence was lowest among 12th graders (6%). Among 19-30 year olds combined, it was 12%[23], being highest among 27-28 year olds (14%) and 10-13% among other young adults. Among those age 35-60, it was level, ranging from 11% to 13%. Among 18-30 year olds, the prevalence of ***daily smoking*** was 2% among 18 year olds and 6.5%[24] among 19-30 year olds combined, showing an increase across the ages peaking at 8.4% among 25-26 year olds; among those aged 35-60, it was 9-11%. At older ages, a rising proportion past-30-day smokers 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 60 only about one-third 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 only 1% among those age 18 and generally increased with age across young adulthood to 5% at age 29-30; it was 5-7% among 35-50 year olds, and highest among 55-60 year olds (8-9%). The *proportions* of current smokers who smoked a half-pack or more per day also were higher among older respondents in 2019: about one sixth among 18 year olds (1% smoking a half-pack or more divided by 6% who are 30-day smokers), about two fifths among 29-30 year olds (5% smoking a half-pack or more divided by 12% who are 30-day smokers), and three

[18] 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.

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

[20] 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.

[21] 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.

[22] Because this measure is 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.

[23] As noted in Table 4-4, for the 2019 estimate of 30-day cigarette prevalence for 19-30 year olds, there was a significant difference (p<.001) between the typical mail mode (9.9%) and new web-push mode (13.3%) of survey administration.

[24] As noted in Table 4-5, for the 2019 estimate of daily cigarette use for 19-30 year olds, there was a significant difference (p<.05) between the typical mail mode (5.5%) and new web-push mode (7.2%) of survey administration.

fourths at age 60 (9% smoking a half-pack or more divided by 12% 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 4-20. It appears highly likely that cohort differences in ever initiating smoking drive this pattern of cross-age smoking prevalence.

- Past *30-day* prevalence of ***smokeless tobacco*** use (asked in one of the six questionnaire forms, so estimates tend to vary unsystematically) stood at 7.0% among all young adults in 2019 (most of it by males, as will be discussed below). *Daily* prevalence was 2.8% among all young adults, with the highest levels observed among 29-30 year olds (9.0%) (Tables 4-4 and 4-5).

- In 2019, we included the questions about ***vaping nicotine*** on four of the survey forms for young adults and on all forms for ages 35-60. As shown in Figure 4-22, vaping nicotine is was most common in 2019 among ages 18-22, then dropped with age through age 60. In 2019, *lifetime* prevalence of vaping nicotine was 35%[25] among 19-30 year olds overall, with it being highest for 21-22 year olds (45%) and declining across the age groups (Table 4-2, Figure 4-22) to 6% at age 60. *Annual* prevalence was 24%[26] among 19-30 year olds overall, with it being highest among 18-22 year olds (32-35%) and declining across age groups to 3% at age 60 (Table 4-3, Figure 4-22). *Thirty-day* prevalence was 14%[27] among 19-30 year olds overall, and highest among 18-20 year olds (22-25%) and declining across age groups to 2% at age 60 (Table 4-4). The recent rapid increase in vaping nicotine among adolescents[28] may well have generated cohort differences that are reflected in these age groups and may also be related to future increases in later age groups. It remains an open question whether nicotine vaping will continue to fall off with advancing age or whether it will remain primarily at levels set in young adulthood, a pattern seen for cigarette use. Trends (2017-2019) in vaping nicotine among young adults are presented in Chapter 5.

- Questions were added in 2011 on the consumption by young adults of tobacco in various specific forms other than cigarettes and vaping nicotine. Tripwire questions are used for these forms of tobacco use, providing only annual prevalence and frequency data (Table 4-3). Past-year prevalence of use in 2019 among 19-30 year olds was 9.3% for using a ***hookah*** to smoke tobacco, 10.7% for smoking ***small cigars***, 2.9% for using ***snus***, and only 0.2% for using ***dissolvable tobacco***. Among young adults, hookah smoking was highest among 19-20 year olds at 11.7% and declined steadily to 7.9% at ages 29 to 30. Annual prevalence of smoking small cigars was highest among 25-26 year olds at 13.7%, and 9-11% among other young adults. Annual prevalence of use of snus was highest among the

[25] As noted in Table 4-2, for the 2019 estimate of lifetime vaping nicotine, there was a significant difference ($p<.001$) between the typical mail condition (30.3%) and new web-push condition (38.9%) of survey administration.
[26] As noted in Table 4-3, for the 2019 estimate of annual vaping nicotine, there was a significant difference ($p<.01$) between the typical mail condition (20.7%) and new web-push condition (26.2%) of survey administration.
[27] As noted in Table 4-4, for the 2019 estimate of 30-day vaping nicotine, there was a significant difference ($p<.01$) between the typical mail condition (12.1%) and new web-push condition (15.7%) of survey administration.
[28] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). *Monitoring the Future national survey results on drug use, 1975-2019: Volume I, Secondary school students*. Ann Arbor: Institute for Social Research, University of Michigan.

23-26 year olds at 4% vs. 2-3% among the older age groups of young adults. Annual prevalence of dissolvable tobacco use was 1.0% or less among all young adult age groups.

## Selective Summary of 2019 Prevalence of Drug Use Across Age Groups

To summarize some key findings regarding 2019 prevalence, *annual* and *30-day* ***marijuana*** and the many forms of ***illicit drug use*** (especially ***amphetamines***, ***cocaine***, ***hallucinogens***, and ***MDMA***) tended to be highest among those in their early to mid-20s. In particular, *annual* and *30-day* ***marijuana*** use in 2019 was highest among 21-22 year olds (45% and 31%, respectively), with both declining mostly linearly with age to 14% and 9%, respectively, at age 60 (indicating that in 2019, about one-in-ten 45-60 year olds used marijuana at least once in the past 30 days). This age-curve held in 2019 for ***near-daily marijuana*** use: prevalence peaked at 11% among 21-22 year olds, leveled at 10% among 23-28 year olds, and dropped to 2-3% among 45-60 year olds. Thus, as of 2019, over one-in-ten 21-28 year olds was a daily or near-daily marijuana user (i.e., reported using on 20 or more occasions in the previous 30 days). *Annual* and *30-day* prevalence of ***vaping marijuana*** also tended to be highest in 2019 among those in their early to mid-20s (*annual* use peaked at 23-25% among ages 19-24; *30-day* use peaked at 14-15% among 19-22 year olds), and the same was true for ***vaping nicotine*** in 2019 (*annual use* peaked at 34% among 21-22 year olds; *30-day* use peaked at 22% among 19-20 year olds.

*Lifetime* prevalence in some of the older age groups (particularly those aged 55 and 60), who passed through adolescence and early adulthood in the heyday of the drug epidemic, showed remarkably high lifetime levels of illicit drug use—particularly when lifetime prevalence was corrected for the recanting (or forgetting) of previously reported use. This highlights the importance of cohort effects when considering age-related changes (for example, for some drugs, including ***amphetamines***, ***cocaine***, ***hallucinogens***, ***sedatives [barbiturates]***, ***tranquilizers***, and ***narcotics other than heroin***, there tended to be a lower *lifetime* prevalence in 2019 at age 45 compared to those younger and older, consistent with their lower prevalence as teens in the late 1980s and early 1990s). However, *30-day* use of most illicit drugs was substantially lower among those over age 30 than among those in their late teens to early 20s. For 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, especially cigarettes; in addition, we are less likely to maintain persistent heavy drug users, such as current heroin or crack cocaine users, in our sample. Thus, prevalence estimates are likely underestimates of the total population of adults, but on target for adults who are high school graduates.

As discussed in Chapter 3, 2019 was the second year that we compared survey administration conditions among young adults, with half being randomly assigned to our typical mail-based condition and half to the new web-push condition in order to gauge any impact of survey condition on the prevalence estimates (in 2018 we also made this comparison, which was on an independent sample from 2019 given our biennial assessments for young adults). As indicated in footnotes in text above and in footnotes to Tables 4-1 to 4-5, there were very few significant differences in prevalence estimates between the two conditions in 2019, and thus we combined estimates across the two conditions into an average (weighted for sample size per condition), as we did in 2018 reported in last year's volume. About 12% of the comparisons reported in this chapter for young adults across all drugs and intensities of use yielded significant differences in 2019 (about 10% in 2018 as well), and except for the vaping questions, there was little consistency in the significant differences across substances and drug use intensities. In addition, except for some similarity in significant differences for vaping across 2018 and 2019, there was very little overlap in significant differences between 2018 and 2019 (overlap only for binge drinking between 2018 and 2019).

To summarize 2019 survey-mode findings, significant differences were found for the following six comparisons in 2019: annual prevalence of cocaine (6.5% for typical mail condition, 4.0% for web-push condition); 30-day prevalence of cigarettes (10% for mail, 13% for web-push); two-week prevalence of binge drinking (31% for mail, 34% for web-push); and daily prevalence of cigarette use (5.5% for mail, 7.2% for web-push). For the vaping items, significant differences were found for nine of the twelve items in 2019 as follows: lifetime vaping marijuana (23% for typical mail condition, 31% for web-push condition), vaping nicotine (30% for mail, 39% for web-push), vaping just flavoring (17% for mail, 23% for web-push), and any vaping (37% for mail, 47% for web-push); annual vaping marijuana (20% for mail, 23% for web-push) and any vaping (30% for mail, 37% for web-push); and 30-day vaping nicotine (12% for mail, 16% for web-push) and any vaping (20% for mail, 24% for web-push). Thus, in 2019, the web-push survey condition yielded significantly higher estimates for vaping marijuana (lifetime and annual) and vaping nicotine (lifetime and 30-day); in 2018, significant survey mode differences were primarily for vaping nicotine, also showing higher estimates for web-push condition than for typical mail condition. Nonetheless, as we show in Chapter 5 when considering trends in vaping from 2017 (when all typical mail condition) through 2018 and 2019 (half mail, half web-push both years), the increases in vaping across the years held regardless of 2018 and 2019 survey condition. For additional information, see our published articles for earlier experiments on mail and web conditions among young adults,[29] and for the results of the 2018 comparisons.[30]

## COMPARISONS FOR DEMOGRAPHIC SUBGROUPS OF YOUNG ADULTS

Subgroup differences for 19-30 year olds are presented in Tables 4-1 through 4-5. While Table 4-1 provides only gender differences, the remaining tables show prevalence estimates by gender, age, region of the country, and population density. Age-group differences were summarized above; below we summarize gender, region, and population density differences separately. Lifetime, annual, 30-day, and daily use prevalence are shown in Tables 4-2 through 4-5, respectively.

In the next chapter, we summarize trends overall and for the subgroups considered below. Figures depicting trends in the use of the various drugs by the subgroups are provided in a separate publication from the study, Occasional Paper 95.[31]

---

[29] 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. Patrick, M. E., Couper, M. P., Jang, B., Laetz, V. B., Schulenberg, J., Johnston, L. D., Bachman, J., O'Malley, P. M. (2019). Two-year follow-up of the sequential mixed-mode experiment in the U.S. National monitoring the future study. *Survey Practice, 12*(1).

[30] Patrick, M. E., Couper, M. P., Parks, M. J., Laetz, V., & Schulenberg, J. E. (2020). Comparison of a web-push survey research protocol with a mailed paper and pencil protocol in the Monitoring the Future panel survey. *Addiction*.

[31] Johnston, L.D., Schulenberg, J.E., O'Malley, P.M., Bachman, J.G., Miech, R. A., & Patrick, M.E. (2020). Demographic subgroup trends among young adults in the use of various licit and illicit drugs, 1988-2019 (Monitoring the Future Occasional Paper No. 95). Ann Arbor, MI.: Institute for Social Research, University of Michigan.

## 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 through 4-5 for the full set of gender comparisons. Below, we summarize gender differences and consider whether differences are statistically significant (p<.01).

- Among the full young adult sample ages 19 to 30 in 2019, *lifetime* use of ***any illicit drug*** was not significantly different for men (69%) and women (67%), and the same was true regarding lifetime ***marijuana*** use (65% vs. 63%); but lifetime use of any ***illicit drug other than marijuana*** was significantly higher among men (43%) than women (36%) (Table 4-3). Regarding annual prevalence, men were significantly higher than women on reported *annual* use of any illicit drug (47% vs. 42%), marijuana (43% vs. 38%), and any illicit drug other than marijuana (22% vs. 17%). Similarly, men were significantly higher than women on reported *30-day* use of any illicit drug (32% vs. 26%), marijuana (30% vs. 24%), and any illicit drug other than marijuana (9.6% vs. 6.8%) (Table 4-1).

- Annual and 30-day prevalence of ***vaping marijuana*** (based on questions included in four of the six forms of the young adult surveys in 2019) was significantly higher for young adult men than women in 2019 (Table 4-1). The 2019 *annual* prevalence of vaping marijuana among 19-30 year old men and women was 26% and 16%, respectively. For *30-day* prevalence of vaping marijuana, it was 16% for men and 11% for women.

- ***Daily marijuana*** use (i.e., using on 20 or more occasions in the past 30 days) was significantly more common for men (11.5%) than women (7.6%) among 19-30 year olds in 2019 (Table 4-5).

- *Annual* prevalence of ***synthetic marijuana*** use in 2019 was low and about equivalent among young adult men and women (1.5% vs. 0.9%) (Table 4-1).

- Among 19-30 year olds in 2019, men had higher *annual* prevalence levels than women for many illicit drugs including ***hallucinogens***, ***MDMA***, and ***cocaine***; however, the two were similar regarding annual prevalence of ***narcotics other than heroin***, ***amphetamines***, ***sedatives (barbiturates),*** and ***tranquillizer***s (Table 4-3). We summarize these gender differences next.

- *Annual* **hallucinogen** use was significantly more common among men (7.6%) than women (3.4%) in 2019, and the same was true regarding ***LSD*** (5.2% vs. 2.5%) and ***hallucinogens other than LSD*** (5.2% vs. 2.0%) (Table 4-1).

- *Annual* prevalence of ***MDMA*** (***ecstasy***, ***Molly***) was similar among men (4.5%) and women (3.1%) in 2019.

- *Annual* prevalence of ***cocaine*** use was significantly higher among men (8.4%) than women (5.2%) in 2019. Annual prevalence of ***crack cocaine*** use was low and similar among men (0.3%) and women (0.2%) in 2019 (Table 4-1).

- *Annual* prevalence of nonmedical use of ***narcotics other than heroin*** was similar in 2019 among men (3.1%) and women (2.8%) (Table 4-1). Likewise, *annual* prevalence of subclasses of narcotics other than heroin was similar for men and women, including for ***Vicodin*** (2.3% for men, 1.4% for women) and ***OxyContin*** (2.3% for men, 1.6% for women) (Table 4-3).

- The *annual* use of ***amphetamines*** was similar among men (7.4%) and women (6.6%) in 2019; the same was true regarding annual use of ***Adderall*** (7.0% vs. 6.7%[32]) (Table 4-3).

- *Annual* prevalence of ***sedatives (barbiturates)*** in 2019 was similar for men (2.1%) and women (2.0%), and for ***tranquilizers*** (3.7% for both).

- Many indices of ***alcohol*** use were similar for men and women in 2019, including *annual* prevalence of alcohol use (81% for men, 83% for women), *30-day* prevalence of alcohol use (69% for men, 68% for women), *annual* prevalence of ***getting drunk*** (64% for men, 60% for women), and *30-day* prevalence of getting drunk (39% for men, 35% for women) (Tables 4-3 and 4-4).

- For more frequent and heavier use of alcohol, men reported higher levels than women. Among 19-30 year olds in 2019, ***daily alcohol*** use was significantly more common for men than women (6.9% vs. 2.7%), as was true for ***binge drinking***—having five or more drinks in a row at least once in the prior two weeks (38% vs. 29%). There was a particularly large (and significant) gender difference in one measure of ***high-intensity drinking*** in 2019: prevalence of having 10 or more drinks at least once in the prior two weeks was 19% for men vs. 7.5% for women; however, prevalence of having 15 or more drinks was similar for men (2.4%) and women (1.5%)[33] (Table 4-5).

- For most indices of ***nicotine*** use, men reported higher levels than women. In 2019, 19-30 year old men were significantly more likely than women to smoke ***cigarettes*** in the *past year* (26% vs. 18%) and *past month* (15% vs. 10%); however, men and women were more similar with regard to smoking *daily* in the past month (7.5% vs. 5.8%), and regarding *smoking half a pack or more per day* in the past month (4.1% vs. 3.0%) (Table 4-1).

- *Annual* prevalence of ***vaping nicotine*** in 2019 was significantly higher at ages 19-30 for men than women (29% vs. 20%) (Table 4-1). *Thirty-day* prevalence in 2019 was also significantly higher for men than women (19% vs. 11%) (Table 4-1).

- Among young adults there was a very large (and significant) gender difference in 2019 in the use of ***smokeless tobacco***, with men much more likely than women to have used in their *lifetime* (35% vs. 14%) (Table 4-2) and in the *past month* (15.0% vs. 1.0%) (Table 4-

[32] The prevalence of Adderall, a subclass of amphetamines, is asked on three of the six questionnaire forms, whereas the prevalence of amphetamines is asked on all six forms. The annual prevalence of Adderall is similar to the annual prevalence of amphetamines, reflecting that Adderall is a commonly used amphetamine. In case where annual prevalence of Adderall slightly exceeds the annual prevalence of amphetamines – for women – this is likely a matter of random sample variation due to relatively small sample sizes for Adderall.

[33] For information on gender differences by age for these measures, see for example: Patrick, M. E., & Terry-McElrath, Y. M. (2019). Prevalence of high-intensity drinking from adolescence through young adulthood: National data from 2016-2017. *Substance Abuse: Research and Treatment, 13,* 1-5.

1). This was true as well for *annual* use of ***snus***, of which use occurred almost entirely among men (7.1% vs. 0.2% among women). Annual use of ***dissolvable tobacco*** was very low and similar for men and women (0.5% or lower for both) (Table 4-3).

- In 2019, men were much more likely (significantly so) to have smoked ***small cigars*** in the *past year* than women (18.2% vs. 5.7%). The *30-day* use of ***regular little cigars*** (4.2% vs. 1.8%) and of flavored ***little cigars*** (4.8% vs 3.8%) was higher among men than women (though not significantly so in 2019).

- The *annual* use of tobacco with ***hookah*** pipes in 2019 was similar for young adult men (9.6%) and women (9.1%).

## Selective Summary of Gender Differences in 2019 Prevalence

In summary of some key findings regarding gender differences among 19-30 year olds in 2019 prevalence estimates of substance use, men were significantly higher than women on many indices of ***marijuana*** use. This was true for *annual* use (43% for men vs. 38% for women), *30-day* use (30% vs. 24%), *annual* marijuana vaping (26% vs. 16%), *30-day* marijuana vaping (16% vs. 11%), and *near-daily* marijuana use (11.5% vs. 7.6%). Regarding use of ***any illicit drug other than marijuana*** in 2019, men were also significantly higher than women on *annual* prevalence (22% vs. 17%) and *30-day* prevalence (9.6% vs. 6.8%). Men had significantly higher *annual* prevalence than women for many individual illicit drugs including ***hallucinogens***, ***MDMA***, and ***cocaine***; however, the two were similar regarding *annual* prevalence of ***narcotics other than heroin***, ***amphetamines***, ***sedatives (barbiturates),*** and ***tranquillizers.***

Men and women aged 19-30 were similar in 2019 in *annual* and *30-day* prevalence of ***alcohol use*** and of ***getting drunk.*** For more frequent and heavier use of alcohol, however, men reported significantly higher levels than women, including ***daily alcohol*** use (6.9% vs. 2.7%), ***binge drinking*** (38% vs. 29%), and ***high-intensity drinking*** (for 10+ drinks, 19% vs. 7.5%). In 2019, men were significantly more likely than women to smoke ***cigarettes*** in the *past 12 months* (26% vs. 18%) and *past 30-days* (15% vs. 10%); however, men and women were more similar regarding daily cigarette smoking. Regarding ***vaping nicotine*** in 2019, men were significantly higher than women on *annual* prevalence (29% vs. 20%) and 30-*day* prevalence (19% vs. 11%).

## Regional Differences

Follow-up respondents are asked in what state they resided as of March the year in which they received the survey. States are then grouped into the same four regions used in the analysis of high school data.[34] Tables 4-2 through 4-5 present regional differences in lifetime, annual, 30-day, and current daily prevalence for 19-30 year olds combined.

- There exist some regional differences in the *annual* prevalence of ***marijuana*** use, with 2019 estimates being higher in the West (47%) and Northeast (44%) than the Midwest

[34] 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.

(38%) and the South (35%). Likewise, *annual* prevalence of ***any illicit drug*** use, which is driven largely by marijuana use, were higher in the West (50%) and Northeast (49%) than in the Midwest (42%) and South (39%) (Table 4-3).

- In 2019, the *annual* prevalence of ***any illicit drug other than marijuana*** (Table 4-3) was highest in the West at 24% and 16-19% in the other regions.

- *Thirty-day* prevalence of ***marijuana*** use was higher in the West (33%) and Northeast (28%) and lower in the Midwest (25%) and South (22%) (Table 4-4). *Daily* use of marijuana was highest in the West (12%) and similar among the other regions (ranging from 8.0% to 9.1%) (Table 4-5).

- The *annual* prevalence for ***vaping marijuana*** in 2019 was higher in the West (29%) and Northeast (24%) than in the Midwest (17%) and South (19%) (Table 4-3). The same regional pattern held for *30-day* prevalence of vaping marijuana in 2019 (West at 17%, Northeast at 14%, Midwest at 11%, and South at 11%) (Table 4-4). Thus, regional ranking of vaping marijuana is similar to overall marijuana use.

- The *annual* prevalence for ***synthetic marijuana*** in 2019 was quite low and did not differ much by region (ranging from 0.4% to 1.8%) (Table 4-3).

- In 2019, the use of ***hallucinogens*** tended to be highest in the West and lowest in the Midwest. *Annual* prevalence of hallucinogen use was 8.0% and 3.6% in the West and Midwest, respectively; for ***LSD***, it was 5.7% and 2.4%, respectively; and for ***hallucinogens other than LSD***, it was 4.9% and 2.5%, respectively (Table 4-3).

- For ***MDMA*** (***ecstasy***, ***Molly***), *annual* 2019 prevalence was higher in the West (5.5%) than in the other regions of the country (Northeast at 3.3%, and South and Midwest at 2.9%) (Table 4-3).

- In 2019, *annual* prevalence of ***cocaine*** was higher in the West (9.5%) and Northeast (6.9%) than in the South (5.1%) and Midwest (4.8%) (Table 4-3).

- The *annual* prevalence for ***narcotics other than heroin*** was lowest in the Northeast at 1.4% in 2019, while the other regions were similar ranging from 2.8% to 3.4%. (Table 4-3).

- The *annual* prevalence of ***amphetamines*** was similar across regions in 2019 (ranging from 6.1% to 7.8%), and the same was true regarding ***Adderall*** (ranging from 6.2% to 8.4%[35]) (Table 4-3).

- Overall, regarding illicit drug use, it is noteworthy that the use of ***LSD***, ***hallucinogens other than LSD***, ***MDMA (ecstasy, Molly)***, and ***cocaine*** tended to be higher in 2019 among

[35] The prevalence of Adderall, a subclass of amphetamines, is asked on three of the six questionnaire forms, whereas the prevalence of amphetamines is asked on all six forms. The annual prevalence of Adderall is similar to the annual prevalence of amphetamines in each region, reflecting that Adderall is a commonly used amphetamine. When annual prevalence of Adderall slightly exceeds the annual prevalence of amphetamines, this is likely a matter of random sample variation due to relatively small regional sample sizes for Adderall.

young adults in the West than the other regions. Across ***other illicit drugs***, regional differences in 2019 were not substantial (Tables 4-2 through 4-5).

- ***Alcohol use*** is typically somewhat higher in the Northeast and Midwest regions than in the South and West; this pattern held in 2019 and was generally true among 12th graders as well (as reported in *Volume I*[36]). For ***binge drinking*** among 19-30 year olds, prevalence was highest in the Midwest (37%) and lowest in the South (29%) (Table 4-5). Regarding ***high intensity drinking*** among 19-30 year olds, having 10 or more drinks in a row was similar across the regions ranging from 13% in the West to 11% in the South and Northeast). *Thirty-day* self-reported ***drunkenness*** was lowest in the South (34%) and similar in the other regions (36-38%) (Table 4-4). Thus, as is typically true, the South showed the lowest prevalence of heavy drinking among young adults in 2019.

- ***Cigarette smoking*** among young adults tended to be slightly higher in the Midwest and South and lowest in the West in 2019. *Thirty-day* prevalence was 13% in the Midwest and 12% in the South, 11% in the Northeast, and 9% in the West (Table 4-4).

- In 2019, *30-day* prevalence of ***vaping nicotine*** was somewhat higher for the Northeast (16%) than for the South (15%), West (14%), and Midwest (12%) (Table 4-4). Thus, regional differences for vaping nicotine do not closely follow those for smoking cigarettes in 2019.

- Use of ***flavored little cigars*** (Table 4-4) showed some regional difference in 2019, with the *30-day* prevalence ranging from 4.7% in the Northeast to 2.8% in the Midwest. Similarly, the *30-day* prevalence of ***regular little cigars*** (i.e., non-flavored) ranged from 3.4% in the Northeast to 2.0% in the Midwest. In contrast, *30-day* prevalence for the use of ***large cigars*** ranged from 7.9% in the South to 1.5% in the Northeast (Table 4-4).

- The *30-day* prevalence of ***smokeless tobacco*** use in 2019 was higher in the West (13.1%) than the other regions (ranging from 3.6% to 7.9%) (Table 4-4).

- The *annual* use of ***snus*** in 2019 was higher in the West (5.6%) compared to the South (2.7%), Midwest (2.5%), and Northeast (0.5%) (Table 4-3).

- *Annual* use of a ***hookah*** to smoke tobacco was similar across the regions, ranging from 10% to 12% in 2019 (Table 4-3).

## Selective Summary of Regional Differences in 2019 Prevalence

In summary of some key findings regarding regional differences among 19-30 year olds in 2019, ***marijuana*** use tended to be higher in the West and Northeast than in the Midwest and South. This was true for *annual* prevalence (47%, 44%, 38%, and 35%, respectively), *30-day* prevalence (33%, 28%, 25%, and 22%, respectively), *annual* ***vaping marijuana*** (29%, 24%, 17%, and 19%, respectively), and *30-day* ***vaping marijuana*** (17%, 14%, 11%, 11%, respectively). Regarding use

---

[36] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). *Monitoring the Future national survey results on drug use, 1975-2019: Volume I, Secondary school students*. Ann Arbor: Institute for Social Research, University of Michigan.

of ***any illicit drug other than marijuana*** in 2019, the West had the highest annual prevalence (24%), and this was true for the annual prevalence of ***LSD***, ***hallucinogens other than LSD***, ***MDMA (ecstasy, Molly)***, and ***cocaine***; across other illicit drugs, regional differences were not substantial.

In 2019 among young adults, *annual* and *30-day* ***alcohol*** use was somewhat higher in the Northeast and Midwest than the South; for indices of heavy alcohol use (e.g., ***binge drinking***), prevalence tend to be lowest in the South and varied among the other regions. ***Cigarette smoking*** tended to be slightly higher in the Midwest and South and lowest in the West. ***Vaping nicotine*** was somewhat higher in the Northeast than in the other regions.

### 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.[37] See Tables 4-2 through 4-5 for the tabular results on 19-30 year olds combined.

- Many differences in illicit drug use by population density tend to be modest, with the use of many illicit drugs being broadly distributed among all areas from rural to urban. When 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 appreciably higher. In 2019, positive associations with population density existed for *annual* prevalence of ***any illicit drug*** (ranging from 32% for farm/country to 51% for very large city), ***any illicit drug other than marijuana*** (ranging from 17% to 24%, respectively), and ***marijuana*** (26% to 49%, respectively) (Table 4-3). The *annual* prevalence of ***vaping marijuana*** showed the same pattern, ranging from 15% for farm/country to 32% for very large cities. 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***, ***MDMA (ecstasy***, ***Molly)***, ***amphetamines***, and ***hallucinogens*** (including ***LSD*** and ***other than LSD***) showed a positive correlation with population density, being highest in very large cities and lowest in farm/country; differences were especially distinct for cocaine (10.0% and 1.8%, respectively) and MDMA (6.1% and 0.7%, respectively) (Table 4-3).

- Differences among density strata were quite small in 2019 for *annual* prevalence of ***narcotics other than heroin***, ranging from 2.8% to 3.7% (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 ***inhalants, PCP, salvia, crack, heroin, methamphetamine, crystal methamphetamine, sedatives (barbiturates),*** and ***Ketamine*** (Table 4-3).

[37] An examination of the 1987 and 1988 drug use data for the two most urban strata revealed that the modest differences in prevalence esimates 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.

- 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 62% of the farm/country stratum reporting alcohol use in the prior 30 days versus 78% 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 28% of those in the farm/country and small town strata indicating having had five or more drinks in a row at least once in the prior two weeks compared to 42% of those in the very large cities. ***Daily alcohol use*** in the prior month varied little by population density in 2019 (ranging from 6.5% in very large cities to 3.4-4.3% in the other strata). For 10 or more drinks in a row in the past two weeks (a measure of ***high intensity drinking***), prevalence in 2019 was higher in very large cities, large cities, and farm/country (13-14%) and lower in medium cities and small towns (10-11%). (Table 4-5).

- Contrary to what we find for almost all other substances, there exists a negative association between population density and prevalence of ***daily cigarette smoking***, which was highest in the farm/country stratum (10.9%) and lowest in very large cities (3.6%). Smoking at the half-pack-a-day level in the prior 30 days was about seven times as high in the farm/country stratum as in very large cities (8.3% vs. 1.2%, respectively; Table 4-5).

- *Annual* prevalence of ***small cigars*** was highest in very large cities (14%) and similar among the other population density strata (10-11%). (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 (7.7%) and lower in all other strata (2.2% to 4.6%). (Table 4-4).

- *Thirty-day* prevalence of ***smokeless tobacco*** use was highest in very large cities (14%), similar in small towns and farm/country (10%), and lowest in large and medium cities (2-3%) (Table 4-4).

- *Annual* prevalence of ***hookah*** smoking (Table 4-3) was positively correlated with population density, ranging from 14% in very large cities to 2.4% in farm/country.

- Finally, ***vaping nicotine*** showed mix variation by population density in 2019. *Annual* prevalence in 2019 ranged from 23% to 25% across the five strata (Table 4-3). However, *30-day* prevalence in 2019 was also lowest in the farm/country stratum (11%) and ranged from 13% to 17% in the other strata (Table 4-4).

### Selective Summary of Population Density Differences in 2019 Prevalence

In summary of some key findings regarding population density differences among 19-30 year olds in 2019, prevalence tended to be positively correlated with population density for many substances. This was true for annual prevalence of ***marijuana*** (ranging from 26% for farm/country to 49% for very large cities), of ***vaping marijuana*** (15% to 32%, respectively), of ***any illicit drug other than***

***marijuana*** (17% to 24%, respectively), and of many individual illicit drugs including ***cocaine***, ***MDMA (ecstasy***, ***Molly)***, ***amphetamines***, and ***hallucinogens*** (including ***LSD*** and ***other than LSD***); across other illicit drugs, population density differences were not substantial.

In 2019 among young adults, *annual* and *30-day* ***alcohol*** use as well as ***binge drinking*** also showed a positive correlation with population density. Contrary to what we find for almost all other substances, there exists a negative association between population density and ***cigarette smoking***. ***Vaping nicotine,*** especially *30-day* prevalence, was lowest in the farm/country stratum and similar in the other strata.

# TABLE 4-1
## Prevalence of Use of Various Types of Drugs by Gender among Respondents of Modal Ages 19–30, 2019
(Entries are percentages.)

| | Men | Women | Total |
|---|---|---|---|
| *Approximate Weighted N =* | *1,700* | *2,500* | *4,200* |
| **Any Illicit Drug** [a] | | | |
| Annual | 46.8 | 42.4 | 44.1 |
| 30-Day | 31.8 | 26.4 | 28.5 |
| **Any Illicit Drug other than Marijuana** [a] | | | |
| Annual | 21.8 | 17.4 | 19.1 |
| 30-Day | 9.6 | 6.8 | 7.9 |
| **Marijuana** | | | |
| Annual [j] | 42.7 | 38.0 | 39.9 |
| 30-Day | 29.5 | 24.1 | 26.2 |
| Daily [b] | 11.5 | 7.6 | 9.1 |
| **Synthetic Marijuana** | | | |
| Annual [c] | 1.5 | 0.9 | 1.1 |
| **Inhalants** [c] | | | |
| Annual | 1.4 | 1.2 | 1.2 |
| 30-Day | 0.6 | 0.4 | 0.5 |
| **Hallucinogens** [e] | | | |
| Annual | 7.6 | 3.4 | 5.0 |
| 30-Day | 2.2 | 1.2 | 1.5 |
| **LSD** [e] | | | |
| Annual | 4.9 | 2.5 | 3.4 |
| 30-Day | 1.4 | 0.7 | 1.0 |
| **Hallucinogens other than LSD** [e] | | | |
| Annual | 5.2 | 2.0 | 3.2 |
| 30-Day | 1.4 | 0.6 | 0.9 |
| **PCP** [d] | | | |
| Annual | * | * | * |
| 30-Day | * | * | * |
| **MDMA (Ecstasy, Molly)** [f] | | | |
| Annual | 4.5 | 3.1 | 3.6 |
| 30-Day | 1.1 | 0.7 | 0.8 |
| **Cocaine** | | | |
| Annual [j] | 8.4 | 5.2 | 6.5 |
| 30-Day | 3.2 | 1.6 | 2.2 |
| **Crack** [d] | | | |
| Annual | 0.3 | 0.2 | 0.3 |
| 30-Day | 0.3 | * | 0.1 |
| **Other Cocaine** [d] | | | |
| Annual | 7.1 | 4.0 | 5.2 |
| 30-Day | 2.9 | 0.9 | 1.7 |
| **Heroin** | | | |
| Annual | 0.4 | 0.2 | 0.2 |
| 30-Day | 0.2 | 0.1 | 0.1 |
| **With a Needle** [g] | | | |
| Annual | * | 0.1 | * |
| 30-Day | * | 0.1 | * |
| **Without a Needle** [g] | | | |
| Annual | 0.2 | 0.2 | 0.2 |
| 30-Day | * | 0.1 | 0.1 |

(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, 2019

(Entries are percentages.)

| | Men | Women | Total |
|---|---|---|---|
| *Approximate Weighted N =* | *1,700* | *2,500* | *4,200* |
| **Narcotics other than Heroin** [h] | | | |
| Annual | 3.1 | 2.8 | 2.9 |
| 30-Day | 0.7 | 0.7 | 0.7 |
| **Amphetamines, Adjusted** [h,i] | | | |
| Annual | 7.4 | 6.6 | 6.9 |
| 30-Day | 2.8 | 2.2 | 2.4 |
| **Methamphetamine** [g] | | | |
| Annual | 0.7 | 0.4 | 0.5 |
| 30-Day | 0.3 | 0.1 | 0.2 |
| **Crystal Methamphetamine (Ice)** [g] | | | |
| Annual | 0.7 | 0.6 | 0.6 |
| 30-Day | 0.3 | 0.2 | 0.2 |
| **Sedatives (Barbiturates)** [h] | | | |
| Annual | 2.1 | 2.0 | 2.1 |
| 30-Day | 0.8 | 0.8 | 0.8 |
| **Tranquilizers** [h] | | | |
| Annual | 3.7 | 3.7 | 3.7 |
| 30-Day | 1.2 | 1.3 | 1.2 |
| **Alcohol** | | | |
| Annual | 81.2 | 82.6 | 82.1 |
| 30-Day | 69.1 | 67.9 | 68.4 |
| Daily [b] | 6.9 | 2.7 | 4.3 |
| 5+ Drinks in a Row in Last 2 Weeks [k] | 38.3 | 28.5 | 32.3 |
| 10+ Drinks in a Row in Last 2 Weeks [e] | 19.0 | 7.5 | 12.0 |
| 15+ Drinks in a Row in Last 2 Weeks [d] | 2.4 | 1.5 | 1.9 |
| **Been Drunk** [c] | | | |
| Annual | 63.6 | 60.4 | 61.6 |
| 30-Day | 38.7 | 34.5 | 36.1 |
| Daily [b] | 0.3 | 0.4 | 0.4 |
| **Flavored Alcoholic Beverages** [d] | | | |
| Annual | 54.9 | 60.9 | 58.6 |
| 30-Day | 23.7 | 36.1 | 31.4 |
| **Cigarettes** | | | |
| Annual [l] | 26.4 | 17.9 | 21.2 |
| 30-Day [m] | 14.6 | 9.8 | 11.7 |
| Daily [n] | 7.5 | 5.8 | 6.5 |
| 1/2 Pack+/Day | 4.1 | 3.0 | 3.4 |
| **Any Vaping** [f] | | | |
| Annual [o] | 39.8 | 30.1 | 33.9 |
| 30-Day [p] | 27.7 | 18.3 | 22.0 |
| **Vaping Marijuana** [f] | | | |
| Annual [q] | 25.7 | 18.9 | 21.6 |
| 30-Day | 15.9 | 11.0 | 12.9 |
| **Vaping Nicotine** [f] | | | |
| Annual [r] | 29.1 | 19.7 | 23.5 |
| 30-Day [s] | 19.1 | 10.6 | 14.0 |

(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, 2019

| | Men | Women | Total |
|---|---|---|---|
| **Vaping Just Flavoring** [f] | | | |
| Annual | 9.1 | 8.9 | 9.0 |
| 30-Day | 3.2 | 2.9 | 3.0 |
| **Smokeless Tobacco** [d] | | | |
| 30-Day | 15.0 | 1.0 | 7.0 |
| Daily | 6.3 | 0.2 | 2.8 |

*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 2,100.

[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 3,500.

[f]This drug was asked about in four of the six questionnaire forms. Total *N* is approximately 2,800.

[g]This drug was asked about in two of the six questionnaire forms. Total *N* is approximately 1,400.

[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.

[j]For the total estimate of annual Cocaine in 2019, there was a significant difference ($p<.001$) between the typical mail condition (6.5%) and new web-push condition (4.0%) of survey administration.

[k]For the total estimate of 5+ Drinks in a Row in 2019, there was a significant difference ($p<.05$) between the typical mail condition (30.6%) and new web-push condition (33.8%) of survey administration.

[l]For the total estimate of annual Cigarettes in 2019, there was a significant difference ($p<.01$) between the typical mail condition (19.1%) and new web-push condition (23.1%) of survey administration.

[m]For the total estimate of 30-day Cigarettes in 2019, there was a significant difference ($p<.001$) between the typical mail condition (9.9%) and new web-push condition (13.3%) of survey administration.

[n]For the total estimate of daily Cigarettes in 2019, there was a significant difference ($p<.05$) between the typical mail condition (5.5%) and new web-push condition (7.2%) of survey administration.

[o]For the total estimate of annual Any Vaping in 2019, there was a significant difference ($p<.001$) between the typical mail condition (30.4%) and new web-push condition (37.4%) of survey administration.

[p]For the total estimate of 30-day Any Vaping in 2019, there was a significant difference ($p<.05$) between the typical mail condition (19.9%) and new web-push condition (24.1%) of survey administration.

[q]For the total estimate of annual Vaping Marijuana in 2019, there was a significant difference ($p<.05$) between the typical mail condition (19.6%) and new web-push condition (23.4%) of survey administration.

[r]For the total estimate of annual Vaping Nicotine in 2019, there was a significant difference ($p<.01$) between the typical mail condition (20.7%) and new web-push condition (26.2%) of survey administration.

[s]For the total estimate of 30-day Vaping Nicotine in 2019, there was a significant difference ($p<.01$) between the typical mail condition (12.1%) and new web-push condition (15.7%) of survey administration.

## TABLE 4-2
## Lifetime Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2019

(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 [c] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | *4,200* | 67.9 | 38.6 | 63.6 | 7.1 | 14.9 | 10.5 | 12.5 | 0.5 | 14.2 | 14.7 | 1.1 |
| Gender | | | | | | | | | | | | |
| Men | *1,700* | 69.0 | 42.5 | 64.8 | 7.8 | 19.8 | 14.3 | 17.5 | 0.5 | 16.6 | 18.5 | 1.2 |
| Women | *2,500* | 67.3 | 36.1 | 62.9 | 6.7 | 11.7 | 8.2 | 9.3 | 0.5 | 12.7 | 12.3 | 1.0 |
| Modal Age | | | | | | | | | | | | |
| 19–20 | *700* | 55.0 | 22.3 | 49.2 | 6.3 | 9.6 | 7.4 | 6.3 | * | 5.2 | 6.5 | * |
| 21–22 | *700* | 65.4 | 32.8 | 61.9 | 4.7 | 11.3 | 9.0 | 8.7 | * | 9.8 | 12.1 | 0.8 |
| 23–24 | *700* | 68.8 | 38.5 | 65.7 | 5.2 | 13.3 | 10.7 | 10.3 | 0.9 | 14.6 | 16.3 | 0.4 |
| 25–26 | *700* | 71.8 | 43.4 | 68.4 | 8.5 | 16.8 | 12.1 | 14.8 | 1.3 | 17.5 | 15.8 | 2.6 |
| 27–28 | *700* | 70.6 | 45.4 | 65.6 | 9.6 | 18.6 | 13.1 | 16.1 | 1.0 | 18.3 | 18.0 | 0.8 |
| 29–30 | *800* | 73.9 | 46.4 | 68.9 | 8.2 | 19.0 | 10.9 | 17.8 | * | 18.3 | 18.3 | 1.4 |
| Region | | | | | | | | | | | | |
| Northeast | *700* | 70.9 | 36.3 | 66.5 | 8.5 | 12.3 | 8.5 | 10.6 | * | 12.4 | 14.4 | 0.5 |
| Midwest | *1,000* | 67.6 | 38.2 | 62.4 | 6.8 | 14.8 | 10.5 | 12.4 | 0.7 | 11.3 | 12.8 | 1.0 |
| South | *1,400* | 63.5 | 36.8 | 59.2 | 5.6 | 12.8 | 9.2 | 10.0 | 0.4 | 11.6 | 12.7 | 0.8 |
| West | *1,000* | 71.8 | 42.2 | 68.4 | 8.6 | 19.4 | 14.1 | 17.1 | 0.8 | 21.8 | 19.3 | 2.1 |
| Population Density [e] | | | | | | | | | | | | |
| Farm/Country | *400* | 58.5 | 35.2 | 51.0 | 4.3 | 10.4 | 6.4 | 8.8 | * | 5.9 | 11.0 | 1.9 |
| Small Town | *1,100* | 62.9 | 32.6 | 58.2 | 6.0 | 12.4 | 8.6 | 10.4 | 0.4 | 9.3 | 11.5 | 0.5 |
| Medium City | *1,100* | 68.2 | 36.7 | 64.4 | 7.6 | 12.9 | 9.9 | 10.7 | 0.8 | 12.8 | 13.6 | 2.3 |
| Large City | *1,000* | 72.1 | 42.7 | 67.5 | 8.9 | 18.0 | 12.7 | 14.9 | 0.8 | 17.6 | 16.5 | 0.7 |
| Very Large City | *700* | 73.7 | 45.6 | 71.7 | 6.8 | 19.9 | 13.6 | 17.2 | * | 23.3 | 20.3 | * |

(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, 2019

(Entries are percentages.)

| | *Approximate Weighted N* | Other Cocaine [c] | 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 | *4,200* | 11.5 | 1.3 | 0.7 | 1.4 | 12.7 | 20.2 | 2.4 | 1.8 |
| Gender | | | | | | | | | |
| Men | *1,700* | 15.1 | 2.1 | 0.9 | 2.3 | 14.9 | 23.5 | 3.5 | 2.3 |
| Women | *2,500* | 9.2 | 0.8 | 0.5 | 0.8 | 11.2 | 18.1 | 1.7 | 1.5 |
| Modal Age | | | | | | | | | |
| 19–20 | *700* | 5.6 | 0.1 | * | 0.4 | 5.4 | 10.4 | 1.3 | 0.8 |
| 21–22 | *700* | 8.9 | 0.3 | 0.4 | * | 7.5 | 16.9 | 2.6 | 1.7 |
| 23–24 | *700* | 8.0 | 1.5 | 0.9 | 1.1 | 9.5 | 19.1 | 2.9 | 2.6 |
| 25–26 | *700* | 16.7 | 1.4 | 0.2 | 1.9 | 13.4 | 22.3 | 1.6 | 0.7 |
| 27–28 | *700* | 10.3 | 2.0 | 1.5 | 3.0 | 19.2 | 24.8 | 2.5 | 1.9 |
| 29–30 | *800* | 17.9 | 2.2 | 1.1 | 1.6 | 19.7 | 26.2 | 3.4 | 2.9 |
| Region | | | | | | | | | |
| Northeast | *700* | 13.0 | 1.9 | 1.1 | 2.3 | 10.1 | 17.4 | 1.6 | 0.4 |
| Midwest | *1,000* | 9.9 | 1.0 | 0.3 | 0.9 | 13.1 | 21.7 | 0.9 | 1.6 |
| South | *1,400* | 10.0 | 1.0 | 0.5 | 1.1 | 12.1 | 20.2 | 3.4 | 1.9 |
| West | *1,000* | 15.5 | 1.5 | 1.1 | 1.2 | 14.8 | 20.1 | 3.3 | 2.8 |
| Population Density [e] | | | | | | | | | |
| Farm/Country | *400* | 17.2 | 1.0 | 0.4 | 1.1 | 12.3 | 15.5 | 2.1 | 2.0 |
| Small Town | *1,100* | 6.8 | 1.0 | 0.4 | 1.2 | 11.1 | 15.8 | 2.3 | 2.0 |
| Medium City | *1,100* | 11.8 | 0.9 | 0.4 | 0.8 | 11.7 | 19.2 | 2.0 | 1.6 |
| Large City | *1,000* | 11.3 | 2.0 | 1.6 | 1.9 | 13.8 | 23.4 | 2.4 | 2.0 |
| Very Large City | *700* | 18.6 | 1.6 | 0.3 | 1.8 | 14.7 | 25.9 | 3.5 | 1.4 |

(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, 2019

(Entries are percentages.)

| | *Approximate Weighted N* | Sedatives (Barbiturates)[h] | Tranquilizers[h] | Alcohol | Been Drunk[b] | Flavored Alcoholic Beverages[c] | Cigarettes | Any Vaping[f,j] | Vaping Marijuana[f,k] | Vaping Nicotine[f,l] |
|---|---|---|---|---|---|---|---|---|---|---|
| Total | *4,200* | 7.9 | 12.1 | 86.1 | 77.0 | 82.6 | — | 42.3 | 27.5 | 34.8 |
| Gender | | | | | | | | | | |
| Men | *1,700* | 9.1 | 13.2 | 85.6 | 77.2 | 79.5 | — | 48.5 | 31.4 | 42.8 |
| Women | *2,500* | 7.1 | 11.4 | 86.4 | 77.0 | 84.6 | — | 38.2 | 24.9 | 29.5 |
| Modal Age | | | | | | | | | | |
| 19–20 | *700* | 3.8 | 6.1 | 67.6 | 53.5 | 66.0 | — | 48.3 | 27.8 | 39.0 |
| 21–22 | *700* | 5.6 | 10.4 | 84.7 | 72.3 | 79.3 | — | 50.9 | 31.4 | 45.1 |
| 23–24 | *700* | 7.6 | 9.4 | 89.9 | 80.4 | 88.0 | — | 47.0 | 30.7 | 39.2 |
| 25–26 | *700* | 8.3 | 13.3 | 92.3 | 83.9 | 89.4 | — | 38.8 | 27.0 | 31.4 |
| 27–28 | *700* | 11.2 | 16.5 | 90.1 | 82.9 | 86.2 | — | 34.6 | 23.5 | 28.1 |
| 29–30 | *800* | 10.2 | 16.4 | 89.5 | 84.6 | 82.9 | — | 35.8 | 24.4 | 27.2 |
| Region | | | | | | | | | | |
| Northeast | *700* | 5.8 | 10.1 | 88.5 | 80.6 | 86.3 | — | 44.0 | 31.5 | 34.4 |
| Midwest | *1,000* | 8.0 | 11.0 | 87.6 | 79.3 | 83.3 | — | 40.8 | 23.9 | 35.0 |
| South | *1,400* | 8.0 | 11.9 | 85.5 | 74.8 | 78.9 | — | 42.0 | 23.3 | 35.3 |
| West | *1,000* | 8.9 | 15.2 | 82.9 | 73.5 | 82.9 | — | 43.5 | 34.3 | 34.0 |
| Population Density[e] | | | | | | | | | | |
| Farm/Country | *400* | 8.3 | 11.3 | 84.7 | 73.6 | 84.0 | — | 39.5 | 19.1 | 33.9 |
| Small Town | *1,100* | 7.2 | 10.4 | 83.8 | 72.7 | 83.0 | — | 42.2 | 23.6 | 36.0 |
| Medium City | *1,100* | 6.9 | 11.3 | 85.8 | 76.4 | 82.7 | — | 41.1 | 27.8 | 32.9 |
| Large City | *1,000* | 9.1 | 14.3 | 85.9 | 77.4 | 81.6 | — | 42.1 | 27.8 | 35.3 |
| Very Large City | *700* | 8.3 | 13.6 | 91.3 | 85.3 | 85.0 | — | 47.9 | 37.8 | 36.8 |

(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, 2019

(Entries are percentages.)

| | *Approximate Weighted N* | Vaping Just Flavoring [f,m] | Smokeless Tobacco [c] |
|---|---|---|---|
| Total | *4,200* | 19.9 | 22.6 |
| Gender | | | |
| Men | *1,700* | 20.9 | 35.4 |
| Women | *2,500* | 19.2 | 14.2 |
| Modal Age | | | |
| 19–20 | *700* | 31.5 | 29.8 |
| 21–22 | *700* | 28.4 | 28.7 |
| 23–24 | *700* | 22.0 | 33.4 |
| 25–26 | *700* | 16.8 | 0.3 |
| 27–28 | *700* | 11.7 | 14.5 |
| 29–30 | *800* | 11.3 | 31.3 |
| Region | | | |
| Northeast | *700* | 19.8 | 19.6 |
| Midwest | *1,000* | 18.6 | 21.1 |
| South | *1,400* | 22.3 | 26.7 |
| West | *1,000* | 18.7 | 21.6 |
| Population Density [e] | | | |
| Farm/Country | *400* | 21.4 | 30.7 |
| Small Town | *1,100* | 21.2 | 26.3 |
| Medium City | *1,100* | 22.0 | 20.5 |
| Large City | *1,000* | 17.3 | 15.1 |
| Very Large City | *700* | 18.2 | 29.0 |

(Table continued on next page.)

## FOOTNOTES FOR TABLE 4-2

*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 3,700.

[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 3,900.

[g]This drug was asked about in two of the six questionnaire forms. Total *N* is approximately 1,900.

[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.

[j]For the total estimate of lifetime Any Vaping in 2019, there was a significant difference ($p<.001$) between the typical mail condition (36.8%) and new web-push condition (47.4%) of survey administration.

[k]For the total estimate of lifetime Vaping Marijuana in 2019, there was a significant difference ($p<.001$) between the typical mail condition (23.4%) and new web-push condition (31.1%) of survey administration.

[l]For the total estimate of lifetime Vaping Nicotine in 2019, there was a significant difference ($p<.001$) between the typical mail condition (30.3%) and new web-push condition (38.9%) of survey administration.

[m]For the total estimate of lifetime Vaping Just Flavoring in 2019, there was a significant difference ($p<.001$) between the typical mail condition (17.1%) and new web-push condition (22.6%) of survey administration.

## TABLE 4-3
## Annual Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2019

(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 [j] | Crack [d] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | *4,200* | 44.1 | 19.1 | 39.9 | 1.1 | 1.2 | 5.0 | 3.4 | 3.2 | * | 3.6 | 0.5 | 6.5 | 0.3 |
| Gender | | | | | | | | | | | | | | |
| Men | *1,700* | 46.8 | 21.8 | 42.7 | 1.5 | 1.4 | 7.6 | 4.9 | 5.2 | * | 4.5 | 0.8 | 8.4 | 0.3 |
| Women | *2,500* | 42.4 | 17.4 | 38.0 | 0.9 | 1.2 | 3.4 | 2.5 | 2.0 | * | 3.1 | 0.2 | 5.2 | 0.2 |
| Modal Age | | | | | | | | | | | | | | |
| 19–20 | *700* | 42.2 | 12.6 | 39.8 | 1.4 | 2.2 | 6.3 | 4.7 | 3.8 | * | 2.2 | 0.9 | 3.5 | * |
| 21–22 | *700* | 49.3 | 20.9 | 45.3 | 2.0 | 0.9 | 6.2 | 4.3 | 3.8 | * | 5.0 | 0.4 | 7.5 | 0.8 |
| 23–24 | *700* | 43.3 | 19.3 | 40.8 | 0.6 | 1.2 | 4.7 | 2.9 | 2.8 | * | 3.6 | 0.6 | 7.4 | * |
| 25–26 | *700* | 43.2 | 20.4 | 38.5 | 1.2 | 1.8 | 4.5 | 3.7 | 3.0 | * | 4.4 | * | 7.4 | 0.7 |
| 27–28 | *700* | 42.9 | 20.2 | 36.1 | 0.7 | 0.9 | 3.7 | 2.2 | 2.4 | * | 3.2 | * | 6.8 | * |
| 29–30 | *800* | 43.9 | 20.7 | 39.1 | 0.7 | 0.7 | 5.3 | 3.2 | 3.5 | * | 3.4 | 1.1 | 5.8 | * |
| Region | | | | | | | | | | | | | | |
| Northeast | *700* | 49.0 | 18.5 | 44.2 | 0.4 | 2.4 | 4.2 | 2.2 | 3.1 | * | 3.3 | 0.6 | 6.9 | * |
| Midwest | *1,000* | 42.1 | 16.2 | 38.0 | 1.2 | 0.9 | 3.6 | 2.4 | 2.5 | * | 2.9 | 0.4 | 4.8 | 0.2 |
| South | *1,400* | 38.8 | 17.5 | 34.6 | 1.0 | 0.8 | 4.5 | 3.2 | 2.6 | * | 2.9 | 0.2 | 5.1 | 0.2 |
| West | *1,000* | 50.4 | 24.3 | 46.6 | 1.8 | 1.5 | 8.0 | 5.7 | 4.9 | * | 5.5 | 0.7 | 9.5 | 0.6 |
| Population Density [i] | | | | | | | | | | | | | | |
| Farm/Country | *400* | 32.3 | 16.6 | 25.5 | 0.7 | * | 4.1 | 2.6 | 2.3 | * | 0.7 | 0.4 | 1.8 | * |
| Small Town | *1,100* | 40.3 | 15.9 | 36.7 | 0.4 | 0.8 | 4.3 | 3.0 | 2.7 | * | 2.2 | 0.6 | 5.0 | * |
| Medium City | *1,100* | 44.0 | 17.6 | 39.6 | 1.5 | 1.9 | 4.7 | 3.8 | 2.8 | * | 3.7 | 0.7 | 5.4 | 0.9 |
| Large City | *1,000* | 48.6 | 21.9 | 43.3 | 0.7 | 1.5 | 6.0 | 3.6 | 4.0 | * | 4.5 | 0.3 | 8.5 | * |
| Very Large City | *700* | 50.8 | 23.9 | 49.1 | 2.2 | 1.3 | 6.5 | 4.1 | 4.2 | * | 6.1 | 0.4 | 10.0 | * |

(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, 2019

(Entries are percentages.)

| | *Approximate Weighted N* | Other Cocaine [d] | Heroin | Heroin with a Needle [b] | Heroin without a Needle [b] | Narcotics other than Heroin [g] | OxyContin [c,g] | Vicodin [c,g] | Amphetamines [g,h] | Ritalin [c,g] | Adderall [c,g] | Methamphetamine [b] | Crystal Methamphetamine (Ice) [b] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | *4,200* | 5.2 | 0.2 | * | 0.2 | 2.9 | 1.9 | 1.8 | 6.9 | 1.2 | 6.8 | 0.5 | 0.6 |
| Gender | | | | | | | | | | | | | |
| Men | *1,700* | 7.1 | 0.4 | * | 0.2 | 3.1 | 2.3 | 2.3 | 7.4 | 1.7 | 7.0 | 0.7 | 0.7 |
| Women | *2,500* | 4.0 | 0.2 | 0.1 | 0.2 | 2.8 | 1.6 | 1.4 | 6.6 | 0.8 | 6.7 | 0.4 | 0.6 |
| Modal Age | | | | | | | | | | | | | |
| 19–20 | *700* | 3.0 | * | * | * | 1.4 | 3.2 | 2.0 | 5.6 | 2.4 | 4.7 | 0.5 | 0.4 |
| 21–22 | *700* | 4.4 | 0.1 | * | * | 2.9 | 1.8 | 1.4 | 8.8 | 2.3 | 9.8 | 0.6 | 0.6 |
| 23–24 | *700* | 3.9 | 0.4 | * | 0.2 | 2.9 | 1.4 | 1.3 | 6.7 | 0.6 | 7.5 | 0.7 | 1.1 |
| 25–26 | *700* | 9.3 | 0.1 | * | * | 2.1 | 1.3 | 1.4 | 6.8 | 0.7 | 6.6 | 0.5 | * |
| 27–28 | *700* | 3.5 | 0.4 | * | 0.4 | 3.6 | 2.0 | 2.0 | 6.5 | 1.2 | 6.0 | 0.4 | 0.6 |
| 29–30 | *800* | 6.8 | 0.5 | 0.2 | 0.5 | 4.4 | 1.5 | 2.4 | 6.6 | 0.1 | 6.0 | 0.5 | 1.0 |
| Region | | | | | | | | | | | | | |
| Northeast | *700* | 7.4 | 0.6 | 0.2 | 0.6 | 1.4 | 0.4 | 0.7 | 7.8 | 1.2 | 8.4 | * | * |
| Midwest | *1,000* | 4.4 | 0.2 | * | * | 2.8 | 2.5 | 3.0 | 6.5 | 1.6 | 7.2 | 0.2 | 0.4 |
| South | *1,400* | 3.1 | 0.1 | * | 0.1 | 3.4 | 1.2 | 1.1 | 6.1 | 0.6 | 6.2 | 1.0 | 0.6 |
| West | *1,000* | 8.3 | 0.2 | * | 0.2 | 3.4 | 3.3 | 1.8 | 7.3 | 1.2 | 6.2 | 0.7 | 1.2 |
| Population Density [i] | | | | | | | | | | | | | |
| Farm/Country | *400* | 2.0 | 0.1 | * | * | 3.7 | 1.0 | 1.1 | 4.7 | 0.5 | 3.7 | 0.9 | 1.1 |
| Small Town | *1,100* | 2.6 | 0.3 | 0.1 | 0.3 | 2.7 | 1.7 | 2.1 | 5.3 | 0.8 | 5.9 | 0.1 | 0.2 |
| Medium City | *1,100* | 5.4 | 0.1 | * | * | 2.8 | 2.5 | 2.1 | 6.9 | 1.9 | 7.1 | 0.7 | 0.7 |
| Large City | *1,000* | 5.8 | 0.4 | * | 0.3 | 2.8 | 1.9 | 1.0 | 7.9 | 0.8 | 7.0 | 0.7 | 0.9 |
| Very Large City | *700* | 10.9 | 0.2 | * | 0.3 | 3.2 | 1.5 | 2.1 | 8.6 | 1.6 | 9.1 | 0.5 | 0.5 |

(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, 2019

(Entries are percentages.)

| | *Approximate Weighted N* | Sedatives (Barbiturates) [g] | Tranquilizers [g] | Ketamine [b] | Alcohol | Been Drunk [c] | Flavored Alcoholic Beverages [d] | Alcoholic Beverages mixed with Energy Drinks [b] | Cigarettes [k] | Tobacco using a Hookah [c] | Small Cigars [b] | Any Vaping [f,k] | Vaping Marijuana [f,l] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | *4,200* | 2.1 | 3.7 | 1.1 | 82.1 | 61.6 | 58.6 | 32.1 | 21.2 | 9.3 | 10.7 | 33.9 | 21.6 |
| Gender | | | | | | | | | | | | | |
| Men | *1,700* | 2.1 | 3.7 | 2.2 | 81.2 | 63.6 | 54.9 | 39.7 | 26.4 | 9.6 | 18.2 | 39.8 | 25.7 |
| Women | *2,500* | 2.0 | 3.7 | 0.4 | 82.6 | 60.4 | 60.9 | 26.9 | 17.9 | 9.1 | 5.7 | 30.1 | 18.9 |
| Modal Age | | | | | | | | | | | | | |
| 19–20 | *700* | 2.2 | 2.4 | 0.9 | 64.3 | 47.0 | 50.4 | 20.3 | 16.0 | 11.7 | 8.7 | 42.0 | 24.2 |
| 21–22 | *700* | 2.5 | 3.7 | 2.3 | 82.0 | 62.2 | 70.6 | 41.2 | 24.3 | 8.0 | 11.2 | 42.5 | 25.0 |
| 23–24 | *700* | 2.1 | 3.1 | 1.3 | 86.7 | 65.8 | 68.2 | 35.2 | 22.8 | 9.4 | 11.0 | 36.8 | 22.7 |
| 25–26 | *700* | 1.3 | 4.3 | 1.1 | 87.8 | 66.9 | 63.4 | 34.7 | 23.0 | 9.7 | 13.7 | 29.5 | 19.3 |
| 27–28 | *700* | 2.7 | 4.3 | 0.5 | 85.4 | 65.1 | 55.1 | 32.4 | 21.6 | 9.6 | 10.3 | 26.4 | 18.2 |
| 29–30 | *800* | 1.6 | 4.4 | 0.6 | 83.9 | 59.4 | 43.0 | 25.4 | 20.1 | 7.9 | 9.5 | 28.5 | 20.6 |
| Region | | | | | | | | | | | | | |
| Northeast | *700* | 1.3 | 3.2 | 1.2 | 86.3 | 67.0 | 67.9 | 28.5 | 19.0 | 11.7 | 9.5 | 35.2 | 23.9 |
| Midwest | *1,000* | 2.5 | 2.7 | 0.7 | 83.9 | 61.8 | 62.3 | 34.9 | 22.2 | 8.6 | 11.5 | 31.8 | 17.4 |
| South | *1,400* | 1.9 | 4.1 | 0.6 | 81.3 | 58.7 | 54.8 | 30.4 | 21.2 | 7.5 | 10.0 | 34.0 | 19.1 |
| West | *1,000* | 2.2 | 4.9 | 1.8 | 77.3 | 59.9 | 54.3 | 30.7 | 20.3 | 11.0 | 11.6 | 36.3 | 28.5 |
| Population Density [i] | | | | | | | | | | | | | |
| Farm/Country | *400* | 1.5 | 3.6 | * | 79.5 | 57.1 | 60.1 | 33.3 | 23.6 | 2.4 | 10.5 | 30.7 | 14.6 |
| Small Town | *1,100* | 1.5 | 2.2 | 1.0 | 79.2 | 57.1 | 64.5 | 23.8 | 23.3 | 7.0 | 10.1 | 32.1 | 17.0 |
| Medium City | *1,100* | 2.7 | 4.1 | 1.3 | 81.8 | 60.7 | 58.7 | 34.3 | 18.3 | 9.6 | 9.7 | 34.6 | 22.3 |
| Large City | *1,000* | 2.4 | 4.5 | 1.2 | 81.7 | 61.8 | 58.4 | 35.2 | 21.2 | 11.2 | 10.6 | 33.5 | 22.1 |
| Very Large City | *700* | 1.5 | 4.8 | 1.5 | 88.8 | 70.9 | 51.3 | 33.8 | 21.1 | 13.6 | 13.5 | 40.2 | 32.1 |

(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, 2019

(Entries are percentages.)

| | *Approximate Weighted N* | Vaping Nicotine [f,m] | Vaping Just Flavoring [f] | Dissolvable Tobacco [b] | Snus [b] |
|---|---|---|---|---|---|
| Total | *4,200* | 23.5 | 9.0 | 0.2 | 2.9 |
| Gender | | | | | |
| Men | *1,700* | 29.1 | 9.1 | 0.5 | 7.1 |
| Women | *2,500* | 19.7 | 8.9 | * | 0.2 |
| Modal Age | | | | | |
| 19–20 | *700* | 32.4 | 18.9 | * | 2.5 |
| 21–22 | *700* | 33.6 | 13.2 | * | 0.3 |
| 23–24 | *700* | 25.9 | 8.4 | * | 3.7 |
| 25–26 | *700* | 18.6 | 6.0 | * | 3.9 |
| 27–28 | *700* | 15.8 | 4.4 | * | 2.9 |
| 29–30 | *800* | 16.9 | 4.9 | 1.0 | 3.4 |
| Region | | | | | |
| Northeast | *700* | 25.8 | 10.6 | * | 0.5 |
| Midwest | *1,000* | 22.9 | 8.7 | * | 2.5 |
| South | *1,400* | 24.5 | 10.4 | * | 2.7 |
| West | *1,000* | 21.4 | 6.3 | 0.9 | 5.6 |
| Population Density [i] | | | | | |
| Farm/Country | *400* | 23.0 | 10.2 | * | * |
| Small Town | *1,100* | 25.1 | 10.2 | 0.2 | 4.7 |
| Medium City | *1,100* | 23.7 | 10.2 | * | 2.4 |
| Large City | *1,000* | 22.6 | 7.9 | * | 1.4 |
| Very Large City | *700* | 23.1 | 6.3 | 0.8 | 4.1 |

# FOOTNOTES FOR TABLE 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 3,700.

[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.

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

[i]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.

[j]For the total estimate of annual Cocaine use in 2019, there was a significant difference (p<.001) between the typical mail condition (6.5%) and new web-push condition (4.0%) of survey administration.

[k]For the total estimate of annual Any Vaping in 2019, there was a significant difference (p<.001) between the typical mail condition (30.4%) and new web-push condition (37.4%) of survey administration.

[l]For the total estimate of annual Vaping Marijuana in 2019, there was a significant difference (p<.05) between the typical mail condition (19.6%) and new web-push condition (23.4%) of survey administration.

[m]For the total estimate of annual Vaping Nicotine in 2019, there was a significant difference (p<.01) between the typical mail condition (20.7%) and new web-push condition (26.2%) of survey administration.

# TABLE 4-4
## Thirty-Day Prevalence of Use of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2019

(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 [c] |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Total | *4,200* | 28.5 | 7.9 | 26.2 | 0.5 | 1.5 | 1.0 | 0.9 | * | 0.8 | 2.2 | 0.1 |
| Gender | | | | | | | | | | | | |
| Men | *1,700* | 31.8 | 9.6 | 29.5 | 0.6 | 2.2 | 1.4 | 1.4 | * | 1.1 | 3.2 | 0.3 |
| Women | *2,500* | 26.4 | 6.8 | 24.1 | 0.4 | 1.2 | 0.7 | 0.6 | * | 0.7 | 1.6 | * |
| Modal Age | | | | | | | | | | | | |
| 19–20 | *700* | 27.6 | 4.8 | 26.5 | 0.8 | 1.3 | 1.0 | 0.9 | * | 0.8 | 1.2 | * |
| 21–22 | *700* | 34.0 | 9.7 | 30.5 | 0.5 | 1.9 | 1.1 | 1.2 | * | 1.6 | 3.2 | 0.8 |
| 23–24 | *700* | 26.6 | 8.3 | 25.4 | 0.1 | 1.2 | 0.6 | 0.7 | * | 0.6 | 2.9 | * |
| 25–26 | *700* | 27.2 | 7.7 | 25.3 | 1.0 | 1.8 | 1.2 | 1.1 | * | 1.1 | 2.0 | * |
| 27–28 | *700* | 29.0 | 7.8 | 25.6 | 0.5 | 1.2 | 0.8 | 0.5 | * | 0.5 | 1.7 | * |
| 29–30 | *800* | 26.8 | 8.8 | 24.5 | 0.3 | 1.7 | 1.0 | 1.0 | * | 0.6 | 2.3 | * |
| Region | | | | | | | | | | | | |
| Northeast | *700* | 31.3 | 8.3 | 28.4 | 0.9 | 1.2 | 0.6 | 0.8 | * | 0.4 | 2.4 | * |
| Midwest | *1,000* | 26.4 | 6.4 | 24.7 | 0.3 | 1.1 | 0.8 | 0.7 | * | 0.7 | 1.6 | * |
| South | *1,400* | 23.6 | 6.8 | 21.7 | 0.5 | 1.2 | 0.7 | 0.7 | * | 0.6 | 1.7 | * |
| West | *1,000* | 35.6 | 10.5 | 32.9 | 0.5 | 2.5 | 1.7 | 1.4 | * | 1.9 | 3.5 | 0.6 |
| Population Density [e] | | | | | | | | | | | | |
| Farm/Country | *400* | 19.6 | 6.5 | 15.9 | * | 0.9 | 0.4 | 0.5 | * | 0.4 | 0.3 | * |
| Small Town | *1,100* | 24.1 | 6.7 | 22.5 | 0.5 | 1.3 | 0.9 | 0.6 | * | 0.7 | 1.6 | * |
| Medium City | *1,100* | 29.0 | 7.0 | 27.1 | 0.4 | 1.6 | 0.9 | 1.1 | * | 0.5 | 1.6 | 0.5 |
| Large City | *1,000* | 30.7 | 9.4 | 27.8 | 0.7 | 1.9 | 1.1 | 1.1 | * | 1.2 | 3.1 | * |
| Very Large City | *700* | 36.4 | 9.9 | 34.5 | 1.0 | 1.7 | 1.1 | 0.8 | * | 1.6 | 4.1 | * |

(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, 2019

(Entries are percentages.)

| | *Approximate Weighted N* | Other Cocaine [c] | Heroin | Heroin With Needle [g] | Heroin Without Needle [g] | Narcotics other than Heroin [h] | Amphetamines [h,i] | Methamphetamine [g] | Crystal Methamphetamine (Ice) [g] |
|---|---|---|---|---|---|---|---|---|---|
| Total | *4,200* | 1.7 | 0.1 | * | 0.1 | 0.7 | 2.4 | 0.2 | 0.2 |
| Gender | | | | | | | | | |
| Men | *1,700* | 2.9 | 0.2 | * | * | 0.7 | 2.8 | 0.3 | 0.3 |
| Women | *2,500* | 0.9 | 0.1 | 0.1 | 0.1 | 0.7 | 2.2 | 0.1 | 0.2 |
| Modal Age | | | | | | | | | |
| 19–20 | *700* | 0.5 | * | * | * | 0.6 | 2.2 | 0.5 | * |
| 21–22 | *700* | 2.3 | 0.1 | * | * | 0.3 | 3.2 | * | * |
| 23–24 | *700* | 1.2 | 0.1 | * | * | 0.7 | 2.5 | * | 0.2 |
| 25–26 | *700* | 3.5 | 0.1 | * | * | 0.7 | 2.0 | * | * |
| 27–28 | *700* | 1.3 | 0.2 | * | * | 1.1 | 2.1 | 0.2 | 0.4 |
| 29–30 | *800* | 1.3 | 0.4 | 0.2 | 0.5 | 1.1 | 2.2 | 0.5 | 0.7 |
| Region | | | | | | | | | |
| Northeast | *700* | 2.3 | 0.2 | 0.2 | 0.2 | 0.7 | 3.0 | * | * |
| Midwest | *1,000* | 2.1 | 0.1 | * | * | 1.0 | 2.2 | 0.2 | 0.4 |
| South | *1,400* | * | 0.1 | * | * | 0.7 | 2.3 | 0.3 | 0.2 |
| West | *1,000* | 3.6 | 0.2 | * | 0.2 | 0.6 | 2.3 | 0.2 | 0.2 |
| Population Density [e] | | | | | | | | | |
| Farm/Country | *400* | * | 0.1 | * | * | 1.4 | 1.5 | * | * |
| Small Town | *1,100* | 1.0 | 0.1 | 0.1 | 0.1 | 0.7 | 2.1 | * | 0.2 |
| Medium City | *1,100* | 1.9 | * | * | * | 0.7 | 2.6 | 0.4 | 0.3 |
| Large City | *1,000* | 0.7 | 0.3 | * | 0.2 | 0.4 | 2.8 | 0.2 | 0.3 |
| Very Large City | *700* | 5.1 | 0.1 | * | * | 0.9 | 2.2 | 0.3 | 0.3 |

(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, 2019

(Entries are percentages.)

| | *Approximate Weighted N* | Sedatives (Barbiturates) [h] | Tranquilizers [h] | Alcohol | Been Drunk [b] | Flavored Alcoholic Beverages [c] | Cigarettes [k] | Large Cigars [c] | Flavored Little Cigars [c] | Regular Little Cigars [c] |
|---|---|---|---|---|---|---|---|---|---|---|
| Total | *4,200* | 0.8 | 1.2 | 68.4 | 36.1 | 31.4 | 11.7 | 3.8 | 4.0 | 2.7 |
| Gender | | | | | | | | | | |
| Men | *1,700* | 0.8 | 1.2 | 69.1 | 38.7 | 23.7 | 14.6 | 7.2 | 4.8 | 4.2 |
| Women | *2,500* | 0.8 | 1.3 | 67.9 | 34.5 | 36.1 | 9.8 | 1.7 | 3.4 | 1.8 |
| Modal Age | | | | | | | | | | |
| 19–20 | *700* | 0.8 | 0.8 | 45.6 | 25.1 | 35.3 | 8.4 | 5.1 | 5.4 | 2.8 |
| 21–22 | *700* | 0.8 | 0.9 | 68.4 | 38.7 | 48.5 | 13.0 | 5.9 | 6.2 | 6.1 |
| 23–24 | *700* | 0.8 | 1.1 | 73.8 | 39.1 | 37.5 | 10.2 | 2.6 | 1.3 | 0.7 |
| 25–26 | *700* | 0.7 | 1.6 | 75.0 | 42.7 | 29.6 | 12.5 | 0.9 | 3.4 | 1.3 |
| 27–28 | *700* | 1.1 | 1.4 | 71.9 | 35.7 | 24.5 | 14.1 | 5.6 | 2.2 | 1.0 |
| 29–30 | *800* | 0.7 | 1.6 | 72.6 | 33.3 | 15.4 | 12.2 | 3.0 | 4.6 | 3.9 |
| Region | | | | | | | | | | |
| Northeast | *700* | 0.6 | 1.2 | 73.5 | 37.8 | 38.0 | 10.9 | 1.5 | 4.7 | 3.4 |
| Midwest | *1,000* | 1.0 | 1.0 | 71.6 | 36.3 | 35.2 | 12.9 | 3.6 | 2.8 | 2.0 |
| South | *1,400* | 0.7 | 1.2 | 65.3 | 33.9 | 30.2 | 12.1 | 4.9 | 3.9 | 3.0 |
| West | *1,000* | 0.8 | 1.7 | 65.4 | 36.1 | 27.5 | 9.4 | 4.4 | 4.3 | 2.3 |
| Population Density [e] | | | | | | | | | | |
| Farm/Country | *400* | 0.6 | 0.8 | 61.6 | 29.9 | 22.3 | 16.1 | 7.9 | 7.7 | 3.4 |
| Small Town | *1,100* | 0.7 | 1.0 | 65.0 | 31.7 | 34.8 | 13.5 | 3.5 | 3.3 | 2.8 |
| Medium City | *1,100* | 1.2 | 1.6 | 66.5 | 35.6 | 35.5 | 10.9 | 3.7 | 2.2 | 3.3 |
| Large City | *1,000* | 0.7 | 1.2 | 70.3 | 38.7 | 33.0 | 9.9 | 3.9 | 4.3 | 2.9 |
| Very Large City | *700* | 0.6 | 1.4 | 77.8 | 42.4 | 24.2 | 10.5 | 3.5 | 4.6 | 0.7 |

(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, 2019

(Entries are percentages.)

| | Approximate Weighted N | Any Vaping [f,l] | Vaping Marijuana [f] | Vaping Nicotine [f,m] | Vaping Just Flavoring [f] | Smokeless Tobacco[c] |
|---|---|---|---|---|---|---|
| Total | *4,200* | 22.0 | 12.9 | 14.0 | 3.0 | 7.0 |
| Gender | | | | | | |
| Men | *1,700* | 27.7 | 15.9 | 19.1 | 3.2 | 15.0 |
| Women | *2,500* | 18.3 | 11.0 | 10.6 | 2.9 | 1.0 |
| Modal Age | | | | | | |
| 19–20 | *700* | 29.2 | 14.3 | 22.4 | 6.4 | 5.9 |
| 21–22 | *700* | 26.3 | 14.7 | 18.9 | 4.2 | 7.1 |
| 23–24 | *700* | 21.1 | 11.3 | 14.6 | 2.7 | 10.7 |
| 25–26 | *700* | 19.3 | 11.4 | 10.7 | 1.9 | 0.6 |
| 27–28 | *700* | 18.2 | 12.1 | 9.3 | 1.8 | 0.4 |
| 29–30 | *800* | 19.6 | 14.3 | 9.4 | 1.9 | 14.7 |
| Region | | | | | | |
| Northeast | *700* | 23.7 | 14.3 | 15.9 | 4.8 | 4.9 |
| Midwest | *1,000* | 19.9 | 11.0 | 12.4 | 2.0 | 3.6 |
| South | *1,400* | 21.3 | 10.9 | 14.6 | 3.6 | 7.9 |
| West | *1,000* | 25.0 | 17.3 | 13.7 | 2.4 | 13.1 |
| Population Density e | | | | | | |
| Farm/Country | *400* | 16.8 | 8.2 | 10.8 | 4.3 | 9.5 |
| Small Town | *1,100* | 22.0 | 9.9 | 16.5 | 4.2 | 10.2 |
| Medium City | *1,100* | 22.7 | 14.0 | 13.6 | 2.7 | 3.3 |
| Large City | *1,000* | 21.8 | 13.3 | 13.6 | 2.8 | 2.0 |
| Very Large City | *700* | 25.5 | 19.3 | 13.4 | 1.7 | 13.6 |

(Table continued on next page.)

# FOOTNOTES FOR TABLE 4-4

*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 3,700.

[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.

[k]For the total estimate of 30-day Cigarettes in 2019, there was a significant difference ($p<.001$) between the typical mail mode (9.9%) and new web-push mode (13.3%) of administration.

[l]For the total estimate of 30-day Any Vaping in 2019, there was a significant difference ($p<.05$) between the typical mail mode (19.9%) and new web-push mode (24.1%) of administration.

[m]For the total estimate of 30-day Vaping Nicotine in 2019, there was a significant difference ($p<.01$) between the typical mail mode (12.1%) and new web-push mode (15.7%) of administration.

# TABLE 4-5
## Thirty-Day Prevalence of Daily Use [a] of Various Types of Drugs by Subgroups among Respondents of Modal Ages 19–30, 2019

(Entries are percentages.)

| | *Approximate Weighted N* | Marijuana Daily | Alcohol Daily | Alcohol: 5+ Drinks in a Row in Last 2 Weeks [d] | Alcohol: 10+ Drinks in a Row in Last 2 Weeks [c] | Alcohol: 15+ Drinks in a Row in Last 2 Weeks [f] | Cigarettes Daily [e] | Cigarettes: 1/2 Pack+ per Day | Smokeless Tobacco[c] |
|---|---|---|---|---|---|---|---|---|---|
| Total | *4,200* | 9.1 | 4.3 | 32.3 | 12.0 | 1.9 | 6.5 | 3.4 | 2.8 |
| Gender | | | | | | | | | |
| Men | *1,700* | 11.5 | 6.9 | 38.3 | 19.0 | 2.4 | 7.5 | 4.1 | 6.3 |
| Women | *2,500* | 7.6 | 2.7 | 28.5 | 7.5 | 1.5 | 5.8 | 3.0 | 0.2 |
| Modal Age: | | | | | | | | | |
| 19–20 | *700* | 7.6 | 0.4 | 20.8 | 7.6 | 0.0 | 3.4 | 1.8 | 0.0 |
| 21–22 | *700* | 10.8 | 4.3 | 36.1 | 13.9 | 1.7 | 5.8 | 1.9 | 0.0 |
| 23–24 | *700* | 9.6 | 3.6 | 34.2 | 13.1 | 0.8 | 5.4 | 2.7 | 4.7 |
| 25–26 | *700* | 9.7 | 5.8 | 37.5 | 12.2 | 2.9 | 8.6 | 5.7 | 0.6 |
| 27–28 | *700* | 9.6 | 4.7 | 33.0 | 10.5 | 1.8 | 7.8 | 3.4 | 0.0 |
| 29–30 | *800* | 8.3 | 6.3 | 31.6 | 13.7 | 3.4 | 7.4 | 5.1 | 9.0 |
| Region | | | | | | | | | |
| Northeast | *700* | 8.6 | 3.7 | 33.3 | 11.1 | 1.4 | 5.5 | 2.7 | 0.6 |
| Midwest | *1,000* | 9.1 | 4.1 | 37.1 | 12.2 | 3.0 | 7.8 | 4.3 | 1.1 |
| South | *1,400* | 8.0 | 4.1 | 28.8 | 10.9 | 2.0 | 6.4 | 4.0 | 1.7 |
| West | *1,000* | 11.7 | 4.8 | 31.1 | 13.0 | 0.9 | 4.6 | 1.8 | 8.4 |
| Population Density [b] | | | | | | | | | |
| Farm/Country | *400* | 8.3 | 3.9 | 27.9 | 13.5 | 2.8 | 10.9 | 8.3 | 2.7 |
| Small Town | *1,100* | 8.0 | 3.7 | 27.9 | 11.0 | 1.2 | 7.9 | 4.5 | 5.3 |
| Medium City | *1,100* | 9.2 | 3.4 | 32.4 | 9.9 | 1.5 | 6.7 | 3.3 | 0.8 |
| Large City | *1,000* | 9.2 | 4.3 | 32.1 | 13.7 | 2.6 | 4.6 | 2.2 | 2.0 |
| Very Large City | *700* | 11.5 | 6.5 | 41.8 | 13.4 | 2.5 | 3.6 | 1.2 | 2.6 |

*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 five of the six questionnaire forms. Total *N* is approximately 3,700.

[d]For the total estimate of 5+ Drinks in a Row in Last 2 Weeks in 2019, there was a significant difference (p<.05) between the typical mail condition (30.6%) and new web-push condition (33.8%) of survey administration.

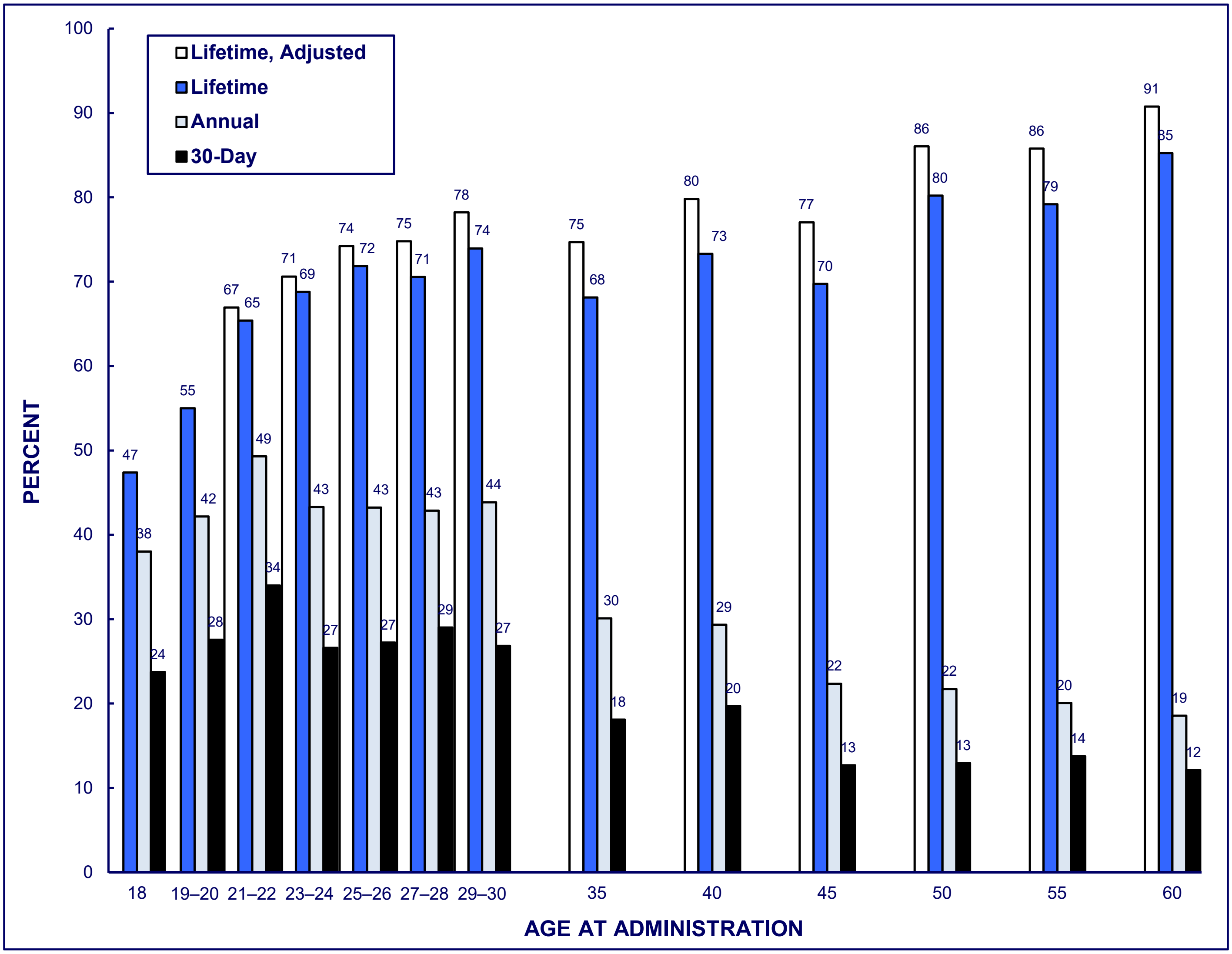
[e]For the total estimate of daily Cigarettes in 2019, there was a significant difference (p<.05) between the typical mail condition (5.5%) and new web-push condition (7.2%) of survey administration.

[f]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 60 by Age Group, 2019



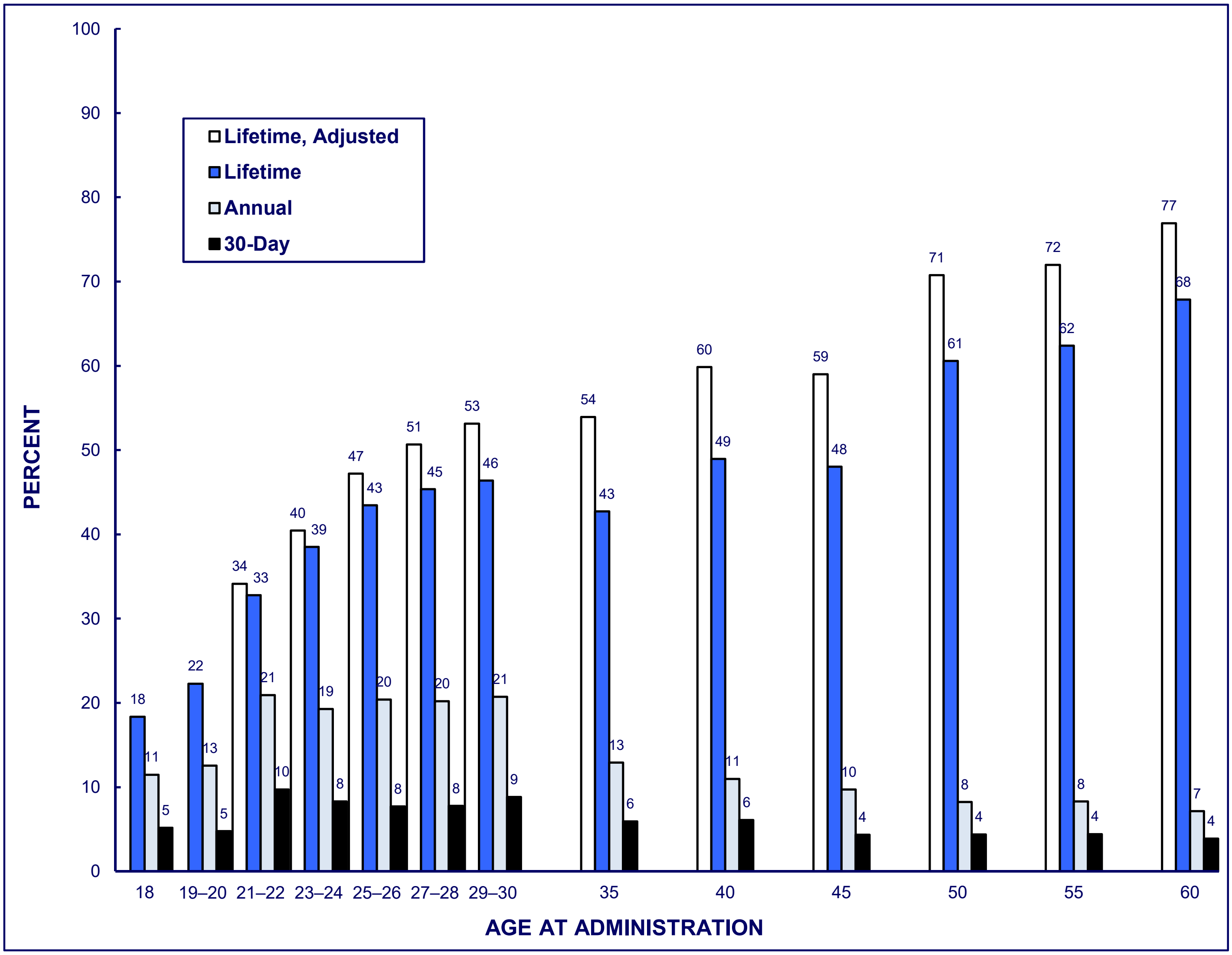

*Source.* The Monitoring the Future study, the University of Michigan.

*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 or age 60 questionnaires. Therefore, the data presented here include hallucinogens for ages 18 to 50, but not for ages 55 and 60.

## FIGURE 4-2
## ANY ILLICIT DRUG OTHER THAN MARIJUANA[a]
## Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 60 by Age Group, 2019



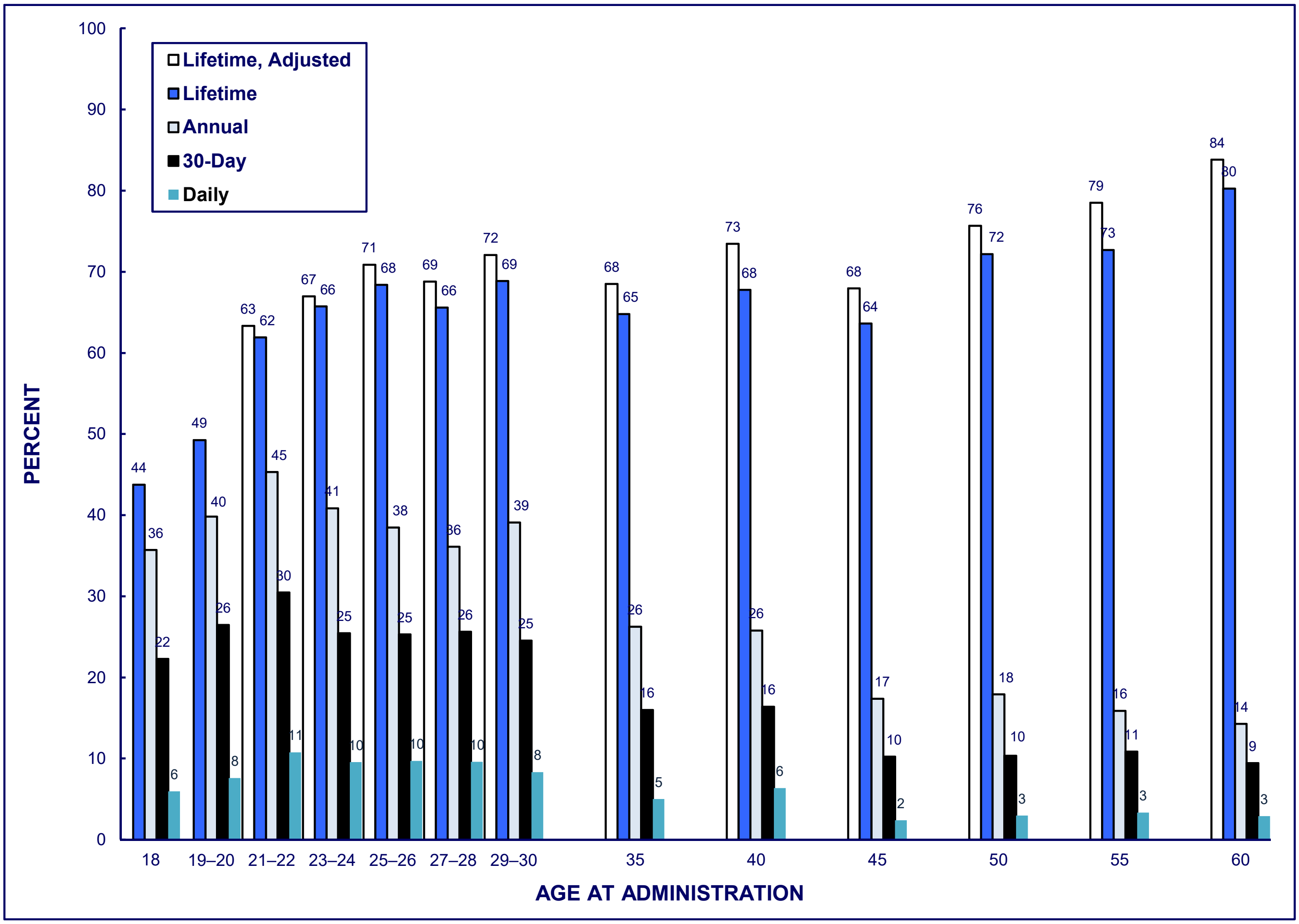

*Source.* The Monitoring the Future study, the University of Michigan.

*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 or age 60 questionnaires. Therefore, the data presented here include hallucinogens for ages 18 to 50, but not for ages 55 and 60.

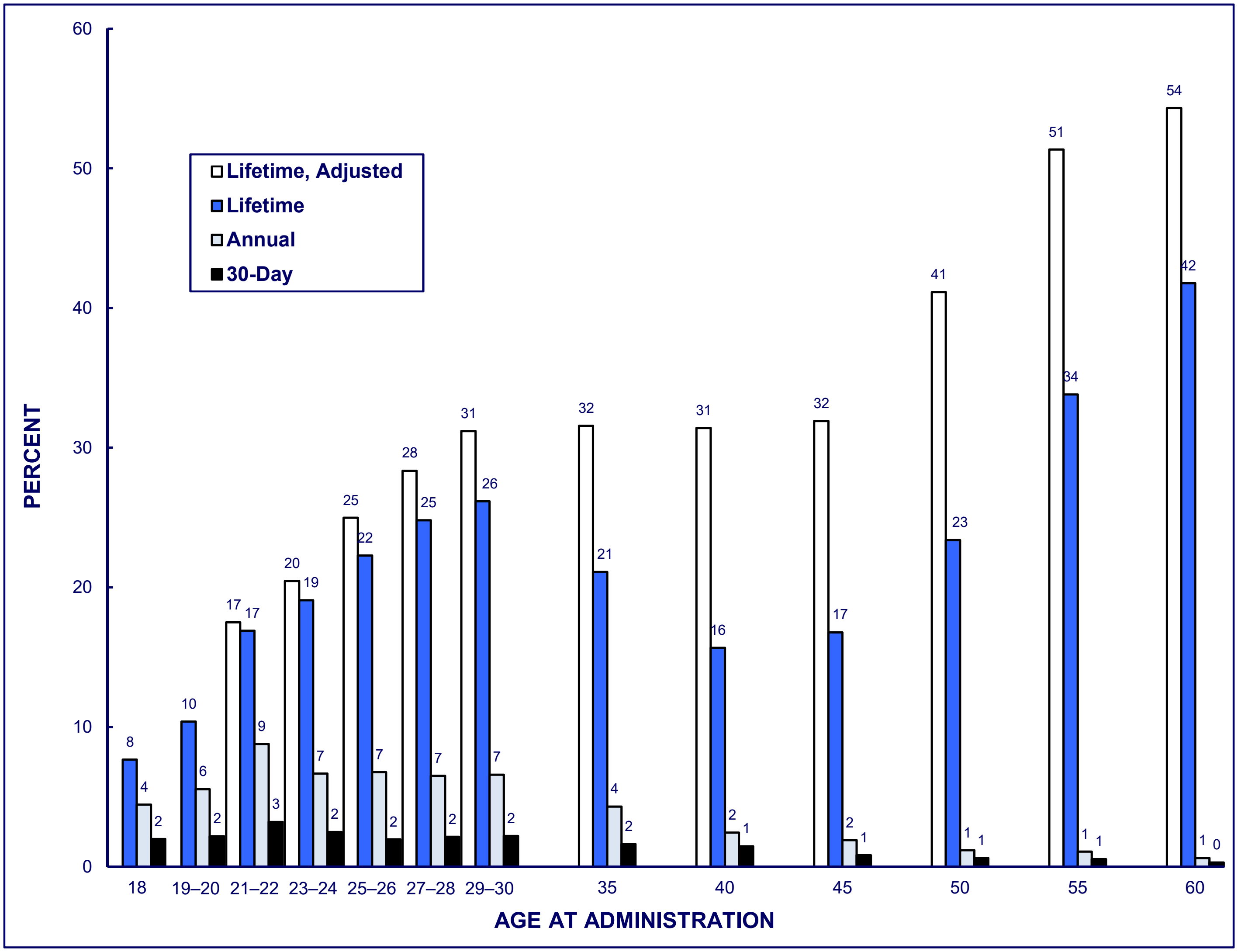
**FIGURE 4-3**
**MARIJUANA**
**Lifetime, Annual, 30-Day, and Daily Prevalence among Respondents of Modal Ages 18 through 60 by Age Group, 2019**




*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 60 by Age Group, 2019

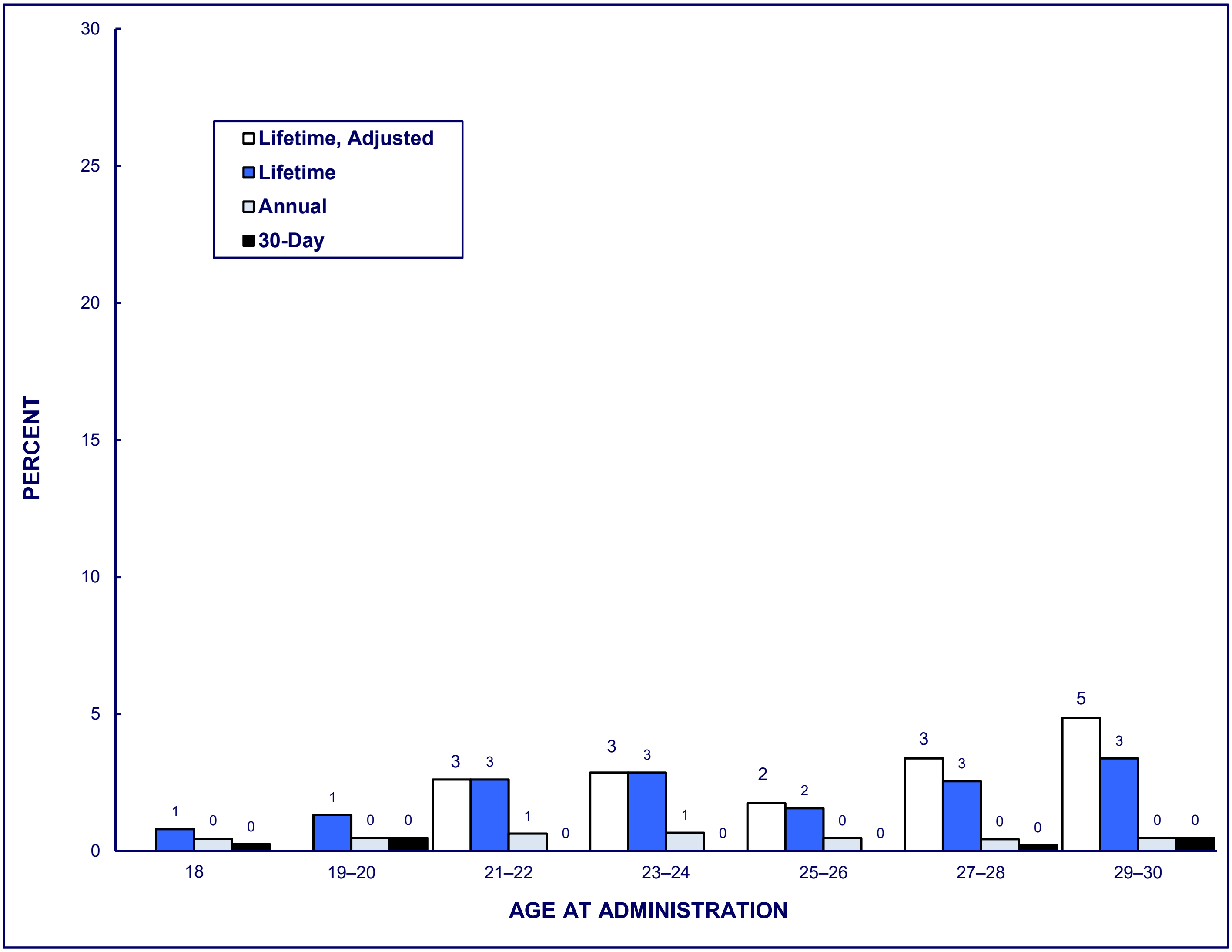



*Source.* The Monitoring the Future study, the University of Michigan.

*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, 2019

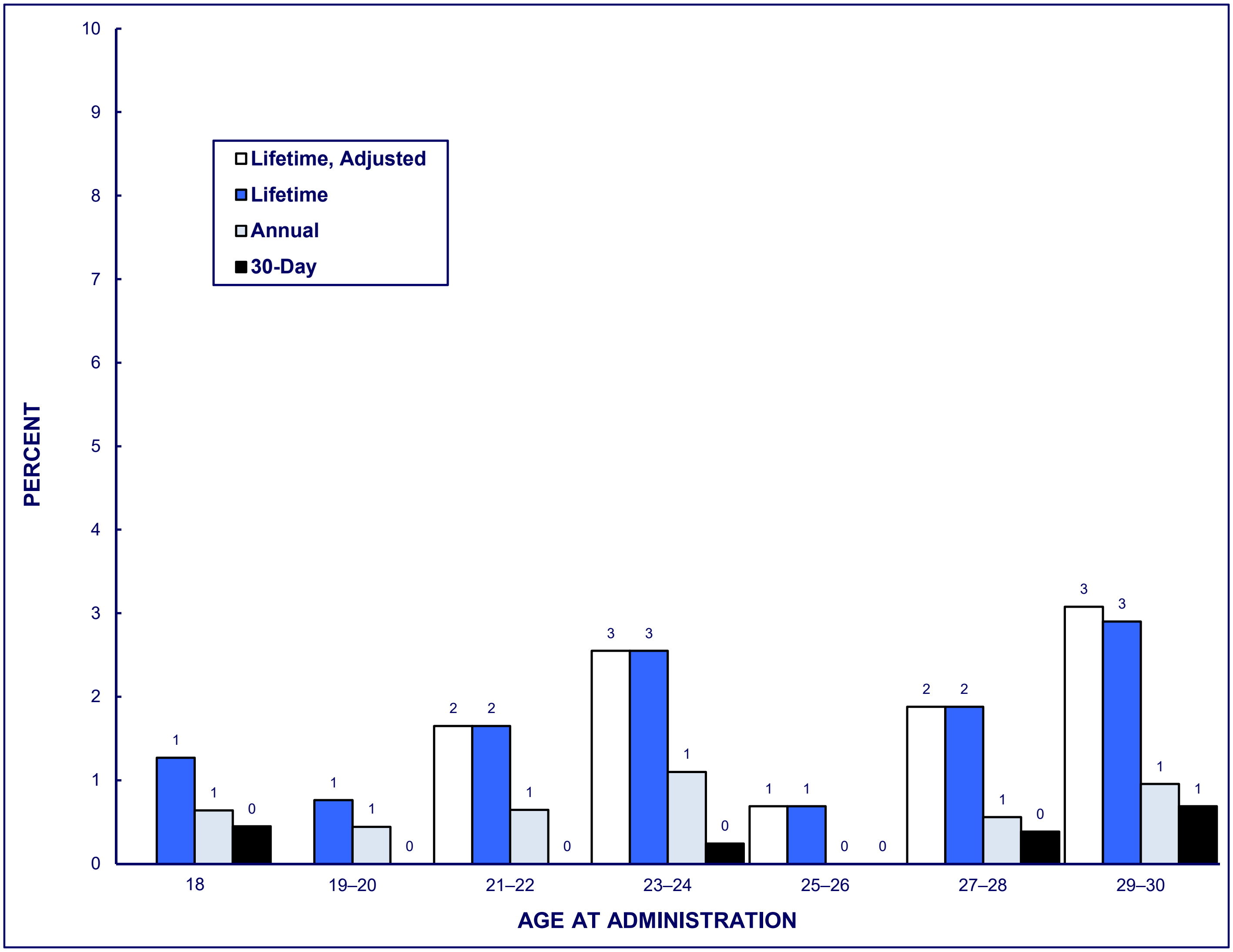



*Source.* The Monitoring the Future study, the University of Michigan.

*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- to 60-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, 2019



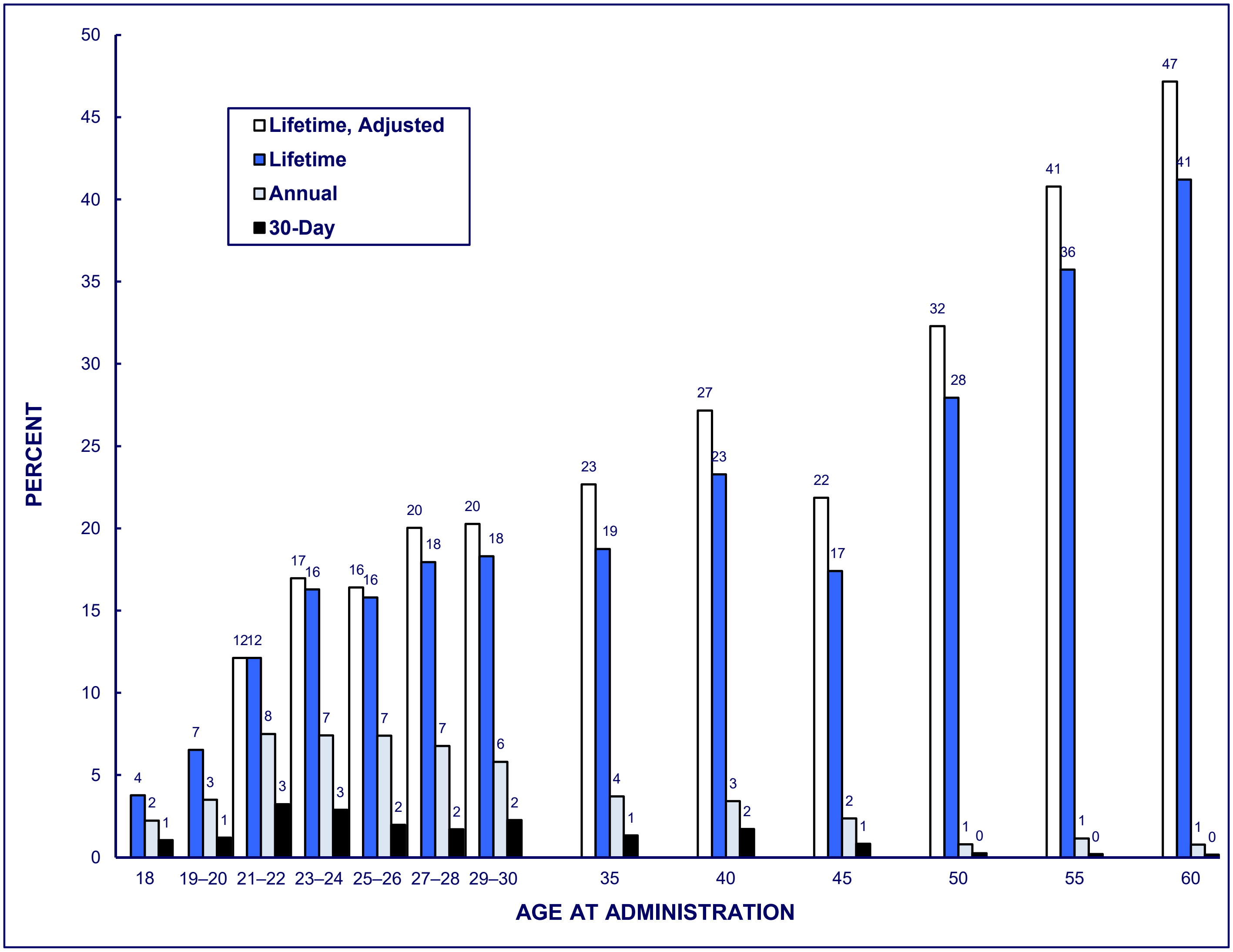

*Source.* The Monitoring the Future study, the University of Michigan.

*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- to 60-year-olds.

## FIGURE 4-7
## COCAINE
## Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 60 by Age Group, 2019

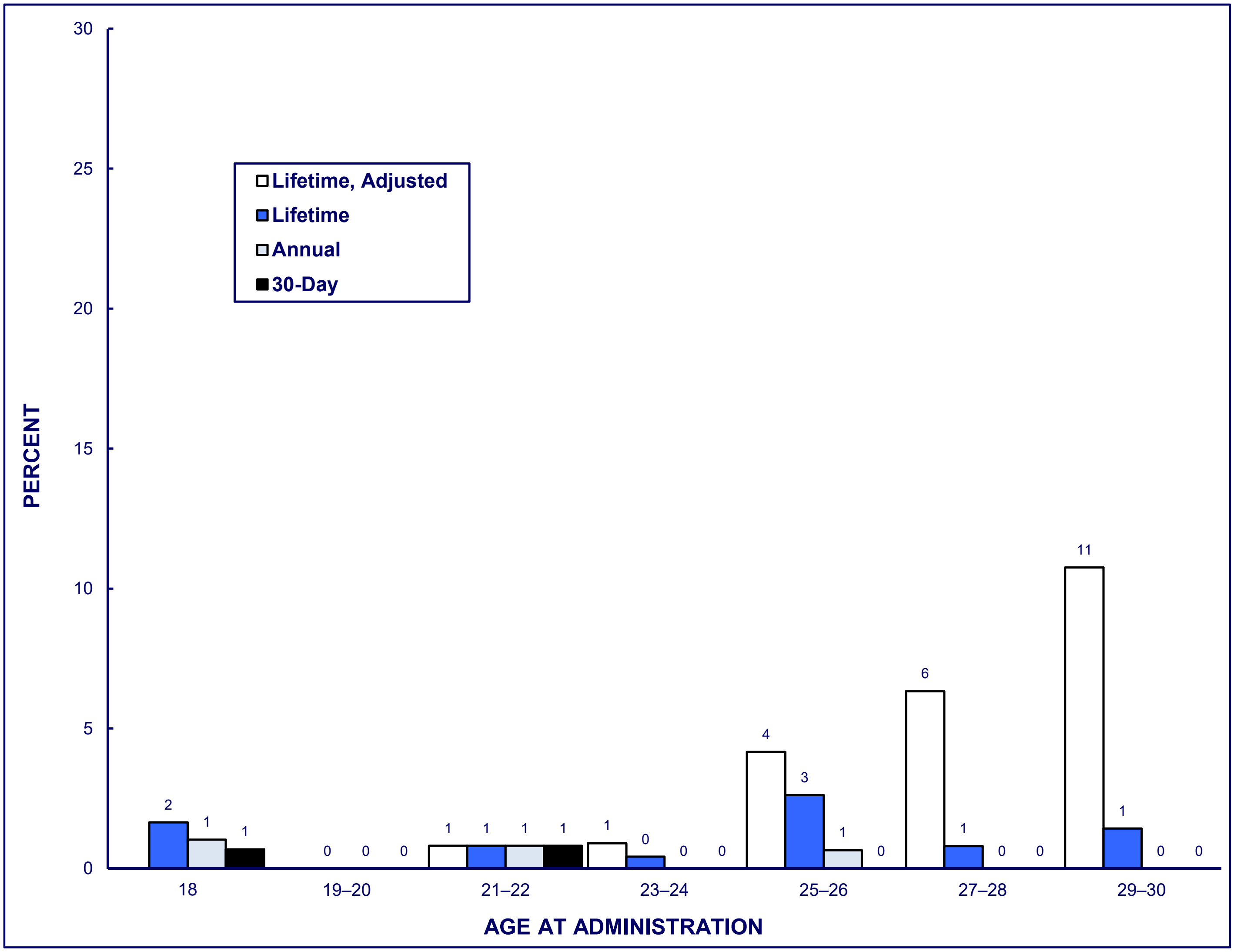



*Source.* The Monitoring the Future study, the University of Michigan.

*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 30 [a] by Age Group, 2019

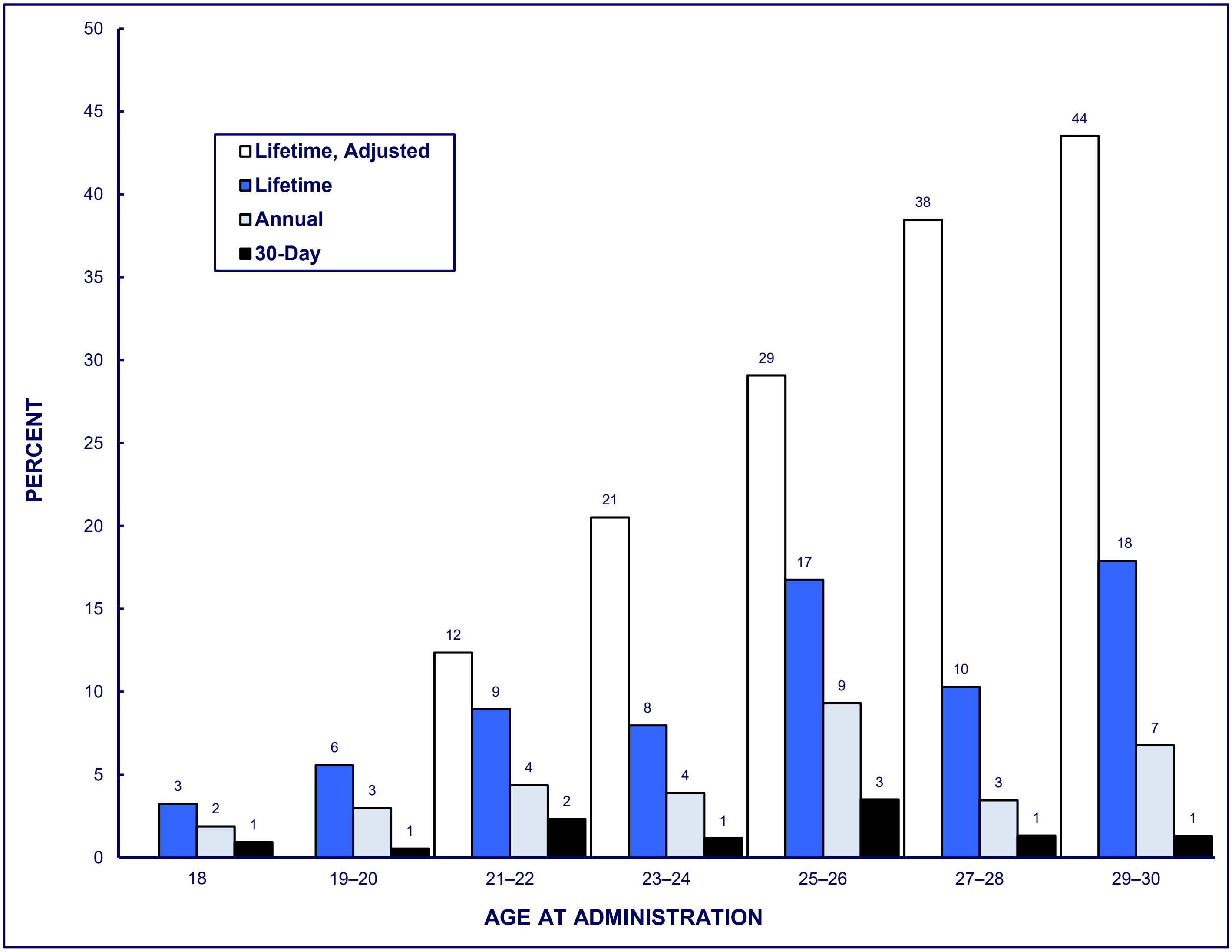



*Source.* The Monitoring the Future study, the University of Michigan.

*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 crack were not included in the questionnaires for 35- to 60-year-olds.

## FIGURE 4-9
## OTHER COCAINE
## Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 30 [a] by Age Group, 2019

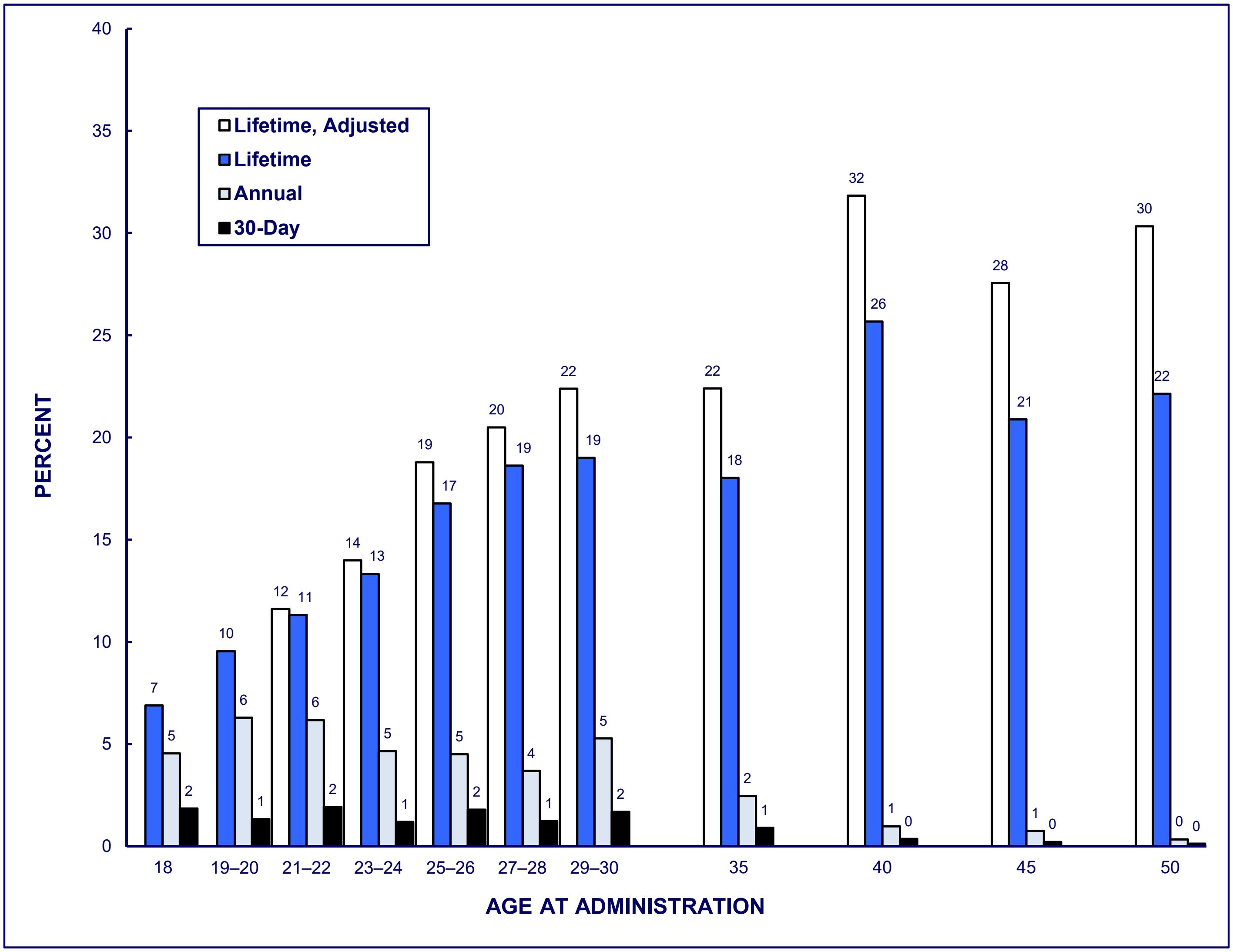



*Source.* The Monitoring the Future study, the University of Michigan.

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

[a]Questions abc 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, 2019




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

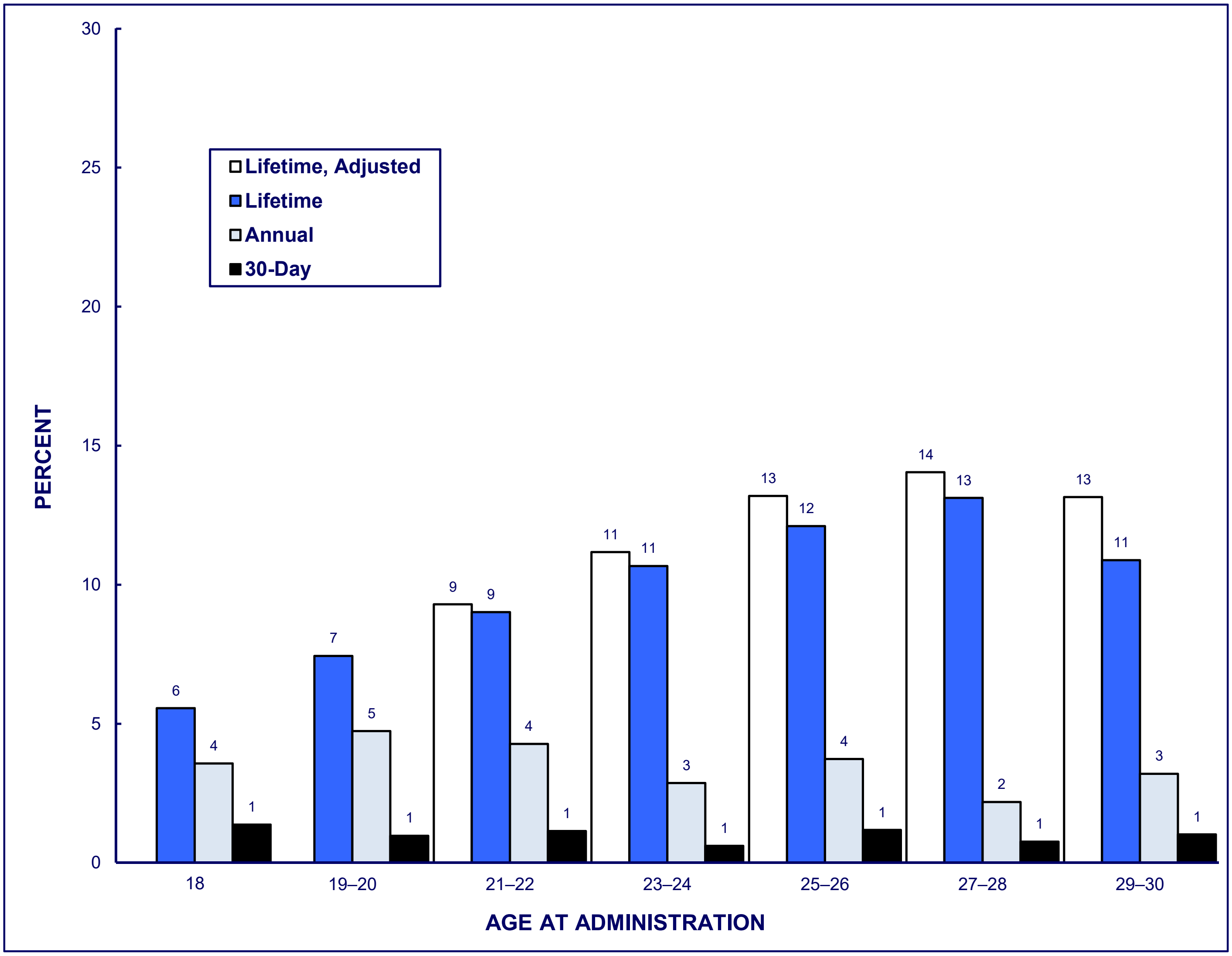
*Notes.* Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

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- and 60-year-olds.

## FIGURE 4-11
## LSD
## Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 30 [a] by Age Group, 2019

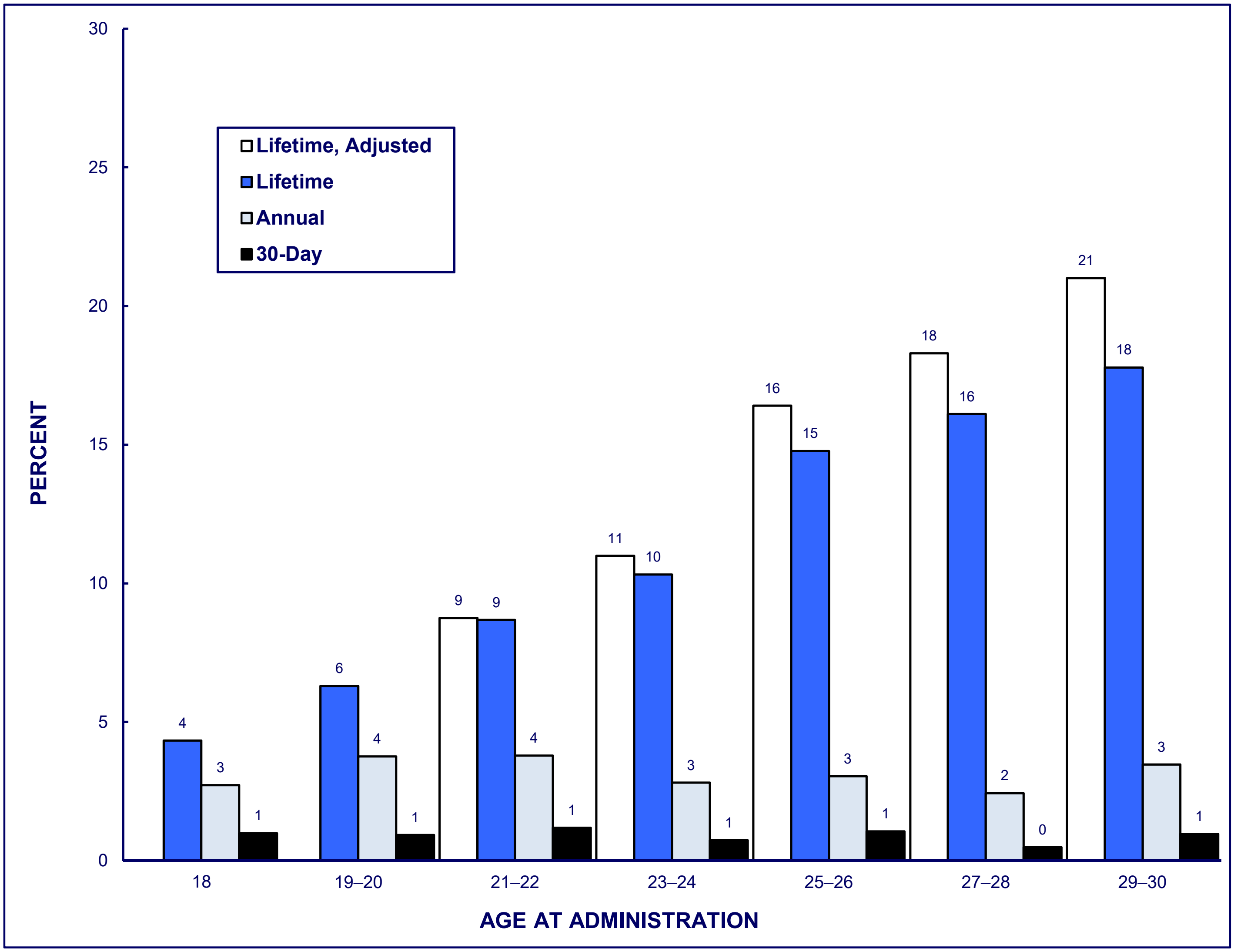



*Source.* The Monitoring the Future study, the University of Michigan.

*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- to 60-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, 2019



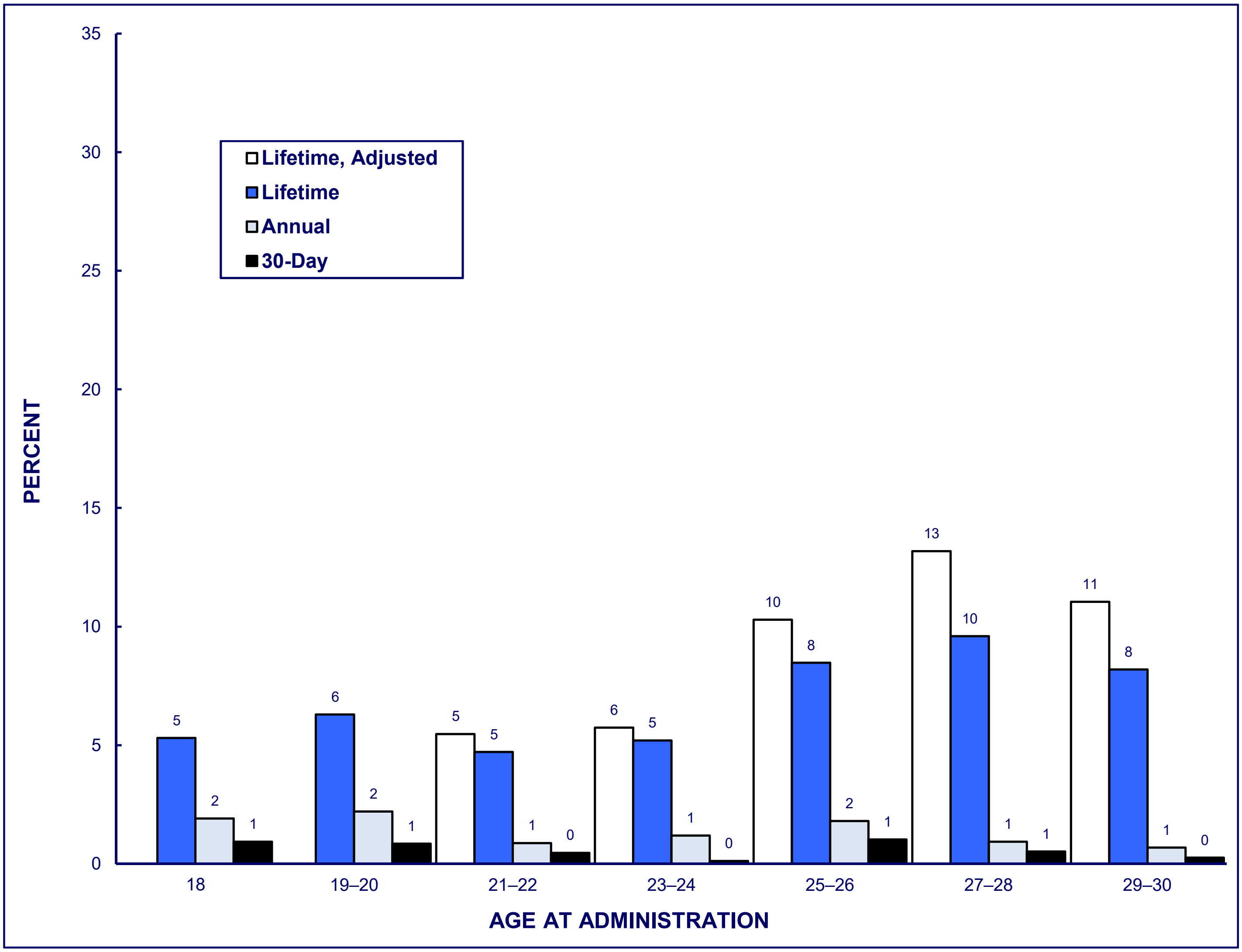

*Source.* The Monitoring the Future study, the University of Michigan.

*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- to 60-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, 2019




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

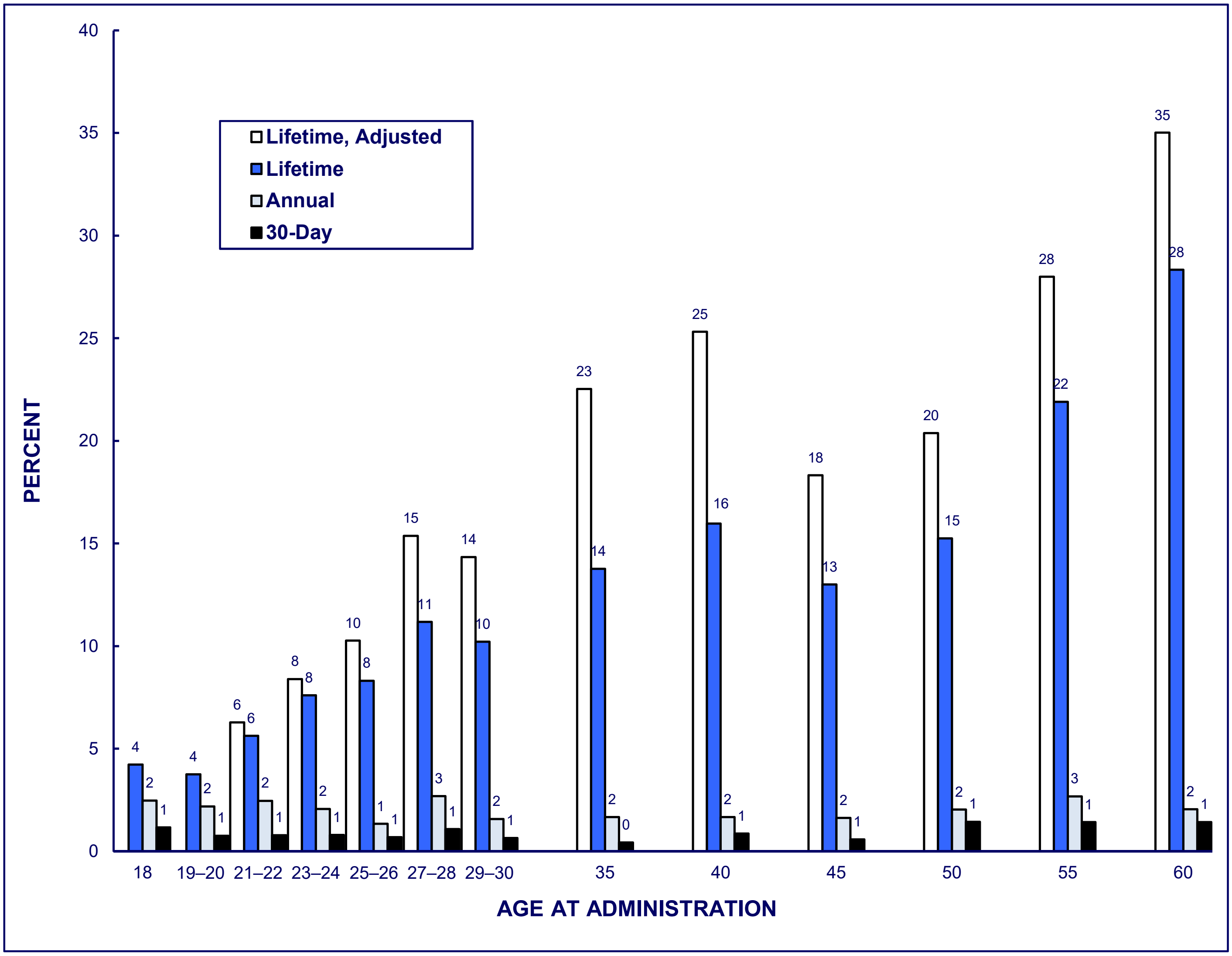
*Notes.* Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.

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- to 60-year-olds.

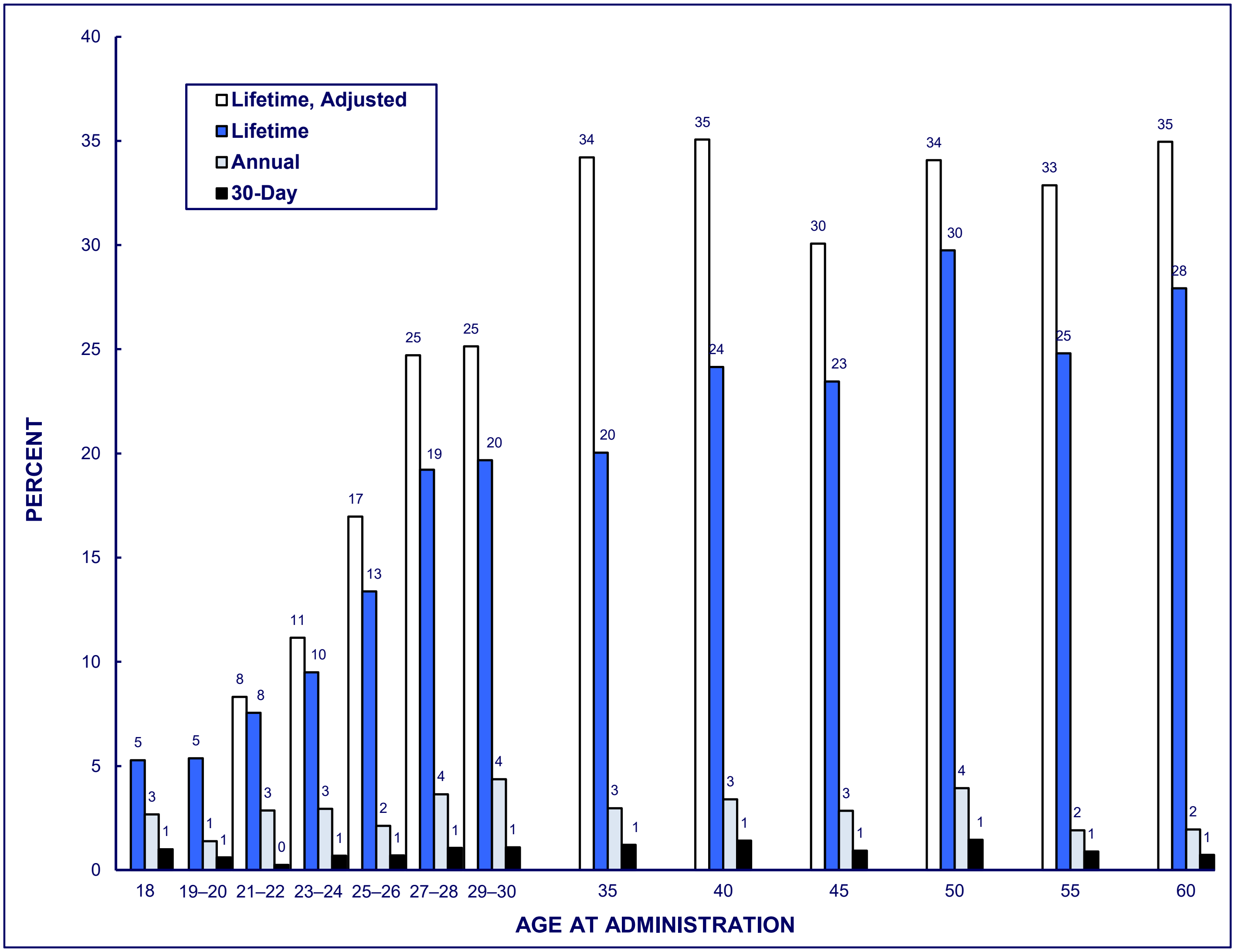
**FIGURE 4-14**
**SEDATIVES (BARBITURATES)**
**Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 60 by Age Group, 2019**




*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.

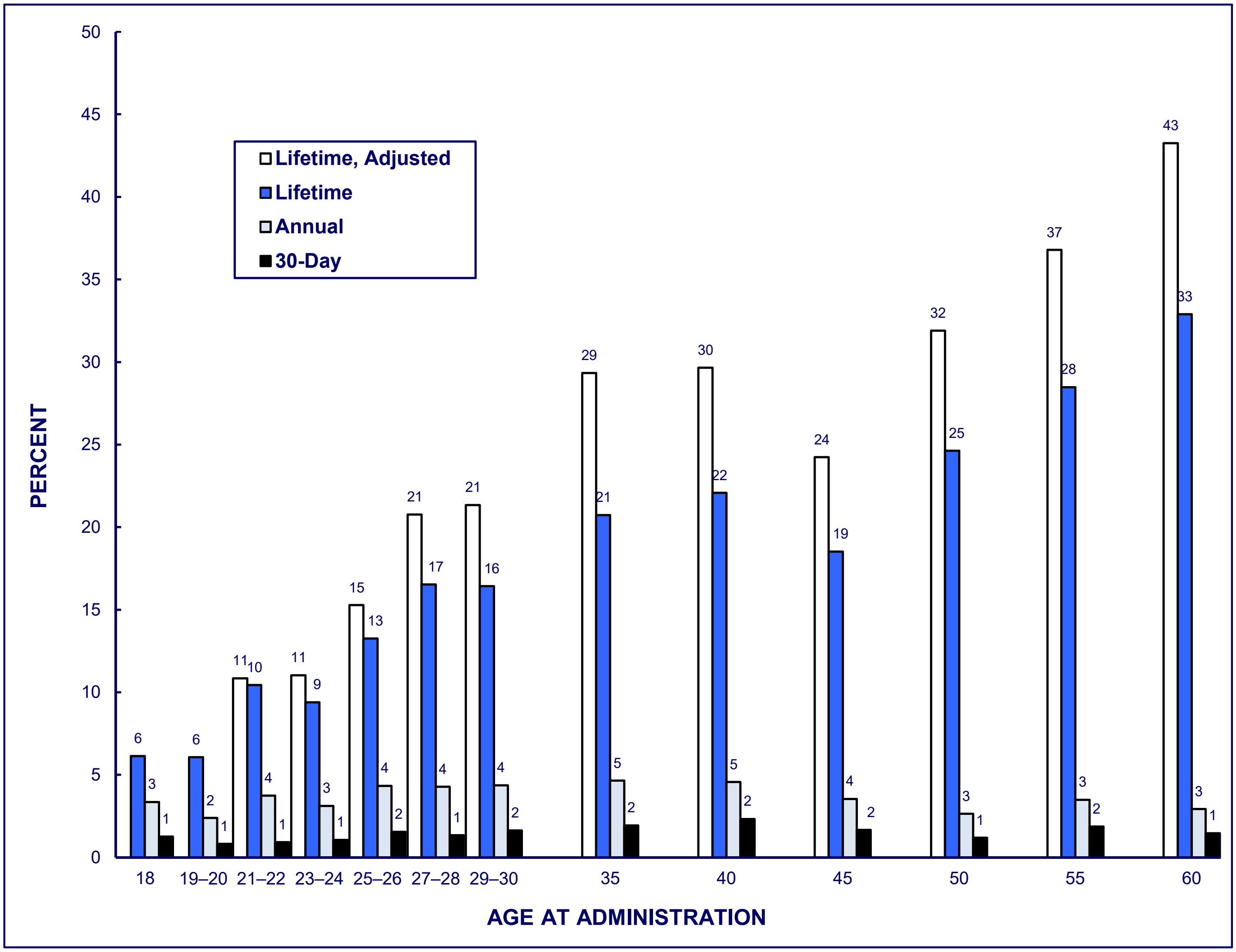
## FIGURE 4-15
## NARCOTICS OTHER THAN HEROIN
## Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 60 by Age Group, 2019




*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.

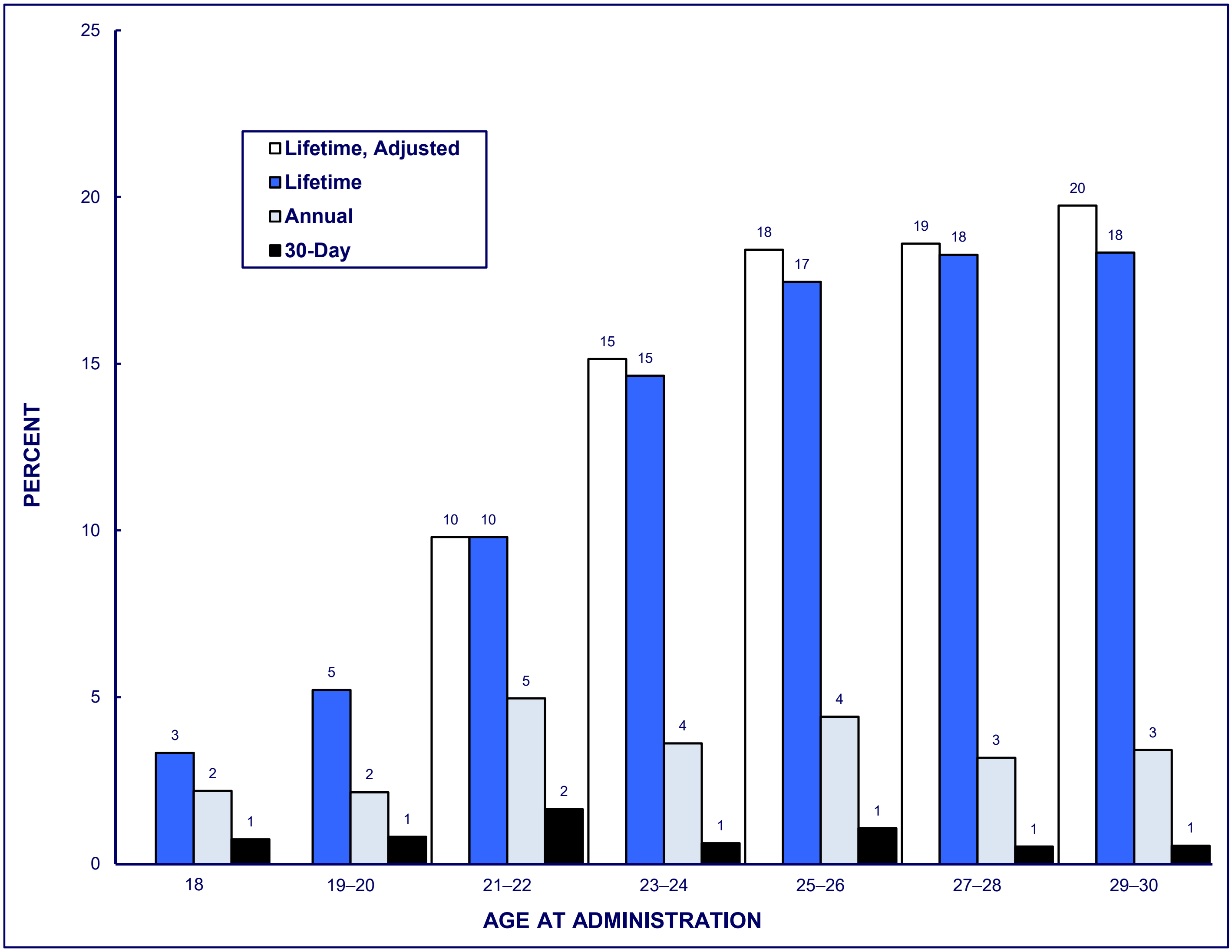
# FIGURE 4-16
## TRANQUILIZERS
## Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 60 by Age Group, 2019




*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
## MDMA (Ecstasy, Molly)
## Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 30 [a] by Age Group, 2019




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

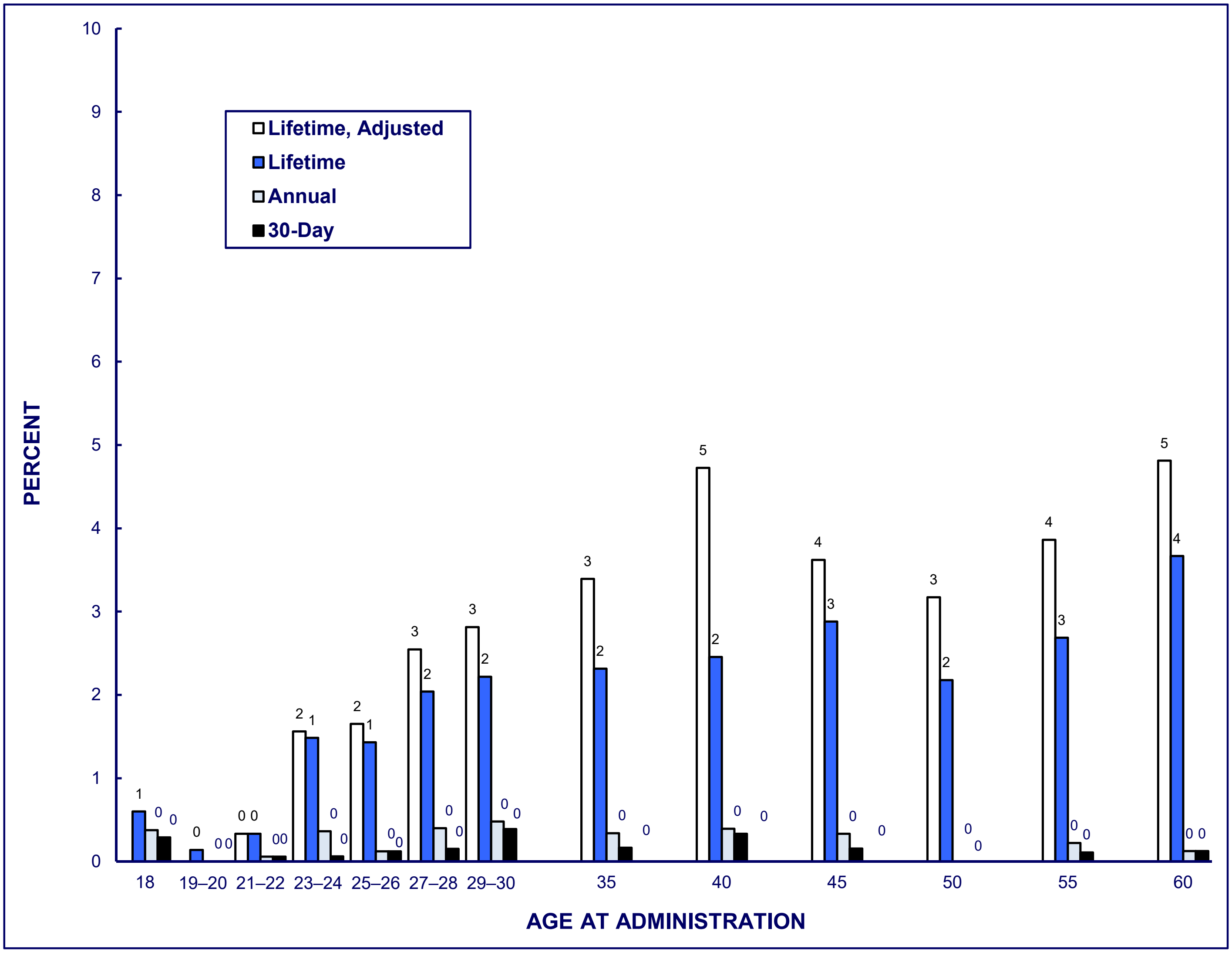
*Notes.* Lifetime prevalence estimates were adjusted for inconsistency in self-reports of drug use over time. See text for discussion.
Due to rounding, some bars with the same number may have uneven height.

[a]Questions about the use of MDMA (ecstasy, Molly) were not included in the questionnaires for 35- to 60-year-olds.

## FIGURE 4-18

## HEROIN

## Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 60 by Age Group, 2019

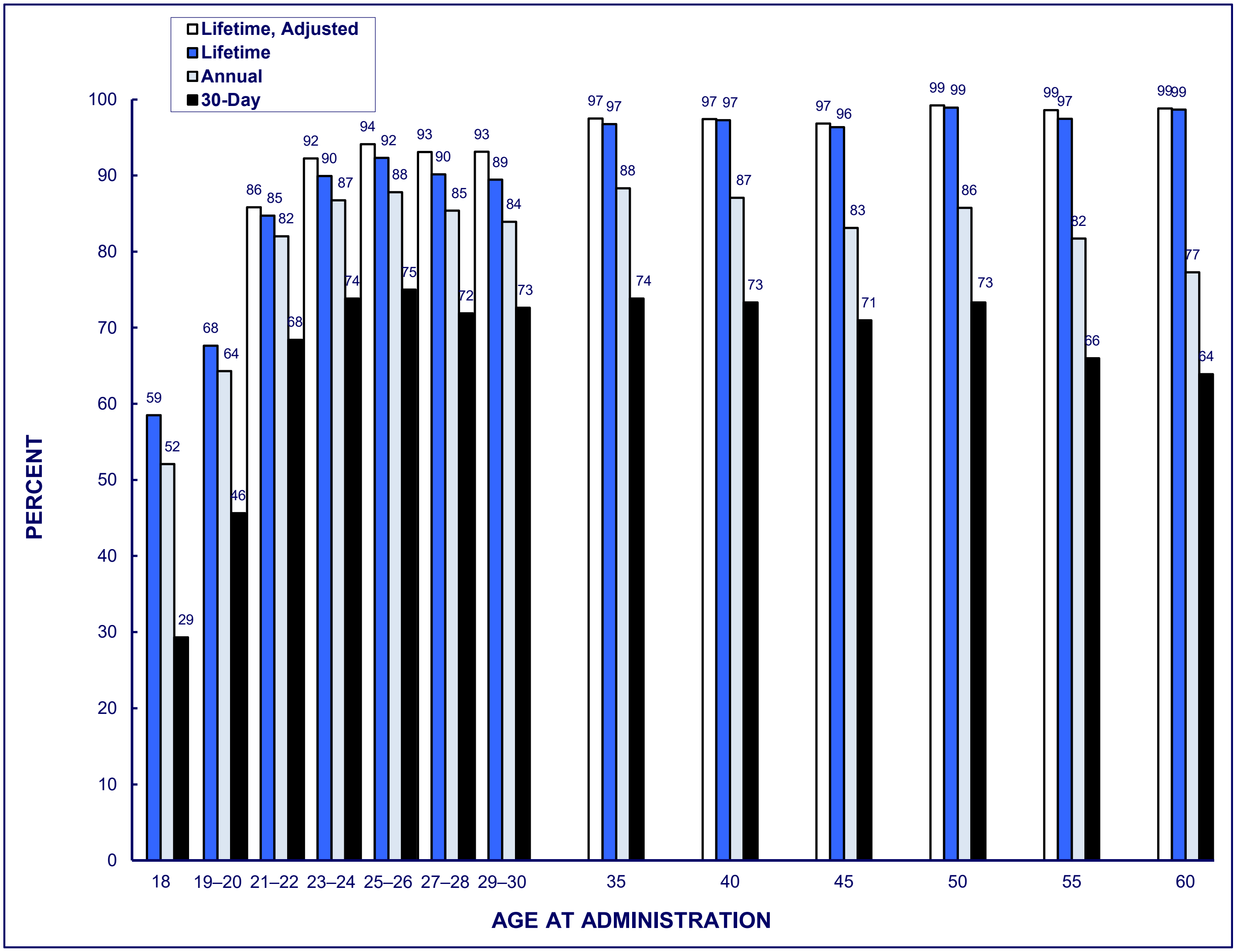



*Source.* The Monitoring the Future study, the University of Michigan.

*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.

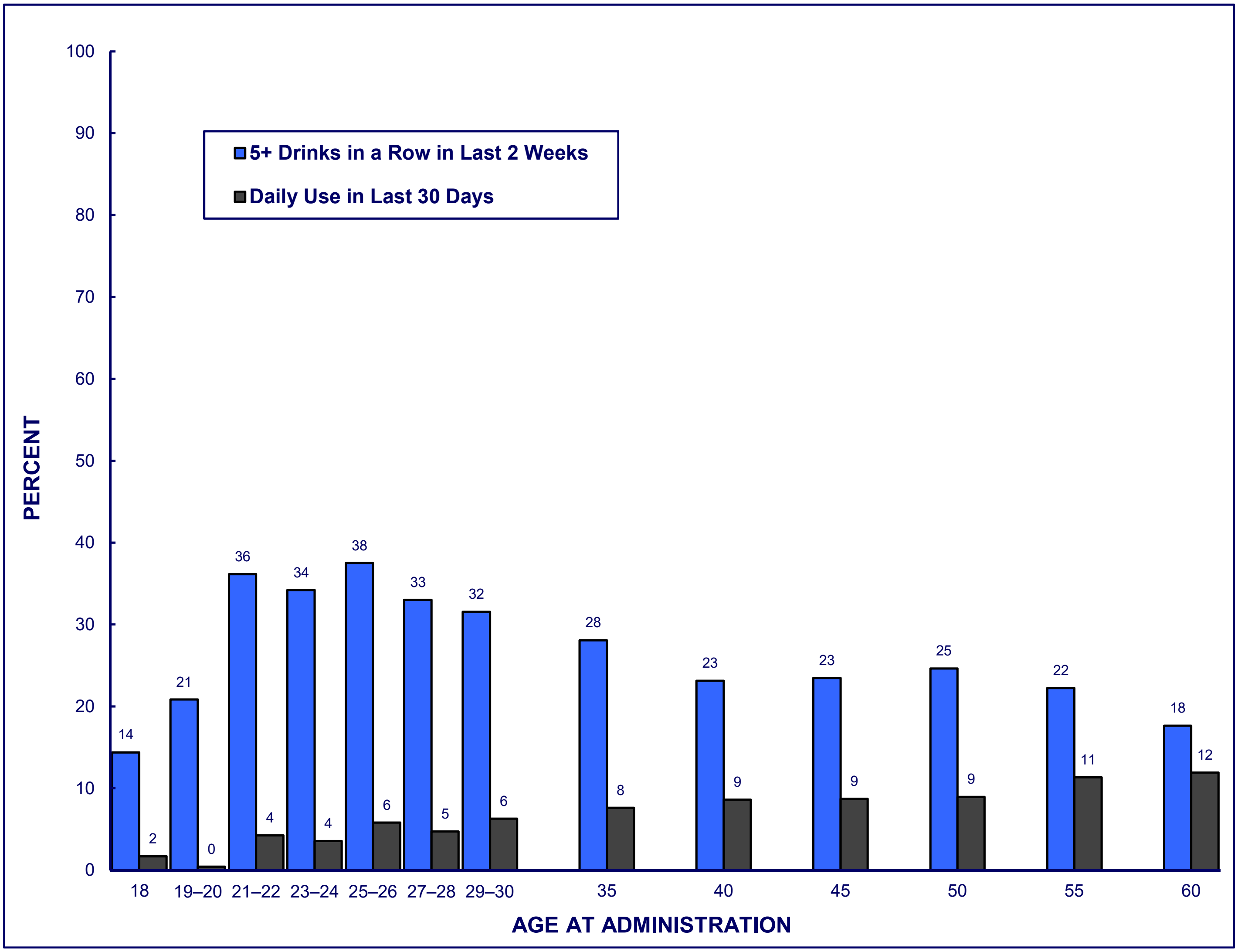
## FIGURE 4-19a
## ALCOHOL
## Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 60 by Age Group, 2019




*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 4-19b
## ALCOHOL
## 2-Week Prevalence of 5 or More Drinks in a Row and 30-Day Prevalence of Daily Use by Age Group, 2019



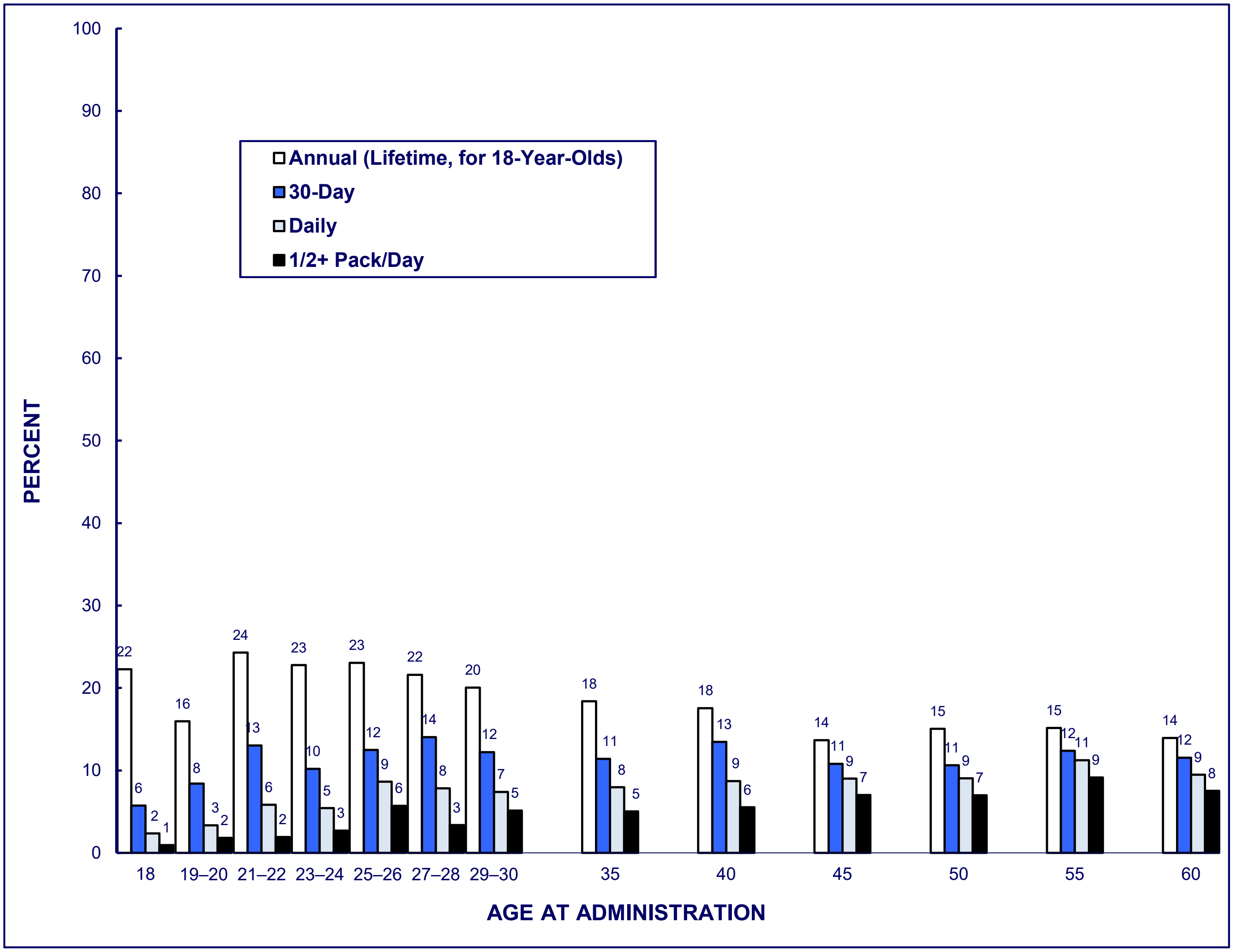

*Source.* The Monitoring the Future study, the University of Michigan.

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

**FIGURE 4-20**

**CIGARETTES**

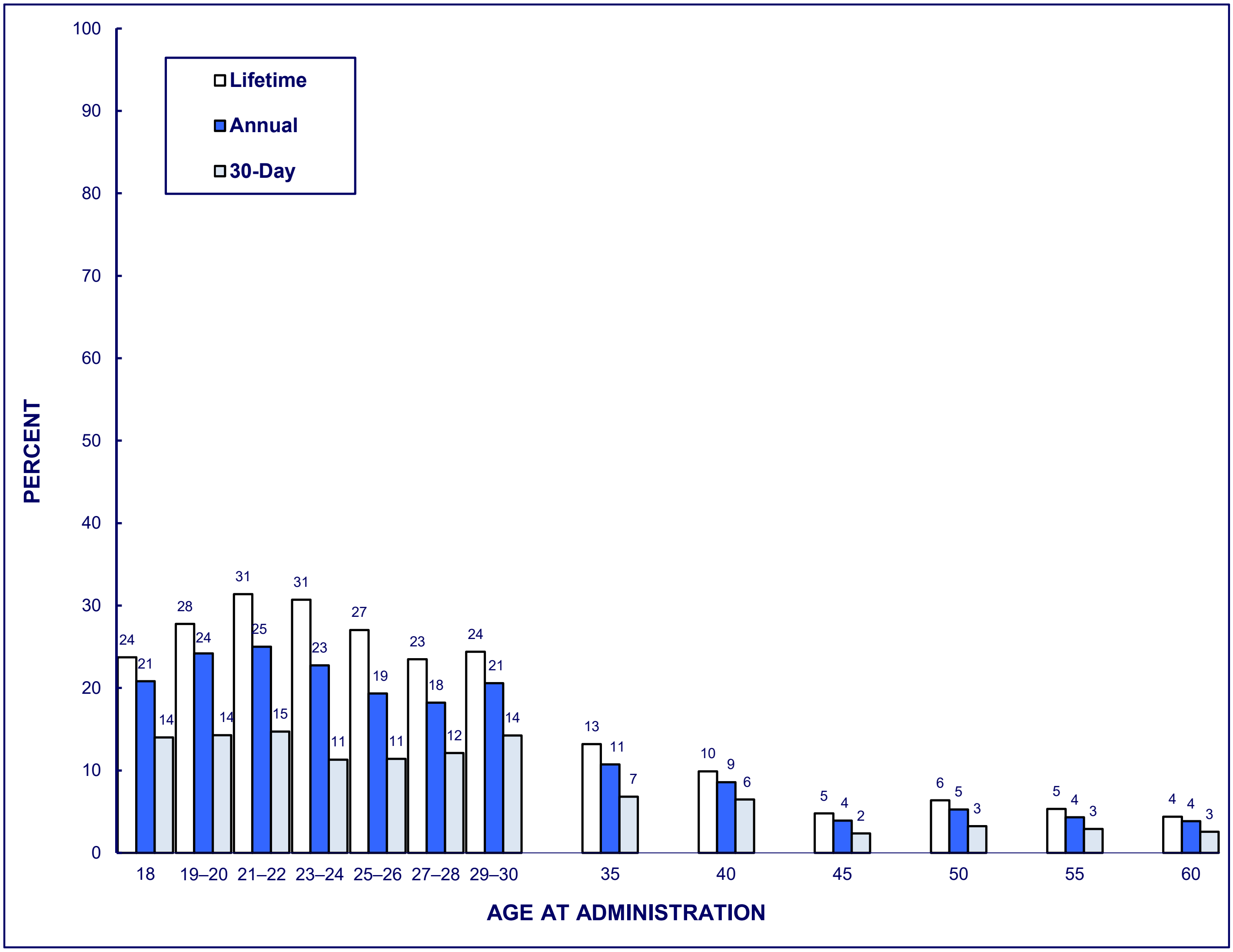
**Annual, 30-Day, Daily, and Half-Pack-a-Day Prevalence among Respondents of Modal Ages 18 through 60 by Age Group, 2019**




*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**
**VAPING MARIJUANA**
**Lifetime, Annual, and 30-Day Prevalence**
**among Respondents of Modal Ages 18 through 60**
**by Age Group, 2019**



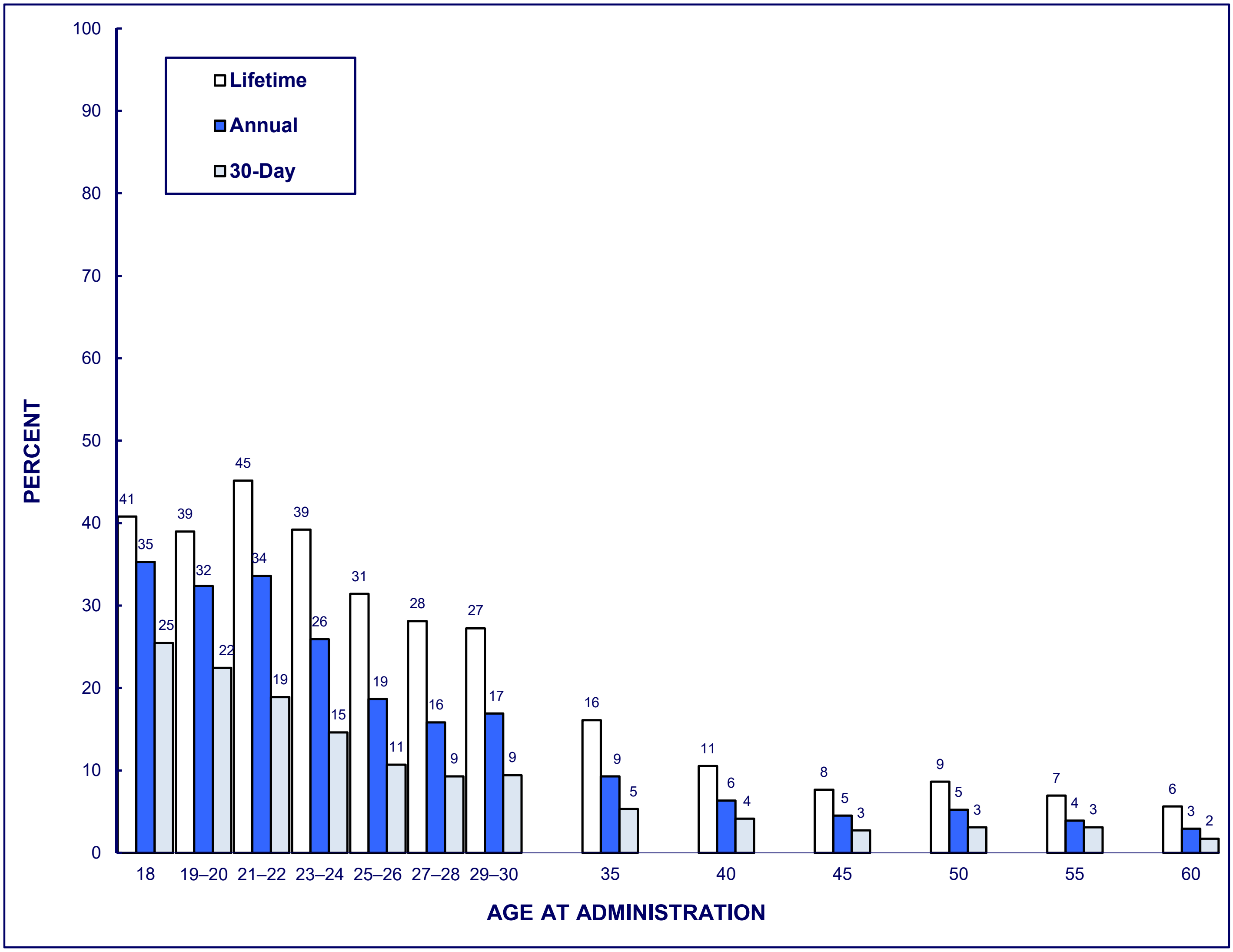

*Source.* The Monitoring the Future study, the University of Michigan.

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

**FIGURE 4-22**

**VAPING NICOTINE**

**Lifetime, Annual, and 30-Day Prevalence among Respondents of Modal Ages 18 through 60 by Age Group, 2019**




*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 2019 in substance use for various age bands from early to later adulthood, ages 19 through 60**.** 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 for 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*.

Figures 5-1 through 5-21 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 680 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, 55, and 60 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. In 2019, the 35 year olds are graduates from the high school class of 2002 (weighted $N$ = 714, the 40 year olds from the high school class of 1997 (weighted $N$ = 702), the 45 year olds from the high school class of 1992 (weighted $N$ = 792), the 50 year olds are graduates from the high school class of 1987 (weighted $N$ = 736), the 55 year olds are graduates from the high school class of 1982 (weighted $N$ = 795), and the 60 year olds are graduates from the high school class of 1977 (weighted $N$ = 880). The unweighted actual $N$s are somewhat higher. Modal age 55 was first added to the survey in 2013, providing five-year trends in 2018; modal age 60 was just added last year, so we include 2018 and 2019 estimates in the figures. The figures also include trend data for 18 year olds for comparison purposes. 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 19-28 year olds *combined*—who we call "young adults"—providing an overall view of the first decade after high school. Data are given for each year in which they are available for that full age band (i.e.,

---

[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. We no longer present trends on the age 31-32 year band; for such trends, please see the previous editions 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 any 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 2019 data, the 19-20 year old stratum is composed of participating respondents from the high school graduating classes of 2018 and 2017, respectively; the 21-22 year old stratum contains data from the classes of 2016 and 2015, respectively; and so on.

from 1986 onward). The percentage point *changes* between 2018 and 2019 are listed in the second to last column, along with an indication about the statistical significance of this one-year change. We also include percentage point changes over the past five years (2014-2019) 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 5-21.

It is important to note the reported age differences often reflect both cohort effects and secular trends. For example, 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. We note these likely cohort effects in this chapter.

As we discuss in Chapters 3 and 4, for both the 2018 and 2019 data collections of 19-30 year olds, we randomly assigned half to receive typical mail surveys and half to a web-push condition (in which they were encouraged to complete a web-based survey but, if they did not, were sent a paper questionnaire). As we show in Chapter 4 when discussing 2019 prevalence estimates for 19-30 year olds, relatively few prevalence estimates varied significantly between the two conditions (which was also the case in 2018); thus the two conditions were combined in a weighted average in that chapter and exceptions (i.e., when estimates between the two conditions differ significantly) are noted in the tables and summarized in the text. In this current chapter on trends, we combine the estimates from the two conditions in both 2018 and in 2019, and we note the relatively few significant differences between conditions in Tables 5-1 through 5-4.

## 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) and selectively by young adult age groups (Figures 5-1 through 5-21). Longer term trends for individual age groups of young adults and older adults are summarized in the next section.

- In 2019 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 0.9 percentage points over 2018 prevalence to reach 44%. This is up from the most recent low of 32% in 2006 (Table 5-2). As shown in the last column in Table 5-2, this prevalence increased a significant 6.7 percentage points over the past five years, that is, since 2014. Correspondingly, 30-day use of any illicit drug increased a significant 2.3 percentage points over 2018 to 29% in 2019; this is a significant 6.6 percentage point increase over the past five years (since 2014) (Table 5-3). These increases primarily have been due to the increases in marijuana use.

- ***Marijuana*** use showed a one-year nonsignificant 1.0 percentage point rise in annual prevalence to 40% in 2019 for 19-28 year olds, up from 28% in 2006—the most recent low point. Annual use for 19-28 year olds combined in 2019 is an all-time high since the study began tracking this age group in 1986 (Table 5-2). The five-year change in annual marijuana use was a significant increase of 8.5 percentage points for 19-28 year olds.

  Thirty-day use of marijuana increased significantly over 2018 by 2.5 percentage points, rising to 27% in 2019, also an all-time high for the study; the five year trend increased by a significant 7.4 percentage points (Table 5-3). *Thus, in 2019, annual and 30-day marijuana use among young adults aged 19-28 are at the highest levels in the 34 years that MTF has been monitoring their use.* (This highlights one of the unique design features of MTF, as discussed in Chapter 3; we strive to maintain consistency in measures and procedures, thus allowing for such long-term historical comparisons.)

  As shown in Figure 5-3a (in table after the figure), the percentage point increases in annual prevalence over the past five years (2014-2019) have been greater for those 21 and over than for younger respondents. In particular, annual use increased across the five years by 1.8 percentage points for 19-20 year olds and 10-11 percentage points for those aged 21-28; 2019 prevalence was 40% for 19-20 year olds, 45% for 21-22 year olds, and 36-41% for 23-28 year olds.

  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 2019 (e.g., between 2014 and 2019 , annual use rose 6.2, 13.2, 6.7, 5.3, and 4.4 percentage points, respectively, for 35, 40, 45, 50, and 55 year olds; 2019 prevalence was 26%, 26%, 17%, 18%, and 16%, 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) increased among young adults a significant 1.5 percentage points between 2018 and 2019 to 9.4%, *also the highest level ever observed in this young adult population since tracking their use began 34 years ago.* It is about four times higher than the level in 1992 (2.3%), the low point since 1986 (Table 5-4). Daily marijuana increased a significant 2.5 percentage points over the past five years. *Thus, as of 2019, almost one-in-ten young adults aged 19-28 is a daily marijuana user.*

- With regard to marijuana use, there has been a recent cross-over in terms of age differences, with those in their early 20s showing higher prevalence than $12^{th}$ graders of annual use (since 2016), 30-day use (since 2015), and daily marijuana use (since 2014); the gaps have grown larger in the past few years, and now all groups 19-28 show higher prevalence than $12^{th}$ graders. In previous years, up until this cross-over, $12^{th}$ graders had higher or similar prevalence levels. A similar pattern is found for annual prevalence of the index of any illicit drug other than marijuana (Figure 5-2).

- New questions about ***vaping marijuana*** were added to two of six forms of the young adult surveys in 2017 and 2018, and to four forms in 2019. *Annual* prevalence of vaping marijuana was 13% in 2017, 16% in 2018, and 22% in 2019 among 19-28 year olds overall, showing significant increases each year (Table 5-2). For the individual young adult age groups from 2017 to 2019, annual prevalence increased from 12% to 24% for ages 19-20, 11% to 25% for ages 21-22, 17% to 23% for ages 23-24, 11% to 19% for ages 25-26, and 12% to 18% for ages 27-28. Thus, between 2017 and 2018, annual vaping of marijuana increased significantly for 19-28 year olds, with increases being especially large for 19-22 year olds (prevalence at least doubled from 2017 to 2019) and present in all age groups; it was highest in both 2017 and 2018 among 23-24 year olds at 17%, and highest in 2019 among 19-22 year olds at 24-25%.

  *Thirty-day* prevalence of vaping marijuana was 6.6% in 2017, 9.3% in 2018, and 13% in 2019 among 19-28 year olds overall, showing a significant one-year increase in each year (Table 5-3). For the individual young adult age groups, trends are shown in Figure 5-20. From 2017 to 2019, 30-day prevalence increased 6.0% to 14% for ages 19-20, 6.1% to 15% for ages 21-22, 8.4% to 11% for ages 23-24, 4.6% to 11% for ages 25-26, and 7.4% to 12% for ages 27-28. Thus, 30-day prevalence of vaping marijuana increased significantly between 2017 and 2019 for young adults, with increases in all age strata (Table 5-3, Figure 5-20). It is clear that 30-day vaping marijuana is increasing among young adults, and it now appears to be similarly high across the different age groups of young adults (11-15%), suggesting in part a secular trends among young adults. The recent rapid increase in vaping among adolescents[4] may well have generated cohort differences that are reflected in these age groups and that will appear in later age groups in the future.

- Annual use of ***synthetic marijuana*** remained essentially unchanged in 2019 at 1.2% (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 from 2014 was not significant. This decline parallels a sharp decline in synthetic marijuana use among secondary school students.

- Annual use of ***any illicit drug other than marijuana*** was level in 2019 (19%) among young adults (Table 5-2). It has been relatively level since 2003 (ranging between 17% and 21%), but there was a significant five-year decrease from 2014 to 2019 (showing a 2.4 percentage point decline). As summarized below, the five-year modest decrease in this index of any illicit drug other than marijuana is due to a mix of significant five-year declines in many drugs (***narcotics other than heroin, amphetamines, sedatives (barbiturates),*** and ***tranquilizers)***, significant five-year increases in some (***LSD*** and ***cocaine***), and no change in others (***hallucinogens other than LSD***, and ***heroin***).

- Annual prevalence of ***hallucinogens*** and ***hallucinogens other than LSD*** among young adults remained level in 2019 (5.1% and 3.2%, respectively), and the same was true for five-year (2014-2019) trends. ***LSD*** increased a significant 1.3 percentage points over the

[4] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). *Monitoring the Future national survey results on drug use, 1975-2019: Volume I, Secondary school students*. Ann Arbor: Institute for Social Research, University of Michigan.

five-year period to 3.5% in 2019; however, the one-year change was not significant (Table 5-2).

- The annual prevalence of ***cocaine*** (any type including crack and cocaine powder) among young adults remained level between 2018 and 2019 (6.5%), and showed a five-year (2014-2019) significant 1.5 percentage point increase. It has been trending upward since reaching an all-time low of 3.9% in 2013 (Table 5-2). Annual use of ***crack***, has remained very low the past five years (ranging between 0.3% and 0.7%) among young adults, indicating that this drug is now all but forgotten—among young adult high school graduates, at least.

- Several 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 2019 to 2.6%, as well as a significant five-year decline of 3.7 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 3.2 percentage points to just 1.6% in 2019; its peak was 9.3% in 2005. ***OxyContin*** appears to have leveled at very low prevalence over the past five years (1.9% in 2019). Narcotics constitute an important class of substances, accounting for many overdose deaths,[5] so the fact that use is continuing to decline among young adults is a very favorable development for the nation's health.

- The annual use of ***amphetamines*** declined a significant 1.2 percentage points over the past five years from an all-time high of 8.0% in 2014 to 6.9% in 2019 (the one-year change was not significant). Despite this change, it has been fairly level since 2010 (ranging between 6.9% and 8.0%) (Table 5-2). Annual nonmedical use of ***Adderall*** decreased a significant 2.1 percentage points from the all-time high of 9.1% in 2018 to 7.0% in 2019[6]; the five-year trend was not significant. Annual nonmedical use of ***Ritalin*** leveled in recent years at 1.2% to 1.8% between 2014 and 2019.

- Annual prevalence levels of both ***sedatives (barbiturates)*** and ***tranquilizers*** have been declining somewhat in recent years among young adults, both now at all-time lows for the past two decades. Both declined significantly over the past five years (2014-2019), with annual use of sedatives (barbiturates) declining 1.0 percentage points to 2.2% in 2019 and tranquilizers declining 1.2 percentage points to 3.6% in 2019; one-year changes for both were not significant (Table 5-2).

- Annual use of ***MDMA*** (***ecstasy***, and more recently ***Molly***) declined a significant 1.4 percentage points over the past five years (2014-2019), reaching 3.7% in 2019; the one-year change was not significant. Note that in 2014, we added Molly as an example (Table 5-2).

[5] National Institute on Drug Abuse (2019). *Overdose death rates.* Accessed July 30, 2019.

[6] The prevalence of Adderall, a subclass of amphetamines, is asked on three of the six questionnaire forms, whereas the prevalence of amphetamines is asked on all six forms. Among all age groups, the annual prevalence of Adderall was similar to the annual prevalence of amphetamines, reflecting that Adderall is a commonly used amphetamine. When annual prevalence of Adderall slightly exceeds the annual prevalence of amphetamine, this is likely a matter of random sample variation due to relatively small sample sizes for Adderall combined with the relatively low prevalence estimates of both.

- ***Alcohol*** use among young adults has been fairly level in recent years, with a few exceptions noted below. Annual prevalence both of use and of ***been drunk*** was fairly level over the past year and past five years (81% and 62%, respectively, in 2019) (Table 5-2). The *30-day prevalence* of alcohol use and of been drunk were also fairly level over the past year and past five years (67% and 36%, respectively, in 2019) (Table 5-3).

  The annual use of ***alcoholic beverages mixed with energy drinks*** was fairly level over the past year and past five years (33% in 2019) (Table 5-2). The annual use of ***flavored alcoholic beverages***, however, showed a significant 6.6 percentage point increase over the past five years from 55% in 2014 to 62% in 2019 (the one-year 4.9 percentage point increase was not significant) (Table 5-2). Likewise, the 30-day use of flavored alcoholic beverages increased a significant 5.8 percentage points between 2018 and 2019 (to 35%), and a significant 8.2 percentage points over the past five years (Table 5-3).

  ***Binge drinking***—having five or more drinks at least once in the prior two weeks—was level over the past year and past five years (at 32% in 2019). The recent high for such use was in 2008 at 38%; it then declined through 2015 (32%) and remained level through 2019 (Table 5-4).

  Starting in 2005, we included a set of questions concerning ***high-intensity drinking*** (also known as ***extreme binge drinking***). The questions asked respondents about the frequency in the past two weeks of having 10 or more drinks in a row (included on one of six questionnaire forms through 2014, on two forms 2015-2018, and five forms in 2019), and also of having 15 or more drinks in a row (included on one of six questionnaire forms throughout). The prevalence of having ***10 or more drinks*** one or more times in the past two weeks increased a significant 3.4 percentage points between 2018 and 2019 (to 11.5%); the five year trend was not significant, however, and over the past five years it has ranged from 7.3% to 11.5%. The prevalence of having ***15 or more drinks*** showed a one-year and five-year significant decline to 1.5% in 2019; it has ranged between 3.7% and 1.5% over the past five years (Table 5-4).

- ***Cigarette smoking*** among young adults significantly declined over the past five years (2014-2019), a continuation of longer-term declines and reaching historic lows in 2019. Between 2014 and 2019, *annual prevalence* declined a significant 5.4 percentage points to 22% in 2019 (Table 5-2), *30-day prevalence* declined a significant 5.8 percentage points to 12% in 2019 (Table 5-3), *daily smoking* declined a significant 4.5 percentage points to 6.2% in 2019 (Table 5-4), and *smoking half-pack-a-day* or more declined a significant 3.4 percentage points to 3.1% in 2019 (Table 5-4); none of the one-year trends was significant. *On all of these measures of smoking, the 2019 levels were at historic lows.* This pattern of significant decline follows appreciable declines to historic lows among high school seniors and is consistent with a cohort effect working its way up the age spectrum (Figures 5-19a, b, and c).

- In 2017, we expanded the questions about vaping on two of the six young adult survey forms to assess substances being vaped, specifically for nicotine, marijuana, and "just flavoring." Beginning in 2019, the vaping items were on four of the six young adult survey forms, and were on the age 35 and older forms (as summarized in Chapter 4 regarding 2019 prevalence). *Annual* prevalence of ***vaping nicotine*** was 14% in 2017, 18% in 2018, and 25% in 2019 among 19-28 year olds, showing a significant one-year increase in both 2018 and 2019 (Table 5-2). For the individual young adult age groups from 2017 to 2019, annual prevalence increased from 14% to 32% for ages 19-20, from 17% to 34% for ages 21-22, from 15% to 26% for ages 23-24, from 12% to 19% for ages 25-26, and from 12% to 16% for ages 27-28. Thus, annual prevalence of vaping nicotine significantly increased between 2017 and 2019 for young adults, with the increase being especially large at ages 19-22 (prevalence doubled for these ages between 2017 and 2019), where use was highest in 2019 at 32-34%.

*Thirty-day* prevalence of ***vaping nicotine*** was 6.5% in 2017, 11% in 2018, and 15% in 2019 among 19-28 year olds, showing a significant one-year 4.0 percentage point increase in 2018 and 4.4 percentage point increase in 2019 (Table 5-3). For the young adult age groups, trends are shown in Figure 5-21. Between 2017 and 2019, 30-day prevalence increased from 7.4% to 22% for ages 19-20, from 6.0% to 19% for ages 21-22, from 8.3% to 15% for ages 23-24, from 3.6% to 11% for ages 25-26, and from 7.2% to 9.3% for ages 27-28; thus, between 2017 and 2019, 30-day vaping nicotine increased significantly among young adults aged 19-28, with the increase being largest among 19-22 year olds, who had the highest level at 19-22% in 2019 (Table 5-3, Figure 5-21). *It is clear that vaping nicotine is increasing among young adults, especially among 19-22 year olds.*

The recent rapid increase in vaping nicotine among adolescents[7] may well have generated cohort differences that are reflected in these age groups and may also be related to increases in older age groups in the future. It remains an open question whether nicotine vaping will continue to decline with advancing age or whether it will remain primarily at levels set in young adulthood, a pattern seen for cigarette use.

### Selective Summary of Recent Trends among Young Adults

In summary of the recent trends among young adults age 19-28, ***marijuana*** use increased to all-time highs in 2019, which is true for annual use, 30-day use, and daily use; the five-year increases from 2014 to 2019 for all three levels of marijuana use were significant. As of 2019, four-in-ten young adults (40%) used marijuana at least once in the past 12 months, over one-in-four (27%) used it at least once in the past 30 days, and nearly one-in-ten (9.4%) was a daily or near-daily marijuana user in the past 30 days.

Concerning the index of ***illicit drugs other than marijuana***, annual use has been relatively steady the last few years, with the five-year trend (2014-2019) showing a small significant decline (to 19% in 2019). The five-year modest decrease in the annual prevalence of this index of any illicit drug other than marijuana was due to a mix of changes among individual drugs that make up this index. There were significant five-year increases in annual prevalence of ***LSD*** (3.5% in 2019) and of ***cocaine*** (to 6.5% in 2019). Annual prevalence of ***hallucinogens*** overall, and of ***hallucinogens other than LSD*** were level over the past five years (5.1% and 3.2%, respectively, in 2019). There were significant five-year declines in nonmedical annual prevalence of ***narcotics other than***

[7] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). *Monitoring the Future national survey results on drug use, 1975-2019: Volume I, Secondary school students*. Ann Arbor: Institute for Social Research, University of Michigan.

***heroin*** (to 2.6% in 2019), of ***amphetamines*** (to 6.9% in 2019), of ***sedatives (barbiturates)*** (to 2.2% in 2019), and of ***tranquilizers*** (to 3.6% in 2019). In addition, annual prevalence of ***MDMA (ecstasy***, ***Molly)*** (which is not included in the index of illicit drugs) decreased significantly over the past five years to 3.7% in 2019.

***Alcohol*** use among young adults has been level in recent years for the most part. Prevalence of annual use, 30-day use, and ***binge drinking*** were fairly level over the past five years (81%, 67%, and 32%, respectively, in 2019). There were significant one-year and five-year increases in 30-day prevalence of ***flavored alcoholic beverages***, reaching 35% in 2019. Prevalence of ***having 10 or more drinks in the past two weeks*** showed a one-year significant increase to 12% in 2019 (although the longer-term trend has been one of uneven decline).

***Cigarette*** use continued to decline to all time-lows in 2019. The five-year declines were significant for annual prevalence (to 22% in 2019), 30-day prevalence (to 12% in 2019), daily prevalence (to 6.2% in 2019), and half-pack a day prevalence (to 3.1% in 2019).

Finally, based on new vaping questions added to the young adult surveys beginning in 2017, annual and 30-day prevalence of ***vaping marijuana*** showed significant increases in 2019 for 19-28 year olds (to 22% and 13%, respectively, in 2019); the increases were especially large at ages 19-22, with this age group having the highest annual (24-25%) and 30-day (14-15%) prevalence in 2019. Annual and 30-day prevalence of ***vaping nicotine*** also showed significant increases in 2019 for 19-28 year olds (to 25% and 15%, respectively); the increases were again especially large at ages 19-22, with this age group having the highest annual (32-34%) and 30-day (19-22%) prevalence in 2019. These annual and 30-day increases in vaping marijuana and nicotine, especially among those aged 19-22, are among the largest in MTF history for any substance.

## LONGER-TERM TRENDS IN EARLY AND MIDDLE ADULTHOOD

In this section we consider longer-term trends among 19-28 year olds overall (Tables 5-1 through 5-4), as well as among all age groups individually (Figures 5-1 through 5-21), giving attention to how trends have varied by age and by 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 19-28 year olds overall, 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 happened after that, 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 19-20 year olds in 1994, the 21-22 year olds in 1996, the 23-26 year olds in 1999, the 29-30 year olds in 2004, and the 35 year olds in 2008. The 40, 45, 50 and 55 year olds did not show much systematic increase in any illicit drug use through about 2014.

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[8]; 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 21-22 year olds began to show a rise. The older age bands then tended to show increases fairly sequentially, with 29-30- 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 rose not only among the 18 year olds (through about 2011, leveling since then) but also among all age bands through 2019, including uneven increases for 35 to 45 year olds (and for 50 and 55 year olds since 2008 and 2013, respectively, when

[8] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). *Monitoring the Future national survey results on drug use, 1975-2019: Volume I, Secondary school students*. Ann Arbor: Institute for Social Research, University of Michigan.

data became available), 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 18-30 year olds came to have distinctly higher levels of daily marijuana use than the older age groups, again reflecting stable cohort differences and perhaps some new age effects emerging 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 through 2015. 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 2019 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 as all age groups moved in parallel, 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 19-20 year olds, in 2000 among 21-22 year olds, in 2002 among 23-24 year olds, in 2005 among 29-30 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 showed some decline for 12th graders and 19-20 year olds, uneven increases for 25-30 year olds, and somewhat uneven changes for the other age groups, typically resulting in little net change in the past decade. In the past few years, there has been a widening gap among 21-30 year olds and the other age groups (including older adults).

- Regarding differences in trends by age groups, we note that 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*** or ***cocaine***. 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 young adults for use of ***any illicit drug***, ***marijuana***, ***hallucinogens***, ***LSD*** specifically, ***crack cocaine***, ***tranquilizers***, and ***crystal methamphetamine*** (***ice***). However, as summarized above regarding recent trends in marijuana use, there has been another crossover for most of these drugs, with 12th graders again having lower annual prevalence than those in their early to mid-20s.

- 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.[9] 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 generally has been 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 19-20 year olds, and next greatest among 21-22 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 19-20 year olds. There was some subsequent increase among 21-22 year olds and, later still, an increase among 23-24 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 levels 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 again in the 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 19-20 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 18-24 year olds, who had attained the highest prevalence of LSD use.

[9] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). *Monitoring the Future national survey results on drug use, 1975-2019: Volume I, Secondary school students*. Ann Arbor: Institute for Social Research, University of Michigan.

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 28; in the past few years, use also has increased unevenly among the 29-30 year olds. Among 35 year olds, use has been near-zero (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, specifically, 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, again indicating a cohort effect at work. From about 2003 through 2019, the prevalence of use of hallucinogens other than LSD has continued to decline gradually among 18-20 year olds, declined gradually and then leveled among 21-24 year olds, and increased unevenly for 25-30 year olds; this resulted in a considerable convergence in use among the various age strata.

- 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. MDMA 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.[10]) Thus it appears that young people from their mid-teens to mid-20s "discovered" MDMA after some years of low and relatively level use. In 2000 the sharp increase in use continued for ages 18 through 26—with highs of over 10% among 19-22 year olds. By 2001 the increase had slowed and even begun to reverse among those aged 23 to 26. We attributed the deceleration in 2001 to a fairly sharp increase in *perceived risk* of MDMA 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 through 2004. 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 and uneven change in MDMA 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 (when the question was changed to include Molly as an example) and 2019, there has been some uneven decrease or leveling in annual MDMA use for most of the age groups (as summarized above).

[10] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). *Monitoring the Future national survey results on drug use, 1975-2019: Volume I, Secondary school students*. Ann Arbor: Institute for Social Research, University of Michigan.

- ***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 19-20 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. Then, from 1994 to 1999, annual prevalence of cocaine use rose some for 18-26 year olds on a somewhat staggered basis, with those aged 27-35 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. Between 2013 and 2014, however, there was a significant increase in cocaine use among young adults ages 19 to 28 combined (but not for 12th graders and those over age 30), and the five-year increase between 2014 and 2019 for 19-28 year olds was also significant as noted above. Between 2014 and 2019 use either leveled or declined for most age groups; however, for those aged 21-28, there was some continued uneven increase, reaching 6.8-7.5% annual use (Figure 5-9). This recent continued increase, at least for those in their early- to late-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 19-28 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 prevalence 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 through 2019 (0.3% 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 as a group, 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 2007; it then was 0.05-0.06% through 2013 and since dropped to 0.02% in 2019. Use among 12th graders has declined since 2000, among 19-20 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 19-28 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 19-20 year olds showed some increase after 1994, 21-22 year olds after 1996, 23-24 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 levels of use by 2001, were replaced by Vicodin, OxyContin, and Percocet. As a consequence of this revision, reported prevalence 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 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 19-28 year olds, annual prevalence reached a peak level of 9.1% in 2006; it has since fallen considerably to 2.6% in 2019 (as discussed above, the one-year and five-year declines were significant). Some turnaround was observed among 19-22 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 remained relatively high in all age groups studied here through about 2009 and 2010, and has since declined considerably for all age groups 18-35, dropping by at least half through 2019 and reaching new lows since at least 2003 (to 1.4-2.9% for 18-26 year olds, and 3.0-4.4% for 27-35 year olds in 2019). Among 40-50 year olds, annual use has fallen somewhat over the past decade from 4.0-5.0% in 2010 to 2.8-3.9% in 2019; annual use among 55 and 60 year olds has been low and fairly level since we included these ages in the study (ranging from 1.9% to 3.9%). Overall, in the past few years, use of this important class of drugs has decreased for most age groups, and especially so in the younger age groups.

- The annual prevalence 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 19-28 year olds. Increases were observed for these two drugs in subsequent years. Among 19-28 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 19-28 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 2019. ***Vicodin*** use (Table 5-2) rose by less, but started from a higher base, with annual prevalence increasing slightly among 19-28 year olds, from 8.2% in 2002 to 8.9% in 2004; it remained at about 9% through 2009, followed by a decline to 1.6% by 2019. 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 outside of medical supervision 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 19-24 year olds; but there was only a small increase among 25-30 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 25-30 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 18-20 year olds and really no decline among the 21-55 year old age strata. After 2009 there was some resurgence in use through about 2014 and 2015, 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 the past five years, as discussed above, annual use declined significantly for 19-28 year olds to 6.9% in 2019; the decline was especially apparent for 19-20 year olds (to 5.6% in 2019), with less decline for 21-26 year olds (to 6.7-8.8% in 2019). Among 27-45 year olds, there were modest uneven increases through 2019 (to 6.5-6.6% for 27-30 year olds and to 1.9-4.3% for 35-45 year olds). Among 50-60 year olds, annual use has been low and fairly level since we included these ages in the study (0.6-1.9%). Thus, while there have been some important declines in recent years for 18-26 year olds, the older age groups have shown relatively little change. 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 most years among 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 levels in the young adult population (Figure 5-14). However, among 19-28 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 19-20 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 unevenly from 2005 through 2019, reaching 0.6%; in 2019. General ***methamphetamine*** use was first measured in 1999; its use was stable until

2005 among 19-28 year olds, with annual prevalence fluctuating between 2.4% and 2.8%. Use has declined since then to 0.5% by 2019 (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 19-20 year olds, by 1997 among 21-22 year olds, by 1998 among 23-24 year olds, by 2001 among 25-28 year olds, and by 2005 among 29-30 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. Sedative (barbiturate) use declined steadily among 18 year olds after 2005, among 19-20 year olds after 2008, and among 21-22 year olds after 2009, suggesting another cohort effect. 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 use leveled for several years after 2008. In 2019 the annual prevalence for the 35-60 year olds were about 2-3%. Over the past decade (2009-2019), annual use declined or leveled for all age groups. The 12$^{th}$ graders have consistently had the highest annual prevalence for nonmedical sedative (barbiturate) use, though their continued decline has resulted in relatively little differences among the age groups in 2016 through 2019. In 2019, there was little variation by age, with annual prevalence ranging from 1.3% to 2.7%.

- ***Tranquilizers*** (Figure 5-16) follow a similar pattern to that just described for sedatives (barbiturates). One difference is that the 12$^{th}$ 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, during the relapse phase of the epidemic, as a result of a greater increase in tranquilizer use among the 12$^{th}$ graders than in the young adult strata. Since about 2004, however, as use rose and then leveled among those in their early 20s, the 12$^{th}$ graders no longer stood out as having the highest rate of tranquilizer use. In fact, the 21-22 year olds or 23-24 year olds had the highest rate in 2005 through 2009; in 2011, the 25-26 year olds had the highest rate; and in 2012 the 27-28 year olds had the highest rate of use. Use then increased among the 29-30 year olds, who had the highest rate in 2015. This was another clear example of a cohort-related pattern of change. Since about 2011 and 2012, use has declined somewhat for 18-35 year olds, and leveled for those aged 40 and older. In recent years, there has not been much differentiation in annual use (it ranged from 2.6% to 4.6% in 2019).

- Use of ***anabolic steroids*** has been substantially lower after high school than during 12$^{th}$ 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 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 8$^{th}$ and 10$^{th}$ graders and from 2001 to 2004 among 12$^{th}$ graders was largely specific to those age groups.) Annual prevalence in 2018 were very low for respondents in all young adult strata of ages 19-30 (ranging from less than 0.1% to 1.0%). Due to the low prevalence, and to make room for questions about other substances, this question was not asked in 2019.

- ***Alcohol*** trends for the older age groups (Figures 5-18a–d) have been somewhat different than for the younger age groups and 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.[11] 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 19-20 year olds. The long term declines in the 30-day prevalence of alcohol use have been substantial—from 72% in 1980 to 29% in 2019 among 18 year olds, and from 77% in 1981 to 46% in 2019 among 19-20 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 has been some leveling or modest increases in use among 21-30 year olds through 2019; and among those 35 and older, there have been consistent increases (since MTF respondents first reached that age through 2019). These trends have resulted in substantial differences in 30-day drinking prevalence in 2019 between 18-20 year olds (29-46%) and 21-60 year olds (64-75%)—much larger differences than when we first looked at teens and young adults in the 1980s.

- ***Binge drinking*** has continued an uneven but substantial decline for 18 and 19-20 year olds since the early 2000s through 2019, reaching the lowest levels ever in 2018 and 2019 at 14% and 21%, 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 41% in 2009 to 36% in 2019. One important segment of that age stratum is composed of college students, and they have shown less decline in alcohol use over the past four decades (see Chapter 9, which also shows prevalence of and trends in ***high intensity drinking***).

  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 21-26 year olds have consistently shown the highest levels of binge drinking (34-38% in 2019). Binge drinking had been gradually increasing since the early 2000s through about 2008 among 25-30 year olds, perhaps reflecting a cohort effect that emerged

[11] 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.

during the period of increasing adolescent binge drinking in the early 1990s, but this has leveled or declined some in recent years for this age group (32-38% in 2019). Among those aged 35 to 55, binge drinking has shown some uneven increases over the years (22-28% in 2019).

From the early 1980s through the mid-1990s, prevalence 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 19-28 year olds combined, daily drinking declined from 1987 (6.6%) to 2000 (4.1%), and has since ranged between 5.6% and 3.8%; over the past five years, it decreased significantly to 3.8% in 2019 (Table 5-4). Daily drinking prevalence now shows a fairly linear age trend, and has generally been highest for 55 and 60 year olds in recent years, whereas daily drinking has declined substantially among 18 year olds and 19-20 year olds over the life of the study. By 2019 there was a considerable difference among the age strata in prevalence of daily drinking, ranging from 1% among 19-20 year olds to 9% to 12% among 45, 50, 55, and 60 year olds.

It is worth noting that the 35, 40, 45, 50, 55, and 60 year olds have had among the lowest prevalence of binge drinking but among the highest prevalence of daily drinking in recent years. These patterns—particularly the high level of daily drinking—likely reflect age effects as well as perhaps some enduring cohort differences (because these cohorts had considerably higher prevalence 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.[12,13] 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.[14,15]

- The prevalence levels 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).

  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 prevalence for various

[12] 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.

[13] 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.

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

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

grade levels *below* senior year; it is the classic pattern exhibited by a cohort effect,[16] 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 prevalence estimates 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.[17-19]

The picture was further complicated in the 1990s when it appeared 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 19-20 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 21-24 year olds did not show an increase until about 1995, and 25-26 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 prevalence 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 were important. The tobacco settlement between the state attorneys general and the major tobacco companies likely played a critical role, because the industry had to raise prices in order to recoup their substantial losses in the settlement. Price increases also were due at least in part to sales tax increases[20] and later federal excise taxes. In addition, there was a great deal of adverse publicity for the tobacco industry along with the introduction of the national anti-smoking campaign of the American Legacy Foundation, an increase in state and national anti-

---

[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.

[17] 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.

[18] 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.

[19] 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

[20] 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.

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 2019, 30-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). In sum, there have been very substantial declines in smoking among all age groups. Since smoking is the leading cause of preventable death and disease in the country, these improvements are extremely important for population health and longevity.

- 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.[21] But as subsequent classes leveled at lower prevalence 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 19-20 year olds after 1992, among 21-22 year olds after 1993 with a sharp rise occurring in 1997, among 23-24 year olds after 1998, among 25-26 year olds after 2000, among 27-28 year olds in 2003, among 29-30 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 in reference to cohort effects, trends up until 1992 in illicit drug use were highly parallel across 12th graders and young adult age groups, indicating a secular trend. (Cigarettes and 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 19-20 year olds, 21-22 year olds, and so on. This divergence indicated a new cohort effect, quite possibly reflecting a generational forgetting[22] 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.

[21] 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.

[22] 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.

## TRENDS FOR DEMOGRAPHIC 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 19-22 year olds since 1980, 23-26 year olds since 1984, and 27-30 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 2019 are available in *MTF Occasional Paper 95*. 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 2019 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 men (who generally had higher rates of use) occurred in the 1980s. The overall picture, though, is one of parallel trends, with use among men 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 95*). 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 2019 (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 19-22 year olds between 1980 and 1989 was also a bit sharper among men than women, narrowing the gap between the two groups. Annual prevalence fell by 22 percentage points (to 34%) among men, compared to a drop of 14 percentage points (to 31%) among women, leaving a difference of three percentage points (Figure 7 in *Occasional Paper 95*). From 1995 through 2019, the gender gap was between 4 and 12 percentage points most years in all three age groups—that is, for 19-22 year olds, 23-26 year olds, and 27-30 year olds. However, the gender gap has narrowed since 2016 for the 19-22 year olds, and in 2019 for the 23-26 year olds. In general, across the years, the trends have been parallel for men and women in each age group. In the past five years (2014-2019), annual use increased 5-7 percentage points for men and women among 19-22 year olds (to 45% and 41%, respectively), 8-10 percentage points among 23-26 year olds (to 40% and 39%), and 13 percentage points among 27-30 year olds (to 44% and 34%). The 2019 annual prevalence for men and women in each age group were at historic highs since the late 1980s.
- New questions about ***vaping marijuana*** were added to two of six forms of the young adult surveys in 2017 and 2018, and to four forms in 2019. In each year, annual and 30-day

prevalence was higher for men than for women, and both increased substantially over the three years for men and women. *Annual* prevalence of vaping marijuana for 19-30 year old men and women was 16% and 9%, respectively, in 2017, 17% and 14% in 2018, and 26% and 16% in 2019. Thus, between 2017 and 2019, it increased 10 percentage points for men and 7 percentage points for women.

For *30-day* prevalence, it was 9% for men and 4% for women in 2017, 10% and 7% in 2018, and 16% and 11% in 2019, showing increases of 7 percentage points for both men and women between 2017 and 2019. Regarding men and women in the three young adult age groups, 30-day prevalence was similar within gender across the age groups in 2017 (7.9-9.3% for men, 3.6-4.8% for women) (Figure 110 in *Occasional Paper 95*). In 2018, the two younger age groups were similar (11-13% for men, 8.5-8.8% for women), each showing one-year increases, but 30-day use did not change much in 2018 age 27-30 men (7.6%) or women (5.0%). In 2019, 30-day vaping marijuana increased for both men and women among 19-22 year olds (to 16% and 14% respectively), remained fairly level among 23-26 year old men and women (15% and 9.2%), and increased significantly among 27-30 year old men and women (18% and 10%). Thus, across the three age groups of young adults, 30-day marijuana vaping increased over the three years (2017-2019) by 6.2 to 8.4 percentage points for men and by 4.4 to 8.9 percentage points for women.

- Between 1980 and 1993, ***daily marijuana*** use for the 19–22 age group fell from 12.9% to 2.9% among men, and 6.1% to 1.7% among women, narrowing the rather large gap that existed in the early 1980s (Figure 9 in *Occasional Paper 95*). As overall use rose after 1993, the gap widened again. Among 23-26 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 men generally being about two percentage points higher than among women through 2005; from 2006 through 2019, the gender gap within the age groups widened somewhat to between three and four percentage points for most years. Consistent with what is true for other marijuana use trends, *daily marijuana use in 2019 was at or near historic highs for both men and women across the three young adult age groups*, at 11% and 7.7% respectively for 19-22 year olds, 12% and 8.3% for 23-26 year olds, and 12% and 6.9% for 27-30 year olds.

- In all three age bands, use of ***synthetic marijuana*** by men has tended to be higher than use by women. In 2011, when use was first measured, it was highest among the 19-22 year olds with men higher than women; it has fallen sharply since 2011 for both genders and the gap between them has closed considerably (Figure 14 in *Occasional Paper 95*). Annual prevalence in 2019 for the 19-22 age group was 1.7% for men and 1.9% for women. 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.

- For ***LSD***, men have consistently had higher rates of use than women (Figure 22 in *Occasional Paper 95*). Among 19-22 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 men having about twice the level of women; annual prevalence in 2019 for men and women were at or near the highest levels since 2001, at 5.1% and 3.9%, respectively. In the two older age bands, use has been lower and there has been less change in use; gender differences had been relatively consistent (with men higher) since data have been available, beginning in 1984 for 23-26 year olds and in 1988 for 27-30 year olds. After 1999 and 2001 for the two older groups, respectively, overall LSD use dropped, substantially narrowing the gender differences. Men 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 23-26 year olds, use increased for men especially in 2016 and 2017, widening the gender gap, with women showing some increase through 2016; in 2018 and 2019, men showed uneven change (to 4.9% in 2019) and women were level (2.3% in 2019). Similarly, the gender gap among 27-30 year olds in annual use of LSD began to widen again as use increased somewhat for men in 2011 and especially 2016 through 2019 (to 4.9%); for women, it also increased in the past few years through 2018, and dropped somewhat in 2019 (to 1.3%). Overall, as discussed above, it appears that there has been some return of LSD use in the last few years among young adults.

- Use of ***hallucinogens other than LSD*** taken as a group has consistently been considerably higher among men 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 95*). 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 at least through 2016. For the 19-22 year olds, it continued to remain fairly level through 2019 (5.8% for men, 2.6% for women). For the 23-26 year olds, there was uneven change from 2016 through 2019 (5.0% for men, 1.6% for women). For the 27-30 year olds, use increased for men from 2017 through 2019 (4.8% in 2019), but remained level for women (1.8% in 2019).

- ***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 95*). Between then and 2009, there was little gender difference in MDMA use among 19-22 year olds. From 2009 through 2016, use rose some for men, slightly widening the gender differences; but in the past three years, use declined among men reducing the gender difference (4.4% for men, 3.2% for women in 2019). In the older age groups, a gender difference opened up after 1997, with men fairly consistently having higher rates of use among both 23-26 year olds and 27-30 year olds. From about 2009 to 2016, use among 23-26 year olds rose unevenly for both genders with little consistent difference between men and women. Among 23-26 year olds between 2016 and 2019, annual use increased unevenly for men (5.5% in 2019) and decreased somewhat for women (3.0% in 2019). Among 27-30 year olds between 2016 and 2019, annual use decreased unevenly for men (3.5% in 2019) and was fairly level for women (3.2% in 2019).

- The annual prevalence of ***salvia*** use (Figure 31 in *Occasional Paper 95*) was much higher among men in the 19-22 year olds when first measured in 2009, and somewhat higher among men in the two older age groups. However, use by men has dropped dramatically in the years since then such that use has become negligible in recent years (0.2-1.3% for men, and 0.0-0.6% for women in 2019).

- Men have had higher rates of ***cocaine*** use than women since MTF began. During the period of sharp decline from the peak levels in annual cocaine prevalence (1986–1993), use dropped more among men than women, narrowing the gender differences that existed (Figure 34 in *Occasional Paper 95*). In the 19-22 year old age band, by 1993 annual prevalence for men had declined by 16 percentage points (to 4.5%) versus 13 percentage points among women (to 2.8%). In the 23-26 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 men (to 6.9%) and 13 percentage points among women (to 4.2%). Use in the 27-30 year old group also dropped faster among men between 1988 (when data were first available) and 1997—down 13 percentage points versus 7 among women. 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, annual use and gender differences have remained fairly level in all age groups, although as indicated above, annual use increased significantly during the past five years (2014-2019) for young adults overall. Over the past five years, among the 19-22 year olds, annual use was fairly level for men (6.2% in 2019) and increased somewhat for women (5.3% in 2019), with gender differences narrowing somewhat; among 23-26 year olds, it increased for both men (9.7% in 2019) and women (5.9% in 2019), with gender differences remaining fairly consistent; among 27-30 year olds, use increased somewhat for men (to 9.0%) and women (4.5%), with gender differences remaining fairly consistent.

- ***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 95*). With crack, though, there was some gender convergence (between 1992 and 1998) among 19-22 year olds, as use among men declined slightly and use among women 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 men and women. In all three age bands, men consistently had slightly higher crack usage rates, at least until a greater decline among men in recent years has nearly eliminated the gender differences and brought all of the annual prevalence levels at or below 1%.

- There have been modest gender differences in ***heroin*** use (Figure 40 in *Occasional Paper 95*) for all of the three age groups of young adults in recent years, with men generally having higher rates of use than women. There was very little gender difference 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. As of 2019, prevalence ranged between 0.0% and 0.6% across both genders in the three age groups.

- Among 19-22 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 (men had been higher) (Figure 43 in *Occasional Paper 95*). Beginning in 1994, use by men began to rise in this age group, while use by women began to rise a year later. Some gender differences developed as use increased, with use by men being higher; after 2006, as use declined, there was a smaller difference, with annual prevalence in 2019 at 2.5% for men and 1.8% for women. The picture for 23-26 year olds is very similar except that the increase in use occurred a few years later (in 1997 and 1998). The gender difference (men higher) had been eliminated by 1988, but re-emerged after 1995 as use increased more among men. Since 2010, use has declined for both genders, with a consistent gender difference of about 2 percentage points until 2019 when men and women converged (2.4% and 2.6%, respectively). Among 27-30 year olds, there has been a smaller gender difference and the least increase in use in the early 2000s. Still, use increased for both genders after 1999, leveled in the mid-2000s, and decreased through 2019 (4.2% for men, 3.9% for women), with uneven gender differences the past several years.

- Since 2002, the first year in which the survey gathered data on nonmedical use of ***OxyContin***, its use has generally been higher among men than women for all three age bands (Figure 46 in *Occasional Paper 95*). 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. In 2019, use was 2.6%[1] or lower for men and women in all age groups, except it was 3.3% among the 27-30 year old men.

- Nonmedical use of ***Vicodin***, first measured in 2002, also has been higher among men in most years. There was a somewhat larger increase in use among men in all age bands initially, but the men began to trend down earlier than the women, reducing the disparities in use such that in 2015-2019 the gender difference was nearly eliminated in all three age bands; in 2019, use ranged from 0.8% to 3.0% among both genders in all age groups (Figure 49 in *Occasional Paper 95*).

- In general, there have been no appreciable gender differences in ***amphetamine*** use for most years in any of these three young adult age bands, although there is evidence of emerging gender differences in recent years in the two older age bands. Between 1981 and 1991, rates of amphetamine use were similar for men and women and showed substantial and parallel downward trends for both genders (Figure 52 in *Occasional Paper 95*). Among 19-22 year olds, annual prevalence of use dropped 22 percentage points for men (to 5.2% in 1991) and 21 percentage points for women (to 4.7% in 1991). There were small increases in annual prevalence for both genders in the 19-22 year old age group after 1991, in the 23-26 year old age group after 1995, and in the 27-30 year old age band after

[1] The prevalence of OxyContin, a subclass of narcotics other than heroin, is asked on three of the six questionnaire forms, whereas the prevalence of narcotics other than heroin is asked on all six forms. In 2019, annual prevalence of both was very low. Among 19-22 year olds, the annual prevalence of OxyContin was similar to the annual prevalence of narcotics other than heroin, reflecting that OxyContin is a commonly used narcotic. When annual prevalence of OxyContin slightly exceeds the annual prevalence of narcotics other than heroin (for 19-22 year old women), this is likely a matter of random sample variation due to relatively small sample sizes for OxyContin combined with the very low prevalence estimates of both.

2000, but the genders diverged only slightly (with men higher). At about 2008, annual amphetamine use began drifting up slowly in all three age bands, with men consistently a bit higher than women. Among 19-22 year olds, use has declined for men in the past few years (to 7.6% in 2019) and remained fairly level for women (at 7.3% in 2019). Among the 23-26 year olds, while use has been fairly level for women in recent years (7.0 % in 2019), it has changed unevenly for men (6.2% in 2019). Among the 27-30 year olds, it has been fairly level for women (5.4% in 2019) and increased for men (8.4% in 2019).

- 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 95*). Findings for the first decade show prevalence being somewhat higher for men than women, after which gender differences have tended to be small and inconsistent. Use in 2019 ranged from 0.3% to 3.1% among both genders in all age groups.

- Like Ritalin, nonmedical use of ***Adderall*** (another prescription stimulant) has generally been slightly higher among men than women since 2009, when the question was added (Figure 58 in *Occasional Paper 95*). The largest gender difference in annual use was initially among 19-22 year olds, the age band that includes most of those in college, and this difference diminished since 2016 as use dropped for men (in 2019, it was 7.2% for men and 7.6%[2] for women). Among both 23-26 and 27-30 year olds, gender differences have been inconsistent; in recent years, annual use has been level for women (7.1% and 5.5% in the two age groups, respectively, in 2019) and has shown uneven change for men (7.0% and 6.8%, respectively, in 2019).

- A question on ***methamphetamine*** use was introduced in 1999 (Figure 59 in *Occasional Paper 95*); 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, men generally showed slightly higher prevalence than women, particularly in the first years of measurement; however, in recent years, gender differences have been small or nonexistent.

- ***Crystal methamphetamine*** (also known as ***"ice"***) was added to the study's coverage in 1990 (Figure 62 in *Occasional Paper 95*). 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 men, opening a gender gap. The gap then narrowed, though men on average were slightly more likely to report use of crystal methamphetamine until 2005. From 2009 through 2019 the gender differences have been small and inconsistent. In 2019, annual prevalence was between 0.6% and 0.7% for women in the three age groups and between 0.3% and 1.1% for men. It should be noted that the estimates are less stable for this drug due to limited sample sizes because this substance is asked about on two of the six questionnaire forms.

[2] The prevalence of Adderall, a subclass of amphetamines, is asked on three of the six questionnaire forms, whereas the prevalence of amphetamines is asked on all six forms. In 2019, annual prevalence of both was relatively low. Among all age groups, the annual prevalence of Adderall was similar to the annual prevalence of amphetamines, reflecting that Adderall is a commonly used amphetamine. When annual prevalence of Adderall slightly exceeds the annual prevalence of amphetamine, this is likely a matter of random sample variation due to relatively small sample sizes for Adderall combined with the relatively low prevalence estimates of both.

- 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 95*). Among 19-22 year olds in 2012 there was a large gender difference in use (annual prevalence of 3.0% among men vs. 0.5% among women); however, there was virtually no gender difference in the two older age bands (0.7% vs. 0.6%, respectively, among 23-26 year olds and less than 0.5% for both genders among 27-30 year olds). In 2013 the large gap between the genders among the 19-22 year olds disappeared as men 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 men and women 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 2018, annual use was below 0.5% among both men and women in all three age bands. Consequently, this question was dropped in 2019 to make room for questions about other substances.

- 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 95*). Beginning in the early 1990s, a staggered increase in use by both genders emerged across all three age groups, with men increasing more than women, thereby again opening a small difference in the late 1990s and into the 2000s. From about 2008 through 2019, use declined and generally leveled for men and women in the three age groups, essentially eliminating gender differences. In 2019, use ranged between 1.7% and 2.5% across both genders and all age groups.

- 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 95*). Beginning in 1995, use increased for both genders in the 19-22 year old group, followed by an increase beginning after 1997 among 23-26 year olds and after 1999 among 27-30 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. Men 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. In 2019, use ranged between 2.8% and 4.4% across both genders and all age groups.

- ***Inhalant*** use has generally been quite a bit higher among men than women, particularly in the younger age groups (Figure 17 in *Occasional Paper 95*). The 19-22 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 19-22 year old women, followed by men in 2001; however, the gender gap did not diminish much with this decline until 2005, when there was a convergence that continued through 2016, with some divergence since then due to a slight increase for men (in 2019, it was 1.2% for men and 1.7% for women). Among 23-26 year olds the gender gap widened as use by men increased between 1992 and 1999, though a subsequent decline in use among men narrowed the gap, almost eliminating it by 2005; it then re-emerged between 2008 and 2012 and diminished since then (use has shown uneven change in recent years; it was

2.1% for men and 1.1% for women in 2019). Among 27-30 year olds, use has generally been slightly higher among men than women, though the prevalence of inhalant use has been very low in this age group (0.8% in 2019).

- Use of three "club drugs"—***Rohypnol, GHB***, and ***ketamine***—has tended to be more concentrated among men in all three age strata (Figures 74, 76, and 79 in *Occasional Paper 95*), but the estimates are not very stable because of the limited numbers of cases upon which they are based. By 2009, annual prevalence levels were very low for all three drugs, and gender differences were small; this has continued to be the case in most years since then. In 2019, annual ***ketamine*** prevalence showed an increase for men at ages 19-22 (4.1%) and ages 23-26 (2.2%); otherwise it was .0.6% or lower for the other subgroups. ***Rohypnol*** was dropped from the study after 2009 because of the low numbers of users (between 0.0% and 0.3%), at which point no gender difference remained in any of the three age groups (in earlier years use by men had tended to exceed use by women). ***GHB*** was dropped from the study after 2015 (when prevalence was between 0.0% and 1.1% for both genders in all age groups).

- For ***alcohol***, ***30-day prevalence*** levels (Figure 82 in *Occasional Paper 95*) exhibited a gradual, parallel decline from 1981 through 1992 for both genders in the 19-22 year old age group. Thirty-day prevalence fell from 83% to 72% among men and from 75% to 62% among women by 1992. There has been a convergence since then, beginning in the late 1990s, because use by men has declined slightly while use by women increased slightly through 2008. The gender difference was virtually eliminated in this age group by 2004 and use remained quite level since then for both genders through 2017. However, in 2018, it decreased a significant 6.3 percentage points for men to 55% (an all-time low), and decreased nonsignificantly 2.6 percentage points for women to 57% (also an all-time low); it increased slightly in 2019 (56% for men, 58% for women). In the two older age bands, there was a more modest, parallel decline for both genders, from 1985 through 1992 in the case of 23-26 year olds, and at least from 1988 (when data were first available) to 1991 or 1992 in the case of 27-30 year olds. From 1992 through 2004, use among men in the older two age bands showed fairly level rates of use; but use among women rose gradually, narrowing the gender difference among 23-26 year olds (75% vs. 74% in 2019) and among 27-30 year olds (74% vs. 71% in 2019).

  Gender differences in ***daily drinking*** (Figure 83 in *Occasional Paper 95*) have been somewhat consistent over the years in each of the three age groups, with men always higher than women but gender differences decreasing gradually especially in the younger age group. Among 19-22 year olds daily drinking showed a general long-term decline from about 1981 or 1982 through about 1992, with daily use falling more among men, considerably reducing but far from eliminating what had been a large gender difference. To illustrate, in 1981, 11.8% of men reported daily use versus 4.0% of women; the comparable 1992 statistics were 5.3% and 2.7%. After 1995, daily drinking began to increase among 19-22 year olds for both genders, but leveled a few years later. From 2002 to 2005 their daily use was rising among men and falling among women, increasing their differences, but since 2005 there has been a considerable convergence with daily use among men falling and use among women increasing modestly through 2014. Men showed an increase in 2016, widening the gap; but since then, use declined for men (3.2% in 2019) and remained fairly level for women (2.0% in 2019), thus narrowing the gap (which was considerably smaller than 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 23-26 year olds, it widened somewhat through 2019 (7.6% for men vs. 2.8% for women). Among the 27-30 year olds the gender difference increased from 2000 to 2015, with use rising for both genders, to a slightly greater extent among men; it has since declined somewhat for men (9.3% in 2019) and for women (3.1% in 2019).

There are also long-established and large, but narrowing, gender differences in all three age groups in the prevalence of ***binge drinking*** (Figure 84 in [*Occasional Paper 95*]). Men in the 19-22 year old band have shown some longer-term decline, from 54% in 1986 to 45% in 1995 to 29% in 2019 (an all-time low). Bing drinking by women declined less, from 33% in 1981 to 28% in 1995 before rising some to 34% in 2006, and then back to 29% in 2019. Thus, the gender gap has narrowed considerably (from 24 percentage points in 1986 to 17 percentage points in 1995 to no difference by 2019). In the two older age bands (23-26 year olds and 27-30 year olds), the sizable gender differences remained mostly stable as the binge drinking rates drifted steadily upward in both genders from the early 1990s, at least until 2009 or 2010. Among 23-26 year olds, prevalence declined for men from the all-time high of 53% in 2009 to 43% in 2019, whereas it remained fairly level for women during this same period (31% in 2019). Among 27-30 year olds, prevalence declined for men from an all-time high of 47% in 2010 to 42% in 2019, and has remained fairly level for women (26% in 2019). Overall, the gender differences for all three age groups have narrowed over the longer term.

- 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 men and women (Figure 91 in [*Occasional Paper 95*]). For 19-22 year olds, declines occurred from 1980 through 1991 and again since 1999; for 23-26 year olds, declines occurred from 1984 to 1995 and again since 2001; for the 27-30 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, women had slightly higher rates of 30-day smoking until 1992; but there was a crossover and since 1994 men have had a higher 30-day prevalence of smoking. Since 1998, men 23–26 years old have had a higher 30-day prevalence of smoking than women. Among those 27–30 years old, men have generally had a higher 30-day prevalence, with the gender gap increasing some in recent years. Overall, from about 2007 through 2019, gender differences widened a bit most years in all three age groups because women showed a more consistent decline than men over the years. In 2019, prevalence reached all-time lows for 19-22 year old men and women (13% and 9.3%, respectively) and 23-26 year old men and women (15% and 8.9%, respectively). Among 27-30 year olds, prevalence reached an all-time low for women in 2019 (11%), and showed a nonsignificant increase for men in 2019 (16%, up from the historic low of 14% in 2018).

Male and female trends in ***daily smoking*** (Figure 92 in *Occasional Paper 95*) levels have been quite parallel over most of the time for which data are available, particularly in the two younger age groups. Among 19-22 year olds there was a crossover after 1993—before that point, women had slightly higher daily smoking rates, whereas men generally did from 1994 onward, primarily because use was rising faster among men through 1999. Both genders in this age group have shown parallel declines from 1999 through 2016; use rose nonsignificantly for both men and women in 2017 (to 8.0% and 6.1%, respectively), and then continued to decline to all-time lows 2019 (5.3% and 4.2%, respectively). Among 23-26 year olds, the genders had very similar smoking rates until men started reporting higher daily smoking rates from 1996 on. Men 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 men. However, in 2017, use increased nonsignificantly to 12.9% for men, and continued to decline for women to 7.1%; it then continued to decline through 2019 reaching 8.8% for men (just above the all-time low of 7.5% in 2018) and 5.8% for women (an all-time low). In the oldest age band, the two genders were quite close until men opened a gap in 2002, and their rate generally remained somewhat higher through 2015. Between 2016 and 2019, use declined to all-time lows for men (8.2% in 2019) and women (7.2% in 2019).

***Smoking half-pack-a-day*** shows similar trends to daily smoking, though the gender differences are a little larger, with men showing higher rates than women 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 95*). However, all three age groups have shown a convergence by 2019, with most groups reaching all-time lows; in 2019, for men and women, it was 2.0% and 1.5% respectively among 19-22 year olds, 5.1% and 3.5% respectively among 23-26 year olds, and 4.8% and 4.0% among 27-30 year olds.

- New questions about ***vaping nicotine*** were added to two of six forms of the young adult surveys in 2017 and 2018, and to four forms in 2019. In each year, annual and 30-day prevalence was higher for men than for women, and both increased substantially over each of the one-year intervals. *Annual prevalence* of vaping nicotine for 19-30 year old men and women was 18% and 10%, respectively, in 2017, 20% and 14% in 2018, and 29% and 20% in 2019. Thus, just between 2017 and 2019, it increased 11 percentage points for men and 10 percentage points for women.

  *Thirty-day prevalence* of vaping nicotine was 9% and 4% for men and women, respectively, in 2017, 13% and 8% in 2018, and 19% and 11% in 2019, showing an increase of 10 percentage points for men and 7 percentage points for women between 2017 and 2019. By age groups, 30-day vaping nicotine increased most over the three years for 19-22 year old men and women (Figure 113 in *Occasional Paper 95*): for men across the years respectively, it was 11%, 18%, and 26%; for women it was 3.8%, 12%, and 17% (the 2019 increases were significant for both men and women). Among 23-26 year olds, 30-day prevalence across the three years was 9.1%, 14%, and 19% for men, and 4.0%, 6.1%, and 8.7% for women; and among 27-30 year olds, it was 6.9%, 7.5%, and 14% for men (significant increase in 2019), and 5.5%, 6.1%, and 6.4% for women.

- ***Hookah smoking*** generally has been slightly higher among men than women in all three age bands, but especially in the two older age bands; however, use has been declining and with that a convergence has taken place (Figure 98 in *Occasional Paper 95*). In 2019, annual prevalence was at historic lows for most subgroups.

- There has been a large and fairly consistent gender difference in the use of ***small cigars***, ***dissolvable tobacco***, and ***snus,*** specifically, with men having higher prevalence levels in all three age groups—particularly in the use of snus (Figures 101, 104, and 107 in *Occasional Paper 95*). Most 2019 annual prevalence estimates for these tobacco products were at or near all-time lows for all subgroups.

## 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 19-28 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 figures showing regional differences in *Occasional Paper 95* 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 here.

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 2019 are available in graphic and tabular forms in *MTF Occasional Paper 95.*

- There were substantial drops among young adults 19-28 year olds in all four regions between 1987 (the initial measurement point) and 1991 for ***any illicit drug*** (Figure 2 in *Occasional Paper 95*). After 1991, most or all regions showed some increase and then a leveling for a number of years, followed by more recent increases through 2019. The proportions of 19-28 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. In 2019 the West and Northeast had the highest annual prevalence at 51% and 49% respectively, and the Midwest and South were lower at 42% and 38% respectively. The West has shown greater relative increases in the past few years.

.

- For ***marijuana*** use (Figure 10 in *Occasional Paper 95*), 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 in annual prevalence. However, the differences have generally not been great. The 2019 annual prevalence ranged from 34%

(South) to 48% (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 2019, daily use ranged from 8.1% (South) to 12.0% (West), with only the West showing a significant increase (of 3.4 percentage points).

New questions about ***vaping marijuana*** were added to two of six forms of the young adult surveys in 2017 and 2018, and to four forms in 2019. *Annual prevalence* of vaping marijuana in 2017 was higher in the West (16%) and Northeast (16%) than the Midwest (12%) and South (9.1%) (Figure 111 in *Occasional Paper 95*). In 2018, the same pattern of regional differences was found, with annual prevalence rates of 24%, 18%, 13%, and 11%, respectively; likewise, this same pattern generally held in 2019, with annual prevalence rates of 29%, 24%, 18%, and 19%, respectively. Thus, between 2017 and 2019, regional differences in annual prevalence of vaping marijuana remained fairly steady, with prevalence increasing 13 percentage points for the West, 8 percentage points for the Northeast, 6 percentage points for the Midwest, and 10 percentage points for the South. These regional differences are similar to regional differences for annual prevalence of marijuana use.

For *30-day prevalence* of vaping marijuana, this same regional pattern held across the three years, 2017 to 2019 (Figure 111 in *Occasional Paper 95*). Across 2017, 2018, and 2019, respectively, it was higher in the West (11%, 16%, 17%) and Northeast (6.9%, 12%, 14%) than in the Midwest (5.5%, 7.5%, 11%) and the South (4.6%, 5.3%, 11%). Thus, it increased 6-7 percentage points for each region between 2017 and 2019, while maintaining consistent regional differences (with regional differences being similar to such differences for 30-day prevalence of marijuana use).

- For the use of ***any illicit drug other than marijuana*** (Figure 5 in *Occasional Paper 95*), 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 most years. In 2019, use was 24% in the West, 17% in the Northeast, 16% in the Midwest, and 18% in the South.

- Data on use of ***synthetic marijuana*** have been gathered since 2011 (Figure 15 in *Occasional Paper 95*). Only annual prevalence results are reported for all young adults 1-10 years past high school combined, since only annual prevalence is asked and the number of cases is limited. 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 2019 in all four regions. There remains little difference among the regions in annual prevalence, which ranges from 0.5% to 1.5% in 2019.

- 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 19-28 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 95*). Except for that divergence, the regions have moved very much in parallel for this class of drugs. Annual prevalence in 2019 was at low levels among all young adults, ranging between 0.8% in the South and 2.6% in the Northeast.

- 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 95*). From 1991 through 1995, the West had slightly higher *annual* prevalence levels 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 2019, 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 generally having the highest levels since then through 2019, when annual prevalence was 5.7% in the West, 3.4% in the South, 2.7% in the Midwest, and 2.0% in the Northeast.

- ***Salvia***, which was first measured with a single 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 95*). Use began to decline in the Midwest after 2010 and in the Northeast after 2011. Use was very low in all regions by 2019 at 0.7% or lower 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 95*). 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 consistently had a somewhat lower level of MDMA use than the other three regions, although it was joined by the South and later the Northeast in recent years. In 2000 all four regions showed a sharp and fairly parallel increase in MDMA 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 MDMA use; and a decline in the prevalence of "raves" may also have contributed. 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 MDMA use generally was increasing in the West until it leveled after 2012, before increasing again in 2016, thereby reopening regional differences that remained through 2019. In 2019 annual MDMA prevalence levels among young adults were 5.6% in the West, 3.2% in the Midwest, 2.9% in the South, and 2.9% in the Northeast.

- 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 95*). 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 between 2005 and 2013, use in the Midwest and South 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 2019 was 9.7% in the West, 6.2% in the Northeast, 5.4% in the Midwest, and 5.3% in the South.

- Through about 2011, lifetime prevalence of ***crack*** use generally had been highest in the West since crack use was first measured in 1987, as was true for cocaine in general (Figure 38 in *Occasional Paper 95*). 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 0.0% to 0.7% in 2019.

- The regions have trended fairly similarly in their prevalence of ***amphetamine*** use by young adults (Figure 53 in *Occasional Paper 95*). 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 between 2008 to 2011 before leveling. In 2019 the annual prevalence levels ranged between 6.0% in the South and 7.8% in the West.

- ***Methamphetamine*** use (Figure 60 in *Occasional Paper 95*) 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 generally was lowest) and a gradual increase in the West (where use had 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 3.4% in 2019.) Annual prevalence in 2019 ranged from 0.0% in the Northeast and Midwest to 1.2% in the West.

- The West consistently has had the highest rates for ***crystal methamphetamine*** (***ice***) use for a number of years, and through 2006 the regional differences were very substantial, particularly in terms of lifetime use (Figure 63 in *Occasional Paper 95*). The Northeast has generally had the lowest prevalence through this period. 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 level 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 2019, annual use of crystal methamphetamine stood between 0.0% and 0.9% 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 95*). 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, with the differences among regions becoming minor, ranging from 0.0% in the West to 0.6% in the Midwest in 2018. Due to these low levels, and to make room for questions about other substances, questions about bath salts were removed from the surveys in 2019.

- 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 95*). Rates then rose gradually and in parallel in all regions for a number of years until about 2004, followed by some leveling and then some decline after 2008, followed by a leveling since 2011; regional differences have been consistently small. In 2019 annual prevalence ranged from 0.9% in the Northeast to 2.6% in the Midwest.

- The picture for ***tranquilizers*** (Figure 72 in *Occasional Paper 95*) 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, again 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 2019. 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 2019 ranged from 2.4% in the Midwest to 4.7% 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 95*). 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 2019, annual use dropped back to 0.5% in the Northeast, closing the gap (it ranged from 0.1% to 0.5% across all regions in 2019).

- Trends in annual prevalence of the use of ***narcotics other than heroin*** without medical supervision have been quite parallel for the four regions (Figure 44 in *Occasional Paper 95*). 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 continued up through 2019. The South tended to have the lowest prevalence of use from 2003 through 2013, with the other three regions being tightly grouped; from 2013 through 2018, the regions were quite similar, with each showing declines. In 2019, this remained true for the Midwest, South and West (2.6-3.1%), but the Northeast showed a significant decline to 1.0%. It is noteworthy that trends in lifetime prevalence have been consistent with annual trends noted above, including the recent declines overall, the significant decline for the Northeast in 2019 (to 7.5% for lifetime prevalence), and lack of regional differences among the other three regions in 2019 (11-13% lifetime prevalence).

- The annual prevalence of the narcotic drug ***OxyContin*** 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 95*). Use rose some in all regions through about 2009, and it has shown a substantial decline in all regions since then. The Midwest typically had the lowest prevalence level from 2010 through 2018 though the four regions were fairly tightly grouped. However, in 2019, annual use declined significantly for the Northeast (to 0.5%), consistent with the significant decline in narcotics other than heroin in 2019 (summarized above); annual use among the other three regions was 1.3-3.3%.[3]

[3] The prevalence of OxyContin, a subclass of narcotics other than heroin, is asked on three of the six questionnaire forms, whereas the prevalence of narcotics other than heroin is asked on all six forms. In 2019, annual prevalence of both was very low. Among 19-22 year olds, the annual prevalence of OxyContin was similar to the annual prevalence of narcotics other than heroin, reflecting that OxyContin is a commonly used narcotic. When annual prevalence of OxyContin slightly exceeds the annual prevalence of narcotics other than heroin (in the Midwest and West), this is likely a matter of random sample variation due to relatively small sample sizes for OxyContin combined with the very low prevalence estimates of both.

- Annual prevalence of use of the narcotic drug ***Vicodin*** without medical supervision showed considerable variation among the regions between 2002, when it was first measured, and 2010 (Figure 50 in *Occasional Paper 95*). 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 levels in 2019 were 0.6% in the Northeast, 0.7% in the South, 1.5% in the West, and 3.1% in the Midwest. (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 three 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 95*). There appears to have been a little resurgence of ketamine use in each region between 2008 and 2012. In 2012 through 2018 ketamine use stood slightly higher in the Northeast than in the other regions. In 2019, there was a nonsignificant increase of 1.1 percentage points in annual use in the West (to 1.8%); in the other three regions, it was 0.8-1.2% in 2019. 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 after 2015 to make room for items on other drugs.

- Use of ***Rohypnol,*** another so-called club drug (Figure 75 in *Occasional Paper 95*), 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, and to make room for questions about other substances, questions about its use were dropped from the surveys in 2010.

- With respect to ***alcohol*** use (Figure 86 in *Occasional Paper 95*), there were modest declines in 30-day prevalence in all four regions between 1987 (when the first measurement was available for 19-28 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 12$^{th}$ graders). In 2019, 30-day use ranged from 64% in the South to 71% 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 12$^{th}$ 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 19-28 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 2019 the four regions had rates of daily alcohol use between 2.8% (Northeast) and 4.6% (West).

***Binge drinking*** was fairly level in all regions between 1987 and the late 1990s or early 2000s (bottom panel of Figure 86 in *Occasional Paper 95*) 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 2019, prevalence of binge drinking was 29% in the South, 31% in the Northeast, 32% in the West, and 38% in the Midwest.

- There have been highly consistent regional differences among young adults in ***cigarette smoking*** since data were first available in 1987—these differences exist for monthly, daily, and half-pack-daily prevalence levels (Figure 94 in *Occasional Paper 95*). 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. However, as prevalence levels have fallen in recent years, the rates have converged, with rather little regional difference remaining in 2019. 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. when we combine age groups across a 10-year age span, as we have done in the present analyses.)

  From all-time highs between 1998 and 2002 in prevalence of ***30-day*** and ***daily cigarette smoking***, all regions have shown fairly consistent declines through 2019, with regional differences generally remaining through 2012 (Midwest and Northeast highest and West lowest). From 2012 through 2019, the West remained the lowest (9.6% for 30-day use and 4.6% for daily use in 2019), with little difference among the other three regions (11-13% for 30-day use and 5.1-7.9% for daily use in 2019). These 2019 prevalence levels were at or near all-time lows.

- New questions about ***vaping nicotine*** were added to two of six forms of the young adult surveys in 2017 and 2018, and to four forms in 2019. Across the three years (2017, 2018, and 2019) *30-day prevalence* increased in each region: for the Northeast, it was 8.1%, 8.9%, and 17%, respectively; 7.0%, 9.7%, and 15% for the South; 6.4%, 13%, and 14% for the West; and 4.8%, 11%, and 14% for the Midwest (Figure 114 in *Occasional Paper 95*). Regional differences have not been large, and by 2019, 30-day prevalence of vaping nicotine was similar across the four regions (14-17%).

- Smoking using a ***hookah*** (Figure 99 in *Occasional Paper 95*) has not shown important regional differences, with annual prevalence generally declining for all regions from 2014 through 2017. In 2018, there was a significant increase in the Midwest to 15%, with use being 12% to 12% in the other three regions. In 2019, it declined significantly for the

South (8.5%) and West (7.7%), decreased nonsignificantly for the Midwest (13%) and remained level for the Northeast (11%).

- Annual use of ***small cigars*** (Figure 102 in *Occasional Paper 95*) has been highest in the Midwest since it was first asked about in 2011 through 2017. Over the years, each region showed uneven declines through 2019 (15% for Northeast, 13% for South, 9.6% for West, and 9.1% for Midwest in 2019), with the 2019 declines being significant for the Midwest and South.

- Annual use of ***snus*** (Figure 108 in *Occasional Paper 95*) has shown some modest decreases or leveling in all regions from 2011 (when first asked) to 2019, with use typically highest in the Midwest; in 2019, annual prevalence ranged from 0.3% in the Northeast to 4.7% in the West.

- Annual use of ***dissolvable tobacco*** (Figure 105 in *Occasional Paper 95*) has generally been below 1% in all regions since 2011 (when first asked) through 2019.

## 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 is available in both graphic and tabular form in *MTF Occasional Paper 95*.

- 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 among 23-30 year olds but not among 19-22 year olds (Figure 3 in *Occasional Paper 95*). Across the years among the 19-22 year olds, annual prevalence has been similarly high among the cities of all sizes and lowest among the farm/country stratum; in 2019, annual prevalence was: 26% for the farm/country stratum, 47% for small towns, 49% for medium-sized cities, 46% for large-sized cities, and 48% for very large cities. Among 23-26 year olds and 27-30 year olds, population density differences in annual use have expanded in recent years, though still generally maintaining the positive relation with community size; in 2019, annual prevalence for the two age groups was 32% and 38% for farm/country, 37% and 35% for small towns, 42% and 39% for medium cities, 48% and 51% for large cities, and 54% and 51% 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 6 in *Occasional Paper 95*). 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 19-22 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 over the past few years.

- ***Marijuana*** use (Figure 11 in *Occasional Paper 95*) 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 19-22 year olds, the annual prevalence levels 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 2019, annual prevalence was 21% for farm/country and 41-48% for the other strata. In the past few years among 23-26 year olds and 27-30 year olds, the differences among the communities have widened some as use in the large and very large cities increased faster than in the other strata. In 2019, annual prevalence levels for the two older strata were 28% and 26% for farm country, 36% and 29% for small towns, 37% and 34% for medium cities, 44% and 44% for large cities (with the increase for 27-30 year olds being significant), and 49% and 49% for very large cities. In sum, annual prevalence of marijuana use is more than twice as high in the very large cities than in the rural areas among 19-22 year olds, and almost twice as high in the two older young adult groups.

- The *annual* prevalence of ***vaping marijuana*** has been positively correlated with population density since we first asked these questions in 2017. In 2017 (for 19-30 year olds combined), annual prevalence ranged from 7.9% for farm/country to 19% for very large cities; in 2018, it ranged from 9.4% for farm/country to 23% for very large cities; and in 2019, it ranged from 15% for farm/country to 32% for very large cities.

  The *30-day* prevalence of vaping marijuana showed a similar pattern, with it being positively correlated with population density in 2017-2019 (Figure 112 in *Occasional Paper 95*). In 2017, it ranged from 2.7% for farm/country to 9.7% for very large cities; in 2018, it ranged from 4.2% for farm/country to 11% for very large cities; and in 2019, it ranged from 8.2% for farm/country to 19% for very large cities. Thus, so far, vaping marijuana (both annual and 30-day prevalence) is more than twice as high among those in very large cities compared to those who live on farms or in the country.

- ***Daily marijuana use*** (Figure 13 in *Occasional Paper 95*) has 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 23-26 year olds, and from roughly 2004 to 2008 among the 27-30 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; however, daily use among 23-26 year olds in the farm/country stratum has shown a consistent increase in the past few years. In 2019, daily use for 19-22 year olds ranged from 8.2% in farm/country to 13% in very large cities; for 23-26 year olds, it ranged from 8.4% in large cities to 12% in farm/country; and for 27-30 year olds, it ranged from 4.9% in farm/country to 12% in very large cities.

- ***Synthetic marijuana***, such as "K-2" and "Spice," was added to the study in 2011 (Figure 16 in *Occasional Paper 95*). The farm-country stratum had the highest annual prevalence initially among 19-22 year olds (17% in 2011), but their use fell sharply and significantly in the years since then to 0.0% in 2019; in 2019 the annual prevalence among 19-22 year olds ranged from 0.0% to 6.6% 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 2019 annual prevalence ranged from 0.0% to 2.0% among 23-26 year olds and 27-30 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 95*). Among 19-22 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 19-22 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 19-22 year olds, followed by a sharp decline occurring from 2001 to 2003, with all strata moving in concert. Since 2010, among 19-22 year olds, there have been uneven increases in annual use among all strata; in 2019, prevalence ranged from 3.2% in small towns to 6.1% in large cities. The 23-26 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 2019, with annual prevalence in 2019 ranging from 2.3% in farm/country to 4.5% in medium cities (with their 2019 increases being significant). In the oldest age group, LSD use has remained very low and for the most part quite stable through about 2013, with very little difference among the community size strata. Since about 2013 through 2018, annual use increased unevenly for all strata; in 2019 the annual prevalence of LSD ranged from 1.0% in farm/country to 4.8% in very large cities.

- The use of ***hallucinogens other than LSD*** (Figure 27 in *Occasional Paper 95*), 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 19-22 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 (in 2019, it ranged from 2.5% in very large cities to 4.5% in medium cities). The 23-26 year old group showed slightly rising rates of use between 1998 and 2004, followed by some uneven leveling through 2019. Sharp increases occurred in the very large cities in 1999, 2000, 2010, and 2017; in 2019, annual use was 3.2% in very large cities and 3.9% in large cities, and 1.5% to 2.7% in the other three strata. The 27-30 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 2011. However, since 2012 and through 2019, there has been an uneven increase in annual use in the very large city stratum, reaching 5.9% in 2019 (and ranging between 0.9% and 3.9% in the other four strata).

- ***Salvia*** (or ***salvia divinorum)*** use was first measured in 2009 and has shown somewhat irregular trend lines since then (Figure 33 in *Occasional Paper 95*). 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 levels started out highest in the farm/country stratum among the two younger age groups; but use fell sharply in all strata and in both age groups by about 2012 and annual prevalence is now very low for this drug across all population density strata and age groups; in 2019, it ranged from 0.0% to 1.2% among 19-22 year olds, from 0.0% to 1.6% among 23-26 year olds, and from 0.0% to 1.2% among 27-30 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 95*). Among 19-22 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 MDMA use after 2000 or 2001, which lasted through 2004, narrowing the differences among them. In 2011, MDMA use among 19-22 year olds in the very large cities rose sharply and has stayed high there in the years since, with the other strata showing some leveling or uneven decline; a similar rise among 23-26 year olds occurred in 2012 and among 27-30 year olds in 2014, suggesting a cohort effect. In 2019, annual use among 19-22 year olds was lowest in the small town stratum at 1.8% and highest in the medium city stratum at 5.1%. Among 23-26 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 2019, annual use began to diverge among the communities, with use rising unevenly for very large cities and leveling or declining unevenly for the other strata; in 2019, annual prevalence among 23-26 year olds was 5.8% for very large cities and 0.5% to 5.2% for the other four strata. Considerably less increase in MDMA use occurred among 27-30 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 MDMA use, but the differences were modest through 2012. Between 2012 and 2019, annual prevalence again started to rise in very large cities but tended to level or decline for the other four strata; in 2019, use was 7.0% in very large cities and 0.0% to 4.8% in the other four strata. It thus appears that *over the past several years, MDMA use has made somewhat of a comeback among young adults in the country's very large cities*.

MDMA 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, MDMA 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 MDMA 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 and the lowest use in the farm/country stratum (Figure 36 in *Occasional Paper 95*). 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 19-22 year olds there was a slow sustained increase in cocaine use among all community-size strata after about 1993 or 1994, and among 23-26 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 27-30 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 increased through 2019 (especially for the two older age groups). In 2019, annual prevalence among 19-22 year olds was 6.3-6.5% in the three city strata, 4.6% for small towns, and 1.5% for farm/country; among 23-26 year olds, it was 12% in very large cities, 9.3% in large cities, and 2.9% to 6.2% in the other strata; and among 27-30 year olds, it was 11% in very large cities, 9.2% in large cities, and 1.1% to 3.3% in the other strata.

- ***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 2019 (Figure 39 in *Occasional Paper 95*). 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 2019, annual prevalence was 0.0% for all strata in each age group with two exceptions: use in medium cities was 1.3% among 19-22 and 1.1% among 23-26 year olds. 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; and even in the heyday of crack use, there did not seem to be a great deal of concentration of use in the large cities.

- ***Amphetamine*** use showed virtually no differences associated with urbanicity in any of the three age groups through about 2008; some differences occurred since then through 2019, with annual use generally lowest in the farm/country stratum and highest in very large cities (Figure 54 in *Occasional Paper 95*). Among 19-22 year olds, trend lines began to diverge among the five strata in 2008, with differences becoming most prominent in 2013 through 2015 especially between very large cities (12.0% in 2015) and farm/country (4.4% in 2015). Between 2016 and 2019, trends have converged again, with 2019 prevalence ranging from 4.0% for farm/country to 8.6% in large cities. A similar pattern occurred for the 23-26 year olds beginning in 2010 through 2017, with use tending to increase among very large cities and large cities and declining or leveling for the other three strata, and then use converging among the strata in 2018 and 2019; in 2019 use ranged from 3.8% in the farm/country stratum to 8.3% in large cities. For 27-30 year olds, trends have diverged among the strata since 2013, with use being generally level for farm/country and small town strata and increasing unevenly for the city strata; in 2019, use ranged from 4.6% for medium cities to 10.2% 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 95*). Since 2007, annual use has been relatively low in all strata and age bands and in 2019, very low use was found across all strata in the three age groups (between 0.0% and 2.7%). 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 95*). 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 19-22 year olds and from 2004 to 2007 among the 23-26 year olds. Among the 27-30 year olds the farm/country stratum was highest from 2009 to 2013, suggesting a cohort effect at work. Otherwise there has been little systematic difference. Among 19-22 year olds, all community-size strata have shown substantial declines in annual use since 2003 or 2004, reaching very low levels by 2007 through 2019 at 2.5% or lower; the exception is that use increased to 4.4-4.7% in the farm/country stratum in 2017 and 2018, but then declined in 2019 (prevalence ranged from 0.0% to 1.1% among all five strata in 2019). Annual use has declined some over the same interval among 23-26 year olds (2019 prevalence ranged from 0.0% to 3.2%). Among 27-30 year olds annual use generally declined from 2002 to 2006 in all population-density strata; after 2009, they showed a slight rebound in use, particularly in the farm-country stratum already mentioned; 2019 prevalence ranged from 0.0% to 0.6%.

- ***Bath salts*** were added to the study in 2012, so trends are available only since then (Figure 67 in *Occasional Paper 95*). They showed a high prevalence of annual use (6.5% annual prevalence) in 2012 in the farm/country stratum among 19-22 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); in 2018, use dropped back among the farm/country stratum, and use was 1.0% or lower in all strata. Among 23-26 year olds, annual use started highest in 2012 in small towns and farm/country areas, but dropped there the next year; in 2018, annual prevalence was essentially 0.0% in all strata. 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. Use among 27-30 year olds has been negligible all along, with annual prevalence ranging between 0.0% and 0.9% across all strata since 2012. Due to these low levels, and to make room for questions about other substances, questions about bath salts were removed from the surveys in 2019.

- ***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 95*). This remained true in all three age bands through 2019; one exception was that among 19-22 year olds use in the farm country areas emerged as highest between 2011 and 2014, and another exception is that use increased somewhat between 2016 and 2018 and then declined significantly in 2019 for those in very large cities among the two older age groups. Otherwise the trends have been similar within each age band. In 2019, annual use across all strata in the three age groups was below 3.2%.

- ***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 95*). 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 2019. 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 2019, annual use across all strata in the three age groups ranged between 1.8% and 5.9%.

- 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 95*). After 1994, use among 19-22 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 23-26 year olds and lower still among 27-30 year olds, making it difficult to discern systematic differences among the population-density strata in those age bands. In 2019 the annual prevalence of heroin was 1.0% or lower in all community-size strata for all three young adult age bands and near 0.0% in most.

- The annual use of ***narcotics other than heroin*** (Figure 45 in *Occasional Paper 95*) had some positive association with population density among 19-22 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 19-22 year olds, after about 1996 in the case of 23-26 year olds, and after about 1998 in the case of 27-30 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 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 2019, use continued to decline or level in most age groups in all population density strata, with annual prevalence ranging between 0.6% and 7.0%. Still, 2019 use remained at considerably higher levels 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 95]*). It is clear, however, that Vicodin use has been in decline in all strata in all age bands since around 2008.)

- The absolute levels of ***inhalant*** use have remained low in these age groups, particularly above age 22 (Figure 19 in *Occasional Paper 95*). However, during the mid- to late 1980s, there was a gradual increase in use among 19-22 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 19-22 year olds, particularly in the period 1998 through 2000. Among both 19-22 year olds and 23-26 year olds, there has been some falloff in inhalant use since the late 1990s through 2019 in most population-density levels. In 2019, annual use was between 0.0% and 3.5% 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 95*) and ***Ketamine*** (Figure 81 in *Occasional Paper 95*). Nevertheless, there is some evidence that for the period 2009-2012 the use of GHB in the farm/country stratum rose above the levels seen in the other strata among 19-22 year olds.

- There have been few differences as a function of population density in the *annual* and *30-day* prevalence of drinking ***alcohol*** among 19-22 year olds since data were first available in 1980, except that the farm/country stratum has tended to have slightly lower-than-average use across the years (Figures 87 and 88 in *Occasional Paper 95*); in 2019, 30-day use was 48% for the farm/country stratum and 57% to 59% in the other strata. 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 always a very strong one. In 2019, 30-day use ranged from 70% in the farm/country stratum to 83% in very large cities among 23-26 year olds; and among 27-30 year olds, it ranged from 65% in the farm/country stratum to 84% 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 tended to have the highest rates among the two older age groups (Figure 89 in *Occasional Paper 95*).

- For ***binge drinking*** (Figure 90 in *Occasional Paper 95*), 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 19-22 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 strata among 19-22 year olds since about 2007, with prevalence in 2019 ranging from 19% in the farm/country stratum to 29-31% among the other four strata. Among 23-26 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. In 2014 binge drinking increased considerably in very large cities and then remained at a high level through 2019, and leveled or declined for the other strata between 2014 and 2019; prevalence in 2019 ranged from 31% for the small town stratum to 42% for very large cities, with the other strata ranging from 35% to 37%. Among the 27-30 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 2019 ranged from 23% in small towns to 48%

in very large cities (2019 increase was significant for very large cities). To summarize, binge drinking has tended to be lowest in the farm/country stratum in all three age bands (and in small towns the past few years in the two older age groups), 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 95*). There is one exception: Among 19-22 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 19-22 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 19-22 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 19-22 year olds, there has been a large decline in 30-day prevalence in all population density strata since about 2000 or 2001, down in 2019 to 7-9% in cities and 14-15% in small towns and farm/country. Among 23-26 year olds it has declined considerably from 2005 through 2019 to 10-11% in cities and 13-15% in small towns and farm/country. Among 27-30 year olds, it declined considerably from about 2009 through 2019 to 19% for farm/country and 11-15% for the other four strata. 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. These 2019 prevalence estimates for 30-day cigarette use are at or near historical lows. For daily cigarette use, 2019 prevalence was at or near all-time lows for all strata in the two younger age groups, ranging from 10% in the farm/country stratum to 1.5% in large cities among 19-22 year olds, and from 11% in the farm/country stratum to 3.5% in very large cities among 23-26 year olds. Daily use either leveled or dropped for all strata among 27-30 year olds in 2019, with prevalence ranging from 11% for the farm/country stratum to 4.0% in large cities.

- ***Vaping nicotine*** has shown some changes in variation by population density among 19-30 year olds. In 2017 (the first year it was asked about), annual and 30-day prevalence did not vary much by population density, with annual use at 12-15% and 30-day use at 5.8-6.4% across the strata (Figure 115 in *Occasional Paper 95*). In 2018, annual prevalence was 11% in the farm/country stratum and 16-20% in the other strata; likewise 30-day prevalence was 5.3% in the farm/country stratum and 8.9-12% in the other strata. In 2019, there was once again little variation by strata in annual prevalence (ranged between 23% and 25%), but 30-day prevalence continued to be lower in the farm/country stratum (11%) than in the other strata (13-17%).

- Smoking using a ***hookah*** has been measured since 2011 (Figure 100 in *Occasional Paper 95*), and its use has tended to be positively correlated with population density for all age groups. Annual use has been declining among 19-22 year olds, and this decline generally continued for all strata in 2019. Use had been level among the 23-26 year olds until 2019, when all strata showed a decline. For the 27-29 year olds, use generally leveled in 2019 for the various strata.

- 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, though recent years have shown some decline and a positive correlation with population density, being higher in very large cities and lower in the farm/country stratum (Figure 103 in *Occasional Paper 95*).

- Use of ***dissolvable tobacco*** (Figure 106 in *Occasional Paper 95*) has tended to be very low in all strata, with little consistent differences among the strata in any age group.

- Use of ***snus,*** specifically, has also tended to be quite low, but 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 95*).

## 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 | 2018 | 2019 | 2018–2019 change | 2014–2019 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* | *3,600* | *3,500* | | |
| 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 | 62.9 | 64.1 | 63.9 | 66.5 | +2.6 s | +4.3 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 | 36.3 | 37.0 | 36.5 | 36.7 | +0.2 | -0.7 |
| 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 | 60.1 | 62.3 | +2.2 | +4.8 sss |
| 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 | 5.6 | 6.8 | +1.2 | +0.1 |
| 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 | 14.3 | 13.9 | -0.4 | +2.0 s |
| 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 | 10.3 | 10.5 | +0.2 | +3.9 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 | 11.1 | 11.2 | +0.1 | +0.4 |
| 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 | 1.3 | 0.6 | -0.7 | 0.0 |
| 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 | — | — | — | — | — | — | — |
| MDMA (Ecstasy, Molly) [z], revised | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 12.5 | 12.9 | 12.5 | 12.6 | 12.2 | 13.2 | +1.0 | +0.7 |
| 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 | 11.8 | 12.9 | 13.0 | 13.8 | +0.8 | +2.2 ss |
| 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 | 1.8 | 1.9 | 2.0 | 1.0 | -1.0 | -1.2 ~ |
| 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 | 12.2 | 10.1 | -2.1 | -1.5 |
| 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 | 1.4 | 1.1 | -0.3 | -0.3 |
| 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 | 0.4 | 0.6 | +0.2 | -0.0 |
| 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 | 1.3 | 1.3 | 0.0 | +0.1 |
| Narcotics other than Heroin [j,k,bb] | 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 | 12.3 | 11.0 | -1.2 | -5.3 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 | 18.4 | 18.8 | +0.3 | +0.1 |
| 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 | 2.7 | 2.2 | -0.5 | -0.1 |
| 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 | 1.3 | 1.5 | +0.2 | -0.2 |

↓

(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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *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* |
| Sedatives (Barbiturates) [j,u,oo] | 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 |
| 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 |
| 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 |
| 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 |
| Flavored Alcoholic Beverages [p,cc] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cigarettes | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Any Vaping [i,aa,dd,pp] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Vaping Marijuana [l,qq] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Vaping Nicotine [l,ee,rr] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Vaping Just Flavoring [l,ff,ss] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 |

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change | 2014–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Approximate Weighted N =* | *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* | *3,600* | *3,500* | | |
| Sedatives (Barbiturates) [j,u,oo] | 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 | 7.3 | 7.3 | +0.1 | -1.7 ss |
| Sedatives, Adjusted [j,m] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Methaqualone [j] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tranquilizers [d,j] | 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 | 11.4 | 11.2 | -0.2 | -1.4 ~ |
| Alcohol [n] | 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 | 85.0 | 85.1 | +0.1 | -1.2 |
| Been Drunk [o] | 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 | 76.2 | 74.9 | -1.4 | -3.5 s |
| Flavored Alcoholic Beverages [p,cc] | — | 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 | 80.9 | 82.4 | +1.4 | +1.8 |
| Cigarettes | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Any Vaping [i,aa,dd,pp] | — | — | — | — | — | — | — | — | — | — | — | — | 30.3 | 26.9 | 34.3 | 37.0 | 43.8 | +6.7 sss | — |
| Vaping Marijuana [l,qq] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 17.2 | 21.6 | 28.1 | +6.4 sss | — |
| Vaping Nicotine [l,ee,rr] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 24.8 | 27.5 | 36.4 | +8.9 sss | — |
| Vaping Just Flavoring [l,ff,ss] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 21.4 | 22.1 | 21.8 | -0.3 | — |
| Steroids [q] | 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 | 1.0 | — | — | — |

*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 | 2018 | 2019 | 2018–2019 change | 2014–2019 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* | *3,600* | *3,500* | | |
| 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 | 40.0 | 41.7 | 43.3 | 44.2 | +0.9 | +6.7 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 | 20.0 | 20.3 | 19.2 | 18.7 | -0.5 | -2.4 s |
| 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 | 39.1 | 40.1 | +1.0 | +8.5 sss |
| Synthetic Marijuana [v] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 7.4 | 5.3 | 3.2 | 1.3 | 1.5 | 1.0 | 0.9 | 1.6 | 1.2 | -0.4 | -0.1 |
| 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 | 0.8 | 1.4 | +0.6 ~ | +0.3 |
| 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 | 5.6 | 5.1 | -0.5 | +0.9 |
| 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 | 3.9 | 3.5 | -0.4 | +1.3 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 | 3.3 | 3.2 | -0.2 | 0.1 |
| 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 | 0.7 | * | -0.7 s | -0.1 |
| 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 | — | — | — | — | — | — | — |
| MDMA (Ecstasy, Molly) [z], revised | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.1 | 4.4 | 5.1 | 3.6 | 3.9 | 3.7 | -0.3 | -1.4 s |
| Salvia [w] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.5 | 3.6 | 2.2 | 1.4 | 0.9 | 1.2 | 0.6 | 0.8 | 0.5 | 0.7 | 0.4 | -0.3 | -0.8 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 | 5.9 | 6.4 | 6.9 | 6.5 | -0.4 | +1.5 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 | 0.5 | 0.7 | 0.6 | 0.3 | -0.3 | -0.1 |
| 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 | 6.1 | 4.9 | -1.2 | +0.1 |
| 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 | 0.3 | 0.2 | -0.1 | -0.2 |
| 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 | -0.2 |
| 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 | 0.0 | -0.2 |
| 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 | 3.4 | 2.6 | -0.8 s | -3.7 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 | 1.9 | 1.9 | +0.1 | -0.6 |
| 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 | 2.4 | 1.6 | -0.8 | -3.2 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 | 7.5 | 6.9 | -0.6 | -1.2 s |
| 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 | 1.5 | 1.4 | -0.1 | -0.2 |
| Adderall [j,r] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.8 | 7.0 | 6.6 | 7.4 | 7.0 | 7.8 | 7.7 | 7.2 | 8.3 | 9.1 | 7.0 | -2.1 s | -0.9 |
| 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 | 1.2 | 0.5 | -0.6 | 0.0 |
| 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 | 0.4 | 0.6 | +0.2 | +0.3 |

↓

(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 | 2018 | 2019 | 2018–2019 change | 2014–2019 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* | *3,600* | *3,500* | | |
| Bath Salts (synthetic stimulants) [o,gg] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.5 | 0.4 | 0.4 | 0.3 | 0.3 | 0.4 | 0.3 | — | — | — |
| 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 | 2.5 | 2.2 | -0.3 | -1.0 ss |
| 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 | 4.0 | 3.6 | -0.4 | -1.2 ss |
| 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,hh] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 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 | 0.9 | 1.2 | +0.3 | +0.8 s |
| 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 | 81.6 | 81.4 | -0.2 | -0.9 |
| 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 | 62.6 | 61.6 | -1.0 | -1.9 |
| 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 | 57.1 | 62.0 | +4.9 | +6.6 s |
| Alcoholic Beverages mixed with Energy Drinks [l,t,jj] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 28.1 | 36.7 | 36.9 | 35.0 | 33.5 | 29.6 | 31.8 | 29.9 | 33.1 | +3.1 | -1.9 |
| Cigarettes [tt] | 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 | 22.5 | 21.6 | -0.9 | -5.4 sss |
| Small Cigars [o] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 19.2 | 18.0 | 18.4 | 18.6 | 17.9 | 15.5 | 16.0 | 15.9 | 11.1 | -4.8 sss | -7.5 sss |
| Tobacco using a Hookah [o,ii,uu] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 20.1 | 19.1 | 20.4 | 23.3 | 19.2 | 14.8 | 12.2 | 13.3 | 9.6 | -3.7 sss | -13.6 sss |
| Any Vaping [l,kk,vv] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 23.0 | 27.3 | 35.2 | +8.0 sss | — |
| Vaping Marijuana [l,ww] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 12.6 | 15.6 | 21.8 | +6.2 sss | — |
| Vaping Nicotine [l,ll,xx] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 14.4 | 18.2 | 25.0 | +6.8 sss | — |
| Vaping Just Flavoring [l,ff] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.9 | 9.9 | 10.0 | +0.1 | — |
| Dissolvable Tobacco [i] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.3 | 0.6 | 0.3 | 0.5 | 0.4 | 0.5 | 0.8 | 0.4 | 0.0 | -0.4 | -0.5 |
| Snus [i] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.1 | 5.7 | 4.8 | 4.8 | 4.8 | 3.6 | 4.6 | 3.8 | 2.7 | -1.0 | -2.0 s |
| 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 | 0.4 | — | — | — |

*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 | 2002 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *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* |
| 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 | 18.9 |
| 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 | 7.7 |
| Marijuana [mm] | 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 | 16.9 |
| 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 | 0.5 |
| 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 | 0.9 |
| 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 | 0.3 |
| 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 | 0.8 |
| 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 | * | * | 0.1 |
| MDMA (Ecstasy, Molly) [z], original | — | — | — | 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 | 1.3 |
| MDMA (Ecstasy, Molly) [z], 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 | 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 | 0.3 |
| 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 | 2.0 |
| 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 | 2.9 |
| 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 | 2.5 |
| Methamphetamine [i] | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.8 | 0.7 | 1.0 | 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 | 0.5 |

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change | 2014–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Approximate Weighted N =* | *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* | *3,600* | *3,500* | | |
| Any Illicit Drug [a] | 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 | 24.1 | 25.5 | 26.6 | 28.9 | +2.3 s | +6.6 sss |
| Any Illicit Drug other than Marijuana [a] | 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 | 8.8 | 8.3 | 7.7 | -0.6 | -2.3 ss |
| Marijuana [mm] | 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 | 24.1 | 26.7 | +2.5 s | +7.4 sss |
| Inhalants [b] | 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 | 0.3 | 0.6 | +0.3 | +0.3 |
| Nitrites [c] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Hallucinogens [d,y] | 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 | 1.2 | 1.5 | +0.3 | +0.6 s |
| LSD [y] | 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 | 0.8 | 0.9 | +0.1 | +0.5 ss |
| Hallucinogens other than LSD [d,y] | 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 | 0.6 | 0.9 | +0.3 | +0.3 |
| PCP [e] | 0.1 | 0.1 | * | * | * | 0.1 | * | * | 0.1 | * | 0.2 | 0.1 | * | 0.1 | 0.1 | 0.4 | * | -0.4 | -0.1 |
| MDMA (Ecstasy, Molly) [z], original | 0.8 | 0.6 | 0.6 | 0.7 | 0.5 | 0.6 | 0.6 | 0.8 | 0.7 | 1.0 | 1.1 | 1.3 | — | — | — | — | — | — | — |
| MDMA (Ecstasy, Molly) [z], revised | — | — | — | — | — | — | — | — | — | — | — | 1.4 | 0.8 | 1.3 | 0.8 | 1.1 | 0.9 | -0.2 | -0.5 |
| Cocaine | 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 | 2.2 | 2.2 | 2.5 | 2.2 | -0.3 | +0.5 |
| Crack [g] | 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 | 0.1 | 0.3 | 0.2 | -0.1 | +0.1 |
| Other Cocaine [h] | 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 | 2.3 | 1.8 | -0.5 | 0.0 |
| 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 | 0.2 | 0.1 | -0.1 | -0.1 |
| Narcotics other than Heroin [j,k] | 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 | 0.9 | 0.7 | -0.3 | -1.5 sss |
| Amphetamines, Adjusted [j,l] | 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 | 2.7 | 2.4 | -0.3 | -1.1 ss |
| Methamphetamine [i] | 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 | 0.4 | 0.1 | -0.3 | -0.2 |
| Crystal Methamphetamine (Ice) [i] | 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 | -0.1 | +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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *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* |
| 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 |
| 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 |
| 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 |
| Been Drunk [o,nn] | — | — | — | — | — | 35.4 | 35.6 | 34.2 | 34.3 | 33.0 | 33.2 | 35.6 | 34.2 | 37.7 | 35.7 | 36.8 | 37.1 |
| Flavored Alcoholic Beverage [p] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cigarettes [yy] | 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 |
| Any Vaping [i,aa,zz] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Vaping Marijuana [i] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Vaping Nicotine [I,aaa] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Vaping Just Flavoring [i] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 |

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change | 2014–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Approximate Weighted N =* | *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* | *3,600* | *3,500* | | |
| Sedatives (Barbiturates) [j,u] | 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 | 0.9 | 0.8 | -0.1 | -0.2 |
| Sedatives, Adjusted [j,m] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Methaqualone [j] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Tranquilizers [d,j] | 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 | 1.3 | 1.1 | -0.1 | -0.8 ss |
| Alcohol [n] | 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 | 66.0 | 67.2 | +1.2 | -1.2 |
| Been Drunk [o,nn] | 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 | 35.9 | 36.4 | +0.4 | -2.9 |
| 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 | 29.4 | 35.2 | +5.8 s | +8.2 ss |
| Cigarettes [yy] | 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 | 12.3 | 11.7 | -0.6 | -5.8 sss |
| Any Vaping [i,aa,zz] | — | — | — | — | — | — | — | — | — | — | — | — | 9.2 | 6.0 | 11.9 | 17.1 | 22.6 | +5.5 sss | — |
| Vaping Marijuana [i] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.6 | 9.3 | 12.7 | +3.4 ss | — |
| Vaping Nicotine [I,aaa] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.5 | 10.6 | 15.0 | +4.4 sss | — |
| Vaping Just Flavoring [i] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.3 | 4.2 | 3.3 | -0.9 | — |
| Steroids [q] | 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 | 0.3 | — | — | — |

*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 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *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* |
| 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 |
| Cocaine | 0.2 | 0.1 | 0.2 | 0.1 | * | 0.1 | * | 0.1 | * | 0.1 | * | * | * | 0.1 | * | 0.1 | * |
| 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 |
| 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 |
| 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 |
| 5+ Drinks in a Row in Last 2 Weeks [bbb] | 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 |
| 10+ Drinks in a Row in Last 2 Weeks [e] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 15+ Drinks in a Row in Last 2 Weeks [e] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cigarettes [ccc] | | | | | | | | | | | | | | | | | |
| 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 |
| 1/2 Pack+/Day [ddd] | 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 |

| | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change | 2014–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Approximate Weighted N =* | *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* | *3,600* | *3,500* | | |
| Marijuana [s] | 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 | 8.0 | 9.4 | +1.5 s | +2.5 sss |
| Cocaine | * | 0.1 | 0.1 | 0.1 | * | * | 0.1 | * | * | * | * | 0.1 | * | 0.1 | * | 0.1 | * | -0.1 | -0.1 |
| Amphetamines | 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 | 0.1 | 0.2 | +0.1 | +0.1 |
| Alcohol | | | | | | | | | | | | | | | | | | | |
| Daily [n,s] | 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 | 4.3 | 3.8 | -0.5 | -1.2 ss |
| Been Drunk [o,s] | 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 | 0.5 | 0.3 | -0.2 | -0.3 |
| 5+ Drinks in a Row in Last 2 Weeks [bbb] | 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 | 31.2 | 32.4 | +1.2 | -1.1 |
| 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 | 8.1 | 11.5 | +3.4 s | +1.0 |
| 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 | 3.5 | 1.5 | -2.0 s | -2.2 s |
| Cigarettes [ccc] | | | | | | | | | | | | | | | | | | | |
| Daily | 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 | 7.0 | 6.2 | -0.8 | -4.5 sss |
| 1/2 Pack+/Day [ddd] | 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 | 3.8 | 3.1 | -0.7 | -3.4 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 | 2018 | 2019 | 2018–2019 change | 2014–2019 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 | 40.0 | 41.7 | 43.3 | 44.2 | +0.9 | +6.7 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 | 42.9 | 44.3 | 44.8 | 46.3 | +1.5 | +5.6 ss |
| 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 | 36.7 | 39.9 | 41.9 | 42.8 | +0.9 | +7.4 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 | 20.0 | 20.3 | 19.2 | 18.7 | -0.5 | -2.4 s |
| 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 | 22.9 | 23.1 | 21.7 | 21.4 | -0.3 | -2.2 |
| 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 | 17.2 | 18.6 | 17.6 | 17.0 | -0.6 | -2.3 |
| | 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 | 24.1 | 25.5 | 26.6 | 28.9 | +2.3 s | +6.6 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 | 26.9 | 29.8 | 28.1 | 31.5 | +3.4 | +6.8 sss |
| 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 | 20.8 | 22.7 | 25.6 | 27.3 | +1.7 | +6.6 sss |
| Any Illicit Drug 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 | 8.8 | 8.3 | 7.7 | -0.6 | -2.3 ss |
| 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 | 10.7 | 10.4 | 9.4 | 9.1 | -0.3 | -2.2 |
| 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 | 7.3 | 7.7 | 7.6 | 6.8 | -0.8 | -2.1 s |
| | *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* | *3,600* | *3,500* | | |
| 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* | *1,500* | *1,300* | | |
| 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* | *2,100* | *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 1999–2019; *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 1990–2019; *N* is one sixth of *N* indicated. For 10+ drinks in a row only: data based on five of six forms beginning in 2019.

[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 2002–2019; *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 2002–2018; *N* is five sixths of *N* indicated. Data based on one of six forms beginning in 2019.

[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 1990–2018; *N* is four sixths of *N* indicated. Data based on one of six forms beginning in 2019.

[i]This drug was asked about in two of the six questionnaire forms. For vaping measure only: data based on four of six forms beginning in 2019.

[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 1990–2019; 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 2010-2019. 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 2013-2019; 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 2012-2019; 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 2012-2019; 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.

[bb]For the estimate of lifetime Narcotics other than Heroin in 2018, there was a significant difference (p<.01) between the typical mail condition (13.9%) and new web-push condition (10.9%) of survey administration.

[cc]For the estimate of lifetime Flavored Alcoholic Beverages in 2018, there was a significant difference (p<.01) between the typical mail condition (76.4%) and new web-push condition (85.5%) of survey administration.

[dd]For the estimate of lifetime Any Vaping in 2018, there was a significant difference (p<.05) between the typical mail condition (33.4%) and new web-push condition (40.4%) of survey administration.

[ee]For the estimate of lifetime Vaping Nicotine in 2018, there was a significant difference (p<.01) between the typical mail condition (23.8%) and new web-push condition (30.9%) of survey administration.

[ff]For the estimate of lifetime Vaping Just Flavoring in 2018, there was a significant difference (p<.05) between the typical mail condition (19.4%) and new web-push condition (24.5%) of survey administration.

[gg]For the estimate of annual Bath Salts in 2018, there was a significant difference (p<.05) between the typical mail condition (0.6%) and new web-push condition (0.0%) of survey administration.

[hh]For the estimate of annual Ketamine in 2018, there was a significant difference (p<.05) between the typical mail condition (1.6%) and new web-push condition (0.4%) of survey administration.

[ii]For the estimate of annual Tobacco with a Hookah in 2018, there was a significant difference (p<.05) between the typical mail condition (11.6%) and new web-push condition (14.9%) of survey administration.

[jj]For the estimate of annual Alcoholic Beverages mixed with Energy Drinks in 2018, there was a significant difference (p<.05) between the typical mail condition (34.6%) and new web-push condition (25.9%) of survey administration.

[kk]For the estimate of annual Any Vaping in 2018, there was a significant difference (p<.05) between the typical mail condition (24.3%) and new web-push condition (29.9%) of survey administration.

[ll]For the estimate of annual Vaping Nicotine in 2018, there was a significant difference (p<.05) between the typical mail condition (15.6%) and new web-push condition (20.6%) of survey administration.

[mm]For the estimate of 30-day Marijuana in 2018, there was a significant difference (p<.05) between the typical mail condition (22.5%) and new web-push condition (25.5%) of survey administration.

[nn]For the estimate of 30-day Been Drunk in 2018, there was a significant difference (p<.05) between the typical mail condition (38.8%) and new web-push condition (33.5%) of survey administration.

[oo]For the estimate of Lifetime Sedatives (Barbiturates) in 2019, there was a significant difference (p<.05) between the typical mail condition (6.3%) and new web-push condition (8.1%) of survey administration.

[pp]For the estimate of Lifetime Any Vaping in 2019, there was a significant difference (p<.001) between the typical mail condition (37.1%) and new web-push condition (49.7%) of survey administration.

[qq]For the estimate of Lifetime Vaping Marijuana in 2019, there was a significant difference (p<.001) between the typical mail condition (23.0%) and new web-push condition (32.5%) of survey administration.

[rr]For the estimate of Lifetime Vaping Nicotine in 2019, there was a significant difference (p<.001) between the typical mail condition (31.4%) and new web-push condition (40.9%) of survey administration.

[ss]For the estimate of Lifetime Vaping Just Flavopring in 2019, there was a significant difference (p<.001) between the typical mail condition (18.1%) and new web-push condition (25.2%) of survey administration.

[tt]For the estimate of Annual Cigarettes in 2019, there was a significant difference (p<.001) between the typical mail condition (19.0%) and new web-push condition (23.6%) of survey administration.

[uu]For the estimate of Annual Tobacco with a Hookah in 2019, there was a significant difference (p<.05) between the typical mail condition (8.1%) and new web-push condition (11.0%) of survey administration.

[vv]For the estimate of Annual Any Vaping in 2019, there was a significant difference (p<.001) between the typical mail condition (30.4%) and new web-push condition (39.5%) of survey administration.

[ww]For the estimate of Annual Vaping Marijuana in 2019, there was a significant difference (p<.01) between the typical mail condition (18.9%) and new web-push condition (24.4%) of survey administration.

[xx]For the estimate of Annual Vaping Nicotine in 2019, there was a significant difference (p<.001) between the typical mail condition (21.7%) and new web-push condition (28.0%) of survey administration.

[yy]For the estimate of 30-Day Cigarettes in 2019, there was a significant difference (p<.001) between the typical mail condition (9.3%) and new web-push condition (13.5%) of survey administration.

[zz]For the estimate of 30-Day Any Vaping in 2019, there was a significant difference (p<.01) between the typical mail condition (20.0%) and new web-push condition (25.0%) of survey administration.

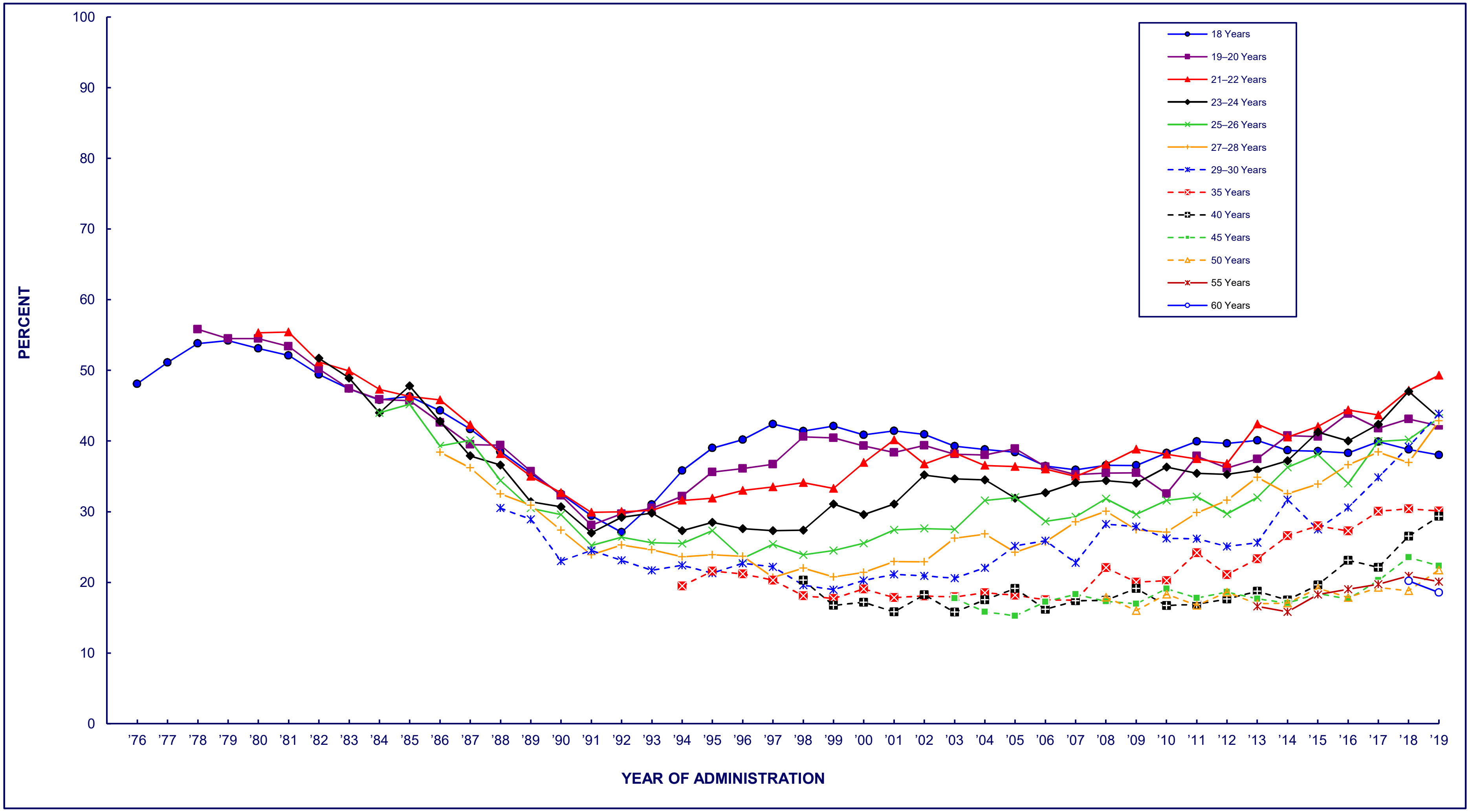
[aaa]For the estimate of 30-Day Vaping Nicotine in 2019, there was a significant difference (p<.05) between the typical mail condition (13.1%) and new web-push condition (16.7%) of survey administration.

[bbb]For the estimate of 5 or More Drinks in Past Two Weeks in 2019, there was a significant difference (p<.05) between the typical mail condition (30.2%) and new web-push condition (34.4%) of survey administration.

[ccc]For the estimate of Daily Cigarettes in 2019, there was a significant difference (p<.01) between the typical mail condition (4.9%) and new web-push condition (7.3%) of survey administration.

[ddd]For the estimate of Smoking Half Pack or More per Day in 2019, there was a significant difference (p<.05) between the typical mail condition (2.4%) and new web-push condition (3.6%) of survey administration.

**FIGURE 5-1**
**ANY ILLICIT DRUG**
**Trends in Annual Prevalence**
**among Respondents of Modal Ages 18 through 60, by Age Group**




(Figure continued on next page.)

**FIGURE 5-1 (cont.)**

**ANY ILLICIT DRUG**

**Trends in Annual Prevalence**

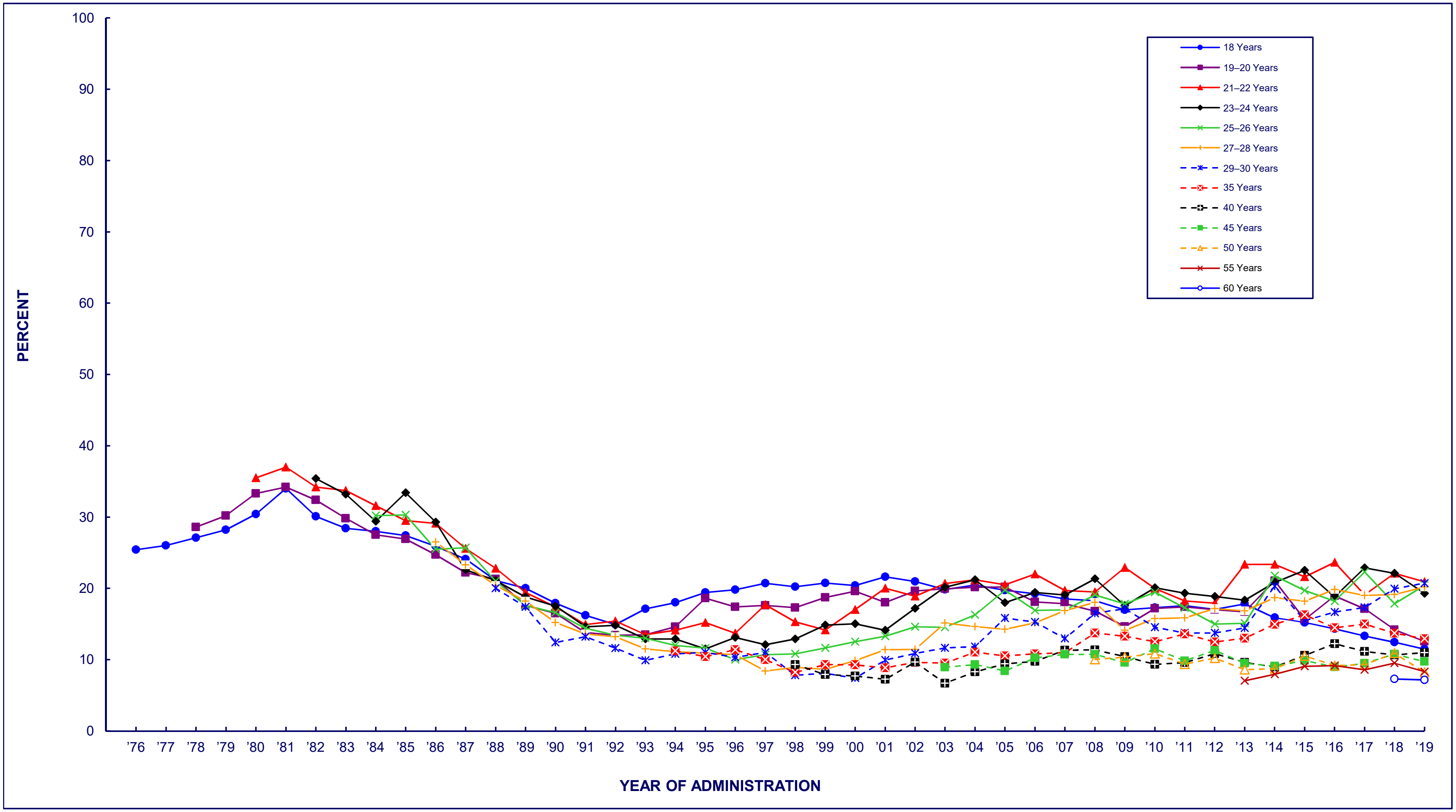
**among Respondents of Modal Ages 18 through 60, by Age Group**

| 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2018 | 38.8 | 43.1 | 47.2 | 47.0 | 40.2 | 36.9 | 39.2 | 30.4 | 26.5 | 23.5 | 18.8 | 20.9 | 20.2 |
| 2019 | 38.0 | 42.2 | 49.3 | 43.3 | 43.2 | 42.9 | 43.9 | 30.1 | 29.3 | 22.3 | 21.7 | 20.1 | 18.6 |

*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 60, by Age Group**




(Figure continued on next page.)

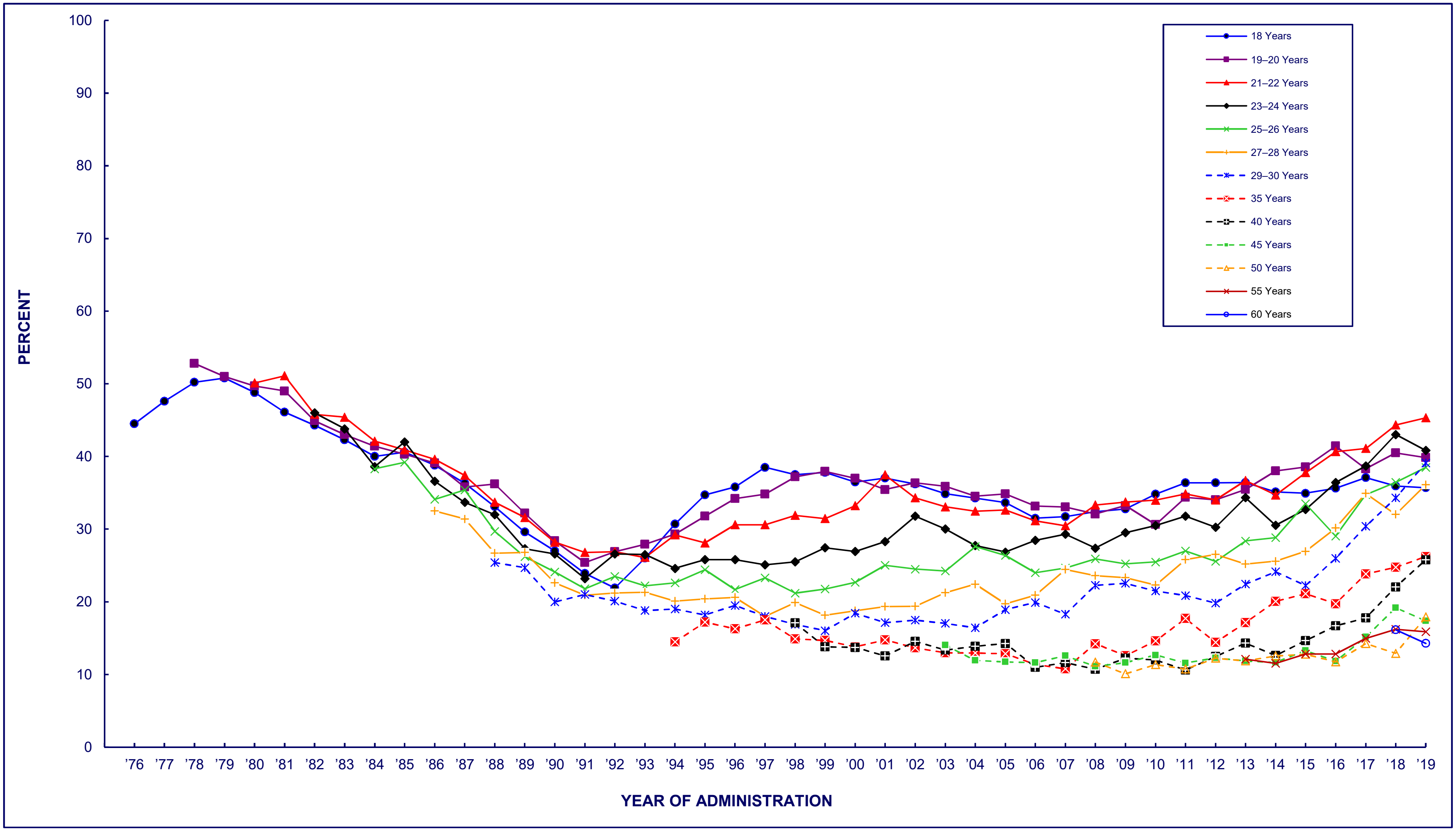
## FIGURE 5-2 (cont.)
## ANY ILLICIT DRUG OTHER THAN MARIJUANA
### Trends in Annual Prevalence
### among Respondents of Modal Ages 18 through 60, by Age Group

| 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2018 | 12.4 | 14.2 | 22.1 | 22.1 | 17.8 | 19.1 | 19.9 | 13.7 | 10.6 | 10.7 | 10.9 | 9.5 | 7.3 |
| 2019 | 11.5 | 12.6 | 20.9 | 19.3 | 20.4 | 20.2 | 20.7 | 12.9 | 11.0 | 9.7 | 8.2 | 8.3 | 7.2 |

*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 60, by Age Group**




(Figure continued on next page.)

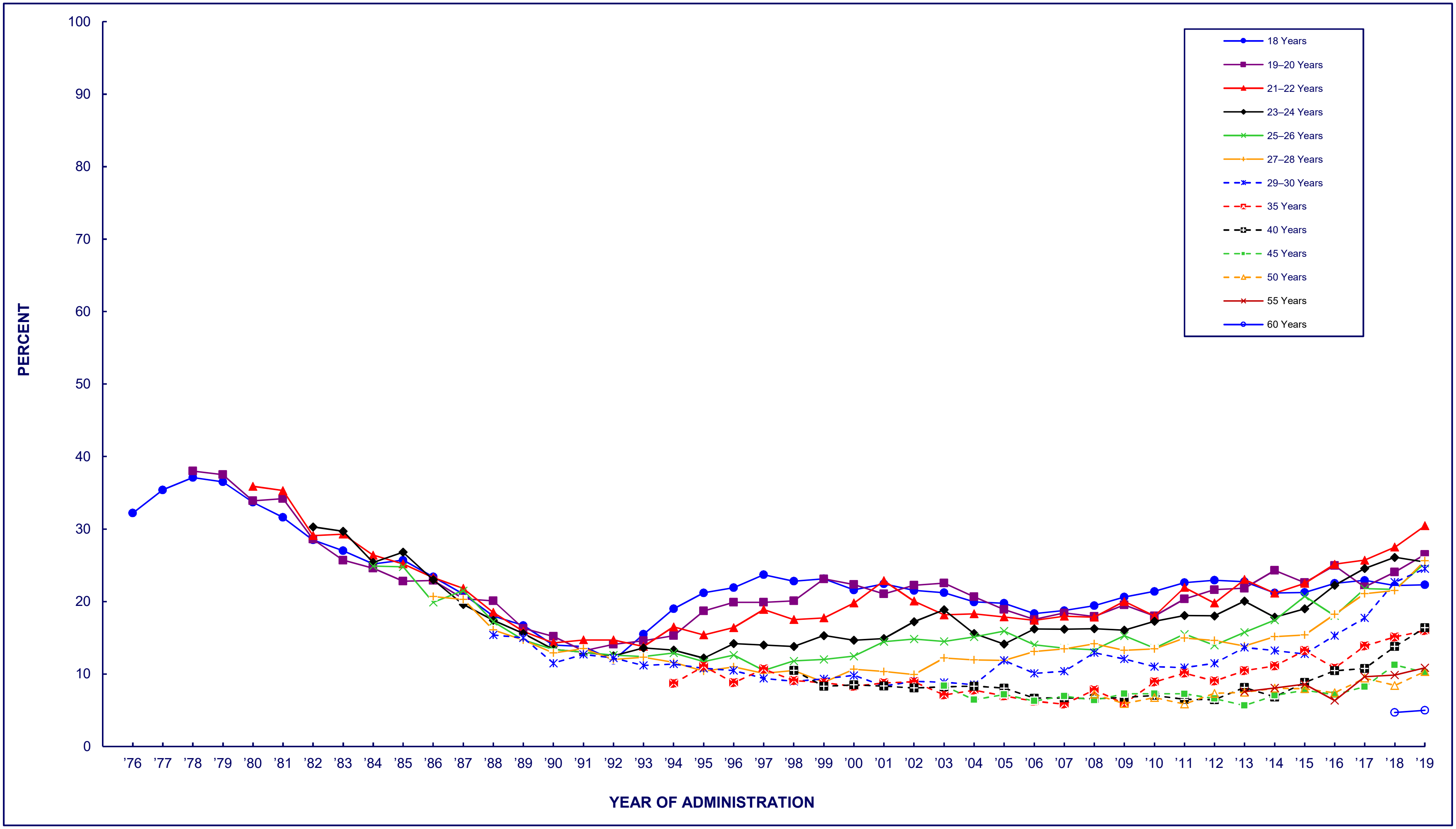
## FIGURE 5-3a (cont.)
## MARIJUANA
## Trends in Annual Prevalence
## among Respondents of Modal Ages 18 through 60, by Age Group

| 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2018 | 35.9 | 40.5 | 44.3 | 43.0 | 36.4 | 32.0 | 34.3 | 24.7 | 22.0 | 19.2 | 12.9 | 16.2 | 16.2 |
| 2019 | 35.7 | 39.8 | 45.3 | 40.8 | 38.5 | 36.1 | 39.1 | 26.2 | 25.8 | 17.4 | 17.9 | 15.9 | 14.3 |

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

*Notes.* ' — ' indicates data not available.

**FIGURE 5-3b**
**MARIJUANA**
**Trends in 30-Day Prevalence**
**among Respondents of Modal Ages 18 through 60, by Age Group**




(Figure continued on next page.)

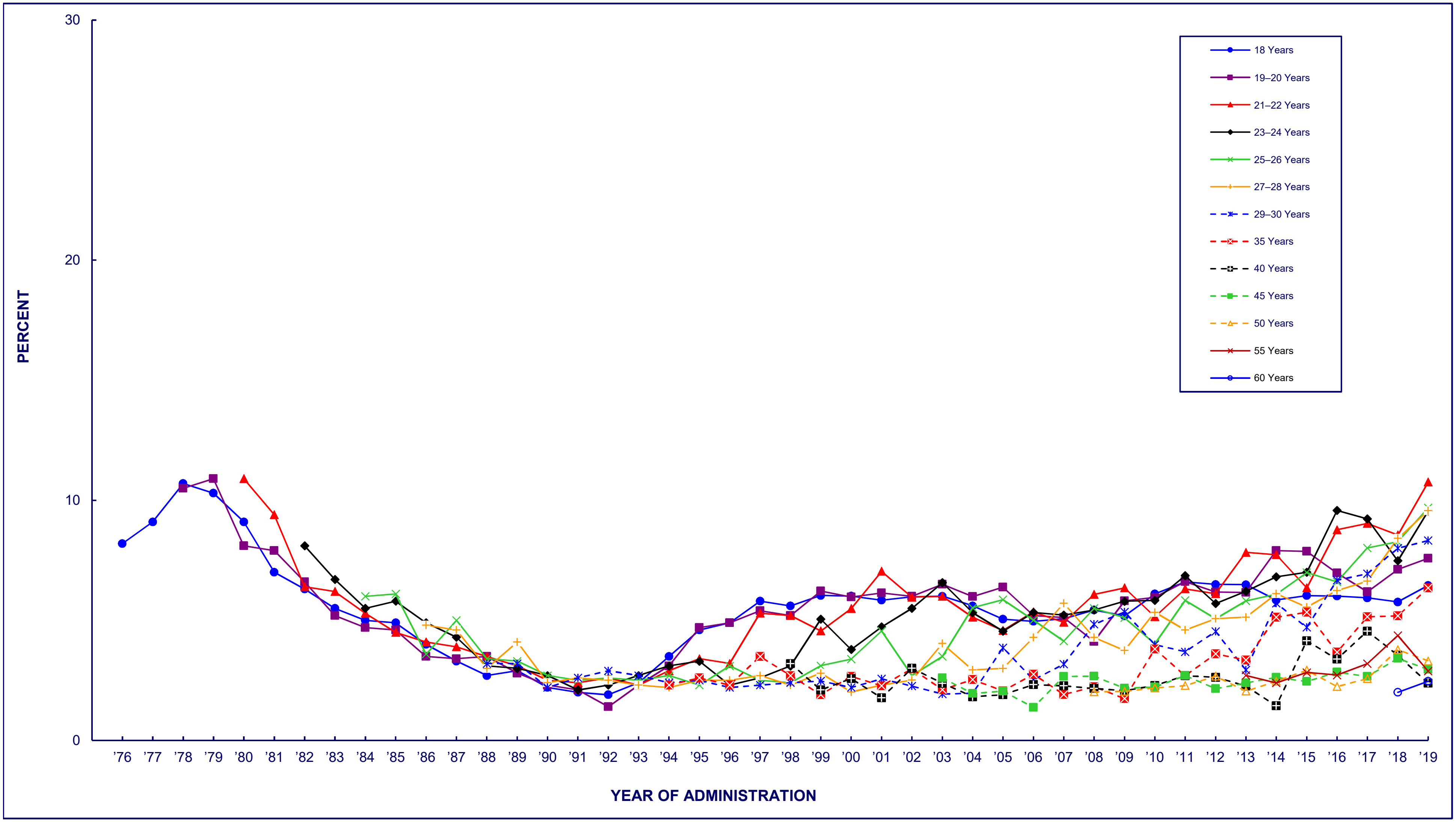
# FIGURE 5-3b (cont.)
## MARIJUANA
## Trends in 30-Day Prevalence
## among Respondents of Modal Ages 18 through 60, by Age Group

| 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2018 | 22.2 | 24.1 | 27.5 | 26.1 | 21.7 | 21.5 | 22.7 | 15.1 | 13.8 | 11.3 | 8.4 | 9.9 | 4.7 |
| 2019 | 22.3 | 26.5 | 30.5 | 25.4 | 25.3 | 25.6 | 24.5 | 16.0 | 16.4 | 10.2 | 10.3 | 10.9 | 5.0 |

*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 60, 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 60, 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2018 | 5.8 | 7.1 | 8.6 | 7.5 | 8.3 | 8.4 | 8.0 | 5.2 | 3.5 | 3.4 | 3.8 | 4.4 | 2.0 |
| 2019 | 6.4 | 7.6 | 10.8 | 9.6 | 9.7 | 9.6 | 8.3 | 6.4 | 2.4 | 3.0 | 3.3 | 2.9 | 2.5 |

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

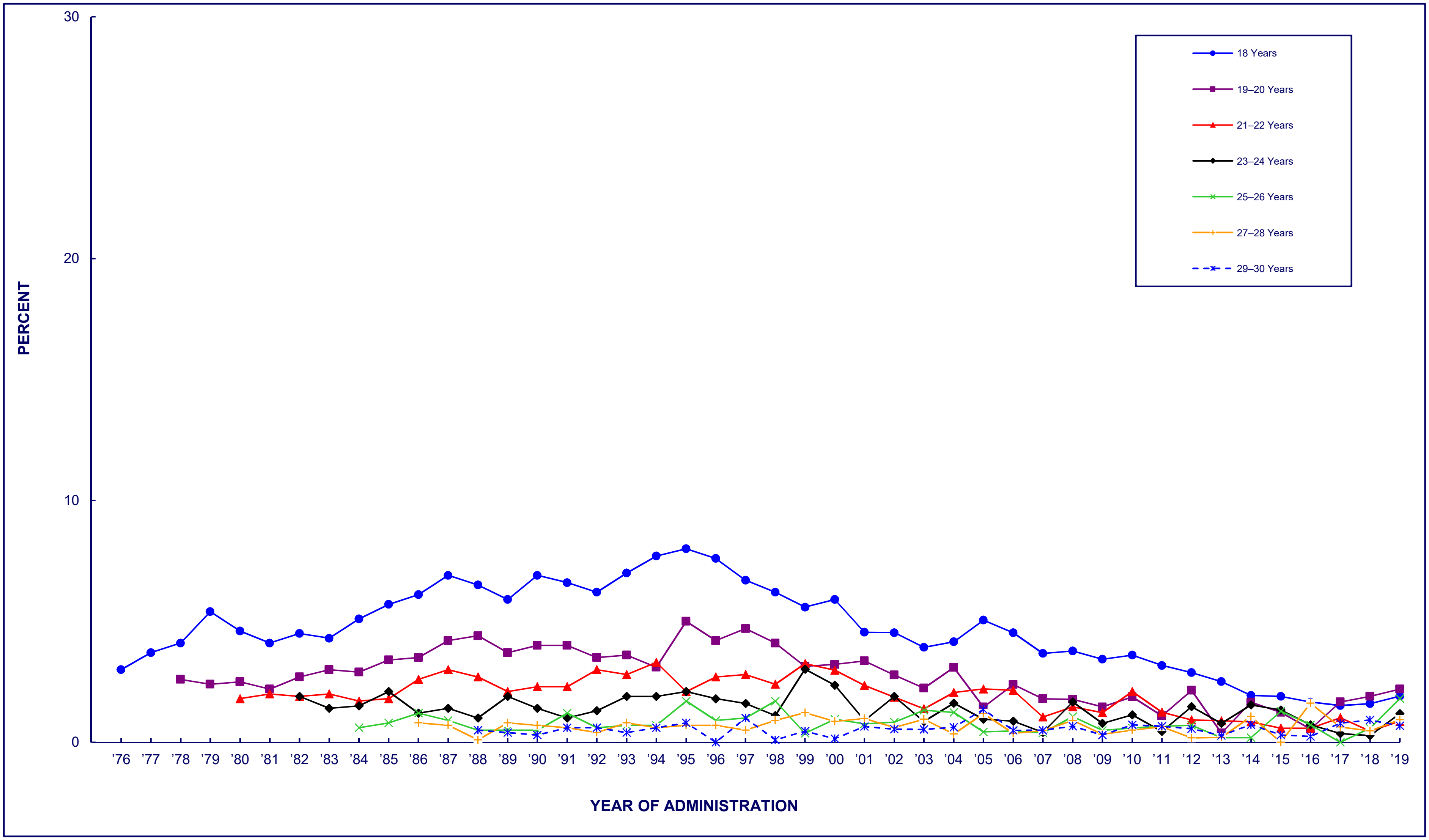
*Notes.* ' — ' indicates data not available.

**FIGURE 5-4**

**INHALANTS [a]**

**Trends in Annual Prevalence**

**among Respondents of Modal Ages 18 through 30, [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 30, [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 |
| 2018 | 1.6 | 1.9 | 0.5 | 0.3 | 0.6 | 0.5 | 0.9 |
| 2019 | 1.9 | 2.2 | 0.9 | 1.2 | 1.8 | 0.9 | 0.7 |

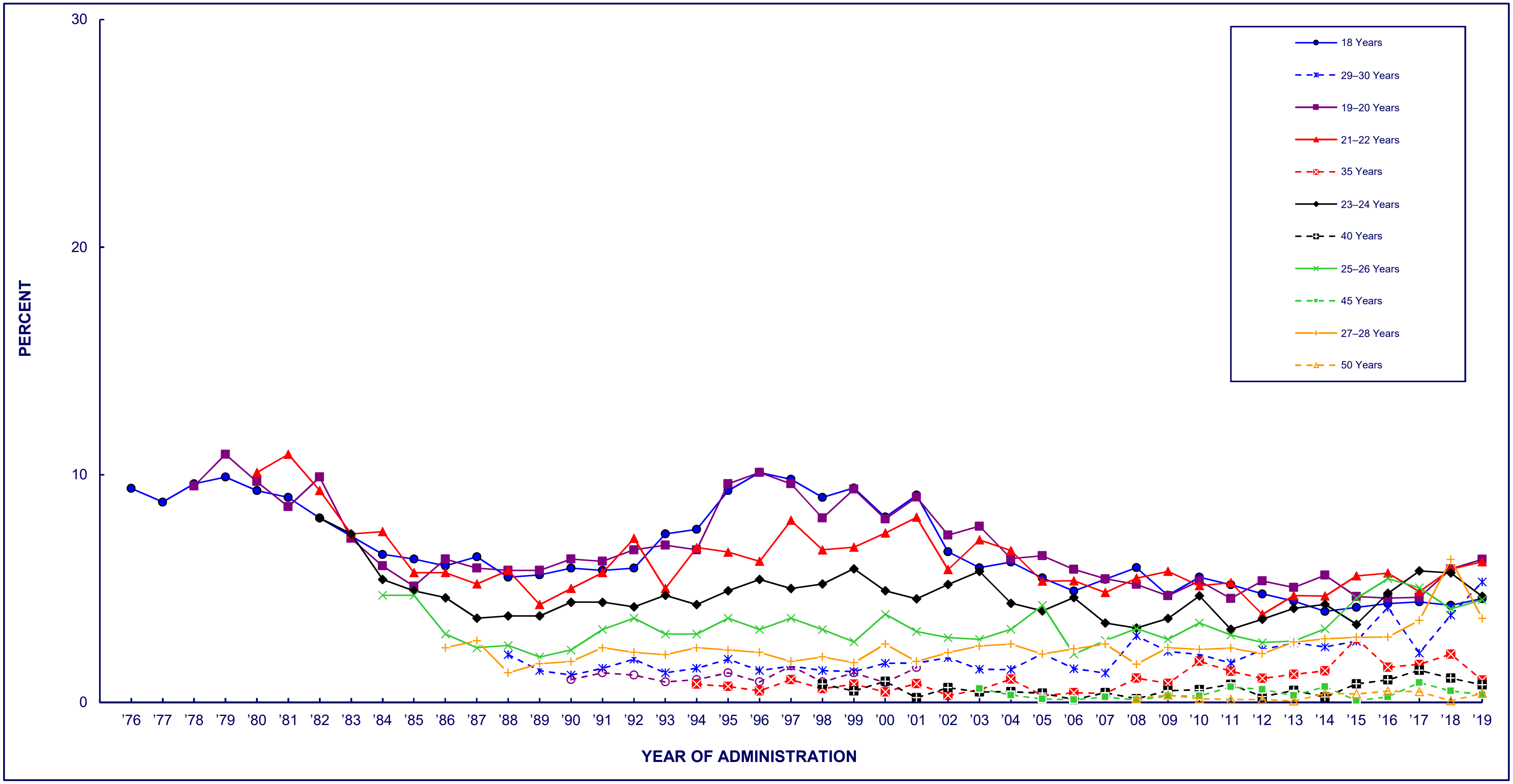
*Source.* The Monitoring the Future study, the University of Michigan.

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

[a]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 those ages 35+.

## 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 |
| 2018 | 4.3 | 5.9 | 5.9 | 5.7 | 4.1 | 6.3 | 3.8 | 2.1 | 1.1 | 0.5 | 0.1 |
| 2019 | 4.6 | 6.3 | 6.2 | 4.7 | 4.5 | 3.7 | 5.3 | 1.0 | 0.8 | 0.3 | 0.4 |

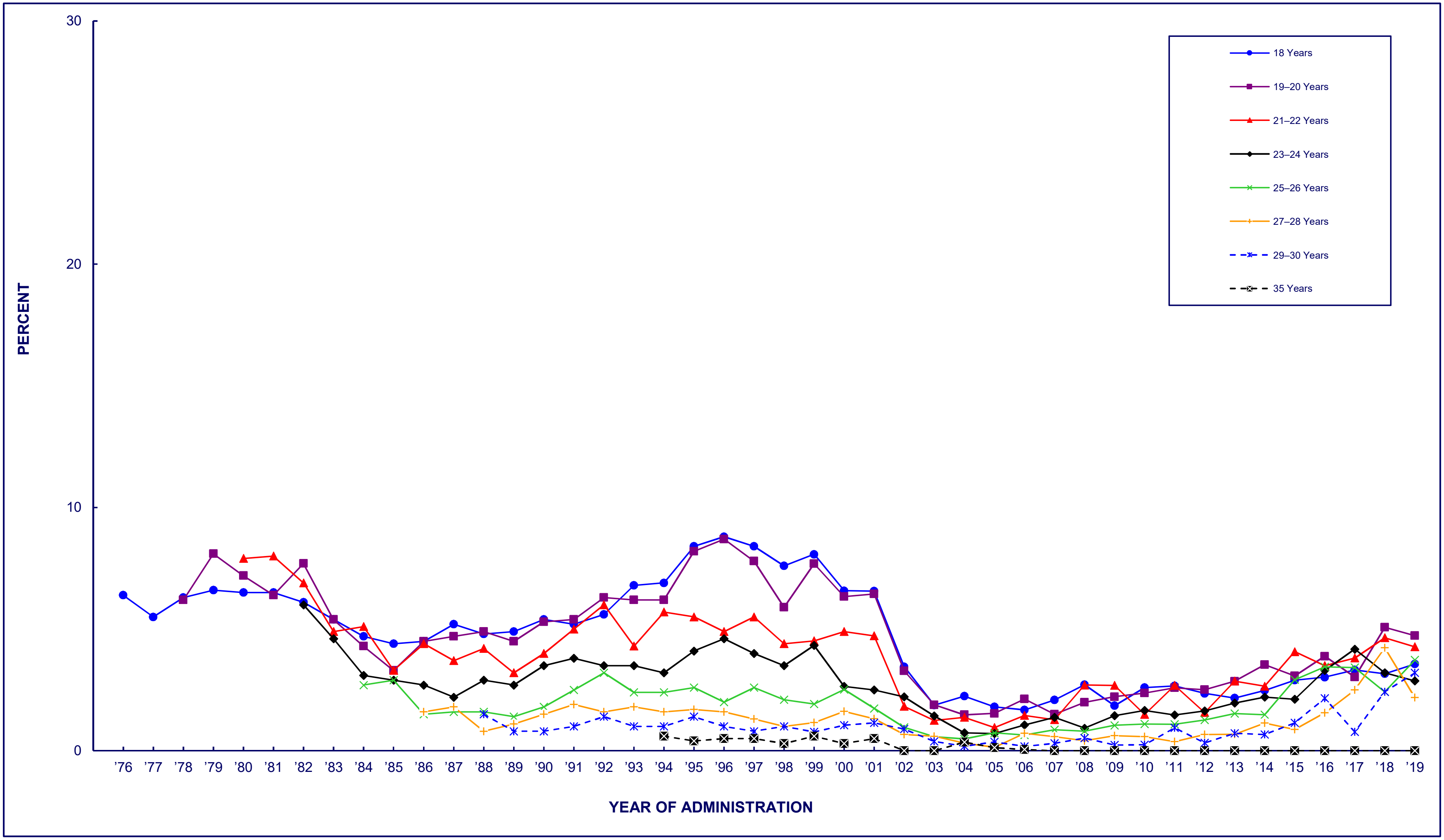
*Source.* The Monitoring the Future study, the University of Michigan.

*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- and 60-year-olds.

**FIGURE 5-6**
**LSD**
**Trends in Annual Prevalence**
**among Respondents of Modal Ages 18 through 35,ᵃ 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 | — |
| 2018 | 3.2 | 5.1 | 4.6 | 3.2 | 2.4 | 4.2 | 2.4 | — |
| 2019 | 3.6 | 4.7 | 4.3 | 2.9 | 3.7 | 2.2 | 3.2 | — |

*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.

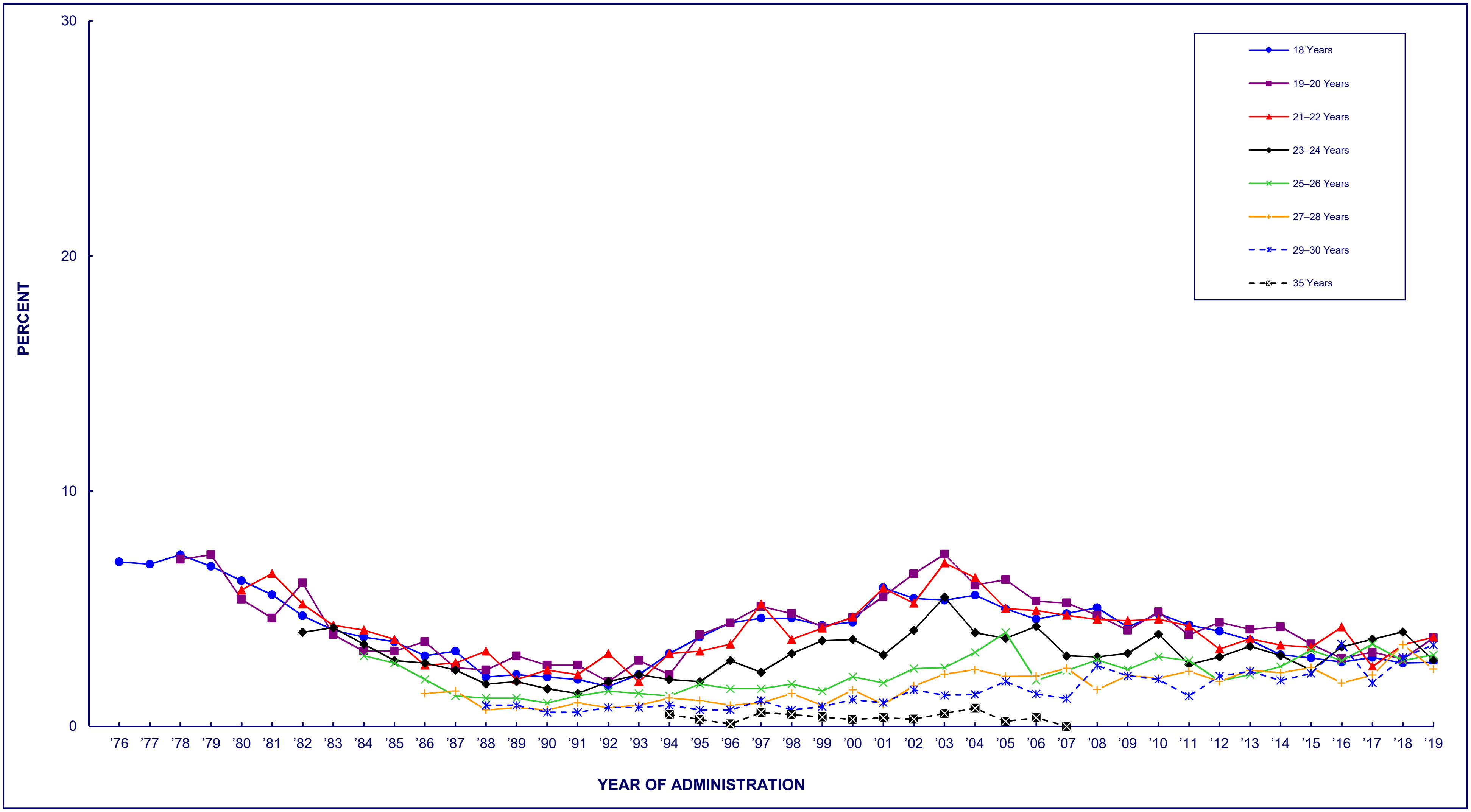
[b]Questions about LSD use were not included in the questionnaires administered to the 40-, 45-, 50-, 55-, and 60-year-olds, or the 35-year-olds after 2006.

**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 | — |
| 2018 | 2.7 | 2.9 | 3.5 | 4.0 | 2.8 | 3.5 | 2.9 | — |
| 2019 | 2.7 | 3.8 | 3.8 | 2.8 | 3.0 | 2.4 | 3.5 | — |

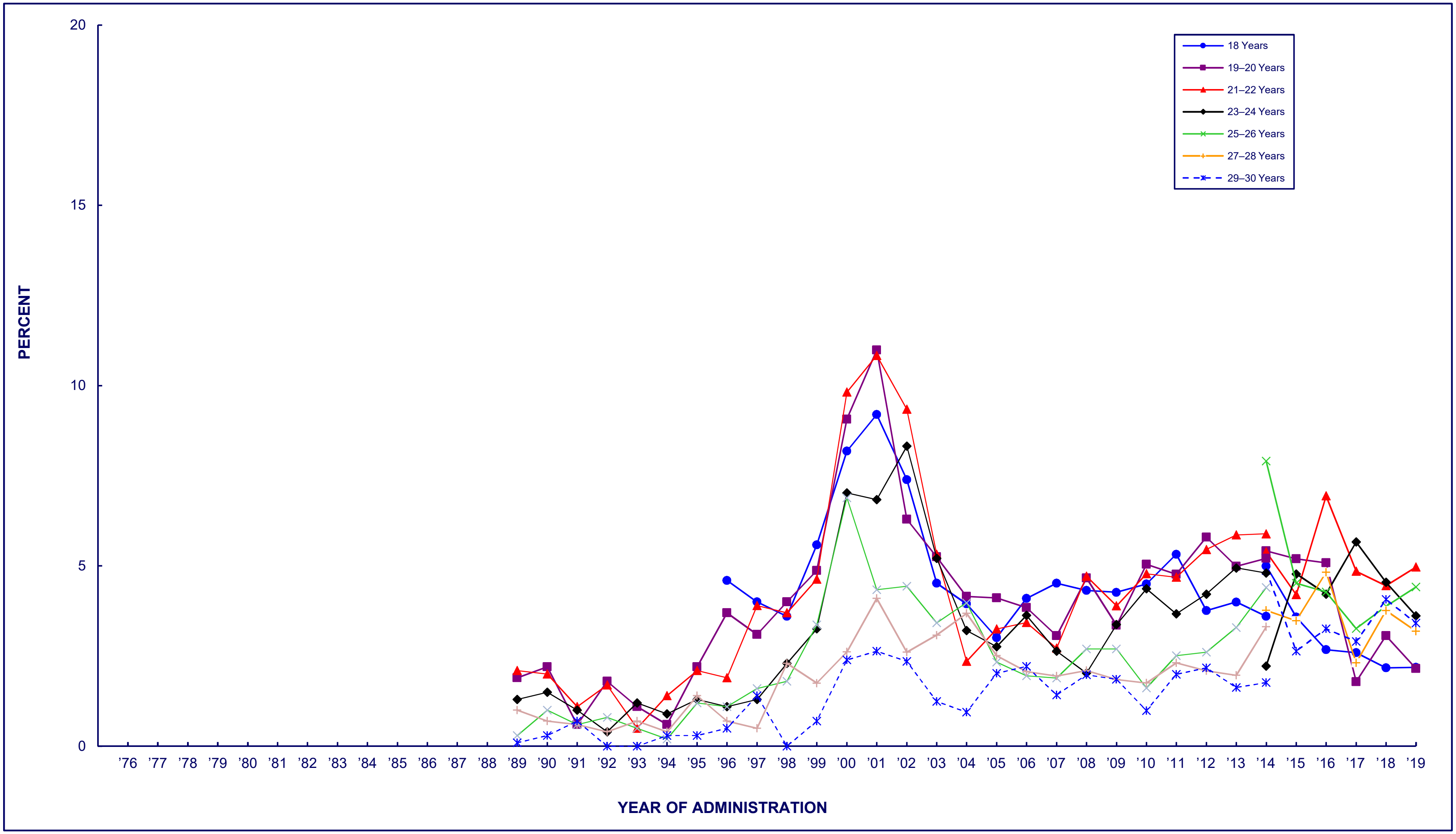
*Source.* The Monitoring the Future study, the University of Michigan.

*Notes.* '— ' indicates data not available.

[a]Unadjusted for the possible underreporting of PCP.

[b]Questions about the use of hallucinogens other than LSD were not included in the questionnaires administered to the 40-, 45-, 50-, 55-, and 60-year-olds, or the 35-year-olds after 2006.

**FIGURE 5-8**
**MDMA (Ecstasy, Molly)**
**Trends in Annual Prevalence**
**among Respondents of Modal Ages 18 through 30, [a] by Age Group**




(Figure continued on next page.)

## FIGURE 5-8 (cont.)
## MDMA (Ecstasy, Molly)
## Trends in Annual Prevalence among Respondents of Modal Ages 18 through 30, [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 |
| 2018 | — | 2.2 | — | 3.1 | — | 4.5 | — | 4.5 | — | 3.9 | — | 3.8 | — | 4.1 |
| 2019 | — | 2.2 | — | 2.2 | — | 5.0 | — | 3.6 | — | 4.4 | — | 3.2 | — | 3.4 |

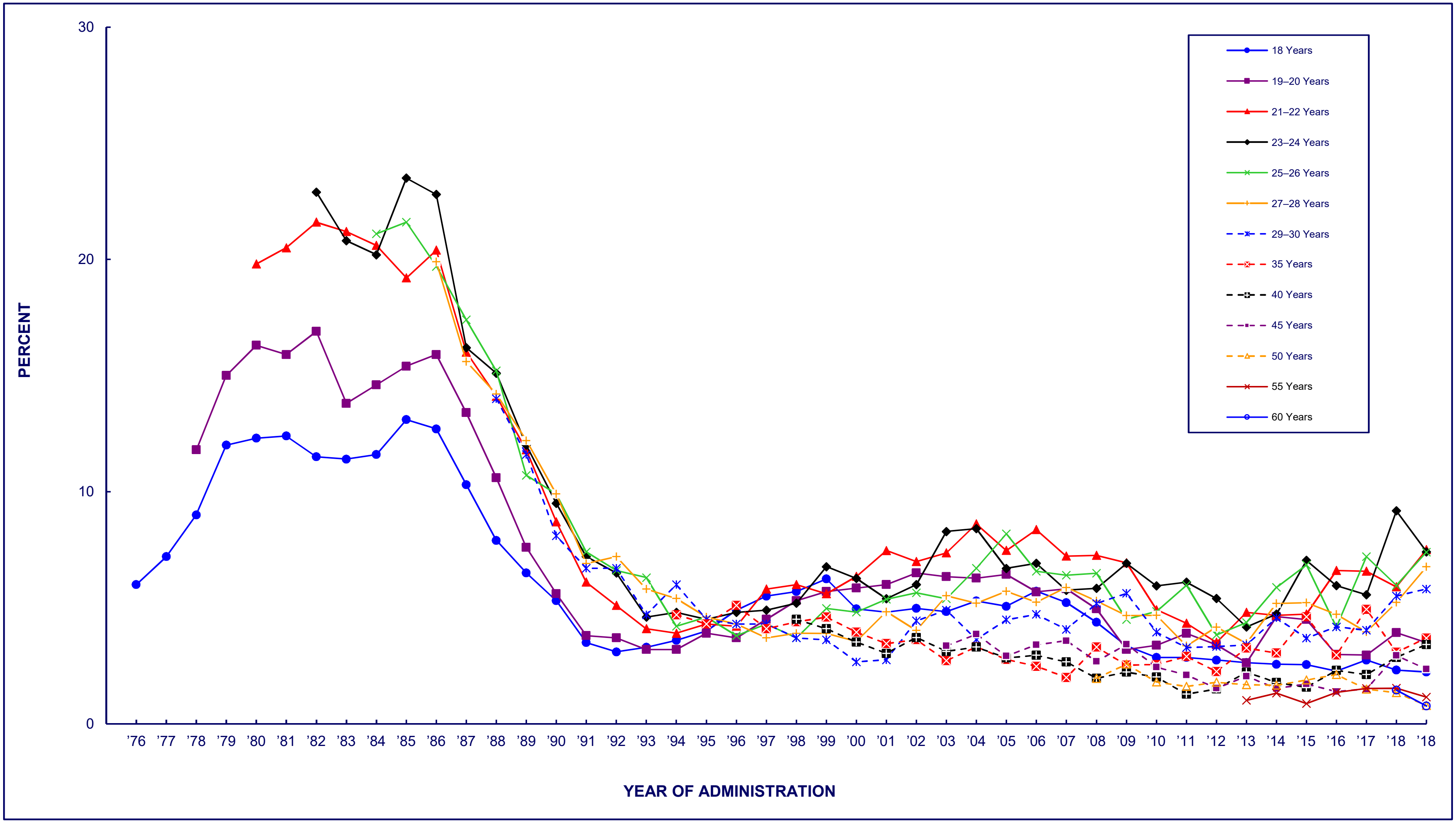
*Source.* The Monitoring the Future study, the University of Michigan.

*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 those ages 35+.

[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 60, by Age Group**




(Figure continued on next page.)

# FIGURE 5-9 (cont.)
# COCAINE
## Trends in Annual Prevalence
## among Respondents of Modal Ages 18 through 60, by Age Group

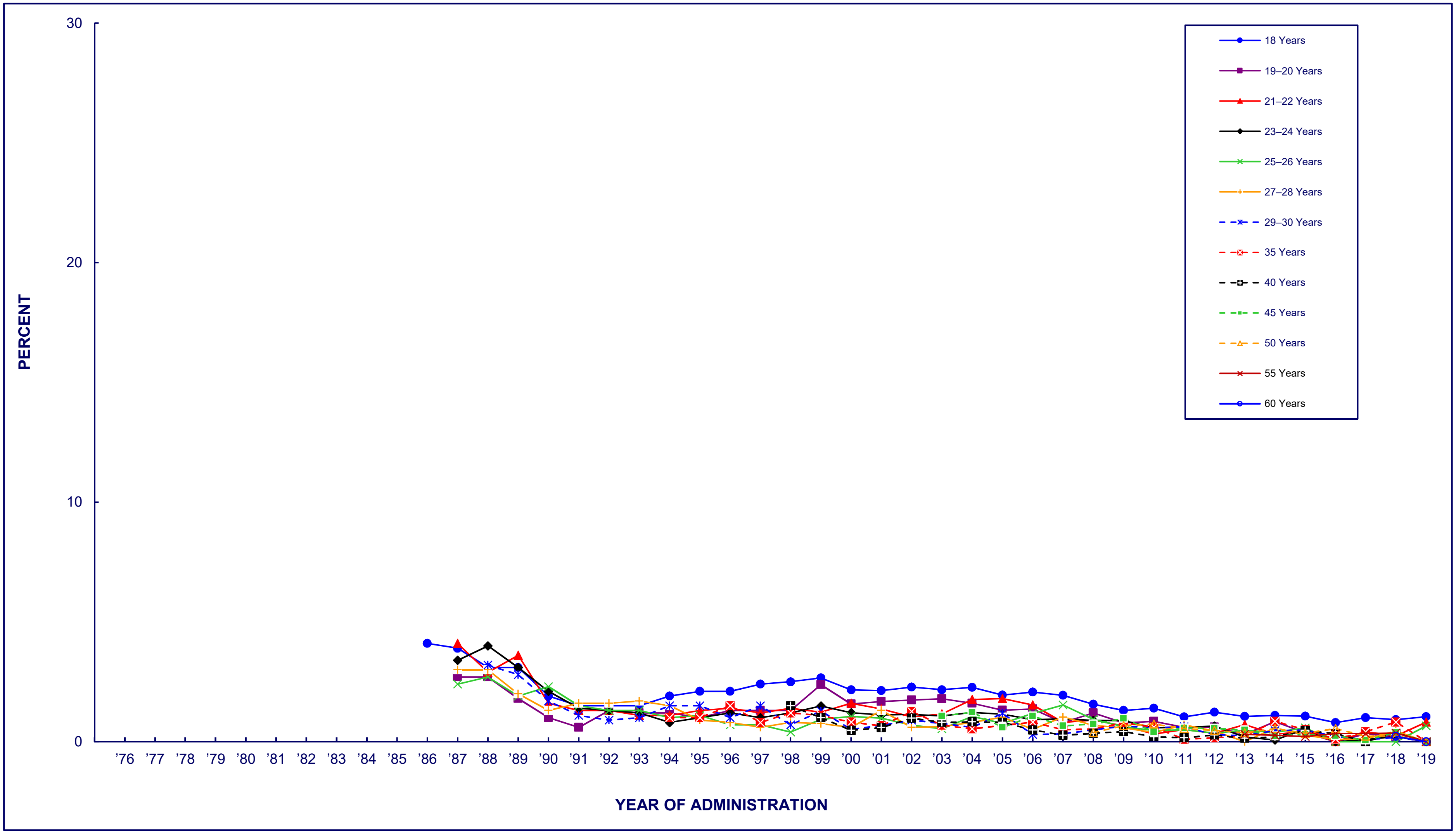
353.0

| 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2018 | 2.3 | 3.9 | 5.9 | 9.2 | 6.0 | 5.2 | 5.5 | 3.1 | 2.9 | 2.9 | 1.3 | 1.5 | 1.5 |
| 2019 | 2.2 | 3.5 | 7.5 | 7.4 | 7.4 | 6.8 | 5.8 | 3.7 | 3.4 | 2.4 | 0.8 | 1.2 | 0.8 |

*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 60, 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 60[a], by Age Group

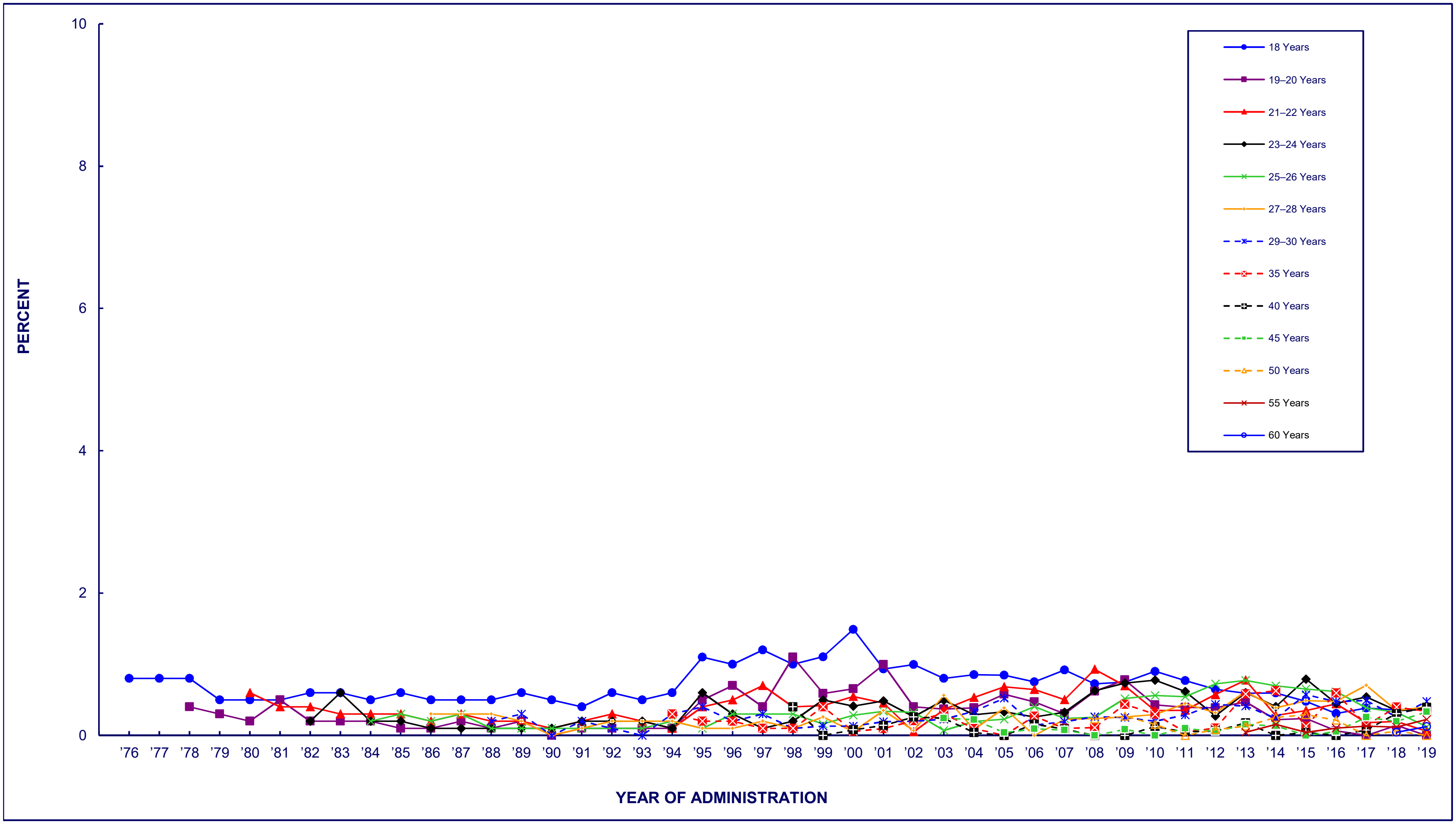
| Year | Age 18 | Ages 19–20 | Ages 21–22 | Ages 23–24 | Ages 25–26 | Ages 27–28 | Ages 29–30 | Age 35 | Age 40 | Age 45 | Age 50 | Age 55 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | | | | | | | | | | | | | |
| 1977 | | | | | | | | | | | | | |
| 1978 | | | | | | | | | | | | | |
| 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 | |
| 2018 | 0.9 | 0.2 | 0.2 | 0.2 | * | 0.4 | 0.2 | 0.8 | 0.4 | 0.4 | 0.2 | 0.4 | 0.2 |
| 2019 | 1.0 | * | 0.8 | * | 0.7 | * | * | — | — | — | — | — | — |

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

*Notes.* ' — ' indicates data not available.

[a]Questions about the use of crack were not included in the questionnaires administered to those ages 35+ after 2018.

**FIGURE 5-11**
**HEROIN**
**Trends in Annual Prevalence**
**among Respondents of Modal Ages 18 through 60, by Age Group**




(Figure continued on next page.)

# FIGURE 5-11 (cont.)

## HEROIN

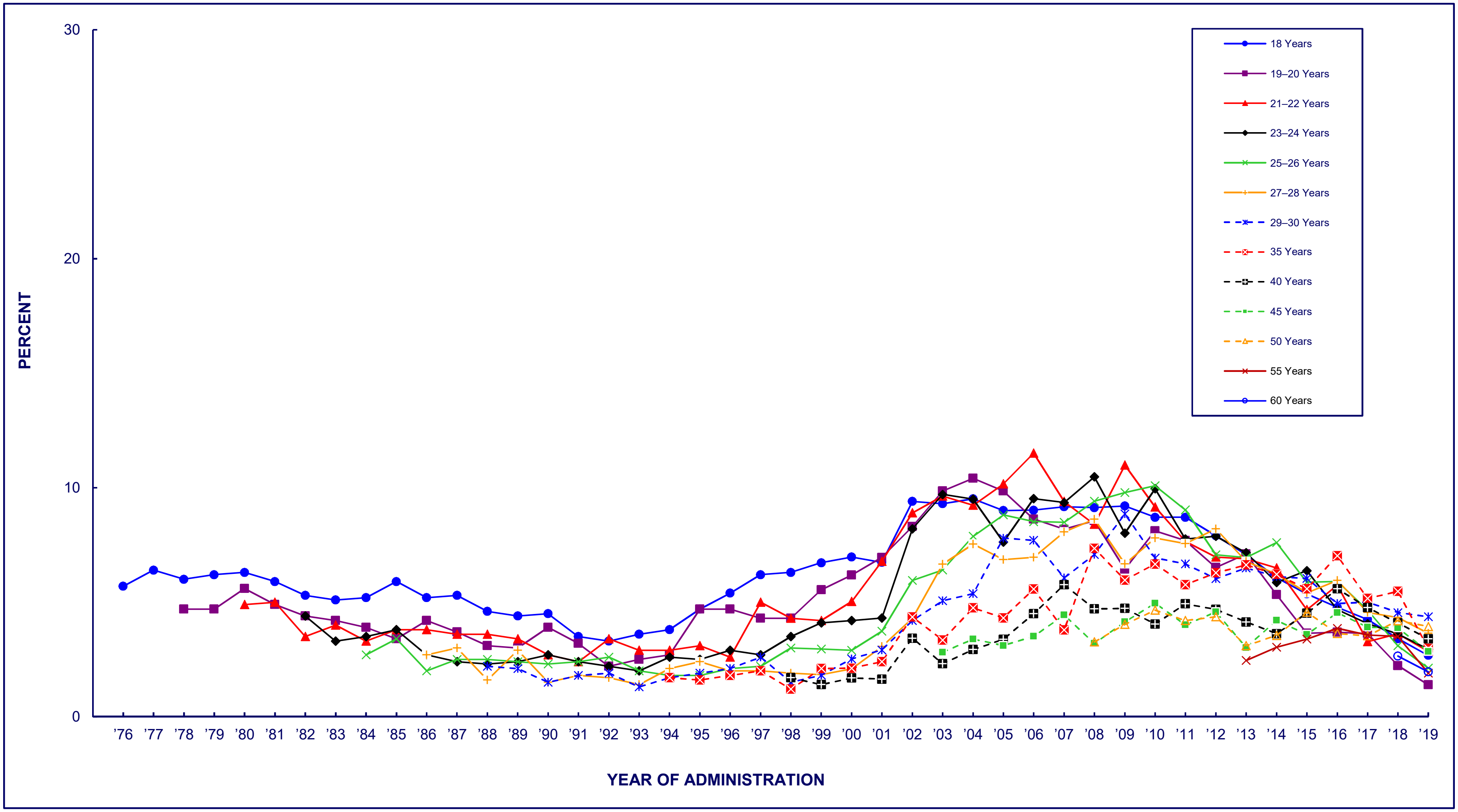
## Trends in Annual Prevalence among Respondents of Modal Ages 18 through 60, by Age Group

| 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2018 | 0.4 | 0.1 | 0.2 | 0.3 | 0.3 | 0.4 | 0.3 | 0.4 | 0.3 | 0.2 | 0.1 | 0.1 | * |
| 2019 | 0.4 | * | 0.1 | 0.4 | 0.1 | 0.4 | 0.5 | 0.3 | 0.4 | 0.3 | * | 0.2 | 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 60, 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 60, by Age Group

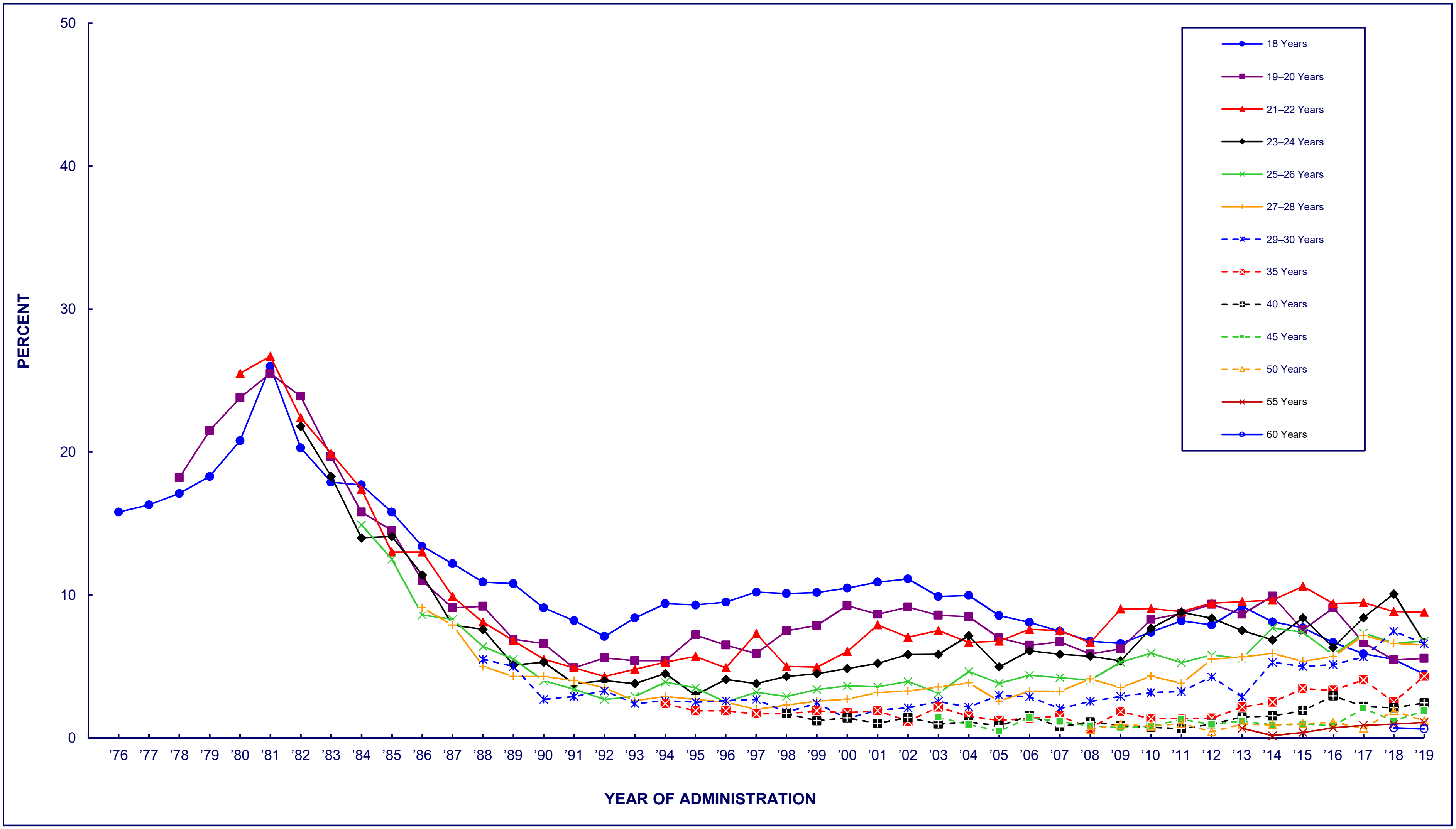
| Year | Age 18 | Ages 19–20 | Ages 21–22 | Ages 23–24 | Ages 25–26 | Ages 27–28 | Ages 29–30 | Age 35 | Age 40 | Age 45 | Age 50 | Age 55 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | 5.7 | | | | | | | | | | | | |
| 1977 | 6.4 | | | | | | | | | | | | |
| 1978 | 6.0 | 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 | |
| 2018 | 3.4 | 2.2 | 3.6 | 3.6 | 3.1 | 4.3 | 4.5 | 5.5 | 4.1 | 3.9 | 4.2 | 3.5 | 2.6 |
| 2019 | 2.7 | 1.4 | 2.9 | 2.9 | 2.1 | 3.6 | 4.4 | 3.0 | 3.4 | 2.8 | 3.9 | 1.9 | 2.0 |

*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 60, by Age Group




(Figure continued on next page.)

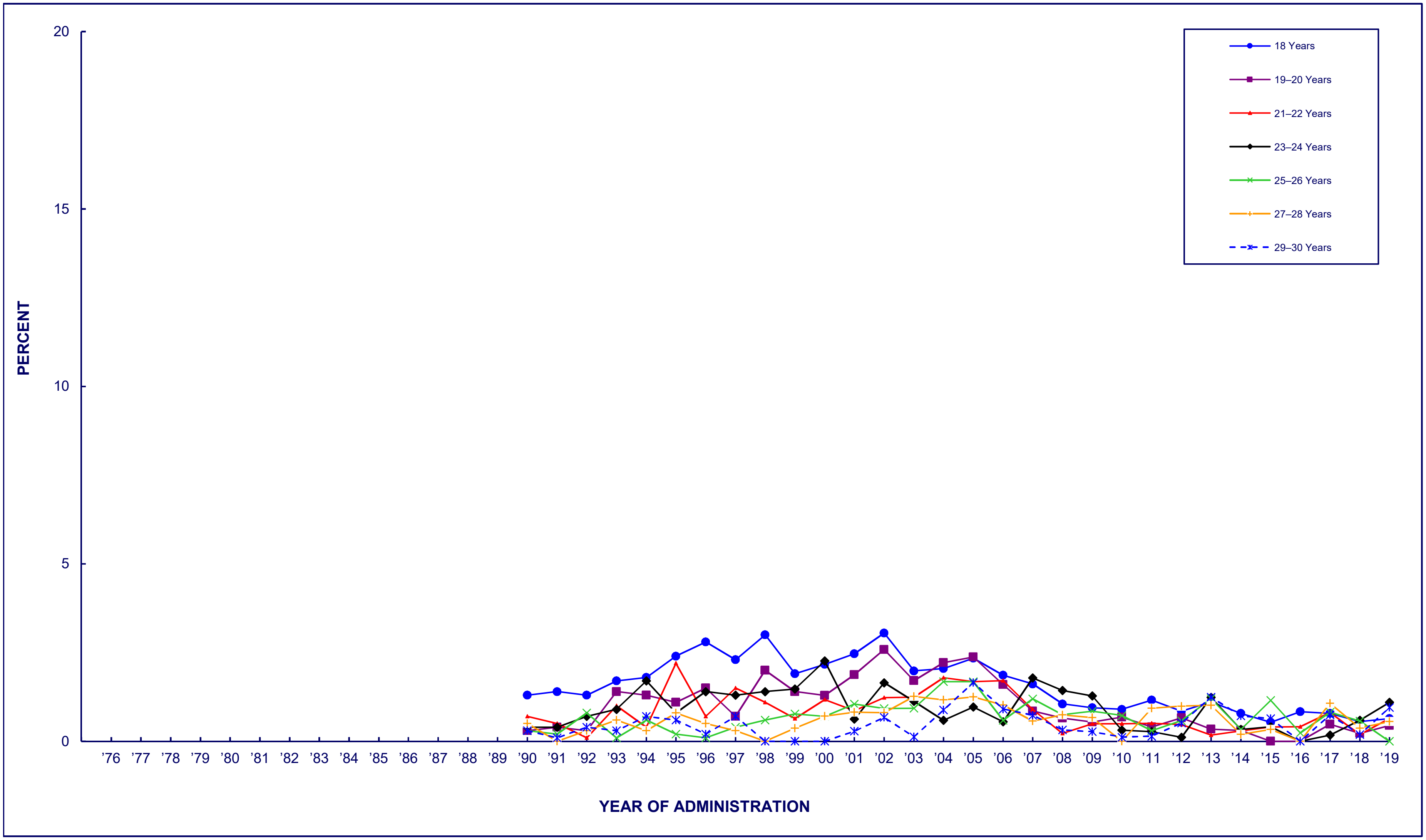
# FIGURE 5-13 (cont.)
## AMPHETAMINES
## Trends in Annual Prevalence among Respondents of Modal Ages 18 through 60, by Age Group

| 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2018 | 5.5 | 5.5 | 8.8 | 10.1 | 6.6 | 6.6 | 7.5 | 2.5 | 2.1 | 1.2 | 1.9 | 1.0 | 0.7 |
| 2019 | 4.5 | 5.6 | 8.8 | 6.7 | 6.8 | 6.5 | 6.6 | 4.3 | 2.5 | 1.9 | 1.2 | 1.1 | 0.6 |

*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 30, [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 30, [a] by Age Group

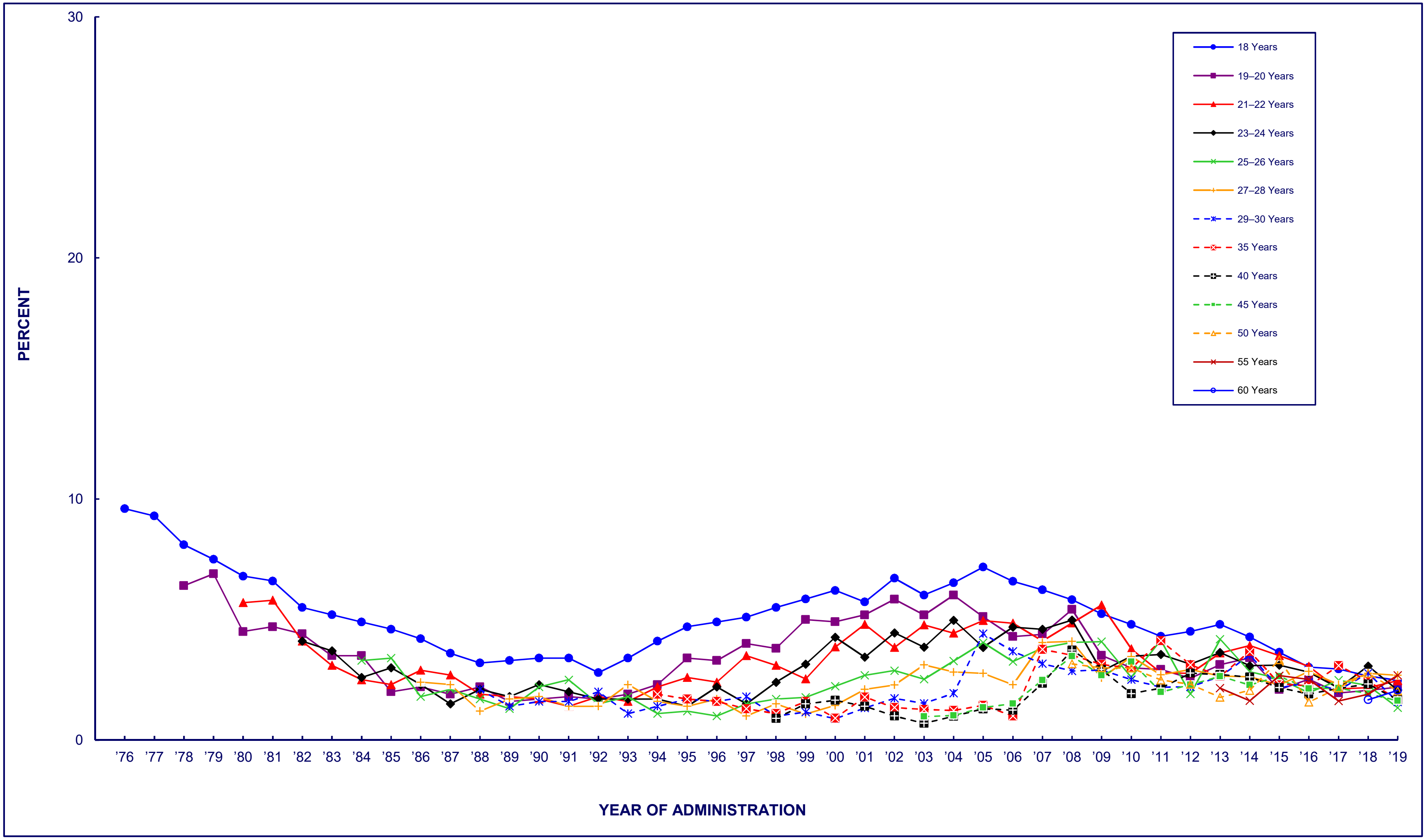
| Year | Age 18 | Ages 19–20 | Ages 21–22 | Ages 23–24 | Ages 25–26 | Ages 27–28 | Ages 29–30 |
|---|---|---|---|---|---|---|---|
| 1976 | | | | | | | |
| 1977 | | | | | | | |
| 1978 | | | | | | | |
| 1979 | | | | | | | |
| 1980 | | | | | | | |
| 1981 | | | | | | | |
| 1982 | | | | | | | |
| 1983 | | | | | | | |
| 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 |
| 2018 | 0.6 | 0.2 | 0.2 | 0.6 | 0.6 | 0.4 | 0.2 |
| 2019 | 0.6 | 0.4 | 0.6 | 1.1 | * | 0.6 | 1.0 |

*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 those ages 35+.

**FIGURE 5-15**
**SEDATIVES (BARBITURATES)**
**Trends in Annual Prevalence**
**among Respondents of Modal Ages 18 through 60, by Age Group**




(Figure continued on next page.)

## FIGURE 5-15 (cont.)

## SEDATIVES (BARBITURATES)

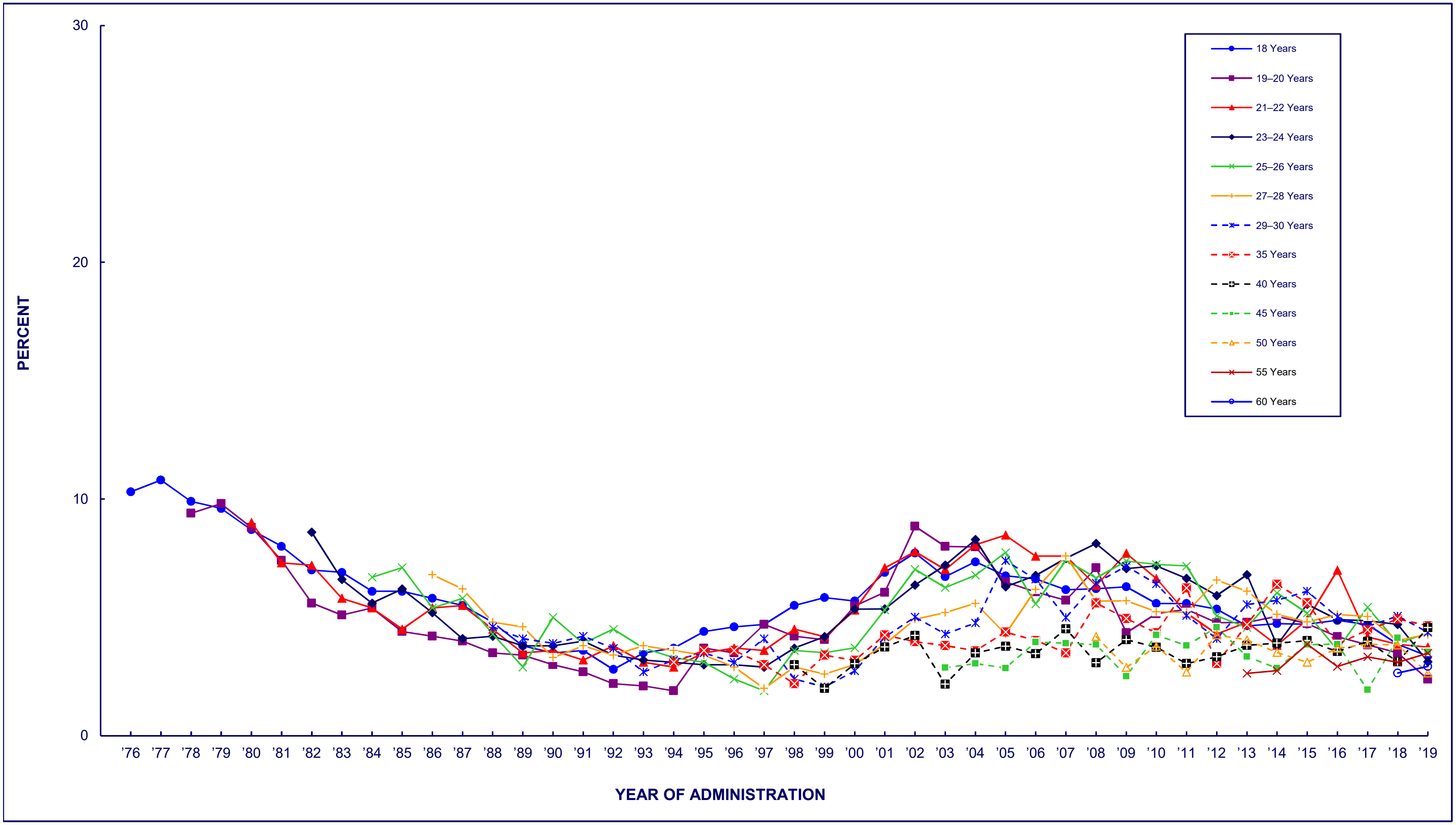
## Trends in Annual Prevalence among Respondents of Modal Ages 18 through 60, by Age Group

| 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2018 | 2.7 | 2.1 | 2.2 | 3.1 | 2.3 | 2.8 | 2.8 | 2.5 | 2.3 | 1.9 | 2.8 | 1.9 | 1.7 |
| 2019 | 2.5 | 2.2 | 2.5 | 2.1 | 1.3 | 2.7 | 1.6 | 1.7 | 1.7 | 1.6 | 2.0 | 2.7 | 2.1 |

*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 60, by Age Group**




(Figure continued on next page.)

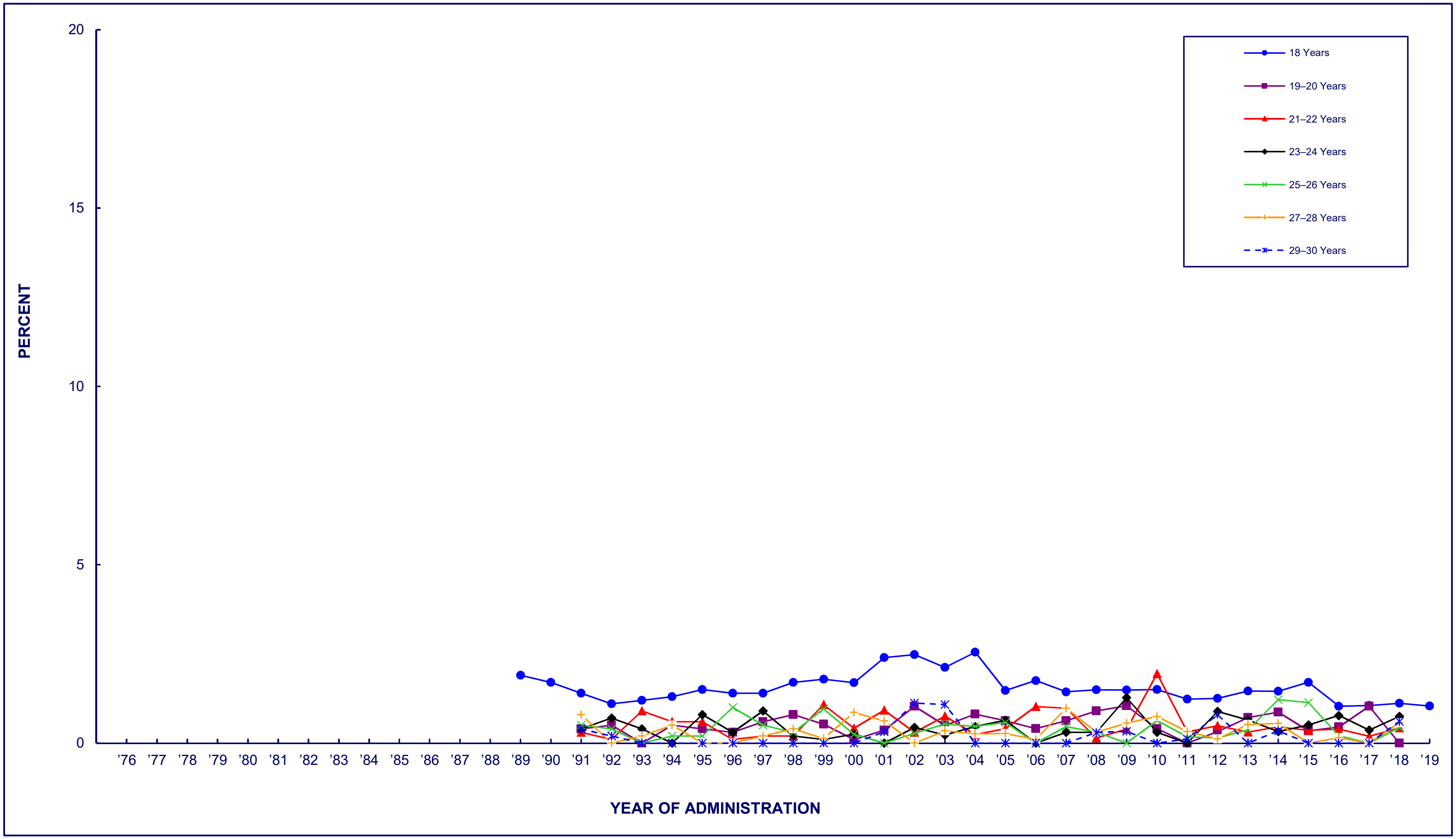
## FIGURE 5-16 (cont.)
## TRANQUILIZERS
## Trends in Annual Prevalence
## among Respondents of Modal Ages 18 through 60, by Age Group

| 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2018 | 3.9 | 3.5 | 3.9 | 4.7 | 3.9 | 4.0 | 5.1 | 4.9 | 3.1 | 4.1 | 3.8 | 3.1 | 2.6 |
| 2019 | 3.4 | 2.4 | 3.7 | 3.1 | 4.3 | 4.3 | 4.4 | 4.6 | 4.6 | 3.5 | 2.6 | 3.5 | 2.9 |

*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 30, [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 30, [a] by Age Group

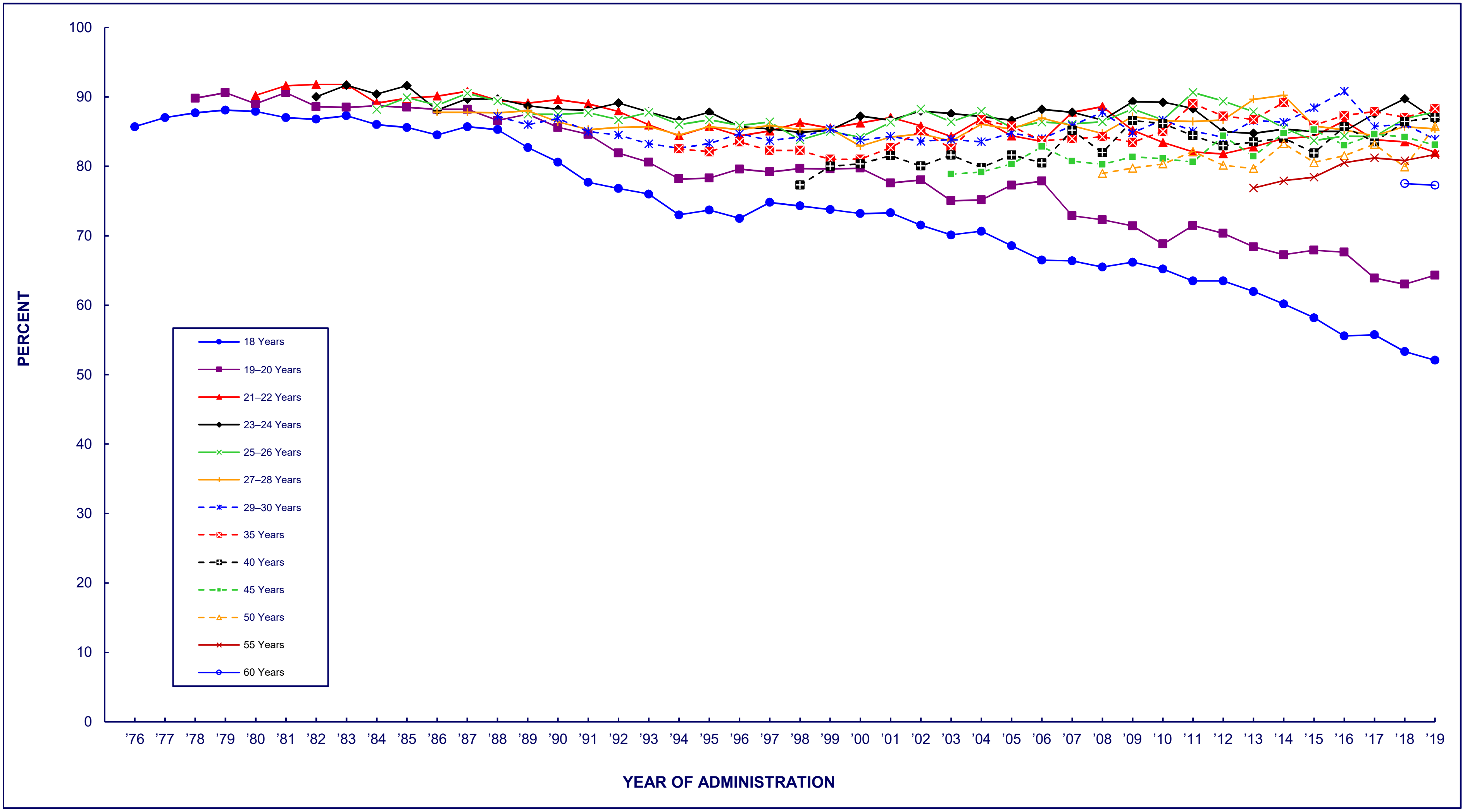
| Year | Age 18 | Ages 19–20 | Ages 21–22 | Ages 23–24 | Ages 25–26 | Ages 27–28 | Ages 29–30 |
|---|---|---|---|---|---|---|---|
| 1976 | | | | | | | |
| 1977 | | | | | | | |
| 1978 | | | | | | | |
| 1979 | | | | | | | |
| 1980 | | | | | | | |
| 1981 | | | | | | | |
| 1982 | | | | | | | |
| 1983 | | | | | | | |
| 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 | * | * | * |
| 2018 | 1.1 | * | 0.4 | 0.8 | 0.4 | 0.6 | 0.6 |
| 2019 | — | — | — | — | — | — | — |

*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 those 35+, and those for ages 19-30 after 2018.

**FIGURE 5-18a**
**ALCOHOL**
**Trends in Annual Prevalence**
**among Respondents of Modal Ages 18 through 60, by Age Group**




(Figure continued on next page.)

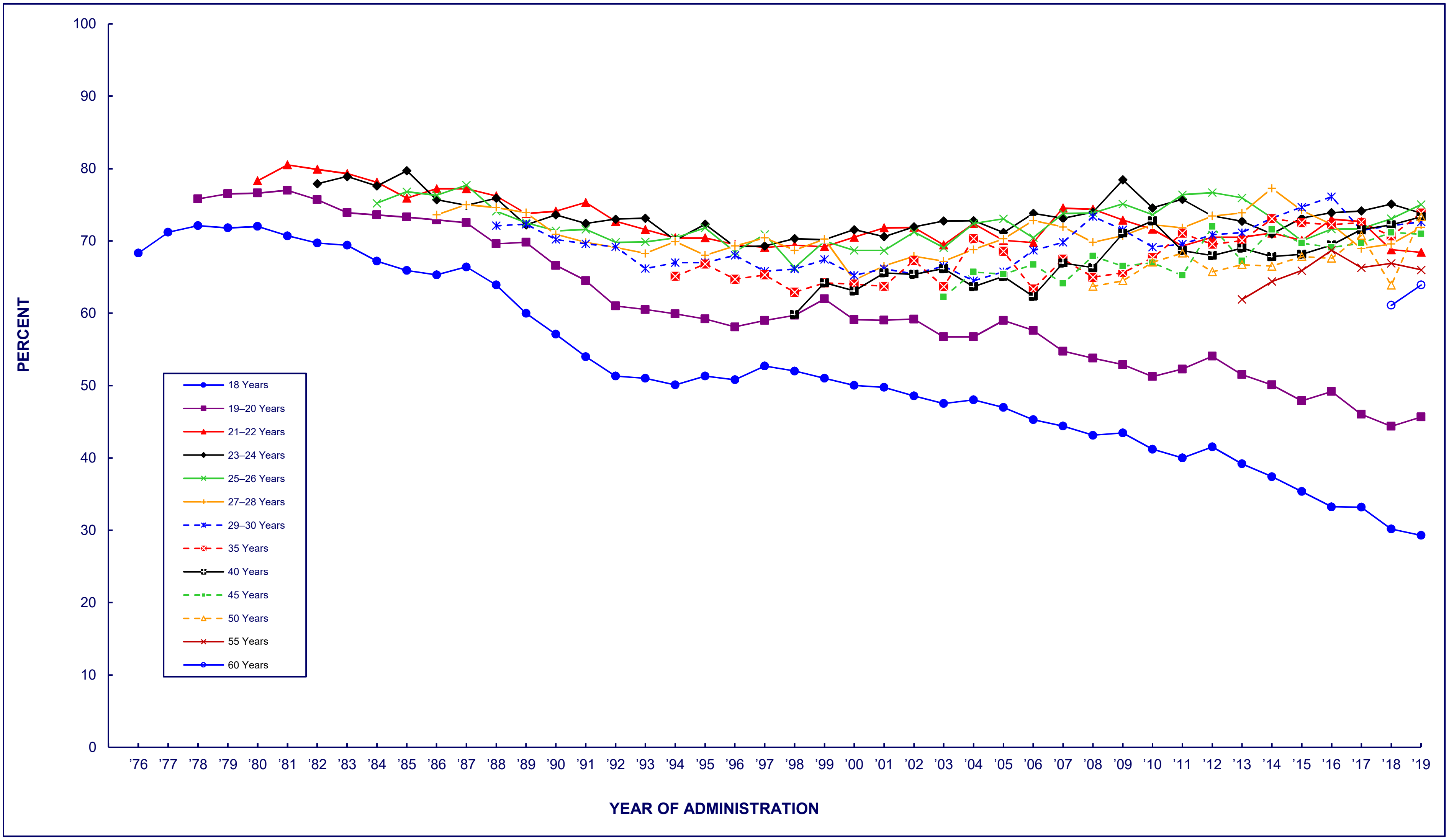
# FIGURE 5-18a (cont.)
## ALCOHOL
## Trends in Annual Prevalence among Respondents of Modal Ages 18 through 60, by Age Group

| 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2018 | 53.3 | 63.0 | 83.5 | 89.7 | 86.8 | 85.7 | 86.1 | 87.0 | 86.4 | 84.2 | 79.9 | 80.8 | 77.5 |
| 2019 | 52.1 | 64.3 | 82.0 | 86.7 | 87.8 | 85.4 | 83.9 | 88.3 | 87.1 | 83.1 | 85.7 | 81.7 | 77.3 |

*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 60, by Age Group**




(Figure continued on next page.)

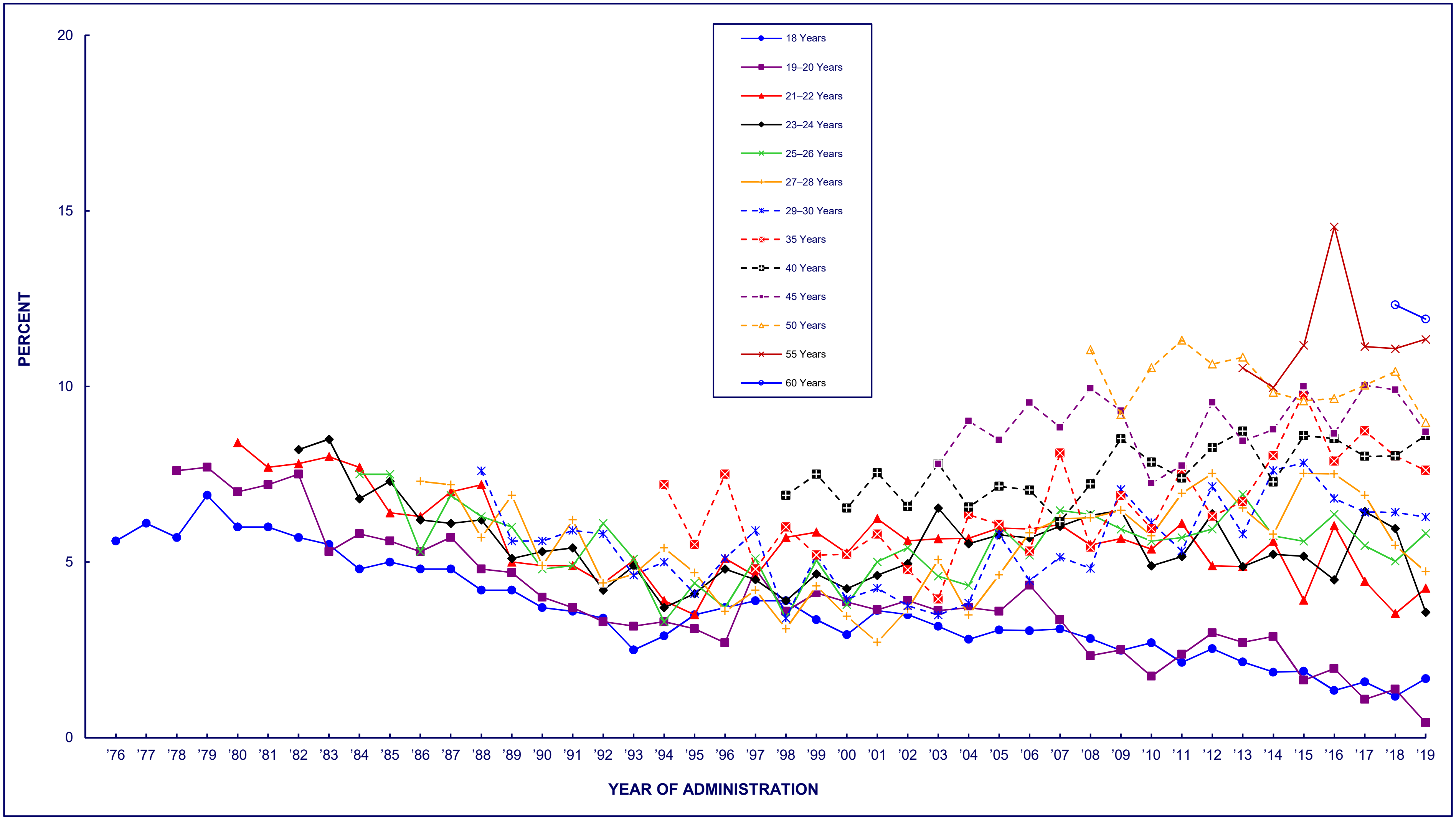
# FIGURE 5-18b (cont.)
## ALCOHOL
## Trends in 30-Day Prevalence
## among Respondents of Modal Ages 18 through 60, by Age Group

| 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2018 | 30.2 | 44.4 | 68.8 | 75.1 | 73.0 | 69.6 | 72.1 | 70.7 | 72.2 | 71.2 | 63.9 | 66.9 | 61.1 |
| 2019 | 29.3 | 45.6 | 68.4 | 73.8 | 75.0 | 71.9 | 72.6 | 73.8 | 73.3 | 71.0 | 73.3 | 66.0 | 63.9 |

*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 60, 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 60, 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2018 | 1.2 | 1.4 | 3.5 | 6.0 | 5.0 | 5.5 | 6.4 | 8.0 | 8.0 | 9.9 | 10.4 | 11.1 | 12.3 |
| 2019 | 1.7 | 0.4 | 4.3 | 3.6 | 5.8 | 4.7 | 6.3 | 7.6 | 8.6 | 8.7 | 9.0 | 11.3 | 11.9 |

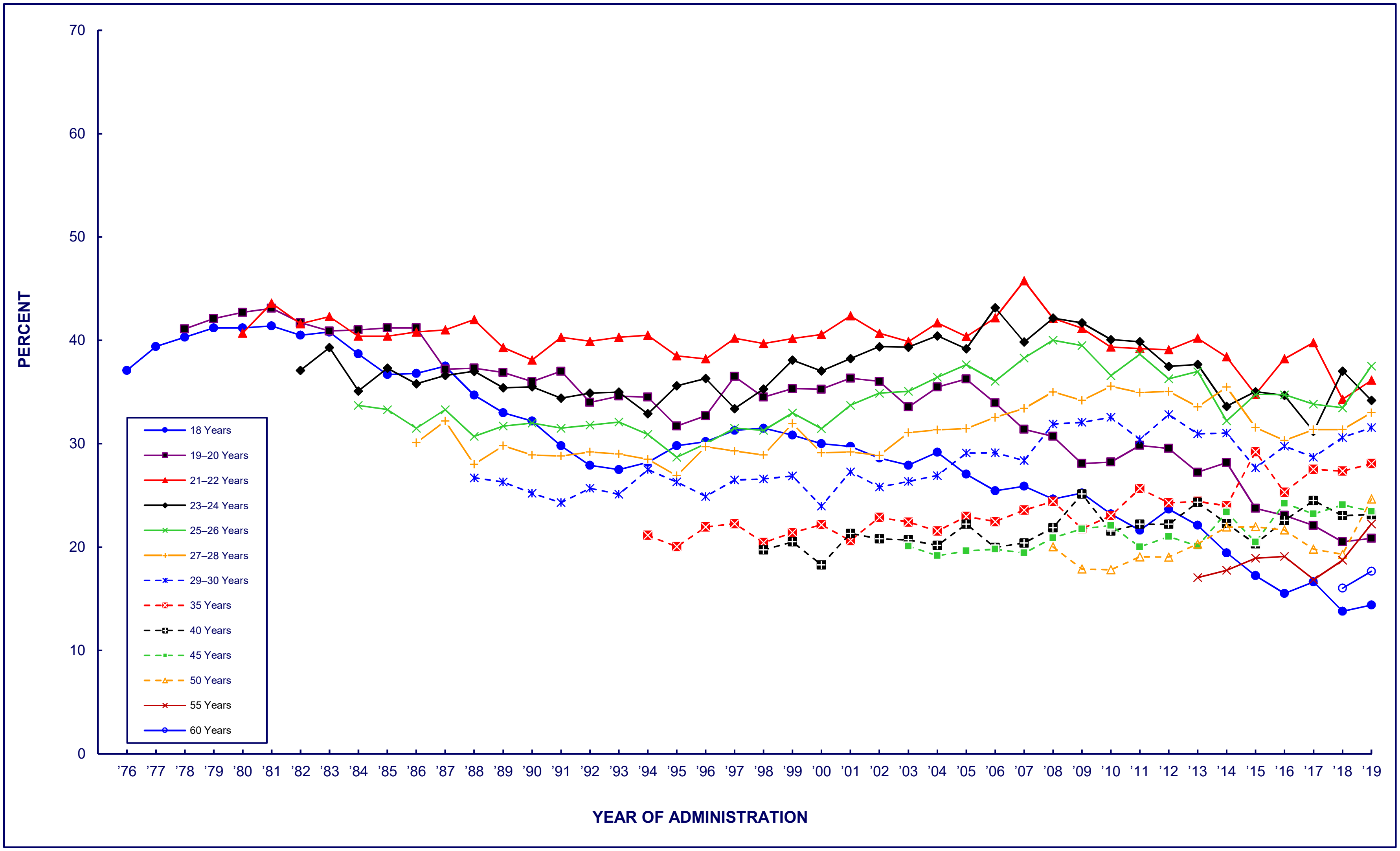
*Source.* The Monitoring the Future study, the University of Michigan.

*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 60, 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 60, 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2018 | 13.8 | 20.5 | 34.3 | 37.0 | 33.5 | 31.4 | 30.6 | 27.3 | 23.0 | 24.1 | 19.3 | 18.7 | 16.0 |
| 2019 | 14.4 | 20.8 | 36.1 | 34.2 | 37.5 | 33.0 | 31.6 | 28.1 | 23.1 | 23.5 | 24.6 | 22.2 | 17.7 |

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

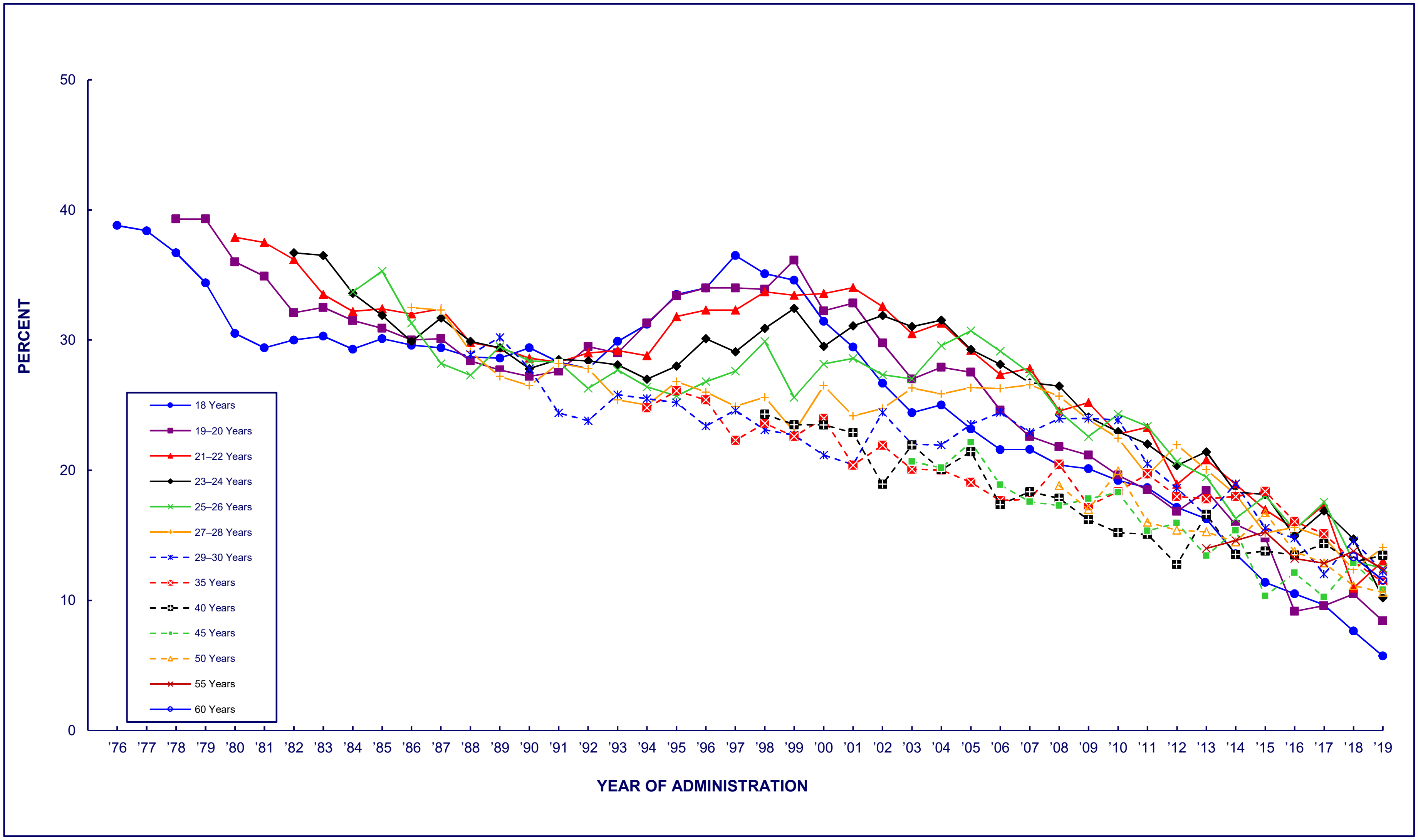
*Notes.* ' — ' indicates data not available.

FIGURE 5-19a

CIGARETTES

Trends in 30-Day Prevalence

among Respondents of Modal Ages 18 through 60, by Age Group




(Figure continued on next page.)

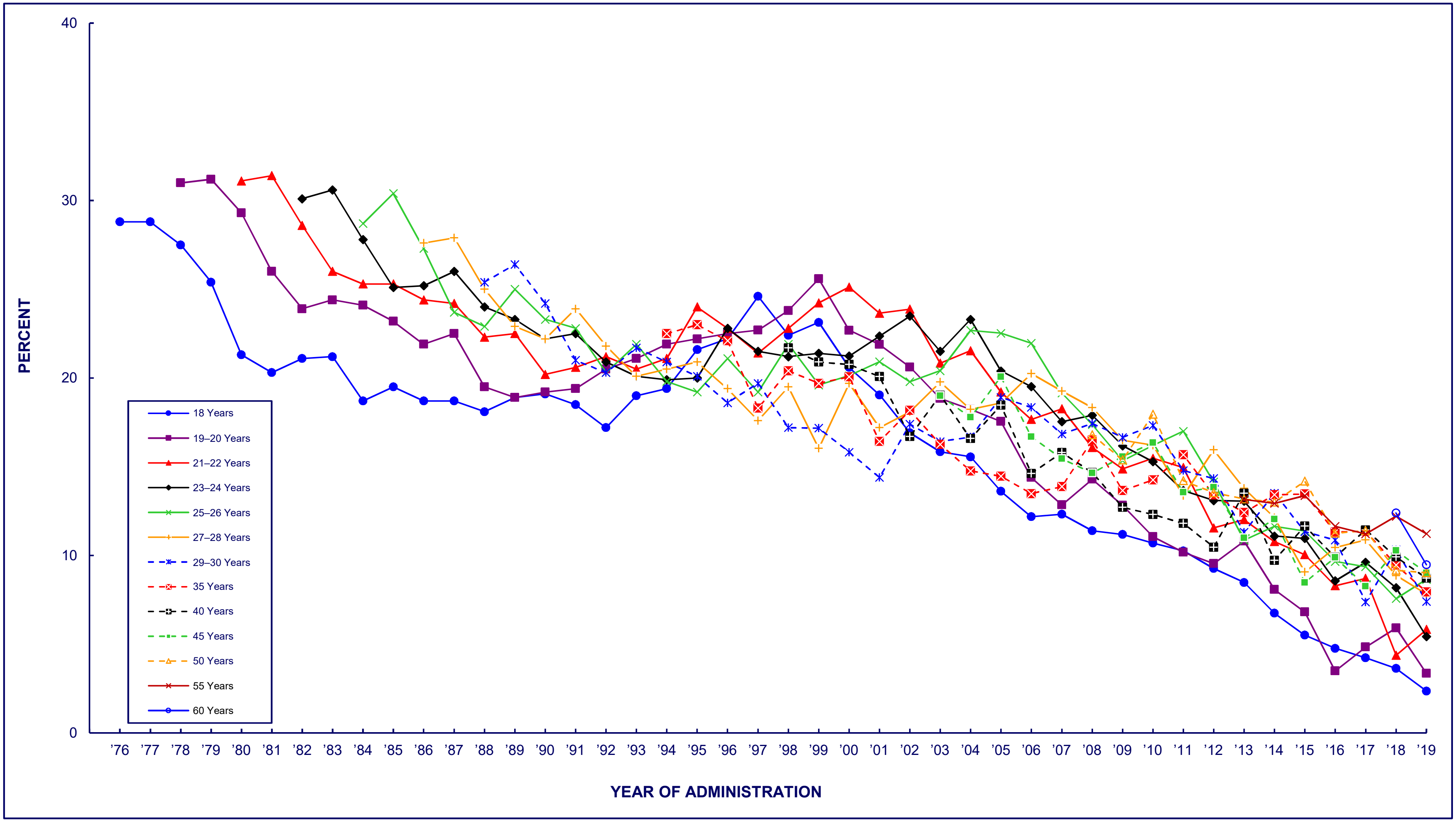
# FIGURE 5-19a (cont.)
# CIGARETTES
## Trends in 30-Day Prevalence
## among Respondents of Modal Ages 18 through 60, by Age Group

| 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2018 | 7.6 | 10.5 | 10.9 | 14.7 | 13.0 | 12.4 | 14.6 | 13.0 | 12.9 | 12.9 | 11.1 | 13.8 | 13.4 |
| 2019 | 5.7 | 8.4 | 13.0 | 10.2 | 12.5 | 14.1 | 12.2 | 11.4 | 13.5 | 10.8 | 10.6 | 12.4 | 11.5 |

*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 60, 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 60, 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2018 | 3.6 | 5.9 | 4.4 | 8.2 | 7.6 | 8.9 | 10.3 | 9.5 | 9.9 | 10.3 | 9.2 | 12.2 | 12.4 |
| 2019 | 2.4 | 3.4 | 5.8 | 5.4 | 8.6 | 7.8 | 7.4 | 7.9 | 8.7 | 9.0 | 9.0 | 11.2 | 9.5 |

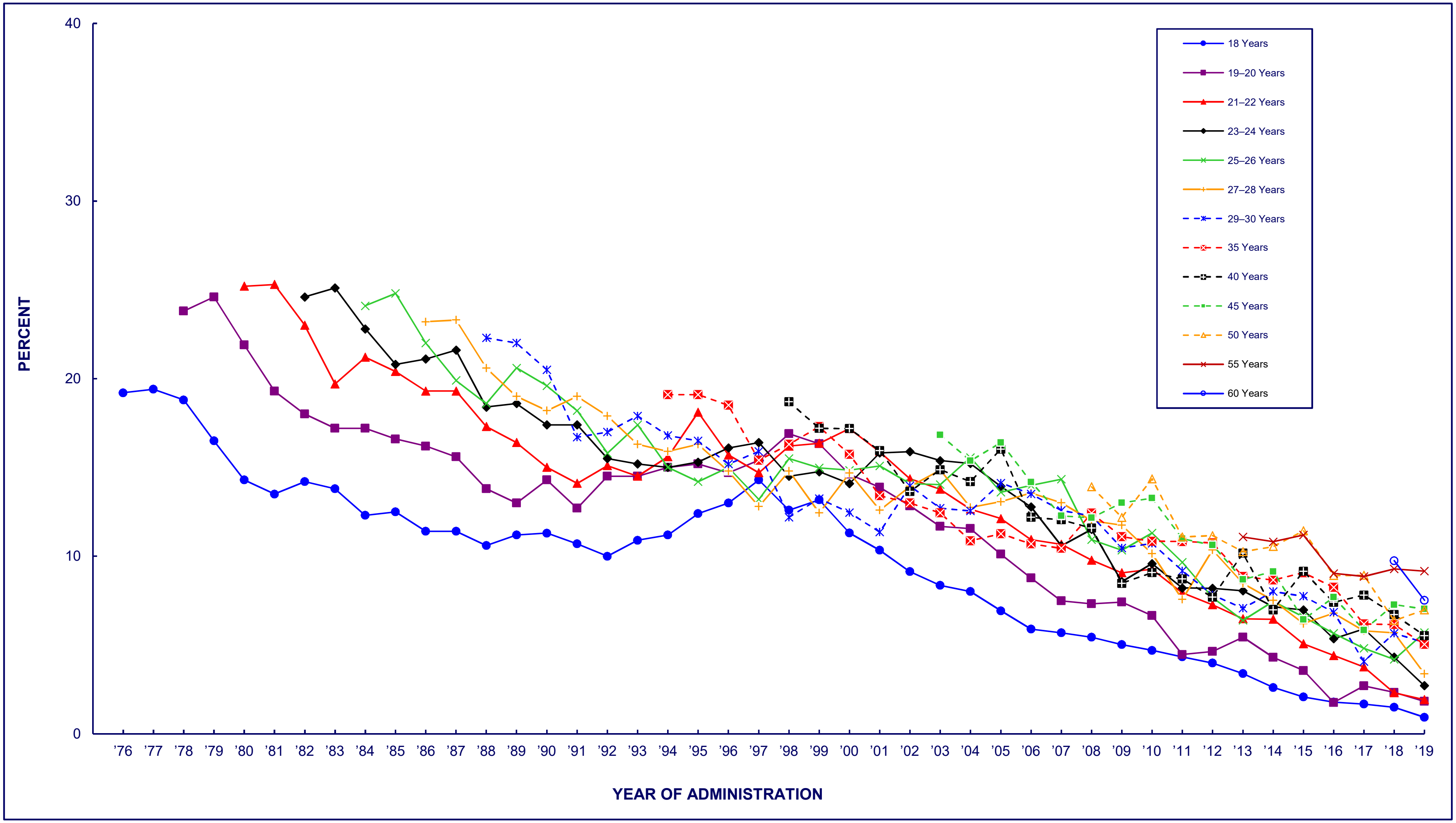
*Source.* The Monitoring the Future study, the University of Michigan.

*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 60, 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 60, 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | |
| 2018 | 1.5 | 2.3 | 2.3 | 4.3 | 4.2 | 5.7 | 5.7 | 6.2 | 6.7 | 7.3 | 6.4 | 9.3 | 9.7 |
| 2019 | 0.9 | 1.8 | 1.9 | 2.7 | 5.7 | 3.4 | 5.1 | 5.0 | 5.5 | 7.0 | 7.0 | 9.2 | 7.5 |

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

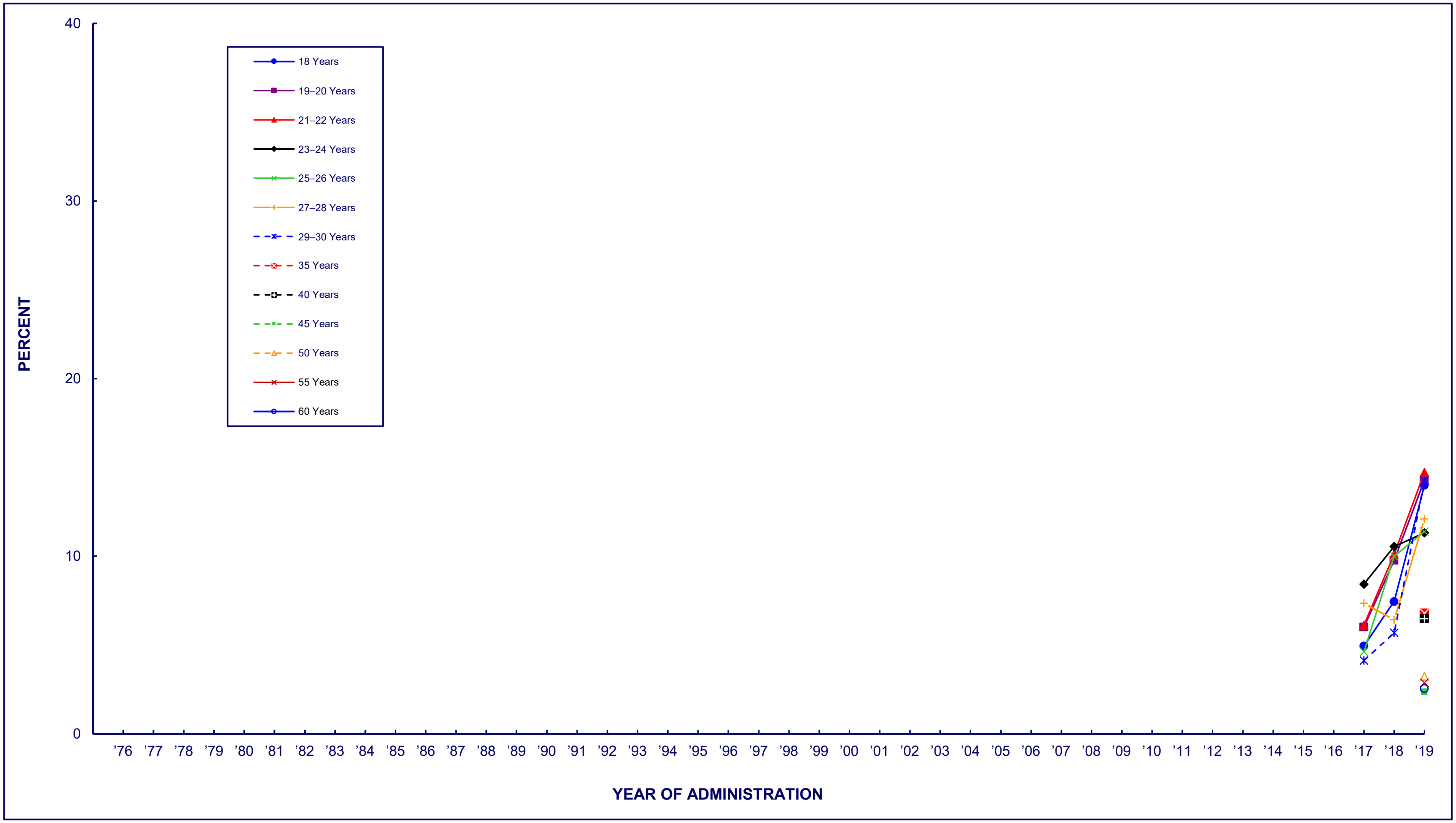
*Notes.* ' — ' indicates data not available.

**FIGURE 5-20**

**VAPING MARIJUANA**

**Trends in 30-Day Prevalence**

**among Respondents of Modal Ages 18 through 60, by Age Group**




(Figure continued on next page.)

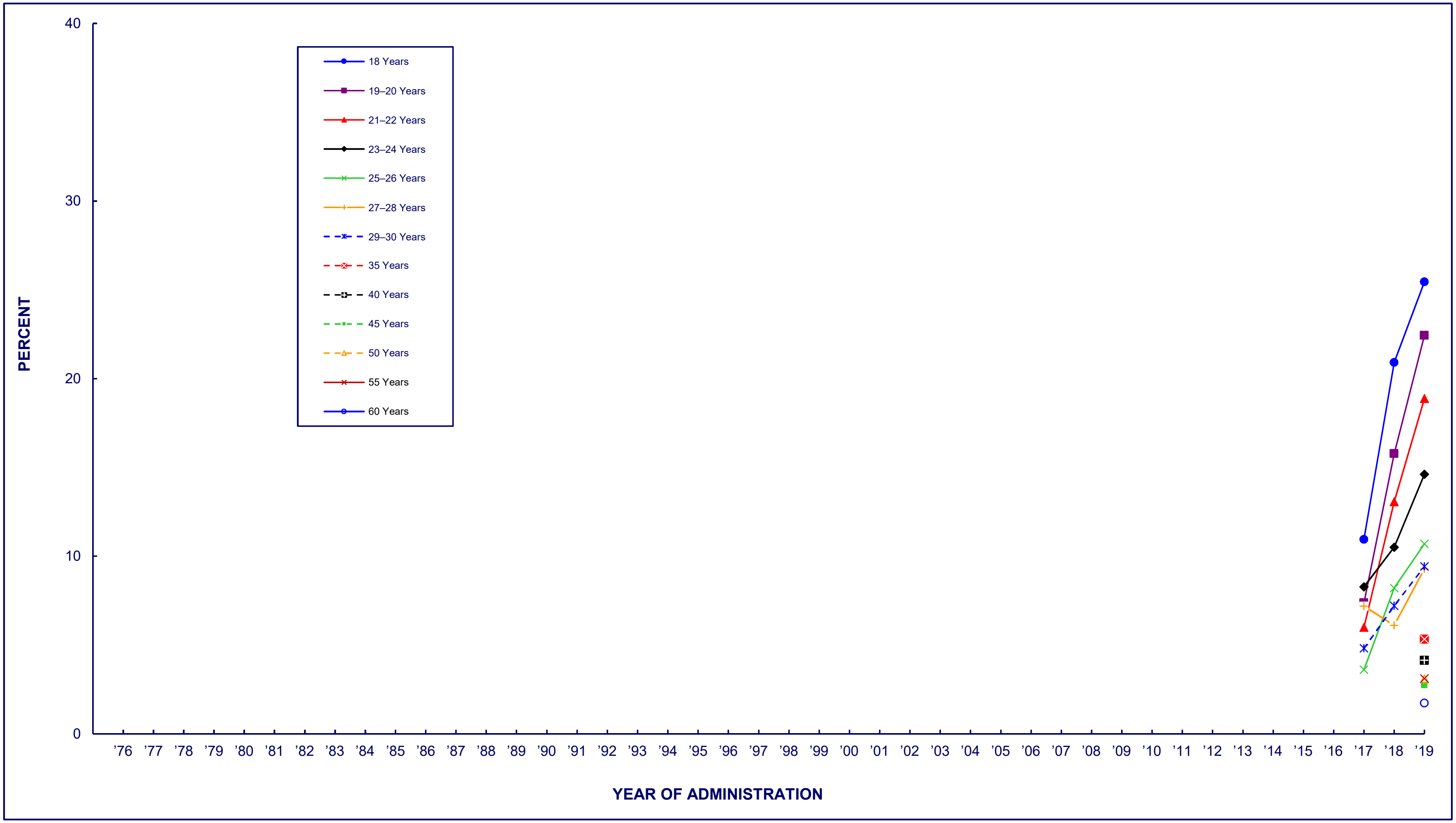
# FIGURE 5-20 (cont.)
## VAPING MARIJUANA
## Trends in 30-Day Prevalence
## among Respondents of Modal Ages 18 through 60, by Age Group

| 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | | | | | | | | | | | | | |
| 1977 | | | | | | | | | | | | | |
| 1978 | | | | | | | | | | | | | |
| 1979 | | | | | | | | | | | | | |
| 1980 | | | | | | | | | | | | | |
| 1981 | | | | | | | | | | | | | |
| 1982 | | | | | | | | | | | | | |
| 1983 | | | | | | | | | | | | | |
| 1984 | | | | | | | | | | | | | |
| 1985 | | | | | | | | | | | | | |
| 1986 | | | | | | | | | | | | | |
| 1987 | | | | | | | | | | | | | |
| 1988 | | | | | | | | | | | | | |
| 1989 | | | | | | | | | | | | | |
| 1990 | | | | | | | | | | | | | |
| 1991 | | | | | | | | | | | | | |
| 1992 | | | | | | | | | | | | | |
| 1993 | | | | | | | | | | | | | |
| 1994 | | | | | | | | | | | | | |
| 1995 | | | | | | | | | | | | | |
| 1996 | | | | | | | | | | | | | |
| 1997 | | | | | | | | | | | | | |
| 1998 | | | | | | | | | | | | | |
| 1999 | | | | | | | | | | | | | |
| 2000 | | | | | | | | | | | | | |
| 2001 | | | | | | | | | | | | | |
| 2002 | | | | | | | | | | | | | |
| 2003 | | | | | | | | | | | | | |
| 2004 | | | | | | | | | | | | | |
| 2005 | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | |
| 2017 | 4.9 | 6.0 | 6.1 | 8.4 | 4.6 | 7.4 | 4.1 | | | | | | |
| 2018 | 7.5 | 9.8 | 10.1 | 10.5 | 10.0 | 6.4 | 5.7 | | | | | | |
| 2019 | 14.0 | 14.3 | 14.7 | 11.3 | 11.4 | 12.1 | 14.3 | 6.8 | 6.5 | 2.4 | 3.2 | 2.9 | 2.5 |

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

*Notes.* ' — ' indicates data not available.

**FIGURE 5-21**
**VAPING NICOTINE**
**Trends in 30-Day Prevalence**
**among Respondents of Modal Ages 18 through 60, by Age Group**




(Figure continued on next page.)

# FIGURE 5-21 (cont.)
## VAPING NICOTINE
## Trends in 30-Day Prevalence
## among Respondents of Modal Ages 18 through 60, 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 | Age 60 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1976 | | | | | | | | | | | | | |
| 1977 | | | | | | | | | | | | | |
| 1978 | | | | | | | | | | | | | |
| 1979 | | | | | | | | | | | | | |
| 1980 | | | | | | | | | | | | | |
| 1981 | | | | | | | | | | | | | |
| 1982 | | | | | | | | | | | | | |
| 1983 | | | | | | | | | | | | | |
| 1984 | | | | | | | | | | | | | |
| 1985 | | | | | | | | | | | | | |
| 1986 | | | | | | | | | | | | | |
| 1987 | | | | | | | | | | | | | |
| 1988 | | | | | | | | | | | | | |
| 1989 | | | | | | | | | | | | | |
| 1990 | | | | | | | | | | | | | |
| 1991 | | | | | | | | | | | | | |
| 1992 | | | | | | | | | | | | | |
| 1993 | | | | | | | | | | | | | |
| 1994 | | | | | | | | | | | | | |
| 1995 | | | | | | | | | | | | | |
| 1996 | | | | | | | | | | | | | |
| 1997 | | | | | | | | | | | | | |
| 1998 | | | | | | | | | | | | | |
| 1999 | | | | | | | | | | | | | |
| 2000 | | | | | | | | | | | | | |
| 2001 | | | | | | | | | | | | | |
| 2002 | | | | | | | | | | | | | |
| 2003 | | | | | | | | | | | | | |
| 2004 | | | | | | | | | | | | | |
| 2005 | | | | | | | | | | | | | |
| 2006 | | | | | | | | | | | | | |
| 2007 | | | | | | | | | | | | | |
| 2008 | | | | | | | | | | | | | |
| 2009 | | | | | | | | | | | | | |
| 2010 | | | | | | | | | | | | | |
| 2011 | | | | | | | | | | | | | |
| 2012 | | | | | | | | | | | | | |
| 2013 | | | | | | | | | | | | | |
| 2014 | | | | | | | | | | | | | |
| 2015 | | | | | | | | | | | | | |
| 2016 | | | | | | | | | | | | | |
| 2017 | 11.0 | 7.4 | 6.0 | 8.3 | 3.6 | 7.2 | 4.8 | | | | | | |
| 2018 | 20.9 | 15.8 | 13.1 | 10.5 | 8.2 | 6.1 | 7.2 | | | | | | |
| 2019 | 25.5 | 22.4 | 18.9 | 14.6 | 10.7 | 9.3 | 9.4 | 5.3 | 4.1 | 2.7 | 3.1 | 3.1 | 1.7 |

*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 in these volumes and elsewhere 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 6-25 present three separate trend lines for four-year age strata: 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. 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), using it occasionally, and using it regularly.[2] 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 $8^{th}$, $10^{th}$, and $12^{th}$ 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 estimates and the trend estimates. Because the questions are contained in different numbers of

---

[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.

[2] Beginning in 2018, the wording of this question was changed from “smoke marijuana” to “use marijuana.”

forms for the different drugs, the sample sizes vary between drugs, as is noted in the tables. In general, 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 19-22 year olds (since 1980) than for 23-26 year olds (since 1984) or 27-30 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.

As noted earlier in this volume, for 2018 and 2019 data collections of 19-30 year olds, MTF randomly assigned half to receive the typical mail survey protocol and half to be pushed to web-based surveys (see Chapter 3). In comparing the attitudes between the two conditions, there were very few significant differences (about 3% in 2018 and 2% in 2019 of the over 500 comparisons), with almost no overlap across the two years in instances of significant differences across drugs and age groups, and thus we combined estimates as weighted averages in both 2018 and 2019. Exceptions (i.e., when there are significant differences between the two conditions) are noted in Tables 6-1 and 6-2.

- Table 6-1 and Figures 6-1 to 6-25 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 2019, experimental use of marijuana (i.e., trying it once or twice) was perceived as being of great risk by only 5-7% of all high school graduates ages 19-30, whereas regular use was perceived to carry great risk by a considerably higher percentage (21-24%). 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 2019, 21-24% did so. These substantial declines suggest a possible period effect that has affected all age groups, indicative of a wide-ranging cultural change towards marijuana use. This change likely instigated and was further reinforced by increasing discussion about marijuana and the enactment of legislation at the state level liberalizing marijuana laws, including for medical use and for recreational use by adults. While actual law changes are specific to individual states, the discussions are prominent nationwide, and we believe have a direct effect on perceived risk across the nation. Levels of *perceived risk of regular marijuana use* in 2018 and 2019 were *the lowest observed* since each of the young adult age groups were first included in the study, going back to 1980 in the case of 19-22 year olds. In 2019, the percent who report great risk associated with regular marijuana use was level for 19-22 year olds (24%) and 23-26 year olds (22%), and decreased significantly for 27-30 year olds (21%). And likely not coincidentally, prevalence of daily marijuana use in 2019 was at a new high among young adults at 9.4% (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. As a result, 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 27-30 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 a consistent age-related change in these attitudes. The decline in perceived risk of regular marijuana use ended in a somewhat staggered fashion—among $12^{th}$ graders in 1999, among 19-22 year olds in 2001, among 23-26 year olds in 2002, and among 27-30 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 2019 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. In 2018, there was a significant decline in the 19-22 age group, a nonsignificant decline for the 23-26 age group, and essentially no change for the 27-30 age group. In 2019, as mentioned above, it was level among 19-26 year olds and declined significantly for the 27-30 age group (reaching an all-time low for this age-group). Thus, for all age-groups, all-time lows were reached in 2018 or 2019.

- 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 5% to 7% in 2019). For example, in approximate rank ordering of various substances, about 28-34% of young adults thought trying ***sedatives (barbiturates)*** involved great risk (perceived risk of tranquilizers is not asked, but likely would rank low as well); the corresponding percentages were 28-34% for ***amphetamines,*** 29-34% for ***LSD,*** 32-40% for ***MDMA (ecstasy and Molly),*** 49-56% for ***cocaine***, 56-61% for ***narcotics other than heroin,*** and 73-78% for ***heroin*** (Table 6-1). Note that two classes of prescription drugs, sedatives and amphetamines, have among the lowest levels of perceived risk in this set.

- 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 42-44% in 2019, 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 changed nonsignificantly for each of these age groups between 2016 and 2019; thus, 2019 levels of perceived risk are at or near their highest 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. By way of contrast, among 12th graders perceived risk has been declining since 2016 for both experimental and occasional use of synthetic marijuana.

- Perceived risk of experimental use of ***LSD*** continued a nonsignificant decline in 2019 for all four age groups; proportions seeing great risk of harm in experimental use were 28%, 29%, 32%, and 34%, respectively. Across the years, 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, 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 at age 18 continued a long-term uneven decline. From 2015 through 2019, perceived risk started to decline for the young adults too (significantly so for the 27-30 age group), reducing the age gap in perceived risk.

- Perceived risk of experimenting with ***MDMA (ecstasy*** and, more recently, ***Molly)*** declined in all age groups in 2019 (significantly so for the 23-26 year olds), reaching 46%, 39%, 32%, and 40%, respectively, in the four age groups (Figure 6-11). 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, "ecstasy," which it was initially commonly called). 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 19-22 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 27-30 year olds; in 2001, the corresponding percentages 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. From about 2010 through 2016, perceived risk of trying MDMA (ecstasy, Molly) generally converged among the age groups, showing some uneven change for young adults and a leveling for 12th graders; from 2016 through 2019, it declined for young adults and remained fairly level for 18 year olds. In 2019, perceived risk of trying MDMA ranged from 32% to 46% for all four age groups, constituting historic lows since at least 2002 (Figure 6-11). It is noteworthy that the perceived risk of using MDMA occasionally has also been in decline in the past few years among young adults (Figure 6-12), with all three young adult age groups showing significant declines in 2019 to 59%, 49%, and 52%, respectively; these 2019 percentages were all-time lows (since 2001) (perceived risk of occasional use is not asked of 12th graders).

- 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 22% to 23% in 2019. Among 12th graders, however, in the same period there was a decline in perceived risk from 14% in 2012 for experimental use to 10% in 2019 (see Volume I[3]).

- 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 6-8 through 6-10). In 2019, perceived risk of experimental use remained level for 18 year olds, increased nonsignificantly for 19-22 and 23-26 year olds, and decreased nonsignificantly for 27-30 year olds; among the four groups in 2019, it ranged from 48% to 56%. Regarding previous trends, there was a sharp increase in perceived risk for experimental use in all age strata after 1986: it also occurred for occasional and regular use, with the increase for regular use starting as early as 1980 for the two older age groups on whom we first had data in 1980. Later there was some decline in perceived risk of trying cocaine and occasional use began among 19-22 year olds after 1994, among 23-26 year olds after 1999, and among 27-30 year olds after 2001, suggesting a cohort effect in this belief (Figures 6-8 and 6-9). Young adults generally reported somewhat higher perceived risk with respect to regular cocaine use than did 12th graders (Figure 6-10). 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 6-10).

  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

[3] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). *Monitoring the Future national survey results on drug use, 1975-2019: Volume I, Secondary school students*. Ann Arbor: Institute for Social Research, University of Michigan.

addictive among many.) 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, over 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 6-10). 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 has tended to be very high and was lowest among 12th graders for many years through 2012 (Table 6-1); 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 19-22 year olds showing a decline after 1994, 23-26 year olds since 1996, and 27-30 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*** (Figure 6-16) continued to show uneven change across the four age groups in 2019, increasing nonsignificantly for the two younger age groups, and decreasing nonsignificantly for the 23-26 year olds and 27-30 year olds; perceived risk in 2019 was 30%, 34%, 28%, and 28%, respectively. 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 fairly level thereafter through 2019. (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 6-17), 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, perceived risk of regular use has shown uneven change for all four age groups through 2019.

- Perceived risk questions for ***Adderall*** (Table 6-1) 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. It decreased and showed an uneven modest change over the years, with few consistent differences across the range bands. It decreased nonsignificantly in 2019 among all young adult groups and remained level in 18 year olds; the range in 2019 was 26% to 34%.

- 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 19-22 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 19 to 28 percentage points in the three young adult age strata. In 2018 even trying bath salts once or twice was seen as dangerous by between 63% and 77% 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.) Given the consistently high levels of perceived risk, as well as declines in use (Chapter 5), these questions were discontinued in all age groups in 2019 to make room for such questions about other drugs.

- Perceived risk of experimental use of ***heroin*** (Figure 6-15) has shown long-term gradual increases for all age groups, though it appears to have leveled in the past few years among 12th graders, with 2019 percentages being 63%, 73%, 78%, and 76%, respectively. Across the years, young adults have consistently been more cautious than 12th graders about ***heroin*** use, suggesting some age effect (Figures 6-13 through 6-15). 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 80%) consistently holding this viewpoint.[4] (Perceived risk for regular heroin use peaked in the young adult age groups at about 2004, opening a growing gap with the 12th graders, after which it leveled.) 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 2019, with it showing some leveling since 2015 for 12th graders (Figure 6-13). 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 19-22 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 2019, as in all previous years, more young adults than 12th graders saw experimental and occasional heroin use as risky (Figures 6-13 and 6-14); and this difference has grown some since the early 1990s with regard to regular use, suggesting some generational forgetting of the dangers by the 12th graders (Figure 6-15).

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. They showed little systematic change through 2017 (with none of the one-year changes being significant). In 2018, perceived risk of experimental use increased nonsignificantly for the three young adult age groups (by 6 to 8 percentage points), and again increased nonsignificantly in 2019 for the these age groups (by 3 to 7 percentage points), resulting in the new highs in 2019 (ranging from 56% to 61%); but it has changed little for 12th graders (ranging from 42% to 45% in 2013-2019) (Table 6-1). Many more young adults see regular use as having great risk of harm with rather little systematic change from 2012 through 2018 (between 78% and 80% in 2018). However, in 2019, perceived risk of regular use increased for all young adult age groups to historic highs since 2012: it increased a nonsignificant 4.0 percentage points to 82% among 19-22 year olds, a significant 7.2 percentage points to 88% for 23-26 year olds,

[4] As we note in Volume 1, in 2019, 81% of 12th grade students perceived great risk in regular heroin use, which is a lower bound for the range of 80% to 90% where it has fluctuated throughout the study.

and a significant 6.4 percentage points to 86% among 27-30 year olds. In contrast, it has been fairly level among 12th graders (ranging from 71% to 76% from 2000 through 2019). 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.

- Perceived risk for trying ***barbiturates (sedatives)*** has been quite steady since 1980, with little consistent differences among the age strata, although the 23- to 30- year-olds did perceive higher risk from about 1995-2006 than did the younger two age strata, but their concerns declined back such that the four strata have been quite close since. Perceived risk for regular use has shown a growing divergence between the young adults and the 12th graders. The three young adult strata have shown a gradual decline since around 1990, whereas the 12th graders have shown a sharper decline since 1992, resulting in a wider gap by 2019 (45% of 12th graders seeing great risk with regular use . vs. 58-64% among young adults). This may have resulted from generational forgetting of the dangers of regular use.

- In 2019, a minority of young adults saw ***binge drinking*** (having 5 or more drinks in a row) on weekends as dangerous (37-39%), as did a slightly larger proportion of 12th graders (46%; Figure 6-23). None of the changes in 2019 were significant, which has been true for the past several years for one-year changes, and there have been few differences among the young adult age groups. Regarding earlier trends, the belief that binge 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 19-22 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 binge drinking, and could in turn be explained by the media campaigns against drunk driving in the 1980s and the increase in the drinking age in a number of states.[5] Following a staggered pattern, perceived risk of harmfulness reached a peak among 18 year olds in 1992, among 19-22 year olds in 1993, among 23-26 year olds in 1994, and among 27-30 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 19-22 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. From 1998 through 2019, perceived risk of binge 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 2019 percentages of 21%, 19%, 17%, and 15%, respectively (Figure 6-21); none of the changes in 2019 were significant. Regarding longer-term trends, 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 during the relapse phase of the drug epidemic through at least 2000. It seems likely that the earlier increase was due to the general rising concern about the consequences

[5] 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.

of alcohol use, particularly drunk driving, and that the subsequent decline in perceived risk was due at least in part to increasing reports of cardiovascular health benefits of light-to-moderate daily alcohol consumption. From about 2001 through 2019, 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, although in the 1980s 12th graders had the lowest levels of perceived risk whereas since 2006 they have usually had the highest levels. And, since 1980, 18 year olds have consistently seen the least risk from ***heavy daily drinking*** and the most risk from weekend ***binge drinking*** (Figures 6-22 and 6-23).

- In 2019, more than four fifths (83-86%) of young adults perceived regular ***pack-a-day or more cigarette smoking*** as entailing high risk (Figure 6-24), with none of the changes in 2019 being significant. 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* 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 6-24). 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*[6] 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 2019, we updated our measure regarding perceived risk of ***vaping nicotine*** to ask about perceived risk of vaping an e-liquid with nicotine (rather than of using e-cigarettes) among young adults (we made this change in 2017 for 12th graders). In 2019, perceived risk of occasionally vaping an e-liquid with nicotine was 19-20% among young adults; it was 18% among 12th graders (showing a nonsignificant increase from 2018) (Table 6-1). Perceived risk of regularly vaping an e-liquid with nicotine was 41-42% among young adults in 2019, and 35% among 12th graders (showing a significant increase from 2018) (Table 6-1). These levels contrast starkly with the 82-85% seen for smoking one or more packs of cigarettes a day.

  Between 2014 and 2018, we included items concerning perceived risk of using ***e-cigarettes*** regularly in 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. 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 and 2018, with percentages of 18% for 12th graders and 25% to 33% for three young adult strata in 2018.

[6] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). *Monitoring the Future national survey results on drug use, 1975-2019: Volume I, Secondary school students*. Ann Arbor: Institute for Social Research, University of Michigan.

- The regular use of ***smokeless tobacco*** was seen as dangerous by 52-57% of young adults and 40% of 12th graders in 2019. These beliefs gradually strengthened from 1986 through about 2001 in all age groups covered (Figure 6-25 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 questionnaire form, so year-to-year nonsignificant fluctuations can appear to be 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, 92% or more of young adults in 2019 disapproved of *regular* use of each of the following drugs: ***LSD, cocaine, heroin,*** and ***sedatives (barbiturates).*** Fully 66% 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 group in 2019.

- For ***marijuana***, disapproval tends to be lower compared to disapproval of other substances; nevertheless, the clear majority of young adults disapproved of regular marijuana use in 2019 (57% to 61%), as did the majority of 12th graders (63%). Over a third of young adults (33% to 38%) and about two-fifths of 12th graders (41%) disapproved of occasional use of marijuana in 2019. Disapproval of experimental marijuana use in 2019 was 23% to 28% for young adults and 34% for 12th graders. These 2019 percentages in disapproval of marijuana represent declines for 12th graders and young adults regarding experimental, occasional, and regular marijuana use (significant declines for 18 and 27-30 year olds, 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, fluctuations that generally 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 63% in 2019. The 19-22 year olds had a quite similar pattern, with a recent decline from 81% in 2009 to 61% in 2019. Among 23-26 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 57% in 2019. 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 19-28 year olds since 2010 through 2019 (see Table 5-2).

- Disapproval of experimental use of ***LSD*** has been declining among 12th graders and young adults in recent years. In 2019, disapproval of experimental use of LSD continued to decline, reaching new all-time lows among all age groups. It declined significantly for 18 year olds (76%) and 19-22 year olds (70%), and declined nonsignificantly for 23-26 year olds (66%) and 27-30 year olds (67%). 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 19-22 year olds and 23-26 year olds since 2001 and 2002, respectively. The pattern again suggested lasting cohort differences in these attitudes. From about 2010 through 2019, disapproval levels generally showed consistent declines, reaching the all-time lows in 2019 (ranging from 66% to 76%). Disapproval of regular LSD use has been near the top of the scale for more than three decades, ranging from 92% to 99%.

- In 2019, experimenting with ***MDMA*** (***ecstasy***, ***Molly***) was disapproved of by 90% of 12th graders and by 71% to 83% of the young adults; none of the changes in 2019 were significant, as has been the case for one-year changes in the last few years (Table 6-2). 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 some uneven decline 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 slight, 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 2019, disapproval of occasional and regular use was 96% to 99% in all age groups; disapproval of trying heroin was 94% to 98% 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 prevalence was rising.

- Disapproval of regular ***cocaine*** use rose gradually among 19-22 year olds, from 89% in 1981 to 99% in 1990, with little change thereafter (97% in 2019, and the older young adult age groups had similar trends) (Table 6-2). In fact, all three young adult age bands ranged from 96% to 97% in disapproving of regular use in 2019. Disapproval of even experimental cocaine use is also quite high, with 2019 percentages being 89%, 80%, 79%, and 78%, respectively across the four age groups, representing a significant decline among 19-22 year olds and nonsignificant changes for the other age groups. Regarding long-term trends, disapproval of experimental use increased during the 1980s, peaking first among 12th graders at 94% in 1991. It then peaked in 1995 among 19-22 year olds (at 94%) and 23-26 year olds (at 92%). Finally, it peaked in 1999 at 90% among 27-30 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 have shown uneven declines for the two older age groups. This recent decline in disapproval among older young adults could signal some future resurgence in cocaine use.

- Disapproval of experimenting with ***amphetamines*** was at or near all-time lows in 2019 for 12th graders (80%) and the two older age groups (70% and 71%, respectively), representing nonsignificant changes from 2018. Among 19-22 year olds, it increased nonsignificantly to 76% in 2019, above the recent low of 71% in 2016. Regarding long-term trends, 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 19-26 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 19-22 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, 2017, and 2019, respectively; for 12th graders, the 2019 percentage was the lowest over the past two decades.

  Disapproval of *regular* amphetamine 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 2019 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 (19-22 year olds) considerably below the other age groups in their disapproval of experimenting with amphetamines. In 2019, disapproval was similarly lowest among 19-22 year olds (71%) and 23-26 year olds (70%), higher among 27-30 year olds (76%), and highest among 12th graders (80%).

- Disapproval of experimental use of ***sedatives (barbiturates)*** was at 86%, 82%, 81%, and 76% across the four age groups, respectively, in 2019, continuing its modest decline over the past five years among all age groups except 19-22 year olds (who showed uneven change since 2014). 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 19-22 year olds after 1994, with the 23-26 year olds following suit after 1996, and the 27-30 year old stratum in 2004. This pattern of staggered change again suggests cohort effects, reflecting lasting cohort differences in these attitudes. In 2019, disapproval of experimental use of sedatives stood between 76% and 86%, while disapproval of regular use was above 90%.

- In the past several years, the trends for disapproval of ***alcohol use*** have shown little systematic change. However, the longer-term story for disapproval of alcohol use 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 percentage fell back slightly over the years and stood at 26% in 2019 (a significant decline from 2018). Among 19-22 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 decreased significantly in 2019 to 14%. For the two oldest age groups, there has been a slight decline, with it decreasing nonsignificantly for 23-26 year olds (to 10%) and decreasing significantly for 27-30 year olds (to 11%) in 2019. 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 2019, 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 2019, disapproval was 73% for 12th graders and 65%, 55%, and 50% for the three older age groups, respectively (representing nonsignificant changes from 2018).

The pattern of cross-time changes in disapproval of ***light daily drinking*** (having one or two 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 ( 90% or above in 2019 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*** on weekends has shown quite a bit of variation over the years as well as age differences. In 2019, disapproval was 75% for 12th graders (a nonsignificant decline from 76% in 2018, which is the all-time high) and 63% to 66% for the young adults (representing nonsignificant decline from 2018). 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 75% in 2019, has slowly increased for 19-22 year olds from the most recent low of 58% in 2002 to 66% in 2019, has shown little systematic change for 23-26 year olds since 1984 (ranging between 56% and 71%), and has slowly decreased for 27-30 year olds from the most recent high of 74% in 2004 to 63% in 2019. Thus, age group differences have been widening in recent years.

  It is important to note that the age-based trends in disapproval often mirrored the corresponding trends in prevalence of binge 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 19-22 year olds (who then also showed some drop-off). As Figure 5-18d from the previous chapter illustrates, the prevalence of binge drinking declined substantially among 12th graders and 19-22 year olds between 1981 and the early 1990s, as norms became more restrictive. There was little or no change in disapproval among the 27-30 year olds, either in their levels of disapproval or in their prevalence of heavy drinking, until the early 2000s, when their disapproval began to drop and occasions of binge drinking began to increase.

- Disapproval of pack-or-more-a-day ***cigarette smoking*** was at or near all-time highs in 2019, at 88%, 88%, 85%, and 82% across the four age groups, respectively. Regarding long-term trends, 12th graders showed some increase in disapproval of pack-or-more-a-day smoking between 1982 (69%) and 1992 (74%). Their disapproval fell through 1997 (to 67%) as their smoking increased; disapproval then increased for several years (to 82% in 2006) before leveling and then increasing through 2019 (88%), as smoking declined. The 19-22 year olds showed a similar increase in disapproval from 66% in 1982 to 88% in 2019. All four age strata showed some upward drift in their level of disapproval of smoking since about 1999 (reaching 82-88% in 2019), suggesting a secular change in attitudes during this period.

- In 2019, we included new measures regarding personal disapproval of ***vaping an e-liquid with nicotine*** among young adults (included for 12th graders beginning in 2017). In 2019, disapproval of *occasionally* vaping an e-liquid with nicotine was 68% to 72% among young adults; it was 57% among 12th graders (showing a nonsignificant decline from 2018) (Table 6-2). Regarding disapproval of *regularly* vaping an e-liquid with nicotine, it was 82% to 84% among young adults in 2019, and 70% among 12th graders (showing a leveling from 2018) (Table 6-2).

## 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 LSD, heroin, narcotics other than heroin, amphetamines, cocaine, 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.[7] 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 addition, there was an epidemic of heroin use in the early 1970s. 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. Later cohorts (through the mid-1990s, at least) were not exposed to those experiences while growing up, and thus did not see the risks in the same way as the older cohorts did. 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

[7] 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.

For example, in *Volume I*,[8] 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 early 2000s we saw drug use subside to some degree, which once again created the conditions for generational forgetting of the dangers of many of these drugs. Over the past few years, we have seen substantial softening of attitudes among teens and young adults regarding marijuana, and also some softening in attitudes toward occasional or regular use of MDMA (ecstasy, Molly), LSD, and cocaine, which suggests a real possibility of future increases in use among young adults.

[8] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). *Monitoring the Future national survey results on drug use, 1975-2019: Volume I, Secondary school students*. Ann Arbor: Institute for Social Research, University of Michigan.

## 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 |
| **Use marijuana occasionally** [f,n] | 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 |
| **Use marijuana regularly** [f,gg] | 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,mm] | 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 MDMA (ecstasy, 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 MDMA (ecstasy, Molly) occasionally** [h] | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Try salvia once or twice** [d,k,kk] | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Take salvia occasionally** [k,y,ll] | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Try cocaine once or twice** [h,hh] | 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,o] | 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 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Try marijuana** | 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 | 12.1 | 10.7 | -1.4 |
| **once or twice** [f] | 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 | 8.3 | 7.0 | -1.3 |
| | 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 | 6.2 | 5.9 | -0.4 |
| | 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 | 8.1 | 6.2 | -1.9 s |
| **Use marijuana** | 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 | 14.3 | 13.5 | -0.8 |
| **occasionally** [f,n] | 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 | 11.1 | 10.2 | -1.0 |
| | 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 | 9.2 | 9.3 | 0.0 |
| | 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 | 10.8 | 7.7 | -3.1 ss |
| **Use marijuana** | 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 | 26.7 | 30.5 | +3.7 |
| **regularly** [f,gg] | 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 | 22.1 | 23.5 | +1.5 |
| | 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 | 21.1 | 21.8 | +0.6 |
| | 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 | 24.8 | 21.2 | -3.6 s |
| **Try synthetic marijuana** | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | 23.5 | 25.9 | 32.5 | 33.0 | 35.6 | 33.0 | 30.4 | 28.4 | -2.0 |
| **once or twice** [g,mm] | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | 30.6 | 33.1 | 36.1 | 39.3 | 42.6 | 42.7 | 40.4 | 44.1 | +3.7 |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | 29.1 | 29.4 | 38.5 | 40.4 | 45.1 | 40.8 | 45.0 | 44.3 | -0.7 |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | 28.9 | 32.7 | 35.1 | 37.3 | 45.4 | 41.7 | 45.8 | 41.9 | -3.9 |
| **Take synthetic marijuana** | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | 32.7 | 36.2 | 39.4 | 40.9 | 43.9 | 40.0 | 37.1 | 35.4 | -1.7 |
| **occasionally** [g] | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | 38.5 | 40.1 | 44.5 | 47.6 | 53.9 | 52.6 | 50.0 | 52.7 | +2.7 |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | 37.3 | 38.6 | 47.2 | 49.5 | 53.0 | 50.8 | 56.4 | 53.1 | -3.3 |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | 36.3 | 41.0 | 43.1 | 46.6 | 53.2 | 52.2 | 54.4 | 51.5 | -3.0 |
| **Try LSD once or** | 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 | 29.0 | 28.3 | -0.7 |
| **twice** [h] | 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 | 34.3 | 28.5 | -5.8 |
| | 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 | 36.4 | 31.8 | -4.6 |
| | 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 | 38.5 | 34.4 | -4.1 |
| **Take LSD** | 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 | 55.2 | 57.9 | +2.7 |
| **regularly** [h] | 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 | 64.7 | 61.0 | -3.7 |
| | 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 | 70.1 | 64.6 | -5.5 |
| | 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 | 71.7 | 62.0 | -9.7 s |
| **Try PCP once or** | 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 | 51.7 | 52.6 | +0.9 |
| **twice** [h] | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Try MDMA** | 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 | 48.2 | 46.3 | -1.9 |
| **(ecstasy, Molly) once** | 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 | 45.2 | 38.9 | -6.3 |
| **or twice** [h] | 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 | 43.7 | 31.5 | -12.1 ss |
| | 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 | 46.6 | 39.9 | -6.7 |
| **Take MDMA** | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **(ecstasy, Molly)** | 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 | 67.6 | 58.7 | -8.9 s |
| **occasionally** [h] | 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 | 62.5 | 49.4 | -13.1 ss |
| | 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 | 64.7 | 52.0 | -12.8 ss |
| **Try salvia** | 18 | — | — | — | — | — | — | — | — | — | — | — | 39.8 | 38.7 | 13.8 | 12.9 | 14.1 | 13.1 | 13.0 | 10.2 | 9.8 | 10.0 | +0.3 |
| **once or twice** [d,k,kk] | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | 22.5 | 21.4 | 25.9 | 23.7 | 23.8 | 23.6 | 18.9 | 21.5 | +2.6 |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | 18.6 | 19.6 | 24.5 | 23.5 | 30.9 | 21.0 | 26.5 | 23.3 | -3.2 |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | 18.8 | 20.6 | 18.4 | 21.7 | 25.2 | 21.3 | 25.8 | 22.5 | -3.3 |
| **Take salvia** | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | 23.1 | 21.3 | 20.0 | 17.6 | 16.3 | 13.8 | 12.0 | 12.7 | +0.8 |
| **occasionally** [k,y,ll] | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | 29.2 | 30.6 | 32.6 | 32.6 | 28.3 | 29.8 | 23.5 | 27.2 | +3.7 |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | 26.6 | 25.5 | 31.1 | 31.2 | 38.6 | 33.6 | 35.1 | 28.5 | -6.6 |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | 24.7 | 25.7 | 25.4 | 28.8 | 32.3 | 29.2 | 35.7 | 29.4 | -6.3 |
| **Try cocaine** | 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 | 47.9 | 47.7 | -0.1 |
| **once or twice** [h,hh] | 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 | 50.2 | 53.0 | +2.8 |
| | 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 | 47.9 | 55.6 | +7.7 |
| | 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 | 56.4 | 48.5 | -7.8 |
| **Take cocaine** | 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 | 62.1 | 64.2 | +2.0 |
| **occasionally** [h,o] | 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 | 70.2 | 67.3 | -2.9 |
| | 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 | 68.4 | 67.7 | -0.7 |
| | 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 | 71.2 | 64.4 | -6.8 |
| **Take cocaine** | 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 | 75.2 | 74.7 | -0.5 |
| **regularly** [h] | 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 | 88.5 | 85.7 | -2.8 |
| | 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 | 87.1 | 87.6 | +0.5 |
| | 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 | 88.8 | 90.0 | +1.2 |

(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,p] | 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,q] | 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,x,jj] | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Take narcotics other than heroin regularly** [h] | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Try amphetamines once or twice** [b,h,r] | 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 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Percentage saying "great risk" [a] | | | | | | | | | | | | | | | | | | | | | |
| **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 | 51.3 | 50.2 | -1.1 |
| | 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 | 64.4 | 62.7 | -1.7 |
| | 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 | 79.8 | 79.0 | -0.8 |
| | 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 | 44.9 | 45.4 | +0.5 |
| | 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 | 49.2 | — | — |
| | 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 | 44.8 | — | — |
| | 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 | 47.2 | — | — |
| **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 | 59.8 | 59.9 | +0.1 |
| | 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 | 67.6 | — | — |
| | 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 | 63.4 | — | — |
| | 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 | 64.3 | — | — |
| **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 | 77.6 | 77.4 | -0.2 |
| | 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 | 87.3 | — | — |
| | 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 | 87.6 | — | — |
| | 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 | 87.3 | — | — |
| **Try heroin once or twice** [g,p] | 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 | 61.8 | 62.6 | +0.8 |
| | 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 | 73.4 | 73.1 | -0.3 |
| | 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 | 76.2 | 78.4 | +2.2 |
| | 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 | 77.8 | 75.6 | -2.1 |
| **Take heroin occasionally** [g,q] | 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 | 75.0 | 75.7 | +0.7 |
| | 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 | 84.2 | 84.1 | -0.1 |
| | 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 | 87.6 | 88.2 | +0.5 |
| | 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 | 87.6 | 87.6 | +0.1 |
| **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 | 81.4 | 81.2 | -0.2 |
| | 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 | 93.5 | 91.1 | -2.4 |
| | 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 | 94.5 | 95.3 | +0.8 |
| | 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 | 94.1 | 95.3 | +1.2 |
| **Try narcotics other than heroin once or twice** [h,x,jj] | 18 | — | — | — | — | — | — | — | — | — | — | — | 40.4 | 39.9 | 38.4 | 43.1 | 42.7 | 44.1 | 43.6 | 42.0 | 43.2 | 45.0 | +1.9 |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | 47.3 | 46.1 | 49.8 | 50.6 | 49.9 | 47.8 | 54.0 | 60.9 | +6.9 |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | 45.3 | 44.1 | 45.2 | 46.4 | 45.8 | 45.7 | 53.3 | 55.8 | +2.5 |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | 43.0 | 47.3 | 48.5 | 45.6 | 45.8 | 43.7 | 52.0 | 57.5 | +5.6 |
| **Take narcotics other than heroin regularly** [h] | 18 | — | — | — | — | — | — | — | — | — | — | — | 74.9 | 75.5 | 73.9 | 75.8 | 72.7 | 73.9 | 72.4 | 70.8 | 71.6 | 73.1 | +1.5 |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | 70.3 | 74.9 | 76.0 | 76.2 | 76.2 | 73.2 | 78.3 | 82.3 | +4.0 |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | 78.2 | 75.6 | 75.8 | 75.6 | 76.3 | 77.8 | 80.4 | 87.5 | +7.2 s |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | 76.2 | 75.7 | 76.0 | 74.9 | 76.7 | 78.1 | 79.5 | 85.9 | +6.4 s |
| **Try amphetamines once or twice** [b,h,r] | 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 | 29.2 | 29.7 | +0.5 |
| | 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 | 33.0 | 33.6 | +0.6 |
| | 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 | 34.2 | 27.8 | -6.4 |
| | 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 | 33.4 | 28.2 | -5.3 |
| **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 | 51.1 | 48.4 | -2.7 |
| | 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 | 58.0 | 59.7 | +1.6 |
| | 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 | 61.1 | 57.2 | -3.9 |
| | 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 | 66.0 | 61.9 | -4.2 |
| **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 | 67.1 | 67.1 | 0.0 |
| | 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**

| *Q. How much do you think people risk harming themselves (physically or in other ways), if they . . .* | Age Group | Percentage saying "great risk" [a] 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Try bath salts (synthetic** | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **stimulants) once** | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **or twice** [h,v] | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Try bath salts (synthetic** | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **stimulants)** | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **occasionally** [h] | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Try Adderall** | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **once or twice** [h,w] | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Take Adderall** | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **occasionally** [h] | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Try sedatives/** | 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 |
| **barbiturates** | 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 |
| **once or twice** [c,h,s,t] | 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/** | 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 |
| **barbiturates** | 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 |
| **regularly** [c,h,u,ii] | 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** | 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 |
| **of an alcoholic** | 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 |
| **beverage (beer,** | 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 |
| **wine, liquor)** [i] | 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** | 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 |
| **drinks nearly** | 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 |
| **every day** [i] | 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** | 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 |
| **drinks nearly** | 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 |
| **every day** [i] | 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** | 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 |
| **drinks once** | 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 |
| **or twice each** | 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 |
| **weekend** [i] | 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** | 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 |
| **more packs of** | 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 |
| **cigarettes** | 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 |
| **per day** [f] | 27–30 | — | — | — | — | — | — | — | — | 72.8 | 75.2 | 77.8 | 75.4 | 77.6 | 75.0 | 75.3 | 75.6 | 73.0 | 80.3 | 80.9 |
| **Vape an e-liquid with** | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **nicotine occasionally** [ee] | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Vape an e-liquid with** | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **nicotine regularly** [ee] | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Use smokeless** | 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 |
| **tobacco** | 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 |
| **regularly** [h] | 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* | 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* |
| *Per Form =* | 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* |

(Years Cont.)

# 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 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Try bath salts (synthetic stimulants) once or twice**[h,v] | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | 33.2 | 59.5 | 59.2 | 57.5 | 54.9 | 51.3 | 50.7 | — | — |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | 44.5 | 62.7 | 68.8 | 65.2 | 69.6 | 68.4 | 63.3 | — | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | 46.7 | 66.3 | 67.3 | 69.4 | 70.9 | 68.6 | 74.8 | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | 48.7 | 64.5 | 73.7 | 72.4 | 73.3 | 72.1 | 77.0 | — | — |
| **Take bath salts (synthetic stimulants) occasionally**[h] | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | 45.0 | 69.9 | 68.8 | 67.4 | 64.2 | 61.5 | 60.7 | — | — |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | 52.6 | 70.1 | 76.1 | 75.3 | 78.8 | 78.6 | 72.5 | — | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | 54.0 | 75.3 | 76.7 | 77.7 | 78.7 | 78.8 | 81.8 | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | 55.9 | 71.5 | 78.4 | 77.4 | 80.7 | 81.4 | 85.4 | — | — |
| **Try Adderall once or twice**[h,w] | 18 | — | — | — | — | — | — | — | — | — | — | — | 33.3 | 31.2 | 27.2 | 31.8 | 33.6 | 34.3 | 32.5 | 32.0 | 34.0 | 34.3 | +0.3 |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | 30.0 | 27.7 | 31.5 | 27.5 | 30.6 | 32.9 | 32.0 | 29.9 | -2.1 |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | 28.9 | 32.9 | 32.2 | 29.8 | 32.9 | 27.5 | 30.1 | 25.9 | -4.2 |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | 29.4 | 32.7 | 35.9 | 33.2 | 37.0 | 32.4 | 36.8 | 32.9 | -3.9 |
| **Take Adderall occasionally**[h] | 18 | — | — | — | — | — | — | — | — | — | — | — | 41.6 | 40.8 | 35.3 | 38.8 | 41.5 | 41.6 | 40.9 | 40.6 | 40.1 | 41.8 | +1.7 |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | 38.8 | 39.8 | 41.8 | 40.2 | 43.0 | 45.4 | 47.3 | 47.3 | +0.1 |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | 39.7 | 44.8 | 44.9 | 41.3 | 42.5 | 37.1 | 42.6 | 41.9 | -0.7 |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | 44.1 | 45.0 | 45.3 | 44.2 | 47.7 | 46.5 | 49.3 | 43.4 | -5.9 |
| **Try sedatives/ barbiturates once or twice**[c,h,s,t] | 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 | 26.3 | 25.2 | -1.1 |
| | 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 | 30.6 | 30.9 | +0.3 |
| | 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 | 29.7 | 34.4 | +4.7 |
| | 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 | 37.2 | 28.2 | -9.0 s |
| **Take sedatives/ barbiturates regularly**[c,h,u,ii] | 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 | 45.1 | 45.0 | -0.1 |
| | 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 | 59.6 | 58.0 | -1.7 |
| | 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 | 68.8 | 62.9 | -5.9 |
| | 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 | 71.6 | 64.3 | -7.4 |
| **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 | 10.2 | 9.7 | -0.5 |
| | 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 | 5.9 | 5.0 | -0.9 |
| | 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 | 3.3 | 2.7 | -0.5 |
| | 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 | 3.8 | 2.6 | -1.2 |
| **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 | 22.8 | 21.0 | -1.8 |
| | 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 | 18.3 | 19.2 | +0.9 |
| | 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 | 16.8 | 16.5 | -0.3 |
| | 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 | 17.1 | 15.3 | -1.8 |
| **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 | 59.1 | 59.7 | +0.7 |
| | 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 | 66.8 | 67.3 | +0.4 |
| | 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 | 70.0 | 74.9 | +4.8 s |
| | 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 | 70.5 | 72.1 | +1.6 |
| **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 | 44.7 | 46.4 | +1.7 |
| | 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 | 40.3 | 39.1 | -1.2 |
| | 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 | 38.6 | 36.9 | -1.7 |
| | 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 | 40.2 | 38.8 | -1.4 |
| **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 | 73.9 | 75.6 | +1.8 |
| | 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 | 82.4 | 82.5 | +0.1 |
| | 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 | 84.9 | 85.0 | 0.0 |
| | 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 | 84.2 | 86.3 | +2.1 |
| **Vape an e-liquid with nicotine occasionally**[ee] | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 16.4 | 15.8 | 17.7 | +1.9 |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 19.9 | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 19.3 | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 20.4 | — |
| **Vape an e-liquid with nicotine regularly**[ee] | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 27.0 | 27.7 | 35.2 | +7.4 sss |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 41.6 | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 41.8 | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 40.9 | — |
| **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 | 40.2 | 39.9 | -0.3 |
| | 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 | 47.8 | 52.4 | +4.6 |
| | 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 | 50.6 | 56.5 | +5.8 |
| | 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 | 57.3 | 55.0 | -2.3 |
| *Approximate Weighted N Per Form =* | 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* | *2,243* | *1,000* | |
| | 19–22 | *447* | *424* | *430* | *395* | *402* | *447* | *412* | *411* | *375* | *377* | *393* | *363* | *374* | *345* | *337* | *314* | *315* | *270* | *281* | *283* | *265* | |
| | 23–26 | *418* | *400* | *392* | *382* | *401* | *426* | *408* | *361* | *351* | *375* | *345* | *363* | *366* | *323* | *337* | *319* | *296* | *284* | *264* | *267* | *267* | |
| | 27–30 | *400* | *377* | *384* | *369* | *380* | *388* | *374* | *358* | *344* | *350* | *337* | *343* | *319* | *335* | *320* | *282* | *312* | *259* | *284* | *266* | *268* | |

*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] | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | (Years Cont.) → |
| **Trying marijuana once or twice** [j,z] | 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 | 48.8 | |
| | 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 | 54.0 | |
| | 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 | 55.7 | |
| | 27–30 | — | — | — | — | — | — | — | — | 49.0 | 50.9 | 53.8 | 54.6 | 51.9 | 56.8 | 55.7 | 57.5 | 54.1 | 59.0 | 55.7 | 52.6 | |
| **Using 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 | 62.5 | |
| | 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 | 66.4 | |
| | 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 | 71.1 | |
| | 27–30 | — | — | — | — | — | — | — | — | 65.3 | 67.1 | 68.9 | 73.0 | 67.2 | 72.2 | 69.4 | 72.5 | 70.5 | 74.5 | 72.4 | 71.5 | |
| **Using marijuana regularly** [j,aa,nn] | 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 | 78.6 | |
| | 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 | 84.5 | |
| | 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 | 86.1 | |
| | 27–30 | — | — | — | — | — | — | — | — | 87.6 | 87.5 | 89.7 | 89.6 | 87.2 | 89.4 | 88.7 | 91.9 | 89.9 | 92.1 | 89.2 | 90.0 | |
| **Trying LSD once or twice** [h,oo] | 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 | 83.0 | |
| | 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 | 83.2 | |
| | 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 | 84.8 | |
| | 27–30 | — | — | — | — | — | — | — | — | 91.0 | 87.2 | 89.7 | 87.9 | 85.6 | 88.8 | 88.2 | 87.4 | 88.7 | 88.7 | 87.3 | 86.6 | |
| **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 | 94.3 | |
| | 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 | 97.0 | |
| | 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 | 98.0 | |
| | 27–30 | — | — | — | — | — | — | — | — | 98.8 | 97.1 | 98.9 | 98.9 | 97.5 | 98.5 | 98.7 | 98.6 | 98.1 | 97.5 | 97.4 | 97.9 | |
| **Trying MDMA (ecstasy, Molly) once or twice** [h] | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 82.2 | 82.5 | 82.1 | |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| **Taking MDMA (ecstasy, 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 | 89.1 | |
| | 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 | 90.9 | |
| | 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 | 91.3 | |
| | 27–30 | — | — | — | — | — | — | — | — | 82.1 | 81.0 | 85.5 | 86.9 | 83.9 | 85.7 | 86.6 | 86.6 | 88.3 | 89.2 | 90.3 | 90.4 | |
| **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 | 94.9 | |
| | 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 | 97.6 | |
| | 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 | 98.3 | |
| | 27–30 | — | — | — | — | — | — | — | — | 98.1 | 97.0 | 99.3 | 99.0 | 97.2 | 98.7 | 99.0 | 98.9 | 98.5 | 97.9 | 97.8 | 98.8 | |
| **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 | 93.5 | |
| | 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 | 95.5 | |
| | 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 | 96.3 | |
| | 27–30 | — | — | — | — | — | — | — | — | 97.9 | 95.8 | 97.5 | 96.6 | 94.8 | 97.3 | 94.7 | 96.3 | 96.0 | 96.9 | 95.9 | 96.7 | |
| **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 | 95.7 | |
| | 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 | 97.2 | |
| | 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 | 98.5 | |
| | 27–30 | — | — | — | — | — | — | — | — | 99.2 | 97.3 | 99.0 | 98.9 | 97.0 | 98.9 | 98.7 | 98.9 | 98.0 | 98.7 | 97.6 | 98.8 | |
| **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 | 96.4 | |
| | 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 | 98.2 | |
| | 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 | 98.7 | |
| | 27–30 | — | — | — | — | — | — | — | — | 99.4 | 97.6 | 99.4 | 99.0 | 97.8 | 99.0 | 99.4 | 99.1 | 98.6 | 98.4 | 98.1 | 98.8 | |

(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 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Trying marijuana once or twice** [j,z] | 18 | 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 | 41.1 | 34.1 | -7.0 ss |
| | 19–22 | 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 | 29.7 | 28.4 | -1.3 |
| | 23–26 | 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 | 26.0 | 23.4 | -2.6 |
| | 27–30 | 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 | 30.0 | 24.3 | -5.7 ss |
| **Using marijuana occasionally** [j] | 18 | 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 | 49.2 | 41.4 | -7.8 ss |
| | 19–22 | 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 | 38.1 | 37.8 | -0.3 |
| | 23–26 | 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 | 35.2 | 33.6 | -1.6 |
| | 27–30 | 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 | 39.1 | 32.9 | -6.2 ss |
| **Using marijuana regularly** [j,aa,nn] | 18 | 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 | 66.7 | 63.4 | -3.4 |
| | 19–22 | 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 | 61.1 | 60.7 | -0.4 |
| | 23–26 | 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 | 60.8 | 56.9 | -3.9 |
| | 27–30 | 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 | 61.9 | 56.5 | -5.4 ss |
| **Trying LSD once or twice** [h,oo] | 18 | 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 | 80.5 | 76.1 | -4.4 ss |
| | 19–22 | 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 | 78.5 | 70.4 | -8.1 s |
| | 23–26 | 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 | 66.5 | 66.3 | -0.2 |
| | 27–30 | 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 | 72.2 | 67.2 | -5.0 |
| **Taking LSD regularly** [h] | 18 | 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 | 93.4 | 93.8 | +0.4 |
| | 19–22 | 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 | 95.9 | 91.7 | -4.2 s |
| | 23–26 | 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 | 95.5 | 93.7 | -1.8 |
| | 27–30 | 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 | 92.8 | 94.6 | +1.7 |
| **Trying MDMA (ecstasy, Molly) once or twice** [h] | 18 | 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 | 85.6 | 89.8 | +4.3 ss |
| | 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 | 81.1 | 82.9 | +1.8 |
| | 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 | 80.5 | 71.4 | -9.1 |
| | 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 | 79.2 | 71.0 | -8.2 |
| **Taking MDMA (ecstasy, Molly) occasionally** [h] | 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 | 92.7 | 93.5 | +0.8 |
| | 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 | 88.4 | 88.3 | -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 | 88.7 | 86.0 | -2.8 |
| **Trying cocaine once or twice** [h] | 18 | 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 | 88.9 | 88.5 | -0.4 |
| | 19–22 | 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 | 86.8 | 80.3 | -6.5 s |
| | 23–26 | 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 | 77.4 | 79.3 | +1.9 |
| | 27–30 | 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 | 78.6 | 78.4 | -0.2 |
| **Taking cocaine regularly** [h] | 18 | 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 | 95.8 | 96.5 | +0.6 |
| | 19–22 | 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 | 97.1 | 95.2 | -1.9 |
| | 23–26 | 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 | 96.7 | 96.1 | -0.6 |
| | 27–30 | 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 | 97.0 | 97.6 | +0.6 |
| **Trying heroin once or twice** [h] | 18 | 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 | 95.0 | 95.7 | +0.7 |
| | 19–22 | 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 | 95.7 | 93.8 | -1.9 |
| | 23–26 | 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 | 96.9 | 97.7 | +0.8 |
| | 27–30 | 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 | 96.3 | 96.0 | -0.4 |
| **Taking heroin occasionally** [h] | 18 | 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 | 96.4 | 96.7 | +0.4 |
| | 19–22 | 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 | 97.9 | 95.8 | -2.1 |
| | 23–26 | 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 | 97.7 | 99.5 | +1.9 |
| | 27–30 | 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 | 98.2 | 98.0 | -0.2 |
| **Taking heroin regularly** [h] | 18 | 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 | 96.8 | 97.3 | +0.5 |
| | 19–22 | 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 | 98.0 | 96.3 | -1.8 |
| | 23–26 | 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 | 97.9 | 99.1 | +1.3 |
| | 27–30 | 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 | 98.5 | 98.4 | -0.2 |

↓
(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 | 1999 | → (Years Cont.) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Trying amphetamines once or twice** [b,h,bb,pp] | 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 | 81.9 | |
| | 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 | 84.9 | |
| | 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 | 84.5 | |
| | 27–30 | — | — | — | — | — | — | — | — | 83.5 | 81.0 | 84.3 | 83.7 | 80.9 | 83.5 | 82.0 | 83.1 | 85.8 | 86.3 | 85.9 | 86.4 | |
| **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 | 93.7 | |
| | 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 | 97.5 | |
| | 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 | 97.0 | |
| | 27–30 | — | — | — | — | — | — | — | — | 98.1 | 96.5 | 98.6 | 97.8 | 96.8 | 97.7 | 99.0 | 98.9 | 98.2 | 98.1 | 97.7 | 98.2 | |
| **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 | 86.6 | |
| | 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 | 86.6 | |
| | 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 | 87.3 | |
| | 27–30 | — | — | — | — | — | — | — | — | 90.5 | 88.3 | 88.4 | 88.8 | 86.6 | 88.9 | 87.6 | 88.0 | 89.4 | 88.8 | 88.4 | 87.6 | |
| **Taking sedatives/ barbiturates regularly** [c,h,cc] | 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 | 94.7 | |
| | 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 | 97.3 | |
| | 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 | 97.6 | |
| | 27–30 | — | — | — | — | — | — | — | — | 98.4 | 97.1 | 99.1 | 98.5 | 97.7 | 98.4 | 99.1 | 99.0 | 98.5 | 97.9 | 97.7 | 98.5 | |
| **Trying one or two drinks of an alcoholic beverage (beer, wine, liquor)** [j,dd] | 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 | 24.6 | |
| | 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 | 18.3 | |
| | 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 | 19.1 | |
| | 27–30 | — | — | — | — | — | — | — | — | 19.5 | 19.1 | 18.7 | 18.8 | 17.9 | 19.5 | 18.6 | 18.2 | 16.1 | 17.4 | 15.2 | 15.9 | |
| **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 | 67.2 | |
| | 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 | 67.3 | |
| | 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 | 73.4 | |
| | 27–30 | — | — | — | — | — | — | — | — | 76.0 | 73.9 | 73.3 | 76.1 | 69.5 | 73.5 | 72.4 | 71.8 | 71.4 | 71.8 | 69.8 | 67.9 | |
| **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 | 86.9 | |
| | 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 | 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 | 95.1 | |
| | 27–30 | — | — | — | — | — | — | — | — | 97.4 | 94.6 | 96.1 | 95.3 | 94.8 | 94.8 | 96.4 | 96.7 | 96.4 | 96.2 | 95.0 | 97.2 | |
| **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 | 62.7 | |
| | 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 | 63.5 | |
| | 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 | 68.1 | |
| | 27–30 | — | — | — | — | — | — | — | — | 73.9 | 71.4 | 73.1 | 72.1 | 68.4 | 73.4 | 73.5 | 73.7 | 72.4 | 73.0 | 71.1 | 73.1 | |
| **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 | 69.5 | |
| | 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 | 70.1 | |
| | 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 | 73.8 | |
| | 27–30 | — | — | — | — | — | — | — | — | 72.8 | 69.4 | 73.5 | 71.2 | 70.7 | 73.8 | 72.3 | 73.9 | 72.7 | 74.3 | 71.7 | 71.0 | |
| **Vape an e-liquid with nicotine occasionally** [ff] | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| **Vape an e-liquid with nicotine regularly** [ff] | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| *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* | *2,310* | |
| | 19–22 | *588* | *573* | *605* | *579* | *586* | *551* | *605* | *587* | *560* | *567* | *569* | *533* | *530* | *489* | *474* | *465* | *480* | *470* | *446* | *449* | |
| | 23–26 | | | | | *542* | *535* | *560* | *532* | *538* | *516* | *524* | *495* | *538* | *514* | *475* | *466* | *449* | *423* | *401* | *397* | |
| | 27–30 | | | | | | | | | *526* | *509* | *513* | *485* | *512* | *462* | *442* | *450* | *430* | *453* | *449* | *429* | |

(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 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Trying** | 18 | 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 | 81.0 | 80.3 | -0.7 |
| **amphetamines** | 19–22 | 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 | 74.3 | 76.0 | +1.7 |
| **once or twice** [b,h,bb,pp] | 23–26 | 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 | 67.9 | 69.9 | +2.0 |
| | 27–30 | 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 | 73.4 | 70.5 | -2.9 |
| **Taking** | 18 | 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 | 92.8 | 94.4 | +1.6 |
| **amphetamines** | 19–22 | 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 | 92.3 | 90.4 | -1.9 |
| **regularly** [b,h] | 23–26 | 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 | 91.7 | 93.1 | +1.4 |
| | 27–30 | 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 | 95.4 | 90.8 | -4.6 s |
| **Trying sedatives/** | 18 | 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 | 86.9 | 85.6 | -1.3 |
| **barbiturates** | 19–22 | 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 | 81.0 | 82.8 | +1.9 |
| **once or twice** [c,h] | 23–26 | 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 | 75.9 | 81.3 | +5.4 |
| | 27–30 | 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 | 78.3 | 76.4 | -1.9 |
| **Taking sedatives/** | 18 | 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 | 95.3 | 95.1 | -0.1 |
| **barbiturates** | 19–22 | 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 | 95.2 | 95.2 | 0.0 |
| **regularly** [c,h,cc] | 23–26 | 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 | 95.0 | 96.1 | +1.0 |
| | 27–30 | 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 | 96.4 | 95.7 | -0.7 |
| **Trying one or two** | 18 | 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 | 31.3 | 26.3 | -5.1 s |
| **drinks of an alcoholic** | 19–22 | 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 | 17.8 | 13.9 | -3.9 s |
| **beverage (beer,** | 23–26 | 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 | 11.6 | 10.4 | -1.2 |
| **wine, liquor)** [j,dd] | 27–30 | 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 | 14.6 | 10.5 | -4.0 s |
| **Taking one or two** | 18 | 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 | 74.7 | 73.4 | -1.3 |
| **drinks nearly** | 19–22 | 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 | 61.7 | 64.9 | +3.2 |
| **every day** [j] | 23–26 | 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 | 57.3 | 55.3 | -2.0 |
| | 27–30 | 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 | 50.8 | 49.9 | -0.8 |
| **Taking four or five** | 18 | 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 | 91.7 | 91.5 | -0.2 |
| **drinks nearly** | 19–22 | 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 | 92.9 | 92.9 | 0.0 |
| **every day** [j] | 23–26 | 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 | 93.0 | 92.2 | -0.8 |
| | 27–30 | 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 | 91.8 | 89.5 | -2.3 |
| **Having five or** | 18 | 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 | 75.8 | 75.0 | -0.8 |
| **more drinks** | 19–22 | 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 | 68.6 | 65.5 | -3.1 |
| **once or twice** | 23–26 | 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 | 65.0 | 62.6 | -2.4 |
| **each weekend** [j] | 27–30 | 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 | 65.3 | 62.6 | -2.7 |
| **Smoking one or** | 18 | 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 | 89.0 | 87.9 | -1.2 |
| **more packs of** | 19–22 | 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 | 86.8 | 88.0 | +1.1 |
| **cigarettes** | 23–26 | 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 | 84.0 | 85.4 | +1.4 |
| **per day** [j] | 27–30 | 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 | 82.6 | 81.9 | -0.8 |
| **Vape an e-liquid with** | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 62.0 | 59.2 | 56.6 | -2.6 |
| **nicotine occasionally** [ff] | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 71.7 | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 68.4 | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 68.2 | — |
| **Vape an e-liquid with** | 18 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 71.8 | 70.9 | 70.1 | -0.8 |
| **nicotine regularly** [ff] | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 84.4 | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 81.8 | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 81.8 | — |
| *Approximate Weighted N* | 18 | *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* | *2,267* | *1,031* | |
| *Per Form =* | 19–22 | *416* | *413* | *402* | *396* | *431* | *378* | *378* | *333* | *365* | *368* | *364* | *340* | *356* | *280* | *316* | *264* | *252* | *225* | *271* | *252* | |
| | 23–26 | *389* | *404* | *346* | *385* | *403* | *374* | *364* | *325* | *335* | *328* | *347* | *309* | *334* | *312* | *308* | *284* | *271* | *234* | *264* | *233* | |
| | 27–30 | *395* | *368* | *359* | *346* | *370* | *367* | *330* | *355* | *339* | *325* | *334* | *306* | *312* | *301* | *304* | *262* | *258* | *276* | *285* | *260* | |

*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 forms 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.

[n]For the estimate of Perceived Risk of Using Marijuana Occasionally in 2018, there was a significant difference (p<.05) among those age 27-30 between the typical mail condition (12.8%) and new web-push condition (8.9%) of survey administration.

[o]For the estimate of Perceived Risk of Using Cocaine Occasionally in 2018, there was a significant difference (p<.05) among those age 23-26 between the typical mail condition (74.8%) and new web-push condition (62.8%) of survey administration.

[p]For the estimate of Perceived Risk of Trying Heroin Once or Twice in 2018, there was a significant difference (p<.05) among those age 23-26 between the typical mail condition (71.4%) and new web-push condition (80.5%) of survey administration.

[q]For the estimate of Perceived Risk of Using Heroin Occasionally in 2018, there was a significant difference (p<.05) among those age 23-26 between the typical mail condition (84.4%) and new web-push condition (90.5%) of survey administration.

[r]For the estimate of Perceived Risk of Trying Amphetamines Once or Twice in 2018, there was a significant difference (p<.05) among those age 27-30 between the typical mail condition (27.1%) and new web-push condition (38.8%) of survey administration.

[s]For the estimate of Perceived Risk of Trying Sedatives/Barbiturates Once or Twice in 2018, there was a significant difference (p<.05) among those age 19-22 between the typical mail condition (23.4%) and new web-push condition (36.4%) of survey administration.

[t]For the estimate of Perceived Risk of Trying Sedatives/Barbiturates Once or Twice in 2018, there was a significant difference (p<.05) among those age 23-26 between the typical mail condition (22.4%) and new web-push condition (36.0%) of survey administration.

[u]For the estimate of Perceived Risk of Using Sedatives/Barbiturates Regularly in 2018, there was a significant difference (p<.05) among those age 23-26 between the typical mail condition (62.4%) and new web-push condition (74.3%) of survey administration.

[v]For the estimate of Perceived Risk of Trying Bath Salts Once or Twice in 2018, there was a significant difference (p<.05) among those age 23-26 between the typical mail condition (68.0%) and new web-push condition (80.6%) of survey administration.

[w]For the estimate of Perceived Risk of Trying Adderall Once or Twice in 2018, there was a significant difference (p<.05) among those age 23-26 between the typical mail condition (22.7%) and new web-push condition (36.1%) of survey administration.

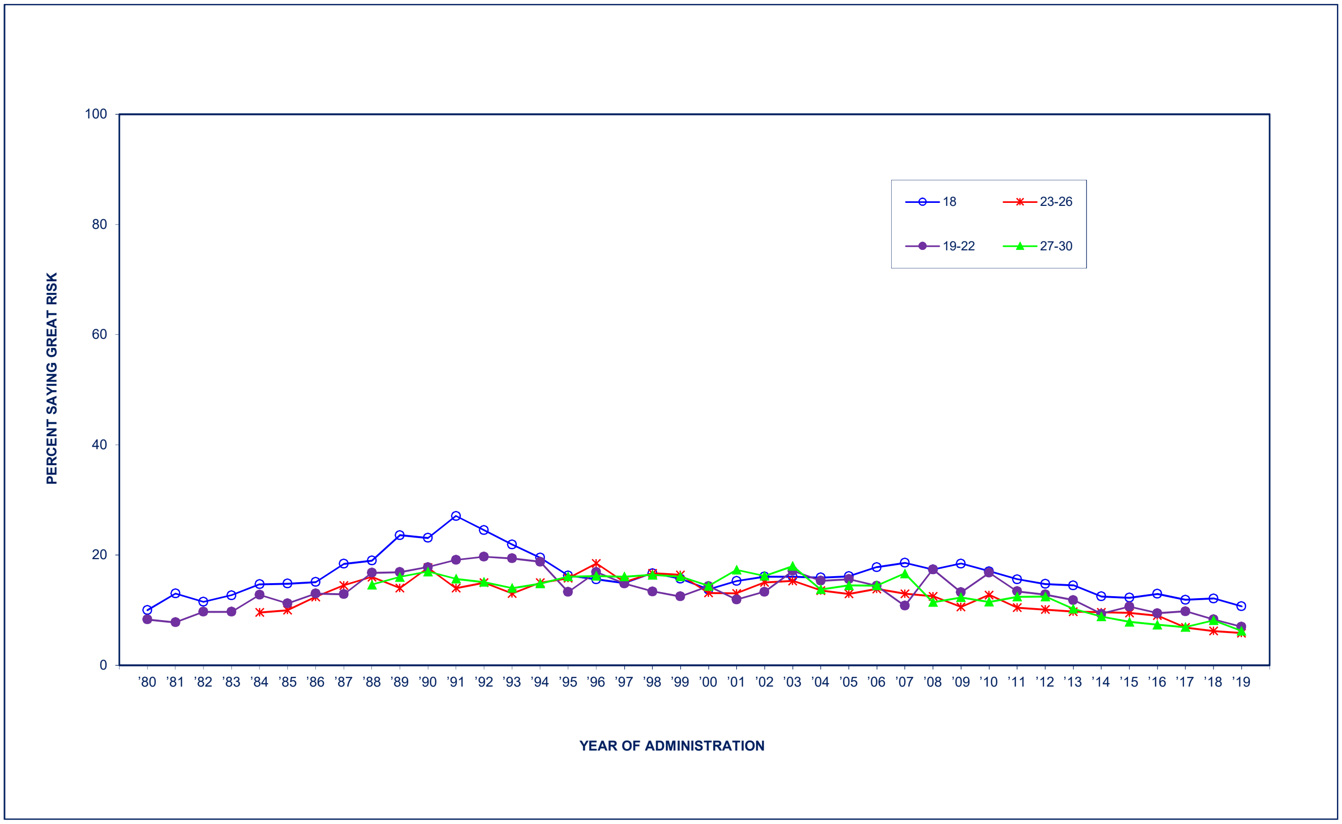
[x]For the estimate of Perceived Risk of Trying Narcotics Other Than Heroin Once or Twice in 2018, there was a significant difference (p<.05) among those age 23-26 between the typical mail condition (46.3%) and new web-push condition (59.2%) of survey administration.

[y]For the estimate of Perceived Risk of Using Salvia Occasionally in 2018, there was a significant difference (p<.05) among those age 19-22 between the typical mail condition (17.3%) and new web-push condition (28.5%) of survey administration.

## Footnotes for Tables 6-1 through 6-2 (cont.)

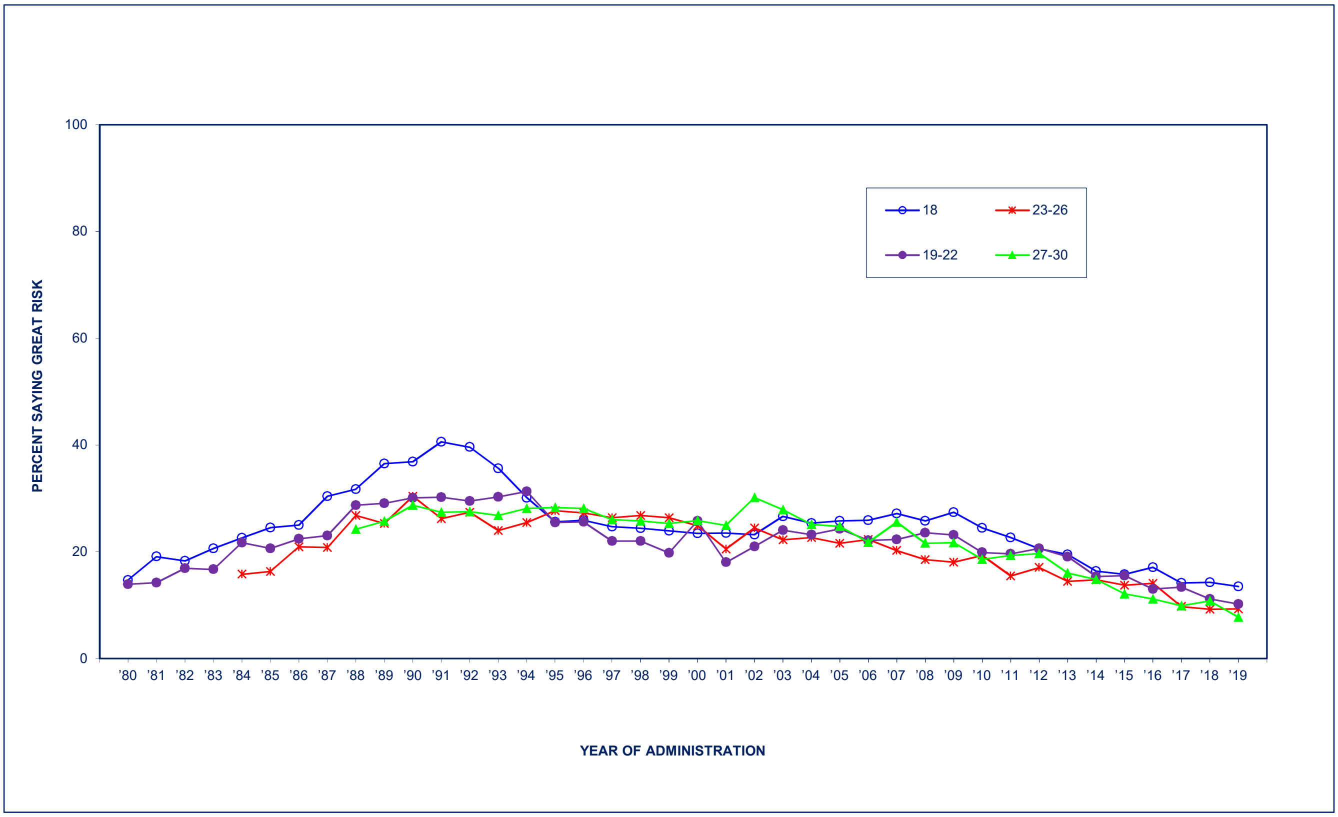
[z]For the estimate of Disapproval of Trying Marijuana Once or Twice in 2018, there was a significant difference (p<.05) among those age 27-30 between the typical mail condition (32.6%) and new web-push condition (27.4%) of survey administration.
[aa]For the estimate of Disapproval of Using Marijuana Regularly in 2018, there was a significant difference (p<.05) among those age 19-22 between the typical mail condition (65.1%) and new web-push condition (57.8%) of survey administration.
[bb]For the estimate of Disapproval of Trying Amphetamines Once or Twice in 2018, there was a significant difference (p<.01) among those age 19-22 between the typical mail condition (83.1%) and new web-push condition (67.9%) of survey administration.
[cc]For the estimate of Disapproval of Using Sedatives/Barbiturates Regularly in 2018, there was a significant difference (p<.05) among those age 27-30 between the typical mail condition (98.7%) and new web-push condition (93.8%) of survey administration.
[dd]For the estimate of Disapproval of Trying Alcohol Once or Twice in 2018, there was a significant difference (p<.01) among those age 27-30 between the typical mail condition (17.3%) and new web-push condition (12.0%) of survey administration.
[ee]Data based on two questionnaire forms in 2017 and 2018. Beginning in 2019, data based on three questionnaire forms.
[ff]Age 18 data based on two questionnaire forms. Data for ages 19-30 based on three questionnaire forms.
[gg]For the estimate of Perceived Risk of Using Marijuana Regularly in 2019, there was a significant difference (p<.05) among those age 27-30 between the typical mail condition (23.9%) and new web-push condition (18.6%) of survey administration.
[hh]For the estimate of Perceived Risk of Trying Cocaine Once or Twice in 2019, there was a significant difference (p<.05) among those age 19-22 between the typical mail condition (45.3%) and new web-push condition (58.9%) of survey administration.
[ii]For the estimate of Perceived Risk of Using Sedatives (Barbiturates) Regularly in 2019, there was a significant difference (p<.05) among those age 23-26 between the typical mail condition (56.3%) and new web-push condition (68.7%) of survey administration.
[jj]For the estimate of Perceived Risk of Trying Narcotics other than Heroin Once or Twice in 2019, there was a significant difference (p<.05) among those age 19-22 between the typical mail condition (53.2%) and new web-push condition (66.6%) of survey administration.
[kk]For the estimate of Perceived Risk of Trying Salvia Once or Twice in 2019, there was a significant difference (p<.01) among those age 23-26 between the typical mail condition (14.6%) and new web-push condition (30.9%) of survey administration.
[ll]For the estimate of Perceived Risk of Using Salvia Occasionally in 2019, there was a significant difference (p<.01) among those age 23-26 between the typical mail condition (20.8%) and new web-push condition (35.2%) of survey administration.
[mm]For the estimate of Perceived Risk of Trying Synthetic Marijuana Once or Twice in 2019, there was a significant difference (p<.05) among those age 19-22 between the typical mail condition (37.6%) and new web-push condition (48.9%) of survey administration.
[nn]For the estimate of Disapproval of Using Marijuana Regularly in 2019, there was a significant difference (p<.05) among those age 27-30 between the typical mail condition (53.2%) and new web-push condition (59.6%) of survey administration.
[oo]For the estimate of Disapproval of Trying LSD Once or Twice in 2019, there was a significant difference (p<.05) among those age 27-30 between the typical mail condition (61.3%) and new web-push condition (72.9%) of survey administration.
[pp]For the estimate of Disapproval of Trying Amphetamines Once or Twice in 2019, there was a significant difference (p<.05) among those age 27-30 between the typical mail condition (63.7%) and new web-push condition (77.1%) of survey administration.

**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**



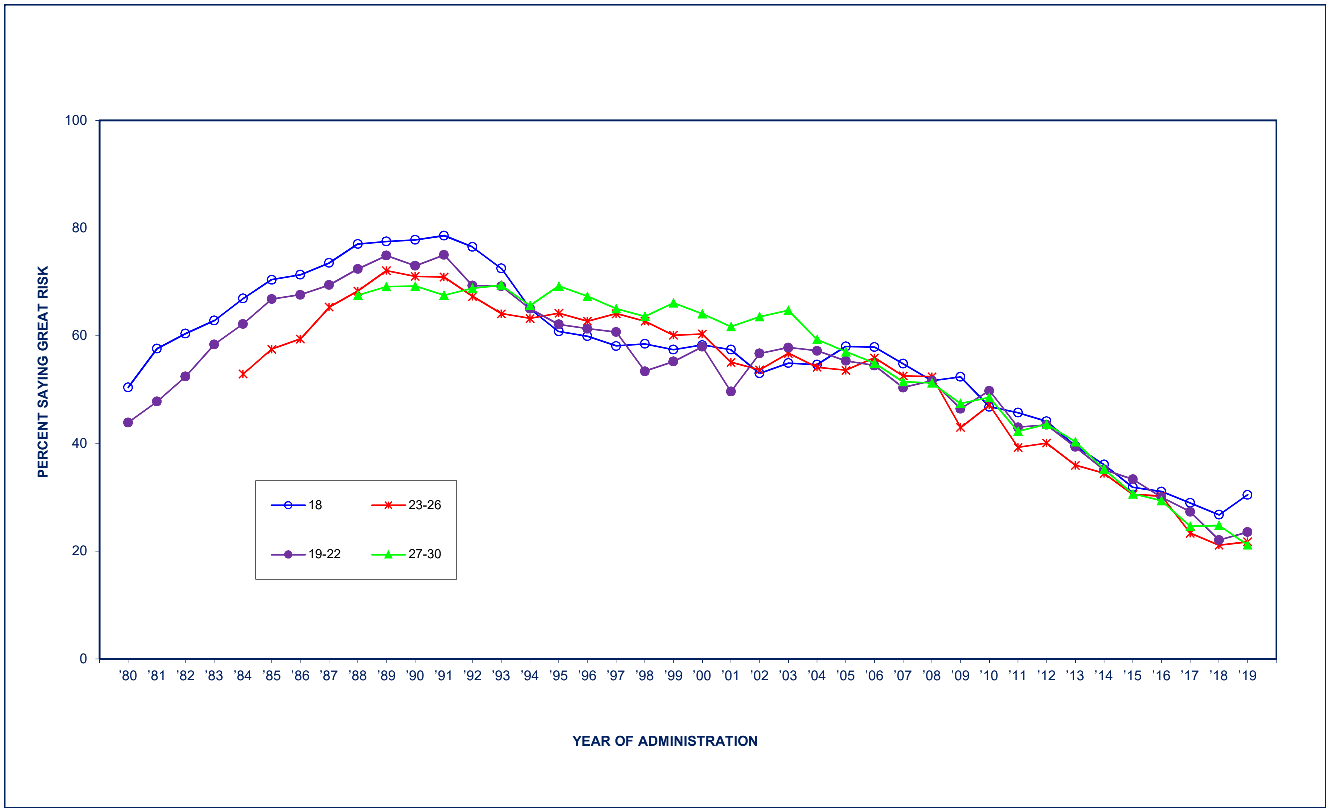

*Source.* The Monitoring the Future study, the University of Michigan.

**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**



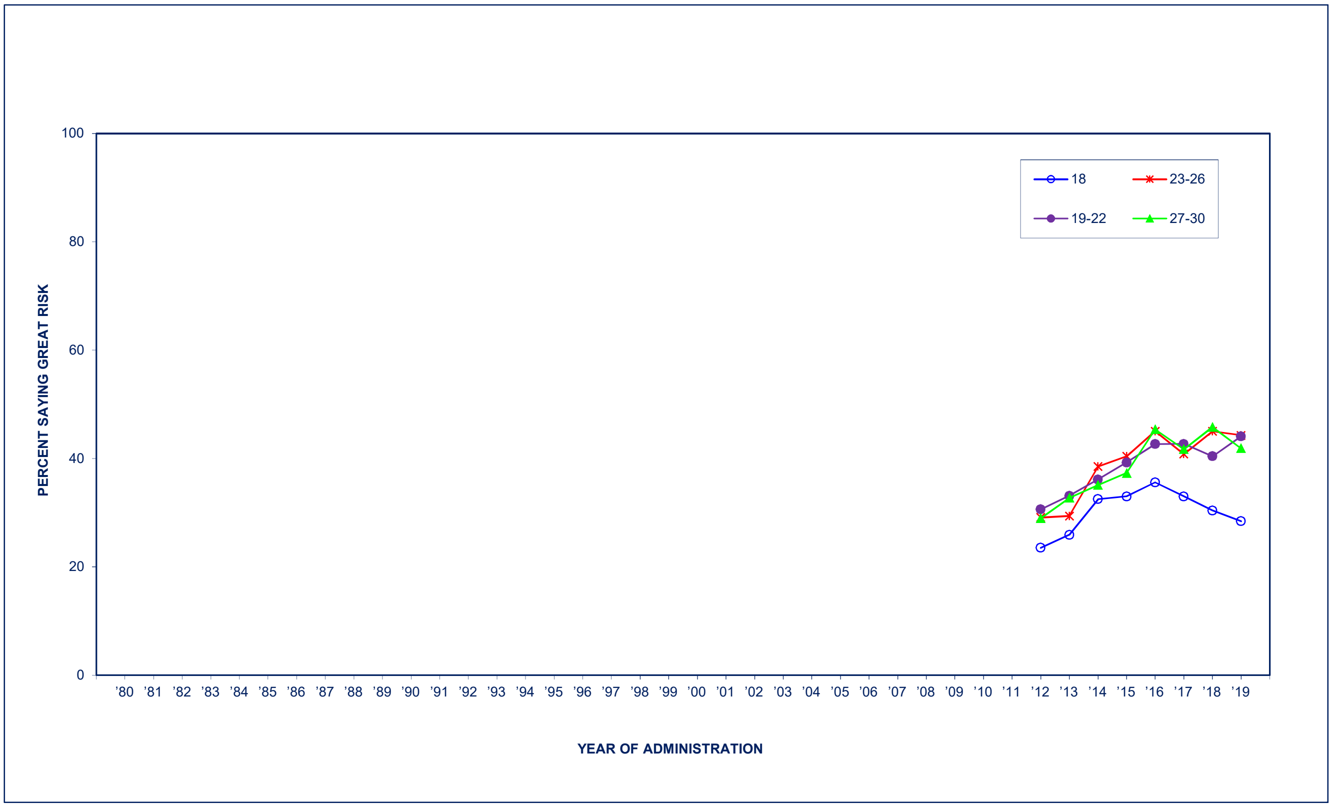

*Source.* The Monitoring the Future study, the University of Michigan.

**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**



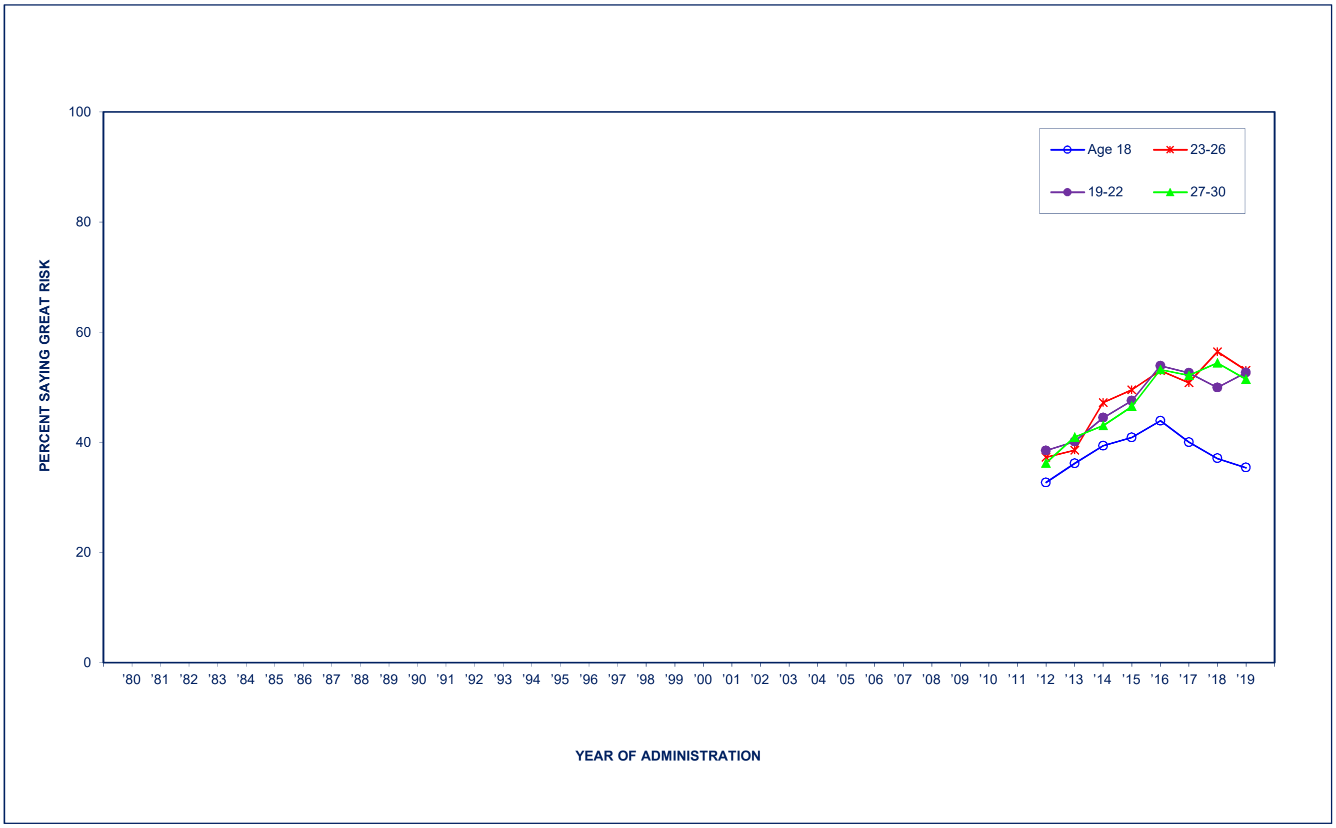

*Source.* The Monitoring the Future study, the University of Michigan.

**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**



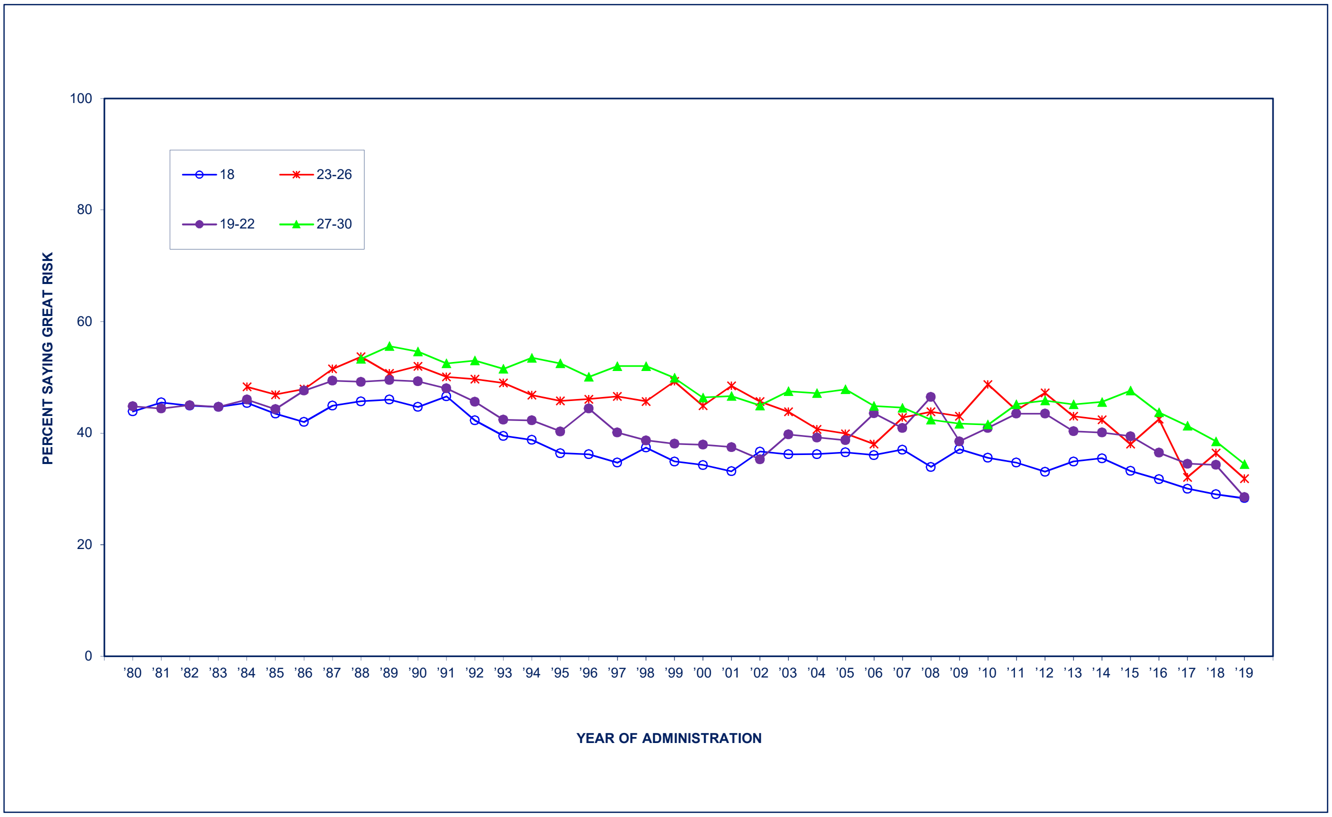

*Source*. The Monitoring the Future study, the University of Michigan.

**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**



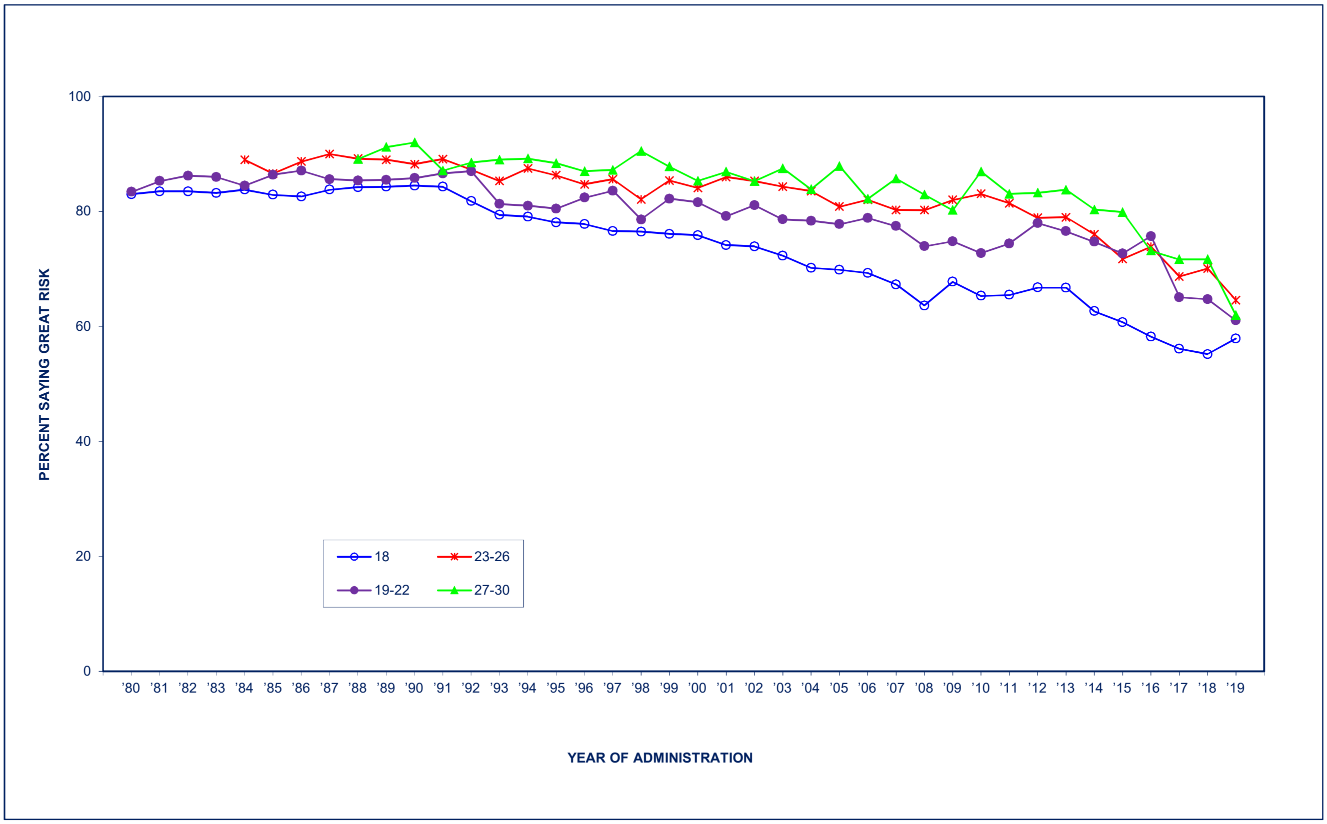

*Source.* The Monitoring the Future study, the University of Michigan.

**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**



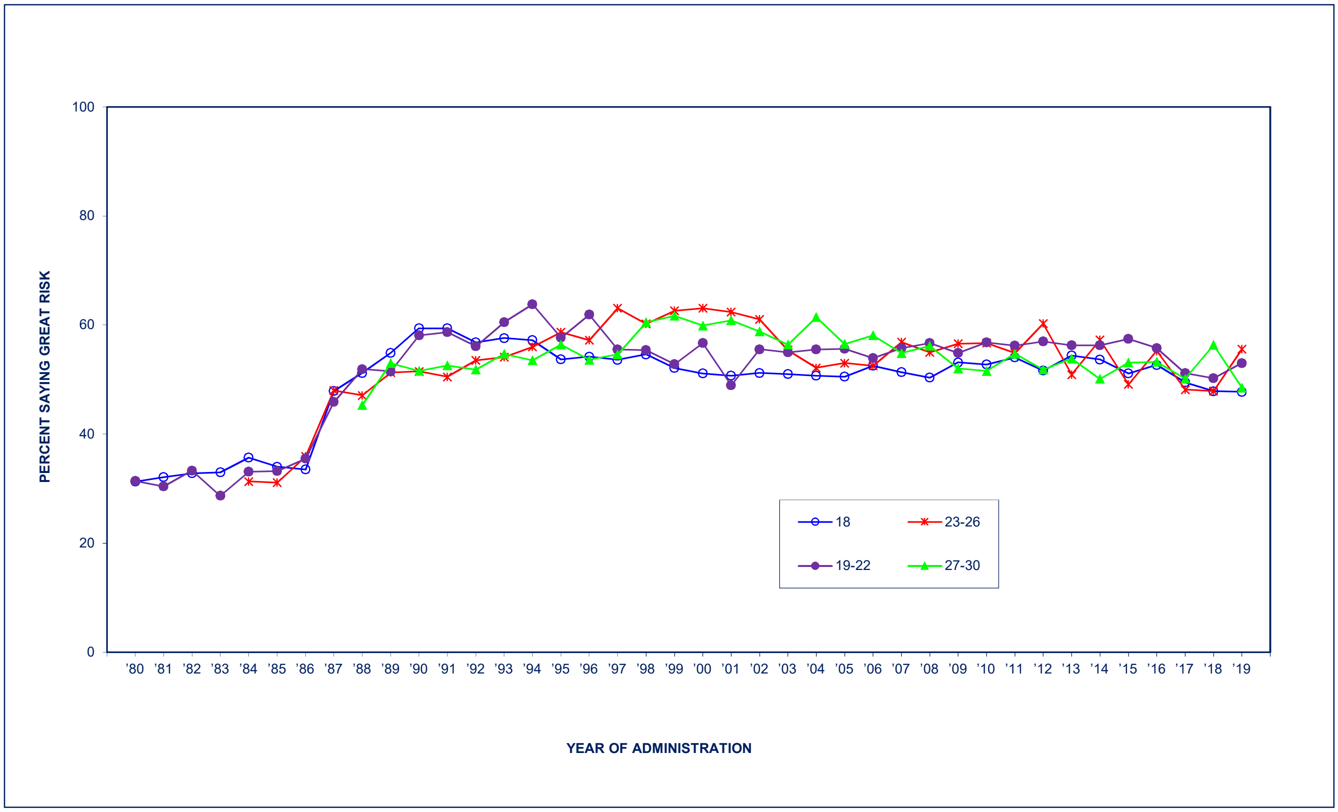

*Source.* The Monitoring the Future study, the University of Michigan.

**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**



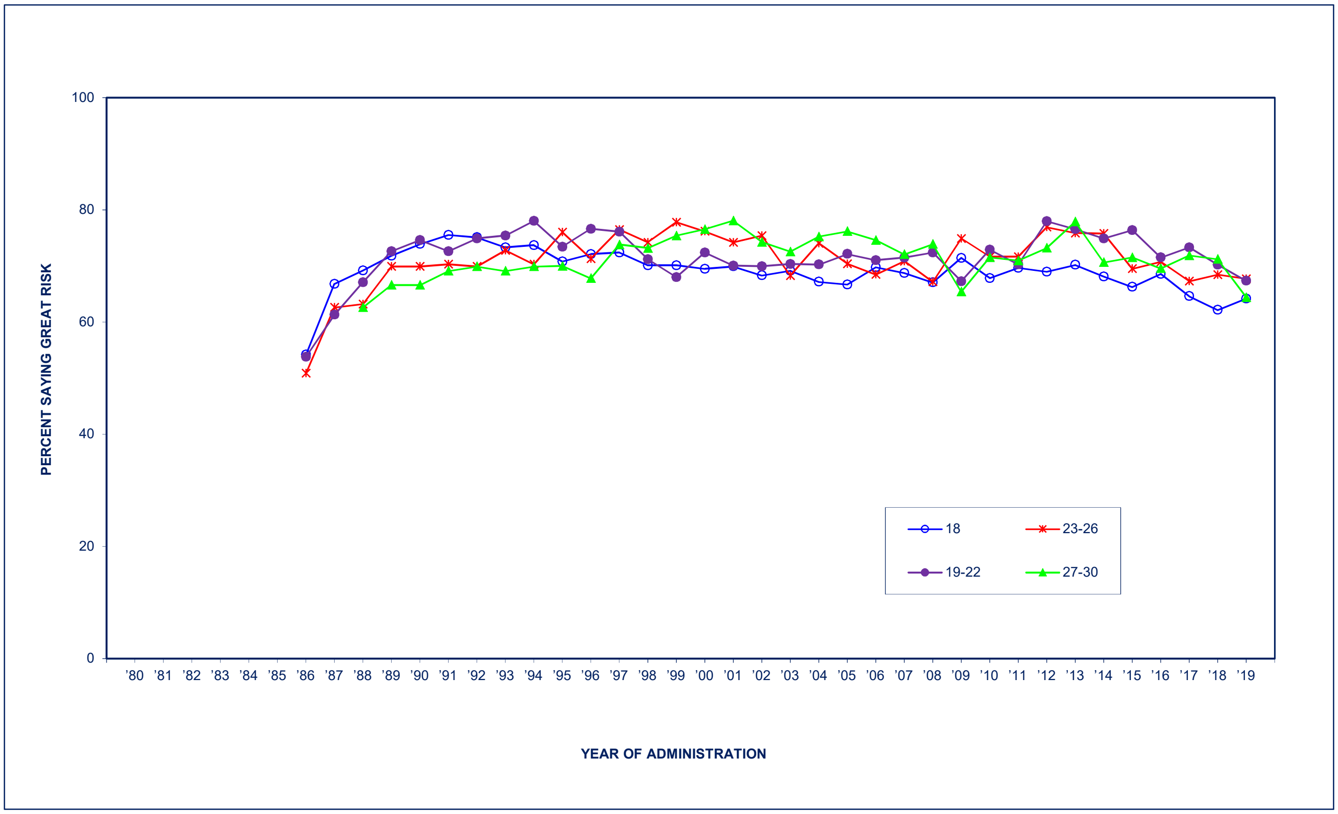

*Source.* The Monitoring the Future study, the University of Michigan.

**FIGURE 6-8**
**Trends in Harmfulness of COCAINE Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30**
**Trying Once or Twice**



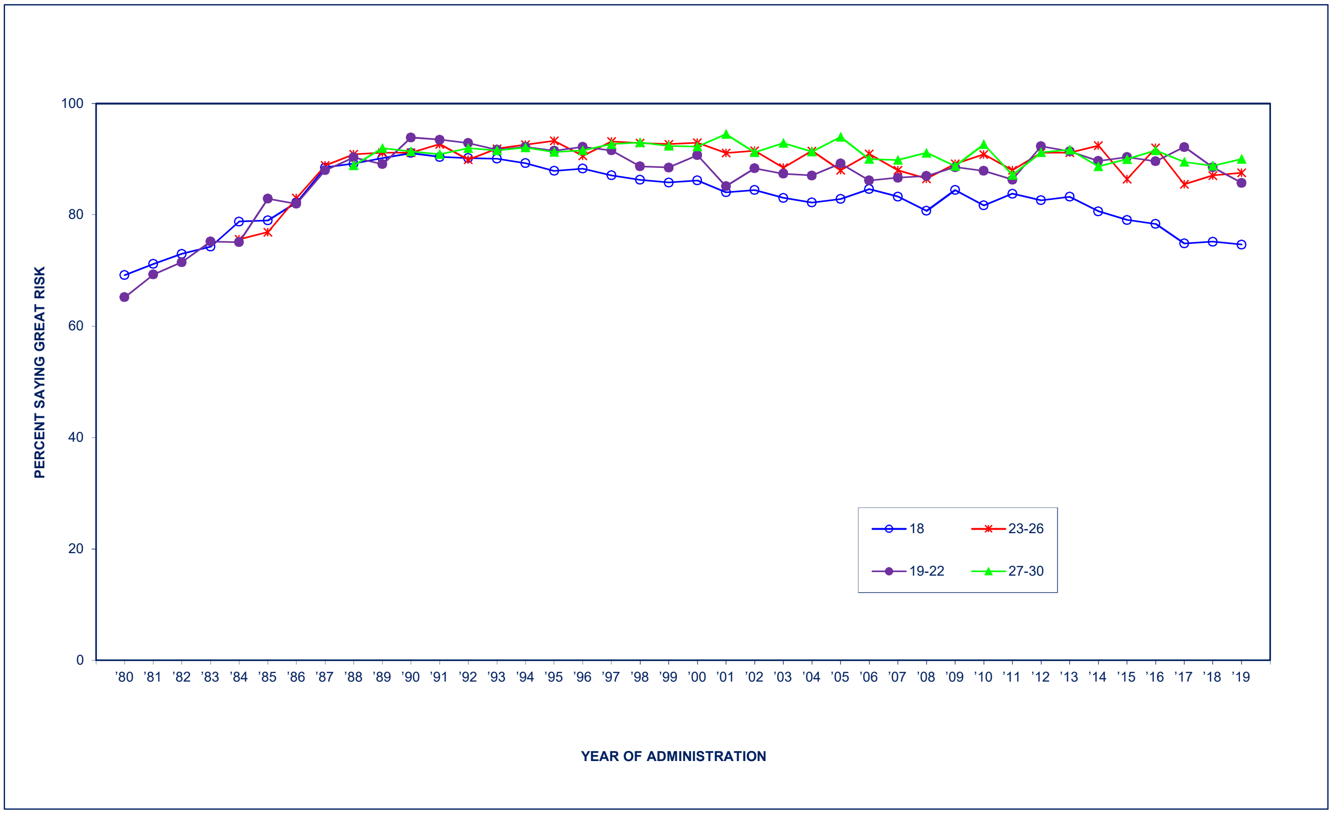

*Source.* The Monitoring the Future study, the University of Michigan.

**FIGURE 6-9**
**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**



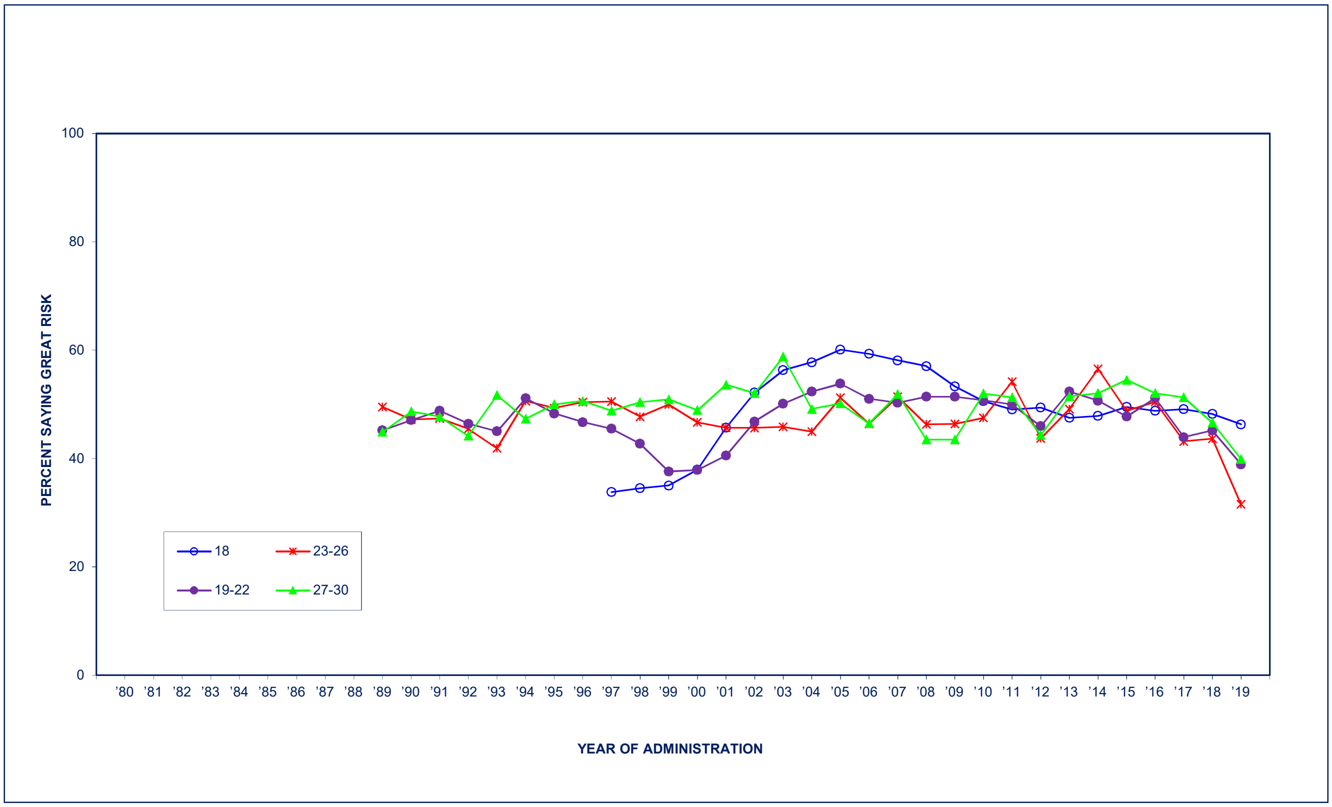

*Source.* The Monitoring the Future study, the University of Michigan.

## FIGURE 6-10
## 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.

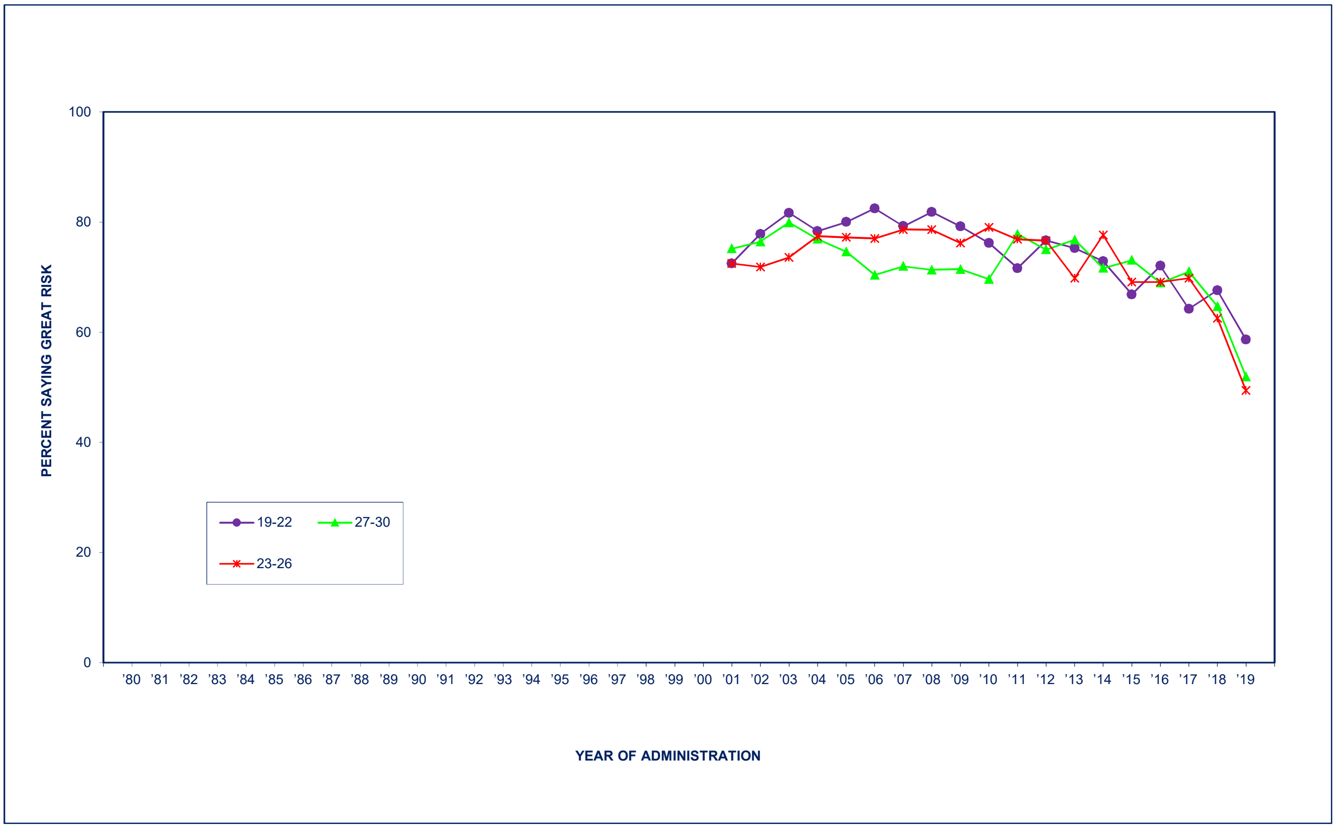
## FIGURE 6-11
## Trends in Harmfulness of MDMA (Ecstasy, Molly)[a] Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
## Trying Once or Twice




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

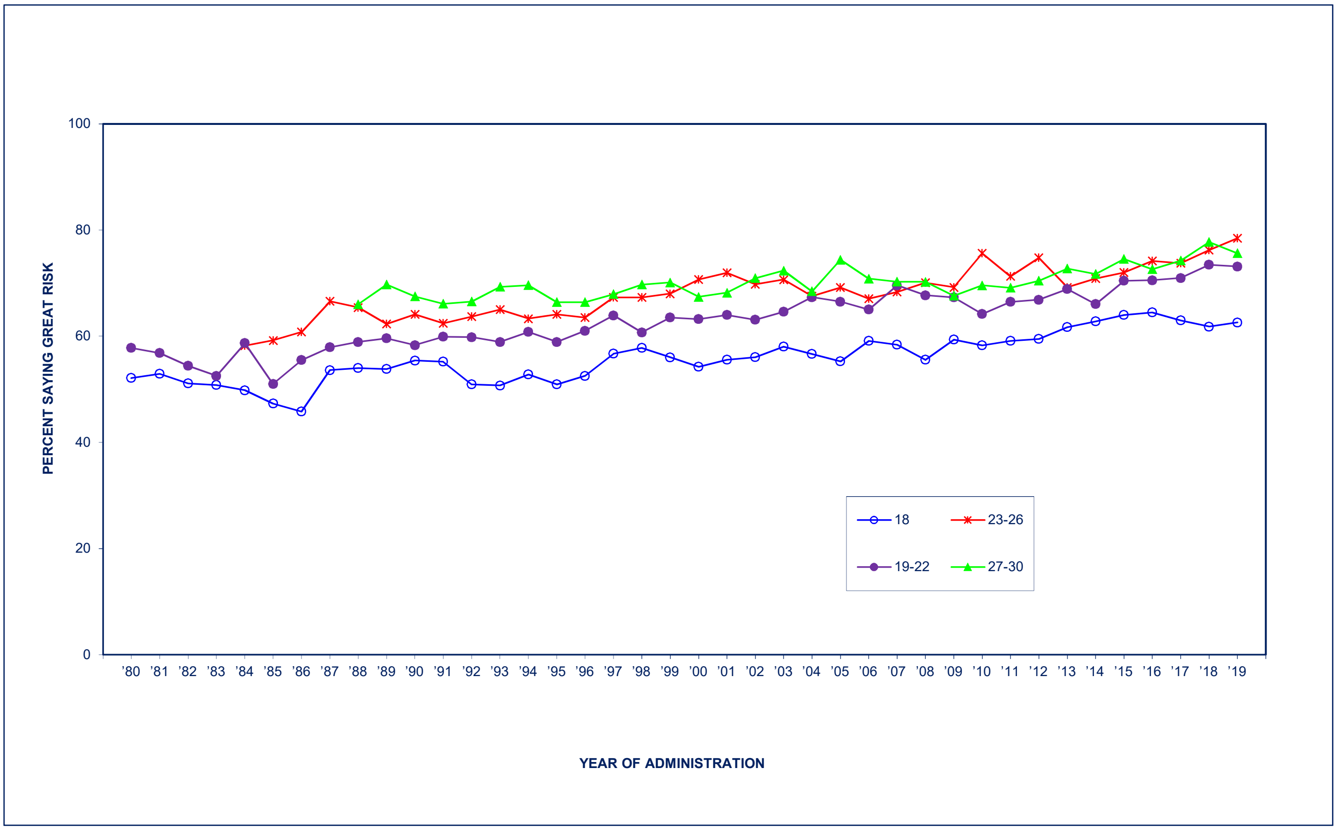
[a] In 2014 in the Age 18 questionnaire, "molly" was added to the question text. In 2015, the same change was made to the questionnaires for the other age groups. This likely explains the discontinuity in results for the affected years.

**FIGURE 6-12**
**Trends in Harmfulness of MDMA (Ecstasy, Molly)[a] Use as Perceived by Respondents in Modal Age Groups of 19–22, 23–26, and 27–30**
**Occasional Use**



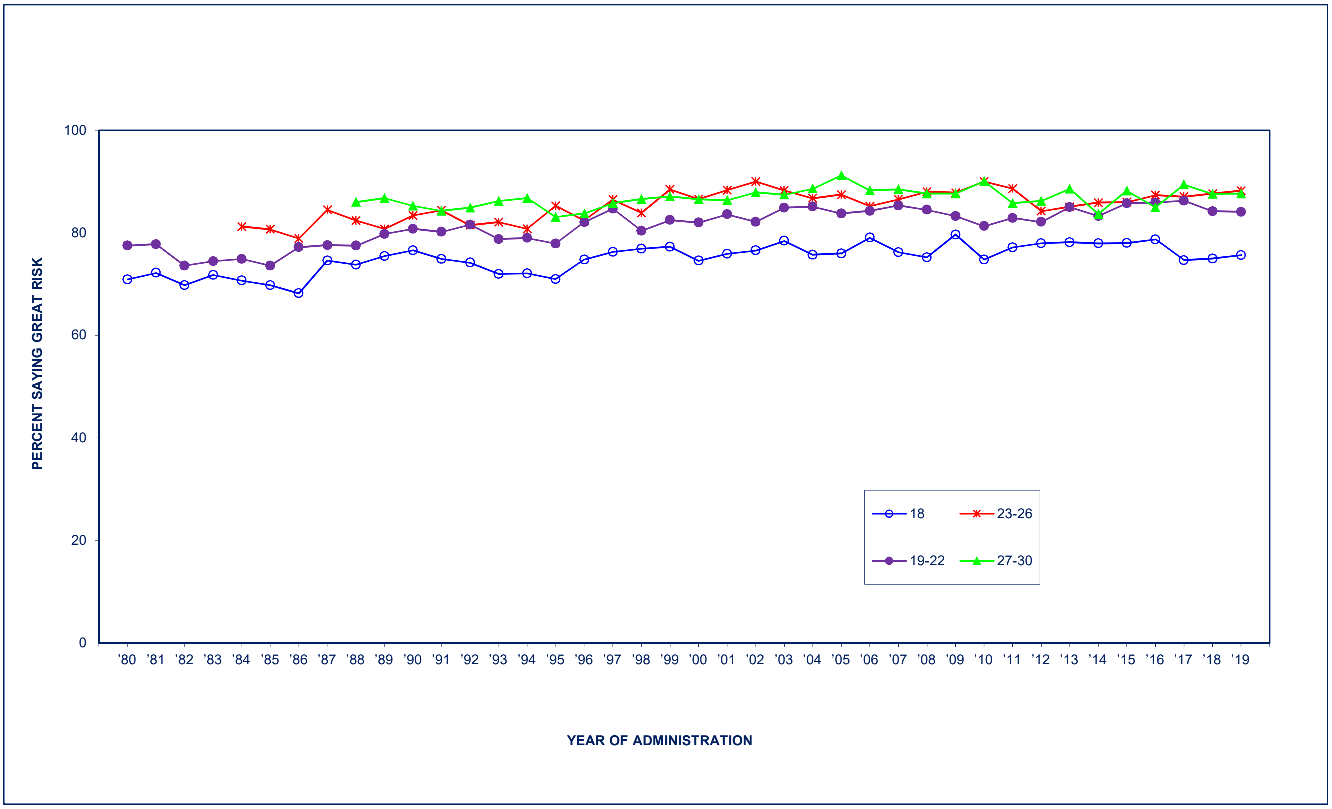

*Source.* The Monitoring the Future study, the University of Michigan.
[a] In 2015, "molly" was added to the question text. This likely explains the discontinuity in results for the affected years.

## FIGURE 6-13
## 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 6-14**
**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**

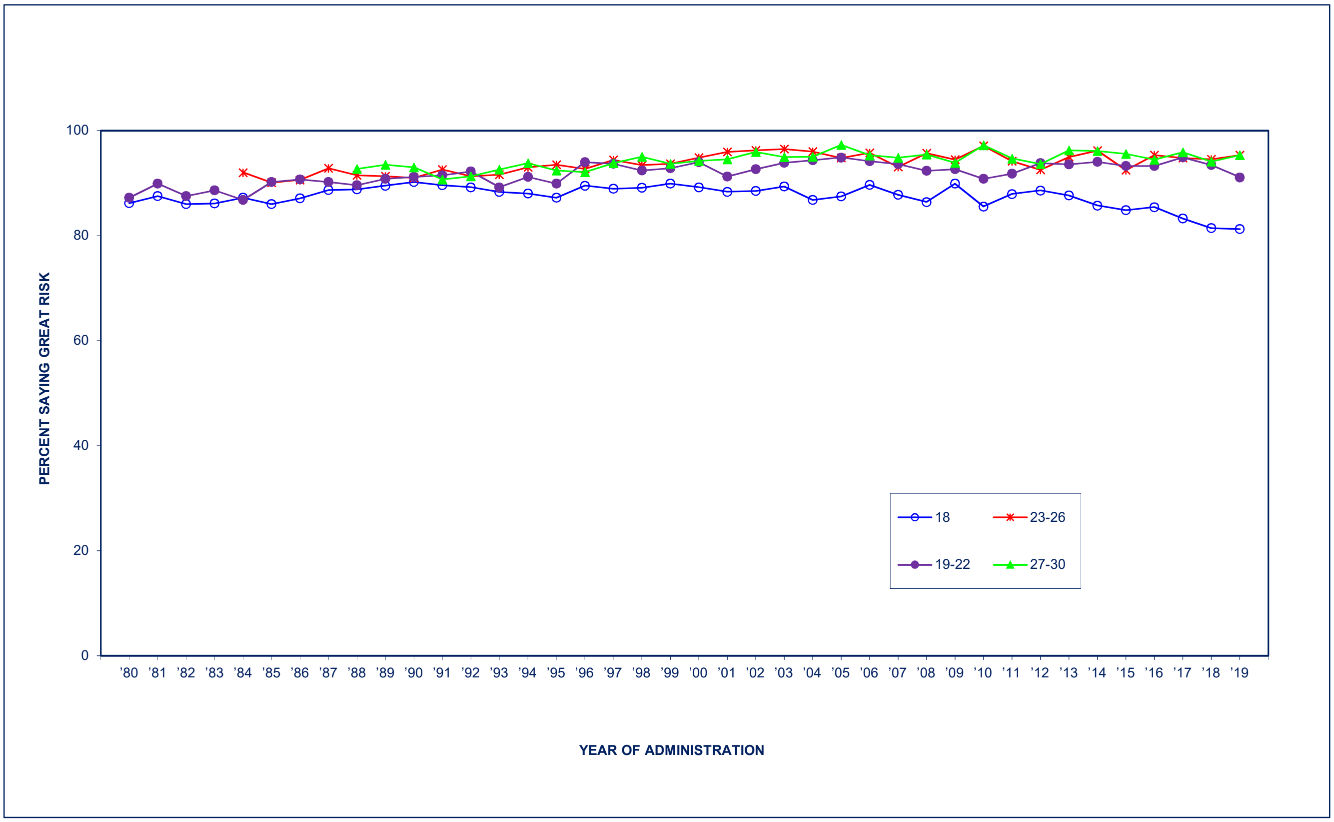



*Source.* The Monitoring the Future study, the University of Michigan.

**FIGURE 6-15**

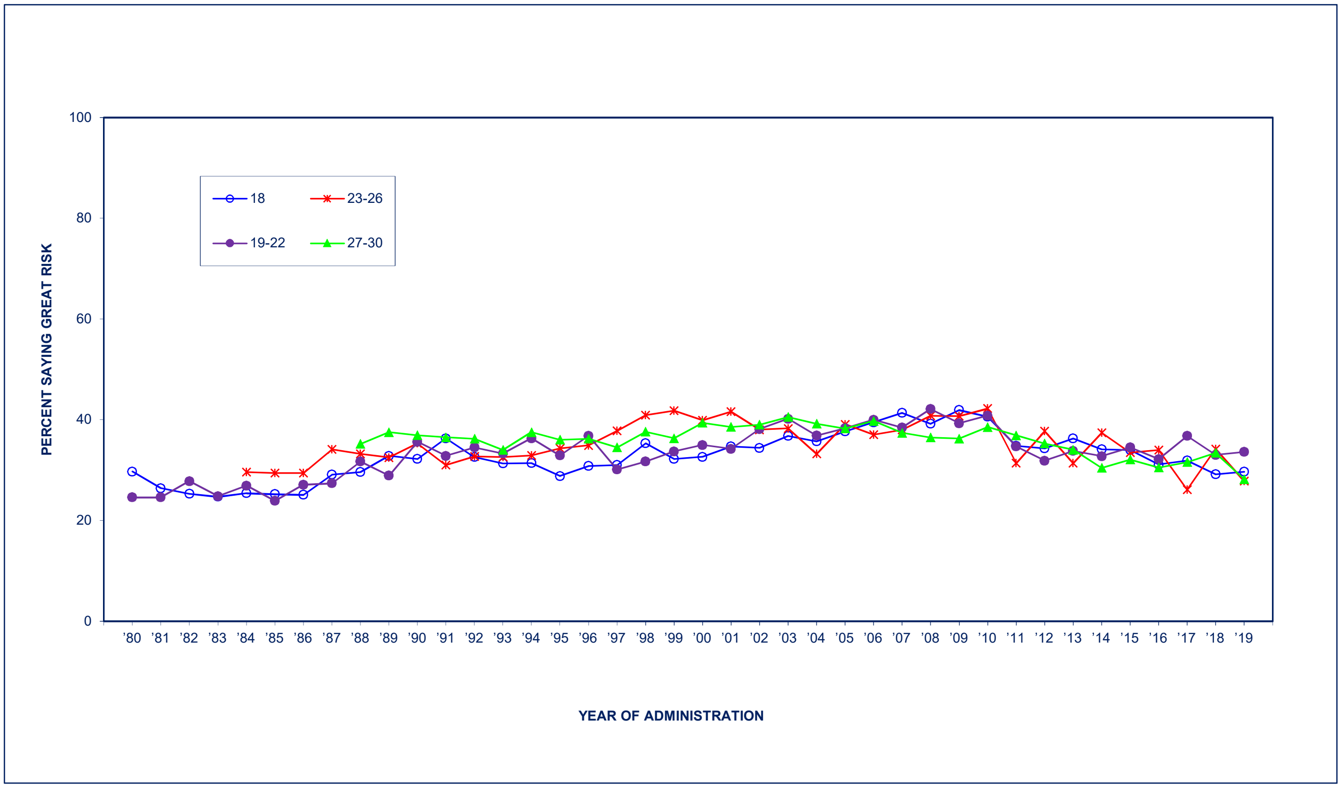
**Trends in Harmfulness of HEROIN Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30**

**Regular Use**




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

**FIGURE 6-16**
**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**



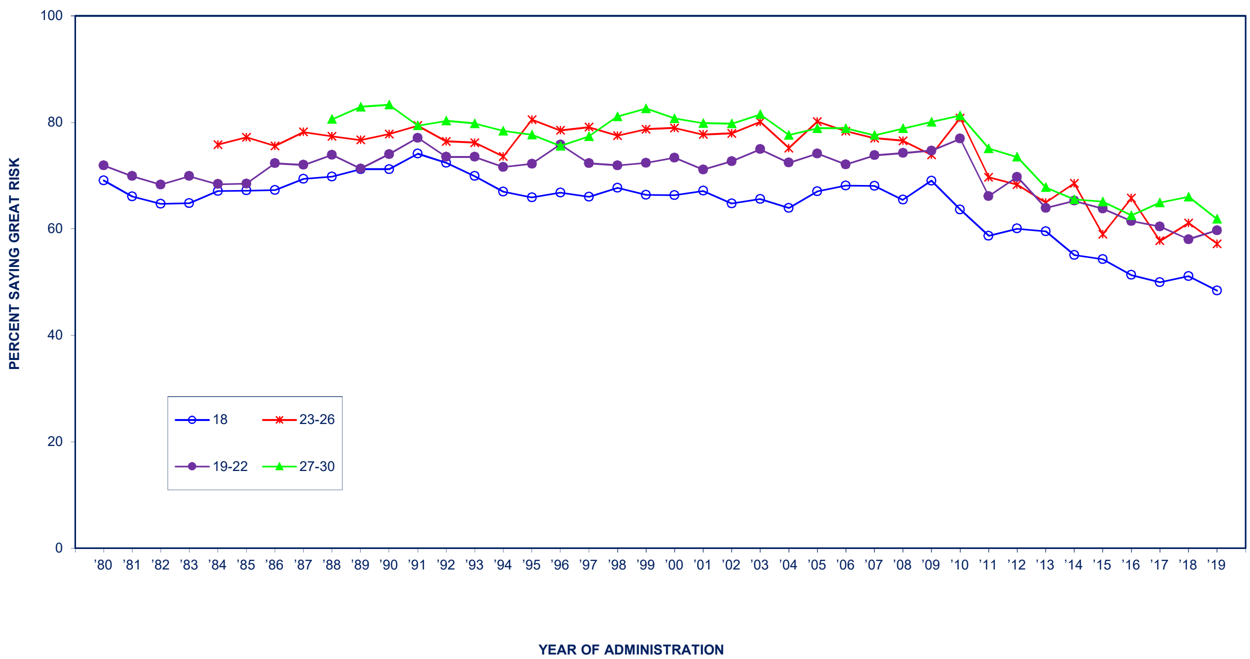

*Source.* The Monitoring the Future study, the University of Michigan.

[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 6-17**

**Trends in Harmfulness of AMPHETAMINE[a] Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30**

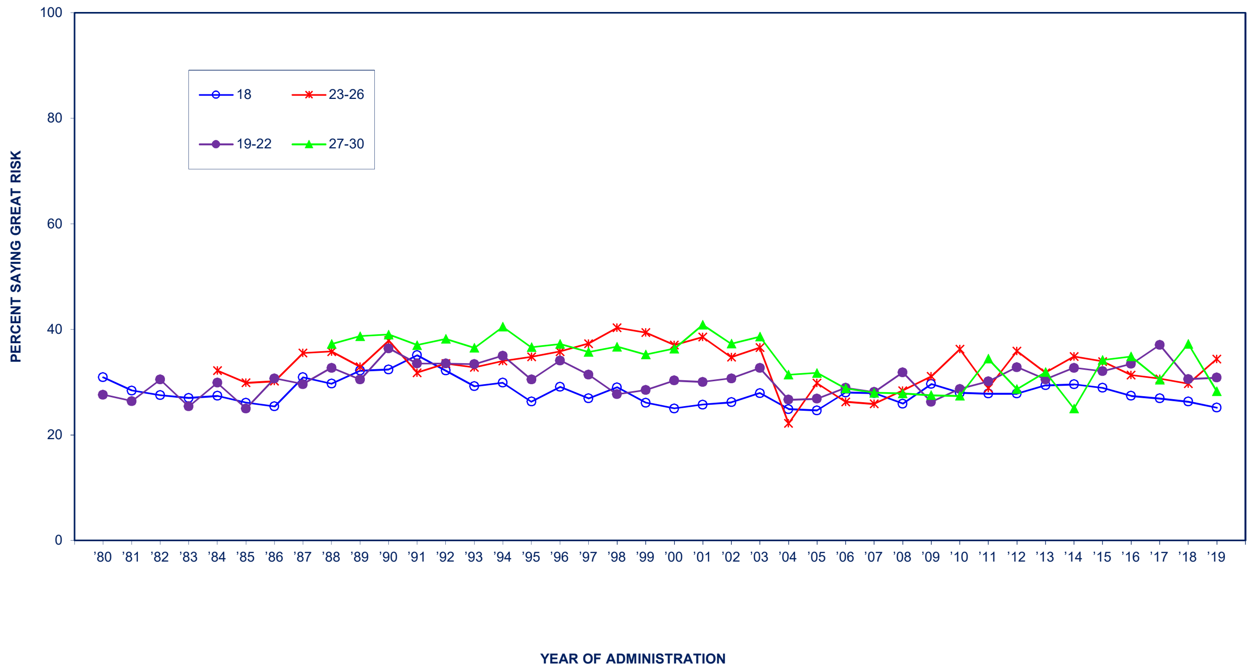
**Regular Use**




*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.

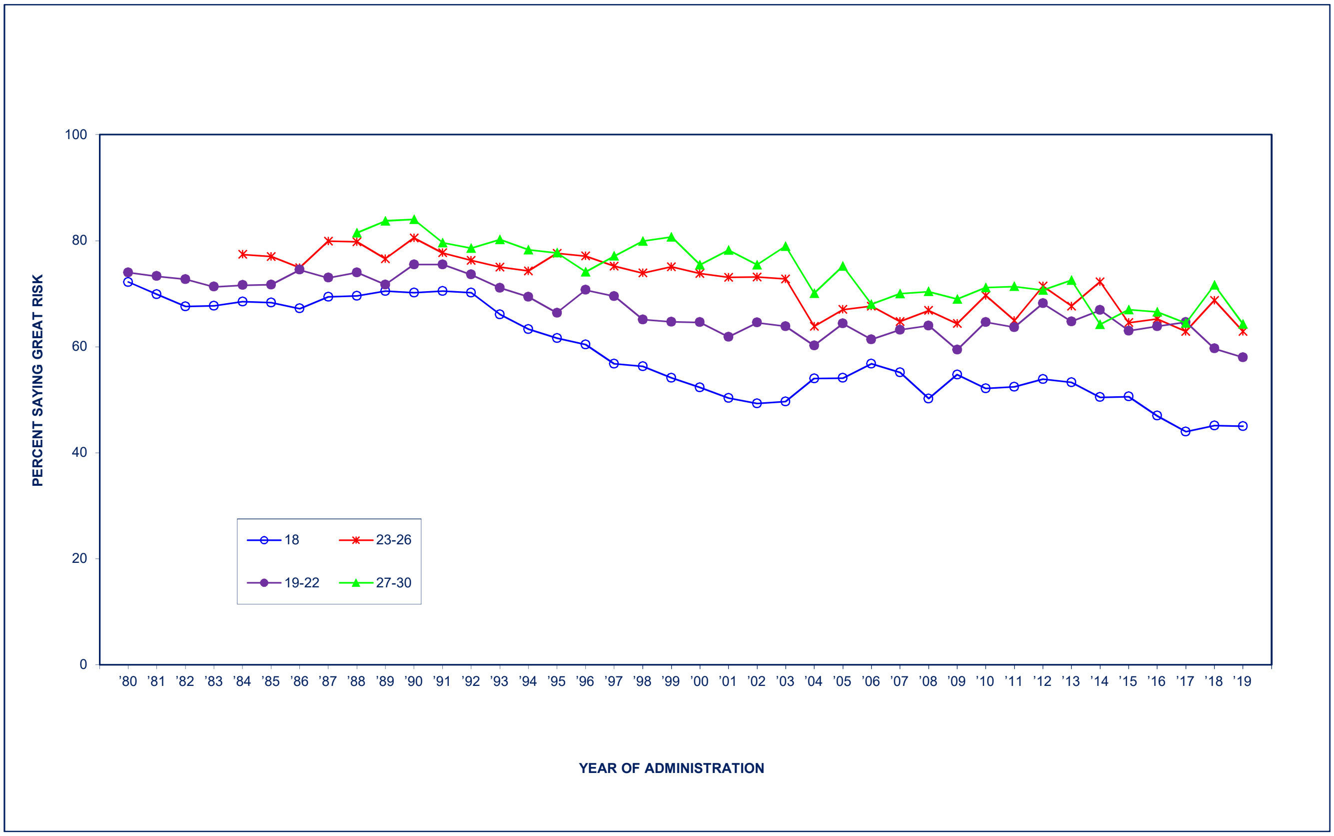
## FIGURE 6-18
## Trends in Harmfulness of SEDATIVE (BARBITURATE)[a] Use as Perceived by Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30
## Trying Once or Twice




*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 6-19
## 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

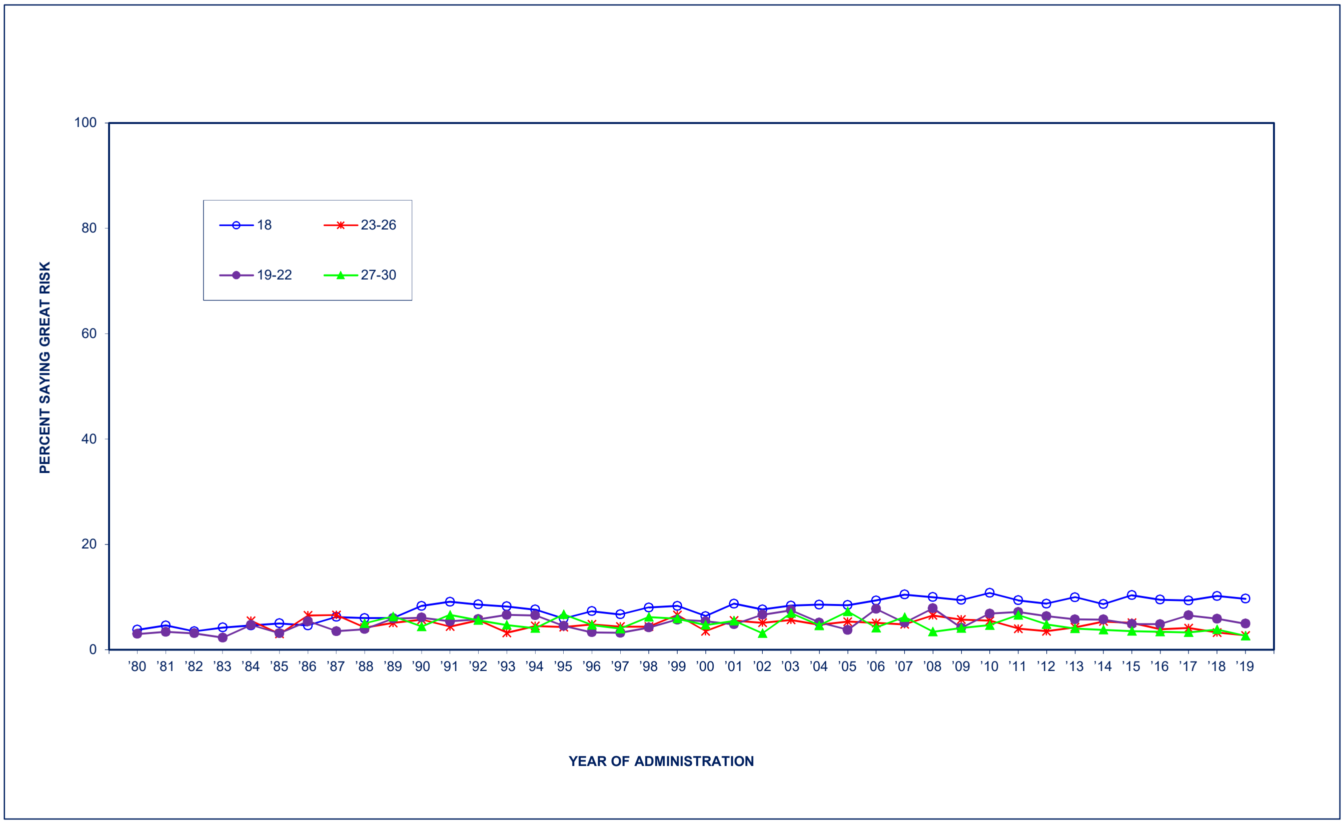



*Source.* The Monitoring the Future study, the University of Michigan.

[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.

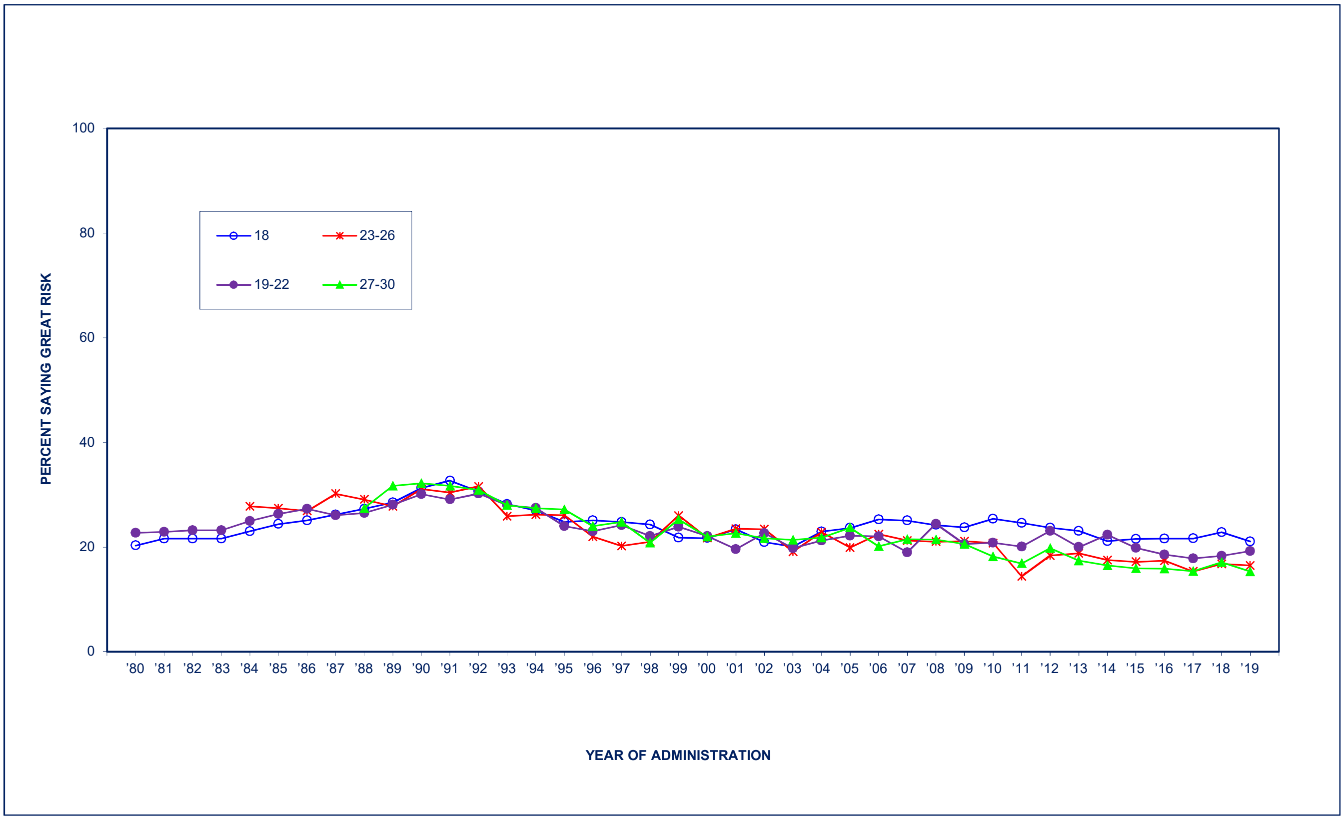
These changes likely explain the discontinuity in the 2003 and 2004 results.

**FIGURE 6-20**
**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**



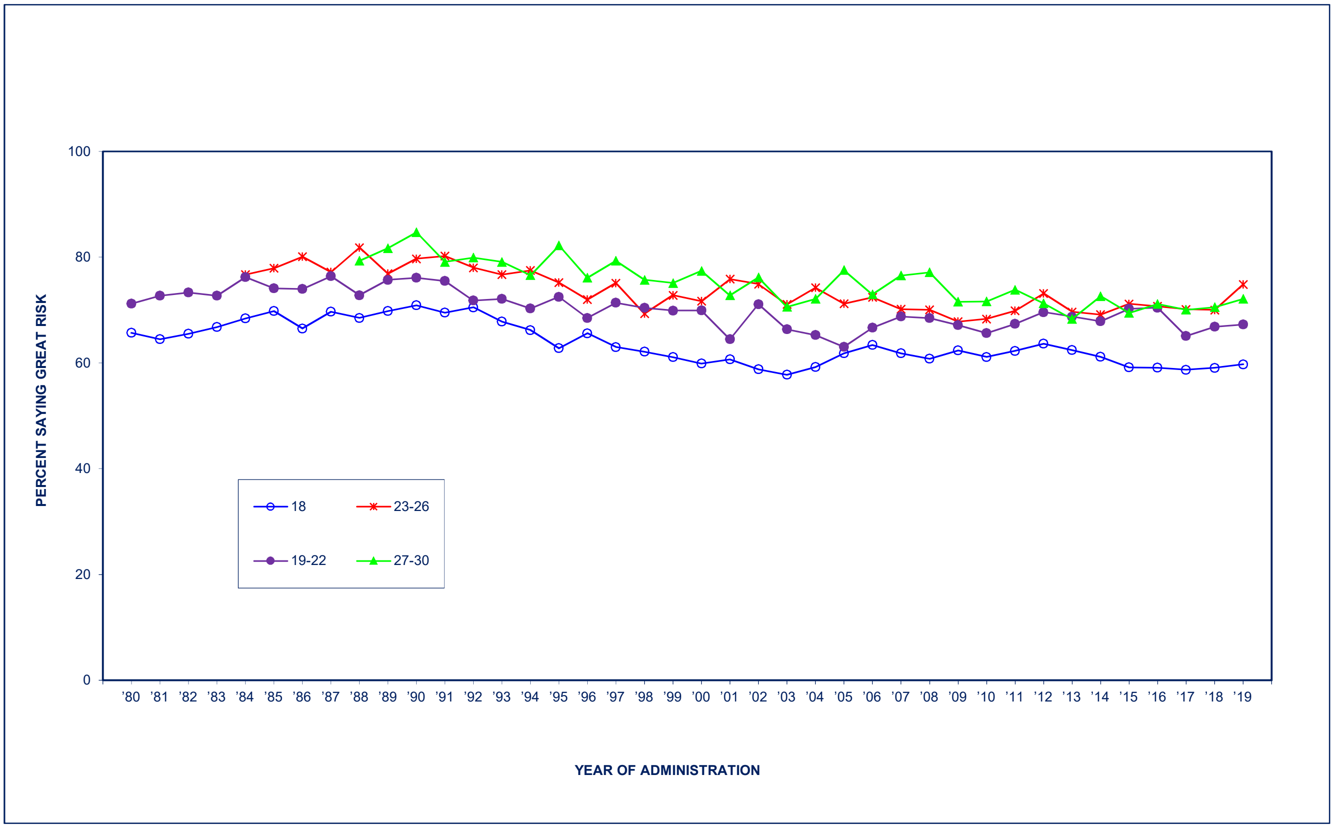

*Source.* The Monitoring the Future study, the University of Michigan.

**FIGURE 6-21**
**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**



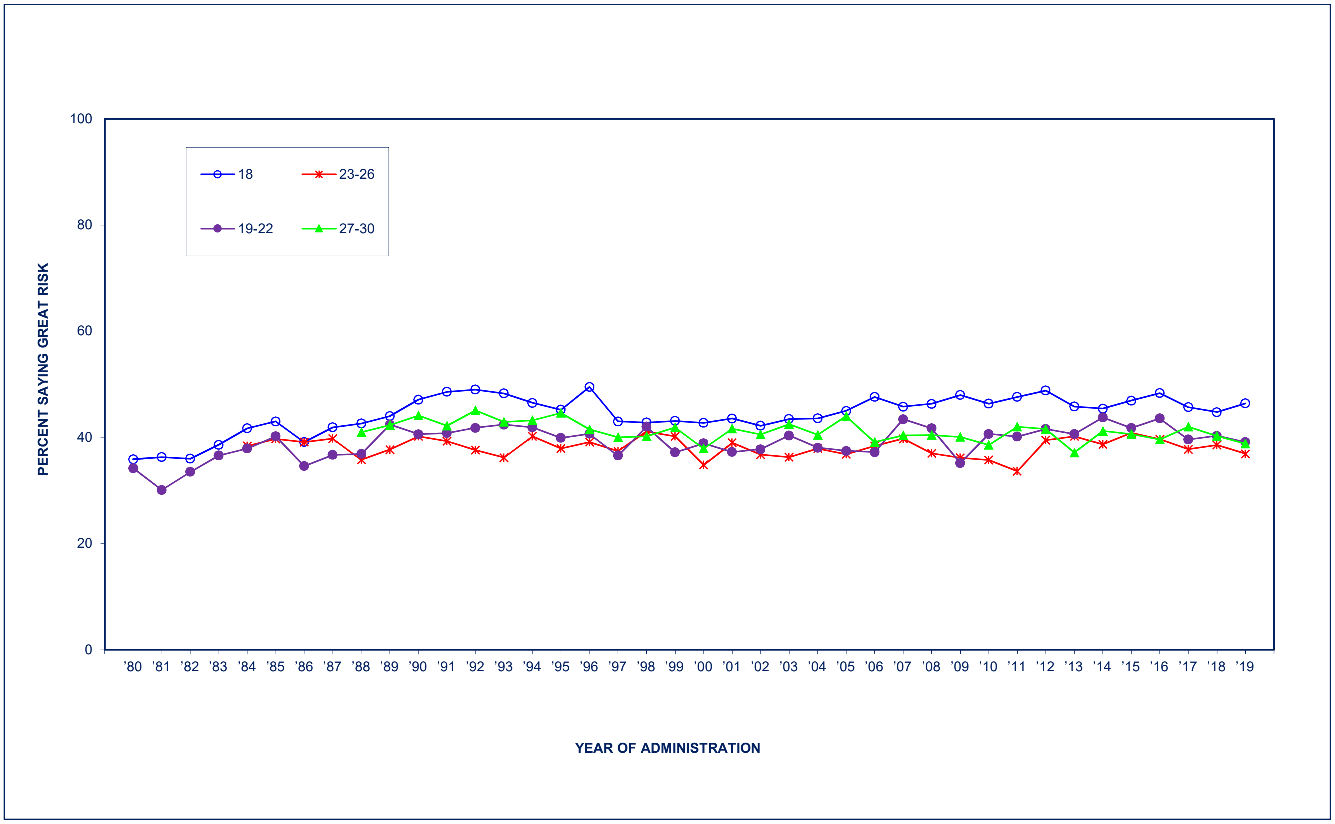

*Source.* The Monitoring the Future study, the University of Michigan.

## FIGURE 6-22
## 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



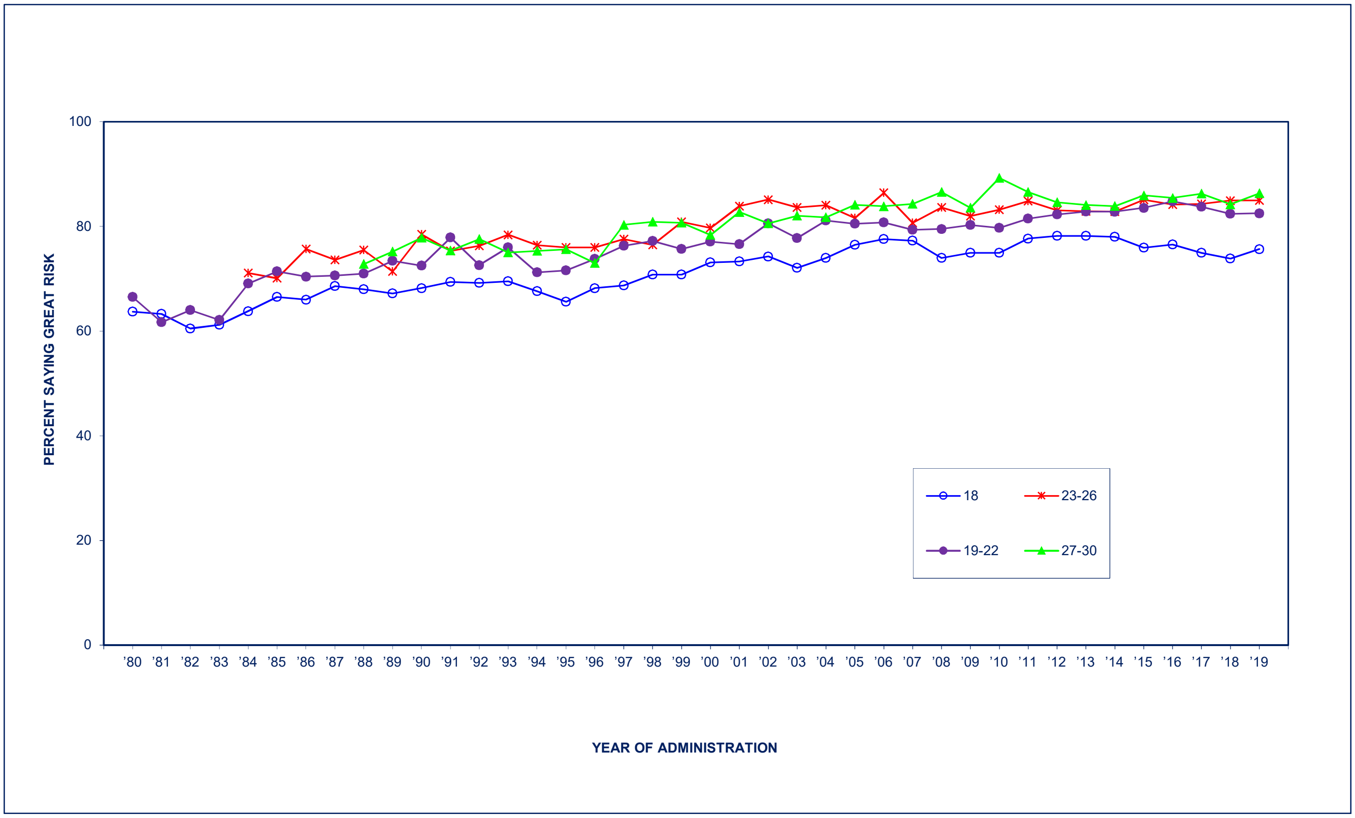

*Source.* The Monitoring the Future study, the University of Michigan.

**FIGURE 6-23**
**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**



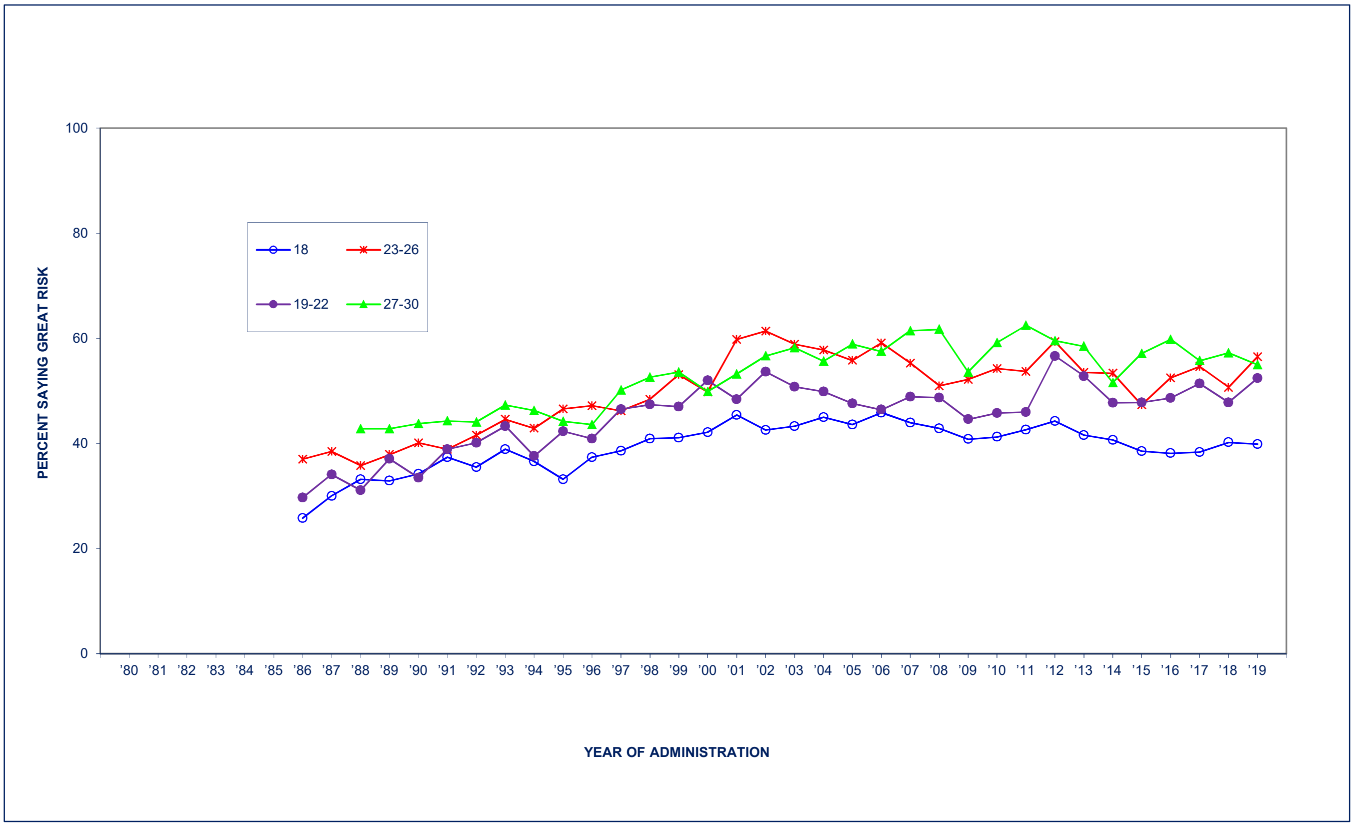

*Source.* The Monitoring the Future study, the University of Michigan.

## FIGURE 6-24
## 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 6-25**
**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. These three factors likely exert important influences on substance use at both the individual (micro) and the aggregate (macro) level.

In *Volume I*,[1] 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.[2]

Each of the question sets discussed here is contained in only one of the six questionnaire forms for young adults, 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*[1] (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.)

As discussed in Chapter 3, in both the 2018 and 2019 data collections of 19-30 year olds, we randomly assigned half to receive typical mail surveys and half to a web-push condition (in which they were encouraged to complete a web-based survey). There were very few significant differences between the two conditions in the measures summarized in this chapter (across the various measures and age groups, 8 comparisons were statistically significant in 2019 and 13 were

1 Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). *Monitoring the Future national survey results on drug use, 1975-2019: Volume I, Secondary school students*. Ann Arbor: Institute for Social Research, University of Michigan.
2 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.

significant in 2018); thus, the two conditions were combined in a weighted average, and we note the very few significant differences between conditions in Tables 7-1 through 7-4.

We include consideration of norms, exposure, and availability where relevant among those age 35 through 60. In such cases, the data are based on larger numbers because just one form is used for all respondents at each particular age.

## 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, 19-22 year olds, 23-26 year olds, and 27-30 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… [trying 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. Exact wording for the other drugs may be found in Table 7-1.

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 weekend binge 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.

### Overview of Peer Norms (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 in this section, we begin by addressing results across the entire 19- to 30-year age band (tabular data for the entire age band are not presented). In the next section, 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***, ***binge 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 peer norms reported by 12th graders.

- In 2019, with regard to ***marijuana***, 33% to 41% of the young adults (ages 19-30) thought their close friends would disapprove of their trying it, 38% to 44% thought their close friends would disapprove of occasional use, and 59% to 61% thought close friends would disapprove of regular use (Table 7-1). Clearly the norms differ as a function of level of marijuana use, with less than half believing occasional use and about three-fifths believing regular use would meet with disapproval from their close friends. In comparison, in 2019, corresponding rates for 12th graders were 41%, 49%, and 63%.

- 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; in previous editions of this Volume[3], we provided a quick summary of trends for these three measures – cocaine, LSD, and amphetamines – up through 2009.)

- In 2019, with regard to friends' disapproval of ***binge drinking on weekends***, about half (48% to 52%) 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 those 18 years old (71%). 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 2019, 89% of 12th graders said their friends would disapprove of pack-a-day smoking, as did 89% to 90% of 19-30 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 overviews of trends, summarizing previous years.

- *In 2019, 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 about 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

[3] Schulenberg, J. E., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Miech, R. A., & Patrick, M. E. (2019). *Monitoring the Future national survey results on drug use, 1975-2018: Volume II, college students and adults ages 19-60*. Ann Arbor: Institute for Social Research, The University of Michigan, 482 pp.

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 19-22 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 23-26 year olds in 1992 and 1993, and among 27-30 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 19-26 year olds. There was little systematic change for several years among 19-26 year olds until about 2008 when friends' disapproval began to decline again 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 23-26 year olds and 27-30 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. In the last five years (2014-2019), perceived peer disapproval of trying marijuana declined considerably for young adults, by 9 to 17 percentage points, reaching 33% to 41% in 2019; these are at or near *historic lows* since the early 1980s.

Close friends' disapproval of occasional and regular marijuana use also rose until the early 1990s among respondents 18 years old, and then declined between 1992 and 1997. It declined through 1999 among 19-22 year olds and continued to decline among 23-30 year olds through 2003; there were then increases for all age groups through about 2006-2010. 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 of disapproval among 8th, 10th, and 12th graders came to the same conclusion.[4]

In the past decade or so, there have been continuing declines in friends' disapproval of occasional and regular marijuana use among all age groups, suggesting more of a secular trend effect. In the last five years (2014-2019), friends' disapproval of occasional marijuana use declined considerably for young adults, by 16 to 20 percentage points, reaching 38-44% in 2019; disapproval of regular use dropped by 16 to 23 percentage points in the last five years, reaching 59-61% in 2019. Thus, *2019 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 have become more accepting of marijuana use in recent years, corresponding to young adults' increased marijuana use.

- Despite some changes in peer disapproval of ***binge drinking*** over the years, this risky and potentially health-compromising form of drinking has the least restrictive perceived peer norms of regular use of all of the substances measured in MTF (only experimental and

[4] 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.

occasional use of marijuana have lower norms in recent years), yet about half of respondents still report peer disapproval. In 2019 the proportions saying that their friends would disapprove of such weekend binge drinking was between 48% and 52% for the three young adult age bands compared to 71% among the $12^{th}$ graders. Over the last five years (2014-2019), this peer norm increased for $12^{th}$ graders (reaching historic highs in 2018 at 72%) and decreased somewhat or remained level for young adults (at or near historic lows).

Regarding longer-term trends, for most of the years under consideration, peer norms against binge 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 19-22 year old age group, in which such behavior is most common, and strongest for the 27-30 year old group. Since 2002, disapproval of such drinking has also been low for the 23-26 year old group relative to the other two age bands. Since about 2012, the differences among the three age groups have diminished (ranging from 48% to 52% in 2019). Among $12^{th}$ graders, friends' attitudes had become somewhat more restrictive between 1981 and 1992 (and respondents' own occasions of binge drinking declined during that interval), but attitudes were fairly level for some years and then rose from 56% in 2002 to 71% by 2019). 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 19-22 year old age group became somewhat less disapproving of occasions of binge drinking on weekends; this was followed by a decline in perceived peer disapproval between 2001 and 2004 among 23-26 year olds, and a decline from 2004 to 2009 among 27-30 year olds. The recent increase in peer disapproval among $12^{th}$ graders was not mirrored among the older age strata (which have remained fairly steady in the past decade); thus peer disapproval of binge drinking became highest among the $12^{th}$ graders, contrary to the situation in the late 1990s when $12^{th}$ graders were the lowest.

- Peer norms against ***cigarette smoking*** one or more packs per day were at or near historic highs in 2019, at 89-90% for the four age groups. Over the past five-years (2014-2019), $12^{th}$ graders showed some modest, uneven increase in disapproval, and young-adult disapproval remained fairly steady.

  Over the years, these norms strengthened in staggered fashion by age-group, suggesting cohort effects. 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 substantially from 69% to 83% among 18 year olds and from 69% to 86% among 19-22 year olds. In other words, the proportions *not* disapproving were cut in half. The two older strata did not show a comparable change until peer disapproval among 23-26 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 27-30 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 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 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 in all four age groups, suggesting a secular trend.

## EXPOSURE TO DRUG USE THROUGH FRIENDS AND OTHERS (AGES 18–60)

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 (i.e., friends' use), 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?" (i.e., direct exposure). The same questions are asked of 12th graders (modal age 18), 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 35-60 year olds due to the space limitations imposed by the use of a single questionnaire form at each of these ages.)

With regard to our measures of *friends' use*, we continue to present four-year age bands for the young adult friends' use measures in order to increase the reliability of the estimates. Questions about friends' use were included at ages 35, 40, 45, 50, 55, and 60. They 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.)

### Friends' Use and Direct Exposure to Drug Use (Ages 18 to 60)

- Relatively high proportions of young adults in all of these age bands report at least *some* friends who use ***some illicit drug*** (including marijuana); that proportion varies considerably with age, with older adult respondents reporting that fewer of their friends use (Table 7-2). In 2019, illicit drug use by at least some friends was reported by 77% at age 18, increasing to 87% for 23-26 year olds, then decreasing to 43% at age 60. The 2019 levels are at or near all-time highs (largely due to continued increase in friends' use of marijuana as discussed below).[5]

[5] 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.

In 2019, the proportions who said that *most or all* of their friends use one or more of the illicit drugs were higher in 12th grade and early adulthood than by ages 23-26 and declined with age thereafter (Table 7-2): 25% for 12th graders, 27% for 19-22 year olds, 21% for 23-26 year olds, 14% for 27-30 year olds, and from 9% at age 35 to 2% at ages 55 and 60. This general ordinal decline with age after early adulthood is quite dramatic, consistent with the large differences in their own self-reported current use.

With regard to being around others in the past 12 months who used any illicit drug (direct exposure), it was highest among 19-22 year olds in 2019 (Table 7-3). The percent saying that they had *any* direct exposure to people using in 2019 was 75% for 12th graders, 79% for 19-22 year olds, 73% for 23-26 year olds, and 76% for 27-30 year olds. The percent indicating that they *often* had direct exposure followed a similar age-group pattern: 34%, 37%, 30%, and 32%, respectively (direct exposure is not asked of those age 35 and above). Among young adults, but not among 12th graders, rates of direct exposure in 2019 were at or near historic highs for the past three decades (since about the mid- to-late 1980s), as discussed in the section below on trends. Note that rates of any direct exposure tend to be lower than rates for any friends' use (as summarized above), a pattern that holds for most illicit and licit substances.

- 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): 39% for 12th graders, 52-55% for 19-30 year olds, and 17-28% for 35-60 year olds in 2019 (Table 7-2).[5] The proportions who said that *most or all* of their friends use illicit drugs other than marijuana in 2019 were 4%, 2-7%, and less than 2%, respectively.

  Regarding direct exposure to others using illicit drugs other than marijuana in the past year, the percent indicating that they were around *any* people using was highest in 2019 among 19-30 year olds (41-44%) and slightly lower among 12th graders (38%) (Table 7-3). The percent indicating that they *often* were directly exposed was quite low, and similar across the four age groups (7-8%). As discussed below, when considering trends, the rates of any direct exposure in 2019 were at or near historic highs over the past three decades among young adults, but not among 12th graders.

- With respect to individual drugs, exposure among all of the age groups was greatest for ***marijuana***. The percentages in 2019 saying they have *any* friends who use was 76% for 12th graders, 82% for 19-22 year olds, 84% for 23-26 year olds, and 79% for 27-30 year olds; it declined by age for the older adults from 63% at age 35 to 39% at age 60 (Table 7-2). In regard to *most or all* friends using in 2019, percentages were 25% for 12th graders, highest for 19-22 year olds at 29%, and declined with age from 22% for 23-26 year olds to 1% at age 60. For adults, the 2019 levels were at or near new historic highs as discussed further below.

  Similarly, rates of direct exposure to people using marijuana in the past year among young adults in 2019 were at or near historic highs over the past three decades. For *any* direct exposure, they were 74% for 12th graders, 78% for 19-22 year olds, 73% for 23-26 year olds, and 73% for 27-30 year olds; rates for *often* having direct exposure were 32%, 36%, 28%, and 30%, respectively (Table 7-3).

- The next-highest exposures for adults in terms of any friends' use in 2019 were for ***amphetamines*** (19% among 12th graders, 32% among 19-22 year olds, 34% among 23-26 year olds, and 36% among 27-30 year olds), followed by ***MDMA (ecstasy, Molly)*** (26-33% among young adults), ***LSD*** (26-30% among young adults), ***hallucinogens other than LSD*** (27-28% among young adults), ***cocaine*** (25-31% among young adults), ***sedatives (barbiturates)*** (13-17% among young adults) and ***tranquilizers*** (8-11% among young adults) (Table 7-2). (Friends' 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.)

- The proportions who report having any friends who take ***heroin*** in 2019 were 4.6%, 3.0%, 4.2%, and 7.8% 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.)

- Regarding narcotic drugs other than heroin, the percentages reporting any friends who use in 2019 was 14% of 18 year olds, 16% of the 19-22 year olds, 13% of 23-26 year olds, and 25% of 27-30 year olds (this question is not asked of those age 35 and older) (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 direct exposure measure concerning being around others who use.

- With respect to ***alcohol*** use, the great majority of young adults report having *any* friends who ***get drunk at least once a week***, although this peaks in their mid-to late-20s and then drops off gradually with age: in 2019, 54% in 12th grade, 75% at ages 19-22, 77% at ages 23-26, 79% at ages 27-30, 66% at age 35, 63% at age 40, 54% at age 45, 48% at age 50, 44% at age, and 33% at age 60.[6] 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 to mid-20s. In 2019, 11% of 12th graders, 22% of 19-22 year olds, 25% of 23-26 year olds, 18% of 27-30 year olds, and 11% for 35 year olds to 2% of 60 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

[6] 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.

exposure was almost universal in the three age groups of young adults: 86%, 86%, and 89%, respectively, as well as among 18 year olds (78%) (Table 7-3 and Figure 7-23).

- From ages 19 through 30, 59% to 69% reported in 2019 having *any* friends who ***smoke cigarettes***, compared to 44% of the 12th graders; there is a falloff through middle adulthood, reaching 47% at age 60. Similarly, 5% to 7% of the 18-30 year olds state that *most or all* of their friends smoke. Above those ages, the proportions decline to 1-3% for those 35 years of age and older.

## Trends in Friends' Use and Direct Exposure to Drug Use (Ages 18 to 60)

Tables 7-2 and 7-3 provide trend data on the proportions of respondents' friends using drugs and the proportion of respondents who say they have been directly exposed to drug use by others. Both of these measures will be discussed in this section. As noted previously, trends are available for 19-22 year olds since 1980, for 23-26 year olds since 1984, and for 27-30 year olds since 1988. Data for those 35, 40, 45, 50, 55, and 60 years old are available on friends' use since 1994, 1998, 2003, 2008, 2013, and 2018, respectively. (Questions about being around drug users – direct exposure – 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, these respondents were asked about the proportions of their friends using as shown in Table 7-2.) Twelfth-grade data (i.e., age 18) have also been included in these tables for comparison purposes.

Figures 7-1 through 7-24 provide graphic presentation of trends in direct exposure to use for 12th graders and young adults.

- An important starting point in understanding trends in direct exposure is the consideration of age differences. An examination of Table 7-3 and Figures 7-1 through 7-6 shows that direct 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 compression of age differences and re ordering of age groups, with the 19-22 year olds having the highest direct exposure to many drugs in 2019. Thus, up until the past few years (with important exceptions noted below), 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.

- Over the past decade (2010-2019), trends in *any friends' use* of ***any illicit drug*** were fairly level for 12th graders (77% in 2019) and 19-22 year olds (81% in 2019), and increased dramatically for older age groups: it rose 9 to 22 percentage points among 23-50 year olds, reaching 83-87% among 23-30 year olds, 59-64% among 35 and 40 year olds, and 46-49% among 45 and 50 year olds (Table 7-2). These 2019 percentages are at or near historic highs for those 23-26 through 55 years old.

  Similarly, over the past decade (2010-2019), trends in any *direct exposure* to ***any illicit drug*** use were fairly level for 12th graders (75% in 2019) and increased dramatically for young adults, reaching historic highs in 2019: it increased 13 percentage points for 19-22 year olds (to 79% in 2019), 17 percentage points for 23-26 year olds (to 73% in 2019), and 27 percentage points for 27-30 year olds (to 76% in 2019, which included a significant 9 percentage point increase over 2018) (Table 7-3). As discussed below, these increases are largely due to increases in direct exposure to marijuana use.

Regarding longer-term trends, until 1992, young adults' trends in direct exposure to use tended to parallel those observed for 12th graders. From 1980 to 1992, that meant a decreasing number of respondents were directly 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 direct exposure to use (as well as self-reported use); 19-22 year olds showed a similar rise, but lagged by a few years; 23-26 year olds subsequently showed some rise; while the 27-30 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 diminished considerably during the 2000s, and especially since 2009, as direct exposure to use generally leveled among the younger age groups but rose among the older ones (see Figure 7-1).

- ***Marijuana*** showed a very similar pattern of change compared to any illicit drug—not surprising, given that it tends to drive the index as the most widely used drug. Over the past decade (2010-2019), the percentage who said that *most or all of their friends used marijuana* was level for 12th graders (23-27%), and increased dramatically for adults: it nearly doubled or tripled for each age group among 19-50 year olds, increasing to 29% for 19-22 year olds, to 18-22% for 23-30 year olds, to 6-8% for 35 and 40 year olds, and to 2-3% for 45 and 50 year olds (Table 7-2). Except for 19-22 year olds, the 2019 percentages were historic highs for adults. The historic high for 19-22 year olds indicating that most or all of their friends used marijuana was 34% in 1980, the first year for this age-group; it then dropped to 8% in 1991. Clearly, the number of friendship groupings in which marijuana use was widespread dropped dramatically in the 1980s. This measure of friends' use for 19-22 year olds 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 a low of 12% in 2008. It then more than doubled to 29% by 2019. Although the percentage reporting that most or all of their friends used marijuana were lower among the other adults, the trends over the years were similar to those for 19-22 year olds.

  Similar trends occurred for being around those using (direct exposure) in the past year among young adults, as shown in Figures 7-5 and 7-6. In the past decade (2010-2019), the percentages of those who report *often* being around friends who used marijuana increased for each age group of young adults, with a fairly level trend for 12th graders. They increased between 2010 and 2019 from 25% to 36% for 19-22 year olds, from 17% to 28% for 23-26 year olds, and from 11% to 30% for 27-30 year olds (including a significant increase of

7.4 percentage points between 2018 and 2019) (Table 7-3); the 2019 percentages were at new historic highs for all young adults combined.

- The proportion of respondents reporting having *any friends who use* ***any illicit drugs other than marijuana*** across the past decade (2010-2019) decreased unevenly for 12th graders (39% in 2019), increased 2 to 3 percentage points among 19-26 year olds (to 54-55% in 2019), increased 12 percentage points among 27-30 year olds (to 52% in 2019), increased 3 to 4 percentage points among 35 and 40 year olds (to 22-28% in 2019), and decreased 3 to 8 percentage points for 45 and 50 year olds (to 17-18% in 2019) (Table 7-2). The similar recent trends in *direct exposure* to use are shown in Table 7-3 and Figure 7-3, with *any exposure* increasing unevenly for the young adults over the past decade (2010-2019) by 5 to 12 percentage points, reaching 41-44% in 2019 (Table 7-3). Also, the proportions indicating *often* being directly exposed to friends' use of any illicit drugs other than marijuana (Figure 7-4) has increased unevenly over the past decade reaching 7-8% in 2019 (Table 7-3).

  In regard to earlier trends, the proportion reporting having any friends who use any illicit drug 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 direct 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 18-22 year olds in the early 1990s, while at the same time declining further for the 23-30 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 23-26 year olds showed a later increase in friends' use and the 27-30 year olds showed a still later increase. After 2001 there was some decline in reported friends' use in the two youngest age strata while reported 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.

- In the past decade (2010-2019), the proportion of respondents with *any friends* who used any ***cocaine*** decreased for 12th graders (to 16% in 2019), and increased unevenly for the three young adult age groups, reaching 25-31% in 2019 (with much of the decade change occurring in the last few years for 23-30 year olds) (Table 7-2). For 35 and 40 year olds (who are asked about cocaine powder specifically), the proportion of respondents with friends who used any increased 4-6 percentage points (to 11-15% in 2019), and remained fairly level for 45 and 50 year olds (5-8% in 2019) (Table 7-2). Similar recent uneven increases were found for direct exposure to cocaine use among young adults (Table 7-3, Figure 7-11).

  Regarding earlier trends, between 1986 and about 1992, all four age groups (covering 12th grade through age 30) showed a considerable drop in the proportion of respondents with *any* friends who used ***cocaine*** (Table 7-2) and in direct exposure to *any* cocaine use (Figure 7-11). (Self-reported use declined sharply during the same period, as perceived risk for cocaine rose sharply.) After that decline, the rates of *any* friends' use peaked in 1998 among

12th graders (31%) and 19-22 year olds (27%), remained fairly steady through 2007, and declined since for 12th graders through 2019 (16%) while decreasing and then increasing unevenly for 19-22 year olds through 2019 (25%). For 23-26 year olds, friends' use increased through 2004 (27%), declined unsteadily through 2016 (22%), and increased unevenly through 2019 (31%). For 27-30 year olds, friends' use increased through 2009 (22%), remained fairly level through 2016 (22%) and then increased through 2019 (31%). These changes, staggered somewhat by age since the mid-1990s, reflect cohort effects.

- In starting with longer-term trends regarding ***narcotics other than heroin***, there were substantial increases between the early 1990s and about 2000 in the proportion of 12th graders and 19-22 year olds reporting that they have *any* friends who use (Table 7-2), and having any exposure to use by others of (Table 7-3 and Figure 7-15); also, there were smaller increases among 23-30 year olds, resulting in some considerable age-related differences. After 2002, the proportions of 18 year olds and 19-22 year olds declined some for both measures, while the 23-30 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 both measures for all age groups (as indicated in Figure 7-15). In 2010, the percentages of those reporting *any* friends using narcotics other than heroin were 36%, 31%, 37%, and 28%, respectively across the four age groups; since 2010, all four of these age bands have shown a decline through 2019, reaching 14%, 16%, 13%, and 25% (Table 7-2). In 2010, the percentages of those reporting *any* direct exposure to people using narcotics other than heroin were 30%, 28%, 26%, and 23% across the four age groups respectively (Table 7-3); since 2010, percentages decreased substantially for all four age groups, reaching 14%, 12%, 13%, and 16%, respectively in 2019 (Table 7-3 and Figure 7-15). The proportional declines since 2010 for both measures of exposure have been largest in the younger age bands.

- In starting with longer-term trends, the proportions saying that *any* of their friends use ***MDMA*** (***ecstasy, 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, 19-22 year olds after 1994, 23-26 year olds after 1996 and 27-30 year olds after 1997. These sharp increases ended among 12th graders in 2001 (42%) and among 19-30 year olds a year later in 2002 (43%, 37%, and 21% for the three young adult age groups respectively). Since those peak levels, the proportions saying that they had any friends using ecstasy have generally declined through about 2011 and 2012 for young adults (reaching lows of 19% for 19-26 year olds and 11% for 27-30 year olds). Since about 2011-2012, friends' use continued to decline modestly for 12th graders through 2019 (16%), whereas it has shown some uneven increases for the young adults (reaching 26%, 29%, and 33%, respectively, in 2019). The staggered nature of past increases in friends' use 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.

- Starting with longer-term trends, for all four of the youngest age groups (spanning ages 18-30), the proportions saying that they were *often* directly exposed to others drinking ***alcohol*** declined modestly between 1987 and 1992 (Figure 7-24, Table 7-3). The next decade or so saw rather little change in the four youngest age bands. Direct exposure among 12th graders declined considerably from 2001 (53%) through 2019 (35%). The recent trend for 19-22 year olds peaked in 2007 (61%) and declined unevenly through 2019 (50%); it peaked in 2012 (56%) for 23-26 year olds and declined unevenly through 2019 (48%); and it peaked in 2012 (50%) for 27-30 year olds and showed some uneven decline through 2019 (48%). This is again indicative of a cohort effect with staggered decreases radiating up the age spectrum as the cohorts age. The greater proportional declines among the two younger age groups has served to widen the age gap somewhat over the past decade.

- Over the past decade, there have been mixed changes across the age groups in proportions reporting that *any* of their friends ***get drunk*** at least once a week. Since 2009, 12th graders showed consistent declines from 76% in 2009 to 54% in 2019, 19-22 year olds showed more modest declines from 83% in 2009 to 75% in 2019, 23-26 year olds showed uneven declines from 83% in 2009 to 77% in 2019, and those aged 27 to 30 showed a fairly level trend (79% in 2019); however, 35-50 year olds showed uneven increases from 38-56% in 2009 to 48-66% in 2019 (Table 7-2). In 2019, it remained the case that the majority of those aged 18 through 45 have *any* friends who get drunk at least once a week, with those aged 50, 55, and 60 at 48%, 44%, and 33% respectively. The proportions saying that *most or all* of their friends get drunk often showed similar recent trends by age-group, but were considerably smaller and more differentiated by age (Table 7-2).

  Considering longer-term trends, 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 those age 35, after 2004 among those age 40, and after 2005 among those age 45, 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.

- In 2019, the proportion who said *most or all of their friends smoked* ***cigarettes*** were at or near all-time lows for all ages 18-60. Regarding long-term trends, this measure of friends' use declined appreciably among 12th graders between 1975 and 1981 (Table 7-2), the same period in which self-reported use declined. 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 percentage declined (along with self-reported use) to 14% in 2008, where it leveled for a few years, and then declined again reaching 5% in 2019, an all-time low. Among 19-22 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 smoked increased from 22% in 1994 to 29% in 2000, before declining steadily and considerably to a new low of 4% in both 2018 and 2019. Among 23-26 year olds, a downturn was evident between 1984 (the first year for which data are available) and 1988, after which reported friends' use leveled through 2005 (20%) and then declined through 2018, reaching a new low of 4%; it increased nonsignificantly to 7% in 2019. After 2002, some slight increases occurred through 2005

(13%) among the 27-30 year olds, followed by an unsteady decline through 2019, reaching a new low of 4%. These staggered changes, until about 1998, illustrate that cohort effects were moving up the age spectrum. Among those aged 35-60, the proportions of those responding that most or all of their friends smoked cigarettes have consistently declined over the years since they entered the study (except those 35 years old who showed some increase in the middle- to late-1990s), reaching 1-3% in 2019, at or near new lows. 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 2019, where they were at or near historic lows (Table 7-2).

## PERCEIVED AVAILABILITY OF DRUGS AMONG ADULTS (AGES 18–60)

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 those 35, 40, 45, 50, 55, and 60 years old. 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

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 all the drugs surveyed in 2019 (and in all previous years) with 87-92% 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 60, 76% of the respondents said they could get marijuana fairly or very easily (Table 7-4). *That is, as of 2019, over 80% of adults aged 19-50, and 76-79% of those aged 55 and 60, reported marijuana being readily available if they wanted it. Continuing changes in the legal status of marijuana will likely increase perceived availability in the years ahead.*

- Though less available than marijuana, ***amphetamines*** were still perceived as fairly available, with 55-59% of young adults and 32-39% of those aged 35-60 reporting that amphetamines would be fairly or very easy to get (Table 7-4).

- ***Cocaine*** was reported as readily available in 2019 by a significant proportion of young adults, with 38-43% saying it would be easy to get, higher than the 24% observed among 12th graders (Table 7-4). ***Powdered cocaine*** availability (asked of 35-60 year olds) ranged from 29% to 36% among 35-60 year olds in 2019. In 2019, availability of ***crack*** was dropped from the adult surveys given relatively low use and to conserve questionnaire space for other substances; in 2018, availability was 21-23% among young adults.

- In 2019, 16% of 12th graders, and 21% of 19-26 year olds said that they could get ***heroin*** fairly or very easily (Table 7-4). Reported availability was higher for the 27-30 year olds (31%), 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 2019, the percentage of those who said that such drugs would be fairly or very easy to get increased with age: it was 31% for 12th graders, 39% for 19-22 year olds, 42% for 23-26 year olds, and 53% for 27-30 year olds (Table 7-4). (The question is not asked of respondents above age 30.)

- Perceived availability of ***sedatives*** (***barbiturates***) showed some increase with age in 2019: 24%, 26%, 26%, and 36% for 12th graders and the three young adult age groups, respectively (Table 7-4). Availability of ***tranquilizers*** was lower, but still showed some increase with age among young adults (11%, 12%, and 19% for the three young adult age groups respectively). (These questions are not asked of respondents above age 30.)

- ***MDMA*** (***ecstasy, Molly***) was seen as readily available in 2019 to 24% of 12th graders, and 28%, 38%, and 39% of the three young adult age groups (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 2019 by 30% of 12th graders, and 37%, 37%, and 35% for the three young adult age groups, respectively (Table 7-4). (The question is not asked of respondents above age 30.)

- Perceived availability of ***LSD*** was 28% among 12th graders, 30% among 19-22 year olds, 33% among 23-26 year olds, and 23% among 27-30 year olds (Table 7-4). (The question is not asked of respondents above age 30.)

- ***Crystal methamphetamine*** (***ice***) was perceived to be fairly or very easy to get by 12% of 12th graders, and by 13%, 16%, and 20% of the young adult age groups, respectively (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 history of the survey. Given the changing legal status of marijuana, it is not surprising that perceived availability has been increasing for adults (Table 7-4). In the past five years (2014-2019), it increased for all adult age groups: it increased 2-4 percentage points for 19-30 year olds, reaching 87-92% in 2019; and it increased and 6-11 percentages points among 35-55 year olds, reaching 79-90% in 2019. For adults, 2019 perceived availability was at or near historic highs. However, among 12th graders, it declined somewhat over the past five years, dropping about 3 percentage points to 78% in 2019, a historic low.

From the peak year in 1979, perceived availability of marijuana decreased slightly through 1991 among 12th graders and decreased slightly more from 1980 through 1991 among 19-22 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 generally increased in the past two decades through 2019 for those aged 27 to 55 (as data become available for older adults), remained fairly steady for those aged 19-26, and dropped for 12th graders, resulting in less variation in the age groups.

- The perceived availability of ***cocaine*** showed mixed trends over the last five years (2014-2019) for the various age groups: it decreased 5 percentage points for 12th graders (to 24% in 2019), and increased 1-4 percentage points for 19-30 year olds (to 38-43% in 2019). Among age 35 and older respondents (who are asked about perceived availability of ***cocaine powder*** specifically), it increased 2-4 percentage points for 35, 40, and 50 year olds, and was fairly level for 45 and 55 year olds; in 2019, it ranged from 29% to 36% among 35-60 year olds (Table 7-4).

  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 2001, 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 among the age groups (ranging from 45% to 50% in 2001); it then generally leveled through 2007. From about 2007 through 2012 and 2013, all four age strata showed considerable declines in reported cocaine availability, followed by a decrease through 2019 for 12th graders and increases for 19-30 year olds as discussed above.

- In 2019, questions about ***crack*** availability were deleted in the young adult surveys (in 2018 for 35-55 year olds) given its relatively low prevalence and availability and to make room for questions about other drugs. In considering earlier data, 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. Between 1995 and 2018, crack availability 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 (and only through 2017), but also show appreciable declines from initial measurements.

- Perceived availability of ***LSD*** showed uneven increases over the past five years (2014-2019) among 18-30 year olds: it increased 2 percentage points for 12th graders (to 28% in 2019), 7 percentage points for 19-22 year olds (to 30%), 16 percentage points for 23-26 year olds (to 33%), and 2 percentage points for 27-30 year olds (to 23%) (Table 7-4).

The 2019 estimates of perceived availability (23-33% among 18-30 year olds) contrast quite dramatically with the mid-1990s, when availability was over 50% for 18-22 year olds and 36-44% for 23-30 year olds. Across the decades measured, the trends in LSD availability among young adults have had some parallels to those among $12^{th}$ graders. For $12^{th}$ 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 19-22 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 $12^{th}$ graders and 19-22 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 2019, availability has either increased unevenly (among 18-26 year olds) or remained largely steady (among 27-30 year olds). Perceived availability was asked of 35-50 year olds through 2018 (dropped in 2019); for this age group over the previous decade (2008-2018), it showed slight increases for 35 and 40 year olds (to 21-22% in 2018) and was fairly level for 45 and 50 year olds (22-23% in 2018).

- Over the past five years (2014-2015), perceived availability of ***hallucinogens other than LSD*** declined 4 percentage points for $12^{th}$ graders (to 30%) and increased 4-9 percentage points for 19-30 year old (to 35-37% in 2019) (Table 7-4). (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 $12^{th}$ 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.) Availability peaked in 2001-2004 for the four age groups and since has generally declined for $12^{th}$ graders and 19-22 year olds and remained fairly level for 23-30 year olds (Table 7-4).

- Perceived availability of ***MDMA (ecstasy, Molly)*** showed mixed changes over the past five years (2014-2019) among the age groups: it decreased 12 percentage points for $12^{th}$ graders (to 24% in 2019) and decreased unevenly for 19-22 year olds, dropping a total of 5 percentage points to 28% in 2019 (it dropped a significant 11 percentage points between 2018 and 2019); however, among 23-30 year olds in the past five years, availability increased 7-9 percentage points, reaching 38-39% in 2019 (Table 7-4). With these different trends, differences between the two younger and two older age groups have widened.

  Questions about the availability of MDMA (ecstasy, Molly) 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 $12^{th}$

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 (to 41-60%), their peak year for use. The availability of MDMA showed considerable declines from about 2001 through about 2010 (reaching 36%, 30%, 35%, and 31%, respectively for the four age groups); since then, it showed uneven change for all age groups, showing net declines for 12th graders (to 24% in 2019) and 19-22 year olds (28% in 2019) and net increases for 23-30 year olds (38-39% in 2019).

- Over the past five years (2014-2019), perceived availability of ***heroin*** declined unevenly for 12th graders (to 16% in 2019), was fairly level for 19-26 year olds (21% in 2019), and increased for 27-30 year olds (to 31% in 2019) (Table 7-4). (This question is not asked of those over age 30).

  Across the years, perceived availability of heroin has been among the lowest of all drugs for young adults (with it sometimes being lower for crack or crystal methamphetamine). 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. 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 in the purity, of heroin most likely led to the emergence of non-injection forms of heroin use observed during this period. In the past decade from 2009 through 2019, heroin availability declined for 12th graders from 27% to 16%, remained fairly level for 19-22 year olds (19% to 21%) and 23-26 year olds (23% to 21%), and increased unevenly for 27-30 year olds (25% to 31%).

- The availability of ***narcotics other than heroin*** declined in the past five years (2014-2019) for each age group: it decreased 11 percentage points for 12th graders (to 31% in 2019), 11 percentage points for 19-22 year olds (to 39%), 10 percentage points for 23-26 year olds (to 42%) and 3 percentage points for 27-30 year olds (to 53%) (Table 7-4) (This question is not asked of those over age 30).

  Over the years, availability rose slowly among all four age groups from 1980 through the early to mid-2000s, with the exception of a period of considerable stability from 1989 through 1994. After 1994, the modest increase in availability was accompanied by steadily rising use. Reported availability jumped in 2010, when new drugs, including Vicodin and OxyContin, were added to the list of examples in the question (this jump suggests that our earlier measure was underestimating availability to some extent). In 2010, availability was 54%, 55%, 56%, and 62%, respectively among the four age groups, revealing little age differentiation. Since 2010, availability declined steadily for 12th graders (to 31% in 2019) and declined unevenly for 19-22 year olds (to 39% in 2019); it rose through 2013 for the two older age groups (62% and 64%, respectively) before declining unevenly through 2019 (42% and 53%, respectively); these different trends served to increase the age differences among the four groups. *Thus, availability of these drugs has been going down since 2011-2013, especially in the younger age strata, likely in response to state and federal efforts to reduce their abuse by reducing availability. .*

- Over the past five years (2014-2019), perceived availability of ***amphetamines*** decreased 6 percentage points for 12th graders (to 39% in 2019), remained fairly level for 19-26 year olds (55-56% in 2019), and increased 3 percentage points for 27-30 year olds (to 59% in 2019). Among middle and older adults across the past five years, availability was fairly level among 35-45 year olds (36-39% in 2019), increased unevenly for 50 year olds (to 36% in 2019) and decreased unevenly for 55 year olds (to 32% in 2019) (Table 7-4).

  In general over the years, perceived availability of amphetamines has declined to some extent for all age groups since about the time they entered the study, and the age groups above age 30 have reported somewhat lower availability than the younger strata. In 1982, availability peaked for both 12th graders and 19-22 year olds, after which it fell through 1991 by 14-15 percentage points. Among 23-26 year olds, there was a decline of 14 percentage points between 1984 (when data were first available) and 2005. For 27-30 year olds, reported availability decreased by nine percentage points between 1988 (the first measurement point) and 2005. Decreases also occurred among 35-45 year olds in the 2000s but some reversal has been evident in recent years in the older cohorts. 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. (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 likely was due to the revision of the examples provided). Between 2011 and 2019, availability declined unevenly for 18 year olds (from 47% to 39%), was fairly level for 19-26 year olds (from 52-56% to 55-56%), increased unevenly for 27-30 year olds (from 50% to 59%), and was fairly level for 35-50 year olds (from 34-40% to 36-39%).

- Perceived availability of ***crystal methamphetamine*** (or "***ice***") has remained low and fairly level over the past five years (2014-2019) for each age group; in 2019 it was 12%, 13%, 16%, and 20% across the four age groups (Table 7-4). (This question is not asked of those over age 30.)

  By way of contrast to amphetamines, crystal methamphetamine 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. All four strata have shown some decline in recent years), starting with the youngest three age strata after 2006 and the 27-30 year olds after 2008. In recent years through 2019, availability has been lowest for the youngest three age bands, a reversal of the situation in the early 1990s (Table 7-4).

- Perceived availability of ***sedatives*** (***barbiturates***) declined over the past five years (2014-2019) for each age group: across 12th graders and the three young adult groups, it declined

3-7 percentage points reaching 24%, 26%, 26%, and 36%, respectively, in 2019 (Table 7-4). (This question is not asked of those over age 30.)

Perceived availability of 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 19-22 year olds. All four age groups showed increased perceived availability in 2004, no doubt due primarily to an updating of the examples given in the question, increasing to 46%, 44%, 49%, and 41%, respectively. Since then, it has decreased (sometimes unevenly) for each age group, dropping 22, 18, 23, and 6 percentage points for the four age groups respectively, reaching 24%, 26%, 26%, and 36% in 2019.

- Perceived availability of ***tranquilizers*** showed mixed changes over the past five years (2014-2019) among the age groups: it was level for 12th graders (15% in 2019), decreased 6 percentage points for 19-26 year olds (to 11-12% in 2019), and decreased 2 percentage points for 29-30 year olds (to 19% in 2019) (Table 7-4). (This question is not asked of those over age 30.)

  The overall pattern across the years for tranquilizer availability has been one of decline. It declined long-term by about four fifths among 12th graders, from 72% in 1975 to 15% in 2019. Since 1980, when data were first collected for 19-22 year olds, tranquilizer availability has declined by over three fourths (from 67% in 1980 to 12% in 2019), 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 2019, 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.

## 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] → (Years Cont.)

| *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 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Trying marijuana once or twice [c]** | 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 | 55.1 |
| | 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 | 56.5 |
| | 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 | 62.6 |
| | 27–30 | — | — | — | — | — | — | — | — | 58.6 | 58.7 | 61.4 | 64.6 | 63.5 | 64.4 | 66.3 | 66.1 | 65.8 | 65.0 | 65.4 | 61.8 |
| **Using 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 | 61.6 |
| | 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 | 64.6 |
| | 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 | 70.2 |
| | 27–30 | — | — | — | — | — | — | — | — | 67.8 | 69.4 | 71.9 | 73.7 | 76.0 | 75.1 | 76.4 | 73.8 | 75.6 | 72.4 | 74.9 | 74.5 |
| **Using 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 | 74.5 |
| | 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 | 78.2 |
| | 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 | 86.8 |
| | 27–30 | — | — | — | — | — | — | — | — | 85.4 | 86.0 | 88.4 | 89.2 | 88.7 | 88.2 | 88.9 | 89.7 | 89.6 | 87.8 | 90.8 | 89.2 |
| **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 | 83.2 |
| | 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 | 82.0 |
| | 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 | 84.5 |
| | 27–30 | — | — | — | — | — | — | — | — | 88.8 | 89.7 | 92.3 | 91.1 | 91.4 | 89.9 | 91.2 | 89.7 | 89.3 | 88.5 | 88.7 | 88.4 |
| **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 | 88.7 |
| | 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 | 91.2 |
| | 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 | 89.6 |
| | 27–30 | — | — | — | — | — | — | — | — | 81.8 | 81.1 | 83.7 | 83.5 | 84.4 | 86.1 | 87.8 | 87.5 | 88.7 | 89.4 | 89.3 | 90.5 |
| **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 | 91.8 |
| | 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 | 95.7 |
| | 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 | 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 | 95.4 |
| **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 | 83.0 |
| | 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 | 85.8 |
| | 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 | 85.9 |
| | 27–30 | — | — | — | — | — | — | — | — | 82.7 | 84.1 | 84.9 | 84.6 | 84.7 | 84.1 | 85.9 | 85.5 | 85.6 | 85.9 | 85.8 | 87.2 |
| **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 | 71.7 |
| | 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 | 68.6 |
| | 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 | 66.1 |
| | 27–30 | — | — | — | — | — | — | — | — | 71.0 | 68.0 | 70.4 | 71.9 | 68.8 | 73.2 | 70.9 | 68.8 | 65.7 | 67.3 | 66.7 | 64.3 |
| **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 | 82.2 |
| | 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 | 87.9 |
| | 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 | 89.9 |
| | 27–30 | — | — | — | — | — | — | — | — | 92.8 | 92.0 | 92.9 | 92.7 | 92.7 | 93.9 | 94.0 | 92.9 | 91.9 | 93.8 | 92.1 | 95.3 |
| **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 | 57.6 |
| | 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 | 51.8 |
| | 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 | 54.5 |
| | 27–30 | — | — | — | — | — | — | — | — | 61.9 | 65.1 | 66.3 | 68.2 | 66.2 | 66.7 | 63.7 | 64.6 | 61.6 | 64.0 | 63.0 | 57.7 |
| **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 | 71.2 |
| | 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 | 73.9 |
| | 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 | 78.0 |
| | 27–30 | — | — | — | — | — | — | — | — | 81.2 | 80.9 | 82.9 | 84.5 | 83.1 | 86.8 | 82.5 | 83.4 | 81.9 | 80.5 | 81.9 | 82.6 |
| *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* | *1,945* |
| | 19–22 | *569* | *597* | *580* | *577* | *582* | *556* | *577* | *595* | *584* | *555* | *559* | *537* | *520* | *510* | *470* | *480* | *471* | *466* | *436* | *430* |
| | 23–26 | | | | | *510* | *548* | *549* | *540* | *510* | *513* | *516* | *516* | *507* | *481* | *463* | *445* | *436* | *419* | *425* | *394* |
| | 27–30 | | | | | | | | | *483* | *518* | *479* | *480* | *451* | *451* | *457* | *439* | *439* | *422* | *440* | *397* |

(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] 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Trying marijuana once or twice [c]** | 18 | 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 | 45.8 | 40.9 | -4.9 |
| | 19–22 | 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 | 34.9 | 34.8 | -0.1 |
| | 23–26 | 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 | 39.1 | 33.3 | -5.8 |
| | 27–30 | 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 | 39.5 | 40.7 | +1.2 |
| **Using marijuana occasionally** | 18 | 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 | 53.2 | 49.0 | -4.1 |
| | 19–22 | 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 | 40.0 | 42.8 | +2.7 |
| | 23–26 | 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 | 45.2 | 37.6 | -7.6 |
| | 27–30 | 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 | 45.8 | 44.3 | -1.5 |
| **Using marijuana regularly** | 18 | 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 | 67.9 | 62.7 | -5.1 |
| | 19–22 | 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 | 63.8 | 60.8 | -3.0 |
| | 23–26 | 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 | 68.4 | 59.0 | -9.5 s |
| | 27–30 | 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 | 66.1 | 59.1 | -7.0 |
| **Trying LSD once or twice [b]** | 18 | 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 | 82.7 | 81.3 | -1.4 |
| | 19–22 | 82.1 | 85.2 | 86.9 | 86.9 | 88.6 | 90.5 | 90.4 | 90.0 | 90.0 | 87.1 | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | 85.3 | 82.8 | 83.6 | 79.3 | 82.4 | 85.6 | 89.3 | 90.4 | 88.4 | 88.3 | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | 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 | 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 | 88.7 | 89.3 | +0.5 |
| | 19–22 | 89.4 | 89.1 | 91.7 | 90.6 | 90.3 | 90.3 | 91.2 | 93.3 | 90.2 | 91.2 | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | 90.5 | 88.0 | 88.5 | 83.6 | 84.2 | 84.6 | 88.7 | 91.7 | 91.0 | 91.0 | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | 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 | 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 | 93.1 | 91.6 | -1.4 |
| | 19–22 | 94.7 | 94.5 | 95.6 | 95.1 | 96.0 | 95.3 | 96.1 | 97.1 | 95.5 | 95.6 | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | 96.7 | 94.7 | 93.2 | 91.2 | 90.1 | 93.0 | 94.9 | 95.9 | 96.6 | 95.6 | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | 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 | 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 | 84.5 | 85.1 | +0.7 |
| | 19–22 | 81.6 | 84.5 | 87.6 | 87.6 | 89.4 | 88.9 | 89.4 | 89.1 | 90.2 | 87.4 | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | 85.1 | 83.1 | 83.9 | 81.5 | 82.7 | 86.2 | 89.9 | 89.3 | 89.6 | 87.2 | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | 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 | 71.6 | 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 | 77.8 | 76.4 | -1.3 |
| | 19–22 | 66.6 | 64.9 | 68.5 | 64.4 | 72.4 | 68.3 | 68.7 | 68.4 | 69.5 | 68.8 | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | 65.4 | 64.4 | 61.6 | 62.1 | 61.8 | 62.3 | 66.1 | 62.5 | 63.4 | 59.4 | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | 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 | 82.8 | 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 | 86.5 | 85.9 | -0.6 |
| | 19–22 | 86.6 | 84.6 | 87.7 | 86.8 | 89.8 | 86.8 | 89.0 | 90.7 | 88.8 | 89.9 | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | 92.5 | 91.1 | 88.1 | 89.3 | 87.8 | 89.1 | 90.8 | 87.8 | 93.8 | 89.1 | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | 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 | 57.7 | 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 | 72.1 | 70.7 | -1.5 |
| | 19–22 | 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 | 55.5 | 48.2 | -7.3 |
| | 23–26 | 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 | 51.9 | 52.4 | +0.5 |
| | 27–30 | 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 | 53.7 | 52.1 | -1.6 |
| **Smoking one or more packs of cigarettes per day** | 18 | 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 | 87.0 | 88.8 | +1.9 |
| | 19–22 | 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 | 90.7 | 89.4 | -1.3 |
| | 23–26 | 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 | 92.1 | 90.3 | -1.8 |
| | 27–30 | 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 | 90.1 | 90.2 | +0.2 |
| *Approximate Weighted N =* | 18 | *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* | *1,972* | *2,013* | |
| | 19–22 | *379* | *402* | *361* | *399* | *427* | *395* | *395* | *361* | *370* | *389* | *347* | *364* | *337* | *309* | *289* | *263* | *246* | *255* | *272* | *254* | |
| | 23–26 | *398* | *378* | *366* | *363* | *377* | *361* | *344* | *349* | *336* | *322* | *355* | *320* | *329* | *327* | *284* | *299* | *238* | *244* | *249* | *233* | |
| | 27–30 | *394* | *374* | *364* | *346* | *408* | *362* | *327* | *330* | *318* | *333* | *322* | *321* | *285* | *303* | *288* | *265* | *272* | *279* | *258* | *254* | |

*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.

[c]For the estimate of Friends' Disapproval of Trying Marijuana Once or Twice in 2018, there was a significant difference (p<.05) among those age 19-22 between thye typical mail condition (28.4%) and the new web-push condition (39.9%) of suirvey administration.

# 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, 55, and 60

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 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **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 | 82.0 |
| | 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 | 77.3 |
| | 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 | 67.9 |
| | 27–30 | — | — | — | — | — | — | — | — | 74.8 | 72.9 | 69.6 | 67.1 | 61.5 | 60.2 | 57.1 | 58.5 | 59.1 | 60.9 | 58.3 | 59.6 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 38.1 | 37.4 | 39.7 | 39.2 | 38.4 | 36.3 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 39.2 | 38.2 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % 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 | 25.5 |
| | 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 | 20.6 |
| | 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 | 8.4 |
| | 27–30 | — | — | — | — | — | — | — | — | 8.6 | 6.4 | 5.9 | 2.9 | 5.8 | 5.0 | 5.6 | 6.1 | 3.6 | 4.5 | 5.3 | 5.7 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.1 | 1.9 | 2.0 | 3.0 | 3.1 | 2.8 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.3 | 2.0 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **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 | 51.2 |
| % 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 | 54.8 |
| | 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 | 41.1 |
| | 27–30 | — | — | — | — | — | — | — | — | 55.9 | 55.0 | 49.7 | 47.2 | 37.7 | 38.5 | 33.9 | 37.7 | 36.4 | 33.9 | 34.1 | 35.2 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 21.4 | 21.6 | 22.1 | 19.2 | 19.3 | 19.0 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 20.9 | 21.0 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % 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 | 7.4 |
| | 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 | 5.1 |
| | 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 | 2.2 |
| | 27–30 | — | — | — | — | — | — | — | — | 4.6 | 3.0 | 2.8 | 1.0 | 1.4 | 1.5 | 1.5 | 1.5 | 0.9 | 1.2 | 0.9 | 1.3 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.8 | 0.5 | 0.7 | 0.5 | 0.7 | 0.9 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.4 | 0.8 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

| Q. How many of your friends would you estimate. . . | Age Group | Percentage saying friends use [a] | | | | | | | | | | | | | | | | | | | | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | |
| **Take any illicit drug [b,g]** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 78.1 | 77.2 | -0.9 |
| | 19–22 | 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 | 81.2 | 80.6 | -0.6 |
| | 23–26 | 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 | 85.8 | 87.0 | +1.2 |
| | 27–30 | 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 | 82.3 | 82.6 | +0.3 |
| | 35 | 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 | 61.7 | 64.0 | +2.3 |
| | 40 | 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 | 52.0 | 59.0 | +7.0 ss |
| | 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 | 48.2 | 48.5 | +0.3 |
| | 50 | — | — | — | — | — | — | — | — | 39.3 | 37.0 | 36.5 | 36.0 | 38.4 | 39.1 | 39.8 | 41.1 | 40.4 | 44.0 | 44.3 | 45.9 | +1.6 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 36.2 | 36.2 | 38.0 | 38.7 | 41.7 | 41.2 | 44.7 | +3.5 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 42.0 | 42.8 | +0.8 |
| % saying most or all | 18 | 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 | 26.7 | 25.4 | -1.3 |
| | 19–22 | 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 | 27.1 | 26.9 | -0.2 |
| | 23–26 | 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 | 19.5 | 20.6 | +1.1 |
| | 27–30 | 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 | 13.9 | 13.6 | -0.4 |
| | 35 | 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 | 8.9 | 8.5 | -0.4 |
| | 40 | 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 | 4.6 | 6.3 | +1.7 |
| | 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 | 3.2 | 3.5 | +0.2 |
| | 50 | — | — | — | — | — | — | — | — | 1.4 | 1.4 | 1.4 | 1.8 | 1.8 | 1.0 | 1.4 | 1.9 | 2.0 | 1.4 | 2.2 | 2.0 | -0.3 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.0 | 0.9 | 2.2 | 1.3 | 2.0 | 2.3 | 1.9 | -0.4 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.8 | 1.6 | -0.1 |
| **Take any illicit drug other than marijuana [b]** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 41.1 | 38.7 | -2.5 |
| | 19–22 | 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 | 54.3 | 54.0 | -0.3 |
| | 23–26 | 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 | 54.3 | 55.2 | +0.9 |
| | 27–30 | 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 | 52.2 | 52.0 | -0.3 |
| | 35 | 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 | 27.8 | 27.6 | -0.2 |
| | 40 | 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 | 19.6 | 21.7 | +2.1 |
| | 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 | 21.5 | 18.4 | -3.1 |
| | 50 | — | — | — | — | — | — | — | — | 24.5 | 24.8 | 21.7 | 22.8 | 22.2 | 20.1 | 21.3 | 20.5 | 18.9 | 20.7 | 20.3 | 16.5 | -3.8 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 19.9 | 19.0 | 21.0 | 20.1 | 18.8 | 18.6 | 18.8 | +0.2 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 18.2 | 17.3 | -0.9 |
| % saying most or all | 18 | 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 | 4.8 | 4.3 | -0.5 |
| | 19–22 | 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 | 6.6 | 6.6 | 0.0 |
| | 23–26 | 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 | 2.7 | 6.5 | +3.8 |
| | 27–30 | 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 | 1.9 | 2.1 | +0.2 |
| | 35 | 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 | 0.7 | 1.5 | +0.8 |
| | 40 | 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 | 0.4 | 1.0 | +0.6 |
| | 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 | 0.6 | 0.8 | +0.1 |
| | 50 | — | — | — | — | — | — | — | — | 0.5 | 0.4 | 0.3 | 0.8 | 0.4 | 0.2 | 0.3 | 0.3 | 0.5 | 0.2 | 0.2 | 0.1 | -0.2 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.4 | 0.4 | 0.4 | 0.3 | 0.2 | 0.2 | 0.3 | +0.1 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.1 | 0.5 | +0.4 |

(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, 55, and 60

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 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Use 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 | 80.7 |
| | 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 | 73.9 |
| | 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 | 64.4 |
| | 27–30 | — | — | — | — | — | — | — | — | 71.8 | 68.2 | 65.1 | 62.6 | 58.0 | 57.4 | 52.3 | 55.7 | 55.1 | 58.3 | 55.5 | 57.0 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 36.9 | 36.3 | 36.3 | 35.0 | 34.6 | 33.3 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 34.6 | 32.5 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % 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 | 24.2 |
| | 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 | 19.4 |
| | 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 | 8.5 |
| | 27–30 | — | — | — | — | — | — | — | — | 6.8 | 4.4 | 4.0 | 2.8 | 5.1 | 5.2 | 5.0 | 5.6 | 3.5 | 3.9 | 4.8 | 5.5 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.0 | 2.5 | 2.9 | 2.9 | 2.8 | 2.6 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.1 | 1.4 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **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 | 21.6 |
| | 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 | 16.3 |
| | 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 | 7.9 |
| | 27–30 | — | — | — | — | — | — | — | — | 4.6 | 3.5 | 2.9 | 2.5 | 3.3 | 2.9 | 3.5 | 4.0 | 4.1 | 3.6 | 3.8 | 4.2 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % 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 | 1.8 |
| | 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 | 0.8 |
| | 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 | * | 0.1 |
| | 27–30 | — | — | — | — | — | — | — | — | 0.3 | * | 0.2 | 0.2 | * | 0.2 | * | * | * | * | * | * |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

Percentage saying friends use [a]

| Q. How many of your friends would you estimate. . . | Age Group | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Use marijuana** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 76.5 | 76.4 | -0.1 |
| | 19–22 | 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 | 79.4 | 81.6 | +2.2 |
| | 23–26 | 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 | 84.4 | 84.2 | -0.2 |
| | 27–30 | 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 | 80.0 | 78.6 | -1.4 |
| | 35 | 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 | 60.1 | 62.9 | +2.8 |
| | 40 | 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 | 49.7 | 57.8 | +8.1 ss |
| | 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 | 45.7 | 45.3 | -0.4 |
| | 50 | — | — | — | — | — | — | — | — | 30.1 | 26.9 | 28.0 | 27.9 | 31.3 | 33.0 | 34.0 | 36.2 | 36.1 | 39.4 | 40.5 | 43.7 | +3.2 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 29.5 | 28.9 | 31.6 | 31.9 | 37.0 | 36.6 | 40.6 | +4.0 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 36.3 | 38.9 | +2.5 |
| % saying most or all | 18 | 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 | 25.7 | 24.9 | -0.8 |
| | 19–22 | 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 | 26.3 | 28.7 | 2.4 |
| | 23–26 | 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 | 17.1 | 21.7 | +4.6 |
| | 27–30 | 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 | 12.7 | 18.1 | +5.4 |
| | 35 | 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 | 8.4 | 7.9 | -0.5 |
| | 40 | 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 | 4.5 | 6.2 | +1.7 |
| | 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 | 2.9 | 3.1 | +0.2 |
| | 50 | — | — | — | — | — | — | — | — | 1.2 | 1.2 | 1.2 | 1.3 | 1.5 | 1.0 | 1.2 | 1.6 | 1.6 | 1.4 | 2.2 | 2.0 | -0.2 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.8 | 0.7 | 1.9 | 1.1 | 1.9 | 2.2 | 2.0 | -0.2 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.6 | 1.4 | -0.3 |
| ↓ | | | | | | | | | | | | | | | | | | | | | | |
| **Use inhalants** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 9.0 | 8.0 | -1.0 |
| | 19–22 | 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 | 6.6 | 6.2 | -0.4 |
| | 23–26 | 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 | 3.7 | 5.7 | +1.9 |
| | 27–30 | 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 | 4.7 | 3.3 | -1.3 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % saying most or all | 18 | 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 | 1.1 | 0.7 | -0.5 |
| | 19–22 | 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 | * | * | 0.8 | 0.4 | -0.4 |
| | 23–26 | 0.7 | 0.1 | 0.4 | 0.3 | * | 0.1 | 0.3 | * | * | * | 0.1 | 0.1 | * | 0.3 | 0.3 | * | * | 0.4 | * | 0.4 | +0.4 |
| | 27–30 | * | 0.3 | 0.3 | * | * | * | * | * | 0.3 | 0.3 | * | 0.3 | * | 0.1 | 0.5 | * | * | 0.4 | * | 0.4 | +0.4 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

| *Q. How many of your friends would you estimate. . .* | Age Group | Percentage saying friends use [a] | | | | | | | | | | | | | | | | | | | | (Years Cont.) → |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | |
| **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 | 10.9 | |
| | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| % 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 | 0.7 | |
| | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| **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 | 32.2 | |
| | 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 | 28.2 | |
| | 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 | 18.1 | |
| | 27–30 | — | — | — | — | — | — | — | — | 10.4 | 7.7 | 9.1 | 8.6 | 10.9 | 8.7 | 8.1 | 12.0 | 11.6 | 12.3 | 12.6 | 13.4 | |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| % 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 | 3.9 | |
| | 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 | 1.8 | |
| | 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 | 1.5 | |
| | 27–30 | — | — | — | — | — | — | — | — | 0.3 | 0.2 | 0.3 | 0.3 | * | 0.3 | 0.4 | 0.3 | 0.4 | 0.4 | 0.1 | 0.6 | |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | |

(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, 55, and 60

| | | Percentage saying friends use [a] | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Q. How many of your friends would you estimate. . .* | Age Group | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
| **Use nitrites** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % saying most or all | 18 | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Take LSD** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 21.5 | 21.2 | -0.3 |
| | 19–22 | 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 | 27.8 | 25.6 | -2.1 |
| | 23–26 | 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 | 20.7 | 29.6 | +8.9 s |
| | 27–30 | 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 | 16.1 | 20.7 | +4.6 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % saying most or all | 18 | 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 | 2.0 | 1.9 | -0.1 |
| | 19–22 | 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 | 1.2 | 0.4 | -0.8 |
| | 23–26 | 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 | 0.4 | 2.9 | +2.5 s |
| | 27–30 | 0.4 | 0.4 | 0.3 | 0.1 | * | 0.3 | 0.4 | 0.4 | * | 0.5 | 0.2 | 0.1 | * | * | 0.3 | * | * | 0.4 | 0.7 | * | -0.7 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

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 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **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 | 22.5 |
| | 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 | 18.9 |
| | 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 | 9.6 |
| | 27–30 | — | — | — | — | — | — | — | — | 10.6 | 7.4 | 7.1 | 6.8 | 7.9 | 7.1 | 6.6 | 7.9 | 7.5 | 6.8 | 6.8 | 9.4 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % 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 | 2.4 |
| | 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 | 0.8 |
| | 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 | 0.8 |
| | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **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 | 16.8 |
| | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % 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 | 1.5 |
| | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

| Q. How many of your friends would you estimate. . . | Age Group | Percentage saying friends use [a] 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Take other hallucinogens [c]** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 21.5 | 18.8 | -2.8 |
| | 19–22 | 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 | 241.5 | 26.6 | -5.0 |
| | 23–26 | 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 | 274.8 | 28.0 | +3.7 |
| | 27–30 | 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 | 271.9 | 24.0 | +3.8 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % saying most or all | 18 | 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 | 1.7 | 1.2 | -0.4 |
| | 19–22 | 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 | 241.5 | 0.4 | -0.6 |
| | 23–26 | 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 | 274.8 | 1.7 | +1.4 |
| | 27–30 | 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 | 271.9 | 0.2 | -0.5 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Take PCP** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % saying most or all | 18 | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

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 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Take MDMA (ecstasy, Molly)** | | | | | | | | | | | | | | | | | | | | | |
| % saying any [h] | 18 | — | — | — | — | — | — | — | — | — | — | 12.4 | 11.9 | 10.7 | 12.8 | 15.9 | 20.7 | 24.2 | 27.7 | 27.7 | 26.7 |
| | 19–22 | — | — | — | — | — | — | — | — | — | 16.3 | 14.3 | 12.0 | 12.9 | 13.7 | 11.3 | 17.2 | 20.7 | 21.4 | 21.4 | 30.7 |
| | 23–26 | — | — | — | — | — | — | — | — | — | 7.6 | 9.0 | 9.5 | 11.0 | 9.8 | 11.4 | 11.2 | 11.3 | 15.1 | 15.1 | 15.2 |
| | 27–30 | — | — | — | — | — | — | — | — | — | 5.6 | 6.3 | 5.4 | 4.6 | 6.6 | 5.8 | 6.9 | 10.1 | 7.4 | 7.4 | 12.4 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % saying most or all | 18 | — | — | — | — | — | — | — | — | — | — | 2.2 | 1.7 | 2.1 | 1.2 | 1.7 | 2.8 | 3.0 | 2.6 | 2.6 | 2.7 |
| | 19–22 | — | — | — | — | — | — | — | — | — | 0.4 | 0.7 | 0.2 | 0.7 | 0.7 | 0.5 | 0.5 | 0.8 | 1.7 | 1.7 | 2.9 |
| | 23–26 | — | — | — | — | — | — | — | — | — | 0.5 | 0.2 | 0.1 | 0.1 | 0.5 | 0.1 | 0.4 | 0.1 | 0.8 | 0.8 | 0.4 |
| | 27–30 | — | — | — | — | — | — | — | — | — | 0.5 | 0.3 | * | 0.1 | 0.3 | 0.2 | 0.5 | 0.1 | 0.3 | 0.3 | 0.8 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **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 | 27.8 |
| | 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 | 25.7 |
| | 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 | 20.1 |
| | 27–30 | — | — | — | — | — | — | — | — | 47.9 | 43.3 | 38.3 | 35.7 | 29.9 | 27.6 | 22.6 | 26.2 | 20.8 | 21.5 | 18.6 | 20.7 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % 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 | 2.9 |
| | 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 | 1.1 |
| | 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 | 0.5 |
| | 27–30 | — | — | — | — | — | — | — | — | 3.8 | 2.0 | 2.3 | 0.9 | 1.2 | 0.8 | 0.8 | 0.4 | 0.4 | 0.6 | 0.1 | 0.4 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

| *Q. How many of your friends would you estimate. . .* | Age Group | Percentage saying friends use [a] | | | | | | | | | | | | | | | | | | | | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | |
| **Take MDMA (ecstasy, Molly)** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any [h] | 18 | 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 | 19.4 | 16.3 | -3.1 |
| | 19–22 | 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 | 23.2 | 25.5 | +2.3 |
| | 23–26 | 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 | 28.7 | 29.3 | +0.6 |
| | 27–30 | 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 | 25.9 | 32.6 | +6.7 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % saying most or all | 18 | 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 | 1.7 | 1.2 | -0.4 |
| | 19–22 | 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 | 0.5 | -0.9 |
| | 23–26 | 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 | 1.0 | 1.8 | +0.8 |
| | 27–30 | 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 | 0.2 | 1.0 | +0.8 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Take cocaine** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 18.1 | 15.7 | -2.4 |
| | 19–22 | 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 | 29.5 | 24.8 | -4.7 |
| | 23–26 | 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 | 34.9 | 30.7 | -4.3 |
| | 27–30 | 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 | 25.3 | 30.7 | +5.4 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % saying most or all | 18 | 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 | 1.0 | 1.5 | +0.6 |
| | 19–22 | 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 | 1.9 | 1.1 | -0.8 |
| | 23–26 | 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 | 0.2 | 1.9 | +1.8 s |
| | 27–30 | 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 | 0.6 | 2.1 | +1.5 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

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 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Take crack** | | | | | | | | | | | | | | | | | | | | | |
| % saying any [i] | 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 | 19.0 |
| | 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 | 15.7 |
| | 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 | 8.8 |
| | 27–30 | — | — | — | — | — | — | — | — | 22.1 | 18.4 | 16.6 | 11.6 | 10.3 | 10.2 | 10.4 | 10.3 | 8.6 | 6.3 | 6.4 | 8.7 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.5 | 5.1 | 4.4 | 3.1 | 2.8 | 3.2 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.8 | 3.0 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % 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 | 1.5 |
| | 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 | 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 | 0.3 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | * | 0.2 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **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 | 22.0 |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 14.2 | 12.9 | 15.4 | 11.1 | 10.4 | 10.0 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 10.8 | 8.9 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % 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 | 1.9 |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.8 | 0.3 | 0.6 | 0.4 | 0.4 | 0.6 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.2 | 0.2 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

| Q. How many of your friends would you estimate. . . | Age Group | Percentage saying friends use [a] | | | | | | | | | | | | | | | | | | | | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | |
| **Take crack** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any [i] | 18 | 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 | 8.6 | 7.5 | -1.1 |
| | 19–22 | 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 | 8.1 | — | — |
| | 23–26 | 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 | 10.8 | — | — |
| | 27–30 | 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 | 5.6 | — | — |
| | 35 | 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 | — | — | — |
| | 40 | 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 | — | — | — |
| | 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 | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | 2.0 | 1.6 | 1.8 | 1.4 | 1.1 | 1.2 | 1.9 | 1.3 | 0.9 | 0.9 | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.1 | 1.2 | 1.1 | 0.9 | 0.8 | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % saying most or all | 18 | 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 | 0.8 | 1.1 | 0.4 |
| | 19–22 | 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 | * | — | — |
| | 27–30 | * | * | 0.3 | 0.1 | * | 0.1 | * | 0.3 | 0.6 | 0.3 | * | * | * | 0.5 | * | — | 0.2 | 0.4 | * | — | — |
| | 35 | 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 | — | — | — |
| | 40 | 0.2 | 0.1 | * | * | * | 0.1 | 0.2 | 0.1 | 0.0 | * | * | * | * | 0.1 | * | 0.3 | * | 0.1 | — | — | — |
| | 45 | — | — | — | 0.4 | 0.3 | 0.2 | 0.2 | * | * | 0.1 | * | * | 0.1 | 0.1 | 0.2 | * | 0.1 | * | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | 0.2 | 0.1 | 0.2 | 0.1 | 0.0 | 0.2 | 0.1 | * | 0.2 | 0.1 | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.2 | 0.0 | 0.2 | 0.0 | 0.1 | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Take cocaine powder** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 15.8 | 12.9 | -3.0 |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 35 | 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 | 15.4 | 15.1 | -0.3 |
| | 40 | 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 | 8.5 | 10.8 | +2.3 |
| | 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 | 8.1 | 7.7 | -0.4 |
| | 50 | — | — | — | — | — | — | — | — | 6.0 | 5.4 | 5.3 | 4.9 | 4.9 | 4.4 | 4.6 | 5.1 | 4.3 | 4.5 | 5.8 | 4.5 | -1.3 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.1 | 3.0 | 3.8 | 3.5 | 3.9 | 4.9 | 4.5 | -0.3 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.1 | 3.7 | — |
| % saying most or all | 18 | 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 | 2.1 | 1.8 | -* |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 35 | 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 | 0.3 | 0.8 | +0.5 |
| | 40 | * | 0.2 | 0.1 | 0.1 | 0.1 | 0.2 | 0.5 | 0.2 | 0.2 | 0.1 | * | * | * | * | * | 0.3 | * | 0.2 | 0.1 | 0.2 | +0.1 |
| | 45 | — | — | — | 0.5 | 0.5 | 0.2 | 0.4 | 0.1 | 0.1 | * | * | * | 0.1 | 0.3 | 0.2 | * | 0.1 | 0.3 | 0.3 | 0.5 | +0.1 |
| | 50 | — | — | — | — | — | — | — | — | 0.2 | 0.2 | 0.2 | 0.0 | 0.0 | 0.1 | 0.2 | * | 0.4 | 0.1 | 0.1 | 0.1 | -0.1 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.2 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.3 | +0.2 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.1 | 0.2 | +0.1 |

(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, 55, and 60

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 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Take heroin** | | | | | | | | | | | | | | | | | | | | | |
| % saying any [j] | 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 | 12.7 |
| | 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 | 9.7 |
| | 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 | 4.8 |
| | 27–30 | — | — | — | — | — | — | — | — | 3.8 | 2.8 | 4.5 | 2.7 | 3.1 | 3.6 | 4.2 | 3.6 | 4.4 | 4.2 | 3.5 | 3.8 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % 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 | 1.0 |
| | 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 | 0.1 |
| | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **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 | 22.9 |
| | 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 | 19.8 |
| | 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 | 10.4 |
| | 27–30 | — | — | — | — | — | — | — | — | 12.1 | 8.6 | 9.1 | 9.3 | 7.5 | 8.2 | 8.0 | 7.7 | 9.5 | 7.9 | 8.3 | 7.2 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % 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 | 1.8 |
| | 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 | 0.4 |
| | 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 | * | * | 0.2 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

| *Q. How many of your friends would you estimate. . .* | Age Group | Percentage saying friends use [a] 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Take heroin** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any [j] | 18 | 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 | 5.8 | 4.6 | -1.2 |
| | 19–22 | 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 | 3.3 | 3.0 | -0.4 |
| | 23–26 | 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 | 3.3 | 4.2 | +0.9 |
| | 27–30 | 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 | 3.8 | 7.8 | +3.9 s |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % saying most or all | 18 | 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 | 0.3 | 0.7 | +0.4 |
| | 19–22 | 0.3 | 0.6 | * | 0.3 | * | 0.3 | 0.4 | 0.3 | 0.6 | * | * | 0.5 | 0.1 | 0.6 | * | 0.6 | * | * | 0.4 | 0.4 | 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 | +0.4 |
| | 27–30 | * | * | 0.3 | * | * | * | * | * | * | 0.3 | * | 0.3 | * | 0.1 | 0.1 | * | 0.2 | 0.4 | * | 0.2 | +0.2 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Take other narcotics [d]** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 14.7 | 14.2 | -0.5 |
| | 19–22 | 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 | 19.6 | 16.4 | -3.2 |
| | 23–26 | 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 | 21.8 | 13.3 | -8.5 ss |
| | 27–30 | 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 | 26.2 | 24.9 | -1.3 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % saying most or all | 18 | 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 | 1.3 | 0.9 | -0.4 |
| | 19–22 | 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 | 1.0 | * | -1.0 |
| | 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 | +0.4 |
| | 27–30 | * | * | 0.3 | 0.1 | * | * | 0.6 | * | 0.6 | 0.6 | 0.9 | 1.2 | 0.1 | 0.5 | 0.5 | * | 0.5 | 0.9 | 0.2 | 0.2 | 0.0 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

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 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **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 | 30.8 |
| | 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 | 25.5 |
| | 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 | 14.2 |
| | 27–30 | — | — | — | — | — | — | — | — | 26.1 | 21.6 | 19.3 | 17.0 | 15.3 | 14.0 | 13.1 | 13.7 | 15.5 | 12.9 | 11.0 | 11.8 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % 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 | 2.8 |
| | 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 | 0.7 |
| | 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 | 0.6 |
| | 27–30 | — | — | — | — | — | — | — | — | 0.6 | 0.4 | 0.5 | 0.5 | 0.1 | 0.5 | 0.5 | 0.3 | 0.3 | 0.1 | 0.3 | 0.6 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **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 | 20.9 |
| | 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 | 16.0 |
| | 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 | 8.3 |
| | 27–30 | — | — | — | — | — | — | — | — | 12.0 | 8.5 | 8.8 | 7.1 | 6.6 | 6.7 | 7.4 | 7.2 | 6.7 | 6.5 | 6.1 | 5.7 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % 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 | 1.4 |
| | 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 | 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 | * | * | 0.2 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

| | | Percentage saying friends use [a] | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| *Q. How many of your friends would you estimate. . .* | Age Group | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
| **Take amphetamines [e]** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 21.5 | 18.9 | -2.7 |
| | 19–22 | 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 | 30.9 | 32.3 | +1.4 |
| | 23–26 | 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 | 33.1 | 33.6 | +0.5 |
| | 27–30 | 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 | 31.8 | 36.2 | +4.4 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % saying most or all | 18 | 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 | 1.7 | 1.4 | -0.3 |
| | 19–22 | 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 | 2.2 | 1.1 | -1.1 |
| | 23–26 | 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 | 1.6 | 1.1 | -0.5 |
| | 27–30 | 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 | 0.7 | 1.6 | +0.9 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Take sedatives/ barbiturates [f]** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 11.9 | 11.3 | -0.6 |
| | 19–22 | 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 | 13.2 | 13.3 | +0.1 |
| | 23–26 | 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 | 16.2 | 11.3 | -4.9 |
| | 27–30 | 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 | 14.5 | 17.0 | +2.4 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % saying most or all | 18 | 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 | 0.8 | 1.3 | +0.5 |
| | 19–22 | 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 | 0.4 | 0.4 | 0.0 |
| | 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 | * | 0.4 | +0.4 |
| | 27–30 | * | 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 | 0.6 | +0.4 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

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 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **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 | 15.5 |
| | 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 | 11.4 |
| | 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 | 6.4 |
| | 27–30 | — | — | — | — | — | — | — | — | 11.8 | 7.9 | 8.2 | 7.0 | 7.1 | 6.5 | 6.6 | 4.5 | 6.9 | 4.9 | 4.1 | 5.1 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % 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 | 1.4 |
| | 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 | 0.4 |
| | 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 | * | 0.2 |
| | 27–30 | — | — | — | — | — | — | — | — | 0.5 | 0.2 | 0.2 | 0.2 | * | 0.2 | * | * | 0.2 | * | * | 0.2 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Take tranquilizers** | | | | | | | | | | | | | | | | | | | | | |
| % saying any [k,l] | 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 | 16.4 |
| | 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 | 16.2 |
| | 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 | 9.8 |
| | 27–30 | — | — | — | — | — | — | — | — | 20.1 | 16.6 | 16.9 | 14.9 | 12.0 | 12.5 | 13.9 | 11.9 | 11.0 | 10.8 | 12.6 | 10.4 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 14.3 | 12.2 | 13.1 | 10.8 | 10.7 | 11.4 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 13.7 | 14.8 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % 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 | 1.3 |
| | 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 | 0.3 |
| | 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 | * | * | 0.4 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.5 | 0.3 | 0.3 | 0.1 | 0.2 | 0.6 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.0 | 0.4 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

| Q. How many of your friends would you estimate. . . | Age Group | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Percentage saying friends use [a] | | | | | | | | | | | | | | | | | | | | |
| **Take quaaludes** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 16.2 | 17.8 | 18.0 | 14.2 | 16.6 | 13.6 | 13.4 | 13.6 | 11.2 | 14.3 | — | — | — | — | — | — | — | — | — | — | — |
| | 19–22 | 13.1 | 14.6 | 13.0 | 10.3 | 8.3 | 8.2 | 8.6 | 8.8 | 5.9 | 5.3 | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | 4.9 | 7.7 | 8.5 | 8.9 | 6.5 | 7.7 | 5.6 | 5.6 | 4.1 | 8.0 | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % saying most or all | 18 | 1.4 | 1.2 | 1.2 | 1.2 | 1.6 | 1.3 | 1.3 | 1.6 | 0.8 | 1.1 | — | — | — | — | — | — | — | — | — | — | — |
| | 19–22 | 0.9 | 0.8 | 0.1 | 0.4 | * | 0.4 | 0.2 | * | 0.2 | * | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | 0.3 | 0.3 | 0.1 | 0.2 | 0.1 | 0.2 | 0.3 | 0.3 | * | 0.1 | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | 0.3 | * | 0.3 | * | * | 0.3 | 0.7 | * | 0.3 | 0.5 | — | — | — | — | — | — | — | — | — | — | — |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Take tranquilizers** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any [k,l] | 18 | 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 | 10.5 | 9.9 | -0.7 |
| | 19–22 | 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 | 10.1 | 7.8 | -2.4 |
| | 23–26 | 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 | 12.2 | 7.5 | -4.7 |
| | 27–30 | 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 | 8.6 | 10.8 | +2.2 |
| | 35 | 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 | 16.0 | 15.0 | -1.0 |
| | 40 | 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 | 12.0 | 12.3 | +0.2 |
| | 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 | 15.7 | 13.2 | -2.6 |
| | 50 | — | — | — | — | — | — | — | — | 19.7 | 21.0 | 17.8 | 19.1 | 18.1 | 16.7 | 17.9 | 15.7 | 15.0 | 16.3 | 15.6 | 13.0 | -2.6 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 17.0 | 16.6 | 17.0 | 16.8 | 15.8 | 15.4 | 14.6 | -0.7 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 14.7 | 14.3 | -0.4 |
| % saying most or all | 18 | 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 | 0.7 | 0.7 | 0.0 |
| | 19–22 | 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 | 0.6 | 0.4 | -0.2 |
| | 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 | * | 0.4 | +0.4 |
| | 27–30 | * | 0.4 | 0.6 | 0.1 | * | 0.2 | 0.2 | * | 0.1 | 0.5 | * | * | * | 0.1 | 0.1 | 0.6 | 0.4 | 0.4 | 0.2 | * | -0.2 |
| | 35 | 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 | 0.2 | -0.1 |
| | 40 | 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 | 0.1 | 0.3 | +0.2 |
| | 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 | * | 0.4 | +0.4 |
| | 50 | — | — | — | — | — | — | — | — | 0.3 | 0.1 | 0.1 | 0.4 | 0.2 | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | * | * | 0.0 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.3 | 0.4 | 0.2 | 0.2 | 0.1 | 0.0 | 0.2 | +0.2 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.0 | 0.4 | +0.4 |

(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, 55, and 60**

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 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **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 | 90.2 |
| | 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 | 92.8 |
| | 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 | 93.3 |
| | 27–30 | — | — | — | — | — | — | — | — | 96.1 | 96.0 | 95.2 | 94.4 | 95.6 | 93.4 | 93.3 | 93.3 | 93.1 | 95.1 | 93.1 | 94.4 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 89.6 | 89.9 | 90.3 | 89.5 | 88.1 | 88.7 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 88.4 | 88.9 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % 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 | 58.2 |
| | 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 | 67.8 |
| | 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 | 63.6 |
| | 27–30 | — | — | — | — | — | — | — | — | 66.7 | 67.8 | 62.0 | 62.7 | 63.3 | 61.3 | 63.2 | 62.6 | 64.1 | 66.6 | 62.9 | 64.4 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 43.8 | 45.1 | 49.5 | 46.6 | 47.1 | 46.0 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 37.7 | 41.4 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **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 | 81.5 |
| | 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 | 82.8 |
| | 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 | 71.0 |
| | 27–30 | — | — | — | — | — | — | — | — | 66.3 | 61.8 | 65.4 | 65.2 | 65.5 | 64.5 | 62.7 | 67.1 | 66.7 | 65.4 | 65.5 | 65.9 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 44.3 | 43.2 | 44.9 | 42.9 | 46.1 | 44.5 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 41.6 | 40.6 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % saying most or all [m,o] | 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 | 30.1 |
| | 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 | 29.3 |
| | 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 | 16.8 |
| | 27–30 | — | — | — | — | — | — | — | — | 5.2 | 6.3 | 6.7 | 6.6 | 5.9 | 6.7 | 6.4 | 7.9 | 8.6 | 7.7 | 9.3 | 12.1 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.6 | 3.6 | 5.4 | 3.2 | 4.4 | 4.9 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.8 | 3.0 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

| *Q. How many of your friends would you estimate. . .* | Age Group | Percentage saying friends use [a] | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
| **Drink alcoholic beverages** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 74.2 | 71.2 | -3.0 |
| | 19–22 | 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 | 86.5 | 87.0 | +0.5 |
| | 23–26 | 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 | 90.8 | 90.0 | -0.8 |
| | 27–30 | 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 | 90.3 | 92.1 | +1.8 |
| | 35 | 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 | 92.4 | 93.7 | +1.3 |
| | 40 | 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 | 92.5 | 94.1 | +1.6 |
| | 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 | 91.2 | 92.1 | +0.9 |
| | 50 | — | — | — | — | — | — | — | — | 88.9 | 90.2 | 89.9 | 90.4 | 90.1 | 89.2 | 92.0 | 90.3 | 91.4 | 91.2 | 90.9 | 93.3 | +2.4 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 87.6 | 89.3 | 89.5 | 88.3 | 89.9 | 90.7 | 90.4 | -0.2 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 88.7 | 90.0 | +1.3 |
| % saying most or all | 18 | 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 | 38.0 | 35.5 | -2.5 |
| | 19–22 | 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 | 62.8 | 60.2 | -2.6 |
| | 23–26 | 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 | 65.5 | 66.4 | 2.1 |
| | 27–30 | 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 | 71.3 | 75.9 | +4.7 |
| | 35 | 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 | 65.5 | 66.4 | +0.9 |
| | 40 | 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 | 62.6 | 64.5 | +1.9 |
| | 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 | 56.2 | 57.7 | +1.4 |
| | 50 | — | — | — | — | — | — | — | — | 37.7 | 39.3 | 41.9 | 43.5 | 45.8 | 48.2 | 48.6 | 48.8 | 50.0 | 50.7 | 50.2 | 52.7 | +2.4 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 39.1 | 41.0 | 42.4 | 46.9 | 47.7 | 47.4 | 48.3 | +0.9 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 39.5 | 40.2 | +0.7 |
| **Get drunk at least once a week** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 55.4 | 53.9 | -1.5 |
| | 19–22 | 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 | 72.1 | 75.1 | +3.0 |
| | 23–26 | 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 | 79.0 | 77.3 | -1.7 |
| | 27–30 | 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 | 78.9 | 79.1 | +0.2 |
| | 35 | 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 | 66.5 | 66.3 | -0.2 |
| | 40 | 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 | 58.7 | 62.7 | +4.1 |
| | 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 | 57.6 | 54.2 | -3.5 |
| | 50 | — | — | — | — | — | — | — | — | 40.0 | 38.3 | 39.6 | 42.4 | 42.5 | 45.0 | 45.5 | 46.7 | 48.7 | 47.3 | 48.4 | 47.9 | -0.5 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 35.1 | 35.4 | 39.2 | 39.7 | 38.9 | 39.9 | 43.6 | +3.8 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 33.4 | 33.3 | -0.1 |
| % saying most or all [m,o] | 18 | 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 | 11.6 | 11.2 | -0.4 |
| | 19–22 | 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 | 23.0 | 21.8 | -1.2 |
| | 23–26 | 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 | 24.1 | 25.1 | 1.0 |
| | 27–30 | 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 | 15.8 | 17.9 | +2.1 |
| | 35 | 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 | 9.7 | 11.1 | +1.4 |
| | 40 | 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 | 6.8 | 6.9 | +0.1 |
| | 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 | 5.5 | 6.7 | +1.2 |
| | 50 | — | — | — | — | — | — | — | — | 3.2 | 2.7 | 2.0 | 2.9 | 2.5 | 3.6 | 4.1 | 3.6 | 4.0 | 3.0 | 3.7 | 3.6 | -0.2 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.0 | 1.9 | 3.2 | 3.1 | 2.9 | 2.5 | 4.4 | +1.9 s |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.6 | 2.4 | +0.8 |

(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, 55, and 60

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 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **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 | 89.3 |
| | 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 | 91.0 |
| | 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 | 84.1 |
| | 27–30 | — | — | — | — | — | — | — | — | 92.6 | 89.8 | 90.7 | 90.4 | 88.0 | 85.8 | 84.8 | 84.9 | 85.4 | 84.1 | 81.1 | 86.3 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 72.7 | 71.7 | 71.7 | 72.4 | 71.8 | 69.9 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 70.2 | 70.0 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % 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 | 31.1 |
| | 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 | 26.8 |
| | 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 | 17.5 |
| | 27–30 | — | — | — | — | — | — | — | — | 15.8 | 14.2 | 11.6 | 12.9 | 11.9 | 14.3 | 10.9 | 12.3 | 10.4 | 12.1 | 12.3 | 13.4 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 7.9 | 7.2 | 9.3 | 7.2 | 8.0 | 9.0 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.1 | 7.4 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Take steroids** | | | | | | | | | | | | | | | | | | | | | |
| % saying any [n] | 18 | — | — | — | — | — | — | — | — | — | — | 25.9 | 24.7 | 21.5 | 19.0 | 18.1 | 19.5 | 17.9 | 18.9 | 18.3 | 20.0 |
| | 19–22 | — | — | — | — | — | — | — | — | — | 23.4 | 21.5 | 22.2 | 19.7 | 20.7 | 16.8 | 16.6 | 16.1 | 16.8 | 20.0 | 20.6 |
| | 23–26 | — | — | — | — | — | — | — | — | — | 15.3 | 15.0 | 12.3 | 14.5 | 11.1 | 10.5 | 12.4 | 7.3 | 13.0 | 9.2 | 15.0 |
| | 27–30 | — | — | — | — | — | — | — | — | — | 9.9 | 10.5 | 7.5 | 8.0 | 8.0 | 8.0 | 8.0 | 10.2 | 9.1 | 7.0 | 11.2 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % saying most or all | 18 | — | — | — | — | — | — | — | — | — | — | 1.8 | 1.0 | 1.7 | 0.9 | 1.2 | 1.3 | 0.8 | 1.7 | 1.4 | 0.9 |
| | 19–22 | — | — | — | — | — | — | — | — | — | 0.2 | 0.6 | * | 0.1 | 0.4 | 0.2 | 0.1 | * | 0.1 | 0.3 | 0.1 |
| | 23–26 | — | — | — | — | — | — | — | — | — | 0.4 | * | * | 0.2 | 0.1 | 0.1 | * | * | 0.5 | * | 0.1 |
| | 27–30 | — | — | — | — | — | — | — | — | — | 0.5 | * | * | * | 0.2 | 0.1 | * | * | * | * | * |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

| *Q. How many of your friends would you estimate. . .* | Age Group | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Percentage saying friends use [a] | | | | | | | | | | | | | | | | | | | | |
| **Smoke cigarettes** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 50.9 | 44.4 | -6.4 s |
| | 19–22 | 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 | 62.2 | 59.2 | -3.0 |
| | 23–26 | 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 | 74.4 | 69.1 | -5.3 |
| | 27–30 | 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 | 73.8 | 69.2 | -4.6 |
| | 35 | 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 | 60.1 | 56.7 | -3.4 |
| | 40 | 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 | 48.9 | 53.7 | +4.8 |
| | 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 | 52.5 | 46.0 | -6.5 ss |
| | 50 | — | — | — | — | — | — | — | — | 62.1 | 61.3 | 59.2 | 55.9 | 57.4 | 54.7 | 55.4 | 55.4 | 52.4 | 52.8 | 53.1 | 47.5 | -5.6 s |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 56.5 | 52.4 | 52.9 | 48.5 | 49.4 | 47.4 | 47.5 | +0.1 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 47.9 | 47.1 | -0.8 |
| % saying most or all | 18 | 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 | 6.1 | 4.7 | -1.3 |
| | 19–22 | 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 | 3.8 | 4.3 | 0.4 |
| | 23–26 | 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 | 3.5 | 6.5 | +3.0 |
| | 27–30 | 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 | 6.3 | 4.4 | -1.9 |
| | 35 | 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 | 3.7 | 3.1 | -0.6 |
| | 40 | 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 | 2.6 | 3.3 | +0.7 |
| | 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 | 1.7 | 2.1 | 0.4 |
| | 50 | — | — | — | — | — | — | — | — | 4.0 | 4.3 | 4.2 | 3.6 | 2.6 | 2.3 | 4.4 | 3.4 | 2.6 | 2.5 | 2.6 | 2.3 | -0.3 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.3 | 2.2 | 2.7 | 1.9 | 1.7 | 1.9 | 2.9 | 1.0 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.0 | 1.3 | -0.7 |
| **Take steroids** | | | | | | | | | | | | | | | | | | | | | | |
| % saying any [n] | 18 | 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 | 13.0 | 11.7 | -1.3 |
| | 19–22 | 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 | 8.4 | — | — |
| | 23–26 | 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 | 9.2 | — | — |
| | 27–30 | 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 | 11.2 | — | — |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| % saying most or all | 18 | 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 | 1.5 | 1.3 | -0.2 |
| | 19–22 | 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 | * | * | 0.8 | — | — |
| | 23–26 | 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 | * | — | — |
| | 27–30 | * | * | 0.3 | * | * | 0.1 | * | * | * | 0.3 | * | * | * | * | * | 0.2 | * | 0.4 | * | — | — |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

| | 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 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approximate | 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* | *2,060* |
| Weighted N = | 19–22 | 576 | 592 | 564 | 579 | 543 | 554 | 579 | 572 | 562 | 579 | 556 | 526 | 510 | 468 | 435 | 470 | 469 | 467 | *437* | *426* |
| | 23–26 | | | | | 527 | 534 | 546 | 528 | 528 | 506 | 510 | 507 | 516 | 495 | 449 | 456 | 416 | 419 | *394* | *414* |
| | 27–30 | | | | | | | | | 516 | 507 | 499 | 476 | 478 | 461 | 419 | 450 | 464 | 454 | *428* | *424* |
| | 35 | | | | | | | | | | | | | | | 1,200 | 1,187 | 1,187 | 1,209 | *1,067* | *1,071* |
| | 40 | | | | | | | | | | | | | | | | | | | *1,098* | *1,156* |
| | 45 | | | | | | | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | | | | | | | |
| | 55 | | | | | | | | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | | | | | | |

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, 55, and 60

| *Q. How many of your friends would you estimate. . .* | Age Group | Percentage saying friends use [a] 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Approximate | 18 | 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 | 2,028 | 1,932 |
| Weighted N = | 19–22 | 402 | 402 | 375 | 388 | 443 | 395 | 377 | 362 | 375 | 382 | 376 | 353 | 348 | 340 | 315 | 297 | 251 | 269 | 258 | 241 |
| | 23–26 | 387 | 403 | 358 | 362 | 411 | 361 | 336 | 340 | 355 | 311 | 359 | 314 | 330 | 328 | 305 | 305 | 272 | 268 | 269 | 274 |
| | 27–30 | 363 | 359 | 348 | 369 | 396 | 363 | 350 | 324 | 332 | 309 | 340 | 325 | 333 | 284 | 307 | 260 | 287 | 287 | 306 | 271 |
| | 35 | 1,033 | 1,005 | 918 | 968 | 985 | 1,041 | 953 | 884 | 905 | 974 | 922 | 858 | 877 | 848 | 776 | 741 | 740 | 731 | 676 | 697 |
| | 40 | 1,144 | 1,119 | 1,083 | 945 | 1,004 | 975 | 951 | 896 | 924 | 905 | 952 | 877 | 852 | 844 | 919 | 808 | 782 | 819 | 762 | 704 |
| | 45 | | | | 976 | 1,074 | 1,052 | 1,009 | 999 | 904 | 937 | 889 | 887 | 874 | 844 | 825 | 889 | 812 | 773 | 781 | 805 |
| | 50 | | | | | | | | | 940 | 1,009 | 1,016 | 974 | 987 | 840 | 891 | 830 | 845 | 793 | 760 | 754 |
| | 55 | | | | | | | | | | | | | | 880 | 943 | 933 | 926 | 941 | 788 | 808 |
| | 60 | | | | | | | | | | | | | | 880 | 943 | 933 | 926 | 941 | 673 | 693 |

*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.

[g]No data reported in 2015 due to a printing error in the questionnaire in which this question is asked.

[h]For the estimate of Any Friends' Use of Ecstasy (MDMA, Molly) in 2018, there was a significant difference (p<.05) among those age 27-30 between the typical mail condition (20.5%) and the new web-push condition (30.0%) of survey administration.

[i]For the estimate of Any Friends' Use of Crack in 2018, there was a significant difference (p<.05) among those age 23-26 between the typical mail condition (14.5%) and the new web-push condition (6.9%) of survey administration.

[j]For the estimate of Any Friends' Use of Heroin in 2018, there was a significant difference (p<.05) among those age 23-26 between the typical mail condition (5.6%) and the new web-push condition (0.9%) of survey administration.

[k]For the estimate of Any Friends' Use of Tranquilizers in 2018, there was a significant difference (p<.05) among those age 23-26 between the typical mail condition (16.5%) and the new web-push condition (7.7%) of survey administration.

[l]For the estimate of Any Friends' Use of Tranquilizers in 2018, there was a significant difference (p<.05) among those age 27-30 between the typical mail condition (6.0%) and the new web-push condition (11.9%) of survey administration.

[m]For the estimate of Most Friends Get Drunk at Least Once a Week in 2018, there was a significant difference (p<.05) among those age 19-22 between the typical mail condition (16.8%) and the new web-push condition (28.7%) of survey administration.

[n]For the estimate of Any Friends' Use of Steroids in 2018, there was a significant difference (p<.05) among those age 19-22 between the typical mail condition (12.4%) and the new web-push condition (4.6%) of survey administration.

[o]For the estimate of Most Friends Get Drunk at Least Once a Week in 2019, there was a significant difference (p<.05) among those age 23-26 between the typical mail condition (10.3%) and the new web-push condition (29.9%) of survey administration.

## TABLE 7-3
## Trends in Direct 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] → (Years Cont.)

| | Age Group | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **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 | 77.2 |
| | 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 | 69.1 |
| | 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 | 50.6 |
| | 27–30 | — | — | — | — | — | — | — | — | 52.4 | 50.2 | 47.0 | 39.6 | 41.7 | 38.9 | 45.6 | 42.4 | 44.9 | 41.6 | 37.5 |
| % 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 | 33.2 |
| | 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 | 24.2 |
| | 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 | 14.2 |
| | 27–30 | — | — | — | — | — | — | — | — | 13.7 | 12.0 | 10.8 | 8.2 | 10.5 | 9.0 | 12.5 | 8.5 | 10.1 | 10.3 | 8.5 |
| **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 | 47.3 |
| | 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 | 40.0 |
| | 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 | 27.1 |
| | 27–30 | — | — | — | — | — | — | — | — | 35.8 | 33.7 | 31.5 | 25.8 | 26.6 | 24.2 | 25.8 | 21.1 | 21.8 | 21.4 | 15.4 |
| % saying often exposed [h] | 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 | 9.9 |
| | 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 | 7.0 |
| | 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 | 3.1 |
| | 27–30 | — | — | — | — | — | — | — | — | 6.0 | 4.7 | 4.1 | 3.2 | 3.7 | 2.4 | 3.4 | 2.9 | 3.4 | 3.2 | 1.0 |
| **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 | 75.5 |
| | 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 | 67.1 |
| | 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 | 48.8 |
| | 27–30 | — | — | — | — | — | — | — | — | 49.1 | 47.4 | 42.1 | 36.0 | 38.2 | 35.3 | 41.9 | 38.3 | 41.8 | 39.1 | 35.7 |
| % 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 | 31.4 |
| | 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 | 22.8 |
| | 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 | 13.6 |
| | 27–30 | — | — | — | — | — | — | — | — | 10.9 | 9.8 | 8.5 | 6.7 | 8.9 | 7.6 | 10.7 | 7.4 | 9.1 | 8.9 | 8.1 |
| **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 | 23.1 |
| | 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 | 21.0 |
| | 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 | 9.8 |
| | 27–30 | — | — | — | — | — | — | — | — | 3.6 | 3.2 | 3.3 | 3.6 | 3.9 | 4.9 | 5.3 | 5.5 | 4.3 | 3.9 | 3.2 |
| % 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 | 3.2 |
| | 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 | 2.0 |
| | 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 | 0.1 |
| | 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 [j] | 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 | 15.9 |
| | 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 | 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 | 8.7 |
| | 27–30 | — | — | — | — | — | — | — | — | 5.0 | 3.4 | 3.4 | 3.4 | 2.1 | 3.7 | 3.4 | 4.2 | 3.2 | 2.9 | 2.6 |
| % 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 | 1.7 |
| | 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 | 0.5 |
| | 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 Direct 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] | | | | | | | | | | | | | | | | | | | | | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | |
| **Any illicit drug [b]** | | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 72.7 | 75.4 | +2.8 |
| | 19–22 | 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 | 76.4 | 78.7 | +2.3 |
| | 23–26 | 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 | 74.2 | 73.1 | -1.1 |
| | 27–30 | 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 | 66.5 | 75.5 | +9.0 s |
| % saying often exposed | 18 | 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 | 30.8 | 33.5 | +2.8 |
| | 19–22 | 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 | 35.5 | 37.4 | +1.8 |
| | 23–26 | 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 | 25.4 | 29.7 | +4.3 |
| | 27–30 | 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 | 24.7 | 31.5 | +6.8 |
| **Any illicit drug other than marijuana [b]** | | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 40.1 | 38.1 | -2.0 |
| | 19–22 | 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 | 46.6 | 44.1 | -2.6 |
| | 23–26 | 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 | 46.4 | 43.2 | -3.2 |
| | 27–30 | 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 | 35.3 | 41.0 | +5.7 |
| % saying often exposed [h] | 18 | 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 | 7.5 | 7.4 | -0.1 |
| | 19–22 | 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 | 8.0 | 7.4 | -0.6 |
| | 23–26 | 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 | 7.5 | 7.0 | -0.5 |
| | 27–30 | 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 | 6.6 | 7.8 | +1.1 |
| **Marijuana** | | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 70.1 | 73.7 | +3.7 |
| | 19–22 | 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 | 76.1 | 78.3 | +2.2 |
| | 23–26 | 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 | 71.8 | 73.0 | +1.1 |
| | 27–30 | 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 | 65.1 | 73.0 | +7.9 s |
| % saying often exposed | 18 | 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 | 28.0 | 32.0 | +4.0 |
| | 19–22 | 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 | 34.3 | 35.8 | +1.4 |
| | 23–26 | 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 | 23.6 | 27.6 | +4.0 |
| | 27–30 | 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 | 22.3 | 29.7 | +7.4 s |
| **LSD** | | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 15.4 | 15.1 | -0.4 |
| | 19–22 | 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 | 14.3 | 19.1 | +4.8 |
| | 23–26 | 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 | 10.8 | 18.3 | +7.5 s |
| | 27–30 | 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 | 7.6 | 9.7 | +2.1 |
| % saying often exposed | 18 | 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 | 2.0 | 1.9 | -0.1 |
| | 19–22 | 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 | 1.0 | 1.2 | +0.3 |
| | 23–26 | 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 | 0.9 | 0.9 | -0.1 |
| | 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 | 0.2 | 0.6 | +0.4 |
| **Other hallucinogens [c]** | | | | | | | | | | | | | | | | | | | | | | | |
| % saying any [j] | 18 | 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 | 15.5 | 15.7 | +0.3 |
| | 19–22 | 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 | 17.2 | 16.2 | -1.0 |
| | 23–26 | 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 | 14.7 | 17.3 | +2.7 |
| | 27–30 | 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 | 10.5 | 14.0 | +3.5 |
| % saying often exposed | 18 | 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 | 1.8 | 1.6 | -0.2 |
| | 19–22 | 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 | 1.3 | 0.8 | -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 | 0.9 | 1.3 | +0.4 |
| | 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 | 0.2 | 0.8 | +0.6 |

↓
(List of drugs continued.)

## TABLE 7-3 (cont.)
## Trends in Direct 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] → (Years Cont.)

| | Age Group | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Cocaine** | | | | | | | | | | | | | | | | | | | | |
| % saying any [k] | 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 | 26.6 |
| | 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 | 21.6 |
| | 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 | 16.0 |
| | 27–30 | — | — | — | — | — | — | — | — | 28.9 | 28.3 | 24.2 | 18.6 | 19.4 | 16.6 | 14.3 | 11.4 | 12.1 | 11.4 | 8.6 |
| % saying often exposed [i] | 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 | 3.7 |
| | 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 | 3.2 |
| | 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 | 1.5 |
| | 27–30 | — | — | — | — | — | — | — | — | 4.4 | 3.9 | 2.9 | 2.2 | 2.0 | 1.2 | 1.5 | 1.4 | 1.9 | 1.6 | 0.8 |
| **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 | 8.7 |
| | 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 | 6.4 |
| | 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 | 3.1 |
| | 27–30 | — | — | — | — | — | — | — | — | 2.1 | 1.4 | 1.5 | 0.9 | 1.0 | 2.0 | 2.0 | 1.7 | 1.5 | 1.3 | 1.4 |
| % 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 | 0.9 |
| | 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 | 0.7 |
| | 23–26 | — | — | — | — | * | 0.7 | 0.3 | 0.6 | 0.4 | 0.3 | 0.6 | 0.3 | * | * | * | 0.2 | 0.2 | 0.3 | 0.5 |
| | 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 | 20.7 |
| | 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 | 15.3 |
| | 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 | 8.1 |
| | 27–30 | — | — | — | — | — | — | — | — | 6.5 | 6.5 | 5.8 | 5.5 | 3.7 | 5.6 | 5.9 | 5.7 | 4.7 | 4.9 | 3.6 |
| % 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 | 2.8 |
| | 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 | 1.7 |
| | 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 | 0.5 |
| | 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 [l] | 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 | 29.9 |
| | 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 | 24.8 |
| | 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 | 14.6 |
| | 27–30 | — | — | — | — | — | — | — | — | 15.6 | 14.3 | 13.5 | 10.7 | 11.4 | 11.3 | 11.0 | 10.6 | 7.6 | 9.1 | 6.6 |
| % 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 | 4.7 |
| | 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 | 2.9 |
| | 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 | 2.2 |
| | 27–30 | — | — | — | — | — | — | — | — | 2.0 | 2.0 | 1.2 | 0.8 | 0.8 | 1.3 | 0.7 | 1.6 | 1.8 | 1.0 | 0.2 |

(Table continued on next page.)

## TABLE 7-3 (cont.)
## Trends in Direct 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 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Percentage saying exposed to drug [a] | | | | | | | | | | | | | | | | | | | | | |
| **Cocaine** | | | | | | | | | | | | | | | | | | | | | | | |
| % saying any [k] | 18 | 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 | 17.1 | 17.1 | 0.0 |
| | 19–22 | 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 | 25.4 | 24.5 | -0.9 |
| | 23–26 | 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 | 24.0 | 24.9 | +0.8 |
| | 27–30 | 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 | 20.3 | 19.8 | -0.5 |
| % saying often exposed [l] | 18 | 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 | 1.7 | 2.4 | +0.7 |
| | 19–22 | 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 | 4.1 | 1.9 | -2.3 |
| | 23–26 | 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 | 3.3 | 3.5 | +0.3 |
| | 27–30 | 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 | 1.7 | 1.8 | +0.1 |
| **Heroin** | | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 5.2 | 4.9 | -0.3 |
| | 19–22 | 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 | 3.4 | 2.3 | -1.1 |
| | 23–26 | 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 | 4.7 | 4.0 | -0.6 |
| | 27–30 | 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 | 3.4 | 4.5 | +1.1 |
| % saying often exposed | 18 | 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 | 0.6 | 0.6 | 0.0 |
| | 19–22 | 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 | 0.6 | 0.4 | -0.2 |
| | 23–26 | 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 | 0.8 | 0.5 | -0.3 |
| | 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 | 0.7 | 0.6 | -0.2 |
| **Other narcotics [d]** | | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 18.1 | 14.4 | -3.7 |
| | 19–22 | 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 | 16.9 | 12.1 | -4.8 |
| | 23–26 | 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 | 15.6 | 12.6 | -3.0 |
| | 27–30 | 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 | 16.5 | 16.1 | -0.5 |
| % saying often exposed | 18 | 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 | 1.8 | 1.3 | -0.5 |
| | 19–22 | 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 | 1.5 | 0.9 | -0.6 |
| | 23–26 | 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 | 1.4 | * | -1.4 |
| | 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 | 0.9 | 3.5 | +2.5 s |
| **Amphetamines [e]** | | | | | | | | | | | | | | | | | | | | | | | |
| % saying any [l] | 18 | 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 | 21.9 | 21.0 | -0.9 |
| | 19–22 | 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 | 31.4 | 29.5 | -2.0 |
| | 23–26 | 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 | 32.2 | 28.8 | -3.4 |
| | 27–30 | 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 | 19.1 | 23.7 | +4.5 |
| % saying often exposed | 18 | 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 | 3.3 | 4.0 | +0.7 |
| | 19–22 | 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 | 4.3 | 5.4 | +1.2 |
| | 23–26 | 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 | 4.6 | 4.8 | +0.1 |
| | 27–30 | 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 | 3.1 | 3.6 | +0.5 |

↓

(List of drugs continued.)

## TABLE 7-3 (cont.)
## Trends in Direct 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] → (Years Cont.)

| | Age Group | 1980 | 1981 | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **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 | 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 | 13.4 |
| | 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 | 8.5 |
| | 27–30 | — | — | — | — | — | — | — | — | 8.0 | 6.8 | 5.9 | 5.4 | 5.2 | 5.7 | 4.5 | 5.2 | 3.5 | 3.8 | 2.7 |
| % 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 | 2.7 |
| | 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 | 1.4 |
| | 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 | 0.5 |
| | 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 | 17.3 |
| | 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 | 16.9 |
| | 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 | 10.9 |
| | 27–30 | — | — | — | — | — | — | — | — | 15.0 | 11.6 | 11.1 | 9.7 | 10.3 | 10.4 | 9.0 | 11.2 | 9.6 | 9.6 | 6.1 |
| % saying often exposed [m] | 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 | 2.8 |
| | 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 | 1.6 |
| | 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 | 1.1 |
| | 27–30 | — | — | — | — | — | — | — | — | 1.4 | 0.3 | 1.7 | 0.8 | 1.3 | 1.3 | 1.0 | 1.1 | 0.8 | 1.2 | 0.2 |
| **Alcoholic beverages** | | | | | | | | | | | | | | | | | | | | |
| % saying any [n] | 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 | 92.2 |
| | 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 | 91.8 |
| | 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 | 89.1 |
| | 27–30 | — | — | — | — | — | — | — | — | 87.1 | 88.4 | 86.2 | 87.7 | 87.3 | 86.6 | 86.2 | 89.3 | 89.2 | 86.4 | 88.4 |
| % 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 | 54.5 |
| | 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 | 57.9 |
| | 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 | 44.6 |
| | 27–30 | — | — | — | — | — | — | — | — | 39.9 | 39.5 | 38.7 | 38.0 | 39.9 | 38.1 | 39.3 | 38.0 | 34.7 | 37.1 | 36.6 |
| *Approximate Weighted N =* | 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* | *2,541* |
| | 19–22 | *582* | *574* | *601* | *569* | *578* | *549* | *591* | *582* | *556* | *567* | *567* | *532* | *528* | *489* | *460* | *464* | *485* | *471* | *445* |
| | 23–26 | | | | | *533* | *532* | *557* | *529* | *531* | *514* | *523* | *494* | *532* | *513* | *471* | *467* | *447* | *424* | *400* |
| | 27–30 | | | | | | | | | *522* | *507* | *506* | *478* | *502* | *457* | *425* | *452* | *432* | *455* | *449* |

(Table continued on next page.)

**TABLE 7-3 (cont.)**
**Trends in Direct 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 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | Percentage saying exposed to drug [a] | | | | | | | | | | | | | | | | | | | | | |
| **Sedatives/barbiturates [f]** | | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 11.4 | 9.6 | -1.8 |
| | 19–22 | 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 | 12.9 | 10.3 | -2.6 |
| | 23–26 | 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 | 12.2 | 12.1 | 0.0 |
| | 27–30 | 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 | 11.7 | 13.9 | +2.2 |
| % saying often exposed | 18 | 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 | 1.9 | 1.5 | -0.4 |
| | 19–22 | 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 | 1.0 | 1.7 | +0.7 |
| | 23–26 | 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 | 0.8 | 1.1 | +0.2 |
| | 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 | 1.0 | 1.5 | +0.5 |
| **Tranquilizers [g]** | | | | | | | | | | | | | | | | | | | | | | | |
| % saying any | 18 | 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 | 20.5 | 19.2 | -1.3 |
| | 19–22 | 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 | 20.6 | 15.7 | -4.9 |
| | 23–26 | 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 | 16.0 | 17.3 | +1.3 |
| | 27–30 | 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 | 17.5 | 22.5 | +5.0 |
| % saying often exposed [m] | 18 | 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 | 3.1 | 1.9 | -1.2 |
| | 19–22 | 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 | 1.9 | 1.4 | -0.5 |
| | 23–26 | 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 | 1.1 | 1.1 | 0.0 |
| | 27–30 | 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 | 1.8 | 1.8 | 0.0 |
| **Alcoholic beverages** | | | | | | | | | | | | | | | | | | | | | | | |
| % saying any [n] | 18 | 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 | 78.3 | 78.4 | +0.1 |
| | 19–22 | 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 | 83.6 | 85.5 | +1.8 |
| | 23–26 | 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 | 89.2 | 86.0 | -3.2 |
| | 27–30 | 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 | 89.4 | 88.8 | -0.6 |
| % saying often exposed | 18 | 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 | 33.6 | 35.1 | +1.4 |
| | 19–22 | 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 | 45.1 | 50.1 | +5.0 |
| | 23–26 | 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 | 51.1 | 48.1 | -3.0 |
| | 27–30 | 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 | 44.5 | 48.2 | +3.7 |
| *Approximate Weighted N =* | 18 | *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* | *2,200* | *2,086* | |
| | 19–22 | *450* | *415* | *412* | *403* | *396* | *432* | *377* | *378* | *333* | *365* | *368* | *364* | *340* | *356* | *281* | *316* | *264* | *251* | *228* | *271* | *251* | |
| | 23–26 | *398* | *389* | *406* | *345* | *385* | *404* | *374* | *363* | *327* | *333* | *328* | *347* | *308* | *334* | *311* | *308* | *286* | *271* | *237* | *264* | *234* | |
| | 27–30 | *430* | *395* | *369* | *359* | *347* | *370* | *370* | *330* | *356* | *339* | *324* | *336* | *306* | *312* | *301* | *303* | *263* | *259* | *276* | *285* | *260* | |

*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.

[h]For the estimate of Often Being Exposed to Use of Any Illicit Drug other than Marijuana in 2018, there was a significant difference (p<.05) among those age 27-30 between the typical mail condition (9.9%) and the new web-push condition (3.1%) of survey administration.

[i]For the estimate of Often Being Exposed to Use of Cocaine in 2018, there was a significant difference (p<.05) among those age 19-22 between the typical mail condition (1.3%) and the new web-push condition (6.2%) of survey administration.

[j]For the estimate of Any Exposure to Use of Other Hallucinogens in 2019, there was a significant difference (p<.05) among those age 23-26 between the typical mail condition (11.3%) and the new web-push condition (22.4%) of survey administration.

[k]For the estimate of Any Exposure to Use of Cocaine in 2019, there was a significant difference (p<.05) among those age 23-26 between the typical mail condition (18.5%) and the new web-push condition (30.1%) of survey administration.

[l]For the estimate of Any Exposure to Use of Amphetamines in 2019, there was a significant difference (p<.05) among those age 27-30 between the typical mail condition (29.4%) and the new web-push condition (18.2%) of survey administration.

[m]For the estimate of Often Being Exposed to Use of Tranquilizers in 2019, there was a significant difference (p<.05) among those age 27-30 between the typical mail condition (3.7%) and the new web-push condition (0.0%) of survey administration.

[n]For the estimate of Any Exposure to Use of Alcohol in 2019, there was a significant difference (p<.05) among those age 23-26 between the typical mail condition (80.5%) and the new web-push condition (90.6%) of survey administration.

## 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, 55, and 60

*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 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **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 | 88.9 |
| | 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 | 87.4 |
| | 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 | 85.9 |
| | 27–30 | — | — | — | — | — | — | — | — | 89.3 | 86.0 | 83.1 | 83.8 | 80.7 | 82.8 | 80.3 | 83.3 | 82.6 | 84.5 | 82.1 | 83.0 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 75.7 | 75.6 | 73.0 | 77.1 | 76.0 | 74.9 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 73.4 | 71.7 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **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 | 21.4 |
| | 19–22 | — | — | — | — | — | — | — | 22.8 | 26.0 | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | — | — | — | — | — | — | — | 23.1 | 28.0 | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | 26.7 | — | — | — | — | — | — | — | — | — | — | — |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **LSD** [f] | 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 | 44.7 |
| | 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 | 43.8 |
| | 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 | 41.2 |
| | 27–30 | — | — | — | — | — | — | — | — | 29.4 | 29.9 | 32.3 | 27.0 | 30.9 | 30.5 | 27.2 | 35.6 | 33.6 | 35.2 | 32.9 | 35.7 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 33.8 | 32.4 | 28.4 | 32.9 | 31.2 | 27.7 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 31.1 | 31.0 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Other hallucinogens** [b,g] | 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 | 29.5 |
| | 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 | 31.1 |
| | 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 | 31.5 |
| | 27–30 | — | — | — | — | — | — | — | — | 28.6 | 29.6 | 30.8 | 24.9 | 24.8 | 25.4 | 24.7 | 29.3 | 25.9 | 28.0 | 25.2 | 30.3 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **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 | 26.7 |
| | 19–22 | — | — | — | — | — | — | — | 21.7 | 24.6 | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | — | — | — | — | — | — | — | 21.2 | 27.6 | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | 24.3 | — | — | — | — | — | — | — | — | — | — | — |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **MDMA (ecstasy, Molly)** | 18 | — | — | — | — | — | — | — | — | — | 21.7 | 22.0 | 22.1 | 24.2 | 28.1 | 31.2 | 34.2 | 36.9 | 38.8 | 38.2 | 40.1 |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | 26.6 | 24.9 | 27.1 | 23.9 | 27.0 | 29.3 | 33.4 | 35.6 | 39.4 | 43.2 |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | 21.4 | 23.1 | 26.4 | 24.0 | 26.0 | 27.8 | 28.7 | 31.1 | 30.1 | 34.9 |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | 27.1 | 20.8 | 22.2 | 22.8 | 21.9 | 27.1 | 29.3 | 24.3 | 26.4 | 30.0 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

| *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] | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
| **Marijuana** | 18 | 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 | 79.7 | 78.0 | -1.7 |
| | 19–22 | 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 | 84.6 | 87.2 | +2.6 |
| | 23–26 | 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 | 88.1 | 91.9 | +3.8 |
| | 27–30 | 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 | 89.9 | 89.4 | -0.5 |
| | 35 | 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 | 83.5 | 89.9 | +6.4 sss |
| | 40 | 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 | 84.3 | 86.6 | +2.4 |
| | 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 | 83.5 | 82.7 | -0.8 |
| | 50 | — | — | — | — | — | — | — | — | 64.4 | 65.8 | 67.9 | 65.8 | 68.9 | 70.1 | 71.9 | 75.8 | 74.5 | 76.6 | 78.7 | 81.1 | +2.4 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 68.8 | 72.1 | 71.7 | 72.8 | 76.7 | 74.6 | 78.6 | +4.0 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 71.3 | 76.1 | — |
| **Amyl & butyl nitrites** | 18 | 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 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **LSD** [f] | 18 | 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 | 28.0 | 28.2 | +0.2 |
| | 19–22 | 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 | 33.3 | 29.5 | -3.8 |
| | 23–26 | 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 | 27.2 | 32.7 | +5.5 |
| | 27–30 | 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 | 22.1 | 22.6 | +0.5 |
| | 35 | 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 | 21.4 | — | — |
| | 40 | 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 | 22.3 | — | — |
| | 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 | 21.8 | — | — |
| | 50 | — | — | — | — | — | — | — | — | 19.0 | 21.9 | 18.6 | 20.3 | 18.1 | 17.1 | 17.7 | 19.7 | 19.5 | 17.3 | 22.6 | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Other hallucinogens** [b,g] | 18 | 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 | 28.6 | 29.7 | +1.1 |
| | 19–22 | 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 | 34.2 | 37.4 | +3.1 |
| | 23–26 | 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 | 32.1 | 37.3 | +5.2 |
| | 27–30 | 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 | 29.4 | 34.9 | +5.5 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **PCP** | 18 | 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 | 10.8 | 11.0 | +0.2 |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **MDMA (ecstasy, Molly)** | 18 | 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 | 27.7 | 24.3 | -3.4 |
| | 19–22 | 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 | 38.7 | 28.2 | -10.5 s |
| | 23–26 | 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 | 33.6 | 38.1 | +4.5 |
| | 27–30 | 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 | 31.7 | 39.2 | +7.5 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

↓

(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, 55, and 60

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 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **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 | 47.6 |
| | 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 | 52.6 |
| | 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 | 45.7 |
| | 27–30 | — | — | — | — | — | — | — | — | 68.6 | 68.2 | 64.0 | 60.0 | 63.1 | 56.8 | 53.1 | 57.0 | 53.0 | 50.4 | 46.9 | 50.0 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **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 | 41.1 |
| | 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 | 40.8 |
| | 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 | 35.0 |
| | 27–30 | — | — | — | — | — | — | — | — | 46.5 | 46.8 | 46.8 | 43.1 | 45.2 | 45.8 | 41.1 | 44.7 | 39.9 | 36.5 | 33.3 | 38.8 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 49.6 | 48.2 | 43.1 | 44.3 | 45.0 | 41.6 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 43.3 | 44.3 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **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 | 43.7 |
| | 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 | 45.2 |
| | 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 | 44.3 |
| | 27–30 | — | — | — | — | — | — | — | — | 63.5 | 62.8 | 57.9 | 55.8 | 56.8 | 55.0 | 48.9 | 52.9 | 48.4 | 45.1 | 43.9 | 46.5 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 53.9 | 52.1 | 46.7 | 48.3 | 47.0 | 43.4 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 46.0 | 46.7 |
| | 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 | 32.1 |
| | 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 | 32.7 |
| | 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 | 31.9 |
| | 27–30 | — | — | — | — | — | — | — | — | 23.6 | 27.4 | 29.5 | 22.1 | 25.6 | 28.5 | 24.4 | 30.7 | 29.5 | 30.0 | 28.3 | 33.0 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **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 | 40.8 |
| | 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 | 39.5 |
| | 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 | 38.2 |
| | 27–30 | — | — | — | — | — | — | — | — | 31.6 | 36.2 | 36.1 | 29.0 | 31.8 | 33.0 | 34.8 | 36.9 | 37.2 | 35.2 | 32.2 | 36.9 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Amphetamines [d,h]** | 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 | 58.1 |
| | 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 | 57.6 |
| | 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 | 49.1 |
| | 27–30 | — | — | — | — | — | — | — | — | 54.3 | 58.6 | 55.3 | 54.4 | 50.4 | 52.9 | 48.3 | 53.7 | 51.7 | 48.1 | 41.4 | 48.2 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 45.6 | 43.5 | 39.1 | 40.9 | 39.4 | 38.5 |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 41.0 | 41.9 |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

(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, 55, and 60

| *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] | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
| **Cocaine** | 18 | 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 | 28.1 | 24.2 | -3.9 |
| | 19–22 | 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 | 40.5 | 38.3 | -2.2 |
| | 23–26 | 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 | 38.6 | 38.5 | -0.1 |
| | 27–30 | 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 | 41.8 | 42.5 | +0.8 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Crack** | 18 | 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 | 20.8 | 16.9 | -3.9 |
| | 19–22 | 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 | 22.1 | — | — |
| | 23–26 | 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 | 21.2 | — | — |
| | 27–30 | 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 | 22.8 | — | — |
| | 35 | 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 | — | — | — |
| | 40 | 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 | — | — | — |
| | 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 | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | 32.8 | 36.3 | 32.4 | 29.5 | 30.5 | 30.0 | 27.2 | 29.9 | 28.6 | 24.2 | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 30.2 | 34.6 | 28.7 | 28.0 | 28.6 | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Cocaine powder** | 18 | 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 | 23.0 | 19.9 | -3.2 |
| | 19–22 | 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 | 36.0 | — | — |
| | 23–26 | 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 | 35.5 | — | — |
| | 27–30 | 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 | 37.2 | — | — |
| | 35 | 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 | 38.4 | 34.7 | -3.7 |
| | 40 | 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 | 35.2 | 35.5 | +0.3 |
| | 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 | 31.7 | 29.3 | -2.4 |
| | 50 | — | — | — | — | — | — | — | — | 32.6 | 35.9 | 32.8 | 31.0 | 30.8 | 30.3 | 27.8 | 30.7 | 29.3 | 27.0 | 33.2 | 32.2 | -1.0 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 30.6 | 35.3 | 30.4 | 29.8 | 30.9 | 32.3 | 33.7 | +1.3 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 29.9 | 34.4 | — |
| **Heroin** | 18 | 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 | 18.4 | 16.1 | -2.3 |
| | 19–22 | 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 | 19.2 | 20.5 | +1.3 |
| | 23–26 | 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 | 22.3 | 20.9 | -1.4 |
| | 27–30 | 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 | 29.2 | 30.9 | +1.7 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Some other narcotic** [c] | 18 | 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 | 32.5 | 31.0 | -1.5 |
| | 19–22 | 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 | 42.4 | 39.2 | -3.1 |
| | 23–26 | 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 | 49.6 | 42.4 | -7.2 |
| | 27–30 | 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 | 52.9 | 53.2 | +0.3 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Amphetamines** [d,h] | 18 | 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 | 39.3 | 39.0 | -0.3 |
| | 19–22 | 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 | 53.8 | 55.5 | +1.7 |
| | 23–26 | 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 | 51.3 | 54.5 | +3.2 |
| | 27–30 | 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 | 54.6 | 59.0 | +4.4 |
| | 35 | 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 | 38.2 | 38.6 | +0.3 |
| | 40 | 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 | 40.6 | 36.5 | -4.1 |
| | 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 | 34.8 | 35.7 | +0.9 |
| | 50 | — | — | — | — | — | — | — | — | 32.8 | 38.0 | 34.4 | 33.9 | 32.3 | 33.0 | 31.1 | 33.5 | 34.9 | 32.7 | 37.9 | 35.8 | -2.1 |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | 36.8 | 39.6 | 35.3 | 35.2 | 34.8 | 35.4 | 32.1 | -3.3 |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 32.3 | 33.6 | — |

(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, 55, and 60

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 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Crystal methamphetamine (ice)** [j] | 18 | — | — | — | — | — | — | — | — | — | — | 24.0 | 24.3 | 26.0 | 26.6 | 25.6 | 27.0 | 26.9 | 27.6 | 29.8 | 27.6 |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | 24.0 | 21.8 | 22.5 | 20.9 | 24.7 | 25.5 | 25.4 | 29.3 | 31.0 | 31.8 |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | 22.3 | 20.0 | 21.3 | 22.9 | 24.5 | 24.7 | 24.7 | 25.8 | 30.2 | 28.5 |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | 27.3 | 19.7 | 22.0 | 21.2 | 21.7 | 25.8 | 26.1 | 25.1 | 22.6 | 29.1 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **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 | 37.9 |
| | 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 | 42.3 |
| | 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 | 39.7 |
| | 27–30 | — | — | — | — | — | — | — | — | 43.2 | 44.5 | 44.2 | 38.5 | 37.8 | 39.7 | 37.4 | 39.9 | 41.2 | 39.1 | 33.9 | 38.4 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | | | | | | | | | | | | | | | | | | | | | — |
| **Tranquilizers** [i] | 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 | 32.7 |
| | 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 | 37.1 |
| | 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 | 38.3 |
| | 27–30 | — | — | — | — | — | — | — | — | 55.3 | 54.4 | 54.9 | 47.5 | 47.8 | 47.4 | 44.4 | 44.8 | 46.2 | 41.9 | 39.9 | 41.5 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Steroids** | 18 | — | — | — | — | — | — | — | — | — | — | — | 46.7 | 46.8 | 44.8 | 42.9 | 45.5 | 40.3 | 41.7 | 44.5 | 44.6 |
| | 19–22 | — | — | — | — | — | — | — | — | — | — | 44.1 | 44.8 | 46.3 | 41.7 | 40.9 | 41.8 | 40.8 | 39.2 | 39.2 | 40.5 |
| | 23–26 | — | — | — | — | — | — | — | — | — | — | 37.6 | 35.8 | 39.3 | 35.8 | 37.0 | 37.4 | 33.9 | 35.5 | 34.9 | 37.1 |
| | 27–30 | — | — | — | — | — | — | — | — | — | — | 36.4 | 30.6 | 35.0 | 31.6 | 30.5 | 33.1 | 35.6 | 32.5 | 30.5 | 34.5 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| *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* | *2,215* |
| | 19–22 | *582* | *601* | *582* | *588* | *559* | *571* | *592* | *581* | *568* | *572* | *571* | *534* | *512* | *480* | *459* | *470* | *467* | *463* | *433* | *425* |
| | 23–26 | | | | | *540* | *541* | *548* | *539* | *526* | *514* | *532* | *511* | *523* | *500* | *463* | *449* | *418* | *419* | *395* | *415* |
| | 27–30 | | | | | | | | | *519* | *513* | *510* | *487* | *475* | *473* | *437* | *446* | *468* | *459* | *425* | *424* |
| | 35 | | | | | | | | | | | | | | | *1,142* | *1,141* | *1,146* | *1,150* | *1,032* | *1,022* |
| | 40 | | | | | | | | | | | | | | | | | | | *1,029* | *1,093* |
| | 45 | | | | | | | | | | | | | | | | | | | | |
| | 50 | | | | | | | | | | | | | | | | | | | | |
| | 55 | | | | | | | | | | | | | | | | | | | | |
| | 60 | | | | | | | | | | | | | | | | | | | | |

(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, 55, and 60

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 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Crystal methamphetamine (ice) [j]** | 18 | 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 | 13.6 | 11.9 | -1.7 |
| | 19–22 | 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 | 15.0 | 13.4 | -1.6 |
| | 23–26 | 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 | 15.1 | 15.8 | +0.6 |
| | 27–30 | 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 | 16.7 | 20.2 | +3.5 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Sedatives/ barbiturates [e]** | 18 | 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 | 23.0 | 23.6 | +0.6 |
| | 19–22 | 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 | 28.2 | 25.8 | -2.5 |
| | 23–26 | 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 | 29.7 | 26.3 | -3.4 |
| | 27–30 | 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 | 35.1 | 36.3 | +1.2 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Tranquilizers [i]** | 18 | 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 | 13.0 | 14.7 | +1.7 |
| | 19–22 | 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 | 15.0 | 11.4 | -3.7 |
| | 23–26 | 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 | 14.4 | 12.0 | -2.4 |
| | 27–30 | 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 | 17.4 | 19.1 | +1.6 |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| **Steroids** | 18 | 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 | 21.1 | 19.2 | -2.0 |
| | 19–22 | 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 | 22.3 | — | — |
| | 23–26 | 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 | 23.0 | — | — |
| | 27–30 | 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 | 19.9 | — | — |
| | 35 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 40 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 45 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 50 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 55 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| | 60 | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| *Approximate Weighted N =* | 18 | *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* | *1,931* | *1,945* | |
| | 19–22 | *400* | *398* | *375* | *386* | *441* | *392* | *376* | *362* | *380* | *377* | *377* | *355* | *341* | *342* | *313* | *294* | *252* | *266* | *261* | *243* | |
| | 23–26 | *388* | *401* | *362* | *356* | *411* | *359* | *335* | *338* | *355* | *312* | *358* | *313* | *332* | *325* | *309* | *305* | *271* | *267* | *269* | *274* | |
| | 27–30 | *365* | *357* | *349* | *368* | *393* | *359* | *347* | *324* | *334* | *305* | *340* | *325* | *334* | *281* | *310* | *258* | *284* | *291* | *303* | *275* | |
| | 35 | *981* | *977* | *890* | *934* | *963* | *1,009* | *925* | *863* | *898* | *952* | *895* | *852* | *875* | *844* | *769* | *726* | *732* | *727* | *675* | *700* | |
| | 40 | *1,096* | *1,065* | *1,037* | *898* | *967* | *928* | *919* | *868* | *881* | *870* | *911* | *850* | *823* | *820* | *883* | *787* | *765* | *796* | *746* | *688* | |
| | 45 | | | | *911* | *1,026* | *1,005* | *972* | *954* | *851* | *888* | *846* | *852* | *842* | *806* | *785* | *839* | *783* | *738* | *753* | *779* | |
| | 50 | | | | | | | | | *902* | *975* | *989* | *939* | *958* | *819* | *868* | *802* | *827* | *776* | *738* | *733* | |
| | 55 | | | | | | | | | | | | | | *832* | *903* | *907* | *909* | *920* | *766* | *787* | |
| | 60 | | | | | | | | | | | | | | | | | | | | | |

(Table continued on next page.)

# FOOTNOTES FOR TABLE 7-4

*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.

[f]For the estimate of Availability of LSD in 2018, there was a significant difference (p<.01) among those age 23-26 between the typical mail condition (19.0%) and the new web-push condition (35.1%) of survey administration.

[g]For the estimate of Availability of Other Hallucinogens in 2018, there was a significant difference (p<.01) among those age 27-30 between the typical mail condition (20.9%) and the new web-push condition (37.6%) of survey administration.

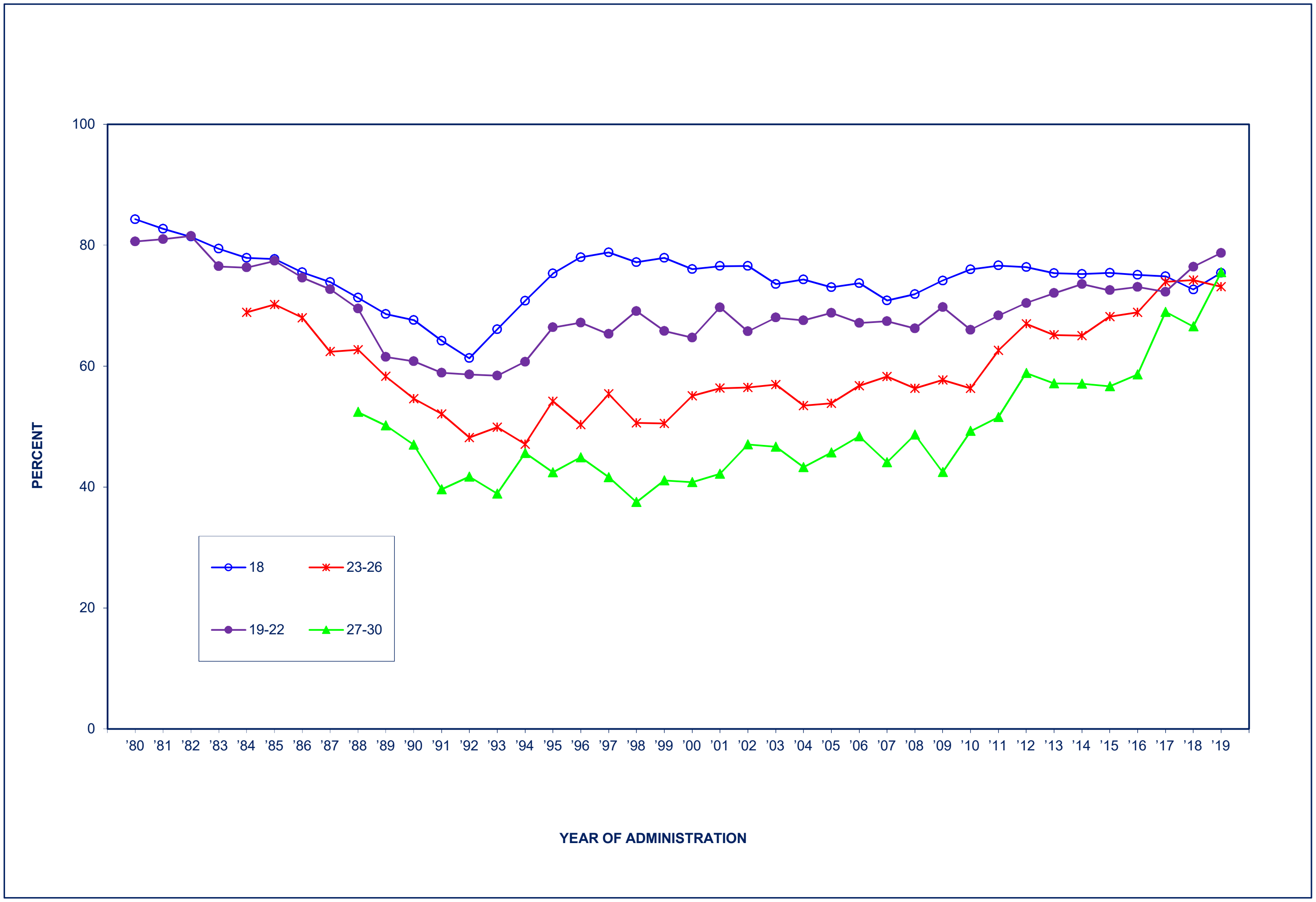
[h]For the estimate of Availability of Amphetamines in 2018, there was a significant difference (p<.05) among those age 27-30 between the typical mail condition (48.4%) and the new web-push condition (60.3%) of survey administration.

[i]For the estimate of Availability of Tranquilizers in 2018, there was a significant difference (p<.05) among those age 23-26 between the typical mail condition (18.3%) and the new web-push condition (9.6%) of survey administration.

[j]For the estimate of Availability of Crystal Methamphetamine (Ice) in 2019, there was a significant difference (p<.05) among those age 27-30 between the typical mail condition (15.3%) and the new web-push condition (25.3%) of survey administration.

**FIGURE 7-1**
**Trends in Direct Exposure to Use of ANY ILLICIT DRUGS**
**among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30**

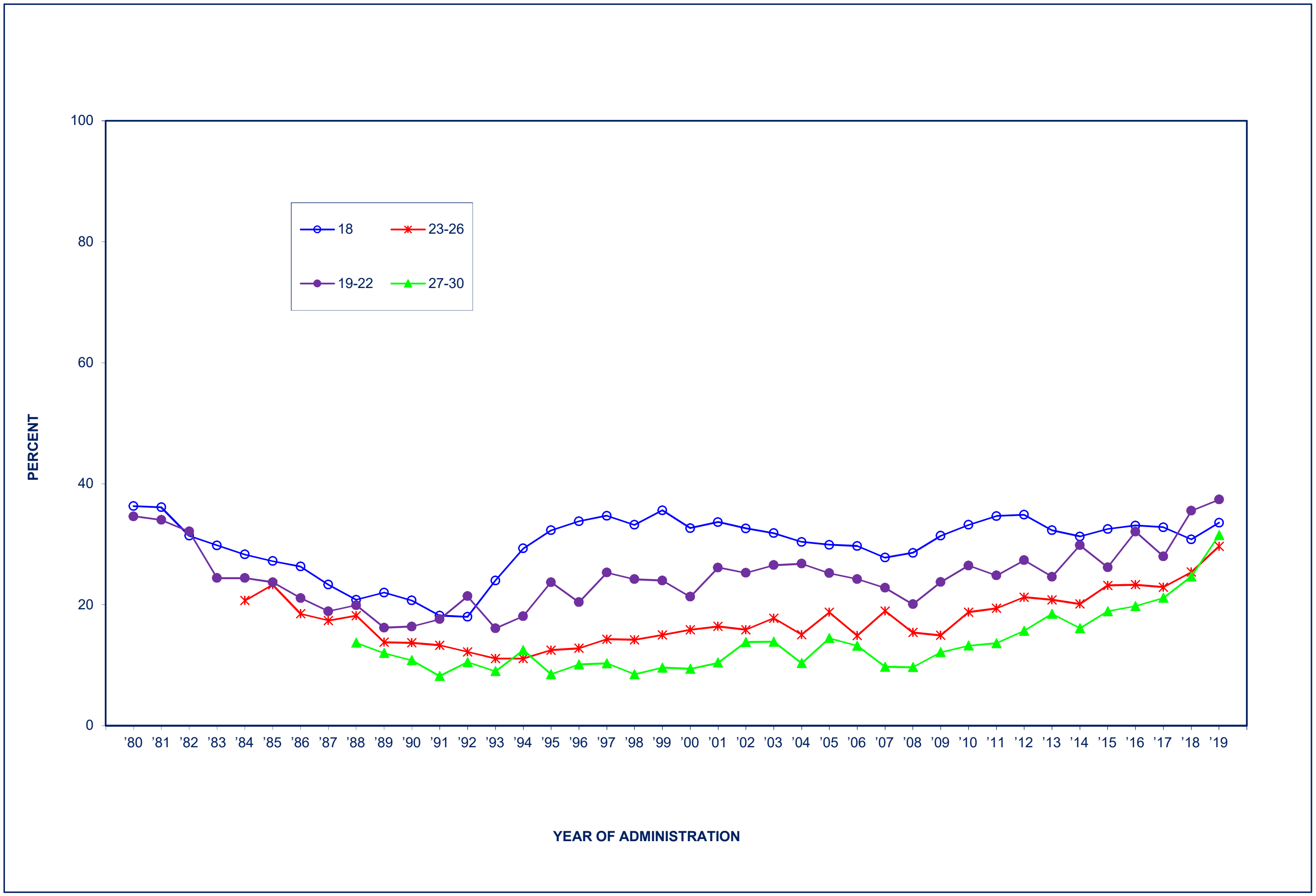
**% Saying Any Exposure**




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

**FIGURE 7-2**
**Trends in Direct Exposure to Use of ANY ILLICIT DRUGS**
**among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30**

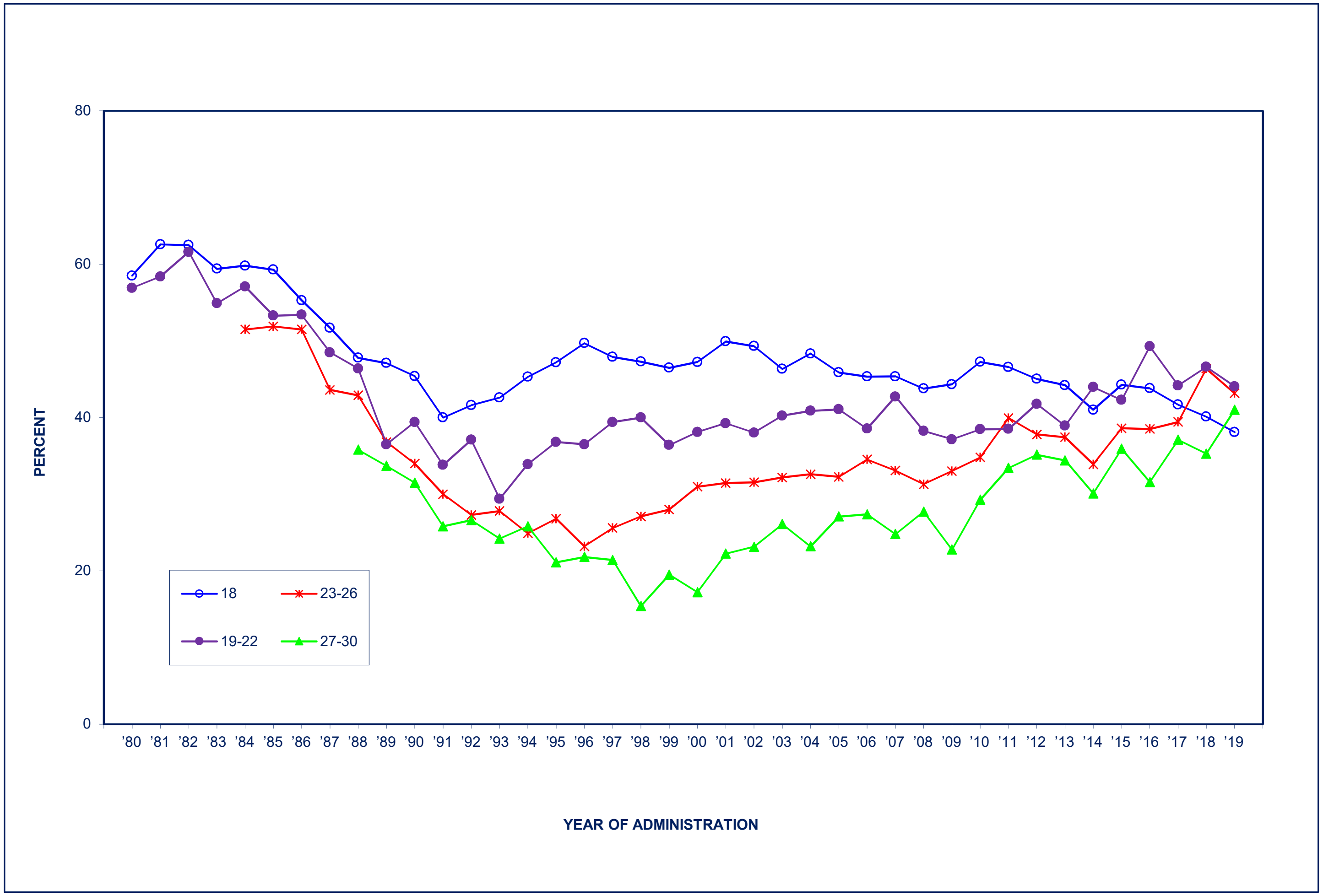
**% Saying Often Exposed**




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

**FIGURE 7-3**
**Trends in Direct 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 Any Exposure**

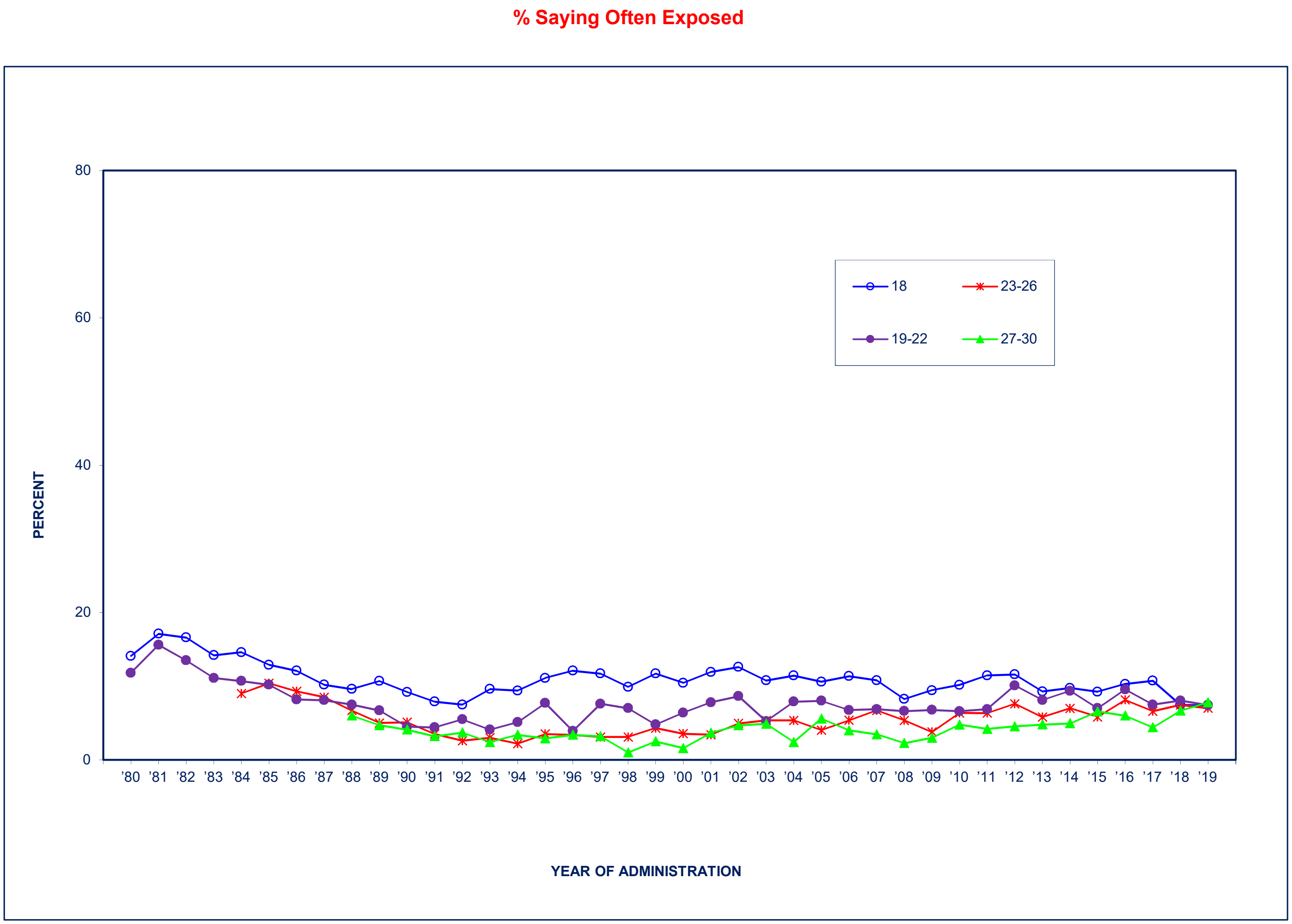



*Source.* The Monitoring the Future study, the University of Michigan.

[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

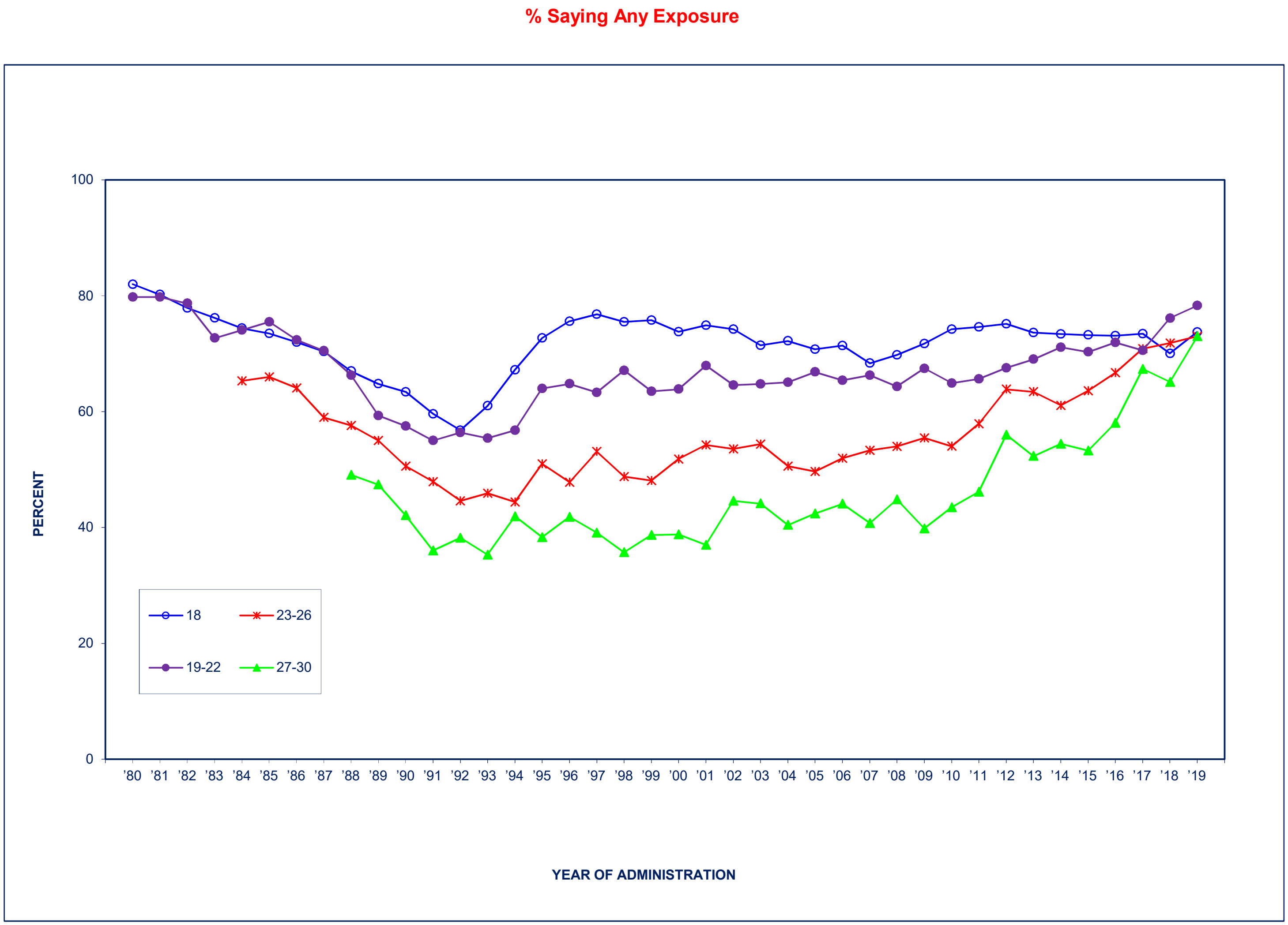
**Trends in Direct Exposure to Use of ANY ILLICIT DRUG OTHER THAN MARIJUANA[a]**
**among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30**




*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.

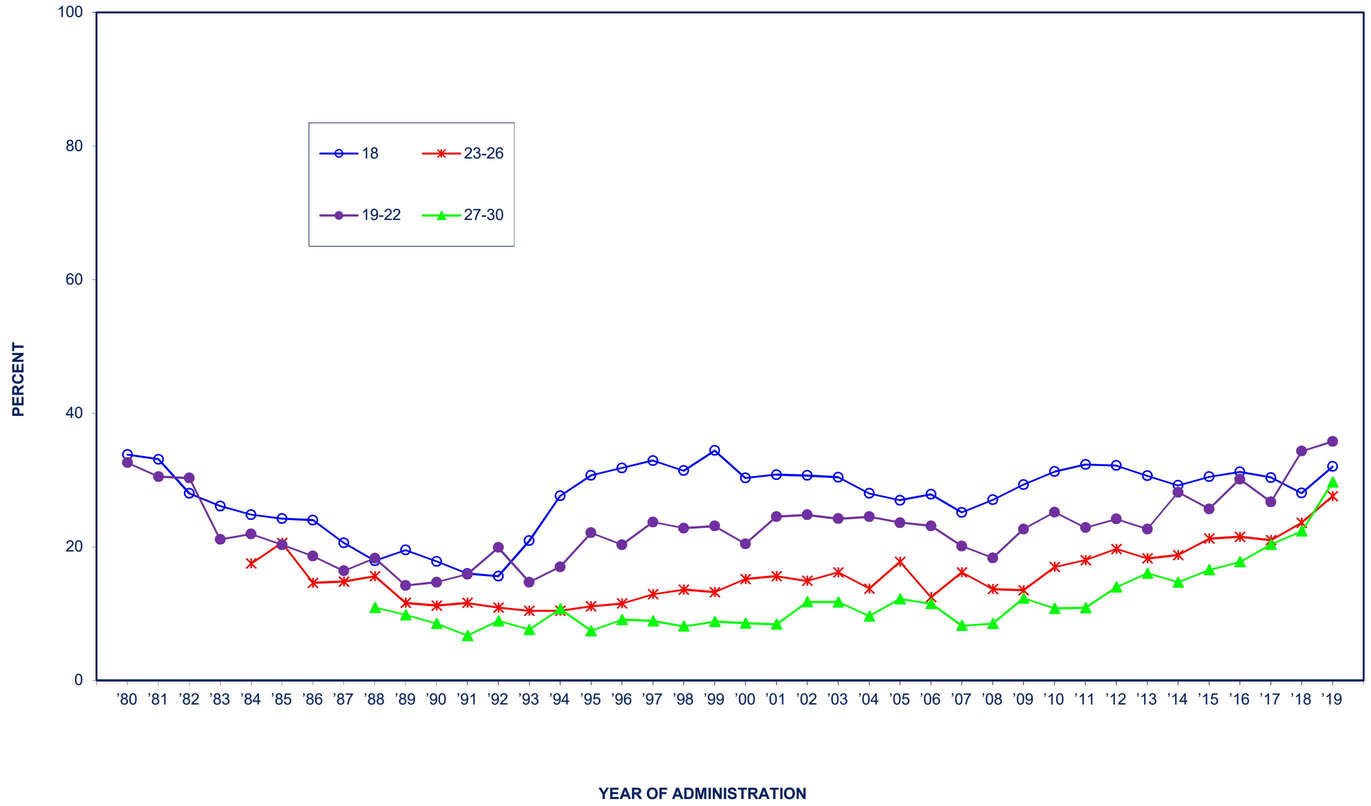
**FIGURE 7-5**
**Trends in Direct Exposure to Use of MARIJUANA**
**among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30**




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

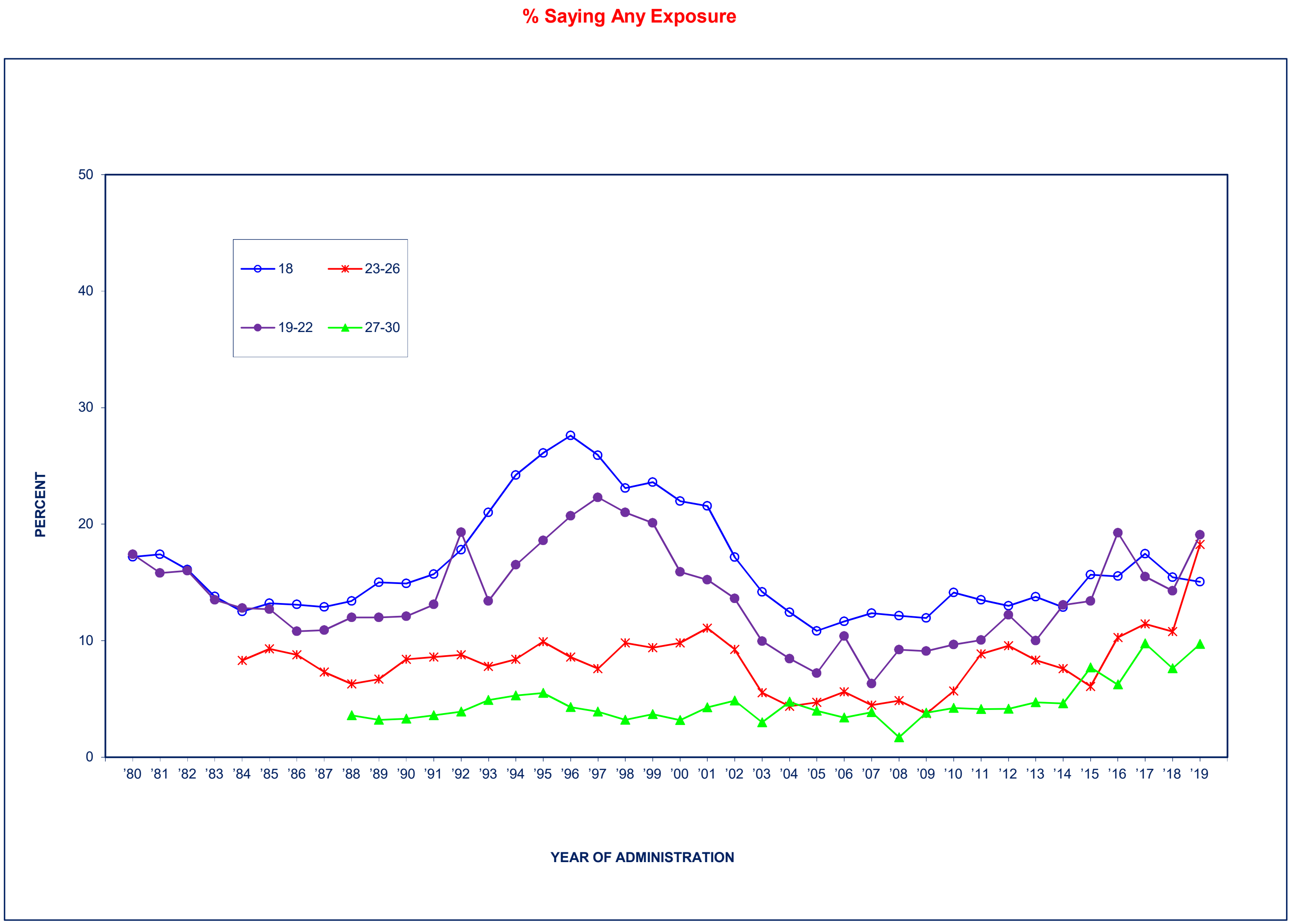
**FIGURE 7-6**
**Trends in Direct Exposure to Use of MARIJUANA**
**among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30**

**% Saying Often Exposed**




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

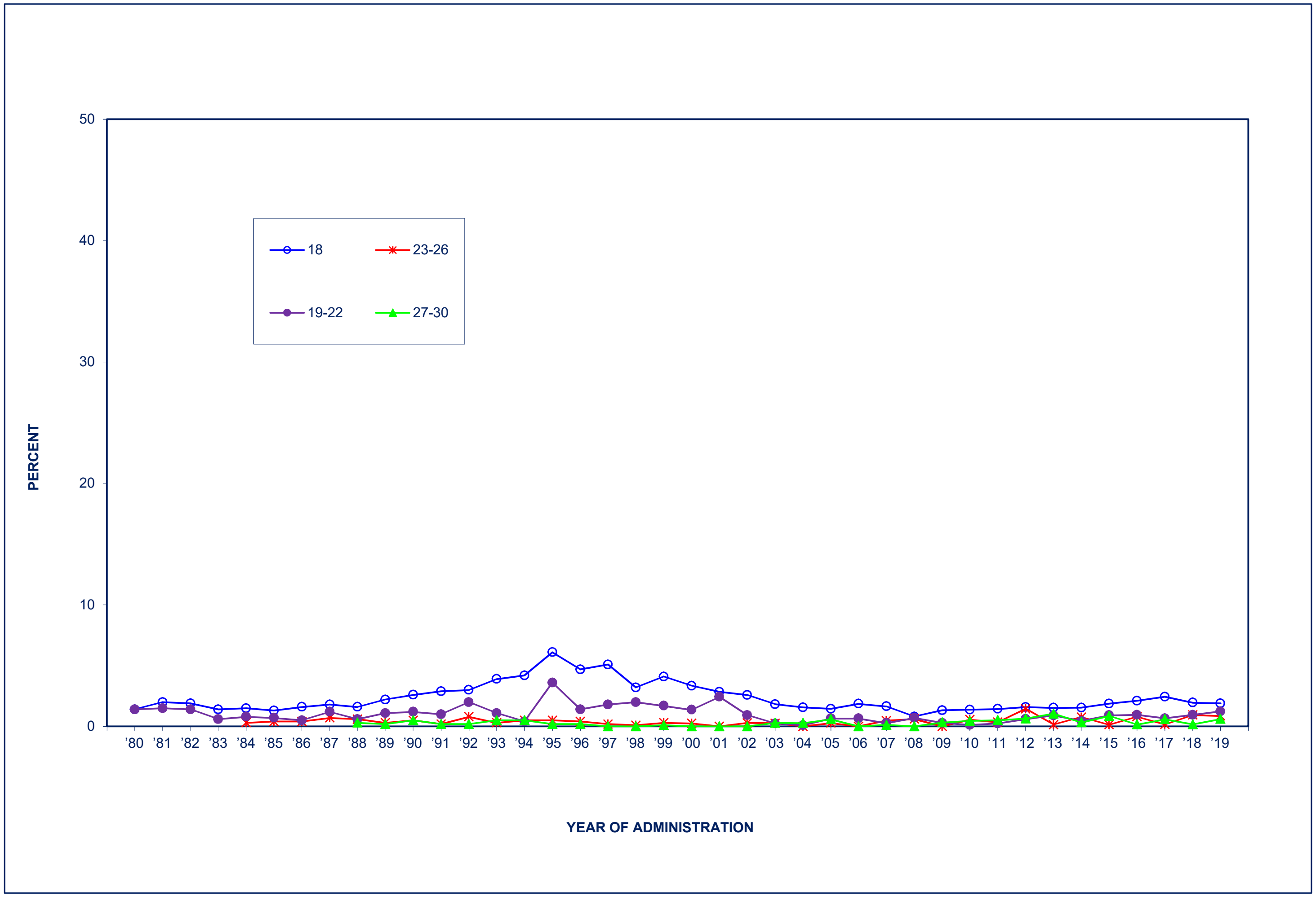
## FIGURE 7-7
## Trends in Direct Exposure to Use of LSD
## among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30




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

**FIGURE 7-8**
**Trends in Direct Exposure to Use of LSD**
**among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30**

**% Saying Often Exposed**

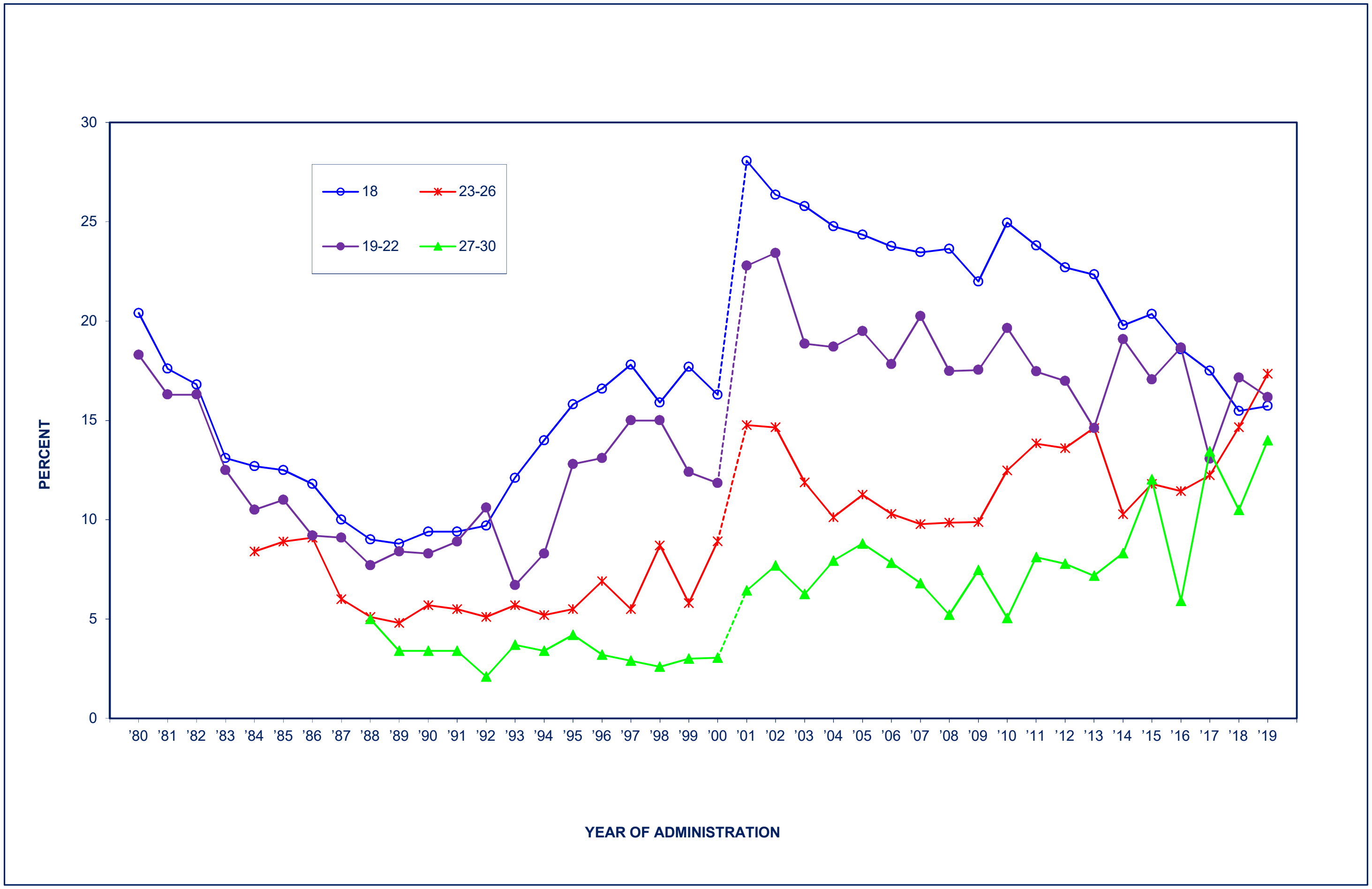



*Source.* The Monitoring the Future study, the University of Michigan.

**FIGURE 7-9**

**Trends in Direct 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**

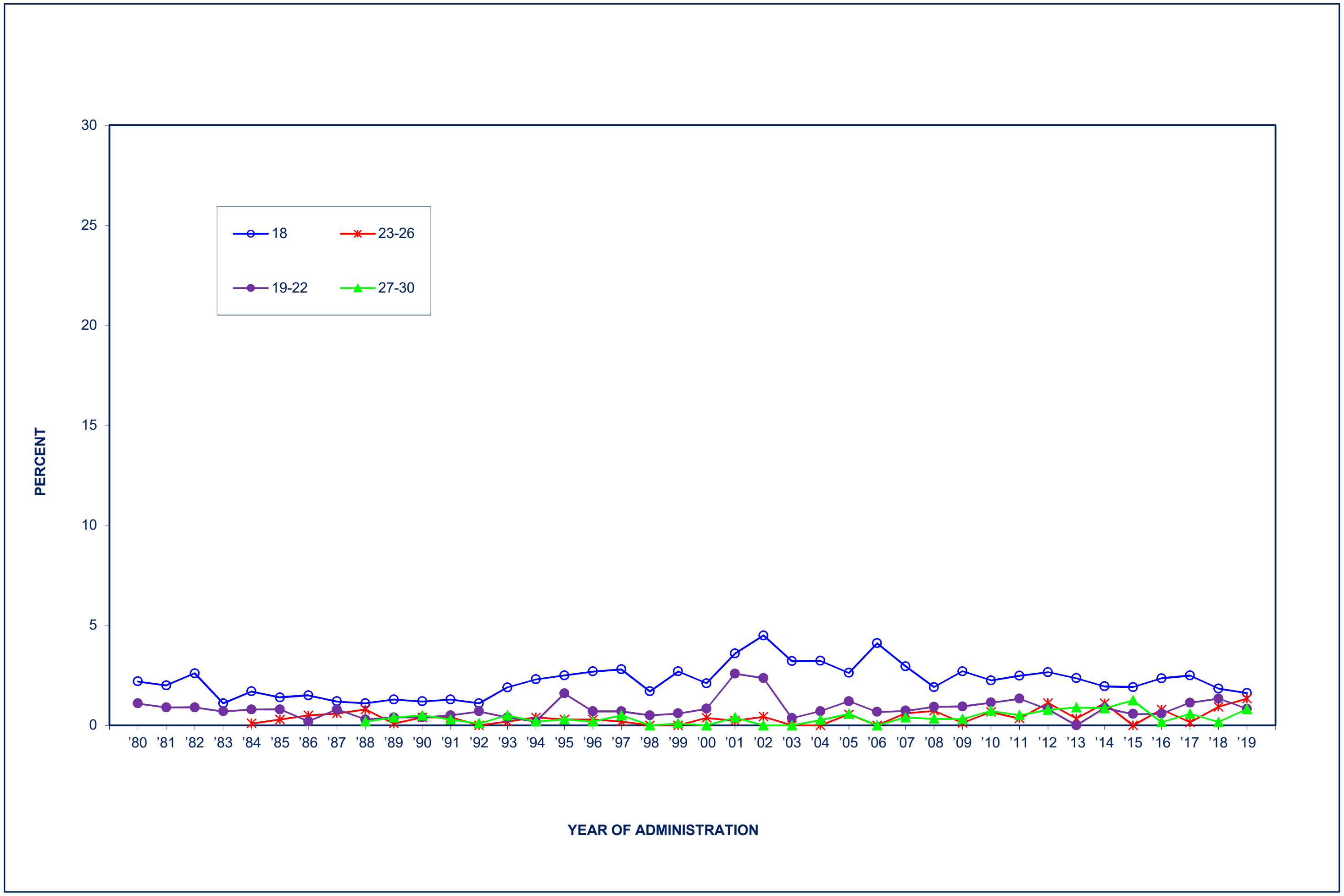



*Source.* The Monitoring the Future study, the University of Michigan.

[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 Direct 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**

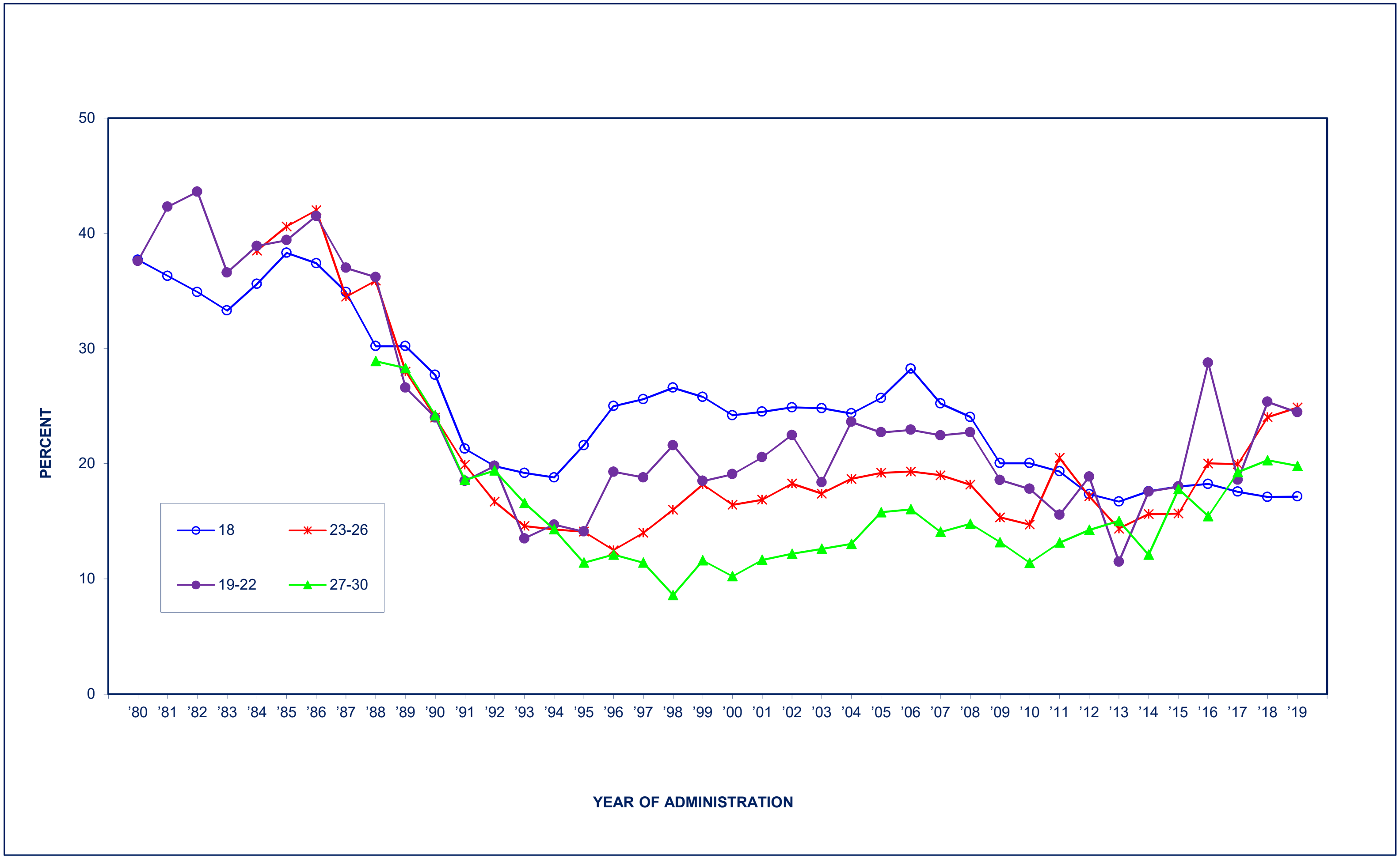



*Source.* The Monitoring the Future study, the University of Michigan.

[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 Direct Exposure to Use of COCAINE**
**among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30**

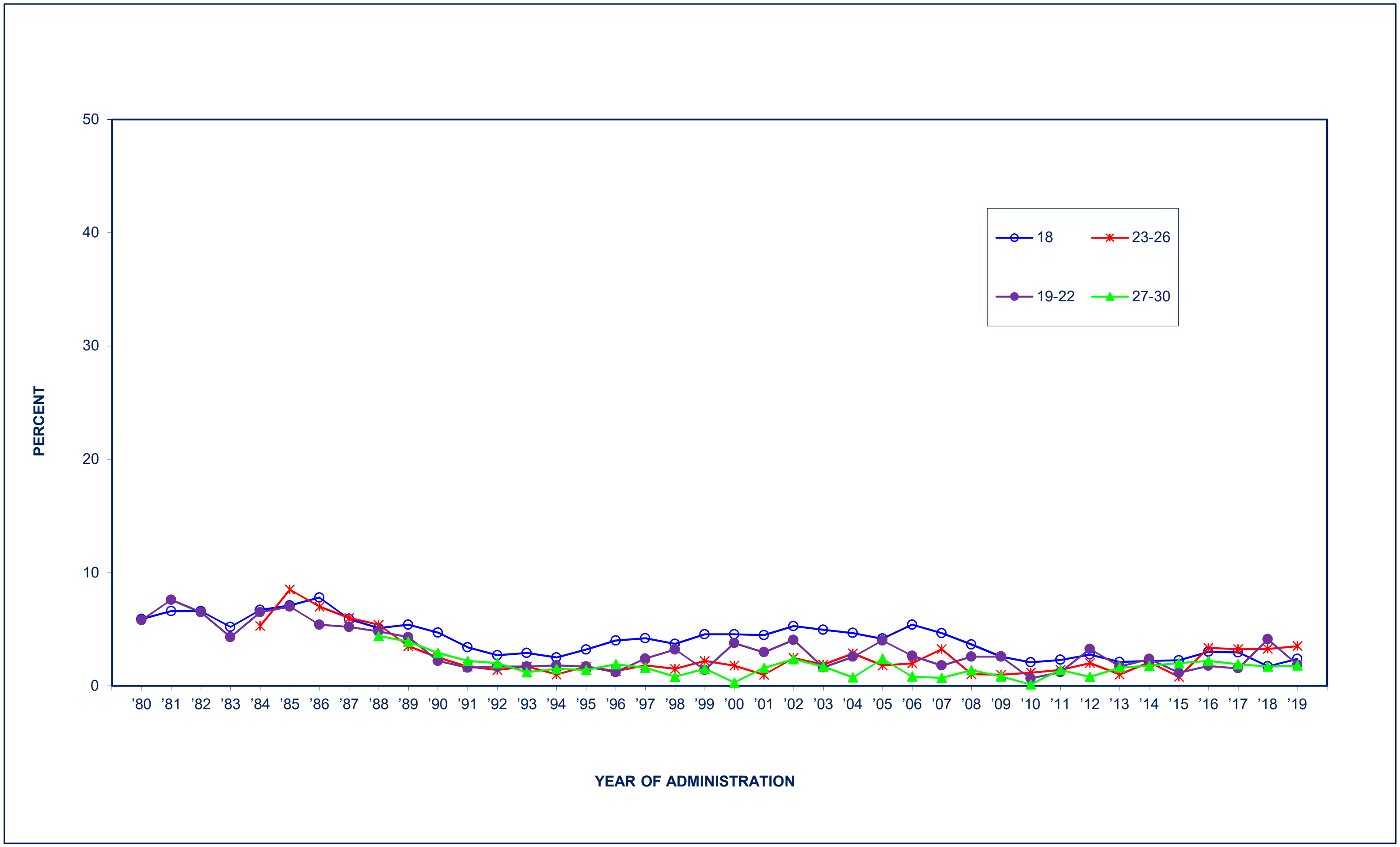
**% Saying Any Exposure**




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

## FIGURE 7-12
## Trends in Direct Exposure to Use of COCAINE
## among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

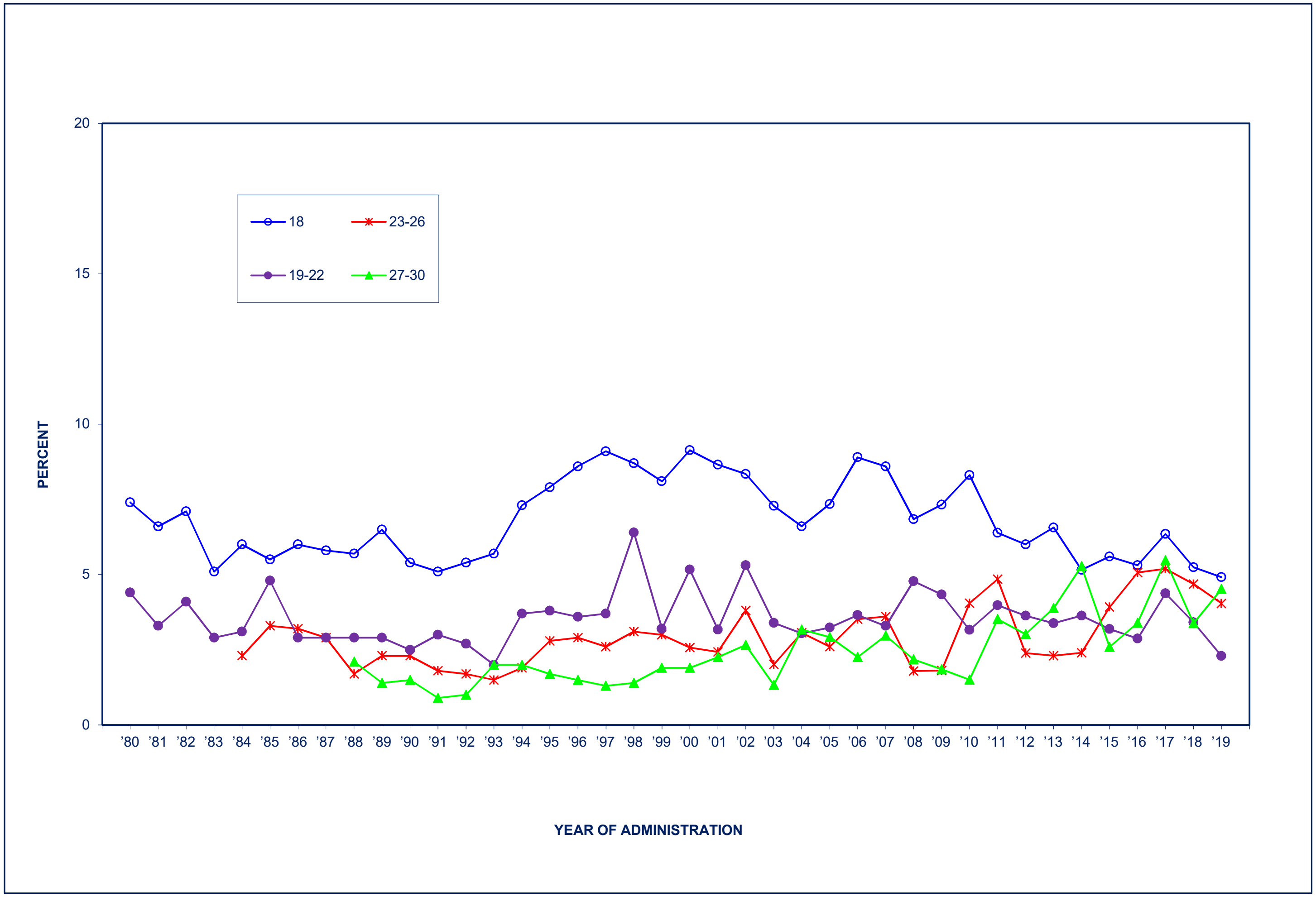
**% Saying Often Exposed**




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

**FIGURE 7-13**
**Trends in Direct Exposure to Use of HEROIN**
**among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30**

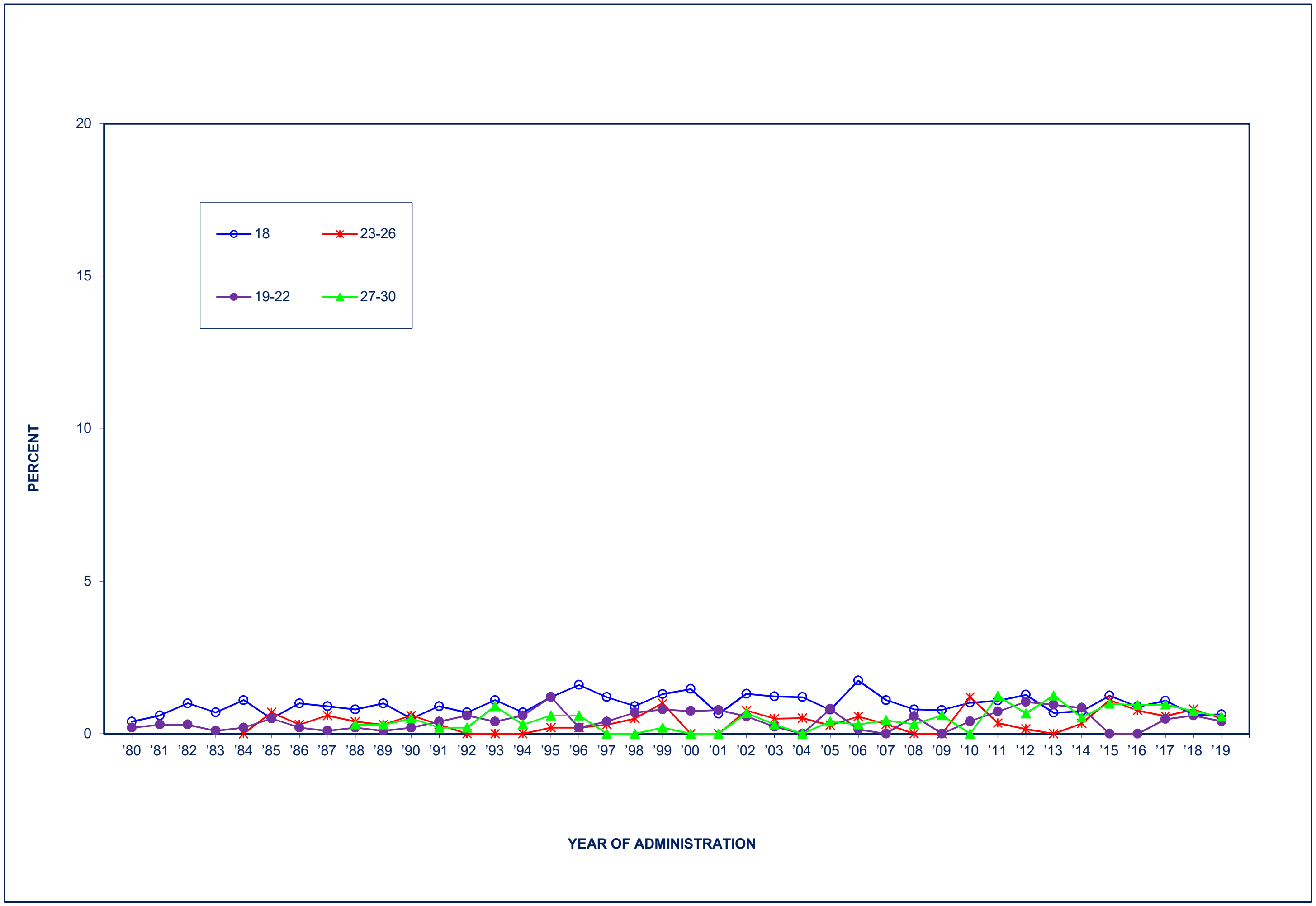
**% Saying Any Exposure**




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

**FIGURE 7-14**
**Trends in Direct Exposure to Use of HEROIN**
**among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30**

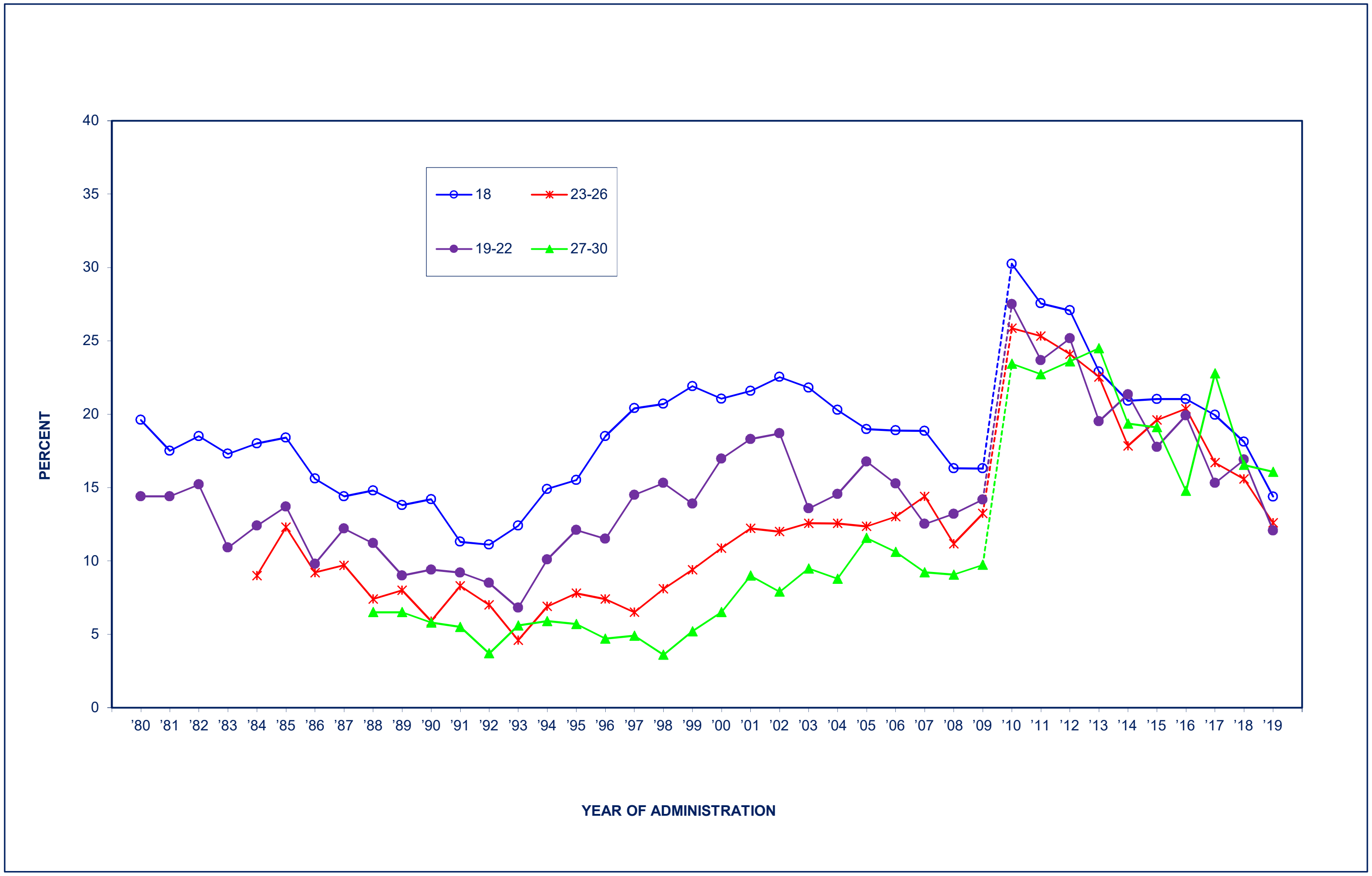
**% Saying Often Exposed**




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

**FIGURE 7-15**
**Trends in Direct 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**

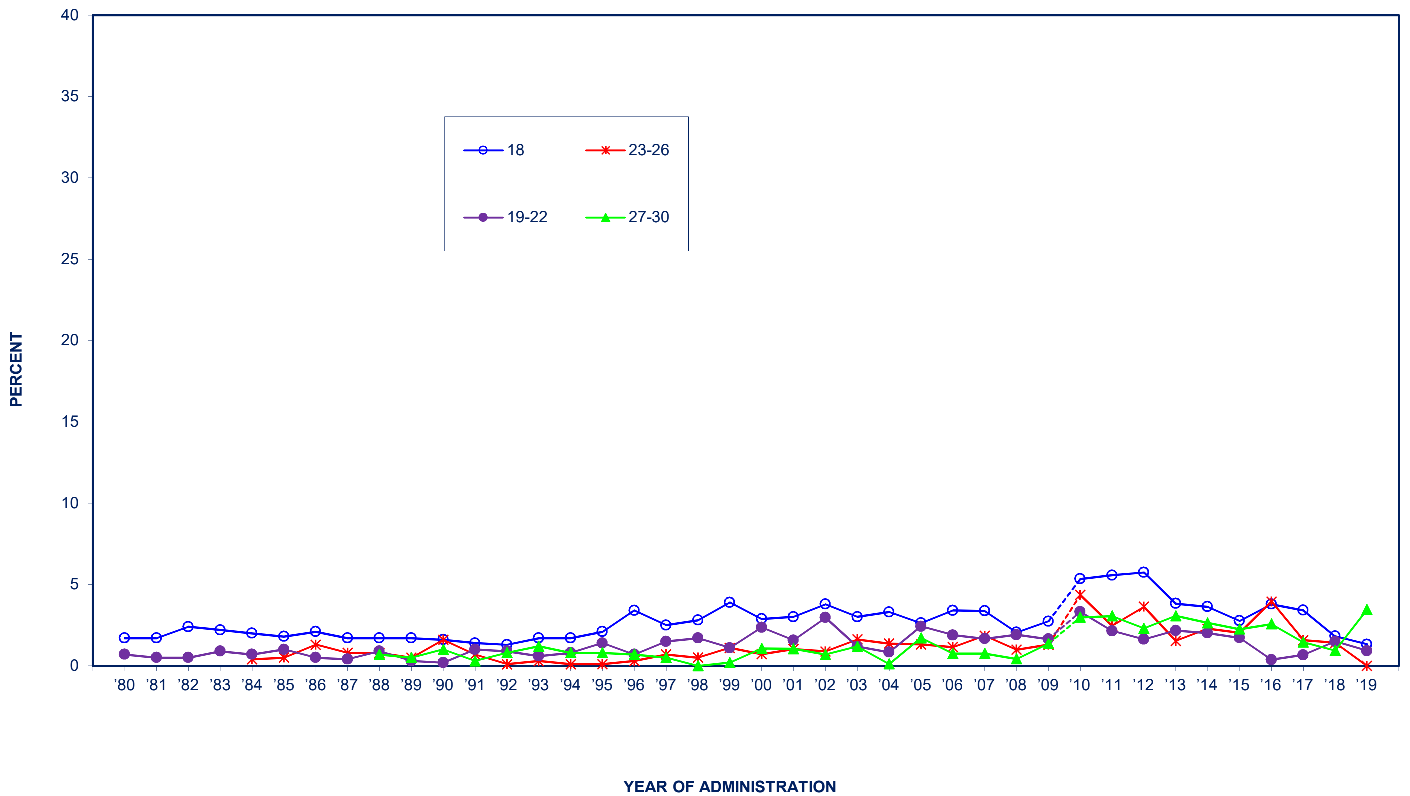



*Source.* The Monitoring the Future study, the University of Michigan.

[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 Direct 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.

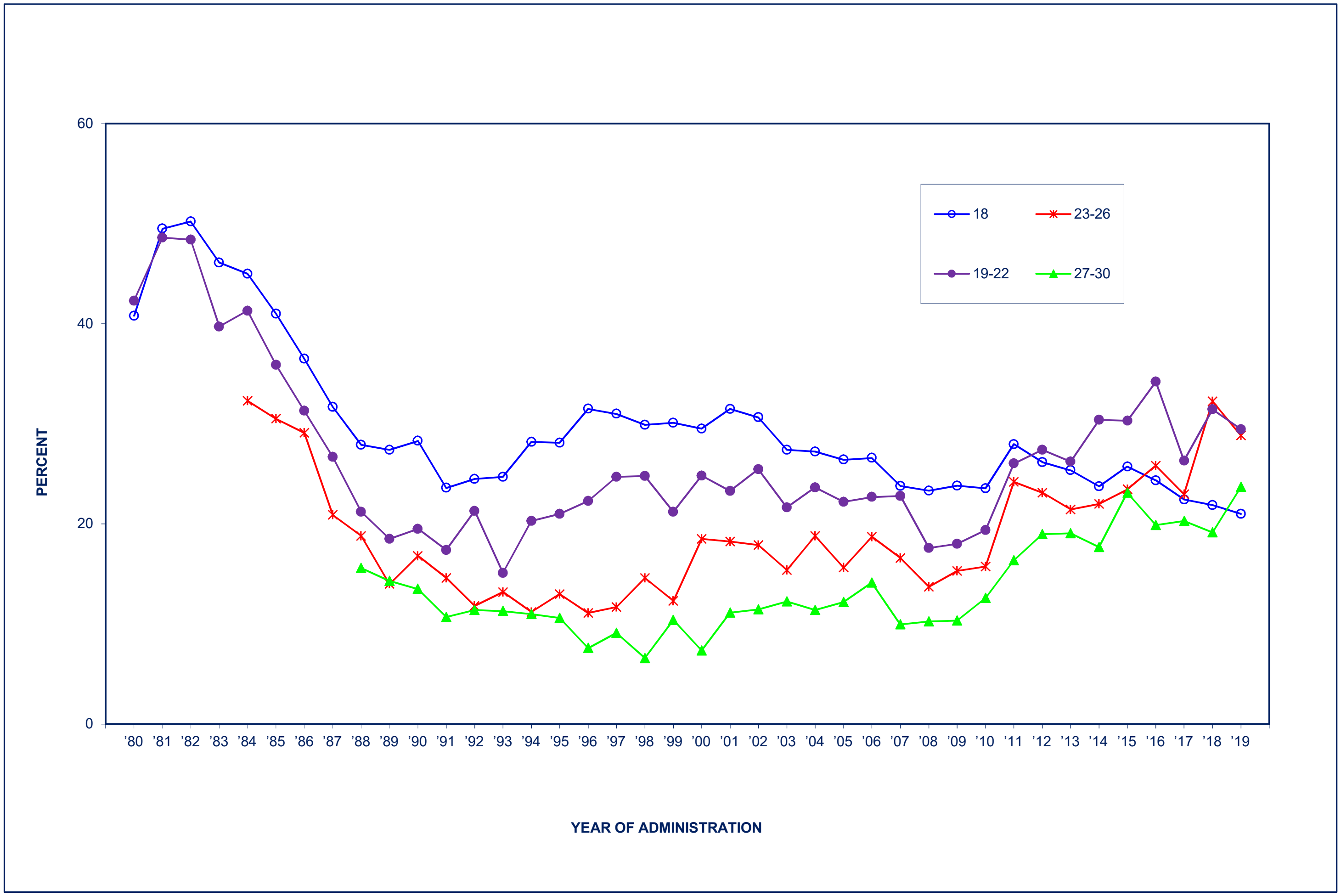
[a]In 2010 the list of examples for narcotics other than heroin was changed from methadone, opium to Vicodin, OxyContin, Percocet, etc. This change likely explains the discontinuity in the 2010 results.

## FIGURE 7-17

## Trends in Direct Exposure to Use of AMPHETAMINES[a]

## among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

**% Saying Any Exposure**

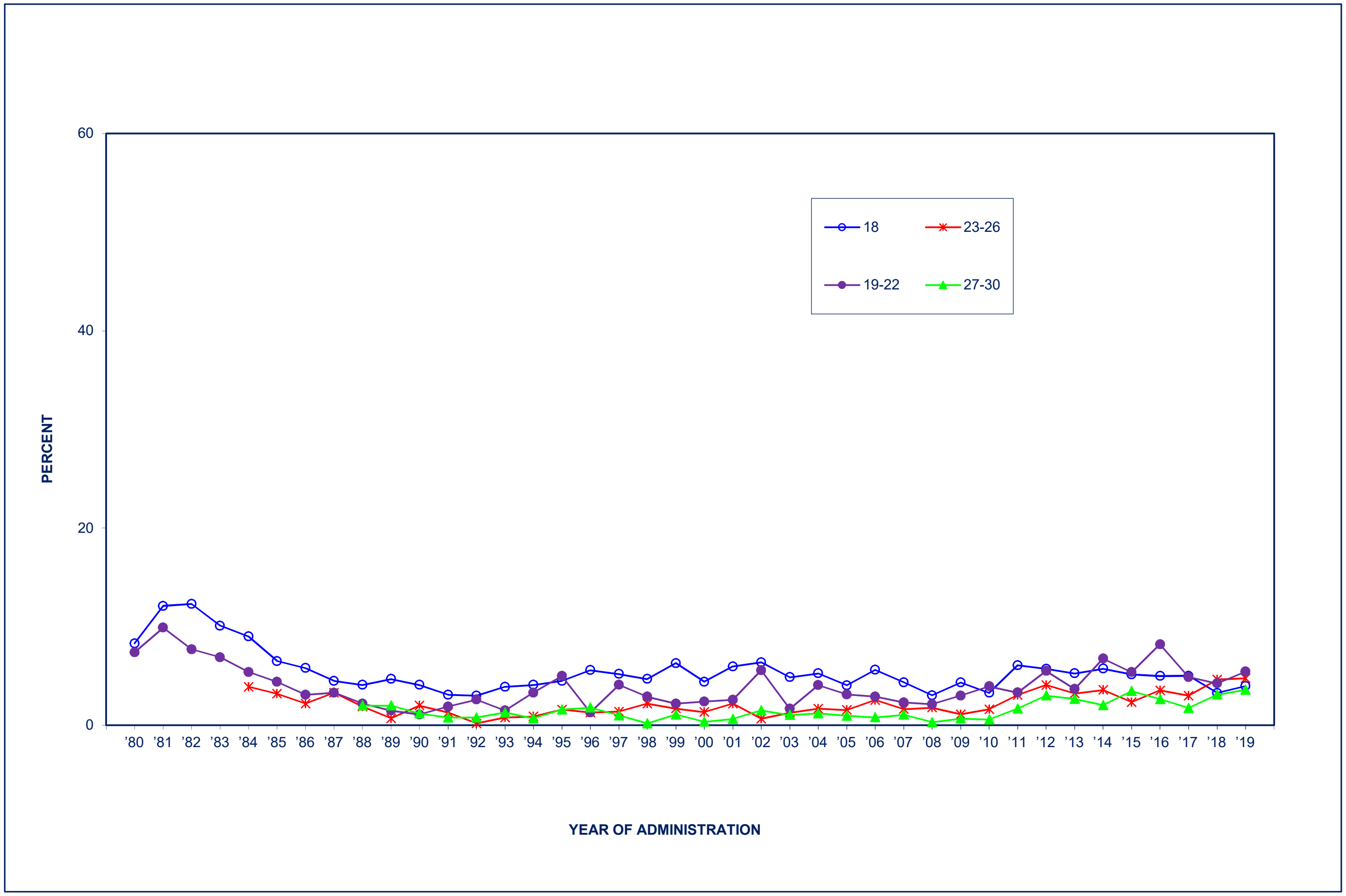



*Source*. The Monitoring the Future study, the University of Michigan.

[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 Direct Exposure to Use of AMPHETAMINES[a] among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

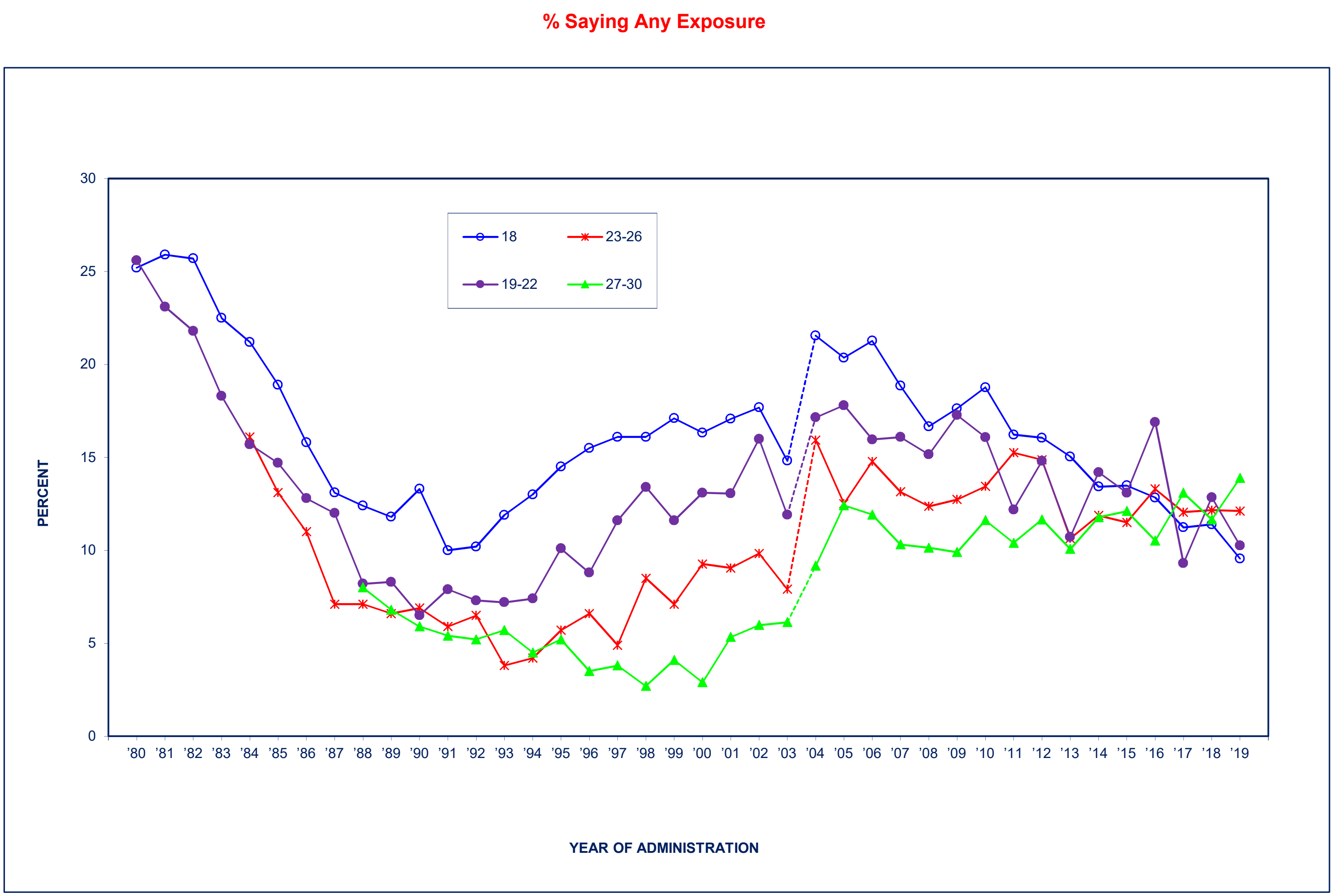
% Saying Often Exposed




*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 Direct Exposure to Use of SEDATIVES (BARBITURATES)[a]
## among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30

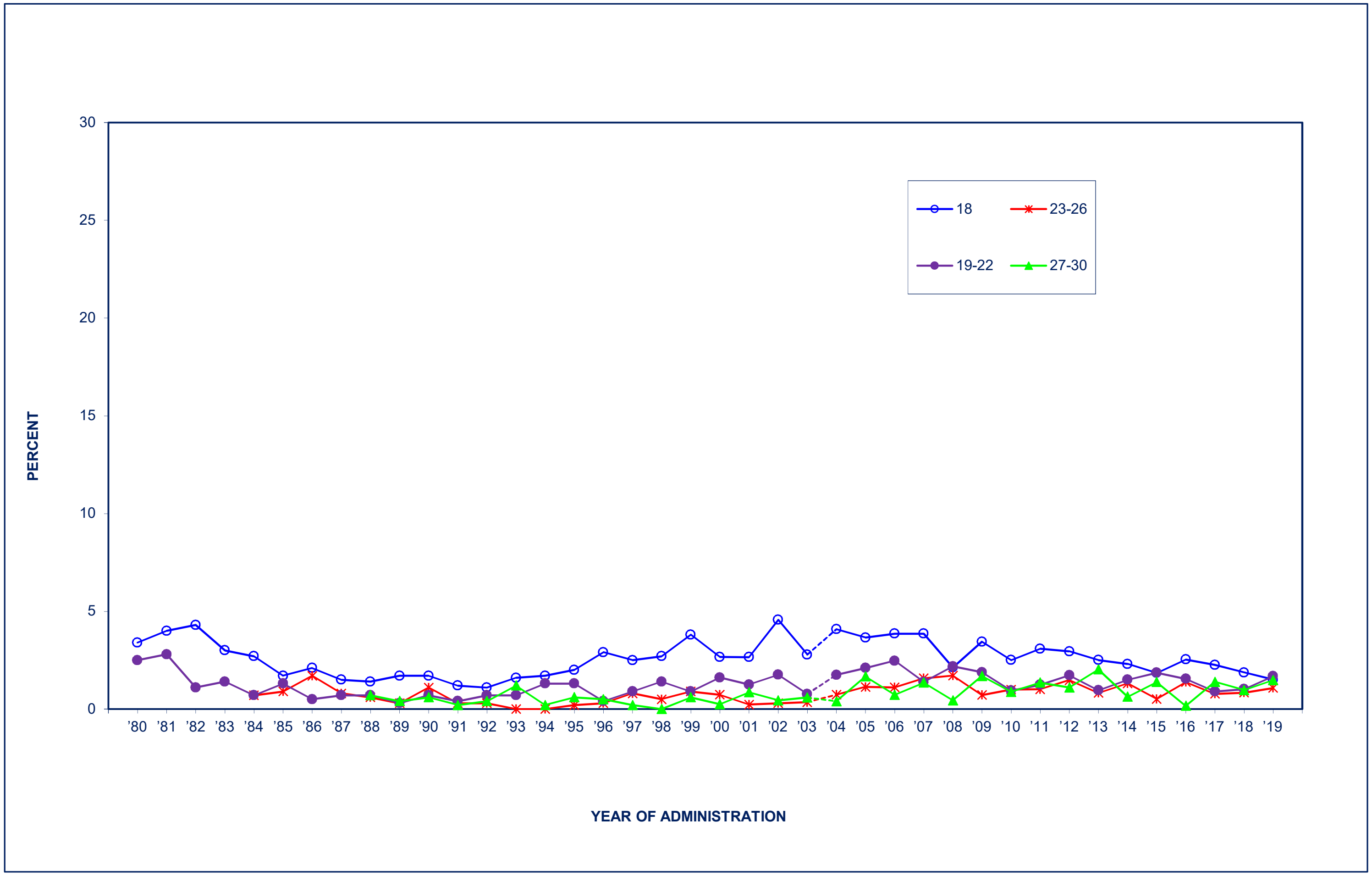



*Source.* The Monitoring the Future study, the University of Michigan.

[a]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 Direct 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**

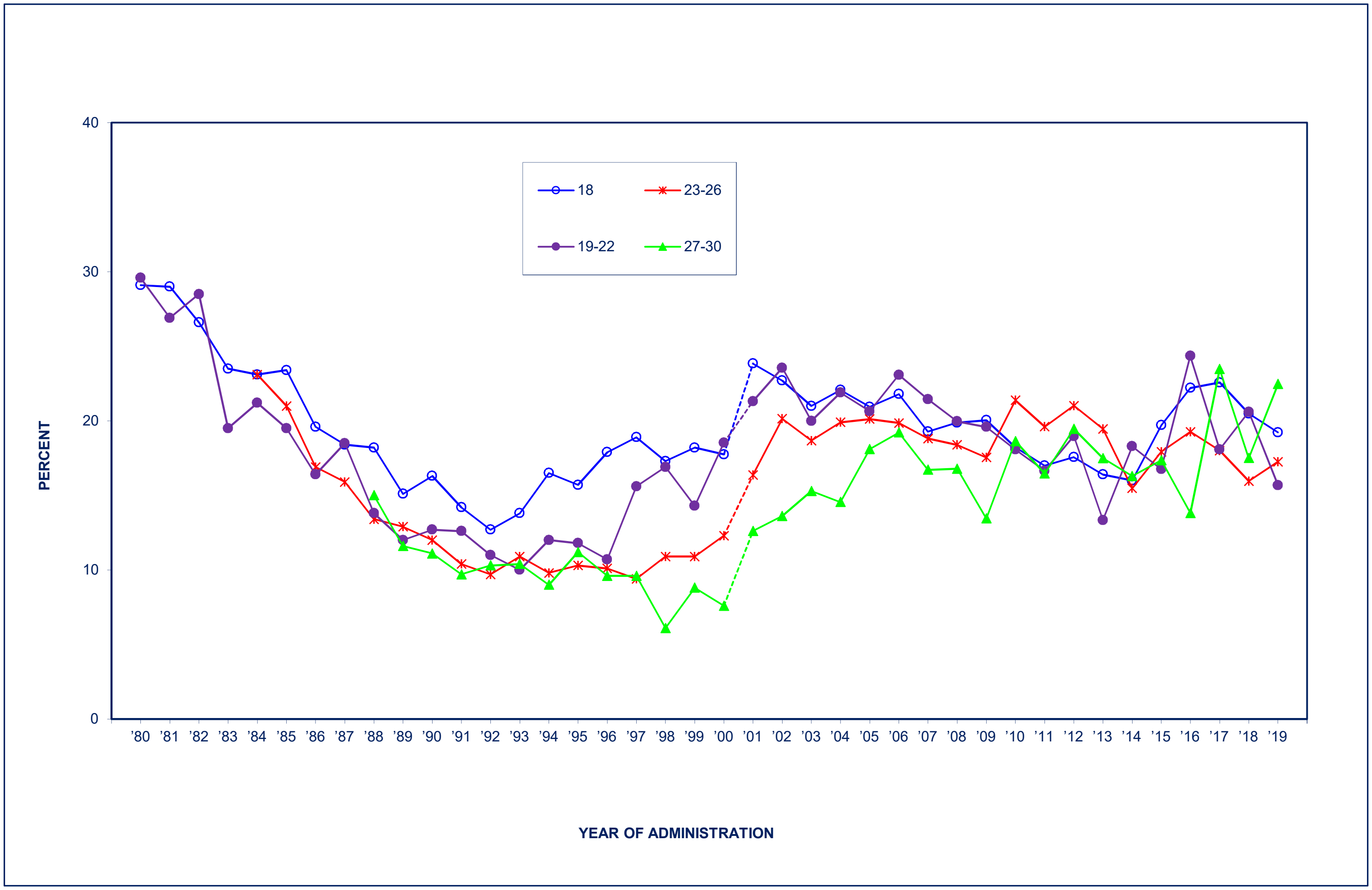



*Source.* The Monitoring the Future study, the University of Michigan.

[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 Direct Exposure to Use of TRANQUILIZERS[a]**
**among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30**

**% Saying Any Exposure**

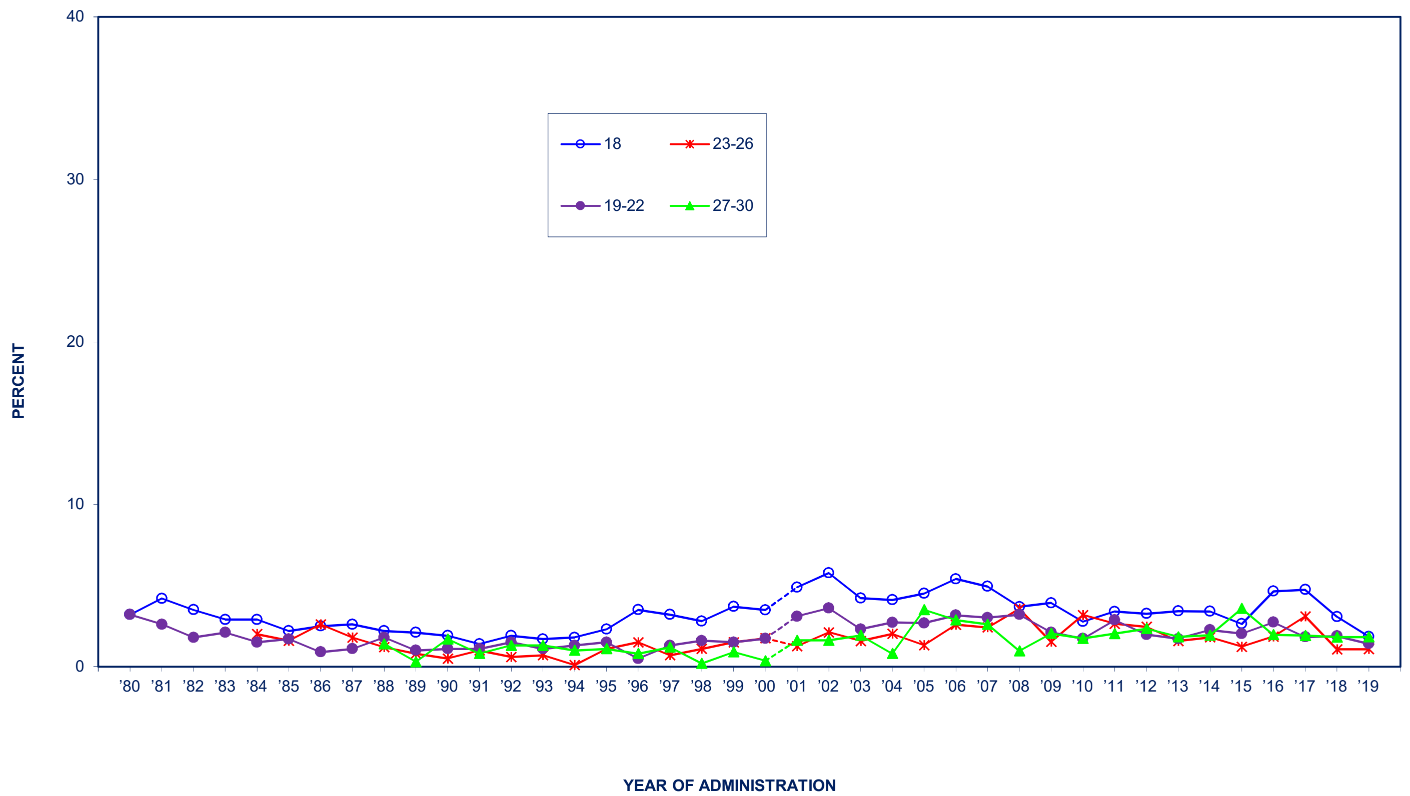



*Source.* The Monitoring the Future study, the University of Michigan.

[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 Direct Exposure to Use of TRANQUILIZERS[a]**
**among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30**

**% Saying Often Exposed**

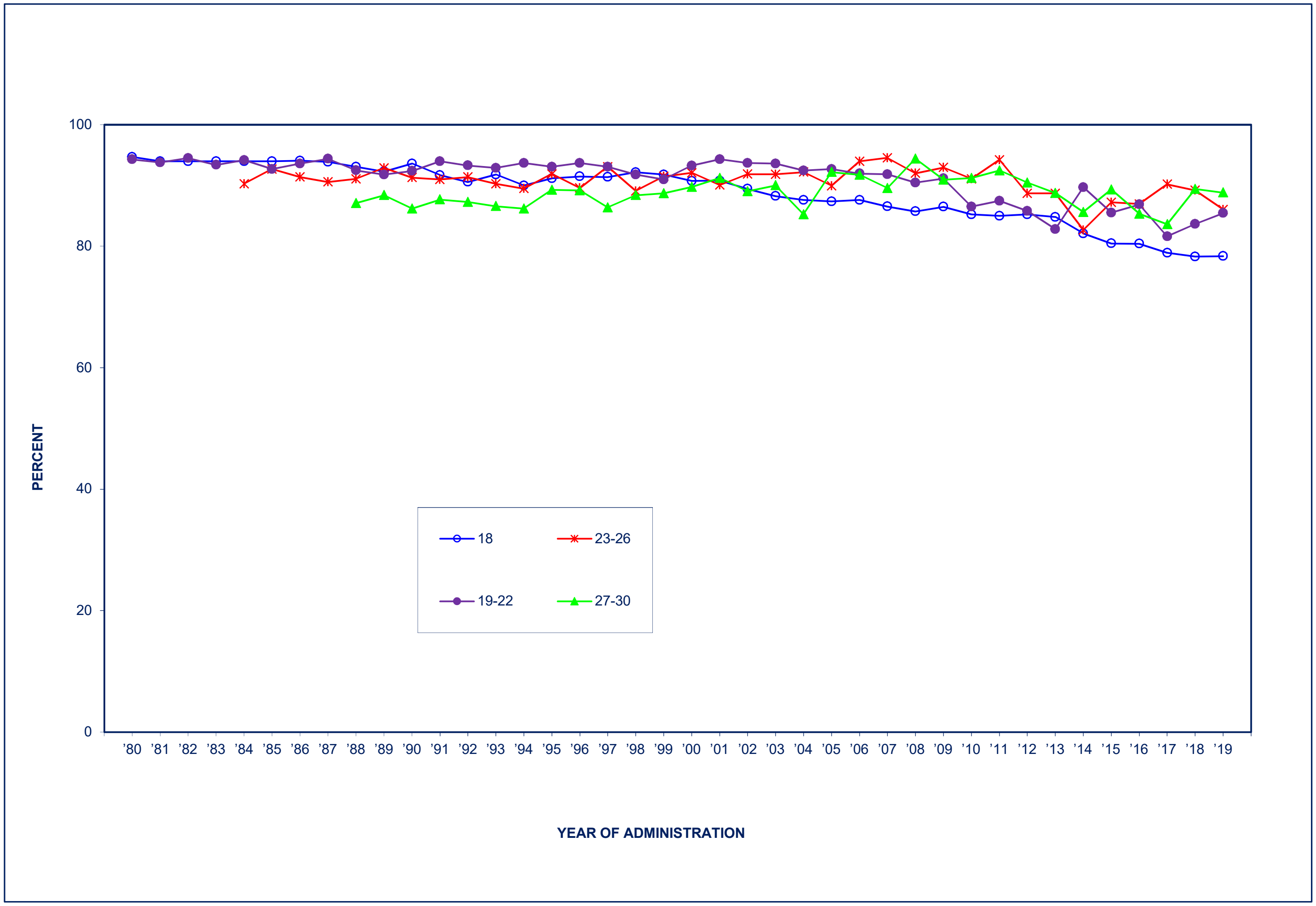



*Source.* The Monitoring the Future study, the University of Michigan.

[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 Direct Exposure to Use of ALCOHOL**
**among Respondents in Modal Age Groups of 18, 19–22, 23–26, and 27–30**

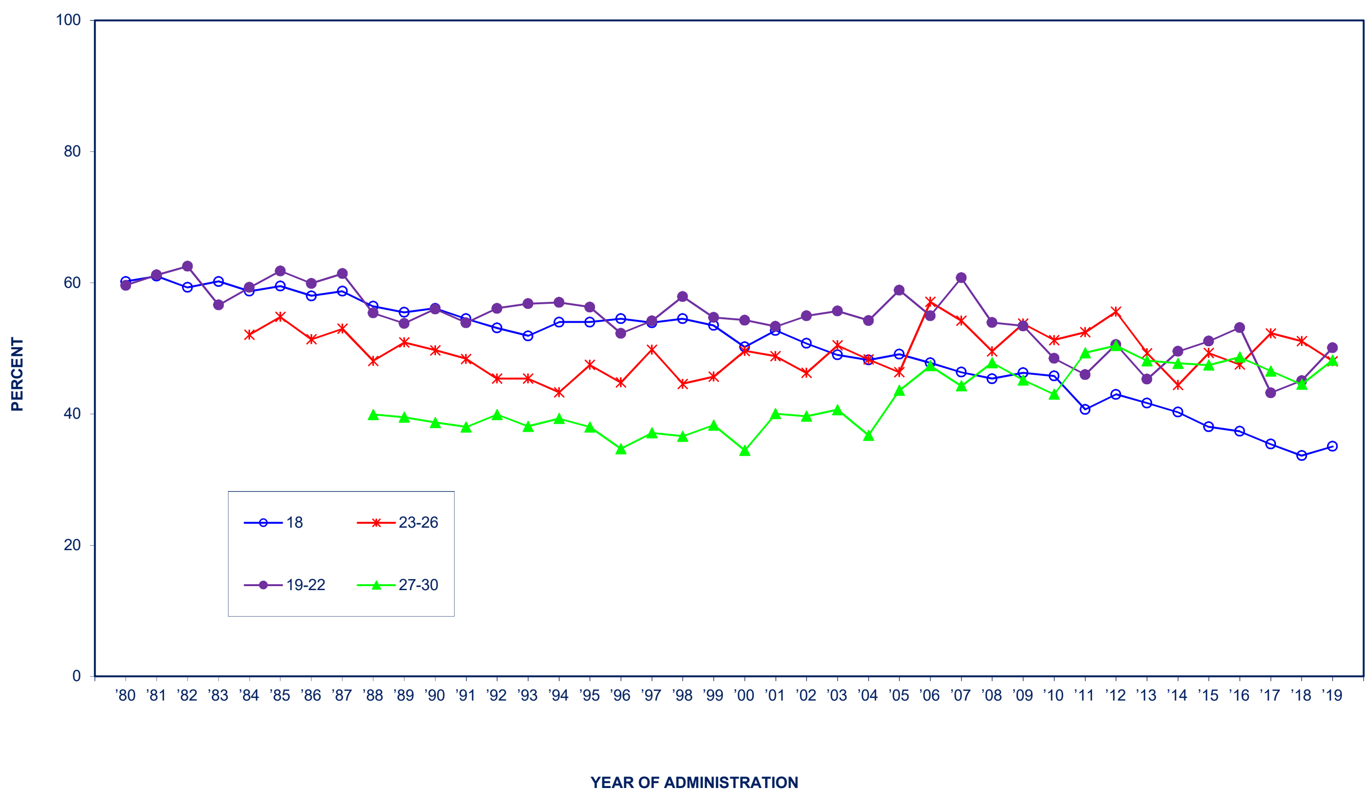
**% Saying Any Exposure**




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

**FIGURE 7-24**
**Trends in Direct 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 SAME-AGE NONCOLLEGE YOUTH

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 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 2019 among college students and their age-peers who graduated from high school and are 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 college or university* 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 high school 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 should have 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 an even larger proportion of enrolled college students of any age, it would slightly reduce the homogeneity of the college experience by including older classmates, it would bring more four-year college graduates into the noncollege group, and it would limit historical comparability. Auxiliary analyses conducted in 2017, which updated similar analyses done in 2011, 1997, and 1985, indicated extremely small differences in the estimates of drug use prevalence under the two definitions (four- vs. six-year intervals) for college students. In all the years we evaluated this, the annual prevalence of all drugs shifted 0.5 percentage points or less,

[1] U.S. Census Bureau, October 2014. Available at: http://www.census.gov/

with few exceptions; specifically, based on the 2017 analyses, the difference was 0.6 percentage points for hallucinogens other than LSD, and 0.7 percentage points for MDMA (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 full time 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, which contributes to relatively smaller sample sizes for noncollege youth (and thus less precision in our estimates). 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

## PREVALENCE OF DRUG USE AMONG COLLEGE STUDENTS AND SAME-AGE NONCOLLEGE YOUTH

In recent years and again in 2019, the prevalence of use for many illicit drugs among college students was similar to that of noncollege youth. There were some exceptions as we note below, often with noncollege youth showing higher prevalence. However, college students tended to be higher on alcohol use but lower on cigarette use compared to noncollege youth. When there were differences between college and noncollege youth, the degree of differences varied considerably by type of drug and measure of prevalence (lifetime, annual, 30-day, and daily), as Tables 8-1 through 8-4 show. Important gender differences in the college vs. noncollege comparisons are shown in the tables and summarized in a subsection below.

- In 2019, annual prevalence of use of ***any illicit drug*** was similar for college students (47%) and for noncollege respondents (46%) (Table 8-2). The annual prevalence of using ***any illicit drug other than marijuana*** was 17% among both college students and noncollege respondents. Thirty-day prevalence for use of any illicit drug was somewhat higher among noncollege youth (33%) than among college students (30%), but for use of any illicit drug other than marijuana, 30-day prevalence was similar among noncollege youth (6.9%) and college students (7.6%) (Table 8-3).

- The annual prevalence of ***marijuana*** use was 43% among both college students and noncollege youth in 2019 (Table 8-2); however, 30-day marijuana prevalence was higher for noncollege youth (33%) than for college students (26%) (Table 8-3).

- *The prevalence of current **daily marijuana** use (using on 20 or more occasions in the past 30 days), was more than two times higher for noncollege respondents (14.6%) compared to the college students (5.9%)* (Table 8-4).

- With regard to ***vaping marijuana*** (based on questions included in four of the six young adult survey forms in 2019), annual prevalence in 2019 was similar across college students

(26%) and noncollege youth (23%) (Table 8-2), and the same was true for 30-day prevalence of vaping marijuana (14% for college students and 17% for noncollege youth) (Table 8-3).

- In 2019, 3.3% of noncollege youth and 1.5% of college students reported annual use of ***narcotics other than heroin*** without medical supervision (Table 8-2). With respect to annual use of specific drugs in this class, ***Vicodin*** was used by 2.0% of noncollege youth vs. 1.5% of college students; the corresponding numbers for ***OxyContin***[2] were 2.5% and 2.6%.[3] Thus, for this important class of illicit drugs, annual prevalence was relatively low in 2019 and similar between college students and noncollege youth.

- In 2019, annual ***cocaine*** use was similar among college students (5.6%) and noncollege youth (5.5%) (Table 8-2).

- Several of the less commonly used illicit drugs showed annual prevalence for noncollege respondents in 2019 that were two or more times the college student rates, including ***heroin***, ***methamphetamine, crystal methamphetamine***, and ***sedatives (barbiturates)***.

- The use of ***hallucinogens*** was somewhat higher among noncollege youth in 2019. Among noncollege youth and college students, respectively, annual use of hallucinogens was 7.9% and 5.3%, annual use of ***LSD***[4] was 6.0% and 3.7%, annual use of ***hallucinogens other than LSD*** was 4.6% and 3.3%, and annual use of ***MDMA (ecstasy, Molly***[5]***)*** was 4.1% and 3.3% (Table 8-2).

- ***Amphetamine*** use without a doctor's prescription was higher among college students than among noncollege youth. Annual prevalence of amphetamine use among college students was 8.1% in 2019, compared to 5.9% in the noncollege group (Table 8-2). Specifically, annual prevalence of ***Adderall***[6] use without medical supervision was higher for college students (8.4%) than for noncollege respondents (5.8%) in 2019, 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 2019 (annual prevalence was 2.5% and 2.2% respectively).

---

[2] For the noncollege youth estimate for annual OxyContin use in 2019, there was a significant difference ($p<.01$) between the typical mail condition (0.3%) and new web-push condition (4.1%) of survey administration.
[3] The prevalence of OxyContin, a subclass of narcotics other than heroin, is asked on three of the six questionnaire forms, whereas the prevalence of narcotics other than heroin is asked on all six forms. The annual prevalence of OxyContin is similar to the annual prevalence of narcotics other than heroin, reflecting that OxyContin is a commonly used narcotic. When annual prevalence of OxyContin slightly exceeds the annual prevalence of narcotics other than heroin, this is likely a matter of random sample variation due to relatively small sample sizes for OxyContin.
[4] For the noncollege youth estimate for annual LSD use in 2019, there was a significant difference ($p<.05$) between the typical mail condition (3.2%) and new web-push condition (7.8%) of survey administration.
[5] For the noncollege youth estimate of annual MDMA use in 2019, there was a significant difference ($p<.05$) between the typical mail condition (7.0%) and new web-push condition (2.1%) of survey administration.
[6] The prevalence of Adderall, a subclass of amphetamines, is asked on three of the six questionnaire forms, whereas the prevalence of amphetamines is asked on all six forms. The annual prevalence of Adderall is similar to the annual prevalence of amphetamines for both college and noncollege respondents, reflecting that Adderall is a commonly used amphetamine. When annual prevalence of Adderall slightly exceeds the annual prevalence of amphetamines, this is likely a matter of random sample variation due to relatively small region sample sizes for Adderall.

- In 2019, college students were higher than noncollege youth in annual ***alcohol*** use (78% vs. 67%) and in 30-day use (62% vs. 50%) (Tables 8-2 and 8-3).

- College students also had a considerably higher prevalence (33%) of ***binge drinking*** (five or more drinks in a row at least once in the past two weeks) than noncollege youth (22%) in 2019 (Table 8-4). Similarly, more college students (35%) reported having ***been drunk*** in the prior 30 days, compared to noncollege respondents (28%) (Table 8-3). Both groups had relatively low ***daily drinking***[7] prevalence, with it being similar in 2019 among college students (2.0%) and noncollege youth (3.1%) (Table 8-4). Back 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 and point to full-time college attendance as a risk factor for binge drinking.

- Beginning in 2005, we have given explicit attention to the problem of ***high-intensity drinking*** (also referred to as extreme binge drinking). We introduced questions asking 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 10+ item was included on one of six questionnaire forms through 2014, on two forms 2015-2018, and five forms in 2019 (the 15+ item has been on only one form throughout, thus we do not report the 2019 prevalence here but we consider trends in Chapter 9). In 2019, the prevalence of having ***10 or more drinks in a row*** was 10% for college students and 12% for noncollege respondents (Table 8-4). Thus, whereas college students exceeded noncollege youth in binge drinking (5+ drinks in a row), the two groups are similar in this higher level of problematic drinking. [8,9,10] Trends since 2005 are reported in Chapter 9 (Tables 9-4, 9-5, and 9-6), where we document a general downward trend, especially for college students. As discussed below, there is a dramatic gender difference in the prevalence of this behavior.

- In 2019, annual prevalence of using ***flavored alcoholic beverages*** was higher for the college (65%) than the noncollege group (58%) (Table 8-2).

- In 2019, prevalence of ***alcoholic beverages mixed with energy drinks*** was higher for the college than the noncollege group (36% versus 23% respectively) (Table 8-2).

- Among all substances studied, the largest differences for annual, 30-day, and daily prevalence levels between college and noncollege groups occur for ***cigarette smoking***. For

[7] For the noncollege youth estimate of daily alcohol use in 2019, there was a significant difference (p<.05) between the typical mail condition (5.8%) and new web-push condition (1.3%) of survey administration.

[8] 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.

[9] 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.

[10] 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.

example, the prevalence of 30-day smoking in 2019 was twice as high among noncollege youth (15.5%) than college students[11] (7.9%) (Table 8-3); proportional differences were even greater for daily smoking (8.0% for noncollege youth and 2.5% for college students) and smoking a half pack or more per day (2.5% for noncollege youth and 0.7% for college students (Table 8-4). The 12th grade data show the college-bound have much lower smoking levels in high school than the noncollege-bound; thus, in contrast to what was true for alcohol use, these substantial differences observed at college age actually largely preceded college attendance.[12] 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.[13]

- In 2019, annual prevalence of ***vaping nicotine*** was higher for college youth (35%) than noncollege youth (30%) (Table 8-2); this was also true regarding 30-day prevalence (22% versus 18%, respectively) (Table 8-3). Prevalence of ***vaping just flavoring***, however, was similar for college students and noncollege youth; for the two groups, respectively, annual prevalence was 16% and 17% (Table 8-2) and 30-day prevalence was 5.4% and 5.2% (Table 8-3).

### Selective Summary of 2019 Prevalence among College and Noncollege youth

In sum, as has been true in recent years, prevalence of some illicit drug use tended to be similar among 19-22 year old college students and noncollege youth in 2019. This was true for annual prevalence of ***any illicit drug*** (47% and 46% respectively), of ***any illicit drug other than marijuana*** (17% for both), and of ***marijuana*** (43% for both). Noncollege youth had somewhat higher *30-day prevalence* than college students of any illicit drug use (33% and 30% respectively) and of marijuana use (33% and 26%, respectively); but 30-day prevalence of any illicit drug other than marijuana was similar for college students (7.6%) and noncollege youth (6.9%). As has been true in recent years, noncollege youth had much higher prevalence of ***near-daily marijuana*** use than college students (15% vs. 5.9%, respectively). Annual prevalence of ***hallucinogens***, including ***LSD***, was somewhat higher among noncollege youth in 2019, as was true for ***MDMA*** (ecstasy, Molly). Annual prevalence of ***cocaine*** use in 2019 was similar for college students and noncollege youth. As has been true for many years, 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***). However, ***high-intensity drinking*** (having 10 or more drinks in a row in the past two weeks) prevalence was similar for college and noncollege youth in 2019, with about one-in-ten engaged in this behavior. The higher levels 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. As has been true all along, ***cigarette*** use is much more common among noncollege youth than college students. Finally, regarding vaping, 30-day and annual prevalence of ***vaping nicotine*** in 2019 were higher among

---

[11] For the college student estimate for 30-day cigarette use in 2019, there was a significant difference ($p<.05$) between the typical mail condition (5.7%) and new web-push condition (9.5%) of survey administration.

[12] 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.

[13] 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.

college students than noncollege youth, which was true in 2018; however, in 2019, differences between college students and noncollege youth in ***vaping marijuana*** were less distinct, with annual prevalence being slightly higher for college students, and 30-day prevalence being somewhat higher for noncollege youth. In Chapter 9, we consider historical shifts in college vs. noncollege differences in prevalence of substance use.

As discussed in Chapter 3, 2019 was the second year that we compared survey administration condition among young adults, with half being randomly assigned to our typical mail-based condition and half to the new web-push condition in order to gauge any impact of survey condition on the prevalence estimates (in 2018 we also made this comparison, which was on an independent sample from 2019 given our biennial assessments for young adults). As indicated in footnotes in text above and in footnotes to Tables 8-1 through 8-4, there were very few significant differences in prevalence estimates between the two conditions in 2019, and thus we combined estimates across the two conditions into an average (weighted for sample size per condition) for college students and for noncollege youth (as we had done in 2018 reported in last year's volume). In 2019, 11 of the comparisons (about 5% of the total comparisons) reported in this chapter for college students and for noncollege youth across all drugs and intensities of use yielded significant differences, and there was little consistency in the significant differences across substances and drug use intensities. To summarize, significant differences were found for the following in 2019: *lifetime* prevalence of vaping marijuana for college youth (25% for typical mail condition, 33% for web-push condition, [$p<.05$]), of vaping nicotine for noncollege youth (36% for mail and 48% for web-push, [$p<.05$]), and of vaping just flavoring for noncollege youth (23% for mail and 39% for web-push, [$p<.01$]); *annual* prevalence of inhalants for noncollege youth (4.8% for mail and 0.0% for web-push, [$p<.01$]), of LSD for noncollege youth (3.2% for mail and 7.8% for web-push, [$p<.05$]), of MDMA for noncollege youth (7.0% for mail and 2.1% for web-push, [$p<.05$]), of OxyContin for college youth (0.3% for mail and 4.1% for web-push, [$p<.01$]), of tobacco with a hookah for noncollege (4.3% for mail and 11.7% for web-push, [$p<.05$]); *30-day* prevalence of inhalants for noncollege youth (2.5% for mail and 0.0% for web-push, [$p<.05$]), of cigarettes for college youth (5.7% for mail and 9.5% for web-push, [$p<.01$]); and *daily* prevalence of alcohol for noncollege youth (5.8% for mail and 1.3% for web-push, [$p<.01$]).

In general, the 2019 findings regarding typical mail-condition vs. new web-push condition of survey administration indicate that there are very few systematic differences between the two in terms of prevalence of numerous substances for college students and noncollege youth, providing a strong rationale for combining estimates across the two survey administration conditions. In 2018 (as reported in last year's volume), we found that 9 of the comparisons (about 4% of the total) were significantly different, and there was no overlap between 2018 and 2019 in comparisons that yielded significant differences by survey condition. This suggests minor sample fluctuations are the primary source for differences by condition, further justifying combining estimates across the two survey administration conditions. For additional information, see our published articles for earlier experiments on mail and web conditions among young adults,[14] and for the results of the 2018 comparisons.[15]

## GENDER DIFFERENCES IN PREVALENCE OF USE AMONG COLLEGE STUDENTS AND SAME-AGE NONCOLLEGE YOUTH

Data stratified by gender (within college students and noncollege youth) are provided in Tables 8-1 to 8-4.

- Many gender differences, especially among college students, replicated those discussed in Chapter 4 for all young adults one to 12 years past high school. Thus among college students men tended to have similar or higher annual, 30-day, and daily prevalence than women; however among noncollege youth, gender differences in prevalence are more mixed as summarized below.

- Among college students in 2019, annual prevalence of use of ***any illicit drug*** was higher for men than for women (50% and 45%, respectively) (Table 8-2); and the same was true for 30-day use (33% and 28%, respectively) (Table 8-3). For noncollege youth, annual prevalence was slightly higher for women than for men (46% and 44%, respectively); and the same was true for 30-day use (35% and 31%, respectively).

- Among college students in 2019, annual prevalence of ***any illicit drug other than marijuana*** was somewhat higher for men (19%) than women (16%) (Table 8-2); and the same was true for 30-day use (9.1% and 7.0%, respectively) (Table 8-3). Among noncollege youth, annual prevalence was somewhat higher for men (19%) than women (16%); and 30-day use was similar for men (7.4%) and women (6.9%).

- Annual ***marijuana*** use was higher among college men (46%) than college women (41%) in 2019 (Table 8-2); and the same was true for ***30-day marijuana*** use (30% and 24%, respectively) (Table 8-3). Among noncollege youth, annual use was similar among men (43%) and women (42%), and the same was true for 30-day use (31% and 33%, respectively). ***Daily marijuana*** use was somewhat higher among college men (7.2%) compared to college women (5.0%) and also higher for noncollege men (16.2%) than noncollege women (12.7%), although the prevalence of daily use for both genders was much higher for the noncollege than college group as summarized above (Table 8-4).

- With regard to ***vaping marijuana***, annual prevalence in 2019 was higher among college men than college women (31% vs. 22%); but noncollege men and women were similar in annual vaping prevalence (23% and 25% respectively) (Table 8-2). Among college

[14] 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*. Patrick, M. E., Couper, M. P., Jang, B., Laetz, V. B., Schulenberg, J., Johnston, L. D., Bachman, J., O'Malley, P. M. (2019). Two-year follow-up of the sequential mixed-mode experiment in the U.S. National monitoring the future study. *Survey Practice*.

[15] Patrick, M. E., Couper, M. P., Jang, B. J., Laetz, V., Schulenberg, J. E., O'Malley, P. M., Bachman, J., & Johnston, L. D. (conditionally accepted). Building on a sequential mixed-mode research design in the Monitoring the Future Study. Patrick, M. E., Couper, M. P., Parks, M. J., Laetz, V., & Schulenberg, J. E. (2020). Comparison of a web-push survey research protocol with a mailed paper and pencil protocol in the Monitoring the Future panel survey. *Addiction*. Patrick, M. E., Couper, M. P., Jang, B., Laetz, V. B., Schulenberg, J., Johnston, L. D., Bachman, J., O'Malley, P. M. (2019). Two-year follow-up of the sequential mixed-mode experiment in the U.S. National monitoring the future study. *Survey Practice*.

students, *30-day prevalence* of vaping marijuana in 2019 was somewhat higher among men than women (16% vs. 12%); however, among noncollege youth, women were somewhat higher than men (18% vs. 15%) (Table 8-3).

- Among college students, annual prevalence of any ***hallucinogen use*** in 2019 was higher for men than for women (7.2% vs. 4.3%), and the same was true for annual prevalence of ***hallucinogens other than LSD*** (5.0% vs. 2.3%); annual prevalence of ***LSD*** was similar for men and women (3.9% and 3.6%, respectively), and the same was true for ***MDMA*** (ecstasy and Molly) (3.2% for both) (Table 8-2). Among noncollege respondents, the gender gap was wider; annual prevalence was higher for men than for women for use of any ***hallucinogens*** (10.5% vs. 5.7%), for use of ***LSD*** specifically (6.9% vs. 4.7%), for use of ***hallucinogens other than LSD*** (7.0% vs. 3.4%), and for ***MDMA*** (ecstasy and Molly) (6.2% vs. 3.1%) (Table 8-2).

- Among college students, annual prevalence of ***narcotics other than heroin*** without medical supervision was quite low, and similar among men (1.3%) and women (1.6%); the same was true for ***OxyContin*** (1.9% and 2.9%, respectively[16]) and ***Vicodin*** (0.7% and 1.9%, respectively) (Table 8-2). Among noncollege youth, the annual prevalence of ***narcotics other than heroin*** was somewhat higher for men (4.4%) than for women (2.3%), and the same was true for annual prevalence of ***OxyContin*** (3.5% and 2.2%, respectively) and annual prevalence of ***Vicodin*** (3.4% and 1.2%, respectively (Table 8-2).

- Annual ***cocaine*** use in 2019 was similar among college men (6.1%) and women (5.5%); and the same was true among noncollege men (6.6%) and women (5.0%) (Table 8-2).

- Annual ***amphetamine*** use without medical supervision in 2019 was similar among college men (7.9%) and college women (8.5%), and the same was true for annual prevalence of ***Ritalin*** (2.4% and 2.2%, respectively) and for annual prevalence of ***Adderall***[17] (8.1% and 8.6%, respectively) (Table 8-2). Among noncollege youth annual ***amphetamine*** prevalence was higher among men (7.3%) than women (5.4%), and the same was true for annual prevalence of ***Ritalin*** (4.1% and 1.1%, respectively); annual prevalence of ***Adderall*** was similar among noncollege men and women (6.0% for both) (Table 8-2).

- Among college students in 2019, ***30-day alcohol*** use was similar for men and women (62% for both) (Table 8-3). The 30-day prevalence of ***being drunk*** was slightly higher among college men (38%) than college women (34%) (Table 8-3), and the same was true for two-week prevalence of ***binge drinking*** (5+ drinks in a row at least once in the past two weeks) (34% vs. 32%) (Table 8-4). Among noncollege youth, ***30-day alcohol*** use was higher among women (52%) than men (47%) (Table 8-3). Similarly, 30-day prevalence of ***being***

---

[16] The prevalence of OxyContin, a subclass of narcotics other than heroin, is asked on three of the six questionnaire forms, whereas the prevalence of narcotics other than heroin is asked on all six forms. The annual prevalence of OxyContin is similar to the annual prevalence of narcotics other than heroin, reflecting that OxyContin is a commonly used narcotic. When annual prevalence of OxyContin slightly exceeds the annual prevalence of narcotics other than heroin, this is likely a matter of random sample variation due to relatively small sample sizes for OxyContin.

[17] The prevalence of Adderall, a subclass of amphetamines, is asked on three of the six questionnaire forms, whereas the prevalence of amphetamines is asked on all six forms. The annual prevalence of Adderall is similar to the annual prevalence of amphetamines for each sub-group considered here, reflecting that Adderall is a commonly used amphetamine. When annual prevalence of Adderall slightly exceeds the annual prevalence of amphetamines, this is likely a matter of random sample variation due to relatively small region sample sizes for Adderall.

***drunk*** was slightly higher for noncollege women (30%) than noncollege men (28%) (Table 8-3), and the same was true for two-week prevalence of ***binge drinking*** (23% and 21%, respectively) (Table 8-4).

- ***High intensity drinking*** (also known as extreme binge drinking), as reported here, pertains to the prevalence of having ***10 or more drinks in a row in the past two weeks***. In 2019, prevalence showed large gender differences in college and noncollege youth. Among college students, prevalence was over three times higher among men (18.9%) than women (5.6%). Similarly, among noncollege youth, prevalence was almost three times as high among men (20.9%) than women (7.5%). Prevalence of 10+ drinks in a row was similar for college and noncollege men, with about one-in-five engaging in this behavior; it was also similar for college and noncollege women with over one-in-twenty engaging in this behavior.[18]

- ***Flavored alcoholic beverages*** were more likely to be consumed by college women than college men (2019 annual prevalence of 67% vs. 59%, respectively), and there was a larger difference in annual prevalence for the noncollege group (64% of women vs. 49% of men) in 2019 (Table 8-2).

- Annual prevalence of ***alcoholic beverages mixed with energy drinks*** in 2019 was higher among college men (49%) than women (30%); for noncollege youth, it was higher among women (30%) than men (13%) (Table 8-2).

- Among college students, 30-day prevalence of ***cigarette smoking*** was higher for men (11.3%) than for women (6.3%) in 2019, whereas it was similar among noncollege men and women (15% for both) (Table 8-3); as discussed above, prevalence for both genders was much higher in the noncollege than in the college group. ***Daily smoking*** was slightly higher for men than women in the college segment (3.4% and 2.0%, respectively), with prevalence being similar among noncollege men and women (8.0% and 7.8%, respectively) (Table 8-4). Put another way, *daily smoking was over two times as high among noncollege men than college men (8.0% vs. 3.4%), and almost four times as high among noncollege women than college women (7.8% vs. 2.0%).* Prevalence of ***smoking a half pack or more per day*** among college students was 1.3% for men and 0.3% for women, compared with 3.1% and 3.6% for the noncollege segment, respectively (Table 8-4).

- Prevalence of most other types of tobacco use was typically higher among men than women in both the college and noncollege groups in 2019, as shown in Tables 8-2 and 8-3.

- With regard to ***vaping nicotine***, annual prevalence was considerably higher among college men (43%) than women (31%); among noncollege youth, it was similar among men than women (both 29%) (Table 8-2). Thirty-day prevalence was much higher for college men than women (32% versus 17%); among noncollege youth it was slightly higher for women

[18] 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.

than men (19% versus 16%) (Table 8-3). Thus, based on 2019 data, college men were at particularly high risk for this rapidly increasing health risk behavior.

### Selective Summary of Gender Differences in 2019 Prevalence

In sum, certain licit and illicit drugs were used by a higher proportion of college men than college women in 2019, but there were many cases where their prevalence of use was similar. College men reported higher annual and 30-day prevalence of ***marijuana*** than college women, and somewhat higher prevalence of annual and 30-day use of ***illicit drugs other than marijuana***, of annual and 30-day prevalence of ***vaping marijuana***, and of ***daily marijuana*** use. College women reported higher annual prevalence than college men of ***any hallucinogens*** and of ***hallucinogens other than LSD***. College men and women were similar in annual prevalence of ***LSD***, ***MDMA*** (ecstasy, Molly), ***narcotics other than heroin***, ***cocaine***, and ***amphetamines*** in 2019. Regarding alcohol use, college men and women were similar in prevalence of ***30-day alcohol use*** in 2019, with men being somewhat higher on 30-day prevalence of ***being drunk*** and of two-week prevalence of ***binge drinking***, and distinctly higher on two week prevalence of ***high intensity drinking***; annual prevalence of ***flavored alcoholic beverages*** was higher for college women than college men, with the opposite being true for annual prevalence of ***energy drinks mixed with alcohol***. College men reported higher prevalence of ***30-day cigarette use*** than college women, and also slightly higher prevalence of ***daily smoking***. ***Vaping nicotine***, in terms of both annual and 30-day prevalence, was distinctly higher among college men than college women.

Gender differences for the noncollege segment were less distinct, with noncollege men and women being similar or only slightly different on most indices of illicit and licit drug use, including vaping in 2019. Noncollege men compared to noncollege women had higher prevalence of ***daily marijuana use***, and annual prevalence of all measures of annual ***hallucinogen*** use, including ***MDMA*** (ecstasy, Molly). Noncollege women were somewhat higher on most indices of **alcohol use**, but noncollege men were distinctly higher on **high intensity drinking**. Noncollege men and women were similar on measures of nicotine use, including vaping of nicotine.

Compared with noncollege men, college men were more frequent users of ***alcohol*** and ***amphetamines*** and more likely to ***vape nicotine***, but considerably less likely to use ***marijuana daily***; this same pattern generally held for noncollege versus college women. The most striking difference between the college and noncollege segments remains for ***cigarette smoking***, with noncollege men and women showing much higher use than college men and women. Finally, as reported last year, ***vaping nicotine*** was distinctly higher in 2019 among college men compared to college women and noncollege men and women. We consider recent historical shifts in gender differences among college and noncollege youth in Chapter 9.

# TABLE 8-1
## Lifetime Prevalence of Use for Various Types of Drugs, 2019: Full-Time College Students vs. Noncollege Youth among Respondents 1 to 4 Years beyond High School by Gender

(Entries are percentages.)

| | Total | | Men | | Women | |
|---|---|---|---|---|---|---|
| | Full-Time College | Non-College | Full-Time College | Non-College | Full-Time College | Non-College |
| Any Illicit Drug [a] | 58.9 | 63.5 | 62.0 | 57.4 | 57.6 | 67.5 |
| Any Illicit Drug other than Marijuana [a] | 26.2 | 30.3 | 31.5 | 32.0 | 23.6 | 29.6 |
| Marijuana | 54.7 | 58.1 | 57.3 | 53.2 | 53.8 | 61.8 |
| Inhalants [b] | 4.6 | 7.1 | 5.5 | 7.8 | 4.2 | 6.8 |
| Hallucinogens [c] | 9.1 | 12.7 | 12.4 | 16.4 | 7.4 | 10.2 |
| LSD [c] | 6.5 | 11.1 | 8.1 | 13.8 | 5.6 | 9.0 |
| Hallucinogens other than LSD [c] | 6.9 | 8.7 | 10.4 | 13.1 | 5.0 | 6.3 |
| MDMA (ecstasy, molly) [d] | 7.0 | 8.6 | 8.4 | 10.0 | 6.2 | 8.5 |
| Cocaine | 8.8 | 10.7 | 10.8 | 11.5 | 7.8 | 10.9 |
| Crack [h] | * | 1.2 | * | 3.2 | * | * |
| Other Cocaine [h] | 6.1 | 9.8 | 8.1 | 14.0 | 4.9 | 5.9 |
| Heroin | 0.3 | 0.1 | 0.6 | 0.2 | 0.2 | * |
| With a Needle [e] | 0.3 | * | * | * | 0.5 | * |
| Without a Needle [e] | 0.3 | * | 1.0 | * | * | * |
| Narcotics other than Heroin [f] | 5.8 | 7.8 | 8.1 | 8.1 | 4.6 | 7.9 |
| Amphetamines, Adjusted [f,g] | 13.5 | 14.2 | 16.6 | 18.2 | 12.1 | 11.9 |
| Methamphetamine [e] | 1.1 | 3.5 | 2.8 | 6.3 | 0.3 | 2.3 |
| Crystal Methamphetamine (Ice) [e] | 0.6 | 1.7 | 1.6 | 2.3 | * | 1.5 |
| Sedatives (Barbiturates) [f] | 3.7 | 6.4 | 4.4 | 6.4 | 3.5 | 6.7 |
| Tranquilizers [f] | 7.4 | 9.9 | 8.1 | 11.8 | 7.0 | 8.7 |
| Alcohol | 79.2 | 72.3 | 79.6 | 67.8 | 78.8 | 76.5 |
| Been Drunk [b] | 65.5 | 59.4 | 68.5 | 59.7 | 64.1 | 61.8 |
| Flavored Alcoholic Beverages [h] | 72.2 | 75.8 | 64.6 | 60.8 | 76.1 | 89.7 |
| Cigarettes | — | — | — | — | — | — |
| Any Vaping [d] | 49.4 | 51.0 | 54.9 | 51.8 | 46.1 | 51.0 |
| Vaping Marijuana [d,k] | 29.4 | 30.7 | 36.2 | 29.5 | 25.4 | 32.4 |
| Vaping Nicotine [d,l] | 41.9 | 43.3 | 51.6 | 42.4 | 36.4 | 44.1 |
| Vaping Just Flavoring [m] | 28.7 | 32.5 | 28.2 | 32.9 | 29.6 | 32.0 |
| *Approximate Weighted N =* | *840* | *510* | *300* | *200* | *520* | *280* |

*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, 2019: Full-Time College Students vs. Noncollege Youth among Respondents 1 to 4 Years beyond High School by Gender

(Entries are percentages.)

| | Total | | Men | | Women | |
|---|---|---|---|---|---|---|
| | Full-Time College | Non-College | Full-Time College | Non-College | Full-Time College | Non-College |
| Any Illicit Drug [a] | 46.5 | 45.6 | 50.1 | 43.7 | 44.6 | 46.3 |
| Any Illicit Drug other than Marijuana [a] | 16.8 | 17.3 | 18.8 | 18.6 | 15.9 | 15.9 |
| Marijuana | 43.0 | 42.6 | 46.3 | 42.6 | 41.3 | 42.3 |
| Synthetic Marijuana [b] | 1.8 | 1.6 | 1.1 | 2.5 | 2.3 | 1.1 |
| Inhalants [n] | 1.3 | 1.9 | 0.3 | 2.4 | 1.8 | 1.4 |
| Hallucinogens [c] | 5.3 | 7.9 | 7.2 | 10.5 | 4.3 | 5.7 |
| LSD [c,o] | 3.7 | 6.0 | 3.9 | 6.9 | 3.6 | 4.7 |
| Hallucinogens other than LSD [c] | 3.3 | 4.6 | 5.0 | 7.0 | 2.3 | 3.4 |
| MDMA (ecstasy, molly) [d,p] | 3.3 | 4.1 | 3.2 | 6.2 | 3.2 | 3.1 |
| Salvia [b] | 0.3 | 1.3 | * | 3.5 | * | * |
| Cocaine | 5.6 | 5.5 | 6.1 | 6.6 | 5.5 | 5.0 |
| Crack [h] | * | 1.2 | * | 3.2 | * | * |
| Other Cocaine [h] | 3.5 | 4.3 | 4.4 | 8.1 | 3.0 | * |
| Heroin | * | 0.1 | * | 0.2 | * | * |
| With a Needle [e] | * | * | * | * | * | * |
| Without a Needle [e] | * | * | * | * | * | * |
| Narcotics other than Heroin [f] | 1.5 | 3.3 | 1.3 | 4.4 | 1.6 | 2.3 |
| OxyContin [b,f,q] | 2.5 | 2.6 | 1.9 | 3.5 | 2.9 | 2.2 |
| Vicodin [b,f] | 1.5 | 2.0 | 0.7 | 3.4 | 1.9 | 1.2 |
| Amphetamines, Adjusted [f,g] | 8.1 | 5.9 | 7.9 | 7.3 | 8.5 | 5.4 |
| Ritalin [b,f] | 2.5 | 2.2 | 2.4 | 4.1 | 2.2 | 1.1 |
| Adderall [b,f] | 8.4 | 5.8 | 8.1 | 6.0 | 8.6 | 6.0 |
| Methamphetamine [e] | * | 1.6 | * | 1.8 | * | 1.6 |
| Crystal Methamphetamine (Ice) [e] | 0.3 | 0.9 | 0.9 | * | * | 1.5 |
| Sedatives (Barbiturates) [f] | 2.0 | 3.0 | 1.5 | 3.4 | 2.3 | 2.8 |
| Tranquilizers [f] | 3.0 | 3.4 | 2.5 | 5.0 | 3.3 | 2.0 |
| GHB [e] | * | * | * | * | * | * |
| Ketamine [e] | 0.7 | 3.5 | 0.9 | 9.7 | * | * |
| Alcohol | 77.6 | 66.8 | 77.8 | 63.1 | 77.4 | 70.2 |
| Been Drunk [b] | 58.7 | 48.6 | 61.8 | 50.8 | 57.7 | 50.5 |
| Flavored Alcoholic Beverages [h] | 64.6 | 57.6 | 58.8 | 49.4 | 67.4 | 64.2 |
| Alcoholic Beverages mixed with Energy Drinks [e,j] | 35.6 | 23.2 | 48.5 | 13.0 | 29.7 | 30.3 |

(Table continued on next page.)

# TABLE 8-2 (cont.)
## Annual Prevalence of Use for Various Types of Drugs, 2019: Full-Time College Students vs. Noncollege Youth among Respondents 1 to 4 Years beyond High School by Gender

(Entries are percentages.)

| | Total | | Men | | Women | |
|---|---|---|---|---|---|---|
| | Full-Time College | Non-College | Full-Time College | Non-College | Full-Time College | Non-College |
| Cigarettes | 16.0 | 27.2 | 21.5 | 28.7 | 13.0 | 25.4 |
| Tobacco using a Hookah [b,r] | 10.6 | 8.7 | 9.7 | 5.2 | 10.7 | 11.2 |
| Small Cigars [e] | 8.8 | 11.7 | 18.0 | 15.6 | 2.7 | 9.6 |
| Dissolvable Tobacco [e] | * | * | * | * | * | * |
| Snus [e] | 1.4 | 1.3 | 3.7 | 4.3 | * | * |
| Any Vaping [d] | 43.7 | 40.5 | 49.3 | 40.9 | 40.4 | 39.5 |
| Vaping Marijuana [d] | 25.5 | 23.4 | 31.2 | 22.9 | 22.1 | 24.5 |
| Vaping Nicotine [d] | 35.3 | 29.5 | 43.0 | 29.3 | 30.8 | 28.7 |
| Vaping Just Flavoring [d] | 15.6 | 17.0 | 14.7 | 14.1 | 16.5 | 18.1 |
| *Approximate Weighted N =* | *840* | *510* | *300* | *200* | *520* | *280* |

*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, 2019: Full-Time College Students vs. Noncollege Youth among Respondents 1 to 4 Years beyond High School by Gender

(Entries are percentages.)

| | Total | | Men | | Women | |
|---|---|---|---|---|---|---|
| | Full-Time College | Non-College | Full-Time College | Non-College | Full-Time College | Non-College |
| Any Illicit Drug [a] | 29.7 | 33.4 | 33.3 | 30.9 | 27.9 | 35.0 |
| Any Illicit Drug other than Marijuana [a] | 7.6 | 6.9 | 9.1 | 7.4 | 7.0 | 6.9 |
| Marijuana | 26.3 | 32.6 | 29.6 | 31.2 | 24.4 | 33.0 |
| Inhalants [b,s] | 0.4 | 1.0 | 0.3 | 1.1 | 0.5 | 0.7 |
| Hallucinogens [c] | 1.4 | 2.1 | 1.7 | 2.5 | 1.3 | 2.0 |
| LSD [c] | 1.1 | 1.1 | 1.4 | 1.1 | 0.9 | 1.2 |
| Hallucinogens other than LSD [c] | 0.8 | 1.5 | 1.2 | 2.0 | 0.6 | 1.3 |
| MDMA (ecstasy, molly) [d] | 1.1 | 1.4 | 1.0 | 1.9 | 1.1 | 1.2 |
| Cocaine | 2.4 | 2.0 | 2.8 | 2.4 | 2.2 | 1.7 |
| Crack [h] | * | 1.2 | * | 3.2 | * | * |
| Other Cocaine [h] | 1.3 | 1.9 | 3.0 | 3.2 | * | * |
| Heroin | * | 0.1 | * | 0.2 | * | * |
| Narcotics other than Heroin [f] | 0.4 | 0.4 | 0.2 | 0.5 | 0.6 | 0.2 |
| Amphetamines, Adjusted [f,g] | 3.4 | 1.6 | 3.6 | 2.4 | 3.5 | 1.2 |
| Crystal Methamphetamine (Ice) [e] | * | * | * | * | * | * |
| Sedatives (Barbiturates) [f] | 0.5 | 1.3 | 0.6 | 1.4 | 0.5 | 1.3 |
| Tranquilizers [f] | 0.7 | 1.1 | 0.2 | 2.0 | 1.1 | 0.7 |
| Alcohol | 62.2 | 50.1 | 62.2 | 47.4 | 62.4 | 52.0 |
| Been Drunk [b] | 34.8 | 27.9 | 38.3 | 27.9 | 33.5 | 29.8 |
| Flavored Alcoholic Beverages [h] | 46.4 | 37.1 | 30.6 | 30.3 | 53.0 | 40.8 |
| Cigarettes [t] | 7.9 | 15.5 | 11.3 | 15.3 | 6.3 | 14.6 |
| Any Vaping [d] | 28.5 | 26.9 | 35.6 | 23.9 | 24.3 | 28.2 |
| Vaping Marijuana [d] | 13.5 | 16.6 | 15.9 | 14.9 | 11.9 | 17.6 |
| Vaping Nicotine [d] | 22.1 | 18.4 | 31.9 | 16.3 | 16.6 | 19.2 |
| Vaping Just Flavoring [d] | 5.4 | 5.2 | 6.1 | 3.1 | 5.2 | 5.8 |
| Large Cigars [h] | 3.6 | 8.8 | 3.4 | 13.7 | 3.9 | 4.1 |
| Flavored Little Cigars [h] | 4.2 | 8.3 | 6.2 | 12.7 | 3.3 | 6.0 |
| Regular Little Cigars [h] | 4.2 | 5.1 | 6.3 | 9.9 | 3.2 | 2.2 |
| *Approximate Weighted N =* | *840* | *510* | *300* | *200* | *520* | *280* |

*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, 2019: Full-Time College Students vs. Noncollege Youth among Respondents 1 to 4 Years beyond High School by Gender

(Entries are percentages.)

| | Total | | Men | | Women | |
|---|---|---|---|---|---|---|
| | Full-Time College | Non-College | Full-Time College | Non-College | Full-Time College | Non-College |
| Marijuana | 5.9 | 14.6 | 7.2 | 16.2 | 5.0 | 12.7 |
| Alcohol | | | | | | |
| Daily [u] | 2.0 | 3.1 | 3.0 | 3.6 | 1.5 | 3.0 |
| 5+ Drinks in a Row in Last 2 Weeks | 32.7 | 22.3 | 34.0 | 21.3 | 31.8 | 23.0 |
| 10+ Drinks in a Row in Last 2 Weeks [c] | 10.3 | 12.0 | 18.9 | 20.9 | 5.6 | 7.5 |
| Cigarettes | | | | | | |
| Daily | 2.5 | 8.0 | 3.4 | 8.0 | 2.0 | 7.8 |
| 1/2 Pack+/Day | 0.7 | 3.8 | 1.3 | 3.1 | 0.3 | 3.6 |
| *Approximate Weighted N =* | *840* | *510* | *300* | *200* | *520* | *280* |

*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 2019 for college students is approximately 420.
[c]This drug was asked about in five of the six questionnaire forms. Total *N* in 2019 for college students is approximately 700.
[d]This drug was asked about in four of the six questionnaire forms. Total *N* in 2019 for college students is approximately 560.
[e]This drug was asked about in two of the six questionnaire forms. Total *N* in 2019 for college students is approximately 280.
[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 2019 for college students is approximately 140.
[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.
[k]For the college student estimate for lifetime Vaping Marijuana in 2019, there was a significant difference (p<.05) between the typical mail condition (24.8%) and new web-push condition (33,2%) of survey administration.
[l]For the non-college youth estimate for lifetime Vaping Nicotine in 2019, there was a significant difference (p<.05) between the typical mail condition (36.3%) and new web-push condition (48.0%) of survey administration.
[m]For the non-college youth estimate for lifetime Vaping Just Flavoring in 2019, there was a significant difference (p<.01) between the typical mail condition (22.7%) and new web-push condition (39.0%) of survey administration.
[n]For the non-college youth estimate for annual Inhalants in 2019, there was a significant difference (p<.01) between the typical mail condition (4.8%) and new web-push condition (0.0%) of survey administration.
[o]For the non-college youth estimate for annual LSD in 2019, there was a significant difference (p<.05) between the typical mail condition (3.2%) and new web-push condition (7.8%) of survey administration.
[p]For the non-college youth estimate for annual MDMA (Ecstasy) in 2019, there was a significant difference (p<.05) between the typical mail condition (7.0%) and new web-push condition (2.1%) of survey administration.
[q]For the college student estimate for annual OxyContin in 2019, there was a significant difference (p<.01) between the typical mail condition (0.3%) and new web-push condition (4.1%) of survey administration.
[r]For the non-college youth estimate for annual Tobacco with a Hookah in 2019, there was a significant difference (p<.05) between the typical mail condition (4,3%) and new web-push condition (11.7%) of survey administration.
[s]For the non-college youth estimate for 30-day Inhalants in 2019, there was a significant difference (p<.05) between the typical mail condition (2.5%) and new web-push condition (0.0%) of survey administration.
[t]For the college student estimate for 30-day Cigarettes in 2019, there was a significant difference (p<.01) between the typical mail condition (5.7%) and new web-push condition (9.5%) of survey administration.
[u]For the non-college youth estimate for daily Alcohol in 2019, there was a significant difference (p<.01) between the typical mail condition (5.8%) and new web-push condition (1.3%) of survey administration.

# Chapter 9

## TRENDS IN DRUG USE AMONG COLLEGE STUDENTS AND SAME-AGE NONCOLLEGE YOUTH

In this chapter we consider recent and longer-term trends in substance use among college students and same-age noncollege respondents.

When considering historical trends, it is important to highlight cohort effects and secular trends (or period effects). In the 1970s through 1990s changes in drug use tended to move up or down the age spectrum, reflecting cohort effects. But during the 1960–70s drug epidemic, illicit drug use increased dramatically among U.S. college students, then spread quickly to their noncollege peers and eventually down the age spectrum to high school and even middle school students. The diffusion process reversed during the 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). The cohort effect continued as use subsequently declined among adolescents and this decline moved up the age spectrum. In the early 2000s, college students and high school seniors showed simultaneous decreases and then increases in marijuana use as well as in the index of any illicit drug use (a secular trend, reflecting similar changes regardless of age/cohort).

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 at a two- or four-year college or university 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 2019, about 62% 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 group 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 500–1,700 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 2019 survey is thus the 40th in the annual series on college students and noncollege-attending youth 1 to 4 years out of high school. Methods, sampling, and procedures are summarized in Chapter 3.

As we discuss in that chapter, for both the 2018 and 2019 data collections of 19-30 year olds, we randomly assigned half to receive typical mail surveys and half to a web-push condition (in which they were encouraged to complete a web-based survey). As we show in Chapter 8 when discussing 2019 prevalence estimates for college and noncollege youth, very few prevalence estimates varied significantly between the two conditions for either college or noncollege respondents (which was also the case in 2018); thus the two conditions were combined in a weighted average in that chapter and exceptions (i.e., when estimates between the two conditions differ significantly) are noted. In this current chapter on trends, we combine the estimates from the two conditions in both 2018 and 2019, and we note the very few significant differences between conditions in Tables 9-1 through 9-4.

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 prevalence of substance use *within* those samples between the college-bound and those who do not plan to complete a four-year college. As shown extensively in *Volume I*[2] and in *Occasional Paper 95*,[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 levels of use among *all* 12th graders (regardless of college expectations) than among college students, it should not be concluded that use declined after college entrance; the college-bound were already lower in prevalence than other 12th graders for almost all substances.

---

[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. (2020). Monitoring the Future national survey results on drug use, 1975-2019: Volume I, secondary school students. Ann Arbor, MI: Institute for Social Research, The University of Michigan.

[3] Johnston, L. D., Miech, R. A., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). *Demographic subgroup trends among adolescents in the use of various licit and illicit drugs, 1975-2019* (Monitoring the Future Occasional Paper No. 95). Ann Arbor, MI: Institute for Social Research, University of Michigan, 821 pp.

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 women has risen substantially since 1980. In 1980, women constituted about 50% of the college respondents, but by 2019 they constituted 63%.[4] As will be discussed below, we have charted the trends separately for men and women college students to permit an assessment of what effect these changing proportions may have on the overall prevalence estimates observed for college students. Note that in 2018 and 2019, the total sample included the small proportion who were missing on gender.

## TRENDS IN PREVALENCE, 1980–2019: COLLEGE STUDENTS, NONCOLLEGE YOUTH, AND 12TH GRADERS

- Regarding recent trends among college students, the annual prevalence of using ***any illicit drug*** rose gradually from a recent low of 34% in 2006 to 47% in 2019, the highest it has been for over three-and-a-half decades, since 1983 (Table 9-2 and Figure 9-1). The 1.1 percentage point increase over 2018 was not statistically significant. The five-year trend (from 2014 to 2019) showed a 7.9 percentage point increase, which was statistically significant. This short-term (since 2014) and the longer-term (since 2006) increase through 2019 for college students was driven primarily by an increase in marijuana use, as summarized below. In recent years, the noncollege group's annual prevalence of any illicit drug use has not differed much from that 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 2019, it was 46% (similar to 47% for college students). The five-year trend (from 2014 to 2019) for the noncollege respondents showed a nonsignificant 1.5 percentage point increase. (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.)

  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 rising gradually, reaching 38% in 1998 and again in 2001 before leveling at between 34% and 37% through 2012; since 2013 it increased to 2019 prevalence of 47%, the highest level for the past three-and-a-half decades (but still below the 1980 peak of 56%). Annual use of any illicit drug among noncollege respondents 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. Their use then declined unevenly until 2007, and has since increased unevenly through 2019.

  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 (in what we have called the "relapse phase" of the drug epidemic), leaving their prevalence considerably above the two older groups. Their use leveled after 1998 and

[4] As discussed in Chapter 3 on methods, panel data for this volume are weighted to help account for attrition through a post-stratification strategy. One result of that strategy is that the differential attrition with respect to gender (i.e., as is common in longitudinal research, we are more likely to lose men than women to follow-up) is accounted for to some extent.

then declined some after 1999 (by about six percentage points), whereas among college students there was a continued increase through 2001 (reflecting a cohort effect), followed by a leveling as use among 12th graders continued to decline. As a result, all three groups had quite similar prevalence estimates 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 2012 and 2019 annual prevalence increased among the college and noncollege groups, and remained steady among the 12th graders.

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. Whether the divergence we are now seeing between 12th graders and the other two groups reflects another emerging cohort effect versus a distinct age effect (whereby substance use increases after high school) remains to be seen.

- Regarding recent trends, annual prevalence of ***any illicit drug other than marijuana*** (Figure 9-2) has diverged among the three groups since 2012 (when it was 17% to 18% for all three groups), declining considerably for 12th graders (12% in 2019) and remaining fairly steady for college students (17% in 2019). For noncollege respondents, it showed some uneven increase through 2016 (to 24%), and then decreased significantly in 2017 to 18%: it decreased slightly to 17% in 2019.

  In considering longer-term trends, 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. An 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 prevalence estimates. 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 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 at 17-18%.

As summarized above, starting in 2013, the three groups began diverging again (Figure 9-2). In 2013 and 2014, college students and their noncollege peers showed increases in annual 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 9-2). 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 ***MDMA*** (***ecstasy***, ***Molly***)**.** 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 percentage points. The net effect was to essentially eliminate the difference between those two groups; but their use remained well 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 respondents (with the decline for noncollege group being significant), resulting in similar prevalence across these two groups at 18%, where it remained in 2018. In 2019, annual prevalence dropped nonsignificantly to 17% for college and noncollege respondents, and continued its gradual decline for 12th graders (12%).

- Regarding recent trends, annual prevalence of ***marijuana*** use among college students and noncollege respondents rose from the most recent lows in 2006 (for college students at 30%) and 2007 (for noncollege youth at 32%) through 2016, reaching 39% and 41% respectively (Figure 9-3a); however, in 2017, both groups showed nonsignificant declines or leveling to 38% and 41%, respectively. In 2018, annual prevalence of marijuana increased nonsignificantly for both groups to 43%, where it remained in 2019. The 5-year trend from 2014 to 2019 showed a significant increase of 8.6 percentage points for college students and a nonsignificant increase of 5.3 percentage points for noncollege youth. *For both college students and noncollege respondents, the 2018 and 2019 prevalence of annual marijuana use (43%) was at the highest level in over three-and-a-half decades, since 1983 for both groups.* In contrast, prevalence for 12th graders increased from the most recent low of 32% in 2007 through 2011 (to 36%) and has remained fairly level since (36% in 2019). Whereas there was little distinction among the three groups for the first half of the past decade, annual prevalence began to show some divergence in the past five years with use becoming higher for the young adult groups than for 12th graders.

Looking back to 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 levels 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.

- New questions about ***vaping marijuana*** were added to two questionnaire forms in the young adult surveys in 2017 and 2018, and to four forms in 2019. *Annual* prevalence of vaping marijuana among college students in 2017 and 2018 was 11% and 20%, respectively (Table 9-2), *showing a significant 9.4 percentage point increase, among the largest one-year increases for any substance since MTF began over 40 years ago.* In 2019, annual prevalence of vaping marijuana among college students was 26%, a nonsignificant increase of 5.4 percentage points from 2018. For noncollege respondents in 2017 and 2018, annual prevalence was 14% and 11%, respectively. In 2019, annual prevalence of vaping marijuana among noncollege respondents was 23%, *a significant one-year increase of 12.2 percentage points*, again constituting one of the largest one-year increases in MTF history.

  *Thirty-day* prevalence of vaping marijuana in 2017 and 2018 among college students was 5.2% and 11%, respectively (Table 9-3, Figure 9-17), showing a significant 5.7 percentage point increase. *This doubling of the 30-day prevalence of vaping marijuana for college students from 2017 to 2018 is among the largest one-year proportional increases for any substance for over 40 years*. In 2019, 30-day prevalence of vaping marijuana among college students was 14%, a nonsignificant increase of 2.6 percentage points from 2018. Among noncollege respondents 30-day prevalence was level at 7.8% in 2017 and 7.9% in 2018. In 2019, 30-day prevalence of vaping marijuana among noncollege respondents was 17%, *a significant increase of 8.7 percentage points*, again constituting one of the largest one-year proportional increases in MTF history.

  Thus, vaping marijuana increased rapidly between 2017 and 2018 for college students and then between 2018 and 2019 for noncollege youth. The prevalence estimates became similar between these two groups in 2019.

- Regarding recent trends, ***daily marijuana use*** among college students rose from the most recent low of 3.5% in 2007 to 5.9% in 2014 (Figure 9-3b). In 2015 trends showed a nonsignificant decline to 4.6%, and that was the year after 12$^{th}$ graders showed some decline in daily use to 5.9%. Between 2015 and 2017, daily use among college students was fairly level (4.4% in 2017), and then it rose nonsignificantly to 5.8% in 2018. In 2019, it was 5.9%, tying the historic high in 2014. For 12$^{th}$ graders, daily use has remained level since 2014 (6.4% in 2019).

  In a rather dramatic contrast, daily marijuana use rose 4.7 percentage points for noncollege respondents from 2012 through and 2017, reaching 13%; it dropped nonsignificantly in 2018 to 11%. In 2019, it increased a nonsignificant 3.5 percentage points to a new historic high of 15% for noncollege youth. After this dramatic increase in daily use of marijuana, as of 2019, *daily marijuana use is more than twice as high among noncollege respondents (15%) as among college students (5.9%) and 12$^{th}$ graders (6.4%).*

  Across the years, noncollege respondents have generally had the highest prevalence of daily marijuana use and college students have had the lowest (with college students and 12$^{th}$ graders showing convergence in 2014 and 2018). 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 levels falling by half or more. After 1992, the prevalence climbed substantially in all three groups, followed by periods of leveling: for example, this occurred 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, annual use declined precipitously, to 0.9% in 2014, followed by some modest increase to 1.8% in 2019. Annual use among the noncollege and 12$^{th}$ grade respondents also has declined sharply since 2011, reaching 2.3% and 3.3%, respectively, in 2019, still higher than among college students. Since 2012 the 12$^{th}$ graders have shown the highest annual prevalence and college students the lowest.

- Use of ***salvia*** was added to the MTF questionnaires in 2009. It has seen a sharp decline in popularity among college students. Annual prevalence was 5.8% in 2009 but was 0.3% in 2019 (Table 9-2). Annual prevalence was 1.3% in the noncollege group in 2019 (Table 8-2 in Chapter 8).

- In the past decade, annual ***amphetamine*** use without medical supervision rose substantially among college students (Figure 9-12), roughly doubling from 2008 (5.7%) through 2012 (11%); but it has since declined to 8.1% in 2019 (one-year and five-year trends are nonsignificant). Similarly, there has been a recent decline among 12$^{th}$ graders since 2013, and among noncollege youth since 2014, reaching 5% and 6%, respectively in 2019 (the five-year decline for noncollege respondents was significant).

The 1980s saw a dramatic decline of annual prevalence of amphetamine use 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 estimates for amphetamine use in all three groups remained well below the estimates 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 was 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*.[5] Regarding college students' nonmedical use of ***Adderall***, annual prevalence has been between 8% and 11% since 2009 (when it was first included in the surveys); ***Ritalin*** use was between 1.3% and 2.5% during the past five years.

- 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; in 2018, it dropped nonsignificantly to 1.3% and remained at 1.3% in 2019. For noncollege respondents, 2019 annual prevalence was 1.9%, down from its peak of 3.5% in 2006. Twelfth graders have typically had considerably higher rates of inhalant use than either of these segments of the young adult population; and as is documented in *Volume I*,[6] the 8th and 10th graders have had still higher levels of use. With the one exception of 2017, there has 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*** remains relatively low for all three groups, but has been showing some modest uneven increases for college and especially for noncollege youth over the past few years (Figure 9-7). Annual prevalence for the three groups was similar in 2012 (at about 2%), and since then it increased unevenly to 3.7% for college students and 6.0% for noncollege respondents in 2019 (the one-year and five-year changes were not

[5] 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.

[6] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). Monitoring the Future national survey results on drug use, 1975-2019: Volume I, secondary school students. Ann Arbor, MI: Institute for Social Research, The University of Michigan.

significant for either  group); it has been increasing gradually for 12th graders (3.6% in 2019). The annual prevalence of ***hallucinogens*** overall, of which LSD is one component (Figure 9-6), has also been relatively low and has shown some uneven increase among noncollege youth in recent years. In 2012, annual prevalence was similar in the three groups at 5%; it then increased unevenly for noncollege youth through 2019 (7.9%), while remaining fairly steady through 2019 for college students (5.3%) and 12th graders (5.0%) (none of the one-year or five-year changes was significant).

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 annual LSD 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.

- Annual prevalence of ***hallucinogens other than LSD*** (which primarily involves the use of psilocybin known as mushrooms or "shrooms") has been relatively low in recent years. The three groups were similar in 2012 at 3.9%; annual prevalence then decreased slightly through 2019 for college students (to 3.3%) and 12th graders (to 2.7%), while increasing unevenly for noncollege respondents (to 4.6% in 2019) (the one- and five-year trends were nonsignificant for college and noncollege respondents) (Figure 9-8).

  The longer-term trends for annual prevalence of hallucinogens other than LSD 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 has about the same for these two classes of drugs in recent years.

- The annual use of ***MDMA*** (***ecstasy*** and, more recently, ***Molly***) has been relatively low in the past few years among college and noncollege youth, showing nonsignificant change in 2019 to 3.3% and 4.1%, respectively (Figure 9-9). Prevalence has declined unevenly for both groups since 2014 (when Molly was first included as an example of MDMA) as summarized below.

  Use by college students and noncollege youth began to rise after 1994 and their prevalence tracked closely through about 2000 (Figure 9-9). Questions about MDMA use were added to the 12th grade survey in 1996 and prevalence estimates 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 levels 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 MDMA 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 was rather little difference in the level for the two older groups (as indicated by overlapping marks), but the 12th graders showed 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 2019 for 12th graders. In 2016, the college group (4.7%) and especially the noncollege group (8.6%) showed an increase, reaching levels that constituted a doubling of prevalence since 2007 (the most recent low); 2017 then saw significant declines for college students (2.5%) and noncollege youth (4.7%). Annual changes in 2018 (4.3% and 2.8%, respectively) and 2019 (3.3% and 4.1%, respectively) were nonsignificant for both groups.

- Annual prevalence of nonmedical ***sedative (barbiturate)*** use has remained relatively low in recent years and has been declining unevenly in all three groups in the past decade (Figure 9-13). In 2019, it did not change significantly; it was 2.0% among college students, 3.0% for noncollege respondents, and 2.5% for 12th graders.

  Throughout the time data have been available in this study (1980 through 2019), 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 steady 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 group), 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, followed by nonsignificant declines in use in the past four years; 12th graders have shown a similar recent trend, whereas noncollege respondents have shown an uneven decline since 2014, with the unevenness likely due in part to their smaller numbers of cases.

- Similar to what was found for sedatives (barbiturates), annual prevalence of nonmedical ***tranquilizer*** use also remains relatively low (Figure 9-14). In 2019, it did not change significantly; it was 3.0% for college students, 3.4% for noncollege respondents, and 3.4% for 12th graders. For a few years prior to 2017, the annual prevalence of nonmedical tranquilizer use increased slightly among college students and noncollege respondents, reaching 4.9% and 7.1% respectively in 2016, while 12th grade prevalence remained level. For college and noncollege respondents, 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, long-term trends in tranquilizer annual prevalence have been similar to those for sedatives (barbiturates). 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 then decreases through 2019 for all three groups, especially the noncollege group.

- The nonmedical use of ***narcotics other than heroin***[7] (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 2019. Annual use declined nonsignificantly for college students (1.5%) in 2019, with the five-year trend (2014-2019) showing a significant decline of 3.3 percentage points; for noncollege respondents, use was level in 2019 (3.3%), with the five-year trend showing a significant decline of 4.5 percentage points; and for 12th graders, use declined significantly in 2019 (2.7%), with the five-year trend showing a significant decline of 3.4 percentage points (see Volume I[8]). These declines resulted in the lowest levels for all three groups since the late 1990s.

  The long-term 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 group (though a less sharp decline than for sedatives and tranquilizers), with little distinctions among the three groups. Annual prevalence then rose considerably after the early- to 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 an all-time low of 1.5% by 2019. 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 new low of 2.7% in 2019. The noncollege group emerged after 2000 as the most heavily using group for the first time,

[7] 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.

[8] Miech, R. A., Johnston, L. D., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). Monitoring the Future national survey results on drug use, 1975-2019: Volume I, secondary school students. Ann Arbor, MI: Institute for Social Research, The University of Michigan.

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 a two-decade low of 3.2% in 2018 (it was 3.3% in 2019).

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 groups in the 1990s and into the early 2000s. Although there was a nonsignificant increase in 2016 for college and noncollege respondents, the 2019 results suggest that the overall declines for these two groups over the past decade are continuing. The fact that these and the other therapeutic drugs used without medical supervision (including amphetamines) continued to rise beyond the 1990s and well into the 2000s made them an increasingly important part of the nation's drug problem, because most of the illegal drugs were decreasing in use by the end of the 1990s.

- Data on the nonmedical use of the specific narcotic drugs, ***OxyContin*** and ***Vicodin,*** were first collected in 2002 (Figures 9-11b and 9-11c and Table 9-2). The noncollege group had annual prevalence estimates 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 as summarized below.

  Annual prevalence of nonmedical use of ***OxyContin*** among college students rose fairly steadily, from 1.5% in 2002 to 5.0% in 2009, before dropping significantly to 1.2% by 2012; it has since shown a modest uneven increase to 2.5%[9] in 2019 (five-year trend is not significant) (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 changed unevenly through 2019 (to 2.6%) (five-year trend is not significant). 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 12$^{th}$ graders, OxyContin use rose from 4.0% in 2002 to 5.1% in 2010 and then leveled for several years, before declining to 1.7% by 2019. It is clear that OxyContin use increased among college students between 2002 and 2009, closing the previously existing gaps among the three groups; however, their use has declined sharply since then, again opening a sizeable gap between them and the other two groups through 2015, after which the three groups have converged again at relatively low levels.

  ***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 has declined sharply, reaching its lowest point in 2017 for college students (1.1%) and noncollege respondents (1.8%). Annual prevalence leveled for all three groups through 2019 (1.5%, 2.0%, and 1.1%, respectively). The five-year (2014-2019) decline was nonsignificant for college students and significant for noncollege youth. As with OxyContin, the noncollege group has consistently had higher

[9] The prevalence of OxyContin, a subclass of narcotics other than heroin, is asked on three of the six questionnaire forms, whereas the prevalence of narcotics other than heroin is asked on all six forms. In 2019, annual prevalence of both was very low for college students. The annual prevalence of OxyContin was similar to the annual prevalence of narcotics other than heroin, reflecting that OxyContin is a commonly used narcotic. When annual prevalence of OxyContin slightly exceeds the annual prevalence of narcotics other than heroin, this is likely a matter of random sample variation due to relatively small sample sizes for OxyContin combined with the very low prevalence estimates of both.

Vicodin use than the college students. Twelfth-grade levels of Vicodin use have fallen in between. The 2017-2019, data show a convergence among the three groups at or near 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.

- Beginning in the mid- to late-2000s, the annual prevalence of ***cocaine*** use among college students, noncollege youth, and 12th graders (Figure 9-10) began to decline to levels below those in the 1990s and far below those in the 1980s. The trend line for college students continued to decline until 2013, and then increased a significant 1.7 percentage points to 4.4% in 2014; it was level through 2016 and increased nonsignificantly the past three years to 5.6% in 2019 (the five-year trend from 2014 to 2019 showed a nonsignificant increase of 1.2 percentage points). Although annual cocaine use remains relatively low among college students, the 2019 prevalence is the highest over the past decade. In the noncollege group, which has had the highest levels of use among the three groups for nearly the entire time, there was also a bump up in cocaine use in 2013, which held for a few years and then increased to 6.5% in 2016; it declined nonsignificantly to 4.2% in 2018. In 2019, it increased nonsignificantly to 5.5% among noncollege respondents (the five-year trend showed a nonsignificant increase of 0.4 percentage points). For 12th graders, annual cocaine use has been nearly level for the past decade (2.2% in 2019).

  Regarding longer-term trends, 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, with 12th graders continuing to decline. 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 somewhat.

- Despite different trend patterns among the three groups, college students have exhibited the highest levels and greatest constancy in ***binge drinking*** (defined as having five or more drinks in a row at least once in the past two weeks) since the first measurement in the MTF surveys in 1980 (Figure 9-15d; note that ***30-day alcohol*** use shows very similar patterns as shown in Figure 9-15b). From 1980 through 2019, college students' prevalence of binge drinking declined 11 percentage points (from 44% to 33%). The 2018 prevalence (28%) was a significant decline from 2017, and represented the first time that prevalence was below 30%; however, in 2019, it rose nonsignificantly to 33%. For noncollege respondents and 12th graders, prevalence has also declined considerably since 1980 through 2019;

noncollege respondents' prevalence declined 19 percentage points (41% to 22%) and 12th graders' prevalence declined 27 percentage points (41% to 14%).

As can be seen in Figure 9-15d, both the noncollege segment and 12th graders showed fairly substantial declines in the prevalence of binge 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 binge 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, binge drinking began to rise among 12th graders while still declining some among college students, narrowing the gap somewhat and likely reflecting a cohort effect emerging during this period, similar to that observed for a number of illicit drugs. Binge drinking 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, followed by some leveling and then the significant decline in 2018, with a nonsignificant increase in 2019; the noncollege segment held steady from roughly 2003 to 2007, followed by some uneven decline through 2019. Meanwhile, among 12th graders, binge drinking started a gradual decline after 1998 that continued into 2019, 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' binge 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 had proven to be impervious to many societal trends and intervention attempts.[10] 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. As summarized above, binge drinking has decreased for all three groups over the past decade reflecting a secular trend.

Starting in 2005, we included a set of questions concerning ***high-intensity drinking*** (also known as ***extreme binge drinking***). The questions asked respondents about the frequency in the past two weeks of having 10 or more drinks in a row (included on one of six questionnaire forms through 2014, on two forms 2015-2018, and five forms in 2019), and also of having 15 or more drinks in a row (included on one of six questionnaire forms throughout). To examine trends, the low numbers of cases that result from a single questionnaire form (in most years) necessitate combining multiple years of data (we include all available data here, and thus sample sizes changed over the years for the 10+

[10] 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.

item). By combining data across 2005 through 2009, across 2010 through 2014, and 2015 through 2019, we find that high-intensity drinking has declined for college students and noncollege respondents. As shown in Table 9-5, prevalence of ***10 or more drinks in a row*** at least once in the prior two weeks decreased slightly for college students from 14% in 2005-2009, to 13% in 2010-2014, and to 11% in 2015-2019; corresponding prevalence for noncollege respondents declined from 13%, to 11%, and to 11%, respectively across the three time-periods (none of the changes across the time periods was significant for college or noncollege respondents). Prevalence of ***15 or more drinks in a row*** at least once in the prior two weeks decreased for college students from 5.1% in 2005-2009 to 4.5% in 2010-2014; it then decreased significantly to 1.7% in 2015-2019 (Table 9-6); corresponding prevalence for noncollege respondents decreased from 5.7%, 5.0%, to 3.7%, respectively (none of the decreases for noncollege respondents was significant). In table 9-4, high-intensity drinking prevalence levels (for both 10 or more and 15 or more drinks) are shown for college students each year from 2005 through 2019. These levels are based on small sample sizes (for most years) and thus show uneven trend lines from year to year. Nonetheless, the overall downward trends are evident, with notable recent declines in both 10 or more drinks and 15 or more drinks after 2014. These recent declines in prevalence of high-intensity drinking are consistent with declines in binge drinking (at the 5+ drinks level) for college students and noncollege respondents.[11] As we summarize below (and also discuss in Chapter 8), the prevalence of high-intensity drinking is much higher among men than women in both college and noncollege groups.

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; it dropped slightly to a new low in 2019 (2.0%). For noncollege respondents it was level in 2019 (3.1%), and for 12th graders it continued on a long-term decline to 1.7% in 2019. 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 around 4% without a clear downward trend; however, 2017 showed a clear and significant downward trend, and then leveled in 2019. 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 1.7% in 2019. 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 noncollege youth; and both of them showed some decline in daily use in 2015 and then uneven change through 2019, reaching levels that were at or near historic lows in 2019.

---

[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*, 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, with any smoking in the past *30 days* falling by about three-fourths from the most recent high of 31% in 1999 to 7.9% in 2019 (a nonsignificant change from 6.8% in 2018, an all-time low); their *daily* smoking has fallen by about four-fifths over the same interval, from 19% in 1999 to 2.5% in 2019 (a nonsignificant change from 1.9% in 2018, an all-time low) (Figure 9-16b). In the early 1980s, cigarette smoking among U.S. college students declined modestly, and by less than the decline among noncollege youth. 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 during the relapse phase in the drug epidemic, 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 reflects 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 16% in 2019, showing a nonsignificant decline of 1.1 percentage points from 2018 (17%). Over the past decade and a half, 30-day use has declined in parallel form for noncollege and college respondents, with smoking being about twice as high among noncollege as among college respondents across the past seven years. Across the same period, prevalence of *daily* smoking also decreased in parallel form; it has been three to four times as high among noncollege as among college respondents in recent years (Figure 9-16b and Table 9-4).

  While smoking rates have consistently been lower among college students than the noncollege segment, the trend lines in 30-day use 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.[12]

[12] 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.

- New questions about ***vaping nicotine*** were added to two forms of the young adult surveys in 2017 and 2018, and to four forms in 2019. *Annual* prevalence of vaping nicotine among college students increased a significant 12.6 percentage points from 2017 (13%) to 2018 (26%); it then increased by a significant 9.7 percentage points to 35% in 2019 (Table 9-2). *These one-year increases in annual prevalence of vaping nicotine are among the largest for any substance since MTF began over 40 years ago.* For noncollege respondents, annual prevalence of vaping nicotine was 21% in both 2017 and 2018, and then increased a significant 8.9 percentage points to 30% in 2019. Thus, as of 2019, the annual prevalence of vaping nicotine was higher among college students (35%) than noncollege youth (30%); for most all other forms of nicotine use, noncollege youth have higher prevalence than college students.

  *Thirty-day* prevalence of vaping nicotine increased by a significant 9.4 percentage points from 2017 (6.1%) to 2018 (16%); it then increased by a significant 6.5 percentage points to 22% in 2019 (Table 9-3, Figure 9-18). *Again, these one-year increases in 30-day prevalence of vaping nicotine among college students are among the largest increases for any substance for over 40 years*. Among noncollege respondents, 30-day prevalence was 7.9% in 2017, 13% in 2018, and 18% in 2019 (none of these one-year increases was significant). Thus, as of 2019, 30-day prevalence of vaping nicotine was higher among college students (22%) than noncollege youth (18%).

## Selective Summary of Recent Trends

Based on new vaping, questions in 2017 through 2019, *vaping marijuana and nicotine was found to dramatically increase among college students over the past three years*, *showing one-year increases that are among the largest in MTF history for any substance*. Among college students, 30-day prevalence of ***vaping marijuana*** increased significantly from 5.2% in 2017 to 11% in 2018, and nonsignificantly to 14% in 2019, representing a significant 8.3 percentage point increase from 2017 to 2019. Among noncollege respondents, it was level between 2017 (7.8%) and 2018 (7.9%), but then increased significantly to 17% in 2019.

Among college students, 30-day prevalence of ***vaping nicotine*** increased significantly from 6.1% in 2017 to 16% in 2018, and then significantly again to 22% in 2019, thus more than tripling in just two years between 2017 and 2019. Among noncollege youth, it was 7.9% in 2017, 13% in 2018, and 18% in 2019, thus more than doubling between 2017 and 2019 (though the annual increases were not significant for noncollege youth).

Another main fingind for recent trends among college students is the continued historic high levels in annual prevalence of ***marijuana*** use, which reached 43% in both 2018 and 2019, a historic high over the past three-and-a-half decades; notably, the five-year trend from 2014 to 2019 showed a significant 8.6 percentage point increase. Likewise, for noncollege youth, annual marijuana use remained at historic high levels in 2019, remaining at 43% (the same as 2018), constituting a historic high over the past three-and-a-half decades. Meanwhile, among 12$^{th}$ graders, annual prevalence of marijuana use remained fairly steady from 2011 through 2019 (36% in 2019), resulting in a continued divergence between them and both the college and noncollege groups. ***Daily marijuana use*** increased slightly for college students in 2019 to 5.9%, tying the all-time high level reached in 2014; for noncollege respondents, daily marijuana use reached an all-time high of 15% in 2019. Meanwhile, daily use among 12th graders has remained steady the past few years (6.4% in 2019). Thus, as of 2019, about one-in-seven noncollege respondents aged 19-22, and about one-in-seventeen college students, use marijuana on a daily or near daily basis.

Regarding annual prevalence of ***illicit drugs other than marijuana***, recent trends have been level for college and noncollege respondents (at 17% for both in 2019); it continued to decline for 12th graders. Two illicit drugs in particular have shown recent increases among college students, though prevalence for both drugs remains relatively low. The five-year trend in annual prevalence of ***cocaine*** use increased nonsignificantly from 4.4% in 2014 to 5.6% in 2019, the highest it has been over the past decade; for both noncollege respondents and 12th graders, annual cocaine use has declined somewhat or remained steady in the past few years (5.5% and 2.2% in 2019, respectively). Annual prevalence of ***LSD*** has shown some uneven increases in the past few years for college students (3.7% in 2019) and especially noncollege respondents (6.0% in 2019), with it remaining fairly level for 12th graders (3.6% in 2019).

The use of two illicit drugs in particular has continued to decline for college students and noncollege respondents. Annual prevalence of the nonmedical use of ***narcotic drugs other than heroin*** continued to decline for college students, with a significant five-year decline from 4.8% in 2014 to 1.5% in 2019; similarly, for noncollege respondents, there was a significant five-year decline from 7.7% in 2014 to 3.3% in 2019 (use also declined significantly for 12th graders in the past five years to 2.7% in 2019). The 2019 prevalence in all three groups was at the lowest levels since the late 1990s. The annual use of ***amphetamines*** also continued to decline modestly for college students (to 8.1% in 2019), and more so for noncollege respondents (5.9% in 2019) and 12th graders (4.5% in 2019). It is noteworthy that two somewhat newer drugs – ***synthetic marijuana*** and ***salvia*** – have also continued to decline among all three groups to very low levels.

Several illicit drugs with relatively low prevalence have shown some leveling or uneven change in recent years among college students and noncollege respondents, including ***MDMA*** (***ecstasy***, ***Molly***) (annual prevalence of 3.3% and 4.1%, respectively in 2019) and nonmedical use of ***sedatives (barbiturates)*** (2.0% and 3.0%), and ***tranquilizers*** (3.0% and 3.4%). The trend in the use of ***inhalants*** has also been fairly level among both college and noncollege youth (1.3% and 1.9%).

***Binge drinking*** continued to decline among college students and noncollege youth (as well as 12th graders). In 2018 for college students, it declined significantly to 28%, representing the first time that it was below 30%; however, in 2019, it increased (nonsignificantly) to 33%. In 2019 binge drinking declined nonsignificantly to 22% for noncollege respondents and to 14% for 12th graders, continuing an important longer-term decline. Regarding measures of ***high intensity drinking***, prevalence of ***10 or more drinks in a row*** at least once in the prior two weeks has been fairly level across the years are similar for college and noncollege youth (combined across years 2015-2019, 11% for both college and noncollege youth); prevalence of ***15 or more drinks in a row*** decreased for both groups to 1.7% and 3.7%, respectively, in 2015-2019 combined. ***Cigarette*** use continues to decline, with 30-day smoking at 7.9% in 2019 for college students (a nonsignificant change from 6.8% in 2018, an all-time low); it reached new all-time lows in 2019 for noncollege respondents (16%) and 12th graders (6%).

Finally, regarding long-term trends, the 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 19-22 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. Women constituted 50% of the 1980 sample of college students compared to 63% of our 2019 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 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 men and women in the lower panels of Figures 9-1 through 9-18.

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 prevalence 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 men than among college women. 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 prevalence rose. After 2001, the two genders diverged further, with use among men remaining essentially unchanged through 2008 and use among women decreasing (Figure 9-3a). Since 2010, use among college men has remained fairly steady, whereas use among college women 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 men and 37% for women. In 2018, use increased nonsignificantly to 43% for men and 42% for women, narrowing the gap; however, in 2019, annual use increased nonsignificantly for men to 46% and decreased nonsignificantly for women to 41%. The five-year trend from 2014 to 2019 showed a significant increase of 9 percentage points for both college men and for college women.

- Among college students, 30-day prevalence of ***vaping marijuana*** increased for men from 8.7% in 2017 to 13.1% in 2018, and to 15.9% in 2019 (none of the one-year increases was significant, although prevalence nearly doubled between 2017 and 2019); for women, it increased significantly from 2.9% in 2017 to 9.3% in 2018, and nonsignificantly to 11.9% in 2019, increasing by over four times between 2017 and 2019. Thus, the gender gap appears to be decreasing (Figure 9-17).

- ***Daily marijuana use*** (Figure 9-3b) has generally been about twice as high among college men as among college women throughout the study; since the mid-1990s, such use has risen more among men, especially since 2007, opening a wide difference. Between 2014 and 2017, daily use declined some for men and remained fairly level for women; in 2018, it increased nonsignificantly for both. In 2019, daily use decreased nonsignificantly for men (to 7.2%) and increased nonsignificantly for women (to 5.0%) (Figure 9-3b). The five-year trends (2014-2019) were not significant for men or women, but the 2019 level for women represents a new all-time high.

- From 1999 to 2005, ***LSD*** use dropped more steeply among men than among women, offsetting sizeable previous differences in which men had higher use and bringing the genders close together at very low prevalence (Figure 9-7). The relatively small increases in use that have occurred since 2005 through 2019 have been more uneven for men than for women. In 2019, the gender gap in annual prevalence of LSD narrowed; it declined nonsignificantly for men to 3.9% and increased nonsignificantly for women to 3.6%, with the five-year trends being nonsignificant for both.

- Use of ***hallucinogens other than LSD*** has dropped for both genders since 2002 or 2003, with percentages for men generally twice as high or more as those for women; in the past few years, it dropped more for men than for women, and there has been some convergence (Figure 9-8).

- Until recently, annual prevalence of ***MDMA*** (***ecstasy***, ***Molly***) use has been quite similar for college men and women 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, men showed more increase than women; both showed some uneven declines from 2012-2013 through 2017 (3.1% for college men and 2.2% for college women). In 2018, use increased significantly for college men to 7.2% and increased nonsignificantly for college women to 2.7%, opening up a gap for a few years. In 2019, use decreased significantly for college men to 3.2% and increased nonsignificantly for college women to 3.2%, thus eliminating the gender difference. (Starting in 2014, the drug Molly was included as an example of MDMA. See Figure 9-9.) From the first measurement in 1988 through 2005 the two genders tracked closely, including the period of rapid rise in use (1994-2001) and the subsequent period of rapid decline (2001-2004).

- Trends in the nonmedical use of ***narcotics other than heroin*** have generally moved in parallel for both male and female college students, with men 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 a convergence, dropping to 1.3% and 1.6%, respectively in 2019; the five-year decline was significant for both college men and women.

- After 1986, ***cocaine*** use, which had been substantially higher among men until then, dropped more steeply for men than for women 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 men typically reporting higher annual usage rates. Both genders showed small and nonsignificant upticks in use in 2014, which continued unevenly for college men (reaching 6.1% in 2019) and college women (reaching 5.5% in 2019); the five-year increase was nonsignificant for both college men and women.

- Nonmedical ***amphetamine*** use (Figure 9-12) also showed some convergence in the 1980s due to a greater decline among men; the two genders showed virtually equivalent annual prevalence from 1986 through 1998. From 1998 through 2016 men had slightly higher annual prevalence generally, as use increased for both through 2012. Use continued to increase for men through 2015 while it declined for women. These trends reversed in 2016 and 2017, and as a result college women showed higher annual prevalence than college men in 2017 (9.2% and 7.7%, respectively); however, it decreased nonsignificantly for women in 2018 (7.8%) and increased nonsignificantly for men (9.5%) (none of the five-year trends was significant). In 2019, college women showed slightly higher annual prevalence than college men (8.5% and 7.9%, respectively).

- The gender differences for nonmedical ***sedative*** (***barbiturate***) and ***tranquilizer*** use have been modest through most of the life of the study, with college men usually having slightly higher annual prevalence than college women (Figures 9-13 and 9-14). After 1995, a somewhat larger gap emerged for tranquilizers, again with men being higher until 2019. Tranquilizer use by college women peaked in 2003, briefly closing the gender gap, but use by men has consistently been slightly higher since then. Since 2003, both have shown uneven declines through 2019. 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, followed by a leveling for men and decline for women through 2018. In 2019, annual use of sedatives decreased nonsignificantly for men (to 1.5%) and increased significantly for women (2.3%).

- Among college students, the *annual* prevalence of ***alcohol*** use has been virtually identical for the two genders since 1980, when use by college students was first reported (Figure 9-15a). Both college men and women have shown a very gradual and modest decline over the past 35 years. Prior to 2000, *30-day* alcohol prevalence showed modest differences, with men slightly higher (Figure 9-15b); however, that difference largely disappeared by 2000.

  In the past, college men had consistently had considerably higher rates of *daily drinking* than college women (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 women but an overall decrease among college men. Both showed declines in 2017 to historic low levels, and remained level through 2019.

- ***Binge drinking*** (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 men since about 1985 that continued into 2019 reduced the gap considerably (Figure 9-15d). Because there has been little change among college women, whose use has been consistently less than that of college men, the gender gap has narrowed, especially since 2016. In 2019, binge drinking increased nonsignificantly for both men and women (34% and 32%, respectively), again narrowing the gap; the five-year decline was significant for men, but not for women.

- The gender gap in ***high intensity drinking*** has been fairly steady, with two-week prevalence remaining much higher among men (Tables 9-5 and 9-6). Between 2005-2009 and 2010-2014, having ten or more drinks in a row increased from 15% to 20% for college men, and increased somewhat for college women from 6.6% to 7.9%. Between 2010-2014 and 2015-2019, having ten or more drinks in a row decreased slightly for men to 19% and for women to 6.2% (none of the changes across the three time-periods was significant for college men or women). Corresponding prevalence for having 15 or more drinks in a row dropped for college men from 11% to 7.7% to 3.5% across the three time-periods; for women, prevalence was 1.4%, 2.4%, and 0.7% across the three time periods (the decrease between time 2 and 3 was significant for both college men and women).

- For the interval between 1980 and 1988, the *30-day* prevalence of ***cigarette smoking*** was higher among college women than men (Figure 9-16a). However, the difference in 30-day prevalence narrowed because use by college women declined considerably between 1980 and 1989, while use by college men did not decline. After 1989, as prevalence for both genders increased considerably, the difference remained quite small and the genders reversed position, with college men catching up to and passing women 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 men was irregular during this interval). Use then leveled for men through 2015 and continued to drop for women, widening the difference between them somewhat. In 2016 it dropped for men more than for women. Use leveled for men in 2017 (11%) and continued to decline for women (6%). In 2018 the 30-day prevalence levels dropped nonsignificantly for both (to 10% and 5%, respectively), at new historic lows. In 2019, both college men and women showed nonsignificant increases (to 11% and 6%, respectively). *Daily smoking* and *half-pack-a-day smoking* (Figures 9-16b and c) also were initially higher among college women than among college men, this time up through 1994, after which the two genders have tracked rather closely, both reaching historic lows in 2017 or 2018 and close to historic lows in 2019. It thus appears that college men in recent years have been more likely than college women to smoke at a less than daily rate but about equally likely as women to smoke at more frequent rates, though daily use is now very low for both.

- Among college students, 30-day prevalence of ***vaping nicotine*** increased significantly from 2017 to 2018 for both men (10.6% to 22.3%) and women (3.2% to 11.5%); it increased significantly again in 2019 for both men (to 31.9%) and women (to 16.6%). Thus, the considerable gender gap has remained across the three years (Figure 9-18).

# 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,gg] | 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,g] | 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 |
| MDMA (ecstasy, molly), 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 |
| MDMA (ecstasy, molly), revised [d,z] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cocaine [gg] | 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,gg] | — | — | — | — | — | — | — | 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,gg] | — | — | — | — | — | — | — | 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,hh] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 2018 | 2019 | 2018–2019 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* | *900* | *840* | |
| Any Illicit Drug [a,gg] | 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 | 55.7 | 58.9 | +3.2 |
| Any Illicit Drug other than Marijuana [a,gg] | 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 | 27.3 | 26.2 | -1.1 |
| 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 | 52.4 | 54.7 | +2.3 |
| 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 | 3.0 | 4.6 | +1.6 |
| 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 | 8.5 | 9.1 | +0.6 |
| 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 | 6.9 | 6.5 | -0.4 |
| 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 | 5.0 | 6.9 | +2.0 |
| MDMA (ecstasy, molly), 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 | — | — | — | — | — | — |
| MDMA (ecstasy, molly), revised [d,z] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.1 | 8.9 | 8.4 | 5.3 | 7.6 | 7.0 | -0.6 |
| Cocaine [gg] | 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 | 8.5 | 8.8 | +0.3 |
| Crack [e,gg] | 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 | 0.9 | 0.0 | -0.9 |
| Other Cocaine [f,gg] | 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 | 6.7 | 6.1 | -0.6 |
| 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 | 0.1 | 0.3 | +0.2 |
| 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 | 6.6 | 5.8 | -0.8 |
| 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 | 13.2 | 13.5 | +0.4 |
| 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 | 1.0 | 1.1 | +0.2 |
| 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 | 0.8 | 0.6 | -0.2 |
| 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 | 3.3 | 3.7 | +0.5 |
| 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 | 7.4 | 7.4 | +0.1 |
| 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 | 77.4 | 79.2 | +1.7 |
| 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 | 66.8 | 65.5 | -1.3 |
| 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 | 71.0 | 72.2 | +1.2 |
| Cigarettes | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Any Vaping [j,aa] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 26.0 | 26.8 | 36.0 | 39.9 | 49.4 | +9.5 ss |
| Vaping Marijuana [j,aa,hh] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 14.4 | 23.8 | 29.4 | +5.5 |
| Vaping Nicotine [j,aa] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 22.5 | 32.4 | 41.9 | +9.5 ss |
| Vaping Just Flavoring [j,aa] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 26.7 | 27.1 | 28.7 | +1.6 |
| 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 | 0.3 | — | — |

*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,gg] | 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,gg] | 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 |
| MDMA (ecstasy, molly), 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 |
| MDMA (ecstasy, molly), revised [d,z] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Salvia [v] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cocaine [gg] | 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,gg] | — | — | — | — | — | — | — | 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,gg] | — | — | — | — | — | — | — | 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,ii] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 mixed with Energy Drinks [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,bb] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Vaping Marijuana [j,aa,cc] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Vaping Nicotine [j,aa,dd] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 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 | 2018 | 2019 | 2018–2019 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* | *900* | *840* | |
| Any Illicit Drug [a,gg] | 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 | 45.4 | 46.5 | +1.1 |
| Any Illicit Drug other than Marijuana [a,gg] | 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 | 18.2 | 16.8 | -1.4 |
| Synthetic Marijuana [u] | — | — | — | — | — | — | — | — | — | — | — | 8.5 | 5.3 | 2.3 | 0.9 | 1.5 | 1.3 | 0.5 | 1.6 | 1.8 | +0.2 |
| 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 | 42.6 | 43.0 | +0.5 |
| 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 | 1.3 | 1.3 | 0.0 |
| 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 | 5.1 | 5.3 | +0.2 |
| 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 | 4.1 | 3.7 | -0.5 |
| 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 | 2.4 | 3.3 | +0.9 |
| MDMA (ecstasy, molly), 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 | — | — | — | — | — | — |
| MDMA (ecstasy, molly), revised [d,z] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.9 | 4.2 | 4.7 | 2.5 | 4.3 | 3.3 | -1.0 |
| Salvia [v] | — | — | — | — | — | — | — | — | — | 5.8 | 3.5 | 3.1 | 1.5 | 1.0 | 1.1 | 0.4 | 0.7 | 0.3 | 0.9 | 0.3 | -0.5 |
| Cocaine [gg] | 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 | 6.0 | 5.6 | -0.4 |
| Crack [e,gg] | 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 | 0.7 | 0.0 | -0.7 |
| Other Cocaine [f,gg] | 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 | 4.6 | 3.5 | -1.1 |
| 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 | 0.0 | 0.0 | * | 0.0 |
| 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 | 2.7 | 1.5 | -1.2 |
| OxyContin [g,q,ii] | — | — | 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 | 1.6 | 2.5 | +0.9 |
| 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 | 1.5 | 1.5 | 0.0 |
| 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 | 8.3 | 8.1 | -0.2 |
| 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 | 1.3 | 2.5 | +1.2 |
| Adderall [g,q] | — | — | — | — | — | — | — | — | — | 10.2 | 9.0 | 9.8 | 9.0 | 10.7 | 9.6 | 10.7 | 9.9 | 9.4 | 11.0 | 8.4 | -2.6 |
| 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 | 0.0 | -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 | * | 0.3 | +0.3 |
| Bath Salts (synthetic stimulants) [n] | — | — | — | — | — | — | — | — | — | — | — | — | 0.3 | 0.1 | 0.2 | 0.1 | 0.0 | 0.2 | 0.0 | — | — |
| 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 | 1.5 | 2.0 | +0.4 |
| 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 | 3.5 | 3.0 | -0.5 |
| 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 | 0.9 | 0.7 | -0.3 |
| 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 | 74.6 | 77.6 | +3.0 |
| 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 | 59.2 | 58.7 | -0.5 |
| 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 | 58.4 | 64.6 | +6.1 |
| Alcoholic Beverages mixed with Energy Drinks [j,s] | — | — | — | — | — | — | — | — | — | — | — | 33.6 | 33.8 | 39.1 | 32.8 | 34.1 | 29.4 | 31.3 | 27.4 | 35.6 | +8.2 |
| 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 | 15.5 | 16.0 | +0.6 |
| Any Vaping [j,aa,bb] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 23.5 | 32.4 | 43.7 | +11.3 ss |
| Vaping Marijuana [j,aa,cc] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 10.7 | 20.2 | 25.5 | +5.4 |
| Vaping Nicotine [j,aa,dd] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 13.0 | 25.6 | 35.3 | +9.7 ss |
| Vaping Just Flavoring [j,aa] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 13.1 | 14.0 | 15.6 | +1.6 |
| Tobacco Using a Hookah [j] | — | — | — | — | — | — | — | — | — | — | — | 27.9 | 25.7 | 26.1 | 32.7 | 23.4 | 16.9 | 10.0 | 11.4 | 10.6 | -0.9 |
| Small Cigars [y] | — | — | — | — | — | — | — | — | — | — | — | 23.6 | 20.3 | 19.0 | 24.2 | 19.6 | 17.6 | 14.0 | 15.6 | 8.8 | -6.8 s |
| Snus [j] | — | — | — | — | — | — | — | — | — | — | — | 6.5 | 4.7 | 4.8 | 5.0 | 5.8 | 3.3 | 4.3 | 1.0 | 1.4 | +0.4 |
| Dissolvable Tobacco [j] | — | — | — | — | — | — | — | — | — | — | — | * | 0.3 | 0.2 | 0.5 | 1.1 | 0.3 | 0.7 | 0.0 | 0.0 | 0.0 |
| 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 | 0.0 | — | — |

*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,gg] | 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,gg] | 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 |
| MDMA (ecstasy, molly), 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 |
| MDMA (ecstasy, molly), revised [d,z] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Cocaine [gg] | 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,gg] | — | — | — | — | — | — | 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,gg] | — | — | — | — | — | — | — | 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 [jj] | 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 | 2018 | 2019 | 2018–2019 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* | *900* | *840* | |
| Any Illicit Drug [a,gg] | 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 | 27.0 | 29.7 | +2.7 |
| Any Illicit Drug other than Marijuana [a,gg] | 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 | 7.9 | 7.6 | -0.3 |
| 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 | 24.7 | 26.3 | +1.6 |
| 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 | 0.2 | 0.4 | +0.3 |
| 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 | 1.1 | 1.4 | +0.3 |
| 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 | 1.0 | 1.1 | +0.1 |
| 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 | 0.4 | 0.8 | +0.4 |
| MDMA (ecstasy, molly), 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 | — | — | — | — | — | — |
| MDMA (ecstasy, molly), revised [d,z] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.0 | 0.7 | 1.0 | 0.5 | 1.3 | 1.1 | -0.1 |
| Cocaine [gg] | 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 | 2.6 | 2.4 | -0.2 |
| Crack [e,gg] | 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 | * | * | * | 0.4 | * | -0.4 |
| Other Cocaine [f,gg] | 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 | 1.9 | 1.3 | -0.7 |
| Heroin | 0.2 | 0.1 | * | * | 0.1 | 0.1 | 0.2 | 0.1 | * | 0.1 | * | * | 0.1 | 0.2 | * | * | 0.2 | * | * | * | 0.0 |
| 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 | 1.0 | 0.4 | -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 | 2.9 | 3.4 | +0.6 |
| 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 | * | * | 0.0 |
| 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 | 0.5 | 0.5 | 0.0 |
| 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 | 1.1 | 0.7 | -0.3 |
| 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 | 59.6 | 62.2 | +2.6 |
| 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 | 37.8 | 34.8 | -3.1 |
| 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 | 30.9 | 46.4 | +15.5 s |
| Cigarettes [jj] | 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 | 6.8 | 7.9 | +1.1 |
| Any Vaping [j,aa] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.8 | 6.9 | 11.3 | 21.3 | 28.5 | +7.2 s |
| Vaping Marijuana [j,aa,ee] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.2 | 10.9 | 13.5 | +2.6 |
| Vaping Nicotine [j,aa] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.1 | 15.5 | 22.1 | +6.5 s |
| Vaping Just Flavoring [j,aa] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.3 | 4.8 | 5.4 | +0.6 |
| Large Cigars [o] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.4 | 4.9 | 4.4 | 1.7 | 3.7 | 3.6 | -0.1 |
| Flavored Little Cigars [o] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.8 | 5.6 | 5.6 | 4.9 | 5.6 | 4.2 | -1.4 |
| Regular Little Cigars [o] | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.6 | 4.1 | 3.6 | 1.7 | 1.4 | 4.2 | +2.8 |
| Steroids [p] | * | 0.3 | * | 0.1 | * | * | * | 0.1 | * | 0.2 | * | 0.2 | * | * | * | 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[gg] | 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 | 2018 | 2019 | 2018–2019 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* | *900* | *840* | |
| 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 | 5.8 | 5.9 | +0.1 |
| Cocaine [gg] | * | * | * | * | * | 0.1 | 0.1 | * | * | * | * | * | * | * | * | * | 0.1 | * | * | * | 0.0 |
| 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 | 0.0 | 0.3 | +0.2 |
| 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 | 2.3 | 2.0 | -0.3 |
| 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 | 0.6 | 0.2 | -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 | 28.4 | 32.7 | +4.3 |
| 10+ Drinks in a Row in Last 2 Weeks [ff] | — | — | — | — | — | 12.5 | 13.7 | 13.9 | 13.0 | 15.8 | 11.6 | 14.6 | 13.7 | 10.4 | 13.5 | 11.8 | 10.8 | 12.7 | 9.0 | 10.3 | +1.3 |
| 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 | 3.4 | 0.7 | -2.7 |
| 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 | 1.9 | 2.5 | +0.5 |
| 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 | 0.5 | 0.7 | +0.1 |

*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. Noncollege Youth among Respondents 1 to 4 Years beyond High School by Gender

(Entries are percentages.)

| | Time 1 2005-2009 | Time 2 2010-2014 | Time 3 2015-2019 | Time 1 - Time 2 Difference | Time 2 - Time 3 Difference |
|---|---|---|---|---|---|
| Total | | | | | |
| Full-Time College | 13.8 | 12.8 | 10.9 | -0.9 | -1.9 |
| *Weighted N* | *1105* | *1085* | *1640* | | |
| Non-College | 12.8 | 11.3 | 10.7 | -1.5 | -0.6 |
| *Weighted N* | *636* | *685* | *859* | | |
| Males | | | | | |
| Full-Time College | 15.3 | 20.2 | 19.1 | +5.0 | -1.2 |
| *Weighted N* | *424* | *435* | *601* | | |
| Non-College | 20.5 | 16.1 | 16.1 | -4.4 | 0.0 |
| *Weighted N* | *260* | *313* | *347* | | |
| Females | | | | | |
| Full-Time College | 6.6 | 7.9 | 6.2 | +1.3 | -1.7 |
| *Weighted N* | *681* | *650* | *1019* | | |
| Non-College | 7.5 | 7.3 | 7.1 | -0.2 | -0.2 |
| *Weighted N* | *375* | *372* | *494* | | |

The Monitoring the Future study, the University of Michigan.

' * ' 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. Noncollege Youth among Respondents 1 to 4 Years beyond High School by Gender

(Entries are percentages.)

| Total | Time 1 2005-2009 | Time 2 2010-2014 | Time 3 2015-2019 | Time 1 - Time 2 Difference | Time 2 - Time 3 Difference |
|---|---|---|---|---|---|
| Full-Time College | 5.1 | 4.5 | 1.7 | -0.6 | -2.8ss |
| *Weighted N* | *1105* | *938* | *759* | | |
| Non-College | 5.7 | 5.0 | 3.7 | -0.7 | -1.3 |
| *Weighted N* | *637* | *594* | *393* | | |
| | | | | | |
| Males | | | | | |
| Full-Time College | 11.1 | 7.7 | 3.5 | -3.4 | -4.2s |
| *Weighted N* | *425* | *379* | *271* | | |
| Non-College | 10.7 | 8.5 | 5.8 | -2.2 | -2.8 |
| *Weighted N* | *260* | *278* | *161* | | |
| | | | | | |
| Females | | | | | |
| Full-Time College | 1.4 | 2.4 | 0.7 | +1.0 | -1.7s |
| *Weighted N* | *680* | *560* | *481* | | |
| Non-College | 2.3 | 1.9 | 2.3 | -0.4 | +0.4 |
| *Weighted N* | *377* | *316* | *226* | | |

The Monitoring the Future study, the University of Michigan.

' * ' 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

→ (Years cont.)

| | 1980 [i] | 1981 [i] | 1982 | 1983 | 1984 | 1985 | 1986 | 1987 | 1988 | 1989 | 1990 | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 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 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | Percentage who used in lifetime | | | | | | | | | | | |
| Any Illicit Drug [99] | | | | | | | | | | | | | | | | | | | | | |
| 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 | 55.7 | 58.9 | +3.2 |
| 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 | 55.1 | 57.8 | 57.7 | 62.0 | +4.3 |
| 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 | 52.5 | 54.3 | 53.8 | 57.6 | +3.8 |
| Any Illicit Drug other than Marijuana [99] | | | | | | | | | | | | | | | | | | | | | |
| 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 | 27.3 | 26.2 | -1.1 |
| 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 | 31.0 | 27.0 | 32.5 | 31.5 | -1.0 |
| 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 | 23.8 | 26.1 | 24.2 | 23.6 | -0.6 |
| | | | | | | | | | | Percentage who used in last 12 months | | | | | | | | | | | |
| Any Illicit Drug [99] | | | | | | | | | | | | | | | | | | | | | |
| 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 | 42.7 | 45.4 | 46.5 | +1.1 |
| 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 | 45.2 | 46.5 | 45.0 | 50.1 | +5.1 |
| 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 | 39.2 | 40.4 | 45.3 | 44.6 | -0.7 |
| Any Illicit Drug other than Marijuana [99] | | | | | | | | | | | | | | | | | | | | | |
| 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 | 18.4 | 18.2 | 16.8 | -1.4 |
| 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 | 24.6 | 19.8 | 21.1 | 18.8 | -2.3 |
| 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 | 14.9 | 17.6 | 16.7 | 15.9 | -0.8 |
| | | | | | | | | | | Percentage who used in last 30 days | | | | | | | | | | | |
| Any Illicit Drug [99] | | | | | | | | | | | | | | | | | | | | | |
| 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 | 24.4 | 23.6 | 27.0 | 29.7 | +2.7 |
| 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 | 27.4 | 26.7 | 26.1 | 33.3 | +7.2 |
| 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 | 21.1 | 21.9 | 28.1 | 27.9 | -0.2 |
| Any Illicit Drug other than Marijuana [99] | | | | | | | | | | | | | | | | | | | | | |
| 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 | 7.9 | 7.6 | -0.3 |
| 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 | 12.9 | 7.4 | 9.2 | 9.1 | -0.1 |
| 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 | 7.1 | 6.8 | 7.2 | 7.0 | -0.2 |
| 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* | *880* | *900* | *840* | |
| Males | *560* | *540* | *490* | *480* | *520* | *500* | *500* | *470* | *510* | *530* | *500* | *480* | *480* | *430* | *440* | *380* | *340* | *340* | *340* | *300* | |
| Females | *790* | *800* | *770* | *790* | *880* | *860* | *780* | *770* | *760* | *790* | *760* | *750* | *670* | *660* | *590* | *640* | *540* | *530* | *540* | *520* | |

*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.

[bb]For the estimate of annual Any Vaping in 2018, there was a significant difference ($p<.05$) between the typical mail condition (26.9%) and new web-push condition (37.8%) of survey administration.

[cc]For the estimate of annual Vaping Marijuana in 2018, there was a significant difference ($p<.05$) between the typical mail condition (15.2%) and new web-push condition (25.1%) of survey administration.

## Footnotes for Tables 9-1 through 9-7 (continued)

[dd]For the estimate of annual Vaping Nicotine in 2018, there was a significant difference (p<.05) between the typical mail condition (19.0%) and new web-push condition (32.0%) of survey administration.

[ee]For the estimate of 30-day Vaping Marijuana in 2018, there was a significant difference (p<.05) between the typical mail condition (7.3%) and new web-push condition (14.5%) of survey administration.

[ff]This drug was asked about in one of the six questionnaire forms from 2005-2013. From 2014-2018, this drug was asked about in two of six questionnaire forms. Beginning in 2019, this drug was was asked about in five of six questionnaire forms.

[gg]This is an updated estimate from previous reports. For a few substances, including this one, there were minor errors in the estimates. These corrections do not alter conclusions from previous reports.

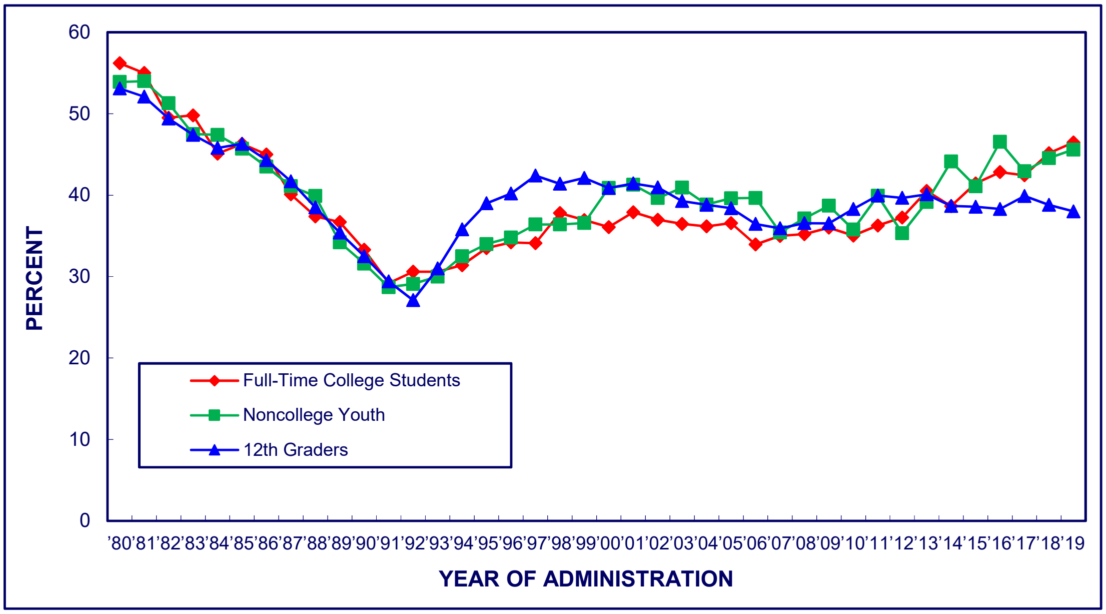
[hh]For the estimate for lifetime Vaping Marijuana in 2019, there was a significant difference (p<.05) between the typical mail condition (24.8%) and new web-push condition (33.2%) of survey administration.

[ii]For the estimate for annual OxyContin in 2019, there was a significant difference (p<.01) between the typical mail condition (0.3%) and new web-push condition (4.1%) of survey administration.

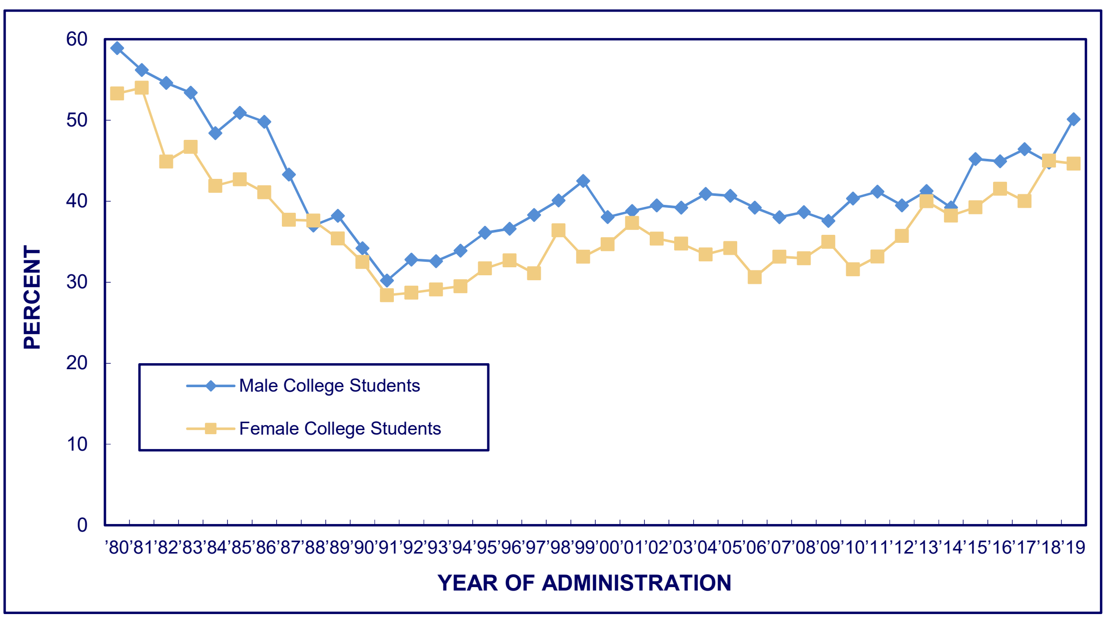
[jj]For the estimate for 30-day Cigarettes in 2019, there was a significant difference (p<.01) between the typical mail condition (5.7%) and new web-push condition (9.5%) of survey administration.

## FIGURE 9-1
## ANY ILLICIT DRUG
## Trends in Annual Prevalence among College Students vs. Noncollege Youth 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.

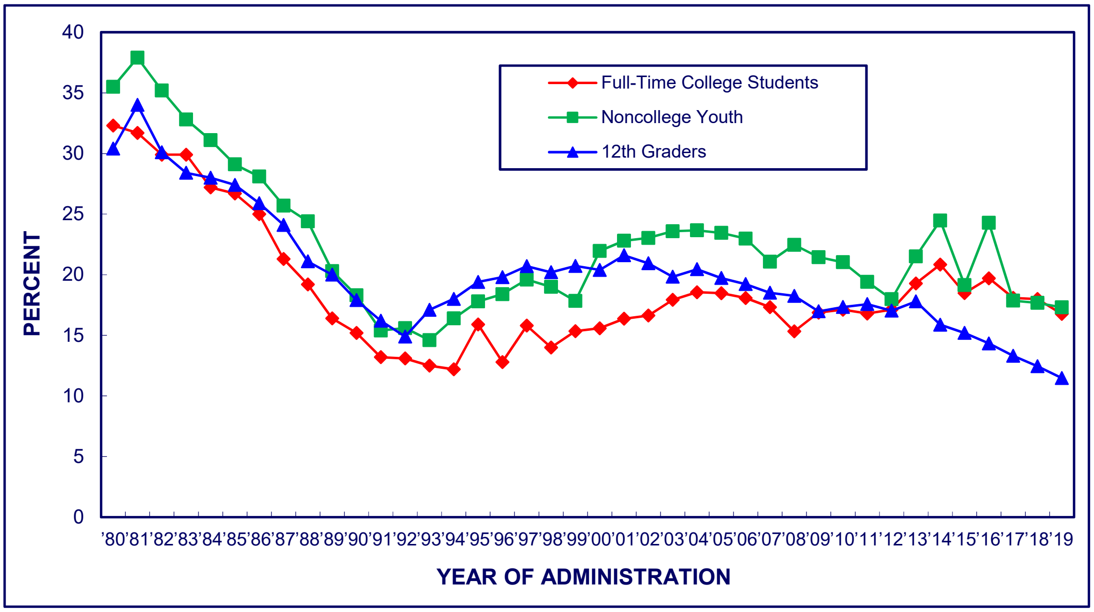
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-2

## ANY ILLICIT DRUG OTHER THAN MARIJUANA

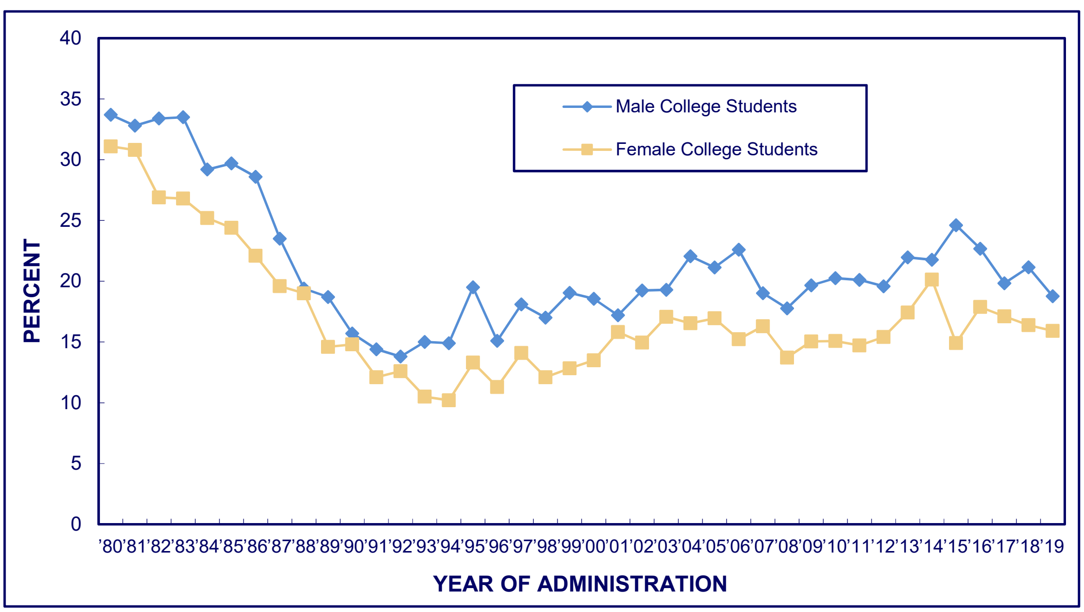
### Trends in Annual Prevalence among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(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.

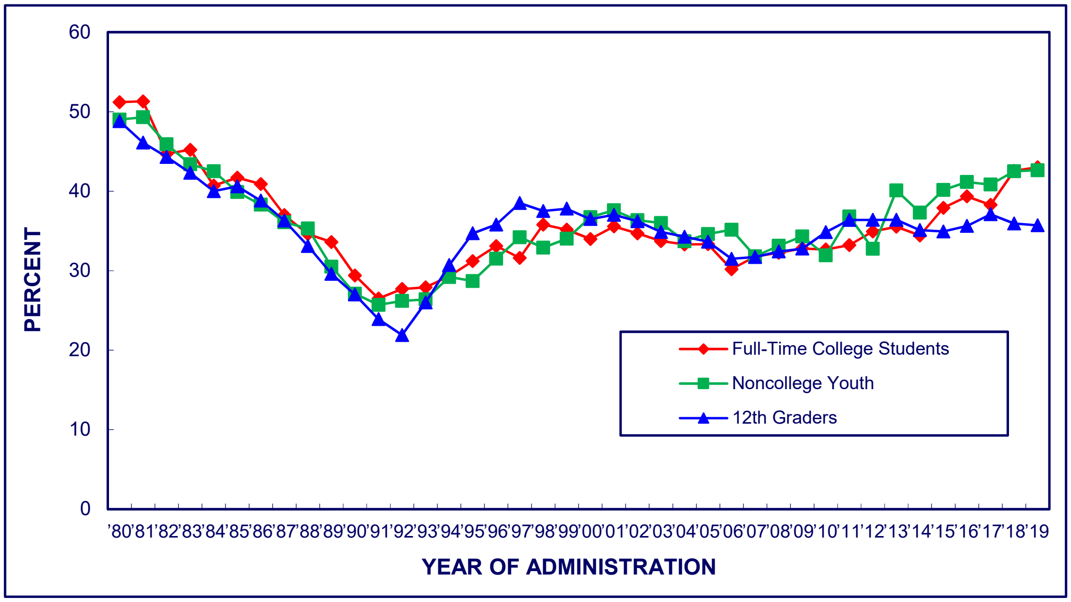
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-3a

## MARIJUANA

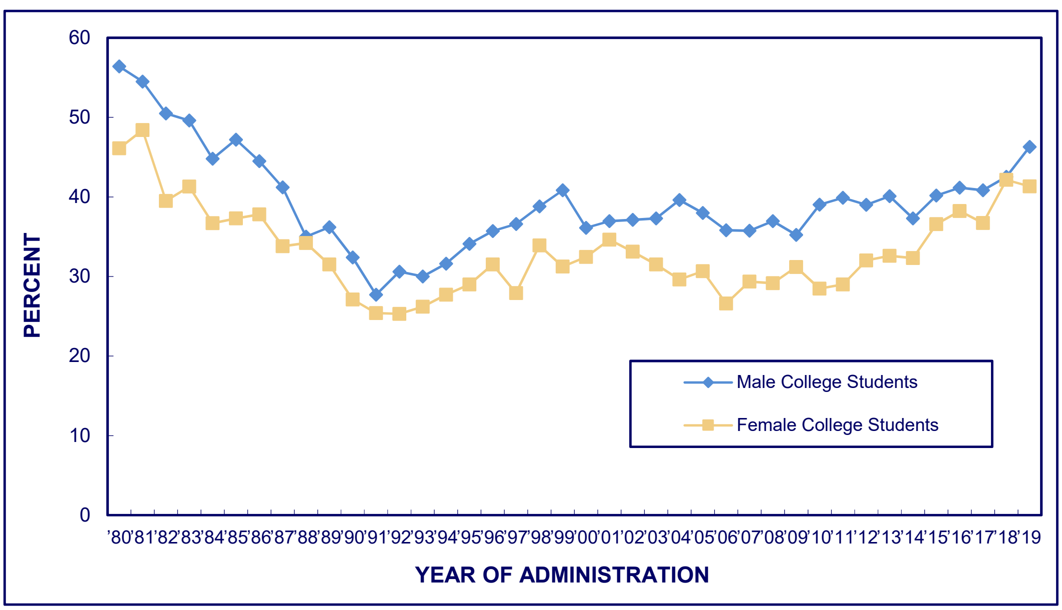
## Trends in Annual Prevalence among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)




## MARIJUANA

## Trends in Annual Prevalence among Male vs. Female College Students




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

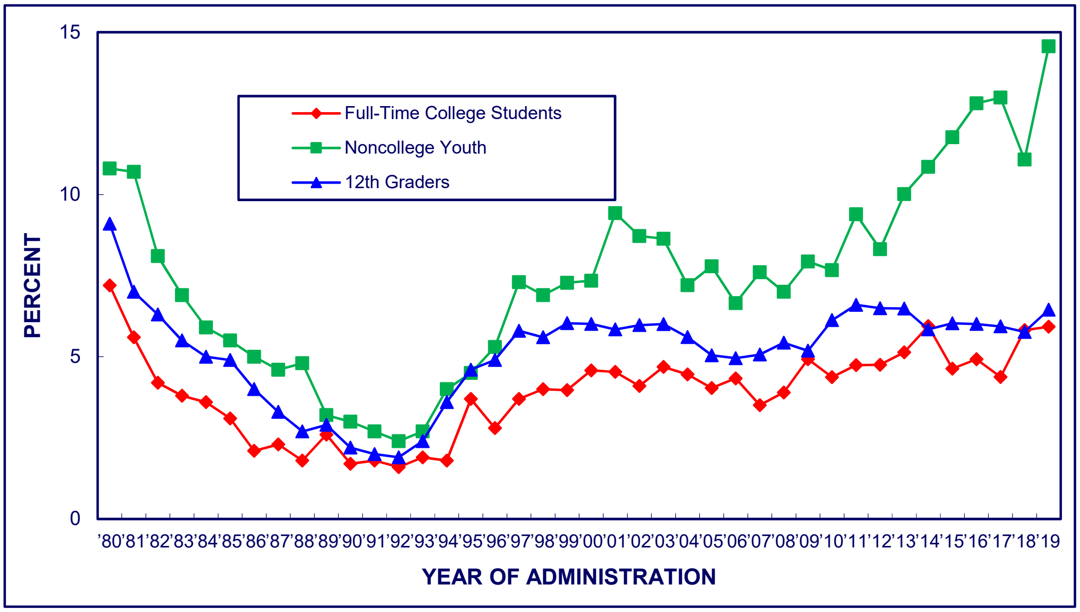
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

# FIGURE 9-3b

## MARIJUANA

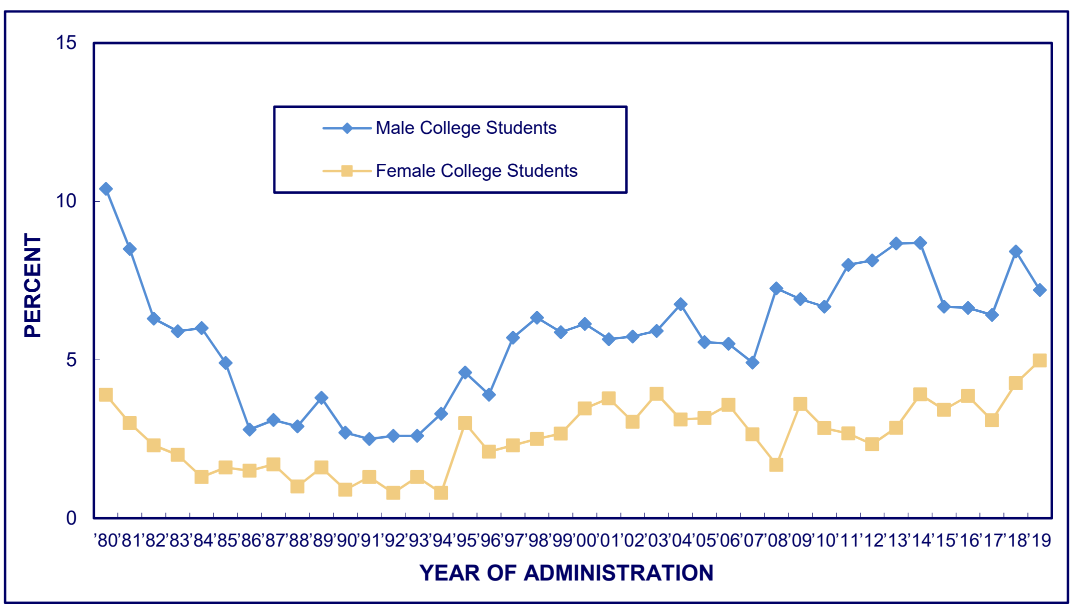
## Trends in 30-Day Prevalence of Daily Use among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)




## MARIJUANA

## Trends in 30-Day Prevalence of Daily Use among Male vs. Female College Students

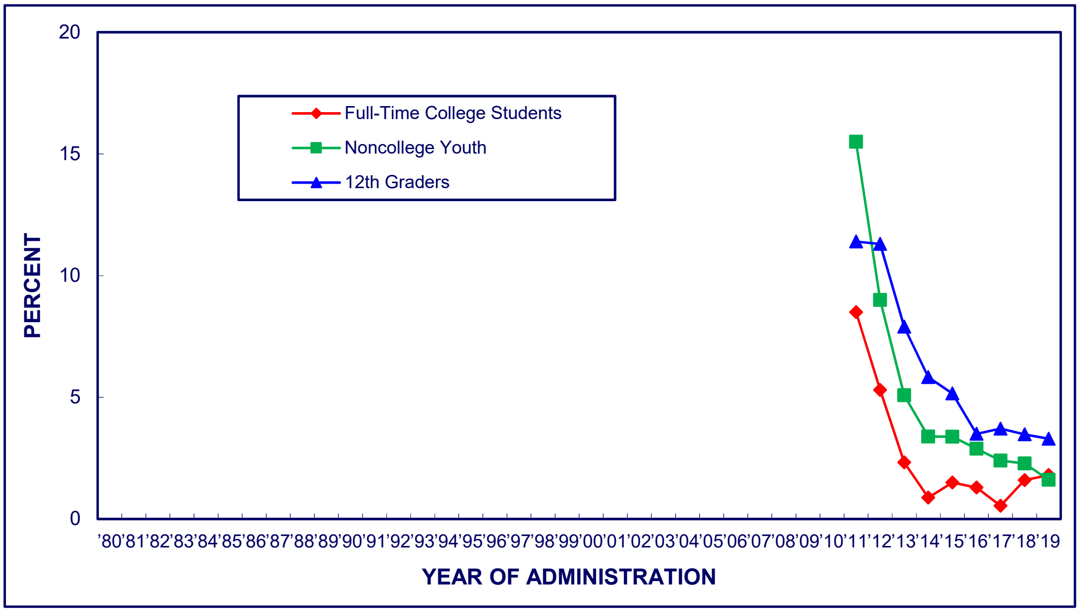



*Source.* The Monitoring the Future study, the University of Michigan.

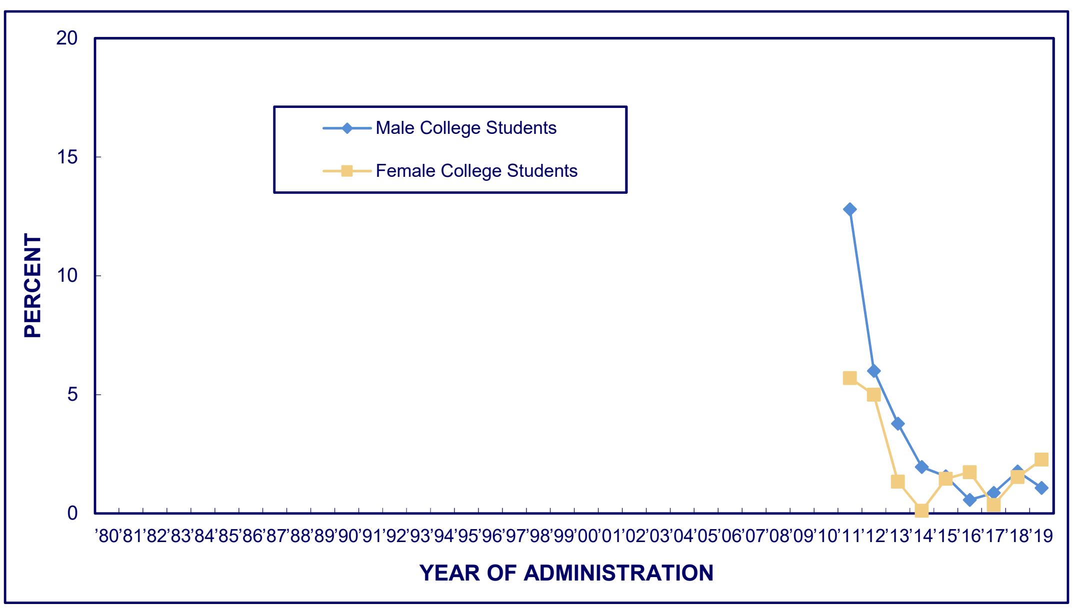
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-4
## SYNTHETIC MARIJUANA
## Trends in Annual Use among College Students vs. Noncollege Youth 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.

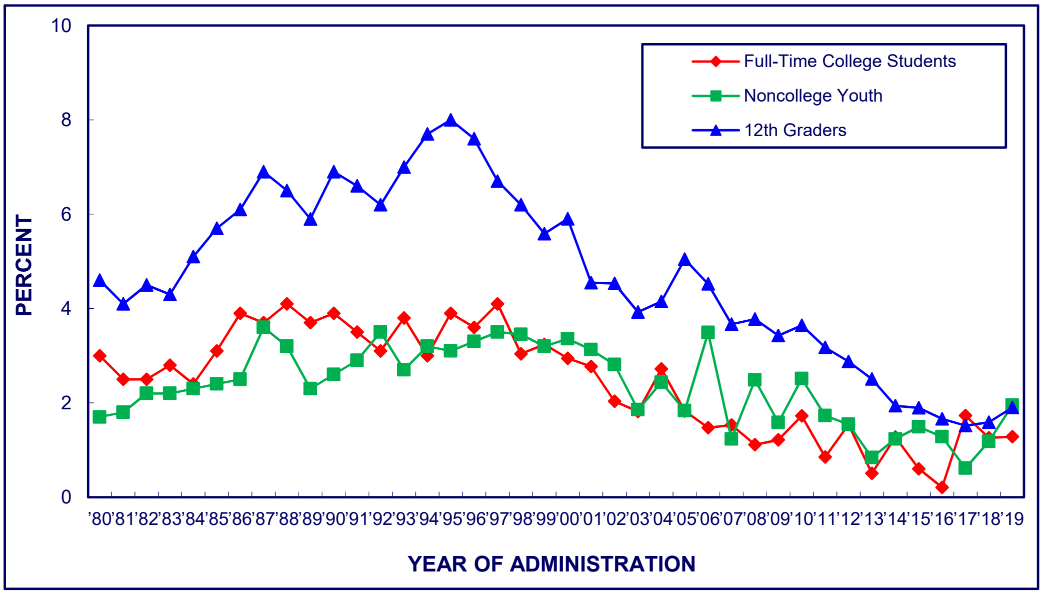
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-5

## INHALANTS [a]

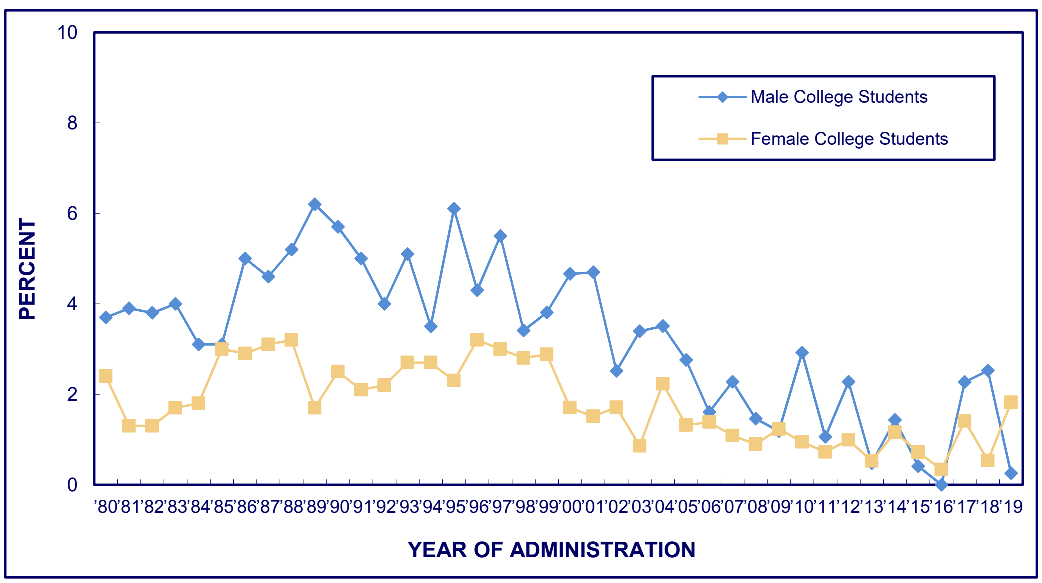
## Trends in Annual Prevalence among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)




## INHALANTS [a]

## Trends in Annual Prevalence among Male vs. Female College Students



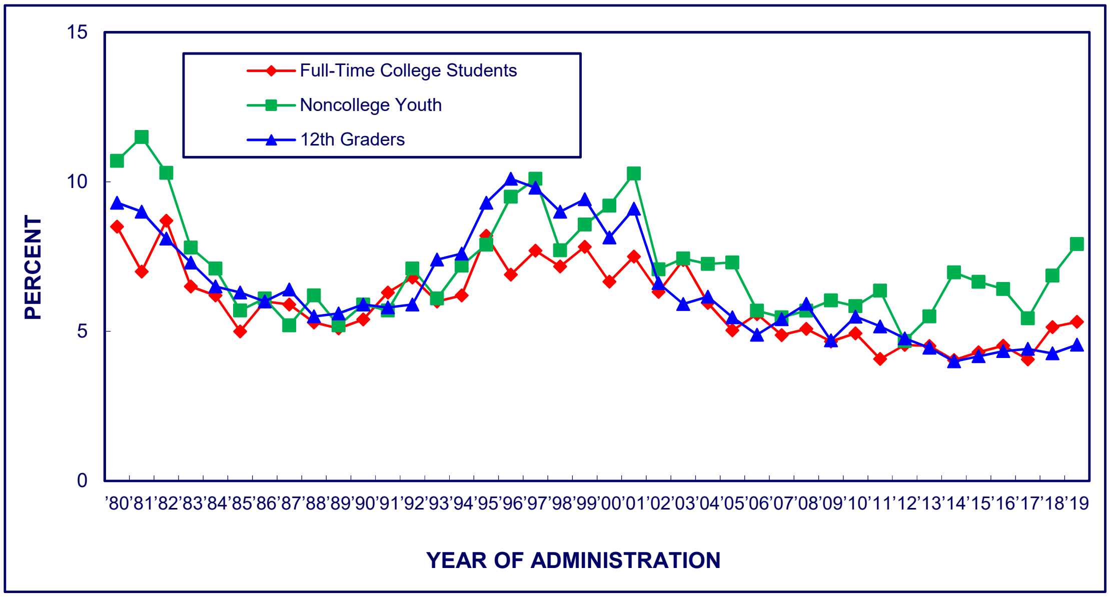

*Source.* The Monitoring the Future study, the University of Michigan.

*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

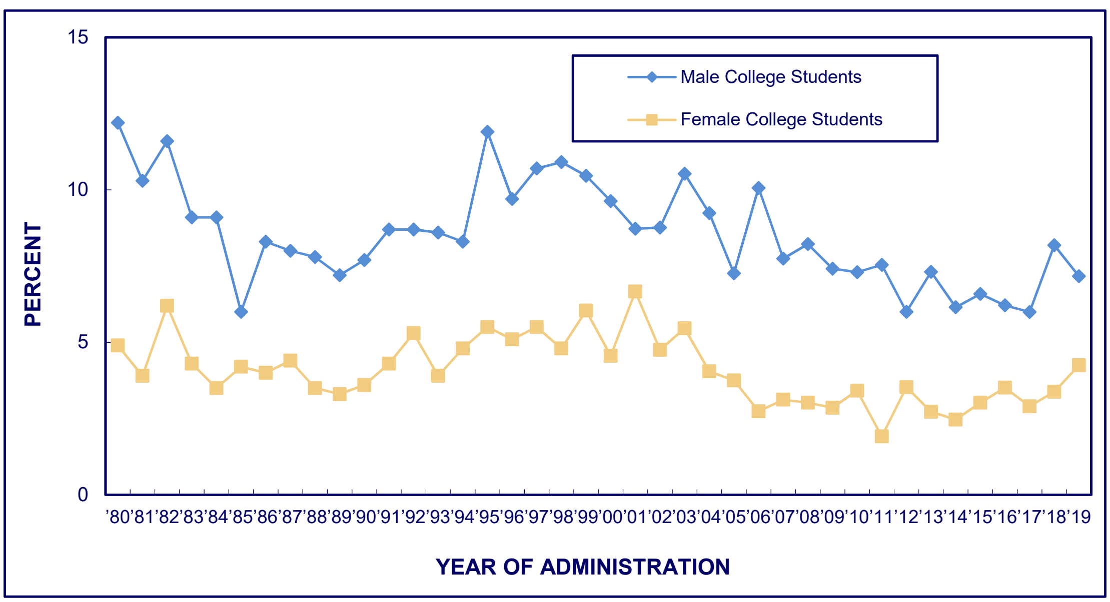
[a]Unadjusted for the possible underreporting of amyl and butyl nitrites.

## FIGURE 9-6
## HALLUCINOGENS [a]
## Trends in <u>Annual</u> Prevalence among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)




## HALLUCINOGENS [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.

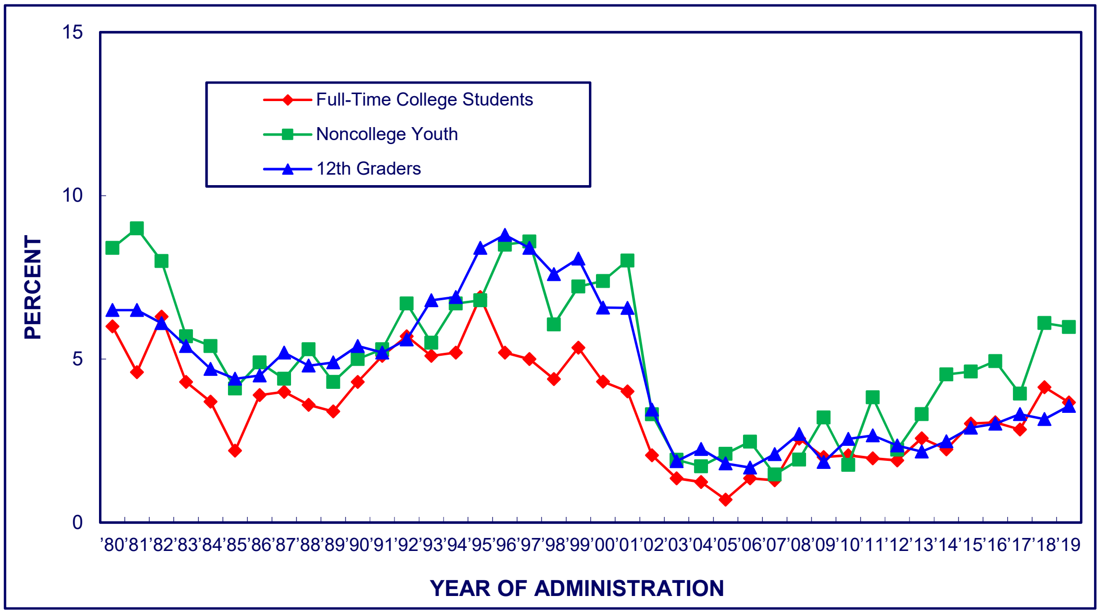
[a]Unadjusted for the possible underreporting of PCP.

## FIGURE 9-7

## LSD

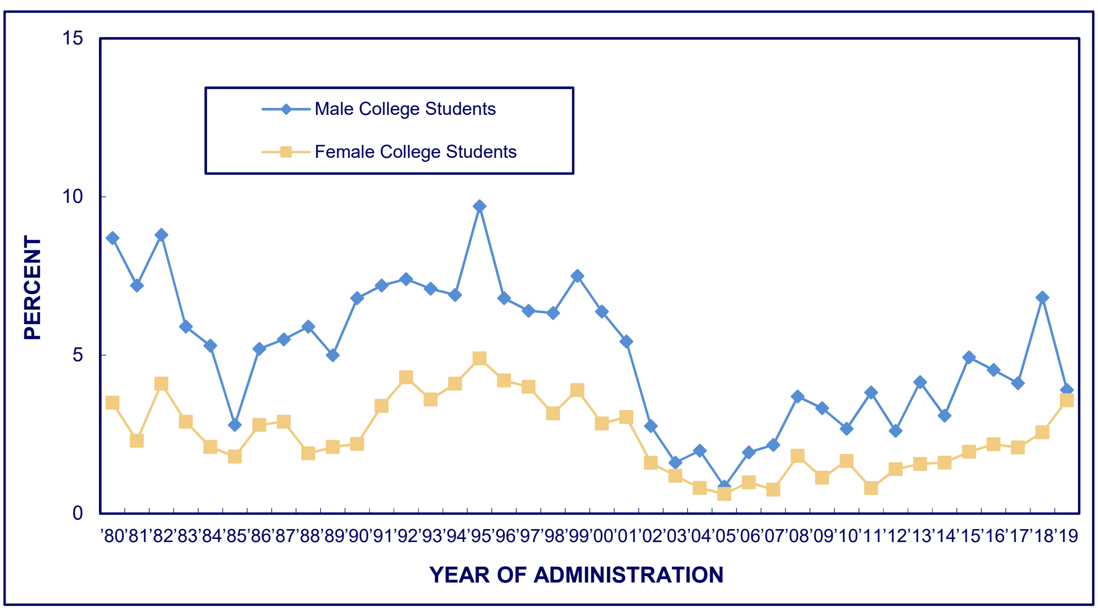
## Trends in Annual Prevalence among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)




## LSD

## Trends in Annual Prevalence among Male vs. Female College Students




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

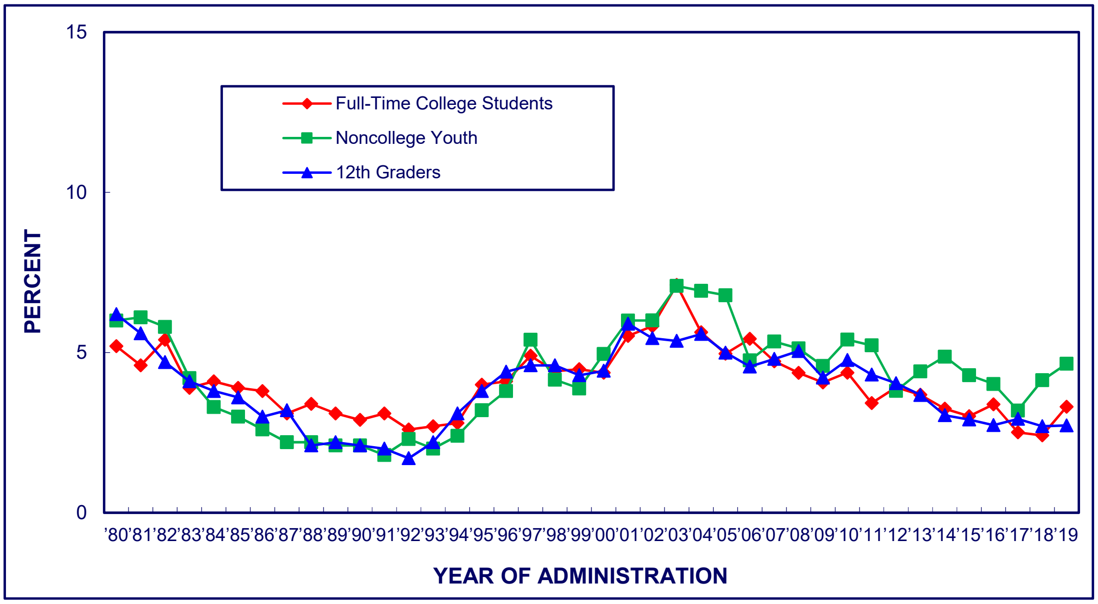
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-8

## HALLUCINOGENS OTHER THAN LSD

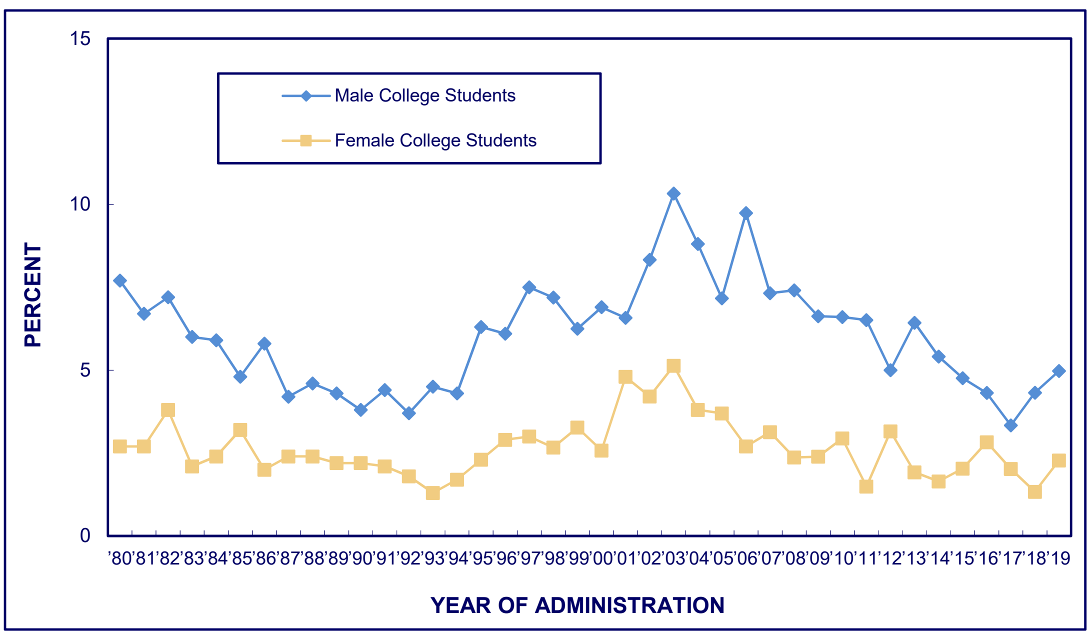
### Trends in <u>Annual</u> Prevalence among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)




## HALLUCINOGENS OTHER THAN LSD

### Trends in <u>Annual</u> Prevalence among Male vs. Female College Students




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

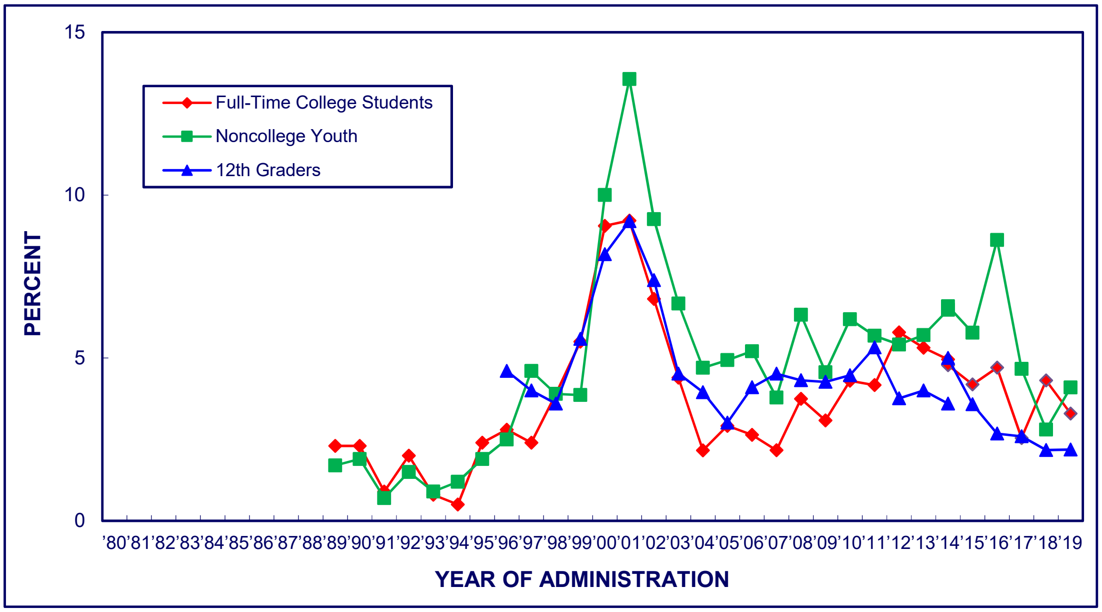
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-9

## MDMA (Ecstasy, Molly) [a]

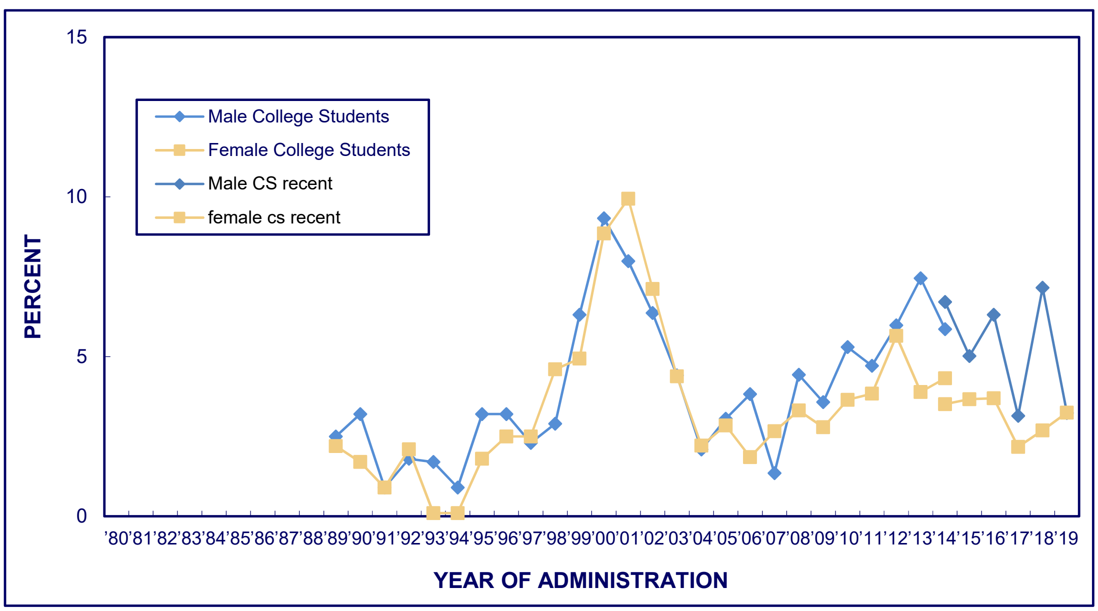
## Trends in Annual Prevalence among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)




## MDMA (Ecstasy, Molly) [a]

## Trends in Annual Prevalence among Male vs. Female College Students



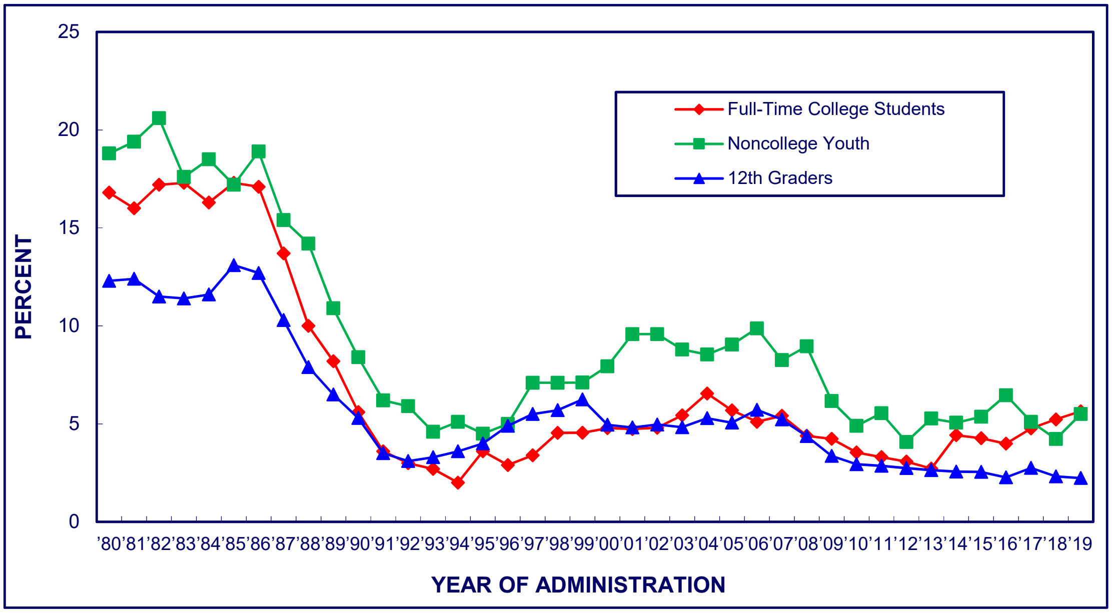

*Source.* The Monitoring the Future study, the University of Michigan.

*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

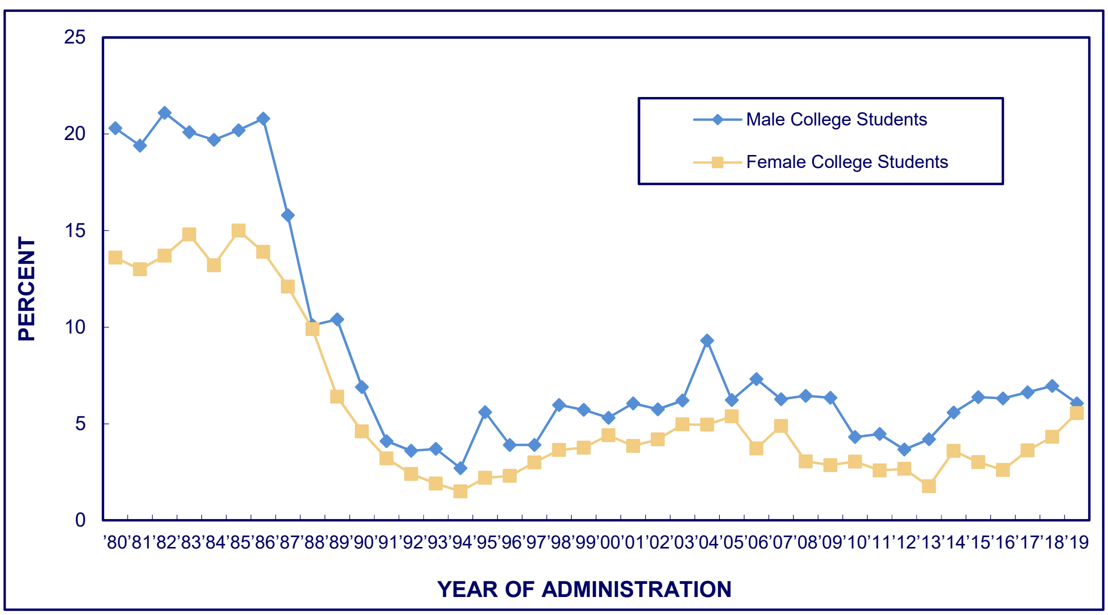
[a] In 2014, a version of the question was added to an additional form that included "molly" in the description. In 2015, the remaining forms were changed to this updated wording. Data for both versions of the question are included here.

## FIGURE 9-10
## COCAINE
## Trends in Annual Prevalence among College Students vs. Noncollege Youth 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.

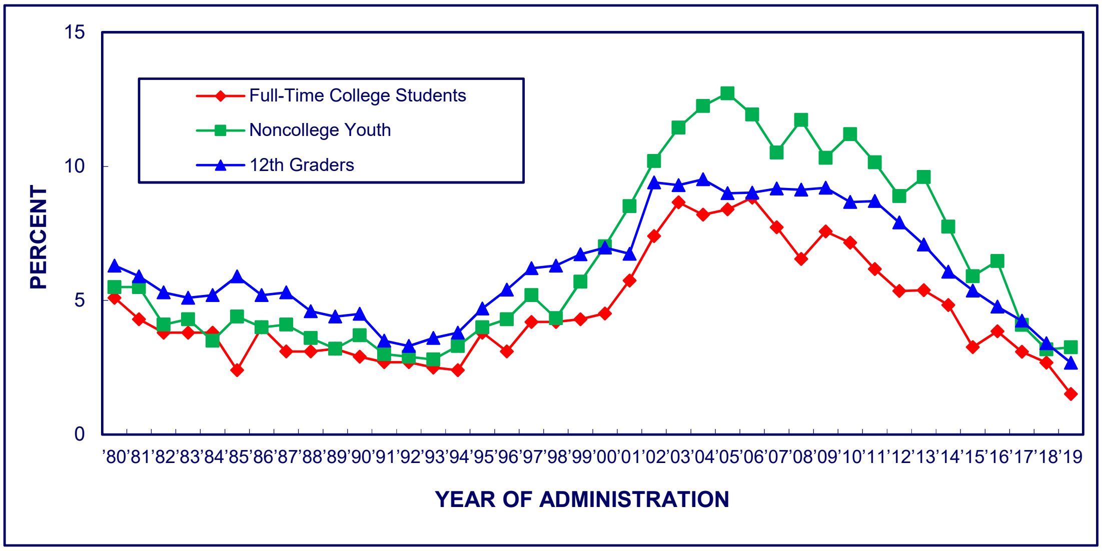
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-11a

## NARCOTICS OTHER THAN HEROIN [a]

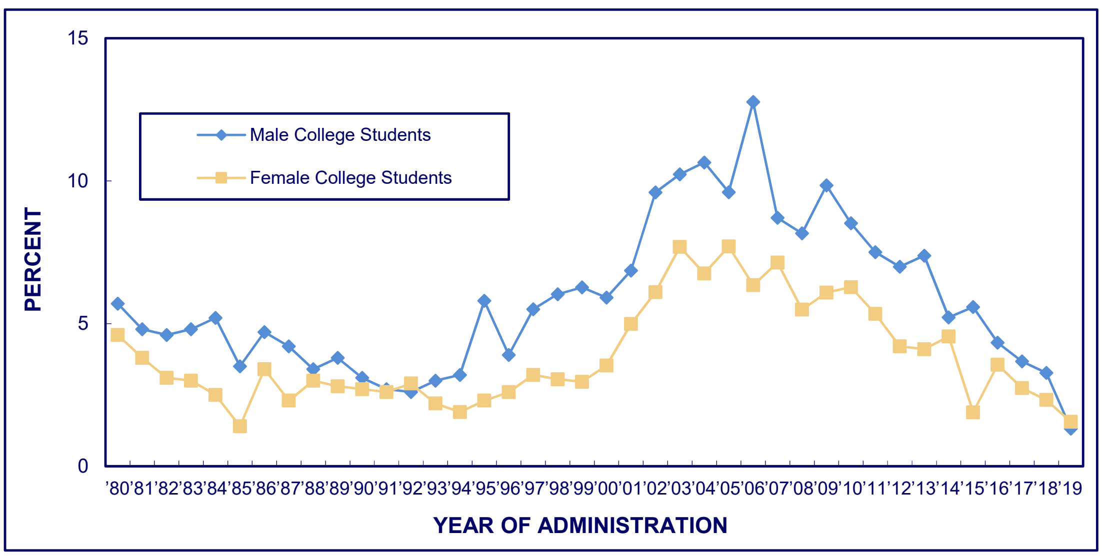
## Trends in Annual Prevalence among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(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.

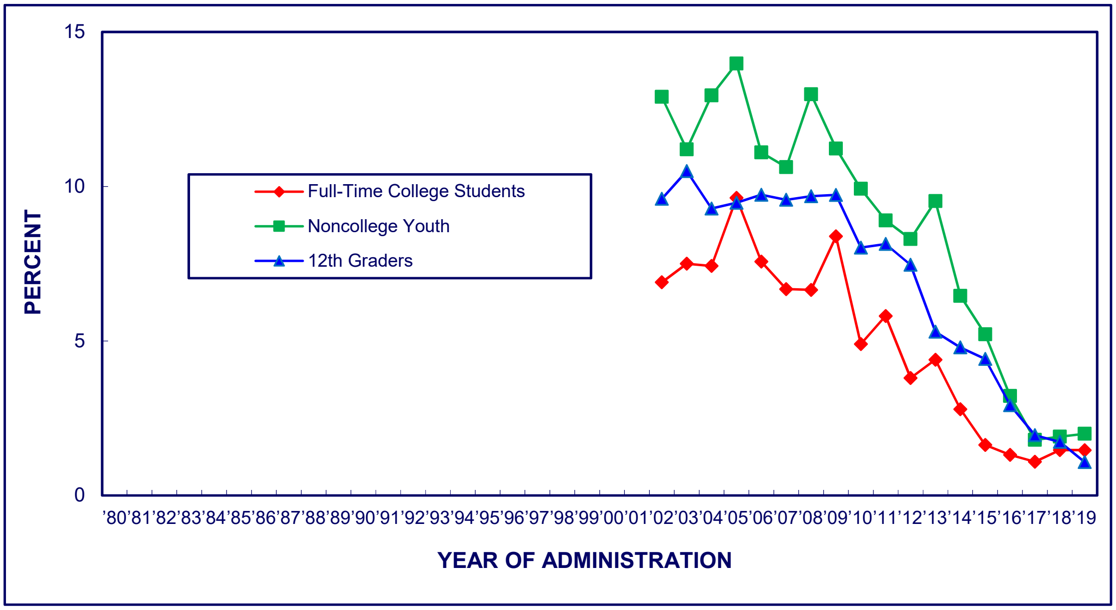
[a]In 2002 the question text was changed on half of the questionnaire forms. The list of examples of narcotics other than heroin was updated: Talwin, laudanum, and paregoric—all of which had negligible rates of use by 2001—were replaced by Vicodin, OxyContin, and Percocet. The 2002 data presented here 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. Noncollege Youth 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)




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

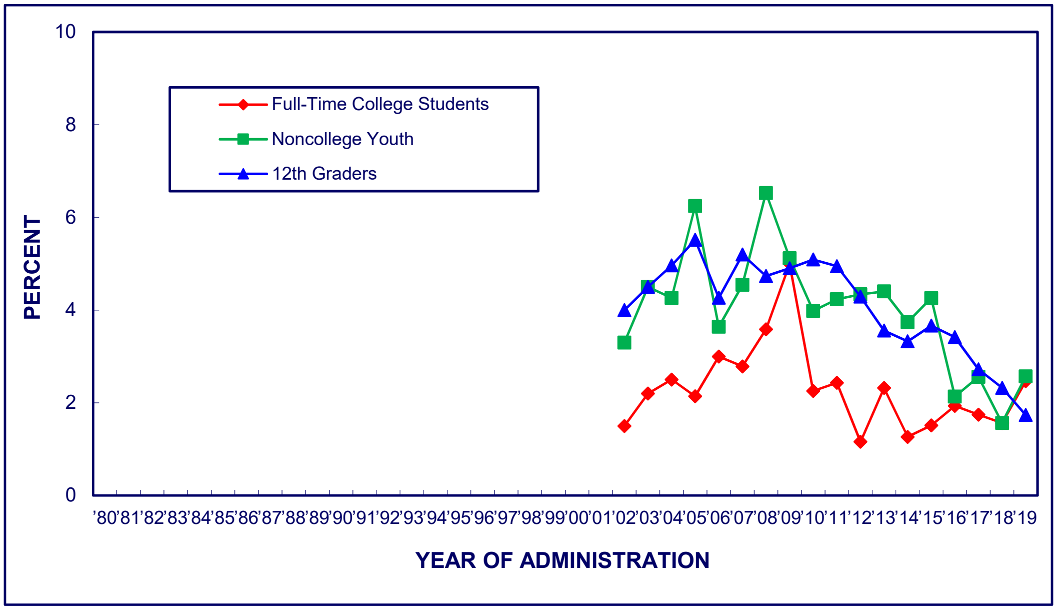
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

**FIGURE 9-11c**

**OXYCONTIN**

**Trends in Annual Prevalence among College Students vs. Noncollege Youth 1 to 4 Years beyond High School**

(Twelfth graders included for comparison.)




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

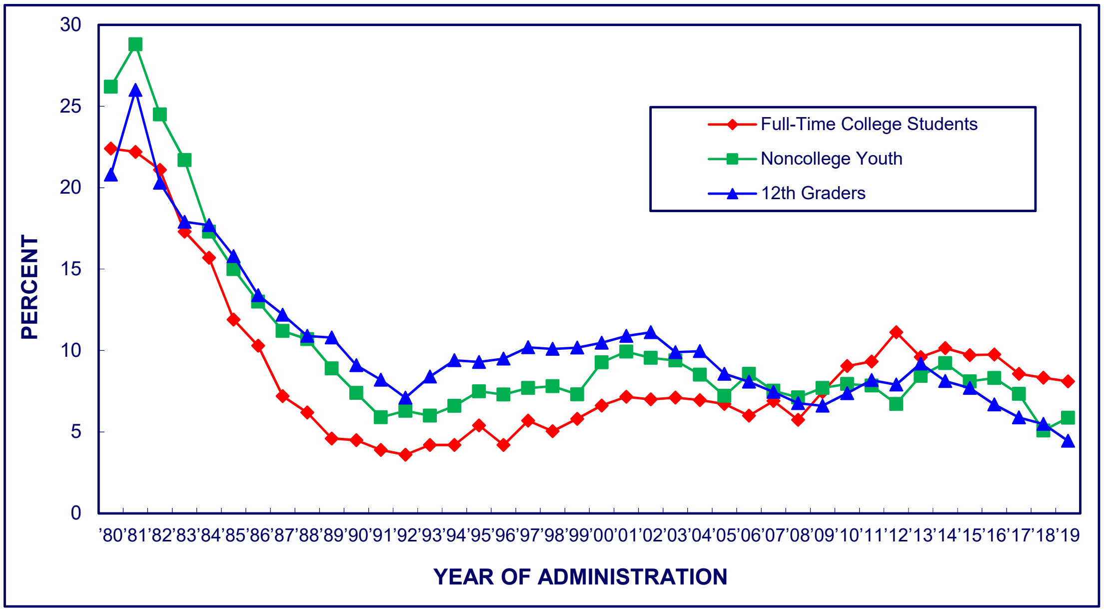
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-12

## AMPHETAMINES

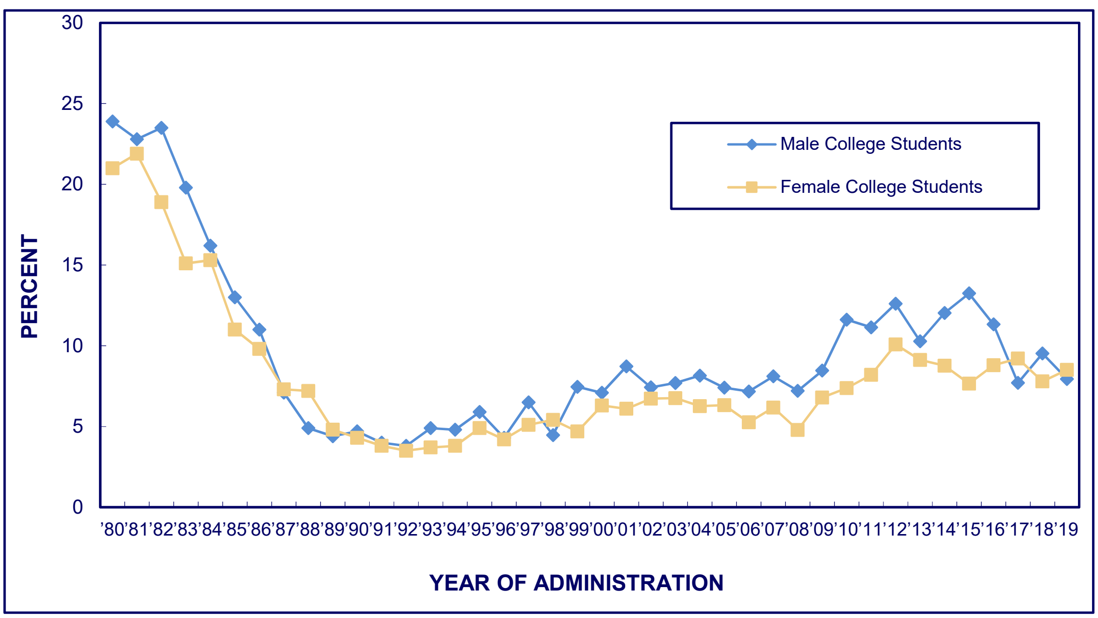
## Trends in Annual Prevalence among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(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.

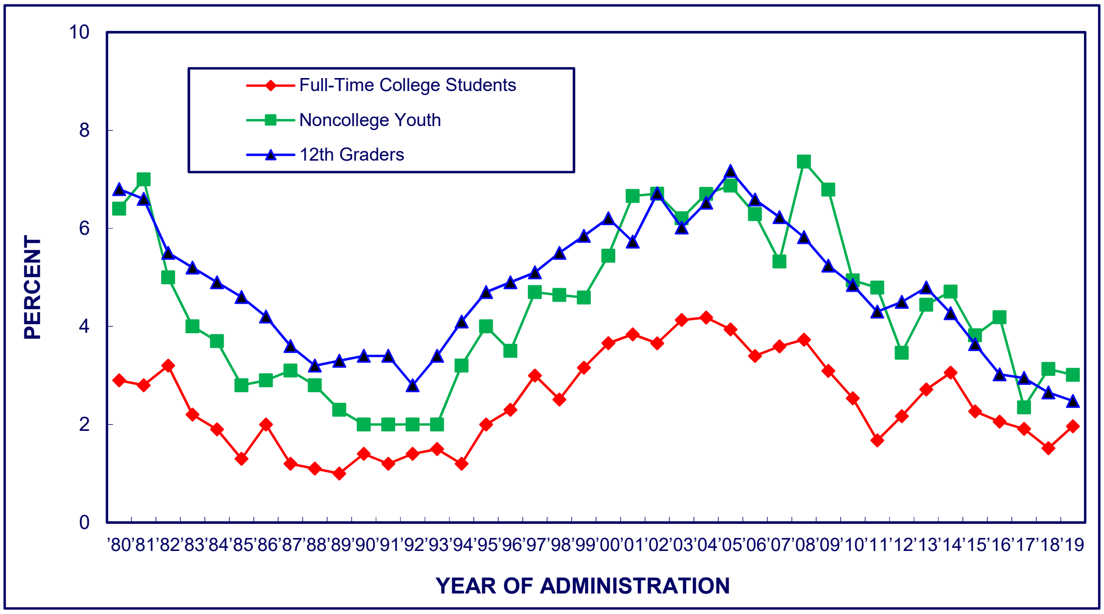
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-13

## SEDATIVES (BARBITURATES)

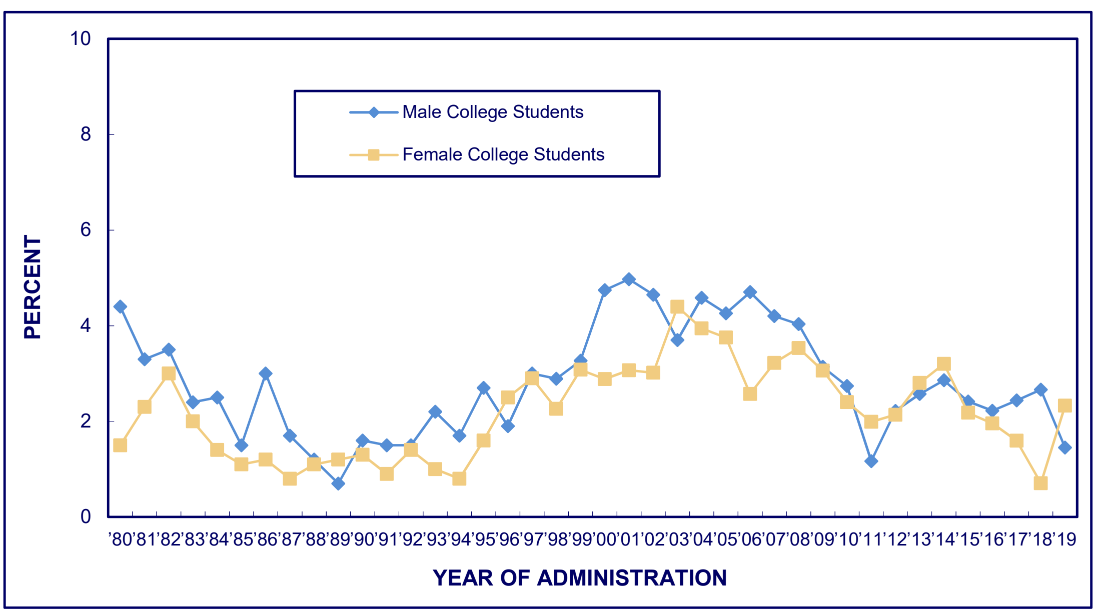
## Trends in Annual Prevalence among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(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.

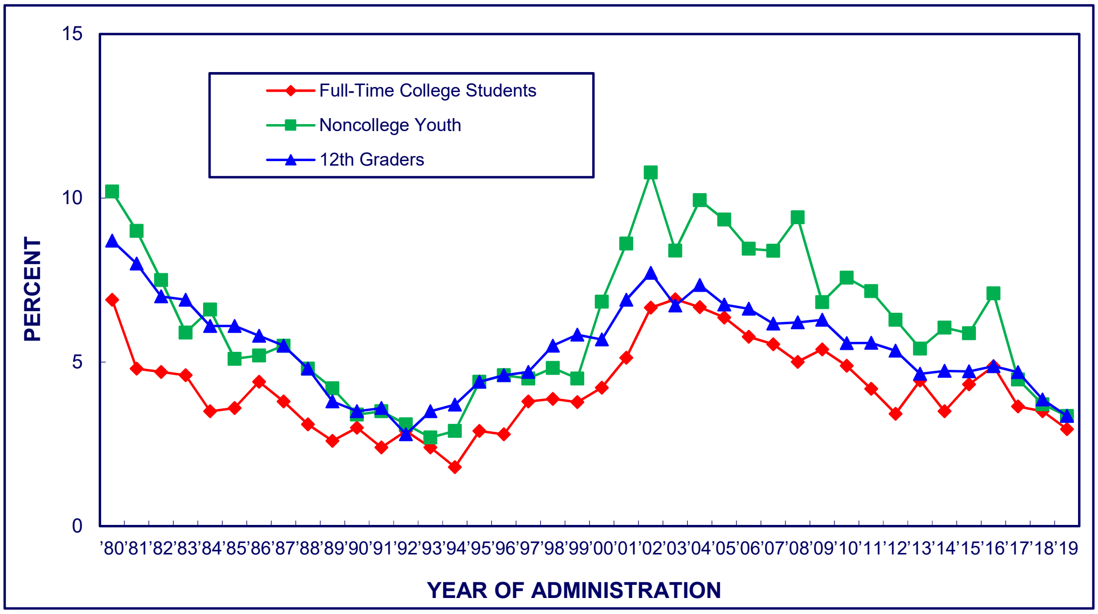
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-14

## TRANQUILIZERS

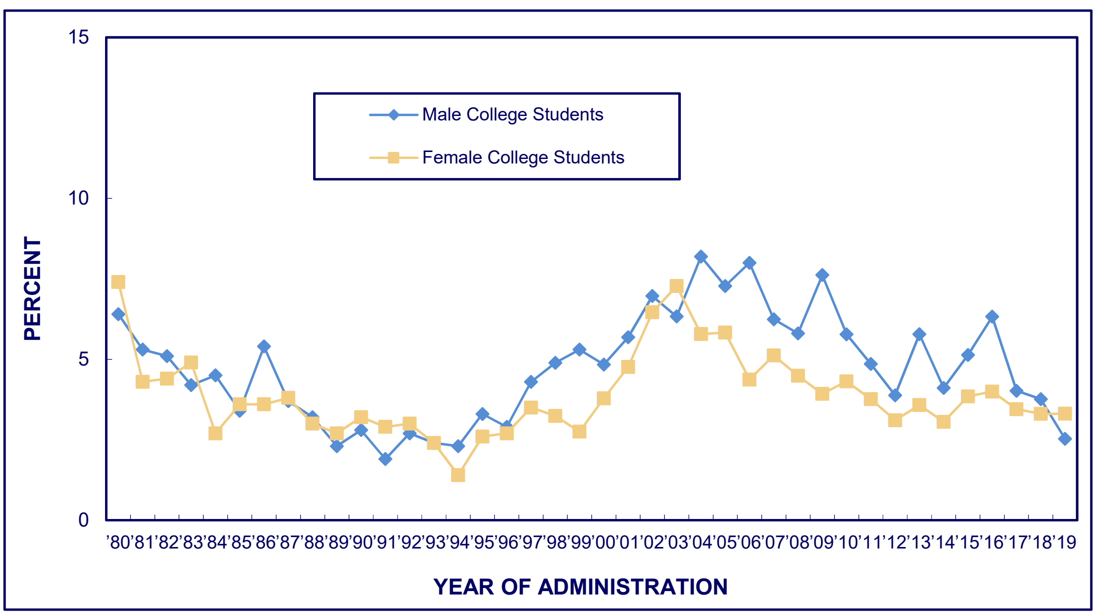
## Trends in Annual Prevalence among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(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.

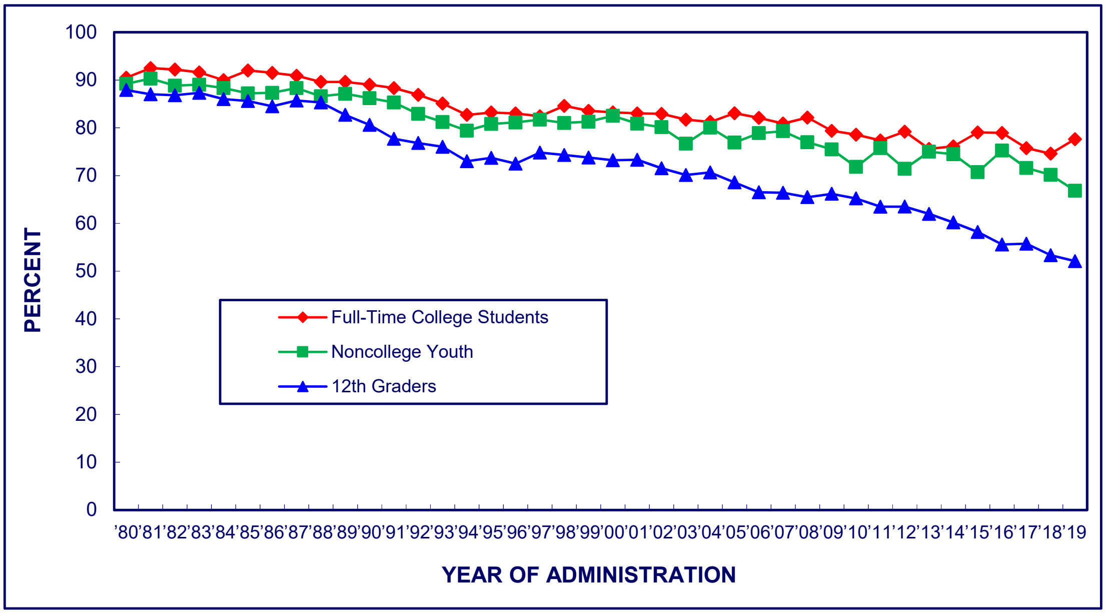
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-15a

## ALCOHOL

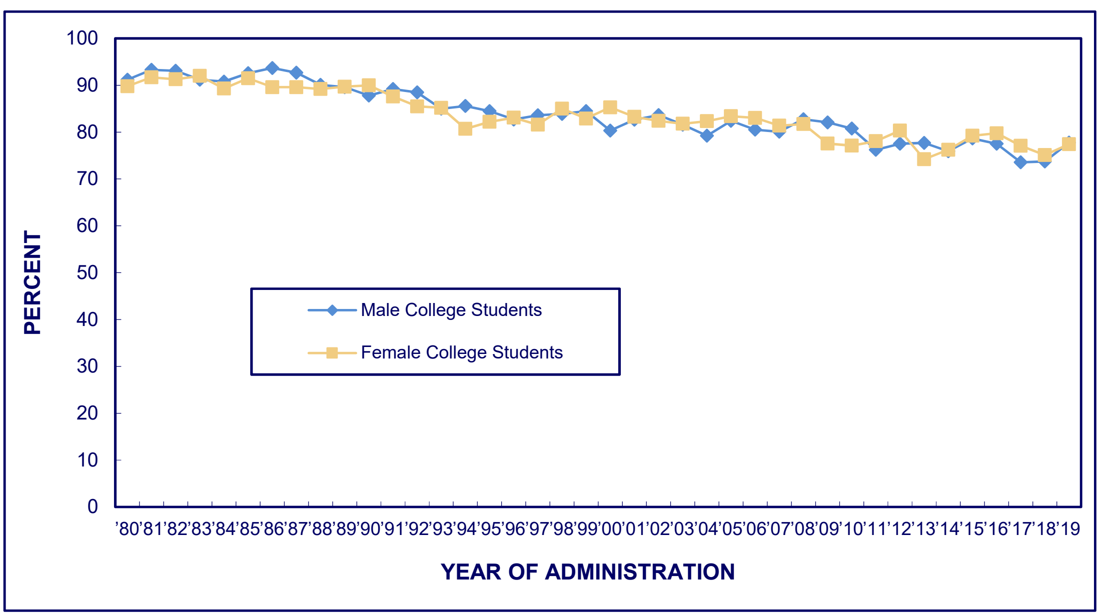
## Trends in Annual Prevalence among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(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.

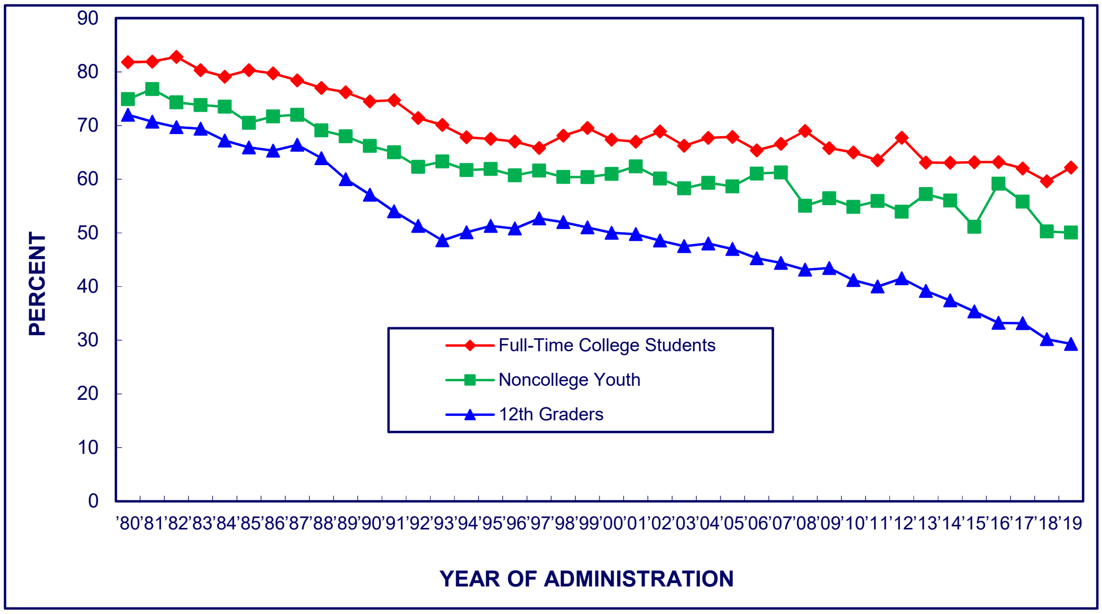
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-15b

## ALCOHOL

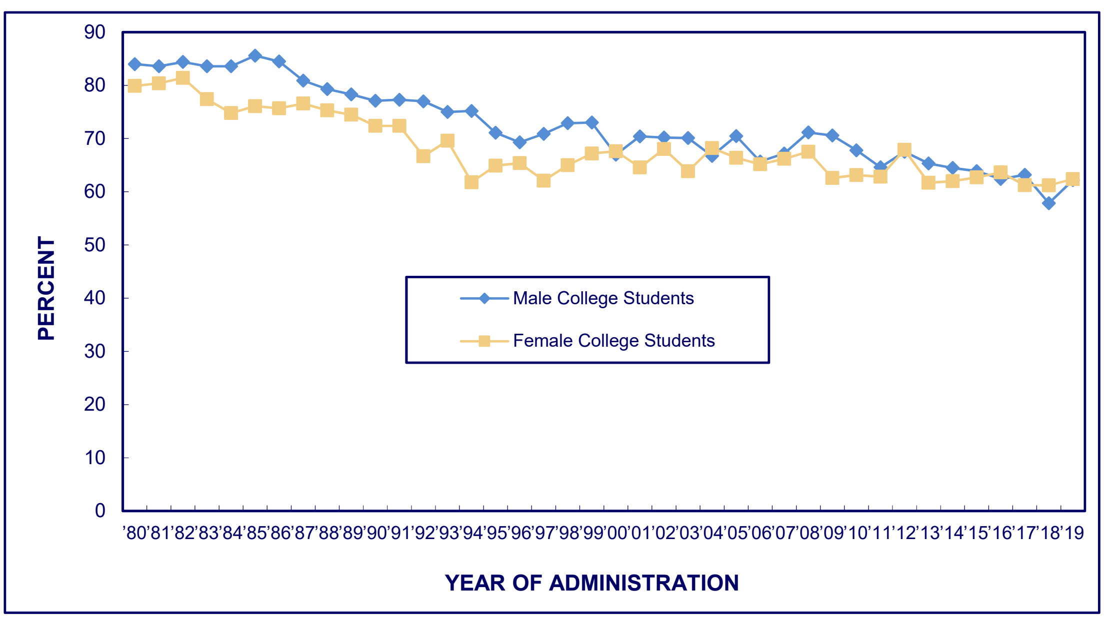
## Trends in 30-Day Prevalence among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)




## ALCOHOL

## Trends in 30-Day Prevalence among Male vs. Female College Students

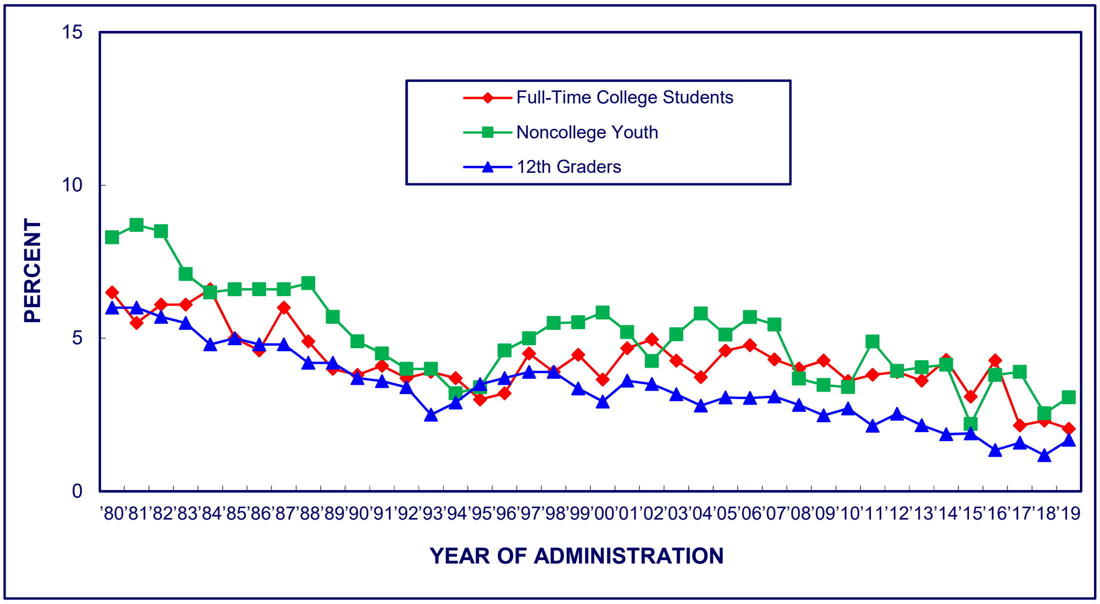



*Source.* The Monitoring the Future study, the University of Michigan.

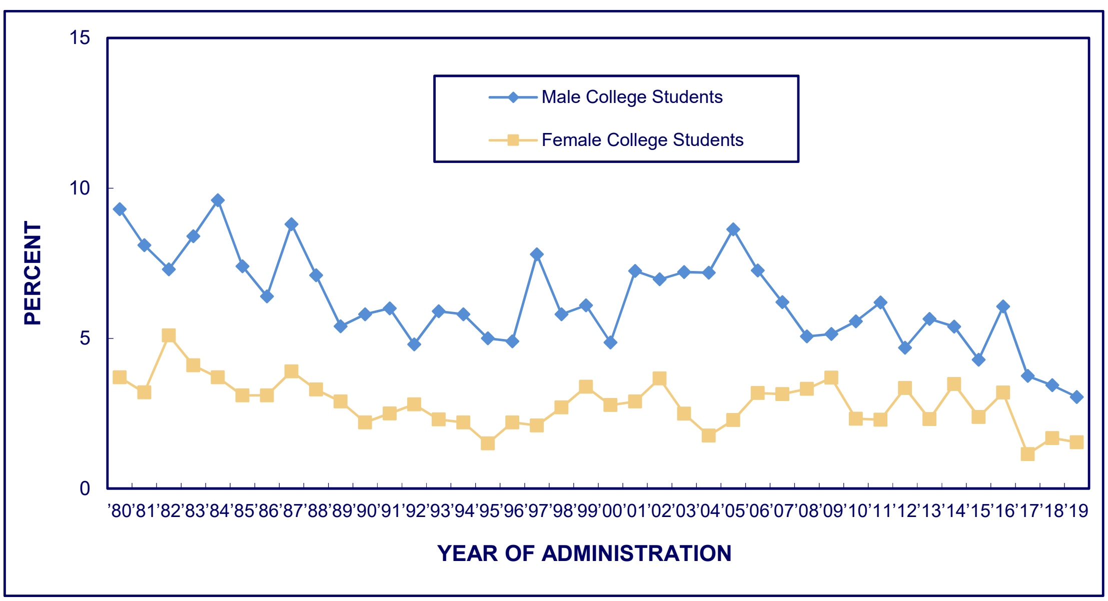
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-15c
## ALCOHOL
## Trends in 30-Day Prevalence of Daily Use among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)




## ALCOHOL
## Trends in 30-Day Prevalence of Daily Use among Male vs. Female College Students




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

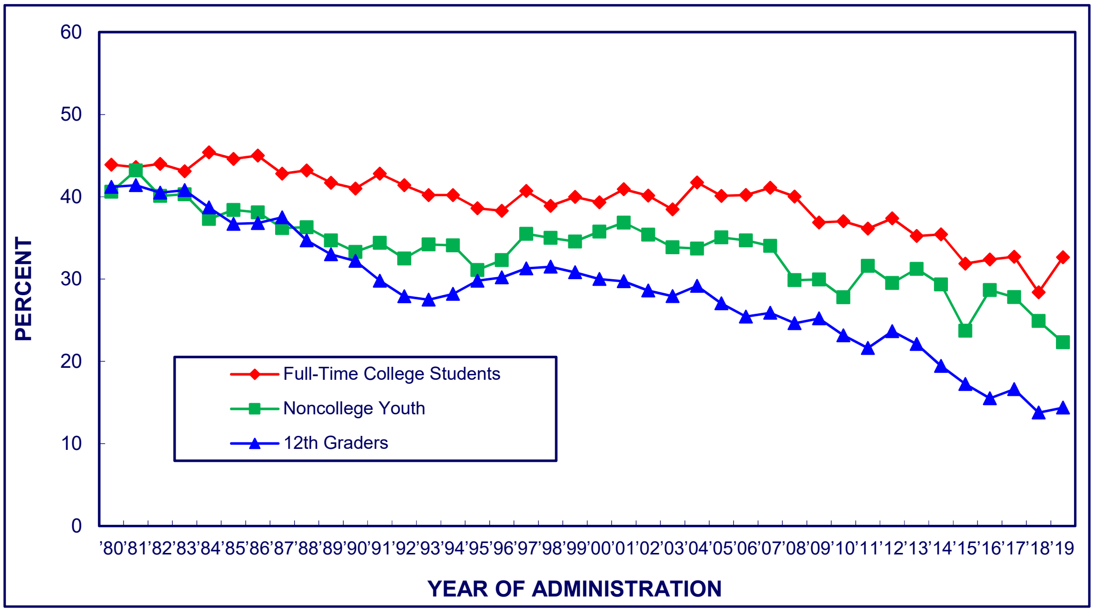
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-15d

## ALCOHOL

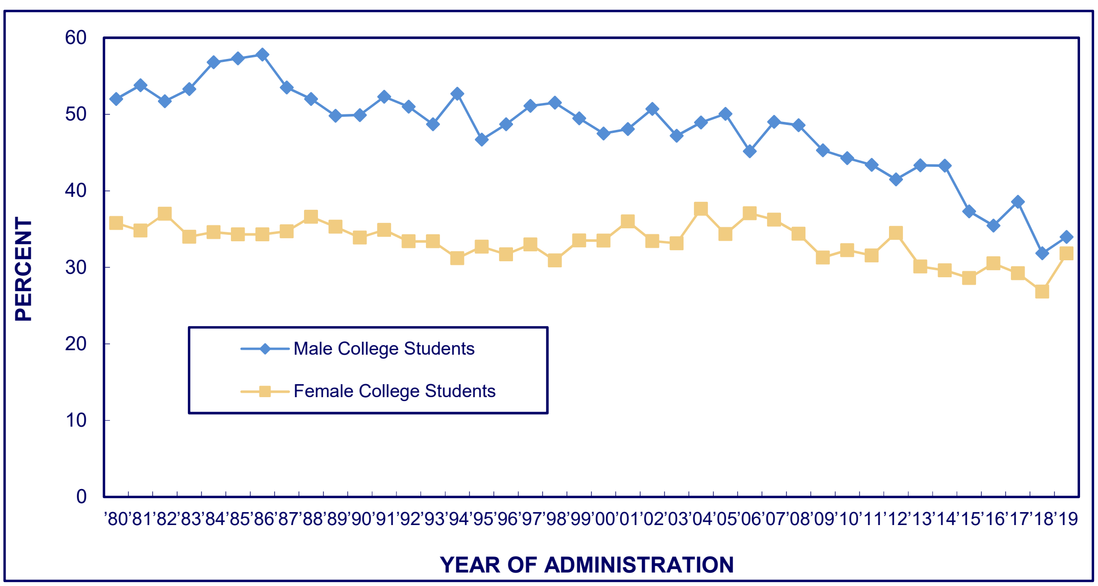
## Trends in 2-Week Prevalence of 5 or More Drinks in a Row among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(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.

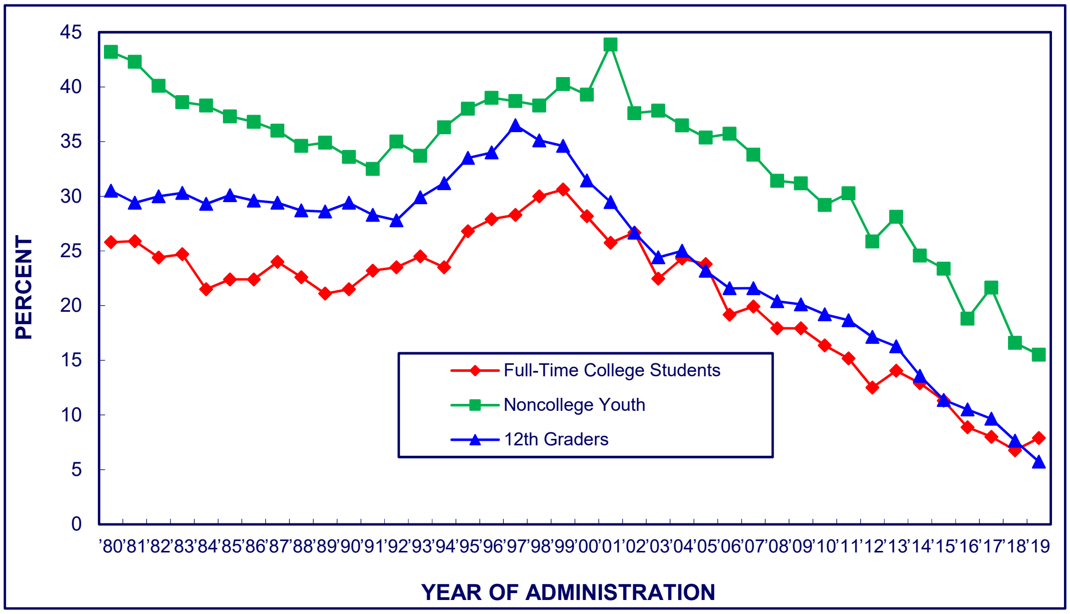
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-16a

## CIGARETTES

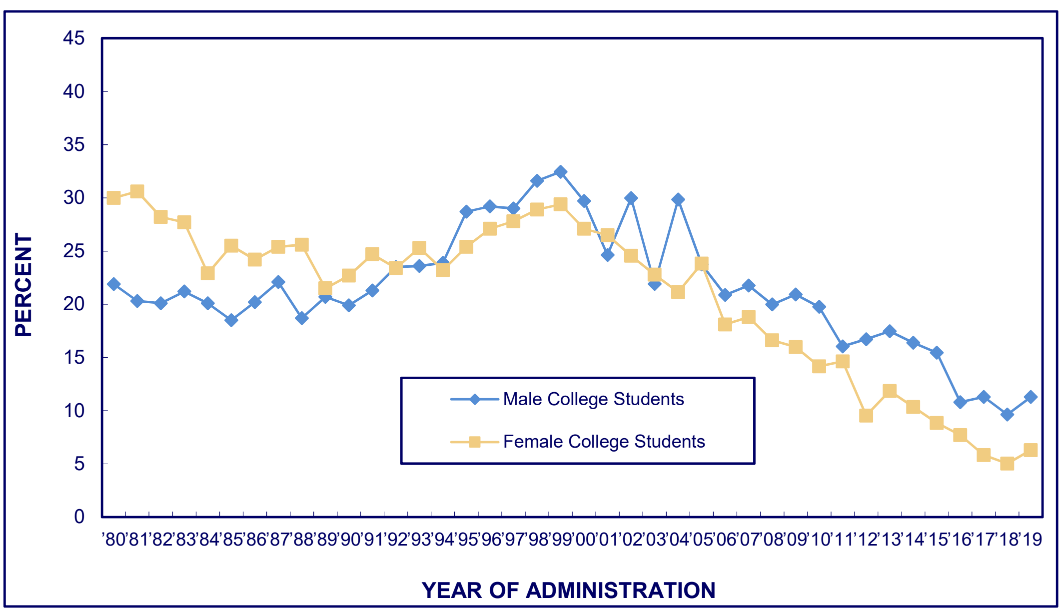
## Trends in 30-Day Prevalence among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(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.

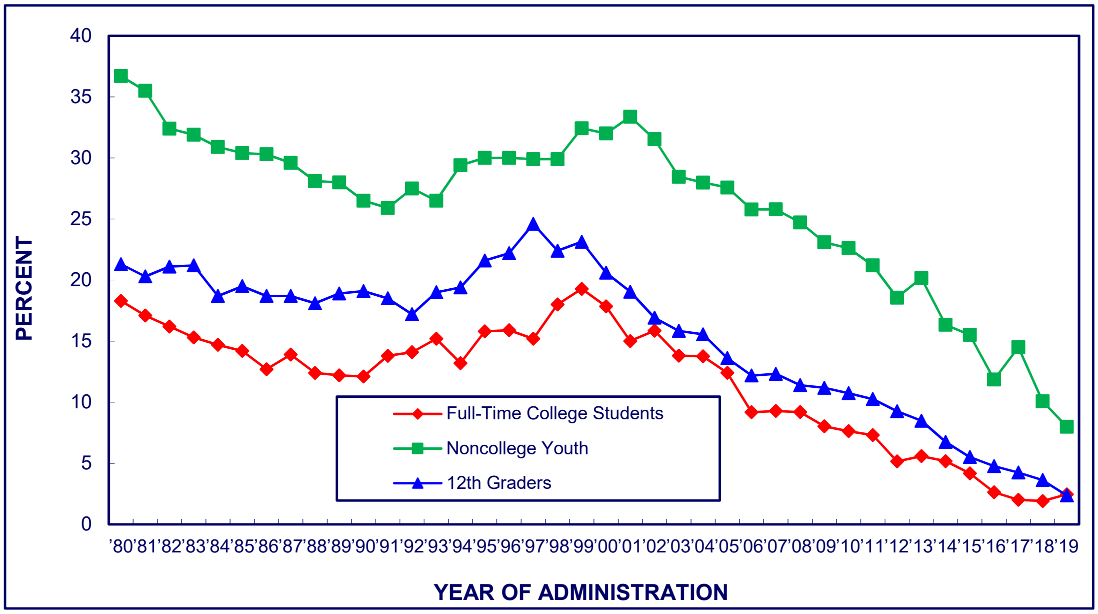
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-16b

## CIGARETTES

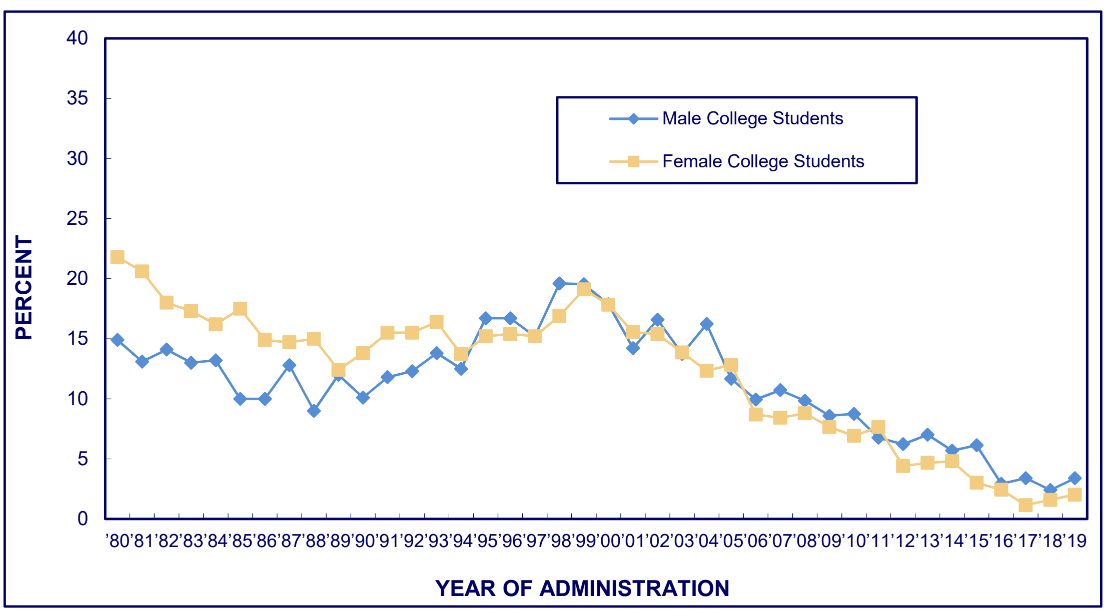
## Trends in 30-Day Prevalence of Daily Use among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(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.

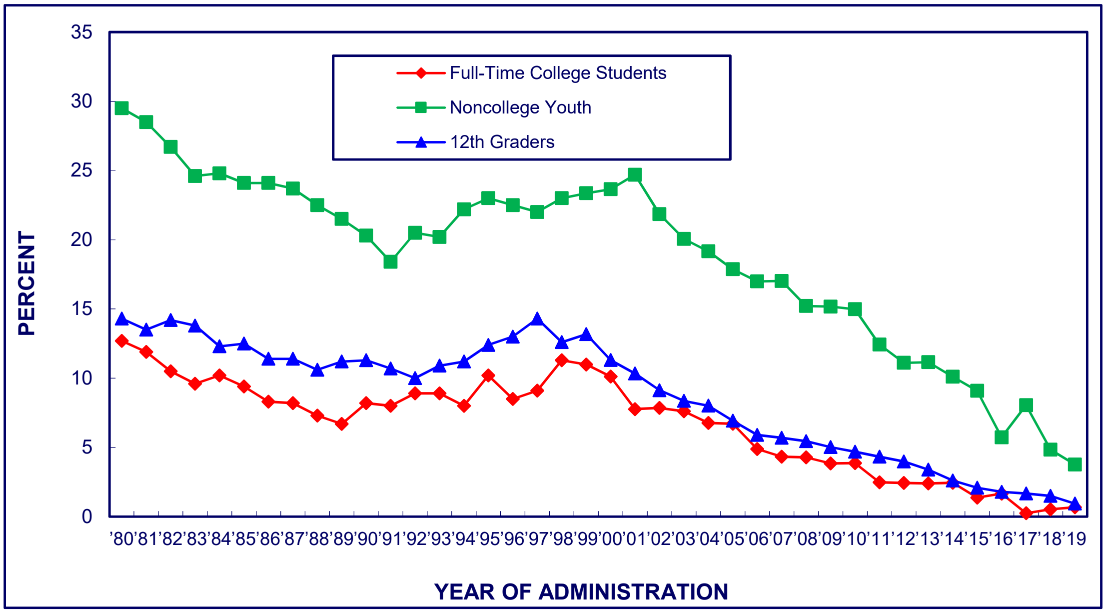
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-16c

## CIGARETTES

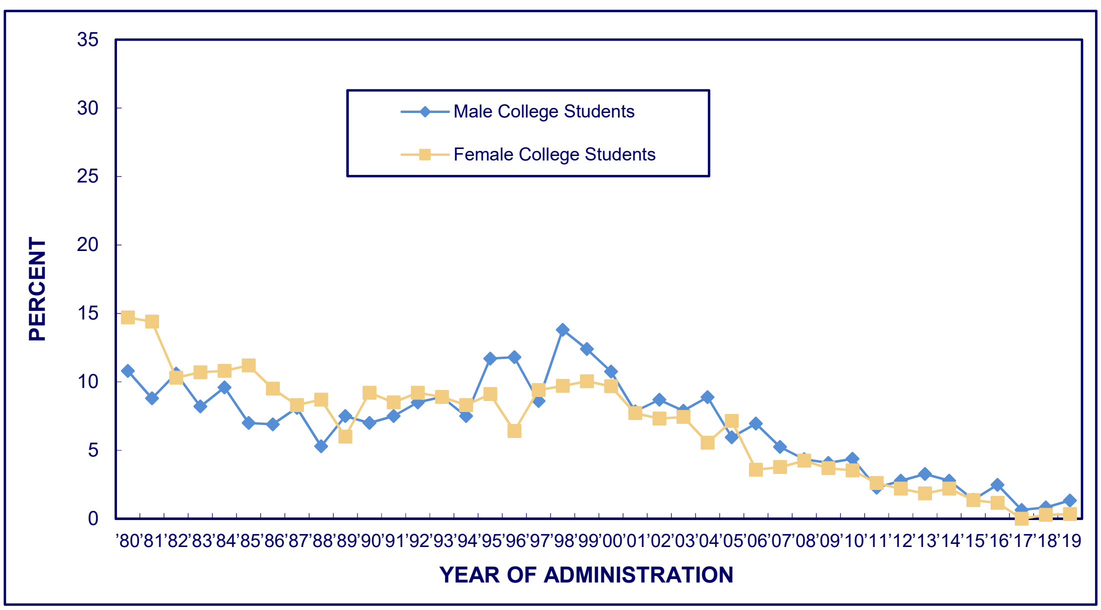
## Trends in 30-Day Prevalence of Smoking a Half Pack or More per Day among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(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.

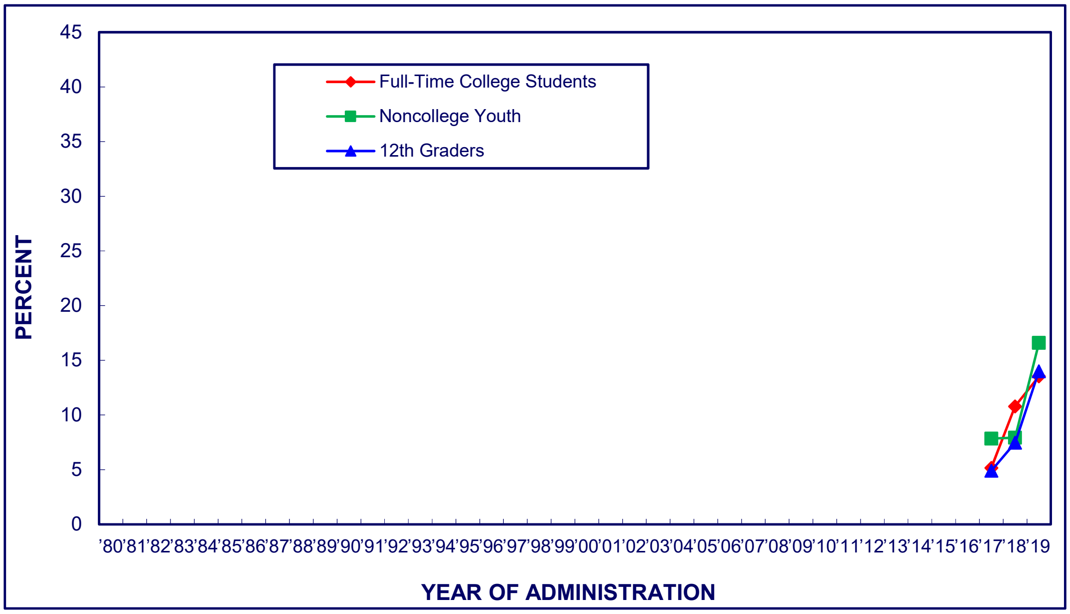
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-17

## VAPING MARIJUANA

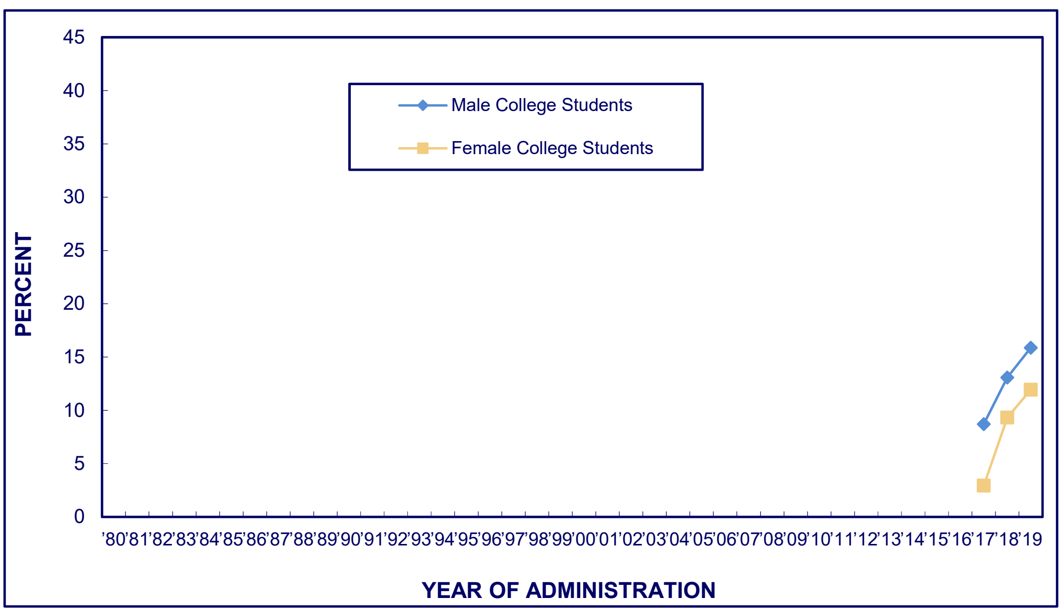
### Trends in 30-Day Prevalence among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)




## VAPING MARIJUANA

### Trends in 30-Day Prevalence among Male vs. Female College Students




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

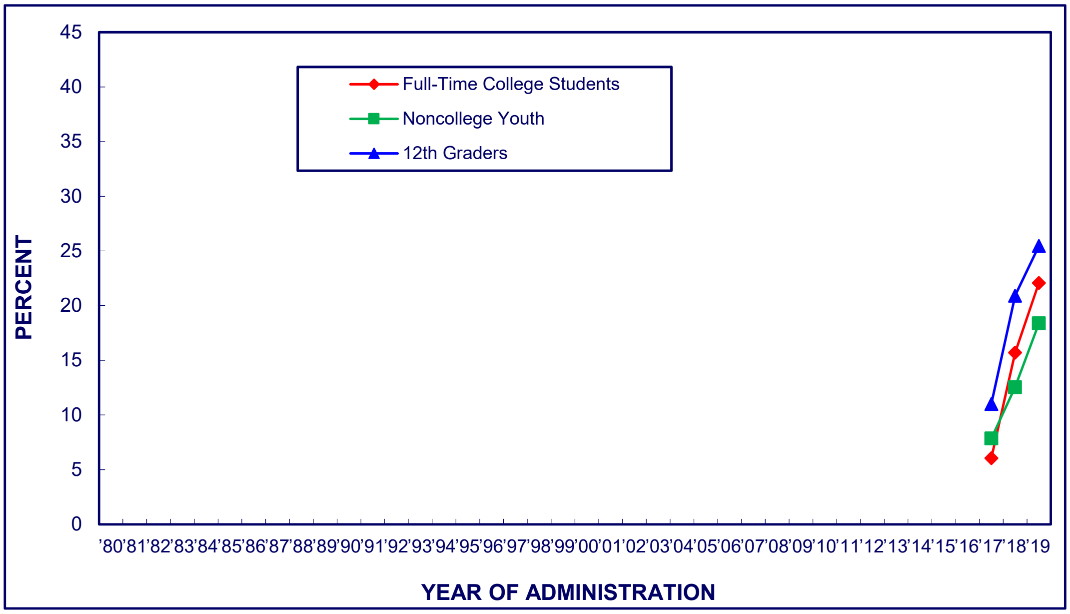
*Note.* Others refers to high school graduates one to four years beyond high school not currently enrolled full-time in college.

## FIGURE 9-18

## VAPING NICOTINE

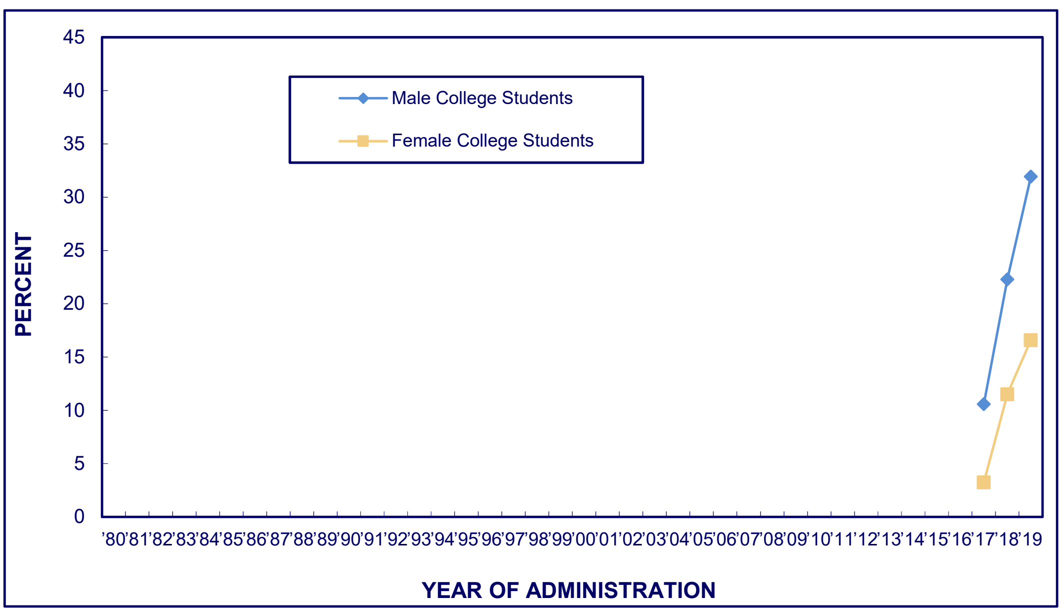
## Trends in 30-Day Prevalence among College Students vs. Noncollege Youth 1 to 4 Years beyond High School

(Twelfth graders included for comparison.)




## VAPING NICOTINE

## 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.

# 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 Monitoring the Future website. In this chapter we include summaries of new publications by MTF Investigators, not listed in last year's Volume II, that used a) MTF cross-sectional 8th, 10th, and/or 12th grade data, and b) MTF panel data.

## ARTICLES BASED ON MTF 8TH, 10TH, AND/OR 12TH GRADE DATA

### Trends in adolescent nicotine vaping, 2017-2019[1]

**Introduction**: We assessed whether adolescents' vaping of nicotine continued to increase from 2018 to 2019, after the previous year's record increase, the largest for any substance tracked by Monitoring the Future over the past 44 years.
**Methods**: Data were drawn Monitoring the Future, which surveyed 43,703 respondents in 2017, 44,482 in 2018, and 42,531 in 2019. Overall response rates for these 3 years were 80% in 12th grade, 86% in 10th grade, and 88% in 8th grade, with most nonresponse due to student absence.
**Results**: Significant increases in 30-day nicotine vaping took place in each of the three grade levels from 2018 to 2019. As a result of these (and previously reported) annual increases, vaping prevalence more than doubled in each of the three grades from 2017 to 2019.
**Conclusion**: New efforts are needed to protect youth from using nicotine during adolescence – and, in particular, nicotine vaping – when the developing brain is particularly susceptible to permanent changes from nicotine use and when almost all nicotine addiction is established.

### Trends in adolescent marijuana vaping, 2017-2019[2]

**Background**: Marijuana vaping produces significantly greater physiological and psychological effects compared with traditional smoking methods at the same tetrahydrocannabinol levels, raising concerns about potential health effects. This study reports the prevalence of marijuana vaping for 2019 among US adolescents and the prevalence increases between 2017, 2018, and 2019.
**Methods**: Data come from Monitoring the Future, which annually surveys nationally representative samples of 8th, 10th, and 12th graders. Each year schools from 368 randomly selected geographic units throughout the contiguous United States are sampled, with a school successfully recruited from 90% of these units for 2017, 2018, and 2019. Student participation rates were 88% among 8th graders, 86% among 10th graders, and 80% among 12th graders with most nonresponse due to student absence.
**Results**: Reported past 30-day prevalence levels of marijuana vaping significantly increased from 2018 to 2019. The absolute increases were 1.3% (95% CI, 0.4%-2.2%; $P = .006$) in 8th graders, 5.6% (95% CI, 3.7%-7.5%; $P < .001$) in 10th graders, and 6.5% (95% CI, 4.7%-8.4%; $P < .001$) in

---

[1] Miech, Richard A, Johnston, L. D., O'Malley, P, Bachman, J. G. , and Patrick, M. E. (2019). Trends in adolescent vaping, 2017-2019. *New England Journal of Medicine 381(15):1490-1491.*
[2] Miech, Richard A., Patrick, M. E., O'Malley, P., Johnston, L. D., Bachman, J. G. (2019). Trends in reported marijuana vaping among U.S. adolescents, 2017-2019. *JAMA 323(5): 475-476.*

12th graders. Among 12th graders, this increase was significantly larger than the increase from 2017 to 2018 by an absolute difference of 4.0% (ie, 6.5% − 2.5% [95% CI, 1.3%-6.8%]; P = .004). Among 10th graders, the increase was by 2.9% (ie, 5.6% − 2.7% [95% CI, 0.1%-5.7%]; P = .04).
**Conclusions**: As the number of adolescents who vape marijuana increases, so too does the scope and effect of any associated health consequences, which may include lung injury when using black market formulations. The rapid rise of marijuana vaping indicates the need for new prevention and intervention efforts aimed specifically at adolescents.

### Flavors of e-cigarettes used by youths in the United States[3]

**Aims**: Adolescent e-cigarette use has increased substantially since 2016. To counteract such trends, public health agencies are considering regulatory restrictions of e-cigarettes in flavors popular among youths. Whether certain flavors warrant inclusion or exemption from regulatory policies is unclear because recent estimates of the specific e-cigarette flavors adolescents use are lacking.
**Design**: Monitoring the Future (MTF) surveyed nationally representative samples of US 8th-grade (response rate, 87%), 10th-grade (86%), and 12th-grade (80%) students in 2019. Weighted prevalences (with 95% CIs) of responses to "Which JUUL flavor do you use most often?" (forced-choice options) were analyzed among past 30-day JUUL users by grade and further stratified by past 30-day use frequency (<20 vs ≥20 days).
**Findings**: Among 8th-grade past 30-day JUUL users (n = 330), the flavors most often used were mango (33.5%; 95% CI, 28.7%-38.7%), mint (29.2%; 95% CI, 22.7%-36.8%), fruit (16.0%; 95% CI, 12.1%-20.9%), and other (14.8%; 95% CI, 9.4%-22.6%). In 10th grade (n = 719), mint (43.5%; 95% CI, 37.1%-50.1%), mango (27.3%; 95% CI, 23.1%-31.9%), fruit (10.8%; 95% CI, 8.1%-14.1%), and other (8.4%; 95% CI, 5.2%-13.4%) flavors were most popular. In 12th grade (n = 690), mint (47.1%; 95% CI, 41.5%-52.8%), mango (23.8%; 95% CI, 18.8%-29.7%), fruit (8.6%; 95% CI, 6.0%-12.0%), and other (6.0%; 95% CI, 4.3%-8.4%) flavors were most popular. In all grades, remaining flavors had prevalences less than 6.0%, including tobacco-related flavors (<2.0%). Flavor preferences were generally similar across youths who used JUUL on 20 or more vs fewer than 20 days in the past month, although the relative popularity of the mint flavor was more pronounced among more frequent users.
**Conclusions**: The US Food and Drug Administration is considering regulatory restrictions on the sale of flavored e-cigarettes but does not currently have any policies that prohibit sales of flavored e-cigarettes. Some local municipalities have prohibited sales of e-cigarettes in flavors other than mint, menthol, and tobacco or prohibited sales of all nontobacco flavors. JUUL voluntarily suspended sales of their product in flavors other than tobacco, menthol, or mint by some retailers. The current findings raise uncertainty whether regulations or sales suspensions that exempt mint flavors are optimal strategies for reducing youth e-cigarette use.

### Trends in marijuana vaping and edible consumption from 2015 to 2018 among adolescents in the U.S.[4]

Noncombustible marijuana use products are more accessible, but data on use trends compared with smoking marijuana have not been available. This study found that, among past-year marijuana

[3] Leventhal, A. M., Miech, R. M., Barrington-Trimis, J., Johnston, L. d., O'Malley, P. M., Patrick, M. E. (2019). Flavors of e-cigarettes used by youth in the United States. *JAMA 322(21):2132-2134.*
[4] Patrick, M. E., Miech, R. A., Kloska, D. D., Wagner, A. C., & Johnston, L. D. (2020). Trends in marijuana vaping and edible consumption from 2015 to 2018 among adolescents in the U.S. *JAMA Pediatrics.* Advance online publication.

users from 2015 to 2018, smoking marijuana decreased while eating and vaping increased. The majority of noncombustible users also smoke marijuana. Over one-quarter of students who vaped or used edibles in the past year used marijuana daily in the last month. Modes of use differed by sociodemographic subgroups. In multivariable logistic regression analyses controlling for sociodemographic factors, the finding remained that smoking was less prevalent and eating and vaping were more prevalent in 2018 than previous years.

### The growing transition from lifetime marijuana use to frequent use among 12th grade students: U.S. national data from 1976 to 2019[5]

**Background**: More United States adolescents now report high-frequency marijuana use than similar use levels of alcohol or tobacco. Increased high-frequency use raises questions such as (a) is frequent use likelihood growing among adolescents who experiment with use? (b) Is such change observed equally across sex and racial/ethnic subgroups? (c) Have sociodemographic and other covariate associations with frequent use changed over time?
**Methods**: Data were obtained from 649,505 12th grade students participating in the cross-sectional, nationally-representative Monitoring the Future study from 1976-2019. Historical trends were modeled for any and frequent (20+ occasions) past 30-day marijuana use among all students and lifetime users, and lifetime user sex and racial/ethnic subgroups. Multivariable logistic regression estimates from 1989-1993 (lowest prevalence years) versus 2015-2019 (most recent years) were compared to examine covariate association changes with frequent use.
**Results**: Among all students, recent linear trends in any and frequent marijuana use were not significantly different from zero (0.023 [SE 0.156] and 0.036 [0.073], respectively); frequent use among lifetime users increased (0.233 [0.107], p=0.048). Among lifetime users, the increase was stronger for male than female students, and for minority versus White students. Significant association changes with race/ethnicity, parental education, and perceived risk were observed.
**Conclusions**: The proportion of adolescent lifetime marijuana users reporting current frequent marijuana use increased, and is now at near-record levels. Increases were particularly strong among males and minority students. There appears to be an increasing likelihood that adolescents who experiment with marijuana use may progress to frequent use.

### Solitary use of alcohol and marijuana by U.S. 12th graders: 1976-2019[6]

**Objective**: This letter provides (a) 2018-2019 prevalence estimates of, and (b) 1976-2019 trends in, solitary alcohol and marijuana use among (1) all 12th grade students and (2) past 12-month alcohol and marijuana users, separately by sex.
**Methods**: Data were collected from 1976-2019 through the U.S. nationally representative Monitoring the Future study. Student response rates averaged 82.4%. Solitary use was asked on one of six randomly-distributed questionnaires. Respondents self-reported past 12-month alcohol and marijuana use, and how often such use occurred when alone. Models estimated linear change over time using Joinpoint software.
**Results**: The sample was 51.8% female. Among all 12th grade students in 2018-19, 14.8% [95% CI 13.4-16.3] reported solitary alcohol use and 15.8% [14.2-17.4] reported solitary marijuana use. Among past 12-month alcohol users in 2018-19, solitary drinking was reported by 23.5% [20.4-

---

[5] Terry-McElrath, Y. M., O'Malley, P. M., & Johnston, L. D. (2020). The growing transition from lifetime marijuana use to frequent use among 12th grade students: U.S. national data from 1976 to 2019. *Drug and Alcohol Dependence.*
[6] Terry-McElrath, Y. M., O'Malley, P. M., & Patrick, M. E. (In press). Solitary use of alcohol and marijuana by U.S. 12th graders: 1976-2019. *JAMA Pediatrics.*

26.6] of females and 30.0% [26.1-33.9] of males; percentages for solitary marijuana use among marijuana users were 42.3% [37.7-47.0] of females and 54.8% [50.0-59.6] of males. Trend analyses showed that among all students, solitary alcohol use decreased significantly from 1976-77 through 1986-87, then evidenced a slope not significantly different than zero through 1992-93, and then decreased significantly through 2018-19. Solitary marijuana use among all students decreased significantly from 1976-77 through 1992-93, then had no significant change through 1998-99, and then increased significantly through 2018-19. Among past 12-month users, solitary alcohol use decreased significantly from 1976-77 through 2000-01 for females and through 2014-15 for males. Among females, prevalence increased significantly from 2000-01 through 2018-19. In contrast, from 2014-15 through 2018-19, there was no significant prevalence change among males. The percentage of both female and male marijuana users reporting solitary marijuana use decreased significantly from 1976-77 through 1992-93, and then increased significantly from 1992-93 through 2018-19. Solitary marijuana use prevalence estimates among users in 2018-19 were the highest observed since data collection began in 1976.
**Conclusion**: To the extent that solitary alcohol and marijuana use are indictors for significant risk of a range of negative outcomes, these data indicate growing cause for concern for a substantial percentage of adolescent substance users.

### Age, period and cohort effects in frequent cannabis use among US students: 1991-2018[7]

**Background and Aims**: As the legal status of cannabis changes across the United States and modes of administration expand, it is important to examine the potential impact on adolescent cannabis use. This study aimed to assess changes in prevalence of frequent cannabis use in adolescents in the United States and how far this varies by age and cohort.
**Methods**: This was an analysis of Monitoring the Future, a nationally representative annual survey of 8th-, 10th- and 12th-grade students in the United States conducted from 1991 to 2018. It involved in-school surveys completed by US adolescents. A total of 1 236 159 8th-, 10th- and 12th-graders; 51.5% female, 59.6% non-Hispanic white, 12.3% non-Hispanic black, 13.4% Hispanic and 14.7% other race/ethnicity. Primary measure was frequent cannabis use (FCU), defined as six or more occasions in the past 30 days, stratified by sex, race/ethnicity and parental education.
**Findings**: FCU among US adolescents increased over the study period; the peak in 2010–18 was 11.4% among 18-year-old students. This increase was best explained by both period and cohort effects. Compared with respondents in 2005, adolescents surveyed in 2018 had period effects in FCU that were 1.6 times greater. Adolescents in younger birth cohorts (those born > 1988) had a lower increase in FCU than those born prior to 1988. Results were consistent across sex, parent education and race/ethnicity, with period effects indicating increasing FCU after 2005 and cohort effects indicating a lower magnitude of increase in more recent birth cohorts. Age and parental education disparities in FCU have increased over time, whereas race/ethnicity differences have converged over time; black students were 0.67 [95% confidence interval (CI) = 0.64–0.70] times as likely to use cannabis frequently as white students from 1991 to 2000, and 1.03 (95% CI = 0.98–1.09) times as likely from 2011 to 2018 (*P*-value for time interaction < 0.001).
**Conclusions**: The prevalence of frequent cannabis use (FCU) increased from 1991 to 2018 among older adolescents in the United States. Racial/ethnic differences in FCU converged, whereas

[7] Hamilton, A. D., Jang, J. B., Patrick, M. E., Schulenberg, J. E., & Keyes, K. M. (2019). Age, period and cohort effects in frequent cannabis use among US students: 1991-2018. *Addiction*.

parental education differences have diverged.

### Age, period and cohort effects in frequent cannabis use among US students: 1991-2018[8]

**Background and Aims:** As the legal status of cannabis changes across the United States and modes of administration expand, it is important to examine the potential impact on adolescent cannabis use. This study aimed to assess changes in prevalence of frequent cannabis use in adolescents in the United States and how far this varies by age and cohort.
**Design:** Analysis of Monitoring the Future, a nationally representative annual survey of 8th-, 10th- and 12th-grade students in the United States conducted from 1991 to 2018.
**Setting:** In-school surveys completed by US adolescents.
**Participants:** A total of 1 236 159 8th-, 10th- and 12th-graders; 51.5% female, 59.6% non-Hispanic white, 12.3% non-Hispanic black, 13.4% Hispanic and 14.7% other race/ethnicity.
**Measurements:** Frequent cannabis use (FCU), defined as six or more occasions in the past 30 days, stratified by sex, race/ethnicity and parental education.
**Findings:** FCU among US adolescents increased over the study period; the peak in 2010–18 was 11.4% among 18-year-old students. This increase was best explained by both period and cohort effects. Compared with respondents in 2005, adolescents surveyed in 2018 had period effects in FCU that were 1.6 times greater. Adolescents in younger birth cohorts (those born > 1988) had a lower increase in FCU than those born prior to 1988. Results were consistent across sex, parent education and race/ethnicity, with period effects indicating increasing FCU after 2005 and cohort effects indicating a lower magnitude of increase in more recent birth cohorts. Age and parental education disparities in FCU have increased over time, whereas race/ethnicity differences have converged over time; black students were 0.67 [95% confidence interval (CI) = 0.64–0.70] times as likely to use cannabis frequently as white students from 1991 to 2000, and 1.03 (95% CI = 0.98–1.09) times as likely from 2011 to 2018 (P -value for time interaction < 0.001).
**Conclusions:** The prevalence of frequent cannabis use (FCU) increased from 1991 to 2018 among older adolescents in the United States. Racial/ethnic differences in FCU converged, whereas parental education differences have diverged.

### The great decline in adolescent cigarette smoking since 2000: Consequences for drug use among US adolescents[9]

**Background**: Adolescent cigarette smoking declined steadily and substantially from 2000 to 2018. This paper considers the potential consequences of this "great decline" for the prevalence of other drug use among adolescents.
**Methods**: Data are annual, cross-sectional, nationally-representative Monitoring the Future surveys of more than 1.2 million U.S. students in 12th, 10th, and 8th grades from 2000-2018. Analyses include trends in past 12-month nonmedical amphetamine, tranquilizers, and opioid use overall, among ever cigarette smokers, among never cigarette smokers, and projected if adolescent cigarette smoking levels had remained at 2000 levels.
**Results**: Within groups of ever and never cigarette smokers, prevalence for each of the three substances was either little changed or overall increased in 2018 as compared to 2000. When the

---

[8] Hamilton, A. D., Jang, J. B., Patrick, M. E., Schulenberg, J. E., & Keyes, K. M. (2019). Age, period and cohort effects in frequent cannabis use among US students: 1991-2018. Addiction, 114, 1763-1772.
[9] Miech, R. A., Keyes, K. M., O'Malley, P. M., Johnston, L. D. (2020). The great decline in adolescent cigarette smoking since 2000: consequences for drug use among US adolescents. *Tobacco Control.*

two groups were combined into one pool, overall prevalence for each of the drugs declined by about half. The decline resulted from the growing group of never smokers, whose levels of nonmedical drug use over the study period were at least four times lower than the levels of ever smokers.
**Conclusions**: The results support the "gateway" prediction that declines in cigarette smoking among adolescents pull downward their nonmedical use of amphetamines, tranquilizers, and opioids. Continuing to reduce adolescent smoking through policy and programmatic prevention efforts should have further positive, spillover effects on adolescent drug use.

### Taxation reduces smoking but may not reduce smoking disparities in youth[10]

**Objective:** This study examines the extent to which cigarette taxes affect smoking behavior and disparities in smoking among adolescents by gender, socioeconomic status (SES) and race/ethnicity.
**Methods:** We used US nationally representative, repeated cross-sectional data from the 2005 to 2016 Monitoring the Future study to evaluate the relationship between state cigarette taxes and past 30-day current smoking, smoking intensity, and first cigarette and daily smoking initiation using modified Poisson and linear regression models, stratified by grade. We tested for interactions between tax and gender, SES and race/ethnicity on the additive scale using average marginal effects.
**Results:** We found that higher taxes were associated with lower smoking outcomes, with variation by grade. Across nearly all of our specifications, there were no statistically significant interactions between tax and gender, SES or race/ethnicity for any grades/outcomes. One exception is that among 12th graders, there was a statistically significant interaction between tax and college plans, with taxes being associated with a lower probability of 30-day smoking among students who definitely planned to attend college compared with those who did not.
**Conclusion:** We conclude that higher taxes were associated with reduced smoking among adolescents, with little difference by gender, SES and racial/ethnicity groups. While effective at reducing adolescent smoking, taxes appear unlikely to reduce smoking disparities among youth.

### U.S. adolescent alcohol use by race/ethnicity: Consumption and perceived need to reduce/stop use[11]

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.

[10] Fleischer, N. L., Donahoe, J. T., McLeod, M. C., Thrasher, J. F., Levy, D. T., Elliott, M. R., Meza, R., & Patrick, M. E. (2020). Taxation reduces smoking but may not reduce smoking disparities in youth. *Tobacco Control*. Advance online publication.
[11] Terry-McElrath, Y. M., & Patrick, M. E. (2020). U.S. adolescent alcohol use by race/ethnicity: Consumption and perceived need to reduce/stop use. Journal of Ethnicity in Substance Abuse, 19, 3-27.

### Diverging trends in the relationship between binge drinking and depressive symptoms among adolescents in the US from 1991 through 2018[12]

**Background.** From 1991 through 2018, binge drinking among US adolescents has precipitously declined; since 2012, depressive symptoms among US adolescents have sharply increased. Binge drinking and depressive symptoms have historically been correlated, thus understanding whether there are dynamic changes in their association informs prevention and intervention.

**Methods.** Data were drawn from US nationally-representative cross-sectional Monitoring the Future surveys (1991-2018) among school-attending 12$^{th}$ grade adolescents (N=58,444). Binge drinking was measured as any occasion of 5+ drinks/past two-weeks; depressive symptoms were measured with 4 items (e.g. belief that life is meaningless or hopeless), dichotomized at 75$^{th}$ percentile. Time-varying effect modeling was conducted by sex, race/ethnicity, and parental education.

**Results.** In 1991, adolescents with high depressive symptoms had 1.74 times the odds of binge drinking (95% C.I. 1.54-1.97); by 2018, the strength of association between depressive symptoms and binge drinking among 12$^{th}$ grade adolescents declined 24% among girls and 25% among boys. There has been no significant relation between depressive symptoms and binge drinking among boys since 2009; among girls, the relationship has been positive throughout most of the study period, with no significant relationship from 2016 to 2017.

**Conclusion.** Diverging trends between depressive symptoms and alcohol use among youth are coupled with declines in the strength of their comorbidity. This suggests that underlying drivers of recent diverging population trends are likely distinct, and indicates that the nature of comorbidity between substance use and mental health may need to be reconceptualized for recent and future cohorts.

### Concussion, sensation seeking and substance use among adolescents: Nationally representative data on U.S. secondary school students[13]

**Background**: No large-scale epidemiological survey of adolescents in the US has assessed the association between lifetime history of concussion, propensity toward sensation-seeking, and recent substance use.

**Methods**: This study assesses the association between lifetime history of diagnosed concussions, sensation-seeking, and recent substance use (i.e., cigarette use, binge drinking, marijuana use, illicit drug use, and nonmedical prescription drug use) using the 2016 and 2017 Monitoring the Future study of 25,408 8th, 10th, and 12th graders.

**Results**: Lifetime diagnosis of concussion was associated with greater odds of past 30-day/two-week substance use. Adolescents who indicated multiple diagnosed concussions (versus none) had two times greater odds of all types of recent substance use, after adjusting for potential confounding factors. Adolescents indicating multiple diagnosed concussions also had higher adjusted odds of cigarette use, binge drinking, and marijuana use) when compared to adolescents who only indicated one diagnosed concussion. Accounting for adolescents' propensity toward sensation-seeking did not significantly change the association between substance use and multiple diagnosed concussions.

**Conclusions**: This study provides needed epidemiological data regarding concussion and

---

[12] Keyes, K. M., Hamilton, A., Patrick, M. E., & Schulenberg, J. (in press). Diverging trends in the relationship between binge drinking and depressive symptoms among adolescents in the US from 1991 through 2018. *Journal of Adolescent Health* (early view).

[13] Veliz, P., McCabe, S. E., Eckner, J. T., & Schulenberg, J. E. (2019). Concussion, sensation seeking and substance use among adolescents: Nationally representative data on U.S. secondary school students. *Substance Abuse*, 1-9.

substance use among US adolescents. Exposure to a single diagnosed concussion is associated with a modest increase in the risk of substance use and this association increases with the accumulation of multiple diagnosed concussions. These associations hold when controlling for sensation-seeking. Substance use prevention efforts should be directed toward adolescents who have a history of multiple concussions.

### A latent class analysis of adolescents' technology and interactive social media use: Associations with academics and substance use[14]

Latent class analysis was used to identify patterns of technology and social media use among adolescents in a national study (n = 26,348). Multinomial logistic regression was used to examine associations between latent classes and academics and substance use. Results demonstrated four classes: Infrequent Users (55%), Interactive Users (21%), Television Watchers (14%), and Constant Users (10%). Compared to Infrequent Users, Interactive, and Constant Users had lower grades and higher alcohol and marijuana use. Television Watchers had lower grades and participated in fewer extracurricular activities compared to Infrequent Users, but there were no differences on substance use. Results show that adolescents with the most media-intensive profiles were also at greater risk for poor academic outcomes and substance use.

### More bored today than yesterday? National trends in adolescent boredom from 2008-2017[15]

**Purpose**: Boredom is an accepted part of adolescence. Developmental and contextual factors are likely to conspire to increase boredom during adolescence, which in turn relates to health risk behaviors. However, literature is lacking on the developmental course of boredom across adolescence as well as historical variation in boredom. The current study used multi-cohort nationally representative samples of U.S. secondary school students to identify historical trends and grade level differences in boredom overall and by sex.

**Methods**: The current study includes 8th, 10th, and 12th graders from 2008-2017 who completed the Monitoring the Future self –report survey (n=106,784). Joinpoint was used to identify historical trends in boredom and linear regression to identify grade-level differences.

Results: Boredom increased historically both across and within grades with girls generally demonstrating greater increases than boys. Across grade, boredom appears to peak in 10$^{th}$ grade for boys and decrease across grade for girls.

**Conclusions**: Study findings indicate boredom has been increasing among adolescents over the past several years, with greater increases among girls. Increases may be concomitant with recent increases in mental health difficulties, suggesting that the overarching psychosocial profile of U.S. adolescents is becoming less optimal. Findings also suggest that boredom peaks in 10th grade overall and for boys and in 8$^{th}$ grade for girls. It is clear that boredom is a worthy target for intervention both in clinical and prevention contexts.

[14] Tang, S., & Patrick, M. E. (2020). A latent class analysis of adolescents' technology and interactive social media use: Associations with academics and substance use. Human Behavior and Emerging Technologies, 2, 50-60.
[15] Weybright, E. H., Schulenberg, J., Caldwell, L. L. (2020). More bored today than yesterday? National trends in adolescent boredom from 2008-2017. *Journal of Adolescent Health, 66,* 360-365.

## ARTICLES BASED ON MTF PANEL DATA

### Pills to powder: A 17-year transition from prescription opioids to heroin among U.S. adolescents followed into adulthood[16]

**Objectives:** To examine the longitudinal relationships between U.S. adolescents' prescription opioid use and misuse and any subsequent heroin use in adulthood.
**Methods:** Nationally representative samples of adolescents from 25 independent cohorts were surveyed via self-administered questionnaires and followed from ages 18-35 (n=11,012). Adolescents were divided into five subgroups based on survey responses at age 18: no lifetime exposure to prescription opioids (population controls), medical prescription opioid use without a history of nonmedical misuse (medical use only), medical use followed by nonmedical misuse, nonmedical misuse followed by medical use, and nonmedical misuse only. These five subgroups were compared on their risk for any heroin use through age 35 (1993-2017). Adolescents who reported lifetime heroin use at age 18 were excluded.
**Results:** Adolescents who reported nonmedical prescription opioid misuse followed by medical use or nonmedical misuse only had greater odds of any heroin use in adulthood than population controls. More recent cohorts of adolescents who reported nonmedical misuse or medical use only (compared to older cohorts) had greater odds of any heroin use in adulthood relative to population controls. Nearly one in three adolescents in recent cohorts who reported nonmedical prescription opioid misuse transitioned to any heroin use.
**Conclusions:** There is increased risk for heroin use among adolescents who initiated nonmedical misuse or adolescents prescribed opioids in more recent cohorts. These findings indicate historical variation and reinforce the critical role of vigilant monitoring and drug screening to detect high-risk individuals who would benefit from an intervention to reduce later heroin use.

### Trajectories of prescription drug misuse during the transition from late adolescence into adulthood: A national longitudinal multi-cohort study[17]

**Background**: Prescription drug misuse (PDM) is most prevalent during young adulthood. We aimed to identify PDM trajectories for three classes (opioids, stimulants, sedatives/tranquilizers) from adolescence into adulthood, assess the extent to which different trajectories are associated with substance use disorder (SUD) symptoms, and identity factors associated with high-risk PDM trajectories.
**Methods**: Nationally representative probability samples of U.S. adolescents were followed longitudinally across eight waves from age 18 (cohorts 1976-1996) to age 35. Data were collected via self-administered paper questionnaires from 51,223 respondents.
**Findings**: Five PDM trajectories were identified from age 18 to age 35. The defining characteristic that differentiated the five PDM trajectories was the age when past-year PDM frequency peaked: (1) rare misuse, (2) age 18 peak, (3) ages 19-20 peak, (4) ages 23-24 peak, and (5) ages 27-28 peak. Similar PDM trajectories were identified for each prescription drug class. However, the peak misuse trajectory for sedatives/tranquilizers crested at a later age (age 35) than for the other classes. Problematic PDM trajectories, regardless of peak age, were all associated with significantly greater odds of having 2+ SUD symptoms at age 35, especially the later peak trajectories. In controlled analyses, risk factors associated with the high-risk latest peak trajectory for any PDM (e.g., ages

[16] McCabe, S.E., Boyd, C.J., Evans-Polce, R., McCabe, V.V., Schulenberg, J.E., & Veliz, P.T. (in press). Pills to powder: A 17-year transition from prescription opioids to heroin among U.S. adolescents followed into adulthood. *Journal of Addiction Medicine.*
[17] McCabe, S.E., Veliz, P., Dickinson, K., Schepis, T.S., & Schulenberg, J.E. (2019). Trajectories of prescription drug misuse during the transition from late adolescence into adulthood: A national longitudinal multi-cohort study. *Lancet Psychiatry*, *6*, 840-850.

27-28) included high school heavy drinking, cigarette smoking, marijuana use, poly-PDM, White race, and not completing college.
**Interpretation**: PDM trajectories are heterogeneous and associated with a greater likelihood of SUD symptoms during adulthood, especially later peak PDM trajectories. The findings may help practitioners identify individuals at greatest risk for SUD and target intervention strategies.

### A latent class analysis of heavy substance use in young adulthood and impacts on physical, cognitive, and mental health outcomes in middle age[18]

**Background:** This study examines whether longitudinal patterns of persistent or experimental heavy substance use across young adulthood were associated with physical and mental health in midlife.
**Methods:** Data (*N* = 21,347) from Monitoring the Future from adolescence (age 18) to midlife (age 40) were used. Repeated measures latent class analysis modeled patterns of patterns of cigarettes, alcohol, marijuana, and other illicit drugs across young adulthood (ages 18–30). Latent classes were then used as predictors of physical health problems, cognitive problems, self-rated health, and psychological problems in midlife (age 40), while controlling for sociodemographic variables (i.e., gender, race/ethnicity, parental education).
**Results:** Identified classes were "Extreme Heavy Users" (3.9%), "Early Young Adult Users" (8.9%), "Cigarette Smokers" (9.2%), "All But Cigarette Smokers" (5.0%), "Frequent Alcohol Bingers" (10.4%), and "Not-Heavy Users" (62.6%). Extreme Heavy Users, Early Young Adult Users, and Cigarette Smokers had significantly poorer overall health based on a number of physical conditions and self-rated health. Extreme Heavy Users, Early Young Adult Users, Cigarette Smokers, and All But Cigarette Smokers had more cognitive problems than other classes. Extreme Heavy Users, Early Young Adult Users, Cigarette Smokers, and All But Cigarette Smokers were more likely to see a health professional for a psychological problem.
**Conclusions:** Patterns of heavy substance use were associated with health across decades. Regular cigarette smokers and heavy users across substances and ages had the worst health in midlife, although even those with time-limited use during young adulthood were at risk for later physical and cognitive health problems.

### College attendance type and subsequent alcohol and marijuana use in the U.S.[19]

**Background:** College attendance is a risk factor for frequent and heavy drinking and marijuana initiation but less is known about the extent to which risk varies by type of college attendance and across age.
**Methods:** Using panel data of young adults who were high school seniors in 1990–1998 from the Monitoring the Future study (n = 13,123), we examined the associations between college attendance at age 19/20 (4-year college full-time, other college, and non-attendance) and subsequent alcohol and marijuana use at age 21/22, 25/26, 29/30 and 35. Inverse propensity score weighting was used to balance the three college groups on pre-existing differences when examining associations with substance use outcomes.
**Results:** Compared to non-attendance, attending a 4-year college full-time was associated with significantly greater odds of binge drinking at age 21/22 (aOR = 1.20) and 25/26 (aOR = 1.12) and

[18] Patrick, M. E., Berglund, P. A., Joshi, S., & Bray, B. C. (2020). A latent class analysis of heavy substance use in young adulthood and impacts on physical, cognitive, and mental health outcomes in middle age. *Drug and Alcohol Dependence.* Advance online publication.
[19] Jang, B. J., Schuler, M. S., Evans-Polce, R. J., & Patrick, M. E. (2020). College attendance type and subsequent alcohol and marijuana use in the U.S. *Drug and Alcohol Dependence, 204*, 107580.

lower odds of alcohol abstinence at age 35 (aOR = 0.51). Similarly, other college attendance was associated with greater odds of binge drinking at age 21/22 (aOR = 1.08) and 25/26 (aOR = 1.04) and lower odds of abstinence at age 35 (aOR = 0.70). Four-year college full-time attendance was associated with greater odds of marijuana use at age 21/22 (aOR = 1.07) and 25/26 (aOR = 1.02) but lower odds at age 29/30 (aOR = 0.99). Other college attendance was associated with lower odds of marijuana use at age 25/26 (aOR = 0.98) and 29/30 (aOR = 0.97). Marijuana use at age 35 did not differ by college attendance.
**Conclusions:** College attendance may confer elevated risk of substance use post-college. The magnitude and duration of risk vary by type of college attendance and substance.

### Negative alcohol-related consequences experienced by young adults in the past 12 months: Differences by college attendance, living situation, binge drinking, and sex[20]

**Purpose:** This study estimated the prevalence of negative consequences associated with alcohol use in a national sample of young adults one or two years after graduating from high school, focusing on differences by college attendance, living situation, binge drinking, and sex.
**Methods:** A subsample (N = 1068) of U.S. nationally representative Monitoring the Future study 12th grade students from 2006 to 2016 cohorts was followed-up at modal age 19 or 20 (in 2008–2017) and asked about negative consequences related to their own alcohol use during the past 12 months. Differences in prevalence were estimated and multivariable models examined associations with college attendance, living situation, binge drinking, and sex.
**Results:** Half of surveyed U.S. 19/20 year-old alcohol users (a third of non-binge drinkers and almost three-quarters of binge drinkers) experienced negative consequences in the past year. The likelihood of experiencing several consequence types was significantly associated with college attendance prior to controlling for living situation. In multivariable models controlling for living situation, unsafe driving due to drinking remained more likely for students attending 2-year colleges or vocational/technical schools than for 4-year college students or non-attenders. In general, negative consequence risk was elevated among young adults not living with parents (vs. those living with parents) and women (vs. men).
**Conclusion:** Negative consequences from alcohol use are prevalent among young adults and differ by college attendance, living situation, binge drinking, and sex. Students at 2-year/vocational/technical schools are at particular risk for unsafe driving, warranting specific research attention and targeted intervention.

### The long-term associations between direct and threatened physical violence in adolescence and symptoms of substance use disorder during the mid-30s[21]

**Objective**: Most studies linking physical victimization and substance use have focused on concurrent or temporally proximal associations, making it unclear whether physical victimization has a sustained impact on substance use problems. We examined the long-term associations between adolescent physical victimization and symptoms of substance use disorders in adulthood, controlling for intermediating victimization during young adulthood and several control variables.
**Method**: Data were obtained from the Monitoring the Future Study (N = 5,291). Women and men were recruited around age 18 and surveyed biennially through age 30, and again at 35. Past-year

---

[20] Patrick, M. E., Terry-McElrath, Y., Evans-Polce, R. J., & Schulenberg, J. (2020). Negative alcohol-related consequences experienced by young adults in the past 12 months: Differences by college attendance, living situation, binge drinking, and sex. Addictive Behaviors, 105, 106320.
[21] Beardslee, J., Simonton, S., & Schulenberg, J. (2020). The long-term associations between direct and threatened physical violence in adolescence and symptoms of substance use disorders during the mid-30s. *Journal of Studies on Alcohol and Drugs, 81*, 125-134.

physical victimization (threatened physical assaults, injurious assaults) was measured regularly from age 18 to 30. Alcohol and cannabis use symptoms (e.g., withdrawal, tolerance) were assessed at age 35. Controls were measured in adolescence (e.g., prior substance use) and young adulthood (e.g., marriage). Interactions examined whether associations varied by sex.
**Results**: When we controlled for adolescent substance use, adolescents who were threatened with injury or who sustained physical injuries as a result of violence had more alcohol use symptoms at age 35 than nonvictims. However, when victimization during young adulthood was statistically accounted for, only victimization during young adulthood was associated with age-35 alcohol use symptoms. The effects of young adult victimization, but not adolescent victimization, were stronger for women. Victimization was mostly unrelated to age-35 cannabis use symptoms.
**Conclusions**: Adolescents who are threatened with physical assaults or injured by physical assaults have significantly more alcohol use symptoms in their mid-30s than nonvictimized adolescents, but these associations are completely explained by subsequent victimization during young adulthood.

### Diversion of medical marijuana to unintended users among U.S. adults age 35 and 55, 2013-2018[22]

**Objective**: This study estimated the percentage of age 35 and 55 adults reporting using medical marijuana intended for someone else (diverted use), and compared demographics and health status of such users to respondents reporting recommended use (i.e., individuals with a medical marijuana recommendation for their own health conditions) and to respondents using marijuana not intended for medical use (non-medical marijuana [NMM] use).
**Method**: Cross-sectional analyses were conducted using complex sample survey data collected from 2013-2018 from 12,181 adults (6,998 women) at modal ages 35 or 55 participating in the U.S. national Monitoring the Future study.
**Results**: Diverted use was reported by 72.9% [66.4, 79.4] and 64.3% [56.0, 72.7] of age 35 and 55 past 12-month medical marijuana users, respectively. Diverted versus recommended use was associated with not working full-time and no post-secondary education (age 35); diverted versus NMM use was associated with no post-secondary education (age 35); recommended versus NMM use was associated with not working full-time (age 35) and retirement (age 55). At age 35, poor physical health was less prevalent among diverted than recommended users (OR 0.40 [0.17, 0.94]). At age 55, diverted users had lower prevalence than recommended users of 3+ poor health conditions (OR 0.22 [0.09, 0.55]) and any qualifying conditions (OR 0.21 [0.08, 0.58]). Prevalence of these conditions were similar between diverted and NMM users.
**Conclusions**: Results indicated a substantial degree of non-medical (i.e., recreational) medical marijuana use. A greater level of physician, patient, and policy attention may be needed regarding medical marijuana misuse.

### 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[23]

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

[22] Terry-McElrath, Y. M., O'Malley, P. M., Johnston, L. D., Miech, R. A., Bachman, J. G., & Schulenberg, J. E. (In press). Diversion of medical marijuana to unintended users among U.S. adults age 35 and 55, 2013-2018. *Journal of Studies on Alcohol and Drugs.*
[23] Bray, B. C., Dziak, J. J., Patrick, M. E., & Lanza, S. T. (2019). 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, 20, 394-406.

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 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.

### When does attrition lead to biased estimates of alcohol consumption? Bias analysis for loss to follow-up in 30 longitudinal cohorts[24]

**Objectives**: Survey nonresponse has increased across decades, making the amount of attrition a focal point in generating inferences from longitudinal data regarding substance use. Use of inverse probability weights (IPWs) and other statistical approaches are common, but residual bias remains a threat. Quantitative bias analysis for non-random attrition as an adjunct to IPW may yield more robust inference.

**Methods**: Data were drawn from the Monitoring the Future panel studies (12th grade, base-year: 1976-2005; age 29/30 follow-up: 1987-2017, N=73,298). We applied IPW then imputation in increasing percentages, assuming varying risk differences (RDs) among non-responders. Measurements included past-two-week binge drinking at base-year and every follow-up. Demographic and other correlates of binge drinking contributed to IPW estimation.

**Results**: Attrition increased: 31.14%, base-year 1976; 61.33%, base-year 2005. The magnitude of bias depended not on attrition rate, but on prevalence of binge drinking and RD among non-respondents. The probable range of binge drinking among non-responders was 12%-45%. In every scenario, base-year and follow-up binge drinking were associated. The likely range of true RDs was 0.14 (95% CI: 0.11-0.17) to 0.28 (95% CI: 0.25-0.31).

**Conclusions**: When attrition is present, the amount of attrition alone is insufficient to understand contribution to effect estimates. We recommend including bias analysis in longitudinal analyses.

### Two-year follow-up of a sequential mixed-mode experiment in the U.S. national Monitoring the Future study[25]

This study examines the two-year follow-up (data collected in 2016 at modal age 21/22) of an original mixed-mode longitudinal survey experiment (data collected at modal age 19/20 in 2014). The study compares participant retention in the experimental conditions to retention in the standard Monitoring the Future (MTF) control condition (participants who completed an in-school baseline survey in 12th grade in 2012 or 2013 and were selected to participate in the first follow-up survey by mail in 2014, N=2,451). A supplementary sample who completed the 12th

[24] Keyes, K.M., Jager, J., Platt, J., Rutherford, C., Patrick, M., Kloska, D.D., Schulenberg, J. (in press). When does attrition lead to bias? Bias analysis for loss to follow-up in 30 sequentially sampled longitudinal cohorts with increasingly greater total attrition. *International Journal of Methods in Psychiatric Research.*

[25] Patrick, M. E., Couper, M. P., Jang, B. J., Laetz, V., Schulenberg, J., Johnston, L. D., Bachman, J., & O'Malley, P. M. (2019). Two-year follow-up of a sequential mixed-mode experiment in the U.S. national Monitoring the Future study. Survey Practice, 12.

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 in 2014 and again in 2016: 1: Mail Push, 2: Web Push, 3: Web Push + Email. Results from the first experiment indicated that Condition 3 (Web Push + Email) was promising based on similar response rates and lower costs. The current study examines the associations of experimental condition and type of response in 2014 with participation in 2016, the extent to which response mode and device type changed from 2014 to 2016, and cumulative cost comparisons across conditions. Results indicated that responding via web in 2014 was associated with greater odds of participation again in 2016 regardless of condition; respondents tended to respond in the same mode although the "push" condition did move respondents toward web over paper; device type varied between waves; and the cumulative cost savings of Web Push + Email grew larger compared to the MTF Control. The web push strategy is therefore promising for maintaining respondent engagement while reducing cost.

### Comparison of a web-push survey research protocol with a mailed paper and pencil protocol in the Monitoring the Future panel survey[26]

This experiment tested the effects of a web-push survey research protocol, compared with the standard mailed paper-and-pencil protocol, among young adults aged 19–30 years in the Monitoring the Future (MTF) longitudinal study. The US-based MTF study has measured substance use trends among young adults in panel samples followed biennially, using consistent mailed survey procedures from 1977 to 2017. In 2018, young adult participants in the MTF longitudinal component scheduled to be surveyed at ages 19–30 in 2018 (from high school senior cohorts of 2006–17, n = 14 709) were randomly assigned to receive the standard mail/paper survey procedures or new web-push procedures. Primary outcomes were responding to the survey and prevalence estimates for past 30-day use of alcohol, cigarettes, marijuana and illicit drugs. The web-push response rate was 39.07% [95% confidence interval (CI) = 37.889, 40.258]; this was significantly better than the standard MTF response rate of 35.12% (95% CI = 33.964, 36.285). After adjusting for covariates, the web-push condition was associated with a 19% increase in the odds of responding compared with standard MTF (adjusted odds ratio = 1.188; 95% CI = 1.096, 1.287). Substance use prevalence estimates were very similar and differences became negligible when using attrition weights and controlling for socio-demographic characteristics. In conclusion, the web-push protocol produced a higher response rate than the mailed pencil and paper protocol in the Monitoring the Future panel study, without substantially affecting estimates of substance use once attrition weights and socio-demographic variables were factored in.

## MTF WEBSITE: ADDITIONAL PUBLICATIONS AND REPORTS

Any reader wishing to obtain more information on the study (including data tables), or to check for recent findings and publications, may visit the MTF website. Included are publications in this series of annual monographs (*Volume 1*, *Overview of Key Findings*, and *HIV/AIDS*), related occasional paper on subgroups,[27] and press releases.

---

[26] Patrick, M. E., Couper, M. P., Parks, M. J., Laetz, V., & Schulenberg, J. E. (2020). Comparison of a web-push survey research protocol with a mailed paper and pencil protocol in the Monitoring the Future panel survey. *Addiction*.

[27] Johnston, L. D., Miech, R. A., O'Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2020). Demographic subgroup trends among adolescents in the use of various licit and illicit drugs 1975-2019 (Monitoring the Future Occasional Paper No. 94). Ann Arbor, MI: Institute for Social Research, University of Michigan.

## MTF ADOLESCENT AND ADULT DATA

De-identified MTF data are available to researchers through the National Addiction and HIV Data Archive Program (sponsored in part by the National Institute on Drug Abuse), part of the Inter-University Consortium of Political and Social Research at the University of Michigan. This includes access to MTF public-use cross-sectional base year data, and to MTF restricted-use cross-sectional base year data and panel data for qualified researchers.

# TABLE A-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 | 2018 | 2019 | 2018–2019 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 | 18.7 | 20.4 | +1.7 |
| 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 | 36.3 | 37.5 | +1.2 |
| 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 | 47.8 | 47.4 | -0.4 |
| 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 | 55.5 | 55.7 | 58.9 | +3.2 |
| 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 | 62.9 | 64.1 | 63.9 | 66.5 | +2.6 s |
| 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 | 9.8 | 10.8 | +1.0 |
| 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 | 14.2 | 13.8 | -0.4 |
| 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 | 18.9 | 18.4 | -0.6 |
| 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 | 26.3 | 27.3 | 26.2 | -1.1 |
| 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 | 36.3 | 37.0 | 36.5 | 36.7 | +0.2 |
| 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 | 23.2 | 25.4 | +2.2 |
| 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 | 38.7 | 39.8 | +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 | 49.0 | 49.1 | +0.1 |
| 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 | 55.5 | 58.4 | +2.8 |
| 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 | 63.5 | 66.1 | +2.6 |
| Marijuana/Hashish | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | 10.2 | 11.2 | 12.6 | 16.7 | 19.9 | 23.1 | 22.6 | 22.2 | 22.0 | 20.3 | 20.4 | 19.2 | 17.5 | 16.3 | 16.5 | 15.7 | 14.2 | 14.6 | 15.7 | 17.3 | 16.4 | 15.2 | 16.5 | 15.6 | 15.5 | 12.8 | 13.5 | 13.9 | 15.2 | +1.3 |
| 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 | 32.6 | 34.0 | +1.5 |
| 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 | 43.6 | 43.7 | +0.1 |
| College Students | 46.3 | 44.1 | 42.0 | 42.2 | 41.7 | 45.1 | 46.1 | 49.9 | 50.8 | 51.2 | 51.0 | 49.5 | 50.7 | 49.1 | 49.1 | 46.9 | 47.5 | 46.8 | 47.5 | 46.8 | 46.6 | 49.1 | 47.7 | 48.5 | 50.4 | 51.0 | 50.5 | 52.4 | 54.7 | +2.3 |
| 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 | 60.1 | 62.3 | +2.2 |
| 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 | 8.7 | 9.5 | +0.8 |
| 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 | 6.5 | 6.8 | +0.3 |
| 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 | 4.4 | 5.3 | +0.9 s |
| 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 | 3.0 | 4.6 | +1.6 |
| 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 | 5.6 | 6.8 | +1.2 |

(Table continued on next page.)

## TABLE A-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 | 2018 | 2019 | 2018–2019 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 | 2.2 | 2.4 | +0.2 |
| 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 | 3.9 | 4.7 | +0.8 |
| 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 | 6.6 | 6.9 | +0.3 |
| College Students | 11.3 | 12.0 | 11.8 | 10.0 | 13.0 | 12.6 | 13.8 | 15.2 | 14.8 | 14.4‡ | 14.8 | 13.6 | 14.5 | 12.0 | 11.0 | 10.6 | 9.1 | 8.5 | 8.0 | 7.8 | 7.4 | 7.6 | 7.8 | 7.6 | 6.5 | 7.7 | 7.2 | 8.5 | 9.1 | +0.6 |
| 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 | 14.3 | 13.9 | -0.4 |
| 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 | 1.4 | 1.6 | +0.2 |
| 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 | 2.8 | 3.6 | +0.7 s |
| 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 | 5.1 | 5.6 | +0.5 |
| 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 | 6.9 | 6.5 | -0.4 |
| 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 | 10.3 | 10.5 | +0.2 |
| Hallucinogens other than LSD [b] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | 1.4 | 1.7 | 1.7 | 2.2 | 2.5 | 3.0 | 2.6 | 2.5 | 2.4 | 2.3‡ | 3.9 | 3.3 | 3.2 | 3.0 | 3.3 | 2.8 | 2.6 | 2.5 | 2.4 | 2.7 | 2.8 | 2.3 | 1.9 | 1.5 | 1.2 | 1.3 | 1.2 | 1.5 | 1.7 | +0.2 |
| 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 | 2.7 | 3.3 | +0.6 |
| 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 | 4.5 | 4.3 | -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 | 5.0 | 6.9 | +2.0 |
| Young Adults | 8.4 | 8.0 | 7.6 | 7.4 | 7.8 | 7.9 | 8.5 | 9.4 | 9.3 | 9.9‡ | 12.0 | 15.0 | 16.4 | 15.6 | 15.4 | 14.9 | 14.1 | 13.0 | 13.0 | 12.6 | 12.1 | 11.1 | 11.4 | 10.8 | 10.4 | 10.6 | 10.6 | 11.1 | 11.2 | +0.1 |
| 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 | 1.3 | 0.6 | -0.7 |
| MDMA (Ecstasy, Molly) [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 | 1.6 | 1.7 | +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 | 2.4 | 3.2 | +0.8 s |
| 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 | 4.1 | 3.3 | |
| 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 | 7.6 | 7.0 | -0.6 |
| 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 | 12.2 | 13.2 | +1.0 |

(Table continued on next page.)

# TABLE A-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 | 2018 | 2019 | 2018–2019 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 | 1.4 | 1.2 | -0.2 |
| 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 | 2.6 | 2.5 | -0.1 |
| 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 | 3.9 | 3.8 | -0.1 |
| 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 | 6.0 | 7.1 | 8.5 | 8.8 | +0.3 |
| 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 | 11.8 | 12.9 | 13.0 | 13.8 | +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 | 0.9 | 0.9 | 0.0 |
| 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 | 1.0 | 0.9 | 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 | 1.5 | 1.7 | +0.1 |
| College Students | 1.5 | 1.7 | 1.3 | 1.0 | 1.8 | 1.2 | 1.4 | 2.2 | 2.4 | 2.5 | 2.0 | 1.9 | 3.1 | 2.0 | 1.7 | 2.3 | 1.3 | 1.4 | 1.0 | 1.2 | 0.8 | 0.7 | 0.7 | 1.4 | 0.5 | 0.8 | 0.6 | 0.9 | 0.0 | -0.9 |
| 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 | 1.8 | 1.9 | 2.0 | 1.0 | -1.0 |
| 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 | 1.2 | 1.0 | -0.2 |
| 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 | 2.4 | 2.3 | -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 | 3.3 | 3.2 | -0.1 |
| College Students | 9.0 | 7.6 | 6.3 | 4.6 | 5.2 | 4.6 | 5.0 | 7.4 | 7.8 | 8.1 | 8.3 | 8.6 | 8.5 | 9.3 | 8.1 | 6.2 | 8.0 | 7.1 | 7.9 | 6.7 | 5.4 | 5.1 | 5.2 | 6.2 | 6.4 | 6.5 | 6.1 | 6.7 | 6.1 | -0.6 |
| 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 | 12.2 | 10.1 | -2.1 |
| 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 | 0.6 | 0.7 | +0.1 |
| 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 | 0.4 | 0.4 | +0.1 |
| 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 | 0.8 | 0.6 | -0.2 |
| 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 | 0.1 | 0.3 | +0.2 |
| Young Adults | 0.9 | 0.9 | 0.9 | 0.8 | 1.1 | 1.3 | 1.3 | 1.6 | 1.7 | 1.8 | 2.0 | 1.8 | 1.9 | 1.9 | 1.7 | 1.9 | 1.6 | 1.9 | 1.6 | 1.8 | 1.7 | 1.6 | 1.6 | 1.4 | 1.6 | 1.6 | 1.4 | 1.4 | 1.1 | -0.3 |
| 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 | 0.4 | 0.5 | +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 | 0.3 | +0.1 |
| 12th Grade | — | — | — | — | 0.7 | 0.8 | 0.9 | 0.8 | 0.9 | 0.8 | 0.7 | 0.8 | 0.7 | 0.7 | 0.9 | 0.8 | 0.7 | 0.7 | 0.6 | 1.1 | 0.9 | 0.7 | 0.7 | 0.8 | 0.6 | 0.5 | 0.4 | 0.5 | 0.4 | -0.1 |
| College Students | — | — | — | — | 0.4 | 0.1 | 0.2 | 0.5 | 0.8 | 0.7 | 0.2 | 0.3 | 0.1 | 0.1 | 0.3 | 0.3 | 0.1 | 0.0 | 0.1 | 0.1 | 0.3 | 0.2 | 0.1 | 0.0 | 0.3 | 0.0 | 0.0 | 0.2 | 0.3 | +0.1 |
| Young Adults | — | — | — | — | 0.4 | 0.4 | 0.3 | 0.4 | 0.6 | 0.4 | 0.6 | 0.4 | 0.5 | 0.4 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.8 | 0.7 | 0.5 | 1.0 | 0.7 | 0.7 | 0.7 | 0.8 | 0.4 | 0.6 | +0.2 |
| 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 | 0.3 | 0.4 | 0.0 |
| 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 | 0.2 | 0.3 | +0.1 |
| 12th Grade | — | — | — | — | 1.4 | 1.7 | 2.1 | 1.6 | 1.8 | 2.4 | 1.5 | 1.6 | 1.8 | 1.4 | 1.3 | 1.1 | 1.4 | 1.1 | 0.9 | 1.4 | 1.3 | 0.8 | 0.9 | 0.7 | 0.7 | 0.6 | 0.4 | 0.6 | 0.4 | -0.1 |
| 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 | 0.2 | 0.3 | +0.2 |
| 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 | 1.3 | 1.3 | 0.0 |

(Table continued on next page.)

# TABLE A-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 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Narcotics other than Heroin [m,n,ll] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | 6.0 | 5.3 | -0.8 |
| 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 | 6.6 | 5.8 | -0.8 |
| 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 | 12.3 | 11.0 | -1.2 |
| 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 | 5.9 | 6.8 | +0.9 |
| 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 | 8.6 | 8.2 | -0.4 |
| 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 | 8.6 | 7.7 | -1.0 |
| 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 | 13.2 | 13.5 | +0.4 |
| 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 | 18.4 | 18.8 | +0.3 |
| 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 | 0.7 | 0.9 | +0.2 |
| 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 | 0.8 | 0.7 | -0.1 |
| 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 | 0.7 | 0.8 | +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 | 1.0 | 1.1 | +0.2 |
| 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 | 2.7 | 2.2 | -0.5 |
| 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 | 1.1 | 1.3 | +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 | 0.8 | 0.6 | -0.2 |
| 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 | 1.3 | 1.5 | +0.2 |
| 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 | 4.2 | 4.2 | 0.0 |
| 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 | 3.3 | 3.7 | +0.5 |
| 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 | 7.3 | 7.3 | +0.1 |

(Table continued on next page.)

## TABLE A-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 | 2018 | 2019 | 2018–2019 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 | 3.5 | 4.0 | +0.5 |
| 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 | 6.0 | 5.7 | -0.3 |
| 12th Grade | 7.2 | 6.0 | 6.4 | 6.6 | 7.1 | 7.2 | 7.8 | 8.5 | 9.3 | 8.9‡ | 10.3 | 11.4 | 10.2 | 10.6 | 9.9 | 10.3 | 9.5 | 8.9 | 9.3 | 8.5 | 8.7 | 8.5 | 7.7 | 7.4 | 6.9 | 7.6 | 7.5 | 6.6 | 6.1 | -0.5 |
| 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 | 7.4 | 7.4 | +0.1 |
| 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 | 11.4 | 11.2 | -0.2 |
| 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 | 15.5 | 14.6 | -0.9 |
| 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 | 0.7 | 0.6 | 0.0 |
| 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 | 0.5 | 0.9 | +0.4 |
| 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 | 23.5 | 24.5 | +1.0 |
| 10th Grade | 83.8 | 82.3‡ | 71.6 | 71.1 | 70.5 | 71.8 | 72.0 | 69.8 | 70.6 | 71.4 | 70.1 | 66.9 | 66.0 | 64.2 | 63.2 | 61.5 | 61.7 | 58.3 | 59.1 | 58.2 | 56.0 | 54.0 | 52.1 | 49.3 | 47.1 | 43.4 | 42.2 | 43.0 | 43.1 | +0.1 |
| 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 | 58.5 | 58.5 | 0.0 |
| 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 | 77.4 | 79.2 | +1.7 |
| 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 | 85.0 | 85.1 | +0.1 |
| 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 | 9.2 | 10.1 | +1.0 |
| 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 | 26.2 | 25.5 | -0.7 |
| 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 | 42.9 | 40.8 | -2.1 |
| 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 | 66.8 | 65.5 | -1.3 |
| Young Adults | 82.9 | 81.1 | 81.4 | 80.7 | 82.1 | 80.7 | 81.4 | 79.8 | 81.6 | 80.4 | 81.1 | 81.2 | 80.9 | 80.1 | 79.9 | 80.9 | 80.1 | 80.1 | 78.2 | 79.0 | 78.9 | 78.9 | 77.4 | 78.3 | 76.4 | 75.2 | 75.4 | 76.2 | 74.9 | -1.4 |

(Table continued on next page.)

# TABLE A-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 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Flavored Alcoholic Beverages [g,p,mm] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | 18.0 | 15.1 | -3.0 s |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | 58.6 | 58.8 | 58.1 | 55.7 | 53.5 | 51.4 | 51.3 | 48.4 | 46.7 | 44.9 | 42.3 | 38.7 | 33.3 | 34.8 | 35.9 | 33.2 | -2.7 |
| 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 | 50.4 | 44.7 | -5.7 s |
| 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 | 71.0 | 72.2 | +1.2 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | 83.2 | 84.6 | 84.4 | 84.0 | 82.6 | 83.5 | 81.4 | 82.2 | 82.4 | 80.9 | 80.6 | 81.0 | 79.9 | 79.2 | 80.9 | 82.4 | +1.4 |
| 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 | 9.1 | 10.0 | +1.0 |
| 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 | 16.0 | 14.2 | -1.7 |
| 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 | 23.8 | 22.3 | -1.5 |
| 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 | 6.4 | 7.1 | +0.8 |
| 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 | 10.0 | 9.2 | -0.8 |
| 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 | 10.1 | 9.8 | -0.3 |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Any Vaping [jj,kk,nn] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 21.7 | 17.5‡ | 18.5 | 21.5 | 24.3 | +2.8 |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 32.8 | 29.0‡ | 30.9 | 36.9 | 41.0 | +4.1 s |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 35.5 | 33.8‡ | 35.8 | 42.5 | 45.6 | +3.0 |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 26.0 | 26.8‡ | 36.0 | 39.9 | 49.4 | +9.5 ss |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 30.3 | 26.9‡ | 34.3 | 37.0 | 43.8 | +6.7 sss |
| Vaping Nicotine [jj,oo] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 10.6 | 13.5 | 20.3 | +6.9 sss |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 21.4 | 28.6 | 36.3 | +7.7 sss |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 25.0 | 34.0 | 40.8 | +6.8 ss |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 22.5 | 32.4 | 41.9 | +9.5 ss |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 24.8 | 27.5 | 36.4 | +8.9 sss |

(Table continued on next page.)

## TABLE A-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 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Vaping Marijuana** [jj] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.0 | 5.5 | 9.0 | +3.5 sss |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.8 | 14.2 | 21.8 | +7.6 sss |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 11.9 | 15.6 | 23.7 | +8.1 sss |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 14.4 | 23.8 | 29.4 | +5.5 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 17.2 | 21.6 | 28.1 | +6.4 sss |
| **Vaping Just Flavoring** [jj,pp] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 17.0 | 19.4 | 18.9 | -0.5 |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 27.5 | 31.7 | 28.3 | -3.4 s |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 30.7 | 34.1 | 29.0 | -5.0 ss |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 26.7 | 27.1 | 28.7 | +1.6 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 21.4 | 22.1 | 21.8 | -0.3 |
| **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 | 1.1 | 1.5 | +0.4 s |
| 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 | 1.2 | 1.6 | +0.4 s |
| 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 | 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 | 0.3 | — | — |
| 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 | 1.0 | — | — |
| **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 A-4

# TABLE A-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 | 2018 | 2019 | 2018–2019 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 | 13.4 | 14.8 | +1.5 |
| 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 | 29.9 | 31.0 | +1.1 |
| 12th Grade | 29.4 | 27.1 | 31.0 | 35.8 | 39.0 | 40.2 | 42.4 | 41.4 | 42.1 | 40.9 | 41.4 | 41.0 | 39.3 | 38.8 | 38.4 | 36.5 | 35.9 | 36.6 | 36.5 | 38.3 | 40.0 | 39.7‡ | 40.1 | 38.7 | 38.6 | 38.3 | 39.9 | 38.8 | 38.0 | -0.8 |
| 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 | 42.7 | 45.4 | 46.5 | +1.1 |
| 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 | 40.0 | 41.7 | 43.3 | 44.2 | +0.9 |
| Any Illicit Drug other than Marijuana [a,b] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | 8.4 | 9.3 | 10.4 | 11.3 | 12.6 | 13.1 | 11.8 | 11.0 | 10.5 | 10.2‡ | 10.8 | 8.8 | 8.8 | 7.9 | 8.1 | 7.7 | 7.0 | 7.4 | 7.0 | 7.1 | 6.4 | 5.5‡ | 6.3 | 6.4 | 6.3 | 5.4 | 5.8 | 6.1 | 6.5 | +0.4 |
| 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 | 9.6 | 9.1 | -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 | 12.4 | 11.5 | -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 | 18.4 | 18.2 | 16.8 | -1.4 |
| 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 | 20.0 | 20.3 | 19.2 | 18.7 | -0.5 |
| 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 | 16.0 | 17.5 | +1.5 |
| 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 | 31.0 | 31.7 | +0.6 |
| 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 | 40.2 | 38.8 | -1.4 |
| 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 | 46.1 | 47.9 | +1.8 |
| Young Adults | 27.8 | 29.2 | 28.9 | 29.2 | 30.4 | 30.2 | 30.1 | 30.6 | 30.6 | 31.2 | 33.2 | 32.4 | 32.7 | 34.9 | 32.8 | 32.6 | 33.2 | 33.5 | 33.1 | 33.3 | 34.2 | 34.2‡ | 38.3 | 35.3 | 37.3 | 38.2 | 40.7 | 42.4 | 44.8 | +2.4 |
| 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 | 10.5 | 11.8 | +1.3 |
| 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 | 27.5 | 28.8 | +1.4 |
| 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 | 35.9 | 35.7 | -0.2 |
| 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 | 42.6 | 43.0 | +0.5 |
| 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 | 39.1 | 40.1 | +1.0 |
| Synthetic Marijuana [p,q] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.4 | 4.0 | 3.3 | 3.1 | 2.7 | 2.0 | 1.6 | 2.7 | +1.1 ss |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.8 | 7.4 | 5.4 | 4.3 | 3.3 | 2.7 | 2.9 | 2.6 | -0.3 |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 11.4 | 11.3 | 7.9 | 5.8 | 5.2 | 3.5 | 3.7 | 3.5 | 3.3 | -0.2 |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.5 | 5.3 | 2.3 | 0.9 | 1.5 | 1.3 | 0.5 | 1.6 | 1.8 | +0.2 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 7.4 | 5.3 | 3.2 | 1.3 | 1.5 | 1.0 | 0.9 | 1.6 | 1.2 | -0.4 |

(Table continued on next page.)

## TABLE A-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 | 2018 | 2019 | 2018–2019 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 | 4.6 | 4.7 | +0.1 |
| 10th Grade | 7.1 | 7.5 | 8.4 | 9.1 | 9.6 | 9.5 | 8.7 | 8.0 | 7.2 | 7.3 | 6.6 | 5.8 | 5.4 | 5.9 | 6.0 | 6.5 | 6.6 | 5.9 | 6.1 | 5.7 | 4.5 | 4.1 | 3.5 | 3.3 | 2.9 | 2.4 | 2.3 | 2.4 | 2.8 | +0.4 |
| 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 | 1.6 | 1.9 | +0.3 |
| 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 | 1.3 | 1.3 | 0.0 |
| 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 | 0.8 | 1.4 | +0.6 |
| 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 | 1.4 | 1.3 | -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 | 2.7 | 3.1 | +0.4 |
| 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 | 4.3 | 4.6 | +0.3 |
| 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 | 5.1 | 5.3 | +0.2 |
| 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 | 5.6 | 5.1 | -0.5 |
| 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 | 0.9 | 0.9 | 0.0 |
| 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 | 2.0 | 2.3 | +0.3 |
| 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 | 3.2 | 3.6 | +0.4 |
| 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 | 4.1 | 3.7 | -0.5 |
| 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 | 3.9 | 3.5 | -0.4 |
| 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 | 0.9 | 0.9 | 0.0 |
| 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 | 1.7 | 2.1 | +0.4 |
| 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 | 2.7 | 2.7 | 0.0 |
| 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 | 2.4 | 3.3 | +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 | 3.3 | 3.2 | -0.2 |
| 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 | 1.1 | 1.1 | 0.0 |
| 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 | 0.7 | 0.0 | -0.7 s |

(Table continued on next page.)

# TABLE A-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 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MDMA (Ecstasy, Molly) [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 | 1.1 | 1.1 | +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 | 1.4 | 1.7 | +0.3 |
| 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 | 2.2 | 2.2 | 0.0 |
| 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 | 4.3 | 3.3 | -1.0 |
| 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 | 3.9 | 3.7 | -0.3 |
| Salvia [p,q] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.7 | 1.6 | 1.4 | 1.2 | 0.6 | 0.7 | 0.9 | 0.4 | 0.6 | 0.8 | +0.1 |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.7 | 3.9 | 2.5 | 2.3 | 1.8 | 1.2 | 0.9 | 0.9 | 0.7 | 0.9 | +0.2 |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.7 | 5.5 | 5.9 | 4.4 | 3.4 | 1.8 | 1.9 | 1.8 | 1.5 | 0.9 | 0.7 | -0.2 |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.8 | 3.5 | 3.1 | 1.5 | 1.0 | 1.1 | 0.4 | 0.7 | 0.3 | 0.9 | 0.3 | -0.5 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.5 | 3.6 | 2.2 | 1.4 | 0.9 | 1.2 | 0.6 | 0.8 | 0.5 | 0.7 | 0.4 | -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 | 0.8 | 0.7 | -0.1 |
| 10th Grade | 2.2 | 1.9 | 2.1 | 2.8 | 3.5 | 4.2 | 4.7 | 4.7 | 4.9 | 4.4 | 3.6 | 4.0 | 3.3 | 3.7 | 3.5 | 3.2 | 3.4 | 3.0 | 2.7 | 2.2 | 1.9 | 2.0 | 1.9 | 1.5 | 1.8 | 1.3 | 1.4 | 1.5 | 1.5 | -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 | 2.3 | 2.2 | -0.1 |
| College Students | 3.6 | 3.0 | 2.7 | 2.0 | 3.6 | 2.9 | 3.4 | 4.6 | 4.6 | 4.8 | 4.7 | 4.8 | 5.4 | 6.6 | 5.7 | 5.1 | 5.4 | 4.4 | 4.2 | 3.5 | 3.3 | 3.1 | 2.7 | 4.4 | 4.3 | 4.6 | 5.3 | 6.0 | 5.6 | -0.4 |
| 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 | 5.9 | 6.4 | 6.9 | 6.5 | -0.4 |
| 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 | 0.4 | 0.4 | 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 | 0.6 | 0.6 | 0.0 |
| 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 | 0.9 | 1.0 | +0.1 |
| 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 | 0.4 | 0.3 | 0.7 | 0.0 | -0.7 |
| 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 | 0.5 | 0.7 | 0.6 | 0.3 | -0.3 |

(Table continued on next page.)

# TABLE A-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 |
|---|---|---|---|---|---|---|---|---|---|---|
| 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 |
| 10th Grade | 2.1 | 1.7 | 1.8 | 2.4 | 3.0 | 3.5 | 4.1 | 4.0 | 4.4 | 3.8 |
| 12th Grade | 3.2 | 2.6 | 2.9 | 3.0 | 3.4 | 4.2 | 5.0 | 4.9 | 5.8 | 4.5 |
| College Students | 3.2 | 2.4 | 2.5 | 1.8 | 3.3 | 2.3 | 3.0 | 4.2 | 4.2 | 4.1 |
| Young Adults | 5.4 | 5.1 | 3.9 | 3.6 | 3.9 | 3.8 | 4.3 | 4.5 | 4.8 | 4.8 |
| 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 |
| 10th Grade | 0.5 | 0.6 | 0.7 | 0.9 | 1.1 | 1.2 | 1.4 | 1.4 | 1.4 | 1.4 |
| 12th Grade | 0.4 | 0.6 | 0.5 | 0.6 | 1.1 | 1.0 | 1.2 | 1.0 | 1.1 | 1.5 |
| College Students | 0.1 | 0.1 | 0.1 | 0.1 | 0.3 | 0.4 | 0.3 | 0.6 | 0.2 | 0.5 |
| Young Adults | 0.1 | 0.2 | 0.2 | 0.1 | 0.4 | 0.4 | 0.3 | 0.4 | 0.4 | 0.4 |
| With a Needle [l] | | | | | | | | | | |
| 8th Grade | — | — | — | — | 0.9 | 1.0 | 0.8 | 0.8 | 0.9 | 0.6 |
| 10th Grade | — | — | — | — | 0.6 | 0.7 | 0.7 | 0.8 | 0.6 | 0.5 |
| 12th Grade | — | — | — | — | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 | 0.4 |
| College Students | — | — | — | — | 0.1 | * | 0.1 | 0.2 | 0.1 | 0.1 |
| Young Adults | — | — | — | — | 0.1 | 0.1 | 0.1 | 0.1 | 0.1 | * |
| Without a Needle [l] | | | | | | | | | | |
| 8th Grade | — | — | — | — | 0.8 | 1.0 | 0.8 | 0.8 | 0.9 | 0.7 |
| 10th Grade | — | — | — | — | 0.8 | 0.9 | 1.1 | 1.0 | 1.1 | 1.1 |
| 12th Grade | — | — | — | — | 1.0 | 1.0 | 1.2 | 0.8 | 1.0 | 1.6 |
| College Students | — | — | — | — | 0.0 | 0.8 | 0.4 | 0.9 | 0.3 | 0.8 |
| Young Adults | — | — | — | — | 0.3 | 0.4 | 0.4 | 0.7 | 0.6 | 0.5 |
| 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 |
| College Students | 2.7 | 2.7 | 2.5 | 2.4 | 3.8 | 3.1 | 4.2 | 4.2 | 4.3 | 4.5 |
| Young Adults | 2.5 | 2.5 | 2.2 | 2.5 | 3.0 | 2.9 | 3.3 | 3.4 | 3.8 | 4.1 |

| | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 |
|---|---|---|---|---|---|---|---|---|---|---|
| Cocaine other than Crack [j] | | | | | | | | | | |
| 8th Grade | 1.9 | 1.8 | 1.6 | 1.6 | 1.7 | 1.6 | 1.5 | 1.4 | 1.3 | 1.3 |
| 10th Grade | 3.0 | 3.4 | 2.8 | 3.3 | 3.0 | 2.9 | 3.1 | 2.6 | 2.3 | 1.9 |
| 12th Grade | 4.4 | 4.4 | 4.2 | 4.7 | 4.5 | 5.2 | 4.5 | 4.0 | 3.0 | 2.6 |
| College Students | 4.1 | 5.0 | 5.1 | 6.3 | 5.0 | 3.8 | 5.3 | 4.2 | 4.2 | 4.0 |
| Young Adults | 5.3 | 5.6 | 6.1 | 6.4 | 6.3 | 5.9 | 5.6 | 5.5 | 5.0 | 4.8 |
| Heroin [k,l] | | | | | | | | | | |
| 8th Grade | 1.0 | 0.9 | 0.9 | 1.0 | 0.8 | 0.8 | 0.8 | 0.9 | 0.7 | 0.8 |
| 10th Grade | 0.9 | 1.1 | 0.7 | 0.9 | 0.9 | 0.9 | 0.8 | 0.8 | 0.9 | 0.8 |
| 12th Grade | 0.9 | 1.0 | 0.8 | 0.9 | 0.8 | 0.8 | 0.9 | 0.7 | 0.7 | 0.9 |
| College Students | 0.4 | 0.1 | 0.2 | 0.4 | 0.3 | 0.3 | 0.2 | 0.3 | 0.4 | 0.2 |
| Young Adults | 0.5 | 0.2 | 0.4 | 0.3 | 0.4 | 0.4 | 0.3 | 0.5 | 0.6 | 0.5 |
| With a Needle [l] | | | | | | | | | | |
| 8th Grade | 0.7 | 0.6 | 0.6 | 0.7 | 0.6 | 0.5 | 0.6 | 0.5 | 0.5 | 0.6 |
| 10th Grade | 0.4 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.6 | 0.5 |
| 12th Grade | 0.3 | 0.4 | 0.4 | 0.4 | 0.5 | 0.5 | 0.4 | 0.4 | 0.3 | 0.7 |
| College Students | 0.1 | * | 0.1 | 0.1 | 0.3 | 0.3 | * | 0.0 | 0.1 | 0.0 |
| Young Adults | 0.3 | * | * | 0.1 | 0.2 | 0.3 | 0.1 | 0.1 | 0.1 | 0.2 |
| Without a Needle [l] | | | | | | | | | | |
| 8th Grade | 0.6 | 0.6 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.6 | 0.4 | 0.5 |
| 10th Grade | 0.7 | 0.8 | 0.5 | 0.7 | 0.7 | 0.6 | 0.6 | 0.6 | 0.6 | 0.6 |
| 12th Grade | 0.8 | 0.8 | 0.8 | 0.7 | 0.8 | 0.6 | 1.0 | 0.5 | 0.6 | 0.8 |
| College Students | 0.6 | 0.2 | 0.1 | 0.6 | 0.2 | 0.3 | 0.2 | 0.3 | 0.1 | 0.3 |
| Young Adults | 0.9 | 0.2 | 0.4 | 0.3 | 0.4 | 0.5 | 0.3 | 0.4 | 0.6 | 0.4 |
| Narcotics other than Heroin [m,n] | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — |
| 10th Grade | — | — | — | — | — | — | — | — | — | — |
| 12th Grade | 6.7‡ | 9.4 | 9.3 | 9.5 | 9.0 | 9.0 | 9.2 | 9.1 | 9.2 | 8.7 |
| College Students | 5.7‡ | 7.4 | 8.7 | 8.2 | 8.4 | 8.8 | 7.7 | 6.5 | 7.6 | 7.2 |
| Young Adults | 5.0‡ | 7.1 | 8.5 | 9.0 | 8.7 | 9.1 | 8.7 | 9.1 | 8.4 | 9.0 |

| | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|
| Cocaine other than Crack [j] | | | | | | | | | | |
| 8th Grade | 1.1 | 1.0 | 0.8 | 0.8 | 0.8 | 0.6 | 0.6 | 0.7 | 0.6 | -0.1 |
| 10th Grade | 1.7 | 1.8 | 1.6 | 1.3 | 1.5 | 1.1 | 1.2 | 1.4 | 1.4 | 0.0 |
| 12th Grade | 2.6 | 2.4 | 2.4 | 2.4 | 2.1 | 2.0 | 2.3 | 2.0 | 1.9 | -0.1 |
| College Students | 3.0 | 3.0 | 2.8 | 4.1 | 4.2 | 4.7 | 4.4 | 4.6 | 3.5 | -1.1 |
| Young Adults | 4.3 | 4.0 | 3.7 | 4.8 | 5.4 | 5.9 | 5.9 | 6.1 | 4.9 | -1.2 |
| Heroin [k,l] | | | | | | | | | | |
| 8th Grade | 0.7 | 0.5 | 0.5 | 0.5 | 0.3 | 0.3 | 0.3 | 0.3 | 0.3 | 0.0 |
| 10th Grade | 0.8 | 0.6 | 0.6 | 0.5 | 0.5 | 0.3 | 0.2 | 0.2 | 0.3 | +0.1 |
| 12th Grade | 0.8 | 0.6 | 0.6 | 0.6 | 0.5 | 0.3 | 0.4 | 0.4 | 0.4 | 0.0 |
| College Students | 0.1 | 0.1 | 0.3 | 0.0 | 0.1 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 |
| Young Adults | 0.5 | 0.5 | 0.6 | 0.4 | 0.5 | 0.4 | 0.4 | 0.3 | 0.2 | -0.1 |
| With a Needle [l] | | | | | | | | | | |
| 8th Grade | 0.5 | 0.4 | 0.3 | 0.4 | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 | 0.0 |
| 10th Grade | 0.5 | 0.4 | 0.5 | 0.4 | 0.2 | 0.3 | 0.2 | 0.1 | 0.2 | +0.1 |
| 12th Grade | 0.6 | 0.4 | 0.4 | 0.5 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | -0.0 |
| College Students | 0.2 | 0.2 | 0.1 | 0.0 | 0.1 | 0.0 | 0.2 | 0.1 | 0.0 | -0.1 |
| Young Adults | 0.4 | 0.3 | 0.3 | 0.2 | 0.2 | 0.3 | 0.2 | 0.1 | 0.0 | -0.1 |
| Without a Needle [l] | | | | | | | | | | |
| 8th Grade | 0.4 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.2 | 0.2 | 0.0 |
| 10th Grade | 0.5 | 0.4 | 0.4 | 0.3 | 0.3 | 0.2 | 0.1 | 0.1 | 0.2 | +0.1 |
| 12th Grade | 0.7 | 0.4 | 0.4 | 0.5 | 0.4 | 0.3 | 0.2 | 0.2 | 0.2 | 0.0 |
| College Students | 0.2 | 0.1 | 0.5 | 0.1 | 0.0 | 0.0 | 0.3 | 0.1 | 0.0 | -0.1 |
| Young Adults | 0.2 | 0.4 | 0.7 | 0.3 | 0.5 | 0.4 | 0.3 | 0.1 | 0.0 | -0.1 |
| Narcotics other than Heroin [m,n] | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — |
| 10th Grade | — | — | — | — | — | — | — | — | — | — |
| 12th Grade | 8.7 | 7.9 | 7.1 | 6.1 | 5.4 | 4.8 | 4.2 | 3.4 | 2.7 | -0.7 ss |
| College Students | 6.2 | 5.4 | 5.4 | 4.8 | 3.3 | 3.8 | 3.1 | 2.7 | 1.5 | -1.2 |
| Young Adults | 7.9 | 7.3 | 7.0 | 6.3 | 5.2 | 5.2 | 4.0 | 3.4 | 2.6 | -0.8 s |

(Table continued on next page.)

## TABLE A-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 | 2018 | 2019 | 2018–2019 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 | 0.8 | 1.2 | +0.5 |
| 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 | 2.2 | 2.0 | -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 | 2.3 | 1.7 | -0.6 |
| 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 | 1.6 | 2.5 | +0.9 |
| 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 | 1.9 | 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 | 0.6 | 0.9 | +0.3 |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | 6.9 | 7.2 | 6.2 | 5.9 | 7.0 | 7.2 | 6.7 | 8.1 | 7.7 | 5.9 | 4.4 | 4.6 | 3.4 | 2.5 | 1.7 | 1.5 | 1.1 | 1.1 | -0.1 |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | 9.6 | 10.5 | 9.3 | 9.5 | 9.7 | 9.6 | 9.7 | 9.7 | 8.0 | 8.1 | 7.5 | 5.3 | 4.8 | 4.4 | 2.9 | 2.0 | 1.7 | 1.1 | -0.7 s |
| 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 | 1.5 | 1.5 | 0.0 |
| 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 | 2.4 | 1.6 | -0.8 |
| 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 | 3.7 | 4.1 | +0.4 |
| 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 | 5.7 | 5.2 | -0.4 |
| 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 | 5.5 | 4.5 | -1.0 s |
| 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 | 8.3 | 8.1 | -0.2 |
| 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 | 7.5 | 6.9 | -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 | 0.5 | 1.0 | +0.4 |
| 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 | 0.9 | 0.7 | -0.2 |
| 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 | 0.9 | 1.1 | +0.2 |
| 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 | 1.3 | 2.5 | +1.2 |
| 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 | 1.5 | 1.4 | -0.1 |
| 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 | 1.8 | 2.5 | +0.7 |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.7 | 5.3 | 4.6 | 4.5 | 4.4 | 4.6 | 5.2 | 4.2 | 4.0 | 4.1 | 3.1 | -1.0 |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.4 | 6.5 | 6.5 | 7.6 | 7.4 | 6.8 | 7.5 | 6.2 | 5.5 | 4.6 | 3.9 | -0.7 |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 10.2 | 9.0 | 9.8 | 9.0 | 10.7 | 9.6 | 10.7 | 9.9 | 9.4 | 11.0 | 8.4 | -2.6 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.8 | 7.0 | 6.6 | 7.4 | 7.0 | 7.8 | 7.7 | 7.2 | 8.3 | 9.1 | 7.0 | -2.1 s |

(Table continued on next page.)

## TABLE A-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 | 2018 | 2019 | 2018–2019 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 | 0.4 | 0.5 | 0.0 |
| 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 | 0.4 | 0.5 | 0.0 |
| 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 | 0.5 | 0.5 | -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 | 0.0 | -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 | 1.2 | 0.5 | -0.6 |
| 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 | 0.6 | 0.6 | +0.1 |
| 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 | 0.0 | 0.3 | +0.3 |
| 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 | 0.4 | 0.6 | +0.2 |
| 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 | 2.7 | 2.5 | -0.2 |
| 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 | 1.5 | 2.0 | +0.4 |
| 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 | 2.5 | 2.2 | -0.3 |
| 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 | 2.0 | 2.4 | +0.4 |
| 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 | 3.9 | 3.4 | -0.4 |
| 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 | 3.9 | 3.4 | -0.5 |
| 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 | 3.5 | 3.0 | -0.5 |
| 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 | 4.0 | 3.6 | -0.4 |

(Table continued on next page.)

# TABLE A-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 | 2018 | 2019 | 2018–2019 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 | 9.9 | 8.6 | -1.3 s |
| 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 | 2.8 | 3.2 | +0.4 |
| 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 | 3.3 | 2.6 | -0.7 |
| 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 | 3.4 | 2.5 | -0.9 |
| 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 | 0.3 | 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 | 0.6 | +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 | 0.7 | 0.5 | -0.2 |
| College Students | — | — | — | — | — | — | — | — | — | — | — | 0.7 | 0.4 | 0.3 | 0.1 | 0.2 | 0.1 | 0.3 | 0.0 | — | — | — | — | — | — | — | — | — | — | — |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | 0.3 | 0.5 | 0.1 | 0.1 | 0.2 | 0.3 | 0.2 | 0.1 | — | — | — | — | — | — | — | — | — | — | — |
| GHB [p,cc] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | 1.2 | 1.1 | 0.8 | 0.9 | 0.7 | 0.5 | 0.8 | 0.7 | 1.1 | 0.7 | 0.6 | 0.6 | — | — | — | — | — | — | — | — | — |
| 10th Grade | — | — | — | — | — | — | — | — | — | 1.1 | 1.0 | 1.4 | 1.4 | 0.8 | 0.8 | 0.7 | 0.6 | 0.5 | 1.0 | 0.6 | 0.5 | — | — | — | — | — | — | — | — | — |
| 12th Grade | — | — | — | — | — | — | — | — | — | 1.9 | 1.6 | 1.5 | 1.4 | 2.0 | 1.1 | 1.1 | 0.9 | 1.2 | 1.1 | 1.4 | 1.4 | 1.4 | 1.0 | 1.0 | 0.7 | 0.9 | 0.4 | 0.3 | 0.4 | +0.1 |
| 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,rr] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | 0.7 | 0.7 | 0.0 |
| College Students | — | — | — | — | — | — | — | — | — | — | — | 1.3 | 1.0 | 1.5 | 0.5 | 0.9 | 0.2 | 0.4 | 0.1 | 0.7 | 0.6 | 0.4 | 0.9 | 0.1 | 0.6 | 0.5 | 0.3 | 0.9 | 0.7 | -0.3 |
| 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 | 0.9 | 1.2 | +0.3 |

(Table continued on next page.)

# TABLE A-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 | 2018 | 2019 | 2018–2019 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 | 18.7 | 19.3 | +0.7 |
| 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 | 37.8 | 37.7 | -0.1 |
| 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 | 53.3 | 52.1 | -1.2 |
| 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 | 74.6 | 77.6 | +3.0 |
| 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 | 81.6 | 81.4 | -0.2 |
| 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 | 6.5 | 6.6 | +0.1 |
| 10th Grade | 40.1 | 37.0 | 37.8 | 38.0 | 38.5 | 40.1 | 40.7 | 38.3 | 40.9 | 41.6 | 39.9 | 35.4 | 34.7 | 35.1 | 34.2 | 34.5 | 34.4 | 30.0 | 31.2 | 29.9 | 28.8 | 28.2 | 27.1 | 24.6 | 23.4 | 20.5 | 20.4 | 20.9 | 20.2 | -0.7 |
| 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 | 33.9 | 32.8 | -1.1 |
| 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 | 59.2 | 58.7 | -0.5 |
| Young Adults | 62.0 | 60.9 | 61.1 | 58.8 | 61.6 | 59.9 | 63.2 | 59.6 | 63.2 | 60.6 | 63.1 | 61.8 | 62.9 | 63.8 | 63.5 | 65.7 | 65.8 | 66.0 | 65.5 | 64.8 | 64.0 | 64.6 | 63.1 | 63.5 | 61.2 | 61.0 | 60.9 | 62.6 | 61.6 | -1.0 |
| 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 | 12.1 | 10.7 | -1.4 |
| 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 | 28.8 | 26.8 | -2.0 |
| 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 | 38.4 | 37.5 | -0.9 |
| 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 | 58.4 | 64.6 | +6.1 |
| 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 | 57.1 | 62.0 | +4.9 |
| Alcoholic Beverages mixed with Energy Drinks [p,w,ss] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 11.8‡ | 10.9 | 10.2 | 9.5 | 8.4 | 6.5 | 5.6 | 6.0 | 7.3 | +1.3 |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 22.5‡ | 19.7 | 16.9 | 14.3 | 12.8 | 10.6 | 9.9 | 9.8 | 8.4 | -1.4 |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 26.4‡ | 26.4 | 23.5 | 20.0 | 18.3 | 17.0 | 16.9 | 14.7 | 12.3 | -2.4 s |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 33.6‡ | 33.8 | 39.1 | 32.8 | 34.1 | 29.4 | 31.3 | 27.4 | 35.6 | +8.2 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 28.1‡ | 36.7 | 36.9 | 35.0 | 33.5 | 29.6 | 31.8 | 29.9 | 33.1 | +3.1 |
| 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 | 15.5 | 16.0 | +0.6 |
| 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 | 22.5 | 21.6 | -0.9 |

(Table continued on next page.)

# TABLE A-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 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Tobacco using a Hookah [s,ss,tt] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 17.1 | 18.5 | 18.3 | 21.4 | 22.9 | 19.8 | 13.0 | 10.1 | 7.8 | 5.6 | -2.2 s |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 27.9 | 25.7 | 26.1 | 32.7 | 23.4 | 16.9 | 10.0 | 11.4 | 10.6 | -0.9 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 20.1 | 19.1 | 20.4 | 23.3 | 19.2 | 14.8 | 12.2 | 13.3 | 9.6 | -3.7 sss |
| 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 | 9.2 | 7.8 | -1.4 |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 23.6 | 20.3 | 19.0 | 24.2 | 19.6 | 17.6 | 14.0 | 15.6 | 8.8 | -6.8 s |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 19.2 | 18.0 | 18.4 | 18.6 | 17.9 | 15.5 | 16.0 | 15.9 | 11.1 | -4.8 sss |
| Dissolvable Tobacco [p,s] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.0 | 1.1 | 1.1 | 0.9 | 0.7 | 0.6 | 0.6 | 1.1 | +0.5 s |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.6 | 1.2 | 1.3 | 1.1 | 0.9 | 0.6 | 1.1 | 0.8 | -0.3 |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.5 | 1.6 | 1.9 | 1.1 | 1.4 | 1.1 | 1.4 | 1.3 | 1.1 | -0.2 |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.0 | 0.3 | 0.2 | 0.5 | 1.1 | 0.3 | 0.7 | 0.0 | 0.0 | 0.0 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.3 | 0.6 | 0.3 | 0.5 | 0.4 | 0.5 | 0.8 | 0.4 | 0.0 | -0.4 |
| Snus [p,s] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.4 | 2.0 | 2.2 | 1.9 | 2.2 | 1.1 | 1.3 | 1.5 | +0.2 |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.9 | 5.2 | 4.5 | 4.0 | 3.0 | 2.6 | 3.1 | 2.3 | -0.8 |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 7.9 | 7.9 | 7.7 | 5.8 | 5.8 | 5.8 | 4.2 | 4.7 | 2.7 | -2.1 ss |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.5 | 4.7 | 4.8 | 5.0 | 5.8 | 3.3 | 4.3 | 1.0 | 1.4 | +0.4 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.1 | 5.7 | 4.8 | 4.8 | 4.8 | 3.6 | 4.6 | 3.8 | 2.7 | -1.0 |
| Any Vaping [jj,uu,vv] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 13.3 | 17.6 | 20.1 | +2.5 |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 23.9 | 32.3 | 35.7 | +3.4 |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 27.8 | 37.3 | 40.6 | +3.3 |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 23.5 | 32.4 | 43.7 | +11.3 ss |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 23.0 | 27.3 | 35.2 | +8.0 sss |

(Table continued on next page.)

# TABLE A-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 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vaping Nicotine [jj,ww,xx] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 7.5 | 10.9 | 16.5 | +5.6 sss |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 15.8 | 24.7 | 30.7 | +6.1 ss |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 18.8 | 29.7 | 35.3 | +5.6 ss |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 13.0 | 25.6 | 35.3 | +9.7 ss |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 14.4 | 18.2 | 25.0 | +6.8 sss |
| Vaping Marijuana [jj,yy] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.0 | 4.4 | 7.0 | +2.6 sss |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.1 | 12.4 | 19.4 | +7.0 sss |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.5 | 13.1 | 20.8 | +7.7 sss |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 10.7 | 20.2 | 25.5 | +5.4 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 12.6 | 15.6 | 21.8 | +6.2 sss |
| Vaping Just Flavoring [jj] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 11.8 | 15.1 | 14.7 | -0.4 |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 19.3 | 24.7 | 20.8 | -3.9 ss |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 20.6 | 25.7 | 20.3 | -5.4 sss |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 13.1 | 14.0 | 15.6 | +1.6 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.9 | 9.9 | 10.0 | +0.1 |
| 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 | 0.6 | 0.8 | +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 | 0.6 | 0.8 | +0.2 |
| 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 | 1.1 | 1.0 | -0.1 |
| 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 | 0.0 | — | — |
| 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 | 0.4 | — | — |
| **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 A-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 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **Bath Salts (Synthetic stimulants)** [p,q,qq] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.8 | 1.0 | 0.5 | 0.4 | 0.9 | 0.5 | 0.9 | — | — |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.6 | 0.9 | 0.9 | 0.7 | 0.8 | 0.4 | 0.5 | — | — |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.3 | 0.9 | 0.9 | 1.0 | 0.8 | 0.6 | 0.6 | — | — |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.3 | 0.1 | 0.2 | 0.1 | 0.0 | 0.2 | 0.0 | — | — |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 0.5 | 0.4 | 0.4 | 0.3 | 0.3 | 0.4 | 0.3 | — | — |
| **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 A-4.

# TABLE A-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 | 2018 | 2019 | 2018–2019 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 | 7.3 | 8.5 | +1.3 |
| 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 | 18.3 | 19.8 | +1.6 |
| 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 | 24.0 | 23.7 | -0.2 |
| 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 | 24.4 | 23.6 | 27.0 | 29.7 | +2.7 |
| 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 | 24.1 | 25.5 | 26.6 | 28.9 | +2.3 s |
| 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 | 3.0 | 3.4 | +0.5 |
| 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 | 4.2 | 4.2 | 0.0 |
| 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 | 6.0 | 5.2 | -0.8 |
| 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 | 7.9 | 7.6 | -0.3 |
| 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 | 8.8 | 8.3 | 7.7 | -0.6 |
| 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 | 8.3 | 9.7 | +1.4 |
| 10th Grade | 13.1 | 12.6 | 15.5 | 20.0 | 21.6 | 24.5 | 24.1 | 22.5 | 23.1 | 23.6 | 23.6 | 21.7 | 20.5 | 19.3 | 18.4 | 17.7 | 18.1 | 16.8 | 18.8 | 19.4 | 20.1 | 19.3‡ | 20.0 | 19.1 | 17.1 | 16.4 | 18.0 | 18.7 | 20.4 | +1.6 |
| 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 | 25.0 | 24.1 | -0.9 |
| 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 | 26.9 | 30.7 | +3.8 |
| 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 | 25.9 | 29.4 | +3.4 s |
| Marijuana/Hashish [zz] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | 5.6 | 6.6 | +1.0 |
| 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 | 16.7 | 18.4 | +1.7 |
| 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 | 22.2 | 22.3 | +0.1 |
| 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 | 24.7 | 26.3 | +1.6 |
| 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 | 24.1 | 26.7 | +2.5 s |
| 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 | 1.8 | 2.1 | +0.3 |
| 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 | 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 | 0.7 | 0.9 | +0.3 |
| 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 | 0.2 | 0.4 | +0.3 |
| 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 | 0.3 | 0.6 | +0.3 |

(Table continued on next page.)

# TABLE A-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 | 2018 | 2018 | 2018–2019 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 | 0.6 | 0.6 | 0.0 |
| 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 | 0.8 | 1.3 | +0.5 ss |
| 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 | 1.4 | 1.8 | +0.4 |
| 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 | 1.1 | 1.4 | +0.3 |
| 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 | 1.2 | 1.5 | +0.3 |
| 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 | 0.4 | 0.4 | 0.0 |
| 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 | 0.5 | 1.1 | +0.5 sss |
| 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 | 1.0 | 1.4 | +0.4 s |
| 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 | 1.0 | 1.1 | +0.1 |
| Young Adults | 0.8 | 1.1 | 0.8 | 1.1 | 1.3 | 0.7 | 0.9 | 1.0 | 0.8 | 0.8 | 0.7 | 0.3 | 0.2 | 0.1 | 0.1 | 0.2 | 0.2 | 0.4 | 0.2 | 0.4 | 0.3 | 0.3 | 0.4 | 0.4 | 0.7 | 0.6 | 0.6 | 0.8 | 0.9 | +0.1 |
| 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 | 0.4 | 0.4 | 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 | 0.5 | 0.8 | +0.3 s |
| 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 | 0.9 | 1.0 | +0.1 |
| 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 | 0.4 | 0.8 | +0.4 |
| 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 | 0.6 | 0.9 | +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 | 0.4 | 0.0 | -0.4 |
| MDMA (Ecstasy, Molly) [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 | 0.4 | 0.5 | +0.1 |
| 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 | 0.4 | 0.7 | +0.2 |
| 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 | 0.5 | 0.7 | +0.2 |
| 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 | 1.3 | 1.1 | -0.1 |
| 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 | 1.1 | 0.9 | -0.2 |

(Table continued on next page.)

# TABLE A-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 | 2018 | 2019 | 2018–2019 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 | 0.3 | 0.3 | 0.0 |
| 10th Grade | 0.7 | 0.7 | 0.9 | 1.2 | 1.7 | 1.7 | 2.0 | 2.1 | 1.8 | 1.8 | 1.3 | 1.6 | 1.3 | 1.7 | 1.5 | 1.5 | 1.3 | 1.2 | 0.9 | 0.9 | 0.7 | 0.8 | 0.8 | 0.6 | 0.8 | 0.4 | 0.5 | 0.6 | 0.6 | 0.0 |
| 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 | 1.1 | 1.0 | -0.1 |
| College Students | 1.0 | 1.0 | 0.7 | 0.6 | 0.7 | 0.8 | 1.6 | 1.6 | 1.2 | 1.4 | 1.9 | 1.6 | 1.9 | 2.4 | 1.8 | 1.8 | 1.7 | 1.2 | 1.3 | 1.0 | 1.2 | 1.1 | 0.9 | 1.8 | 1.5 | 1.7 | 1.4 | 2.6 | 2.4 | -0.2 |
| 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 | 2.2 | 2.2 | 2.1 | 2.2 | +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 | 0.2 | 0.2 | 0.0 |
| 10th Grade | 0.3 | 0.4 | 0.5 | 0.6 | 0.9 | 0.8 | 0.9 | 1.1 | 0.8 | 0.9 | 0.7 | 1.0 | 0.7 | 0.8 | 0.7 | 0.7 | 0.5 | 0.5 | 0.4 | 0.5 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.2 | 0.3 | 0.3 | 0.3 | 0.0 |
| 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 | 0.5 | 0.7 | +0.2 |
| 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 | 0.4 | 0.0 | -0.4 |
| 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 | 0.1 | 0.1 | 0.3 | 0.2 | -0.1 |
| 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 | 0.3 | 0.2 | 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 | 0.5 | 0.6 | 0.0 |
| 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 | 1.0 | 0.9 | -0.1 |
| 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 | 1.9 | 1.3 | -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 | 2.3 | 1.8 | -0.5 |
| 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 | 0.1 | 0.1 | 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 | 0.2 | +0.2 s |
| 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 | 0.2 | 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 | 0.0 | 0.0 | 0.0 |
| 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 | 0.2 | 0.1 | -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 | 0.1 | 0.1 | 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 | 0.2 | +0.1 s |
| 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 | 0.2 | 0.3 | +0.1 |
| College Students | — | — | — | — | * | * | 0.1 | * | 0.1 | 0.1 | * | * | 0.1 | 0.1 | 0.1 | 0.1 | * | 0.0 | 0.1 | 0.0 | 0.0 | 0.2 | 0.1 | 0.0 | 0.0 | 0.0 | 0.1 | 0.1 | 0.0 | -0.1 |
| Young Adults | — | — | — | — | * | * | 0.1 | * | 0.1 | * | 0.2 | * | * | 0.1 | 0.1 | 0.1 | * | * | 0.1 | 0.1 | 0.2 | 0.2 | 0.3 | 0.1 | 0.2 | 0.3 | 0.1 | 0.1 | 0.0 | -0.1 |

(Table continued on next page.)

## TABLE A-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 | 2018 | 2019 | 2018–2019 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 | 0.1 | 0.1 | 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 | 0.2 | +0.1 |
| 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 | 0.1 | 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 | 0.0 | 0.0 | 0.0 |
| 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 | 0.0 | 0.0 | 0.0 |
| 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 | 1.1 | 1.0 | -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 | 1.0 | 0.4 | -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 | 0.9 | 0.7 | -0.3 |
| 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 | 1.8 | 2.2 | +0.3 |
| 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 | 2.4 | 2.4 | 0.0 |
| 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 | 2.4 | 2.0 | -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 | 2.9 | 3.4 | +0.6 |
| 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 | 2.7 | 2.4 | -0.3 |
| 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 | 0.1 | 0.0 |
| 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 | 0.3 | +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 | 0.3 | 0.3 | 0.0 |
| 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 | 0.4 | 0.0 | -0.4 |
| 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 | 0.3 | 0.2 | 0.2 | 0.4 | 0.1 | +0.1 |
| Crystal Methamphetamine (Ice) [q] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| 12th Grade | 0.6 | 0.5 | 0.6 | 0.7 | 1.1 | 1.1 | 0.8 | 1.2 | 0.8 | 1.0 | 1.1 | 1.2 | 0.8 | 0.8 | 0.9 | 0.7 | 0.6 | 0.6 | 0.5 | 0.6 | 0.6 | 0.4 | 0.8 | 0.4 | 0.3 | 0.4 | 0.5 | 0.4 | 0.4 | +0.1 |
| 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 | 0.0 | 0.0 | 0.0 |
| Young Adults | * | 0.1 | 0.3 | 0.5 | 0.3 | 0.3 | 0.3 | 0.3 | 0.4 | 0.4 | 0.4 | 0.5 | 0.4 | 0.4 | 0.6 | 0.3 | 0.3 | 0.3 | 0.2 | 0.2 | 0.2 | 0.3 | 0.4 | 0.1 | 0.3 | 0.1 | 0.4 | 0.3 | 0.1 | -0.1 |

(Table continued on next page.)

# TABLE A-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 | 2018 | 2019 | 2018–2019 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 | 1.2 | 1.2 | 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 | 0.5 | 0.5 | 0.0 |
| 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 | 0.9 | 0.8 | -0.1 |
| 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 | 0.9 | 1.2 | +0.3 s |
| 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 | 1.3 | 1.3 | -0.1 |
| 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 | 1.3 | 1.3 | -0.1 |
| College Students | 0.6 | 0.6 | 0.4 | 0.4 | 0.5 | 0.7 | 1.2 | 1.3 | 1.1 | 2.0‡ | 1.5 | 3.0 | 2.8 | 2.7 | 2.2 | 2.1 | 1.8 | 1.6 | 2.2 | 1.3 | 1.6 | 1.1 | 1.2 | 1.7 | 1.6 | 1.8 | 0.9 | 1.1 | 0.7 | -0.3 |
| 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 | 1.3 | 1.1 | -0.1 |
| 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 | 4.2 | 3.6 | -0.7 s |
| 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 | 0.3 | 0.4 | +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 | 0.1 | 0.2 | +0.1 |
| 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 | 8.2 | 7.9 | -0.2 |
| 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 | 18.6 | 18.4 | -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 | 30.2 | 29.3 | -0.9 |
| 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 | 59.6 | 62.2 | +2.6 |
| 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 | 66.0 | 67.2 | +1.2 |

(Table continued on next page.)

# TABLE A-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 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Been Drunk [w,aaa] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 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 | 2.1 | 2.6 | +0.5 |
| 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 | 8.4 | 8.8 | +0.3 |
| 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 | 17.5 | 17.5 | 0.0 |
| 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 | 37.8 | 34.8 | -3.1 |
| 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 | 35.9 | 36.4 | +0.4 |
| 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 | 4.9 | 4.5 | -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 | 11.8 | 11.1 | -0.7 |
| 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 | 18.1 | 18.5 | +0.4 |
| 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 | 30.9 | 46.4 | +15.5 s |
| 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 | 29.4 | 35.2 | +5.8 s |
| 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 | 2.2 | 2.3 | +0.1 |
| 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 | 4.2 | 3.4 | -0.9 |
| 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 | 7.6 | 5.7 | -1.9 sss |
| 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 | 6.8 | 7.9 | +1.1 |
| Young Adults | 28.2 | 28.3 | 28.0 | 28.0 | 29.2 | 30.1 | 29.9 | 30.9 | 30.3 | 30.1 | 30.2 | 29.2 | 28.4 | 29.2 | 28.6 | 27.0 | 26.2 | 24.6 | 23.3 | 22.4 | 21.3 | 19.7 | 20.0 | 17.5 | 16.6 | 14.2 | 15.3 | 12.3 | 11.7 | -0.6 |
| 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 | 2.1 | 2.5 | +0.4 |
| 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 | 3.9 | 3.2 | -0.7 |
| 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 | 4.2 | 3.5 | -0.7 |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Any Vaping [jj,kk] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.0 | 6.2‡ | 6.6 | 10.4 | 12.2 | +1.8 |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 14.2 | 11.0‡ | 13.1 | 21.7 | 25.0 | +3.3 s |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 16.3 | 12.5‡ | 16.6 | 26.7 | 30.9 | +4.2 s |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.8 | 6.9‡ | 11.3 | 21.3 | 28.5 | +7.2 s |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.2 | 6.0‡ | 11.9 | 17.1 | 22.6 | +5.5 sss |

(Table continued on next page.)

## TABLE A-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 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Vaping Nicotine [jj] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.5 | 6.1 | 9.6 | +3.4 sss |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.2 | 16.1 | 19.9 | +3.8 s |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 11.0 | 20.9 | 25.5 | +4.5 s |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.1 | 15.5 | 22.1 | +6.5 s |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.5 | 10.6 | 15.0 | +4.4 sss |
| Vaping Marijuana [jj,bbb] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.6 | 2.6 | 3.9 | +1.3 ss |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.3 | 7.0 | 12.6 | +5.6 sss |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.9 | 7.5 | 14.0 | +6.5 sss |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.2 | 10.9 | 13.5 | +2.6 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.6 | 9.3 | 12.7 | +3.4 ss |
| Vaping Just Flavoring [jj] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.3 | 8.1 | 7.7 | -0.4 |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.2 | 13.1 | 10.5 | -2.6 s |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.7 | 13.5 | 10.7 | -2.8 ss |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.3 | 4.8 | 5.4 | +0.6 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.3 | 4.2 | 3.3 | -0.9 |
| Tobacco using a Hookah [s,hh] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.8 | 2.5 | 1.6 | 1.3 | -0.3 |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.0 | 3.0 | 2.4 | 2.4 | 0.0 |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.1 | 5.0 | 4.4 | 4.0 | -0.4 |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.2 | 4.6 | 6.2 | 5.9 | -0.3 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.5 | 4.2 | 4.5 | 4.9 | +0.3 |
| Large Cigars [ii] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 1.9 | 2.4 | 1.5 | 1.5 | 1.7 | 1.3 | -0.3 |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 3.9 | 3.4 | 2.3 | 2.6 | 2.8 | 2.1 | -0.7 |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.4 | 7.0 | 6.5 | 5.6 | 5.2 | 5.3 | +0.1 |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.4 | 4.9 | 4.4 | 1.7 | 3.7 | 3.6 | -0.1 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.6 | 5.9 | 3.9 | 3.5 | 3.3 | 4.1 | +0.9 |
| Flavored Little Cigars [ii] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.1 | 4.1 | 2.8 | 2.6 | 2.6 | 2.2 | -0.4 |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.9 | 6.1 | 4.9 | 4.0 | 5.3 | 3.7 | -1.6 s |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 11.9 | 11.4 | 9.5 | 10.1 | 8.9 | 7.7 | -1.1 |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 9.8 | 5.6 | 5.6 | 4.9 | 5.6 | 4.2 | -1.4 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 6.9 | 6.9 | 4.8 | 5.5 | 5.9 | 3.8 | -2.1 |

(Table continued on next page.)

## TABLE A-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 | 2018 | 2019 | 2018–2019 change |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Regular Little Cigars [ii] | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 2.5 | 3.3 | 1.9 | 1.6 | 1.6 | 1.6 | 0.0 |
| 10th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 4.4 | 3.8 | 3.0 | 3.0 | 3.1 | 2.6 | -0.4 |
| 12th Grade | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 7.0 | 7.8 | 6.1 | 6.6 | 5.8 | 4.9 | -0.9 |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 8.6 | 4.1 | 3.6 | 1.7 | 1.4 | 4.2 | +2.8 |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | 5.8 | 3.8 | 3.6 | 2.8 | 3.7 | 2.4 | -1.2 |
| 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 | 0.3 | 0.3 | +0.1 |
| 10th Grade | 0.6 | 0.6 | 0.5 | 0.6 | 0.6 | 0.5 | 0.7 | 0.6 | 0.9 | 1.0 | 0.9 | 1.0 | 0.8 | 0.8 | 0.6 | 0.6 | 0.5 | 0.5 | 0.5 | 0.5 | 0.5 | 0.4 | 0.4 | 0.4 | 0.4 | 0.3 | 0.3 | 0.4 | 0.4 | +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 | 0.8 | 0.7 | -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 | 0.0 | — | — |
| Young Adults | 0.2 | 0.1 | * | 0.1 | 0.2 | 0.2 | 0.2 | 0.2 | 0.3 | 0.1 | 0.1 | 0.1 | 0.2 | 0.1 | 0.1 | 0.1 | 0.4 | 0.2 | 0.3 | 0.5 | 0.2 | 0.1 | 0.1 | 0.3 | 0.1 | 0.2 | 0.2 | 0.3 | — | — |
| **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 A-4.

## TABLE A-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 | 2018 | 2019 | 2018–2019 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 | 0.7 | 1.3 | +0.6 s |
| 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 | 3.4 | 4.8 | +1.3 s |
| 12th Grade | 2.0 | 1.9 | 2.4 | 3.6 | 4.6 | 4.9 | 5.8 | 5.6 | 6.0 | 6.0 | 5.8 | 6.0 | 6.0 | 5.6 | 5.0 | 5.0 | 5.1 | 5.4 | 5.2 | 6.1 | 6.6 | 6.5 | 6.5 | 5.8 | 6.0 | 6.0 | 5.9 | 5.8 | 6.4 | +0.7 |
| 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 | 5.8 | 5.9 | +0.1 |
| 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 | 8.0 | 9.4 | +1.5 s |
| 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 | 0.1 | 0.2 | +0.1 |
| 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 | 0.5 | 0.6 | +0.2 |
| 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 | 1.2 | 1.7 | +0.5 s |
| 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 | 2.3 | 2.0 | -0.3 |
| 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 | 4.3 | 3.8 | -0.5 |
| 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 | 0.1 | +0.1 |
| 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 | 0.2 | 0.2 | 0.0 |
| 12th Grade | 0.9 | 0.8 | 0.9 | 1.2 | 1.3 | 1.6 | 2.0 | 1.5 | 1.9 | 1.7 | 1.4 | 1.2 | 1.6 | 1.8 | 1.5 | 1.6 | 1.3 | 1.4 | 1.1 | 1.6 | 1.3 | 1.5 | 1.3 | 1.1 | 0.8 | 0.8 | 1.1 | 0.7 | 1.1 | +0.4 |
| 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 | 0.6 | 0.2 | -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 | 0.5 | 0.3 | -0.2 |
| 5+ Drinks in a Row | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| in Last 2 Weeks | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 8th Grade | 10.9 | 11.3 | 11.3 | 12.1 | 12.3 | 13.3 | 12.3 | 11.5 | 13.1 | 11.7 | 11.0 | 10.3 | 9.8 | 9.4 | 8.4 | 8.7 | 8.3 | 8.1 | 7.8 | 7.2 | 6.4 | 5.1 | 5.1 | 4.1 | 4.6 | 3.4 | 3.7 | 3.7 | 3.8 | +0.2 |
| 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 | 8.7 | 8.5 | -0.2 |
| 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 | 13.8 | 14.4 | +0.6 |
| 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 | 28.4 | 32.7 | +4.3 |
| 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 | 31.2 | 32.4 | +1.2 |
| 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 | 0.8 | 0.8 | -0.1 |
| 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 | 1.8 | 1.3 | -0.5 |
| 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 | 3.6 | 2.4 | -1.3 sss |
| 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 | 1.9 | 2.5 | +0.5 |
| 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 | 7.0 | 6.2 | -0.8 |

(Table continued on next page.)

# TABLE A-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 | 2018 | 2019 | 2018–2019 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 | 0.3 | 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 | 0.7 | 0.5 | -0.2 |
| 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 | 1.5 | 0.9 | -0.6 s |
| College Students | 8.0 | 8.9 | 8.9 | 8.0 | 10.2 | 8.4 | 9.1 | 11.3 | 11.0 | 10.1 | 7.8 | 7.9 | 7.6 | 6.8 | 6.7 | 4.9 | 4.3 | 4.3 | 3.8 | 3.9 | 2.5 | 2.4 | 2.4 | 2.4 | 1.4 | 1.7 | 0.2 | 0.5 | 0.7 | +0.1 |
| 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 | 3.8 | 3.1 | -0.7 |
| 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 | 0.3 | 0.5 | +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 | 1.0 | 0.9 | -0.1 |
| 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 | 1.6 | 1.1 | -0.5 |
| College Students | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |
| Young Adults | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — | — |

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

See footnotes on the next page.

# Footnotes for Tables A-1 through A-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. For 2018 and 2019, survey mode comparisons are not included for the panel. See Chapter 3 for more detail.

| Approximate Weighted *N*s | 1991 | 1992 | 1993 | 1994 | 1995 | 1996 | 1997 | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 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 | 17,000 | 16,800 |
| 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 | 16,400 | 16,200 |
| 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 | 14,600 | 14,700 |
| 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 | 1,400 | 1,400 |
| 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 | 5,700 | 5,400 |

| Approximate Weighted *N*s | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 8th Graders | 16,500 | 16,100 | 15,700 | 15,000 | 15,300 | 16,000 | 14,600 | 14,600 | 14,600 | 14,400 | 16,900 | 15,300 | 14,000 | |
| 10th Graders | 16,200 | 16,100 | 15,100 | 15,900 | 15,200 | 14,900 | 12,900 | 12,900 | 13,000 | 15,600 | 14,700 | 13,500 | 14,300 | |
| 12th Graders | 14,200 | 14,500 | 14,000 | 13,700 | 14,400 | 14,100 | 12,600 | 12,600 | 12,400 | 12,900 | 11,800 | 12,600 | 13,300 | |
| College Students | 1,300 | 1,300 | 1,300 | 1,300 | 1,300 | 1,200 | 1,200 | 1,100 | 1,000 | 1,000 | 900 | 900 | 900 | |
| Young Adults | 5,100 | 4,800 | 4,900 | 4,900 | 4,900 | 4,600 | 4,600 | 4,400 | 4,200 | 4,000 | 3,700 | 3,600 | 3,600 | |

[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.)

[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 from 2002-2018; *N* is five sixths of *N* indicated. Beginning in 2019, data based on one of six forms; *N* is one sixth of *N* indicated.

[j]For 12th graders only: Data based on four of six forms from 1991-2018; *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. Beginning in 2019, data based on one of six forms; *N* is one sixth 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 A-1 through A-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 mixed with energy drinks 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 A-1 through A-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

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
2020