

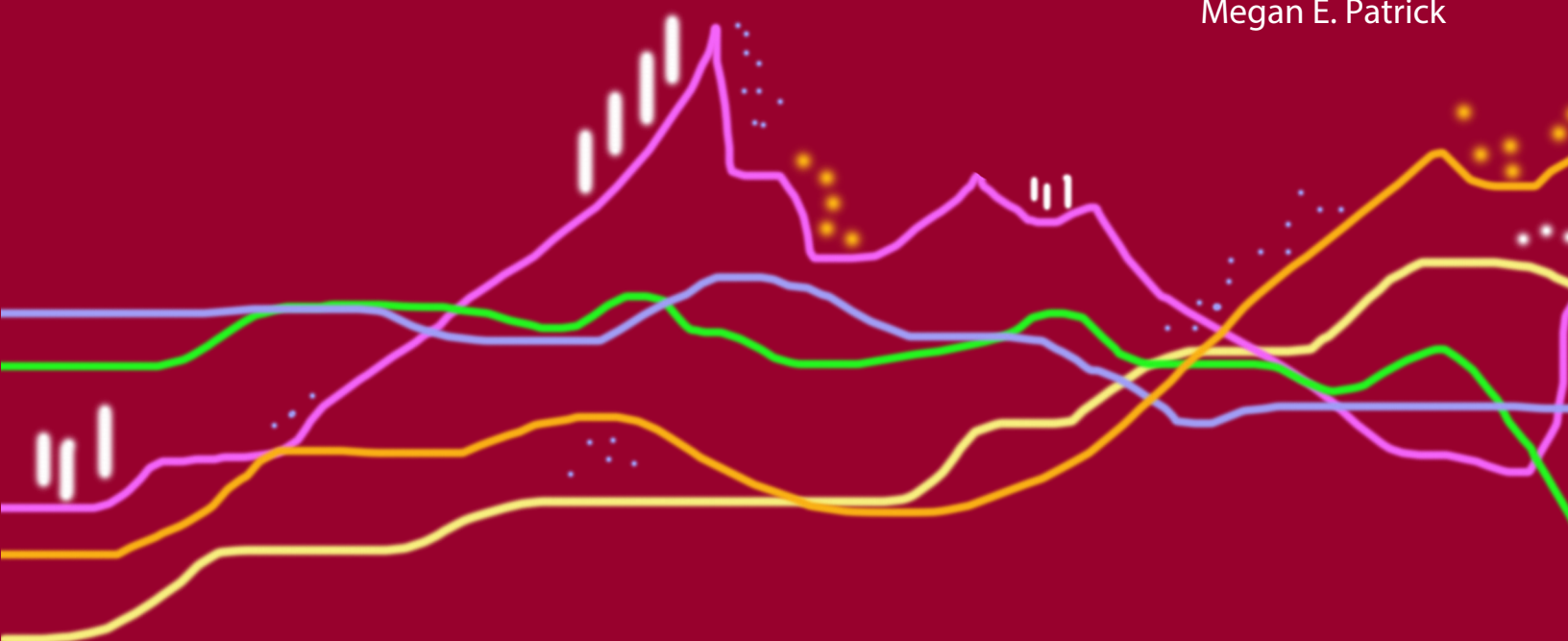
# MONITORING *the* FUTURE

NATIONAL SURVEY RESULTS  
ON DRUG USE  
1975–2021

## 2021 Overview

### Key Findings on Adolescent Drug Use

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Richard A. Miech  
Patrick M. O'Malley  
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The University of Michigan  
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## Summary of Key Findings

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Monitoring the Future (MTF) is a long term study of substance use and related factors among U.S. adolescents, college students, and adult high school graduates through age 60. It is conducted annually and supported by the National Institute on Drug Abuse. MTF findings identify emerging substance use problems, track substance use trends, are published with many scientific results, and help to inform policy and intervention strategies. It has been tracking adolescent drug use on nationally representative samples since 1975.

The key findings regarding use of various substances by 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> graders surveyed across the U.S. in 2021 are summarized below. But first a few words about the context. The preceding year, 2020, was an unusual year for the study in that data collection was halted earlier than usual, in March of that year, due to the emerging COVID-19 epidemic and the University of Michigan halting in-person research. This resulted in smaller samples being obtained that year, but based on careful analyses we believe that the smaller samples reflect drug use for all students that year with reasonable accuracy (more on this is presented in the section on *Study Design and Methods*). The previous year, 2019, was unusual in a different way—it was the year that the study was transitioning from using paper and pencil questionnaires in schools to having students use electronic tablets. A random half of all respondents in 2019 used the older mode of administration, while the other half used tablets. How we dealt with these two disruptions to the ongoing series will be described in the section on Study Design and Methods. It should be noted that the 2020 data collection occurred early in 2020, covering the early months of the epidemic, but it did not cover most of the period of the epidemic that year, nor of its effects. However, the 2021 data collection occurred more than a year into the COVID epidemic and brought quite dramatic changes in adolescent drug use in the United States, as will be summarized in this section.

The analyses and associated tables and figures that follow present trends in the use of most of the substances we track for all three grades separately and combined, as well as trends in key attitudes (disapproval of use), beliefs (perceived risk of use), and perceived availability. An additional set of tables provides trends in drug use for the three grades combined (Tables 1–4). This information gives a summary of the general nature of historical trends over a number of years, though it obscures any age or cohort effects that may be occurring. This *Summary* section draws on the samples containing data from the three grades combined, with an emphasis on the unusual developments between 2020 and 2021.

For simultaneous trends that are in the same direction and general magnitude across all three grades, these combined analyses provide greater statistical power to detect the extent to which historical period effects are occurring. To the extent

that changes are duplicated but lagged by two years from one grade level to the next, we have considerable evidence of a cohort effect.

In a number of cases we provide insight into the age, period, and cohort effects that underlie trends in use, as well as in key attitudes and beliefs. MTF is designed to detect these effects, which can indicate what may be driving certain changes. Age effects are changes that occur as people get older and show up in a similar way across most or all cohorts as they pass through a particular period in development; they are common during adolescence. Period effects are changes that are parallel over some years across multiple age groups (in this case, all three grades under study—8, 10, and 12). Cohort effects are consistent differences among birth cohorts (or in this case, class cohorts in secondary school), differences that are then maintained as the cohorts age.

## A Broad and Deep Decline in Drug Use in 2021

As a scan across the figures in this monograph will show, most forms of drug use showed steep and atypical declines in 2021. Those declines can be summarized by glancing ahead to Figure 1 on page 15 where two indexes that we use to provide a summary of overall changes are shown. It may be seen there that the proportion of students who say that they used *any illicit drug* in their *lifetime* or in the *last 12 months* dropped sharply in all three grades in 2021.

For the three grades combined, lifetime prevalence of using any illicit drug declined by 7.8 percentage points and annual prevalence declined by 7.4 percentage points in 2021, both significant at the  $p < .001$  level. They amount to relative declines from the prevalence levels in 2020 of 22% and 27% in just one year.

The comparable declines for using *any illicit drug other than marijuana* were 4.2 and 3.6 percentage points. (They amount to relative declines from the previous year of 22% and 29%.) These substantial one-year declines for the three grades combined are also highly significant at the  $p < .001$  level.

These are substantial and unprecedented declines for a single year, as may be seen in the figures throughout this volume—particularly in Figure 1. Indeed, they are the largest and broadest to be seen by the study over its 46 year history.

### Marijuana Use Shows a Sharp Decline

Marijuana, which is by far the most prevalent of the illicit drugs, showed considerable decline in 2021 of 7.1 and 6.7 percentage points in *lifetime* and *annual prevalence*, respectively, for the three grades combined; and for *30 day prevalence*, there was a 3.6 percentage point decline—all significant at the  $p < .001$  level. These declines from 2020 amount to relative declines from the previous year of 24%, 27%, and 25%, for the three prevalence levels, respectively.

**Daily use of marijuana** in the prior thirty days also saw substantial declines (Table 8), with a relative decline across the three grades combined of 24%. The *daily prevalence* rates in 2021 across the three grades in 2021 were 0.6%, 3.2%, and 5.8%.

**Synthetic marijuana** use in the *prior 12 months* also declined appreciably for the three grades combined, dropping from 2.2% in 2020 to 1.6% in 2021 ( $p < .01$ ) for a relative decline of 27%.

We turn next to some of the other high prevalence substances.

### Vaping Declines Sharply in 2021

**Vaping nicotine.** For the three grades combined nicotine vaping had the highest annual prevalence in 2020 at 27% of any of the substances we study aside from alcohol. It reflected what had been a very rapid rise in its use since we first started tracking it in 2017. (That rise halted in 2020 at 27%, as we reported last year.) But in 2021 annual prevalence for the three grades combined dropped by 7.9 percentage points (for a relative one-year decline of 29%), reaching 19% annual prevalence ( $p < .001$ ).

Given that nicotine is involved in most vaping, and given that nicotine is a highly addictive substance, the earlier rise in vaping nicotine presented a serious threat to the hard won progress that we had tracked since the mid-1990s in cigarette smoking among adolescents. So, the decline in nicotine vaping in 2021 may turn out to be a rare positive development of the pandemic, particularly if it holds into the future

The JUUL brand of vaping device was dominant in the nicotine vaping market, so we introduced a few questions specific to JUUL in 2019. The *30 day prevalence* levels in the three grades combined were high in 2019, as expected; but they fell substantially in 2020 in all three grades. Then, in 2021 significant further decline in 30 day prevalence of 5.6 percentage points was observed for the three grades combined, with a relative decline of 54% (significant at the  $p < .001$  level).

JUUL stopped selling flavors other than tobacco and menthol in October 2018, and adolescent use of the JUUL brand subsequently dropped dramatically. However, overall nicotine vaping levels did not decline to the same degree. This is in part because adolescents instead used other brands such as Puff Bar, which continues to offer flavors attractive to youth, such as mint and fruit flavors.

**Vaping marijuana** also had shown a rapid growth in *annual prevalence* for the three grades combined, rising from 7% in 2017, when it was first measured, to 16% in 2020. But in 2021 we observed a sharp decline in the three grades combined of 4.7 percentage points (which reflects a relative decline from 2020 of 29%,  $p < .01$ ). (The decline in *30 day prevalence* was significant at the  $p < .001$  level.)

**Cocaine** use declined in 2021, with cocaine showing a relative decline in *annual prevalence* for the three grades combined of 57% ( $p < .001$ ), leaving annual prevalence at 0.7%, down from 1.4% in 2020.

**Amphetamines.** The annual prevalence of amphetamine use outside of medical supervision had been in decline since 2013 but declined by 1.9 percentage points in 2021 to 2.7% ( $p < .001$ ) for the three grades combined, reflecting a relative decline of 41% in that one year.

**Tranquilizers.** Annual prevalence of tranquilizer use outside of medical supervision for the three grades combined dropped from 2.7% to 1.2% ( $p < .001$ ) between 2020 and 2021.

**Narcotics other than heroin**, a particularly important class of drugs in recent years, will be discussed below under psychotherapeutic drugs.

**Crystal methamphetamine** declined significantly in 12<sup>th</sup> grade—the only grade in which it is asked—between 2019 and 2020 from 0.6% to 0.0%, but then rebounded part of the way back to 0.4% in 2021 ( $p < .05$ )

## **No Drugs Showed a Significant Increase in Use**

A glance at Table 2 will show that of all the many drug classes that we monitor, not one showed a significant increase in use between 2020 and 2021—a very unusual situation.<sup>1</sup> Indeed, not one showed any increase in use, significant, or not.

## **Some Drugs Held Steady in 2021**

Among the drugs that showed no significant change in annual prevalence in 2021, based on the three grades combined, are inhalants, hallucinogens other

than LSD, crack cocaine, heroin, *Oxycontin*, *Vicodin*, *Ritalin*, and dissolvable tobacco products.

## **Psychotherapeutic Drugs**

Use of psychotherapeutic drugs outside of medical supervision warranted special attention as a substantial part of the overall U.S. drug problem in the 2000s. This was in part due to increases in nonmedical use of many prescription drugs over that period, and in part due to the fact that use of many of the street drugs declined substantially after the mid- to late-1990s.

It seems likely that young people are less concerned about the dangers of using these prescription drugs outside of medical regimen because they are widely used for legitimate purposes. (Indeed, the low levels of perceived risk for sedatives and amphetamines observed among 12<sup>th</sup> graders illustrate this point.) Also, many prescription psychotherapeutic drugs are now being advertised directly to the consumer, which implies that they are both widely used and safe.

Fortunately, the use of most of these drugs by youth has declined. The proportion of 12<sup>th</sup> graders misusing any of these prescription drugs (i.e., amphetamines, sedatives, tranquilizers, or narcotics other than heroin) in the prior year continued its decline in 2021, dropping 3.1 percentage points ( $p < .001$ ) to 4.4%, down very substantially from a high of 17% in 2005, when this index was first calculated. (Table 6.)

The relative decline from 2020 to 2021 was 41%.

Use of narcotics other than heroin without a doctor's orders (reported only for 12<sup>th</sup> grade) continued a decline begun after 2009, when annual prevalence was 9.2%; it was 1.0% after a significant one-year drop of 1.1 percentage points in 2021 (a relative decline of 52% from 2020,  $p < .01$ ).

Given the epidemic of narcotics misuse in older populations along with concurrent rise in medical emergencies and overdose deaths, it is particularly good news that young people are moving away from the use of these drugs, not only because they will be less vulnerable to tragedies resulting from

<sup>1</sup> The one exception is JUUL, which is not a drug class but a specific brand within the category of vaping.



the use of these drugs during adolescence, but also because they may well take their more cautious behaviors with them into their twenties, thirties, and beyond—ages in which overdose deaths are currently most prevalent. In other words, a cohort effect may emerge.

### **Alcohol Use Also Declined in 2021**

Alcohol remains the substance most widely used by today's teenagers. After a long period of decline among adolescents, alcohol appeared to be stabilizing. Low points in use were observed earliest among the 8<sup>th</sup> graders, subsequently followed by the 10<sup>th</sup> graders and then the 12<sup>th</sup> graders, indicating a likely cohort effect. By the end of high school students in 2020 (61.5%) had consumed alcohol (more than just a few sips) at some time in their lives and a quarter (26%) had done so by 8<sup>th</sup> grade.

Alcohol use began a substantial decline in the 1980s. To some degree, alcohol trends have tended to parallel the trends in illicit drug use. These include a modest increase in binge drinking (defined as having five or more drinks in a row at least once in the past two weeks) in the early to mid-1990s, though it was a proportionally smaller increase than was seen for cigarettes and most of the illicit drugs. Binge drinking rates leveled off in the early 2000s, just about when the illicit drug rates began to turn around, and in 2001, a drop in drinking resumed in all grades. Gradual declines in *30 day prevalence* continued in the upper grades into 2021, which marked the lowest levels for alcohol use ever recorded by the study. From 2020 to 2021 *annual prevalence* fell by 8.1 percentage points to 30.2% ( $p < .001$ ), while *30 day prevalence* fell by 5.8 percentage points to 15.1% ( $p < .001$ ).

### **Several Forms of Tobacco Use Continued to Decline**

Cigarette smoking has had a long and very substantial decline since the mid-1990s. For the three grades combined through 2021, *30 day prevalence* of cigarette use has fallen by 92%. *Daily prevalence* has fallen by 94% and current half-pack-a-day prevalence by 87% since their peaks in the 1990s. Despite the long and large declines, there was still further decline between 2020 and 2021, with *30 day prevalence* falling by 1.0, 1.4, and 3.4 percentage points in grades 8, 10,

and 12. These reflect large relative declines for the one year of 48%, 44%, and 45%, respectively. The declines are significant at  $p < .05$  for 8<sup>th</sup> grade and  $p < .01$  for 10<sup>th</sup> grade, with the change in 12<sup>th</sup> grade not significant. The changes in students' lives during the pandemic undoubtedly plays a role in these sharp downturns. Because of the strong cohort effect that we have consistently observed for cigarette smoking, we have predicted that use at later ages will continue to show declines, as the lighter-smoking cohorts of 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> graders grow older.

In 2021 the initiation of cigarette use continued its long term and extremely important decline. Lifetime prevalence declined appreciably in all three grades—by 4.5, 3.9, and 6.1 percentage points—significantly so in grades 8 ( $p < .01$ ) and 10 ( $p < .001$ ). The long term decline in the initiation of smoking is an important reason for the large declines in current use.

One factor other than attitudes about and availability of cigarettes (discussed in the section on cigarette smoking) which likely had an influence on adolescent smoking and use of other tobacco products is the change in cost. Cigarette prices rose appreciably in the late 1990s and early 2000s as cigarette companies tried to cover their costs under the 1998 Master Settlement Agreement and as many states increased excise taxes on cigarettes. A significant increase in the federal tobacco tax passed in 2009 also likely contributed to the continuation of the decline in use since then.

Most forms of combustible tobacco use other than cigarette smoking have been in decline in recent years.

**Cigarillos.** One consequence of the rise in cigarette prices is that it may have shifted some adolescents to less expensive alternatives, like cigarillos (little or small cigars), which had been taxed at a lower rate than cigarettes but were set at the same federal rate of taxation as cigarettes in the 2009 legislation

dealing with tobacco products.<sup>2</sup> It does appear, however, that the *annual prevalence* of using small cigars is in decline, with a long term decline in use of flavored ones by 12<sup>th</sup> graders from 23% in 2010 to 3.4% in 2021. Both types had relatively large declines between 2020 and 2021 in grades 8 and 10, though only the one for regular little cigars reached significance ( $p < .05$ ). Of note is the fact that the majority of adolescent users of small cigars in each grade smoked flavored ones, though that difference has been diminishing (Table 7).

**Hookah.** Annual prevalence of smoking tobacco using a hookah (water pipe) had been increasing steadily until 2014 among 12<sup>th</sup> graders—reaching 23% in 2014—but use has been declining steadily since, by 86% as of 2021. The changes in use in 2021 were small and not unusual.

**Smokeless tobacco.** From the mid-1990s to the early 2000s smokeless tobacco use declined substantially, but a slight rebound in use developed from the mid-2000s through 2010. The 8<sup>th</sup> and 10<sup>th</sup> graders showed some decline for a few years and then leveled, while 12<sup>th</sup> graders held level from about 2010–2015. Prevalence levels declined considerably in the upper grades in recent years. Between 2019 and 2021 there was a fair decline at all grades, no doubt reflecting the effects of the pandemic.

The use of most drugs, with the notable exception of inhalant use, rises with grade level. (Inhalant use actually decreases with age.) The data we have been discussing in this section—based on results from the three grades combined—is not differentiated by grade, but it will be in the figures and tables to come, beginning with Table 5 and Figure 1.

### **The Impact of the COVID-19 Epidemic**

As should be clear by now, given the number of drugs that showed an extraordinary decline in 2021, it appears that the COVID-19 pandemic had a major impact on substance use of almost all kinds that year among U.S. adolescents. This may be seen visually in the many figures that follow showing

trends in use and factually in the many sizeable and record setting declines documented in this section.

What changed in 2021 to bring about that amount of decline in substance use? To some degree potential factors are documented in the adjoining figures for each drug class showing concurrent changes in perceived risk, personal disapproval, and perceived availability. Perceived availability, in particular, appears to have been the most important of these. That makes sense, especially considering the changes in the lives of adolescents during the pandemic. Many were not in school, some were locked down at home, likely more had a parent at home during the school week who could monitor their behavior, and many were told not to mingle with their friends or other teens—and the decline in social events removed adolescents from parties and other social activities where drug use is likely to be occurring.

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<sup>2</sup> U.S. Centers for Disease Control & Prevention (CDC), [Federal and State Cigarette Excise Taxes –United States, 1995-2009, 57 MORBIDITY & MORTALITY WEEKLY RPT. 524](#) (May 22, 2009).

## Introduction

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Monitoring the Future (MTF) is a long term study of substance use and related factors among U.S. adolescents, college students, and adult high school graduates through age 60. It has been conducted annually by the University of Michigan's Institute for Social Research since its first data collection in 1975 and is supported under a series of investigator initiated, competitive research grants from the National Institute on Drug Abuse.

The need for an ongoing study such as MTF is clear. Substance use by young people and adults in the U.S. has proven to be a rapidly changing phenomenon, requiring frequent assessments and reassessments. Since the mid-1960s, when illicit drug use burgeoned in the general youth population, it has remained a major concern for the nation. Smoking, drinking, and illicit drug use are leading causes of morbidity and mortality during adolescence, as well as later in life. How vigorously the nation responds to adolescent substance use, how accurately it identifies the emerging substance use and misuse problems, and how well it comes to understand the effectiveness of policy and intervention efforts largely depend on the ongoing collection of valid and reliable data. MTF is uniquely designed to generate such data, providing an accurate picture of what is happening in this domain of behavior and why. The study has served this function well for the past 47 years. Policy discussions in the scientific literature and media, government, education, public health institutions, and elsewhere have been informed by MTF and its ready availability of extensive and consistently accurate information relating to a large and ever growing number of substances that can be abused. Similarly, MTF findings help to inform organizations and agencies that provide prevention and treatment services.

In 2021 MTF surveyed 32,260 students in 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grades enrolled in 319 schools nationwide. The first published results of adolescent substance use across the major drugs based on the 2021 survey are presented in this volume. Recent trends in the use

of licit and illicit drugs are emphasized, as well as trends in the levels of perceived risk of harm and personal disapproval associated with each drug. MTF has shown these beliefs and attitudes to be particularly important in explaining current trends in use—and even in predicting future ones. In addition, trends in the perceived availability of each drug are presented, which at times have proven important to explaining changes in usage levels for certain drugs.

### Important Limitations of the 2020 Survey

The earlier 2020 survey had a total sample of 11,821 students and 112 schools. This was a much smaller national sample than in previous years, as well as in 2021, because the COVID-19 pandemic arrived early in 2020, and the University of Michigan halted research studies involving face-to-face contact on March 15 of that year.

This resulted in a halt in data collections well before the usual halfway point in this annual data collection cycle.<sup>1</sup> A careful analysis of how representative the students in the 112 secondary schools in the attained sample were showed that they were quite representative after weighting.<sup>2</sup> They closely matched the demographics of those drawn in recent years up through 2019, as well as on prevalence levels for key drugs that generally were not changing. Therefore, we treat them here as equivalent to a random sample of what we would have collected with a full data collection. One factor contributing to the 2020 data being representative is that schools were not systematically different as a function of time of data collection. Indeed, they were spread out in time so that the national staff of field interviewers around the country, who conducted the data collections at each school, could spread their workloads across time.

The confidence intervals around each estimate are larger with a smaller sample of respondents. Because of this, we report here only the data points for 2020 for which there are a reasonable number of cases. The surveys in each grade use several different questionnaire forms to permit the inclusion of a

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<sup>1</sup> Starting in 2020 MTF weighted responses by region of the country (West, Midwest, Northeast, and South) and, within each region, by metropolitan/non-metropolitan status. After this weighting the impact of these factors on the analysis is proportional to their size in the nation. Responses were not weighted by substance use levels or demographics.

<sup>2</sup> See the appendix to: Miech, R., Leventhal, A., Johnston, L., O'Malley, P. M., Patrick, M. E., & Barrington-Trimis, J. [Trends in Use and Perceptions of Nicotine Vaping Among US Youth From 2017 to 2020](#). *JAMA Pediatrics*. Published online December 15, 2020.

larger number of topics and questions. Some questions are in only one form, but many are in two or more forms. To keep the numbers of cases on which each estimate is based reasonable in 2020, we generally do not report data based on one sixth of the 2020 sample.

When a 2020 data point is omitted from a trend line in any of the figures in this monograph, it means that the case count for that entry was insufficient to meet the criteria just described. Thus, lack of an entry in 2020 indicates that there were what we judged to be an insufficient number of cases to make a reasonably reliable estimate. As more detailed analyses were completed for *Volume I* (which is published about four months after this *Overview of Key Findings*), we came to the conclusion that the diminished numbers of cases obtained in 2020 may still have some reliability problems, even if they met the criteria for minimum number of cases. This is true particularly for the measures of perceived risk, disapproval, and perceived availability. Therefore the reader is cautioned not to over interpret changes in those variables specific to 2020 in the present volume. In an abundance of caution we reported fewer 2020 data points in *Volume I* than we did that year in the *Overview of Key Findings*.

### **Age, Period, and Cohort Effects**

MTF is designed to detect age effects, period effects (also referred to as secular trends), and cohort effects in substance use and also in related attitudes and beliefs. Age effects (similar changes at similar ages across multiple class cohorts) are common during adolescence, and we typically find that use, as well as positive attitudes and beliefs about use, increase across 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grades. When historical changes in substance use (and perhaps related attitudes and beliefs) are parallel over some time interval across all three grades, they reflect period effects, which are also common.

Cohort effects pertain to differences in substance use and related attitudes and behaviors among those born at different times that are maintained as the cohorts age (in this case class-in-school cohorts, which are strongly correlated with birth cohorts). Such cohort effects sometimes drive changes in substance use prevalence at the population level. For example, much of the decline in the prevalence of U.S. cigarette smoking has its roots in youth cohorts that did not take up smoking and then continued to

abstain from smoking as they aged into adulthood. As subsequent youth cohorts continued to avoid smoking and then grew older, these cohorts contributed to a further decline in the overall population prevalence of smoking. Cohort effects can also act in the opposite direction, with newer cohorts increasingly taking up a substance and continuing to have greater use of it than previous cohorts as they get older. One important contribution of the MTF study has been the specification of cohort effects that emerged starting in the early 1990s, when an increase in youth substance use occurred for many drugs.

MTF allows detection of cohort effects at an early age through comparison of substance use prevalence of 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> graders relative to each other. Often 8<sup>th</sup> grade substance use is a bellwether, and year to year changes that are unique to 8<sup>th</sup> grade can signify an emerging increase or decrease in substance use at later grade levels with some time lag as the cohorts in 8<sup>th</sup> grade pass into the upper grades.

### **Tables and Figures in This Volume**

The analyses and associated tables that follow present substance use trends over time for each grade separately, as well as trends in key attitudes, beliefs, and perceived availability. In a number of cases we provide insight into the age and cohort effects and secular trends that underlie trends in use and in key attitudes and beliefs.

An additional set of tables provides an overview of drug use trends for the three grades combined (Tables 1–4). These tables summarize the general nature of secular trends over the last several years, though they obscure any age or cohort effects that may be occurring. Also, for simultaneous trends that are in the same direction and magnitude across all three grades, these combined analyses provide greater statistical power to detect whether secular trends are statistically significant.

### **Sections of This Volume**

A synopsis of the design and methods used in the study follows this introductory section. We then provide a separate section for each individual drug class, including figures that show trends in the overall proportions of students at each grade level (a) using the drug, (b) seeing a “great risk” associated with its use (perceived risk), (c) disapproving of its use (disapproval), and (d) saying that it would be



“fairly easy” or “very easy” to get if they wanted to (perceived availability). For 12<sup>th</sup> graders, annual data are available since 1975—and for 8<sup>th</sup> and 10<sup>th</sup> graders since 1991, the first year they were included in the study.

The tables at the end of this report provide the statistics underlying the figures; in addition, they present trend data on lifetime, annual, 30 day, and (for selected drugs) daily prevalence.<sup>3</sup> For the sake of brevity, we present these prevalence statistics here in tabular form only for the 1991–2020 interval, but statistics on 12<sup>th</sup> graders going back to 1975 are available in other MTF publications on the [MTF website](#). For each prevalence period, the tables indicate which one-year changes between 2020 and 2021 are statistically significant. (In the text below, ‘s’ indicates  $p \leq .05$ , ‘ss’ indicates  $p \leq .01$ , ‘sss’ indicates  $p \leq .001$ , and ‘ns’ indicates not statistically significant.) The graphic depictions of multiyear trends often reveal gradual change that may not reach significance in a given one-year interval but nevertheless may be shown to be real over a longer time interval.

### Other Publications from the Study

An extensive analysis of the study’s findings on secondary school students may be found in *Volume I*, the second publication in this series, published at the end of May each year.<sup>4</sup> *Volume I* contains a more detailed description of the study’s methodology, as well as chapters on grade of initiation, attitudes toward drugs, the social milieu, and a summary of other publications from the study that year (mostly journal articles). The most recent such volume, as well as earlier editions, are always available in the Publications section of the [MTF website](#).

MTF’s findings on American college students and adults through age 60 are not covered in this early

*Overview* report because the follow up data from those populations become available for analysis later in the year. Those findings are covered in *Volume II*, the third monograph in this annual series, published at the end of July each year.<sup>5</sup>

Two annual MTF occasional papers are published each year in conjunction with *Volumes I* and *II*, providing trends in use for various demographic subgroups of adolescents and separately of young adults.<sup>6</sup>

A fourth monograph, *HIV/AIDS: Risk and Protective Behaviors Among Young Adults*, dealing with national trends in HIV/AIDS related risk and protective behaviors among young adults 21 to 30 years old, was added to the series beginning in 2010.<sup>7</sup> It is published in October of each year. From 2005 to 2009, these findings had been reported as part of *Volume II* prior to their being reported in a separate monograph.

Information on the study, including its latest press releases, a listing of all publications, and freely accessible reports may be found at [www.monitoringthefuture.org](http://www.monitoringthefuture.org). Volumes are immediately available there upon publication. Most publications are also entered into the University of Michigan’s repository of publications (<https://deepblue.lib.umich.edu/>). For the publication years prior to 2010, the volumes in these annual series also are available from the NIDA Drug Publications Research Dissemination Center (877-NIDA-NIH, [drugpubs.drugabuse.gov](http://drugpubs.drugabuse.gov)).

<sup>3</sup> Prevalence refers to the proportion or percentage of the sample reporting use of the given substance on one or more occasions in a given time interval—e.g., in their lifetime, in the past 12 months, or in the past 30 days. For most drugs, the prevalence of daily use refers to reported use on 20 or more occasions in the past 30 days. Some exceptions to “20+” are noted later.

<sup>4</sup> The most recent publication of *Volume I* is Miech, R. A., Johnston, L. D., O’Malley, P. M., Bachman, J. G., Schulenberg, J. E., & Patrick, M. E. (2021). [Monitoring the Future national survey results on drug use, 1975–2020: Volume I, Secondary school students](#). Ann Arbor, MI: Institute for Social Research, University of Michigan.

<sup>5</sup> The most recent publication of *Volume II* is Schulenberg, J. E., Patrick, M. E., Johnston, L. D., O’Malley, P. M., Bachman, J. G., & Miech, R. A. (2021). [Monitoring the Future national survey results on drug use, 1975–2020: Volume II, College students & adults ages 19–60](#). Ann Arbor, MI: Institute for Social Research, University of Michigan.

<sup>6</sup> The most recent occasional paper on subgroup trends among adolescents 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. Subgroup trends among young adults may be found in Johnston, L. D., Schulenberg, J. E., O’Malley, P. M., Bachman, J. G., Miech, R. A., & Patrick, M. E. (2021). [Demographic subgroup trends among young adults in the use of various licit and illicit drugs 1988–2020 \(Monitoring the Future Occasional Paper No. 96\)](#). Ann Arbor, MI: Institute for Social Research, University of Michigan.

<sup>7</sup> The most recent publication in the *HIV/AIDS monograph series* is Johnston, L. D., O’Malley, P. M., Bachman, J. G., Schulenberg, J. E., Patrick, M. E., & Miech, R. A. (2021). [HIV/AIDS: Risk and protective behaviors among adults ages 21–30 in the U.S., 2004–2020](#). Ann Arbor, MI: Institute for Social Research, University of Michigan.

## Study Design and Methods

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A main component of Monitoring the Future's data collection involves a series of large, annual surveys of nationally representative samples of public and private secondary school students throughout the coterminous United States. Every year since 1975, such samples of 12<sup>th</sup> graders have been surveyed. In 1991, the study was expanded to include comparable, independent national samples of 8<sup>th</sup> and 10<sup>th</sup> graders. The year 2021 marked the 47<sup>th</sup> survey of 12<sup>th</sup> graders and the 31<sup>st</sup> survey of 8<sup>th</sup> and 10<sup>th</sup> graders.

### Sample Sizes

In 2021 32,260 students in 319 public and private secondary schools participated in the study, with sample sizes of 11,446 in 8<sup>th</sup> grade, 11,792 in 10<sup>th</sup> grade, and 9,022 in 12<sup>th</sup> grade. Multiple questionnaire forms are distributed randomly at each grade level to increase coverage of attitudinal and behavioral domains. Six different forms are used at 12<sup>th</sup> grade and four forms are used at both 8<sup>th</sup> and 10<sup>th</sup> grades (the four forms are the same for these two grades). To reduce burden on the respondents, not all questions are contained in all forms. Thus, the number of cases upon which a particular statistic is based may be less than the total sample size in that grade. The tables contain notes on the number of forms used for each statistic if less than the total sample is used.

### Survey Procedures

Because of the early termination of the field efforts in 2020 due to the COVID-19 pandemic, as described in the *Introduction* to this volume, the numbers of cases are considerably lower for 2020. COVID-19 continued to have some adverse effects on the 2021 data collection, but not nearly as bad as in 2020. The samples obtained that year are listed above.

In 2021, for the first time, the MTF survey was administered to students during class or at home using a web based questionnaire. This survey mode was an adaptation to the disruptions caused by the COVID-19 pandemic, which closed many school buildings. Use of a web based questionnaire allowed

students who were schooling at home to complete the survey.

As in previous years, schools were sampled from a target list of all schools containing 8<sup>th</sup>, 10<sup>th</sup>, or 12<sup>th</sup> grades in the contiguous U.S. Randomly selected schools from this list were recruited to participate in the survey. Teachers explained the rationale and importance of the survey to their students. The teachers then instructed students how to access the MTF survey online, which students completed on their own electronic devices.

### The Transition to Electronic Data Collection

The move to a web based survey continues a multiple-year transition from paper and pencil questionnaires to electronic devices. Starting in 2017, pilot tests of over 4,000 students in 24 schools throughout the country were conducted to assess the feasibility and logistics of bringing internet connected, electronic tablets to schools so that students could use them to take the MTF survey.

With the experience and information from these pilot tests, the full 2019 MTF survey used electronic tablets in a randomly selected half of schools and used traditional paper and pencil questionnaires in the other half. This research design allowed a randomized controlled test of potential survey mode effects. We found that differences in drug prevalence estimates across the two survey modes were negligible.<sup>1</sup> However, some measures other than use—including perceived risk of harm, disapproval, and perceived availability—may have been subject to mode effects and therefore trend analyses of these outcomes should be made with this in mind.

The 2020 MTF survey administration used only electronic tablets for data collection. As discussed earlier, this administration was cut short by the COVID-19 pandemic and the consequent closing of most U.S. schools in mid-March. Before the closing, the survey had collected about one quarter the number of surveys it usually collects annually. These data are the basis for the MTF 2020 reports on 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grade students.

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<sup>1</sup> Miech, R., Couper, M. P., Heeringa, S. G., & Patrick, M. E. (2020). [The impact of survey mode on U.S. national estimates of adolescent drug prevalence: Results from a randomized-controlled study](#). *Addiction*.

The 2021 MTF survey used a web based questionnaire. The student experience of completing the survey was similar to the tablet based MTF surveys in previous years, although students used their own electronic devices rather than electronic tablets provided by MTF. In addition, many students took the survey in their homes rather than in their school building.

Because the pandemic came on suddenly and unexpectedly, it was not possible for MTF to conduct a randomized controlled test of the web survey mode in comparison to electronic tablets. We expect that such a test would have shown no differences in drug prevalence for electronic tablets as compared to the web based administration. The 2019 test found no mode differences, and in 2021 the two survey modes were much more similar, with both modes involving electronic devices connected to the internet. In addition, trends in the 2021 data replicated when restricted to the 45% of students who reported that all their classes were in their school building, suggesting that at home administrations produced similar results to in building administrations (analyses not shown here). Consequently, in this report we directly compare the 2021 drug prevalence estimates with those from previous years and use tests of statistical significance to consider differences. However, we cannot rule out possible mode effects for some of the attitudes and beliefs estimates in 2021, and consequently when presenting these results we interpret trends qualitatively and do not use statistical tests of significance.

The 8<sup>th</sup> and 10<sup>th</sup> grade questionnaires are completely anonymous, and in 12<sup>th</sup> grade they are confidential (name and address information is gathered separately from the 12<sup>th</sup> grade questionnaire to permit the longitudinal follow up surveys of random subsamples of participants after high school). Extensive procedures are followed to protect the confidentiality of the participants and their data. All procedures are reviewed and approved on an annual basis by the University of Michigan's Institutional Review Board (IRB) for compliance with federal guidelines for the treatment of human subjects.

## Measures

A standard set of three questions is used to determine usage levels for most of the drugs. For example,

respondents are asked, "On how many occasions (if any) have you used marijuana... (a)...in your lifetime? (b)...during the last 12 months? (c)...during the last 30 days?" Each of the three questions is answered on the same answer scale: 0, 1–2, 3–5, 6–9, 10–19, 20–39, and 40 or more occasions.

For the psychotherapeutic drugs (amphetamines, sedatives (barbiturates), tranquilizers, and narcotics other than heroin), respondents are instructed to include only use "...on your own—that is, without a doctor telling you to take them." A similar qualification is used in the question on use of anabolic steroids, *OxyContin*, *Vicodin*, and several other drugs.

For cigarettes, respondents are asked two questions about use. First, they are asked, "Have you ever smoked cigarettes?" The answer categories are "never", "once or twice", "occasionally but not regularly", "regularly in the past", and "regularly now". The second question asks, "How frequently have you smoked cigarettes during the past 30 days?" The answer categories are "not at all", "less than one cigarette per day", "one to five cigarettes per day", "about one-half pack", "one pack", "one and one half packs", and "two packs or more per day".

Smokeless tobacco questions parallel those for cigarettes. There are also questions about vaping, small cigars, large cigars, and a number of other tobacco products. In general, their use is asked on a prevalence/frequency scale for either the last 12 months or the last 30 days. Beginning in 2017 respondents are asked separate questions about vaping nicotine, vaping marijuana, and vaping "just flavoring".

Alcohol use is measured using the same three questions illustrated above for marijuana. A parallel set of three questions asks about the frequency of being drunk. Binge drinking is assessed by asking how many times (if any) they had five or more drinks in a row over the past two weeks. Extreme binge drinking, also called high intensity drinking, is assessed among 12<sup>th</sup> graders with similar questions about consuming 10 or more and 15 or more drinks in a row in the past two weeks. Among 8<sup>th</sup> and 10<sup>th</sup>

graders, it is assessed using only the question about 10 or more drinks.

In general, we try to keep measures consistent across time. When a change is warranted, we usually splice the older and newer measures for at least one year to permit an assessment of whether the change (usually a wording change) seemed to have any effect on reported prevalence levels.

Perceived risk is measured by the question, “How much do you think people risk harming themselves (physically or in other ways), if they...” try or use a drug—for example, “...try marijuana once or twice”. The answer categories are “no risk”, “slight risk”, “moderate risk”, “great risk”, and “can’t say, drug unfamiliar”. Parallel questions then ask about risk in using the same drug “occasionally” and “regularly”. In the 8<sup>th</sup> and 10<sup>th</sup> grade questionnaires, a fifth category—“can’t say, drug unfamiliar”—is provided. Responses to the “can’t say, drug unfamiliar” category are included in the denominator in the calculation of percentages. That way we have an accurate estimate of the percentage

of all respondents who think there is a great risk involved in using the drug.

Disapproval is measured by the question “Do YOU disapprove of people doing each of the following?” followed by “trying marijuana once or twice”, for example. (In 12<sup>th</sup> grade “...people 18 or older”...is specified in the question stem.) Answer categories are “don’t disapprove”, “disapprove”, and “strongly disapprove”. In the 8<sup>th</sup> and 10<sup>th</sup> grade questionnaires, a fourth category—“can’t say, drug unfamiliar”—is provided and included in the denominator in the calculation of percentages.

Perceived availability is measured by the question “How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?” Answer categories are “probably impossible”, “very difficult”, “fairly difficult”, “fairly easy”, and “very easy”. For 8<sup>th</sup> and 10<sup>th</sup> graders, an additional answer category—“can’t say, drug unfamiliar”—is provided and included in the calculation of percentages.



Two Methodological Notes Regarding the 2019–2021 Surveys

*2020 Data.* Because of the lower case count in 2020—due to the field operation being halted early because of the COVID-19 pandemic that year—we have had to omit some 2020 estimates from the figures and tables in this volume. Specifically, we do not present data on the questions that are administered to only a randomly-selected one-sixth of students. Nearly all of these omissions in 2020 occur in the graphs dealing with *perceived risk*, *disapproval*, and *perceived availability*—three of the four elements graphed for each drug class. A footnote to all figures reminds the reader of this fact.

**Survey Modes.** In 2019 we conducted an experiment to see if data collection via paper-and-pencil and electronic tablets would deliver comparable results. In the experimental design, a randomly selected one half of schools was surveyed using the long standing method of a paper-and-pencil questionnaire, while students in the other half completed their questionnaires on electronic tablets. An examination of the data on *prevalence of use* showed little or no difference between the two modes. For that reason the usage data in 2019 are based on data gathered from the two modes combined, while the data from 2020 and onward are based entirely on data gathered from electronic devices.

We are less certain that all the data on *perceived risk*, *disapproval*, and *perceived availability* are as free of mode effects. Therefore, we treat each trend line on these variables as terminating in 2019 and a new line beginning in 2021 to reflect the change in mode of data collection between 2019 and 2021.

## Any Illicit Drug

MTF routinely reports three different indexes of illicit drug use: any illicit drug,<sup>1</sup> any illicit drug other than marijuana, and any illicit drug including inhalants. In this section we discuss only the first two; the statistics for all three may be found in Tables 5–7. The tables at the end of this volume provide the numerical values underlying the figures and the statistical significance of the change in 2021. The first four tables present data based on the three grades combined and show the significance of the change from 2020–2021. As will become clear in the following sections, the COVID-19 epidemic, had a substantial impact on nearly all forms of drug abuse in 2021.

In order to make direct comparisons over time, we have generally kept the definitions and measurement of these indexes constant. The levels of prevalence of each of the indexes could be somewhat affected by the inclusion of newer substances. Typically, the effects would be minimal, primarily because most individuals using newer drugs are also using at least one of the more prevalent drugs included in the indexes. The major exception has been inhalants, the use of which is quite prevalent in the lower grades, so in 1991 a special index that includes inhalants was added.

### Trends in Use

In the late 20<sup>th</sup> century, U.S. adolescents reached extraordinarily high levels of illicit drug use by U.S. as well as international standards. The trends in *lifetime* use of *any illicit drug* are shown in the first (upper left) panel of Figure 1.<sup>2</sup> In 1975, when MTF began, the majority of young people (55%) had used an illicit drug by the time they left high school. This figure rose to two thirds (66%) by 1981 before a long, gradual decline to 41% by 1992—the low point for 12<sup>th</sup> graders. After 1992—in what we have called the “relapse phase” in the drug epidemic—the proportion using any illicit drug in their lifetime rose considerably to the most recent high point of 55% in 1999; it then declined gradually to 47% in 2009, and then remained fairly level through 2020. In 2021 a sudden and sharp decline was observed in

all three grades as the the pandemic progressed. The depth and breadth of the declines in drug use in 2021 were the largest ever observed in this study since its inception forty-seven years ago. Trends for *annual* (i.e., last 12 months), as opposed to lifetime, prevalence are shown for the three grades combined in the upper right panel of Figure 1. They are quite parallel to those for lifetime prevalence but at lower levels. Among 8<sup>th</sup> graders, a gradual and continuing falloff occurred after 1996. Peak rates since 1991 were reached in 1997 in the two upper grades, and the rates then declined for some years. After 2007, the upper grades showed increasing use that continued for about five years. Then, after 2013 there was a three year period of decreasing use among 10<sup>th</sup> and 12<sup>th</sup> graders, which was followed after 2016 by a period of increasing use in 8<sup>th</sup> and 10<sup>th</sup> grades but some decline in 12<sup>th</sup>. There were no significant 1-year changes in 2020 in any of the four panels in Figure 1; but in 2021 all showed large and significant declines in all three grades. For example, in 2021 for the three grades combined, *lifetime* prevalence of *any illicit drug* use dropped from 34.7% to 27.0%—a decline of 7.8 percentage points, which amounts to a relative decline in a single year from 2020-2021 of 22% ( $p < .001$ ).

Over the last five years (2016–2021), *any illicit drug other than marijuana* (third panel) declined significantly for 10<sup>th</sup> and 12<sup>th</sup> grades, with some increase in 8<sup>th</sup> grade from 2016–2020.

Because marijuana is much more prevalent than any other illicit drug, trends in its use tend to drive the index of *any illicit drug* use. Thus we also report an index that excludes marijuana and shows the proportions of students who use any of the other illicit drugs. The proportions who have used *any illicit drug other than marijuana* in their *lifetime* are shown in the third panel (lower left) of Figure 1, while any use of an illicit drug other than marijuana in the *last 12 months* is shown in the lower right panel. In 1975 over one third (36%) of 12<sup>th</sup> graders had tried some illicit drug other than marijuana. This figure rose to 43% by 1981, then declined for

<sup>1</sup> Footnote ‘a’ to Tables 5 through 8 provides the exact definition of “any illicit drug”.

<sup>2</sup> This is the only set of figures in this Overview presenting lifetime use statistics. Lifetime statistics for all drugs may be found in Table 5.

over a decade to a low of 25% by 1992. An increase followed in the 1990s as the use of a number of drugs rose steadily, and it reached 30% by 1997. (In 2001 it was 31%, but this apparent upward shift in the estimate was an artifact due to a change in the question wording for “other hallucinogens” and tranquilizers.<sup>3</sup>) *Lifetime* prevalence among 12<sup>th</sup> graders then fell slightly to 24% by 2009, before leveling for three years and then dropping further to 18% in 2020. It fell sharply in 2021 to 13%.

The *annual* prevalence of *any illicit drug other than marijuana* (lower right panel) dropped fairly steadily and gradually in all three grades in recent years and then dropped dramatically in 2021 in all three grades combined from 9.2% to 5.6%. This amounts to a decline of 3.6 percentage points or a relative decline of 39% in just the one year  $p < .001$ .

In the past few years the three grade levels have been converging in both their lifetime and annual

rates of use of illicit drugs other than marijuana, with 12<sup>th</sup> graders continuing to decline in use.

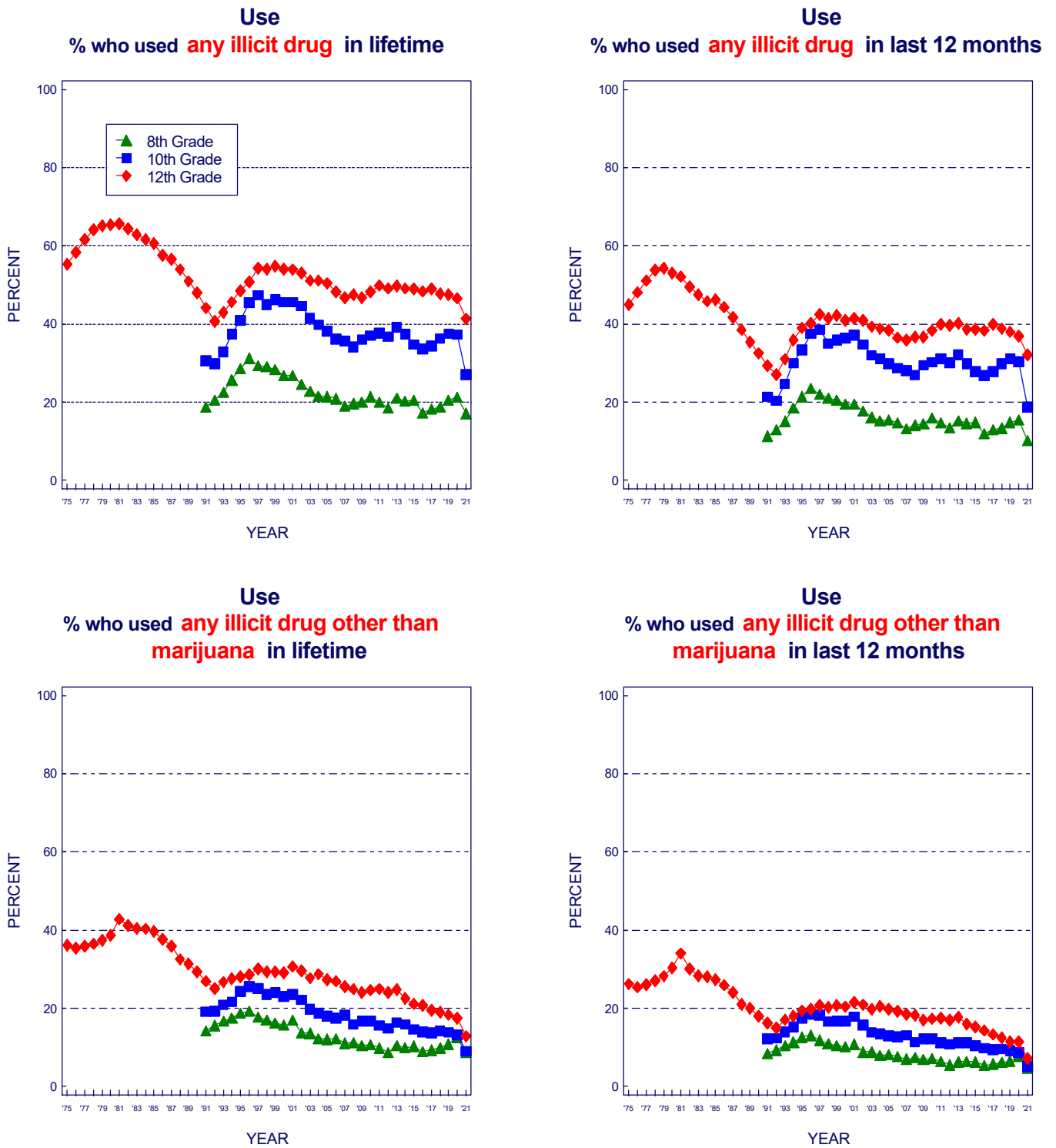
Overall, these data reveal that while use of individual drugs (other than marijuana) may fluctuate widely, the proportion using *any* of them is much more stable. In other words, the proportion of students prone to using such drugs and willing to cross the normative barriers to such use changes more gradually. The prevalence for each individual drug, on the other hand, reflects many more rapidly changing determinants specific to that drug, such as how widely its psychoactive potential is recognized, how favorable the reports of its supposed benefits are, how risky it is seen to be, how acceptable it is in the peer group, how accessible it is, and so on. The primary exception has been during the COVID pandemic, where a major shift in the environment caused a downturn in substance use almost across the board.

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<sup>3</sup> The term psychedelics was replaced with hallucinogens, and “shrooms” was added to the list of examples, resulting in somewhat more respondents indicating use of this class of drugs. For tranquilizers, *Xanax* was added to the list of examples given, slightly raising the reported prevalence of use.

Figure 1

**Any Illicit Drug and Any Illicit Drug Other than Marijuana : Trends in Lifetime and Annual Use**  
 Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'a', 'j', 'k', 'l', and 'n' listed at the end of the figures.

Marijuana has been the most widely used illicit drug throughout MTF's 47 years. It can be taken orally, mixed with food or drink, vaped, and smoked, including in concentrated forms such as hashish or honey oil. The great majority of recreational use in the U.S. has involved smoking it in rolled cigarettes ("joints"), in pipes or water pipes ("bongs"), or in hollowed out cigars ("blunts"). More recently, methods include vaping in particular and eating as well as consuming different forms of resin extracts like hash oil, honey oil, or shatter—a solid form.

### Trends in Use

*Annual* marijuana prevalence peaked among 12<sup>th</sup> graders in 1979 at 51%, following a rise that began during the 1960s. Then use declined fairly steadily to 22% by 1992—a decline of more than half. Use resurged in the 1990s, peaking in 1996 at 8<sup>th</sup> grade and in 1997 at 10<sup>th</sup> and 12<sup>th</sup> grades. Use levels then dipped about 10 points through 2007–2008, and then increased 10 points by 2020. In 2021 significant declines took place of 4, 11, and 5 percentage points in grades 8, 10, and 12, respectively. The largest one-year decline was in 10<sup>th</sup> grade, as is true for many drugs.

*Daily* marijuana prevalence rose in all three grades in 2019—significantly so in the lower two grades—with further increase in 2020 only in grade 12 (Table 8). It is noteworthy that among 8<sup>th</sup> graders, daily use showed rather little change between 1996 and 2019. In all three grades in 2020, daily marijuana levels were at or near the highest level recorded since 1991, but in 2021 daily prevalence fell in the three grades combined from 4.1% in 2020 to 3.1% in 2021 ( $p < .001$ ).

### Perceived Risk

The proportion of students seeing great risk from regular marijuana smoking fell during the rise in use in the late 1970s and again during the subsequent rise in use in the 1990s. Indeed, for 10<sup>th</sup> and 12<sup>th</sup> grades, perceived risk declined a year before use rose in the upturn of the 1990s, making perceived risk a leading indicator of change in use.

(The same may have happened for 8<sup>th</sup> grade but our data do not start early enough to show it.) The decline in perceived risk halted in 1996 in 8<sup>th</sup> and 10<sup>th</sup> grades; the increases in use in 10<sup>th</sup> and 12<sup>th</sup> grades ended a year or two later, again making perceived risk a leading indicator of trends in use.

From 1996–2000, perceived risk held fairly steady, and the decline in use in the upper grades stalled. After some decline prior to 2002, perceived risk increased a bit in all grades through 2004 accompanied by decreases in use. Since 2004 in 8<sup>th</sup> grade, 2005 in 12<sup>th</sup> grade, and 2008 in 10<sup>th</sup> grade, perceived risk has fallen substantially, presaging some resurgence in marijuana use lasting three to five years; however, no increase in perceived risk preceded the recent leveling of use. Rather, perceived risk has continued a steep decline since the mid-2010s without a concomitant further rise in overall use. In 2021 only 12<sup>th</sup> grade showed any change in perceived risk, and it was a continuation of the decline that started around 2008. We have shown that a sharp decline in the use of “gateway drugs”—in particular cigarette smoking, with which marijuana use has been highly correlated—has offset expected increases in marijuana use,<sup>4</sup> and this may explain the recent lack of association with perceived risk.

### Disapproval

Personal disapproval of trying marijuana has declined some since 2007 or 2008 in all three grades, following an earlier period of decline—but disapproval of *regular* use still remained quite high in 2021 at 76% and 70% in 8<sup>th</sup> and 10<sup>th</sup> grades, respectively. During the early and mid 1990s, as use increased and perceived risk decreased, disapproval fell considerably—by 17, 21, and 19 percentage points for the three grades. As is often the case, perceived risk fell before disapproval. Since 2007 there has been a considerable decline in disapproval, with declines for experimental use in 2017 being significant for all three grades. In 2019 there was no significant decline in disapproval. In 2021 the observations for 8<sup>th</sup> and 12<sup>th</sup> grade seem to

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<sup>4</sup> Miech, R. A., Johnston, L. D., & O'Malley, P. M. (2017). [Prevalence and attitudes regarding marijuana use among adolescents over the past decade](#). *Pediatrics*, 140(6).

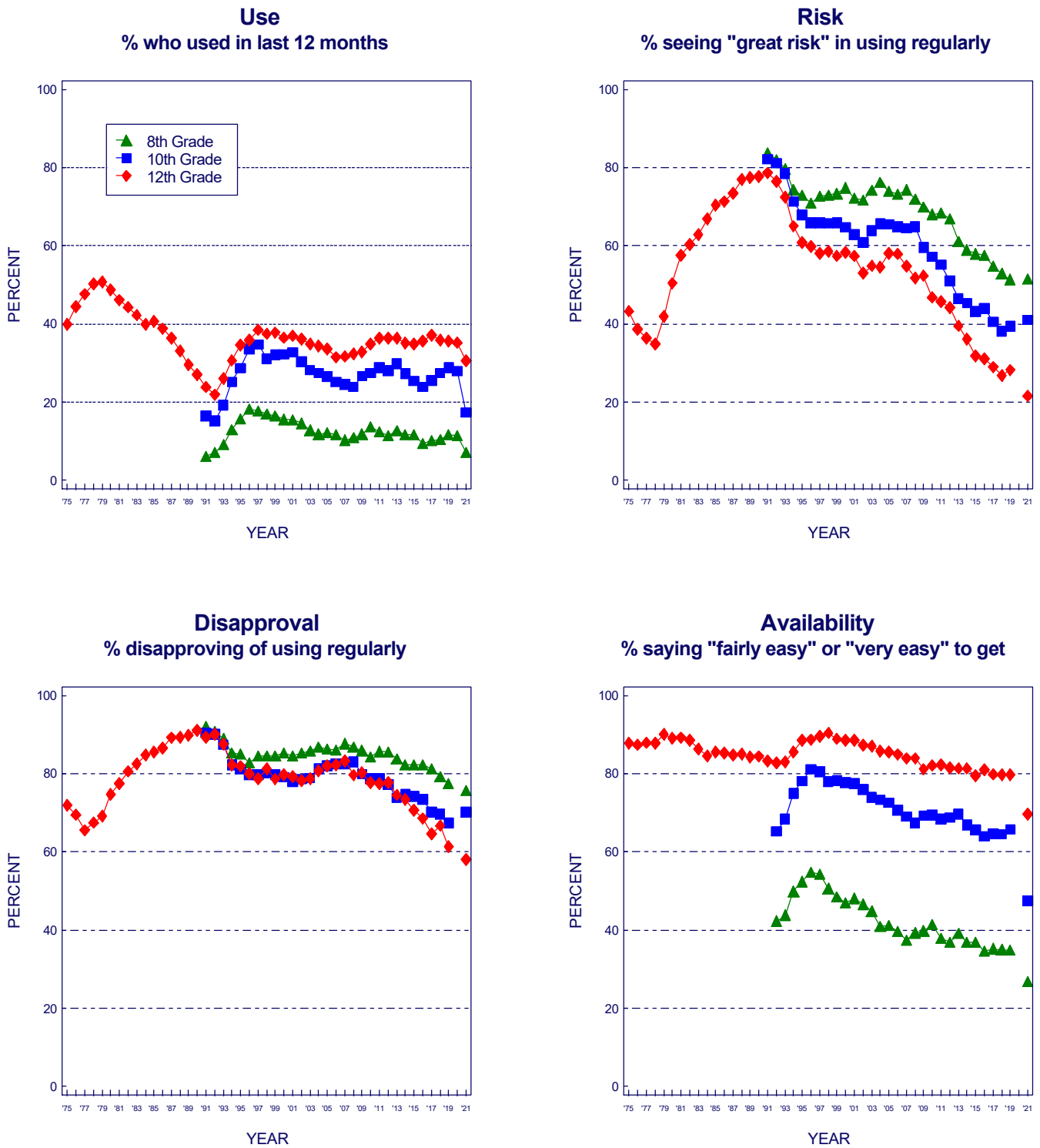
continue the declines, while the one for 10<sup>th</sup> grade does not.

### **Availability**

From 1975–2019, between 78% and 90% of 12<sup>th</sup> graders each year have said that marijuana would be fairly or very easy to get if they wanted some. Perceived availability peaked around 1995 in the lower grades and in 12<sup>th</sup> grade a couple of years

after that. After about 2009 the declines leveled off—with the 12<sup>th</sup> grade figure at 78% in 2019 but at 70% in 2021. In all years availability has been highest in 12<sup>th</sup> grade, substantially lower in 10<sup>th</sup> grade, and substantially lower still in 8<sup>th</sup> grade. By far the sharpest decline occurred between 2019 and 2021 in all three grades, most likely due to the COVID-19 pandemic, though mode effects may have contributed as well.

**Figure 2**  
**Marijuana: Trends in Annual Use, Risk, Disapproval, and Availability**  
 Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'n', 'j', 'k', and 'l' listed at the end of the figures.

## Synthetic Marijuana

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Synthetic marijuana has generally been sold over the counter under such labels as Spice and K-2. It usually contains some herbal materials that have been sprayed with one or more of the designer chemicals that fall into the cannabinoid family. Until March 2011 these drugs were not scheduled by the Drug Enforcement Administration (DEA), so they were readily and legally available on the Internet and in convenience stores, head shops, gas stations, etc. However, the DEA scheduled some of the most widely used chemicals beginning March 1, 2011, making their possession and sale no longer legal; subsequent laws have expanded the list of banned chemicals, but producers keep tweaking the chemical formulae to avoid legal control. These drugs can be dangerous both because the active ingredients keep changing and because those ingredients have never undergone testing to determine their safety for human ingestion.

### Trends in Use

MTF first addressed the use of synthetic marijuana in its 2011 survey by asking 12<sup>th</sup> graders about their use in the prior 12 months (which would have covered a considerable period of time prior to the drugs being scheduled by the DEA). Annual prevalence was found to be 11.4%, making synthetic marijuana the second most widely used class of illicit drug after marijuana itself among 12<sup>th</sup> graders at that time. Despite the DEA's intervention, use among 12<sup>th</sup> graders remained unchanged in 2012 at 11.3%, which suggests either that compliance with the new scheduling had been limited or that producers of these products succeeded in continuing to change their chemical formulae to avoid using the ingredients that had

been scheduled, or both. In 2012, for the first time, 8<sup>th</sup> and 10<sup>th</sup> graders were asked about their use of synthetic marijuana; their annual prevalence rates also were high at 4.4% and 8.8%, respectively. Use in all three grades dropped in 2013, with a sharp and significant decline among 12<sup>th</sup> graders, as well as a significant declines for both 10<sup>th</sup> and 12<sup>th</sup> graders in 2014 (Figure 3). Since those initial measures, annual prevalence has declined appreciably and in 2021 was down to less than 2% in all three grades.

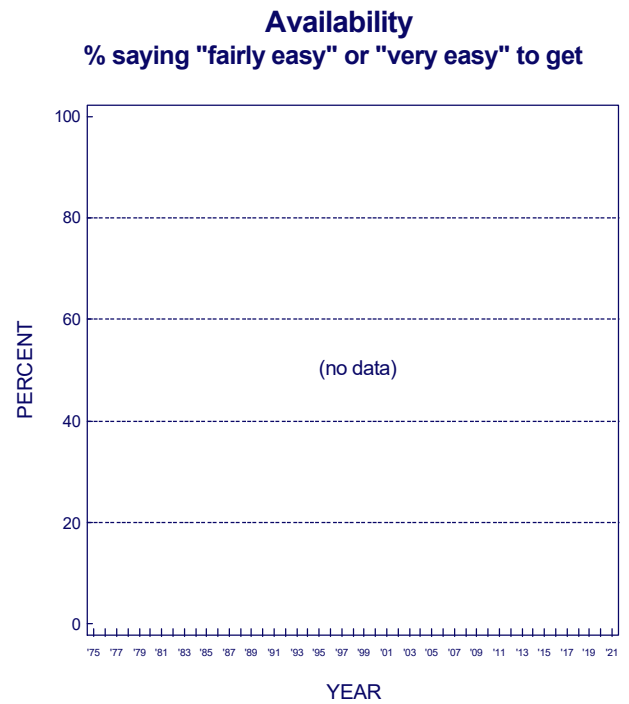
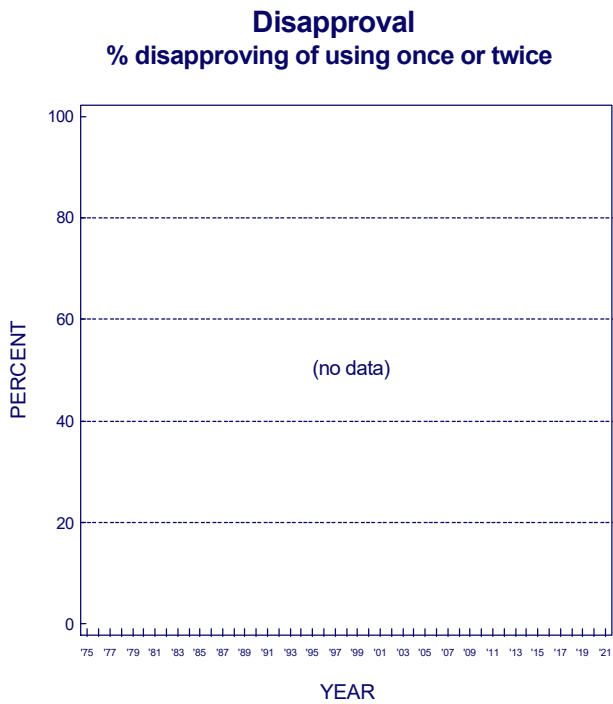
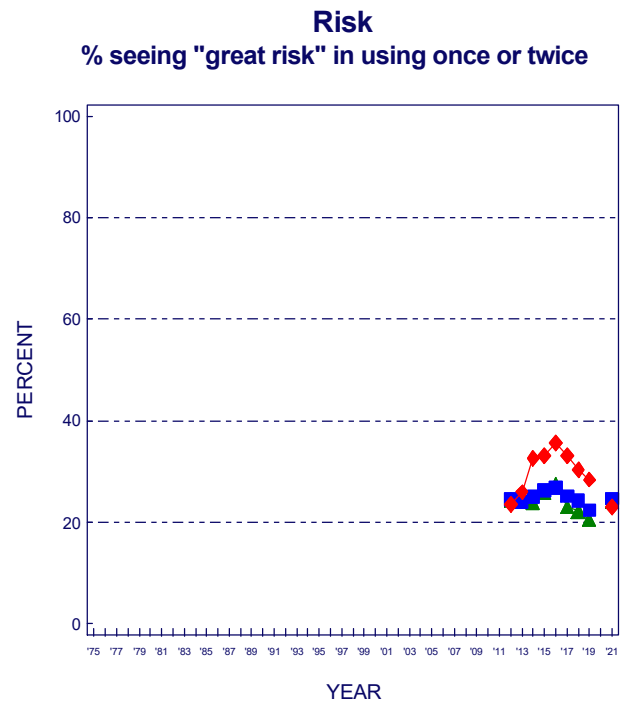
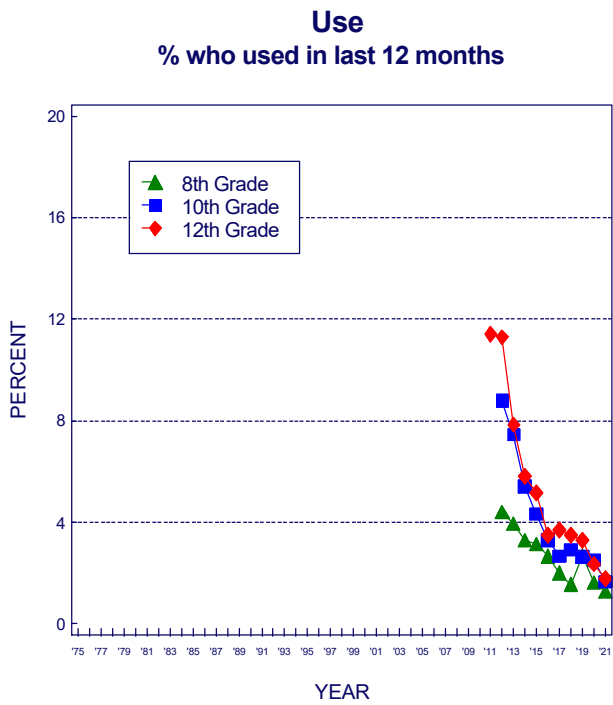
### Perceived Risk

All three grades were asked whether they associated “great risk” with trying synthetic marijuana once or twice. As can be seen in Figure 3, the level of perceived risk for experimental use was quite low in 2012 (between 24% and 25%). The availability of these drugs over the counter probably had the effect of communicating to teens that they must be safe, though in fact they are not. Perceived risk rose some, particularly among 12<sup>th</sup> graders, to 36% in 2016. (The percent would be higher if those answering “can’t say, drug unfamiliar” were excluded.) After 2016 there was a decline in perceived risk in all three grades. Since 2018 the trends have been uneven. In 2021 perceived risk for trying synthetic marijuana once or twice was 24%, 25%, and 23% for 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grades, respectively.

*Disapproval* and *availability* have not been measured for this class of drugs. It might well be that access to these products has declined considerably as a result of the DEA scheduling many of them.



**Figure 3**  
**Synthetic Marijuana : Trends in Annual Use and Risk**  
 Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'j', 'k', and 'l' listed at the end of the figures.

## Inhalants

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Inhalants are any noncombusted and nonheated gases or fumes that can be inhaled to get high. The substances include many household products—the sale and possession of which is legal—including glue, nail polish remover, gasoline, solvents, butane, and propellants used in certain commercial products such as whipped cream dispensers. Unlike nearly all other classes of drugs, inhalant use is most common among younger adolescents and tends to decline as youth grow older. The use of inhalants at an early age may reflect the fact that many inhalants are cheap, readily available (often in the home), and legal to buy and possess. The decline in use with age likely reflects their coming to be seen as “kids’ drugs”, in addition to the fact that a number of other drugs become available to older adolescents, who are also more able to afford them. For a while the use of nitrite inhalants grew, but it has diminished considerably since then and is no longer included in the estimates.

### Trends in Use

*Past 12 month* inhalant use (excluding the use of nitrite inhalants) by 12<sup>th</sup> graders rose gradually from 1976 to 1987, which was somewhat unusual because most other forms of illicit drug use were in decline during the 1980s. Use of inhalants rose among 8<sup>th</sup> and 10<sup>th</sup> graders from 1991 (when those grades were first included in the study) through 1995; and it rose among 12<sup>th</sup> graders from 1992 to 1995. All grades then exhibited a fairly steady and substantial decline in use through 2001 or 2002. After 2001 the grades diverged somewhat in their trends: 8<sup>th</sup> graders showed a significant increase in use for two years, followed by a decline from 2004 to 2013 and a leveling in 2014, before resuming the decline in 2015 and 2016; 10<sup>th</sup> graders showed an increase after 2003 but a considerable decline since 2007; and 12<sup>th</sup> graders showed a brief increase from 2003 to 2005 but also a considerable decline since then. For the three grades combined, *annual use* declined significantly in both 2012 and 2013, held steady in 2014, and then declined further in 2015 and 2016. Since 2016 there has been some leveling of the trends in the upper grades and some increase in use in 8<sup>th</sup> grade, at least until 2021, when all three

grades showed a decline (significant only in 10<sup>th</sup> grade).

### Perceived Risk

Only 8<sup>th</sup> and 10<sup>th</sup> graders have been asked questions about the degree of risk they associated with inhalant use, and relatively low proportions think that there is a “great risk” in using an inhalant once or twice. However, between 2019 and 2021 both grades exhibited a considerable decrease in perceived risk for experimental use. (See Figure 4).

A significant increase in this perceived risk was observed earlier, between 1995 and 1996 in both 8<sup>th</sup> and 10<sup>th</sup> grades—probably due to an anti-inhalant advertising initiative launched by The Partnership for a Drug-Free America. That increase in perceived risk marked the beginning of a long and important decline in inhalant use, when no other drugs showed a turnaround in use. However, the degree of perceived risk associated with inhalant use declined steadily between 2001 and 2008 among both 8<sup>th</sup> and 10<sup>th</sup> graders, perhaps explaining the increase in use in 2003 among 8<sup>th</sup> graders and in 2004 in the upper grades. The hazards of inhalant use were communicated during the mid-1990s, but generational forgetting of those hazards has likely taken place as replacement class cohorts who were too young to get that earlier message now comprise the nation’s adolescents. The decline in perceived risk is worrisome—it resumed after 2015, with a significant decline in 8<sup>th</sup> grade in 2018 and further nonsignificant decline in 2019. These declines leave future class cohorts at risk for a resurgence of inhalant use and correspond to a turnaround in actual use. In 2021 risk was considerably lower in both grades than it had ever been, possibly due to the fact that data were gathered on the internet for the first time, raising the possibility of an effect due to the mode of the survey administration.<sup>5</sup>

### Disapproval

Until 2016, over 80% of 8<sup>th</sup> and 10<sup>th</sup> grade students said that they would disapprove of even trying an inhalant. There was a very gradual upward drift in disapproval from 1995 through about 2001, with a

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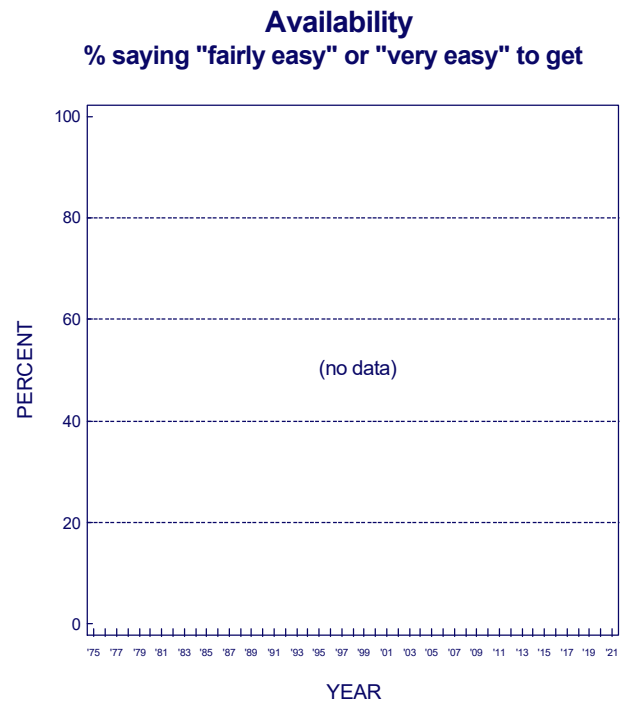
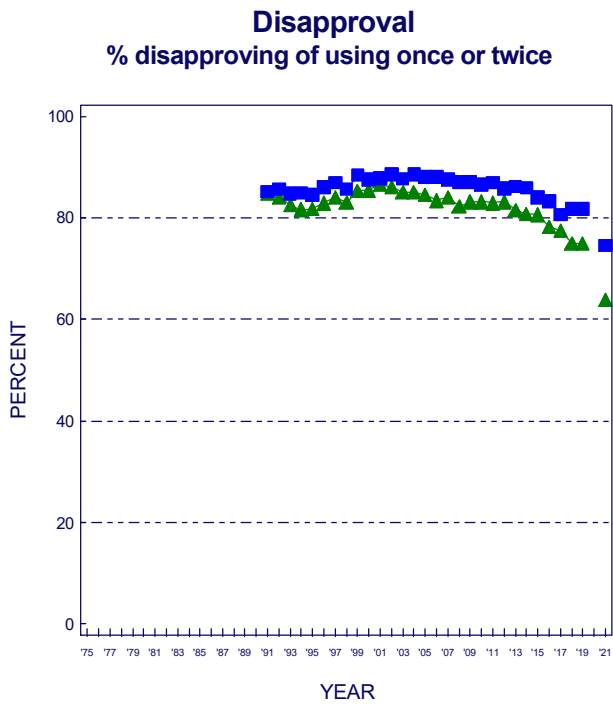
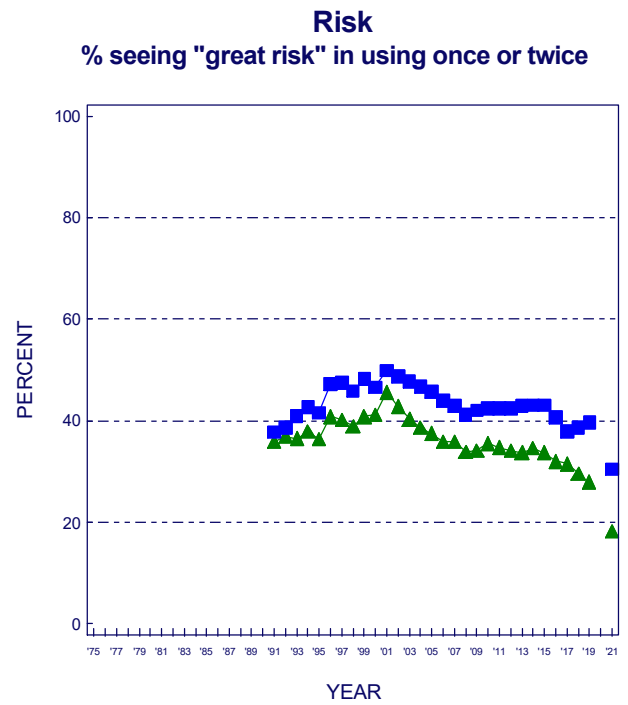
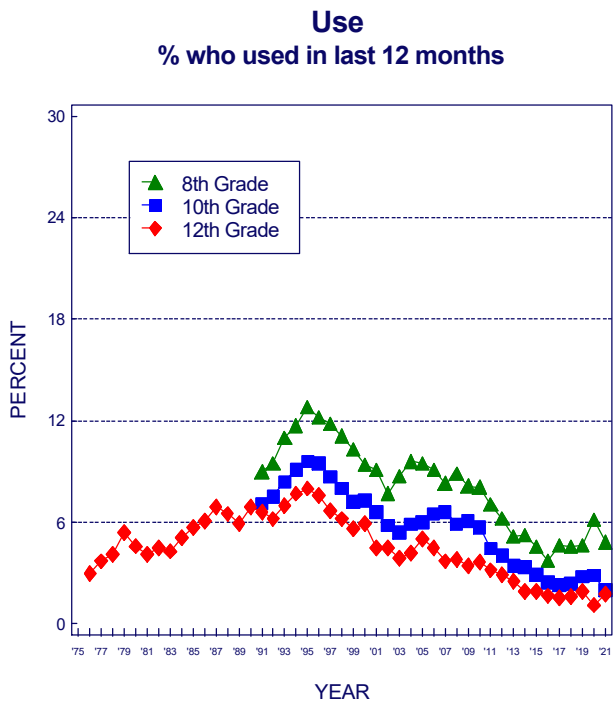
<sup>5</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

gradual falloff after that in both grades until around 2019, when the decline in both grades appeared to have ended. In 2021 disapproval was at a considerably lower level, possibly due to mode effects rather than to a real decline, since in 2021 students completed a web-based survey for the first time.

### **Availability**

Respondents have not been asked about the availability of inhalants, because we assume that these household products are universally available to young people in these age ranges.

**Figure 4**  
**Inhalants: Trends in Annual Use, Risk, and Disapproval**  
 Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'j', 'k', and 'l' listed at the end of the figures.

For some years, LSD was the most widely used drug within the larger class of hallucinogens. This was no longer true for some subsequent years, due to sharp decreases in its use combined with an increasing use of psilocybin. (Statistics on overall hallucinogen use and on use of hallucinogens other than LSD are shown in Tables 5–7.)

### Trends in Use

Annual prevalence of LSD use among 12<sup>th</sup> graders has been below 10% since MTF began. Use declined some for the first 10 years among 12<sup>th</sup> graders, likely continuing a decline that had begun prior to 1975. Use was fairly level in the latter half of the 1980s—though there was some decline through 1985—but, as was true for a number of other drugs, LSD use rose in all three grades between 1990 and 1996. Between 1996 and 2003 use declined quite sharply in all three grades. After that use remained at low levels, although there has been a modest increase in the all three grades since 2013, particularly at 12<sup>th</sup> grade, which continued into 2020. In 2021 use declined in all three grades with only the 1.1 percentage point decline in 10<sup>th</sup> grade being significant.

### Perceived Risk

We think it likely that perceived risk for LSD use increased during the early 1970s, before MTF began, as concerns grew about possible neurological and genetic effects (most of which were never scientifically confirmed) as well as “bad trips” and “flashbacks.” However, among 12<sup>th</sup> graders there was some decline in perceived risk in the late 1970s, after which it remained fairly level through most of the 1980s. A substantial decline occurred in all grades in the early 1990s as use rose. Perceived risk continued to decline fairly steadily and substantially among 8<sup>th</sup> graders until 2009 before leveling; it declined considerably among 10<sup>th</sup> graders before leveling around 2002, dropping through 2007, and then leveling after that. Since 2014 and 2015 risk has declined once again in both 10<sup>th</sup> and 12<sup>th</sup> grades. In 2020 10<sup>th</sup> graders showed a significant decline. Among 12<sup>th</sup> graders, the recent decline in perceived risk appeared to mark the end

of a levelling that had been in place since 2002, but there was some further decline in 2014–2021.<sup>6</sup> The greater decline in 8<sup>th</sup> grade suggests that younger teens may be less knowledgeable about this drug’s effects than their predecessors—through what we have called “generational forgetting”—making the 8<sup>th</sup> graders vulnerable to a resurgence in use. (The percentages who respond “can’t say, drug unfamiliar” to questions about LSD have risen in recent years, consistent with the notion of “generational forgetting”.)

The decline in actual use of LSD from the mid-1990s to about 2003, despite a fall in perceived risk, suggests that some factors other than a change in underlying attitudes and beliefs contributed to the downturn in use: prior to 2001 some displacement by ecstasy may have been a factor while more recently a decline in the availability of LSD (discussed below) likely was a factor.

### Disapproval

Disapproval of LSD use was quite high and rising among 12<sup>th</sup> graders through most of the 1980s, but it began to decline after 1991 along with perceived risk. All three grades exhibited a decline in disapproval through 1996, with disapproval of experimentation dropping 11 percentage points between 1991 and 1996 among 12<sup>th</sup> graders. After 1996 came a divergence among the three grades, with a substantial increase in disapproval among 12<sup>th</sup> graders, accompanied by more of a leveling among 10<sup>th</sup> graders and a considerable decline among 8<sup>th</sup> graders. Note, however, that the percentages of 8<sup>th</sup> and 10<sup>th</sup> graders who respond with “can’t say, drug unfamiliar” increased through 2008; thus the base for disapproval has shrunk, suggesting that the real decline of disapproval among the younger students is less than it appears here. Since 2010 the divergence has reversed, showing a considerable convergence with levels of disapproval declining for 12<sup>th</sup> grade students, staying fairly level for 10<sup>th</sup> graders, and increasing some for 8<sup>th</sup> graders. In 2021 disapproval rates were somewhat lower in each grade than they had been two years earlier.<sup>6</sup>

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<sup>6</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

## Availability

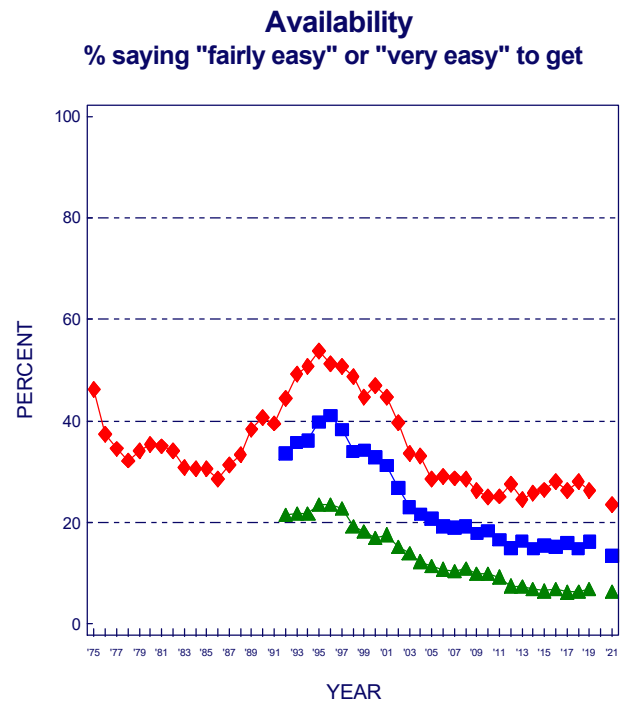
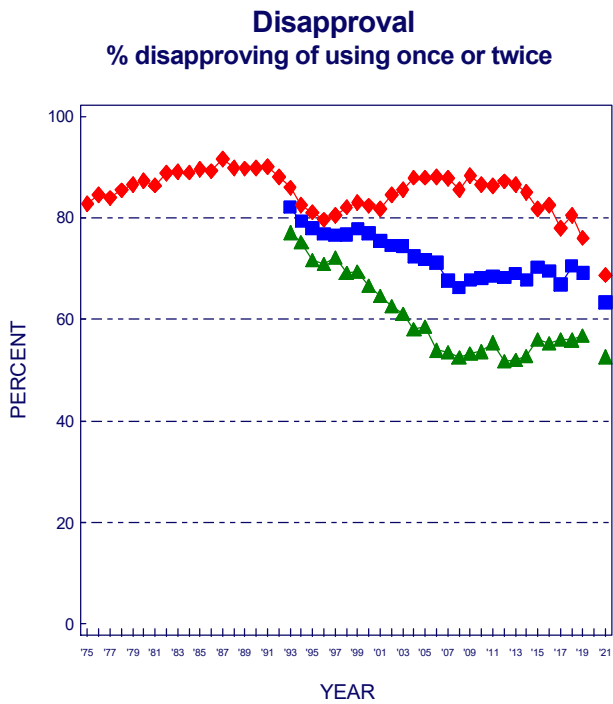
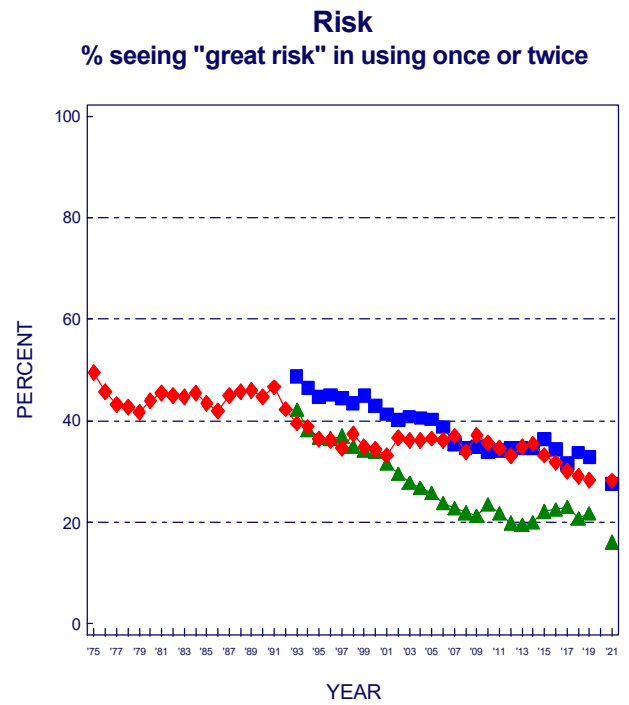
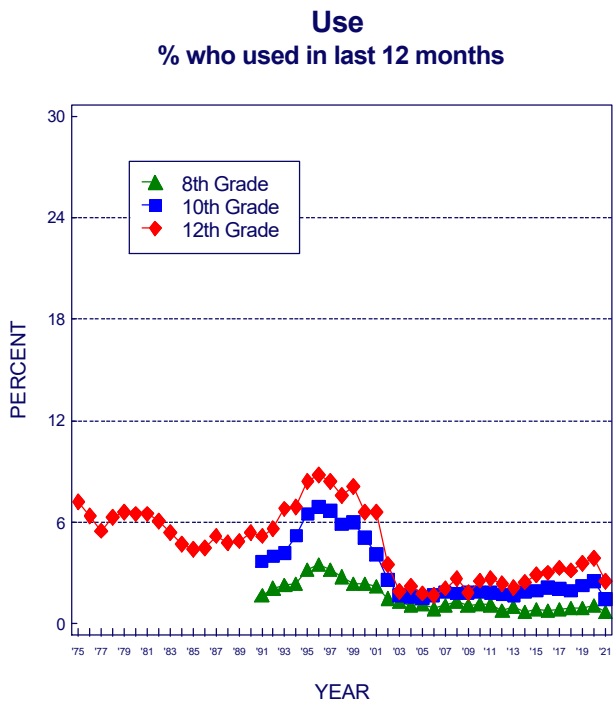
Reported availability of LSD by 12<sup>th</sup> graders fell considerably from 1975 to 1979, declined a bit further until 1986, and then began a substantial rise, reaching a peak in 1995. LSD availability also rose somewhat among 8<sup>th</sup> and 10<sup>th</sup> graders in the early 1990s, reaching a peak in 1995 or 1996. Since those peak years, there has been considerable falloff in reported availability in all three grades, quite possibly in part because fewer students have LSD-

using friends from whom they could gain access. There was also very likely a decrease in supply due to the closing of a major LSD-producing lab by the Drug Enforcement Administration in 2000. It is clear that attitudinal changes cannot explain all of the substantial declines in LSD use in the late 1990s. Availability finally leveled in all three grades after about 2013. In the upper grades the rates observed in 2021 were only slightly lower than they had been in 2019 and equivalent to 2019 in grade 8.<sup>7</sup>

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<sup>7</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

**Figure 5**  
**LSD: Trends in Annual Use, Risk, Disapproval, and Availability**  
 Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'j', 'k', and 'l' listed at the end of the figures.

Cocaine was used almost exclusively in powder form for some years, though “freebasing” emerged for a while. The early 1980s brought the advent of crack cocaine. Our original questions did not distinguish among different forms of cocaine or modes of administration. Since 1987, though, we have asked separate questions about the use of crack and “cocaine other than crack”, which has consisted almost entirely of powder cocaine use. Data on cocaine use in general (i.e., all forms of cocaine) are presented in the figures in this section, and results for crack alone are presented in the next section.

### Trends in Use

There have been some important changes in the levels of overall cocaine use over the life of MTF. Use among 12<sup>th</sup> graders originally burgeoned in the late 1970s and remained fairly stable through the first half of the 1980s before starting a precipitous decline after 1986. Annual prevalence among 12<sup>th</sup> graders dropped by about three quarters between 1986 and 1992. Between 1992 and 1999, use reversed course again during the relapse phase of the overall drug epidemic and doubled before beginning a long-term decline in use around 1998. Use also rose among 8<sup>th</sup> and 10<sup>th</sup> graders after 1992 before reaching peak levels in 1998 and 1999. Over the last 20 years, use has declined in all three grades, except for slight nonsignificant increases in 12<sup>th</sup> grade in 2017 and 2020; annual 12<sup>th</sup> grade use stood at 1.2% in 2021—one fifth the peak level of 5.7% in 2006—with use by 8<sup>th</sup> and 10<sup>th</sup> graders still lower, at 0.2% and 0.6%, respectively. In 2021 annual prevalence declined by more than one half in 12<sup>th</sup> grade ( $p < .05$ ), and by nearly half in the two lower grades.

### Perceived Risk

Questions about the dangers of cocaine in general (without specifying any particular form of cocaine) have been asked only of 12<sup>th</sup> graders. The results tell a fascinating story. They show that perceived risk for experimental use fell in the latter half of the 1970s (when use was rising), stayed level in the first half of the 1980s (when use was level), and then jumped very sharply in a single year (by 14

percentage points between 1986 and 1987), just when the substantial decline in use began. The year 1986 was marked by a media frenzy over crack cocaine and the widely publicized role of cocaine in the death of Len Bias, a National Basketball Association first-round draft pick. Bias’s death was originally reported as resulting from his first experience with cocaine. Though that was later proven to be incorrect, the message had already taken. We believe that this event helped to persuade many young people that use of cocaine at any level is dangerous, no matter how healthy the individual.<sup>8</sup>

Perceived risk continued to rise through 1991 in 12<sup>th</sup> grade as the fall in use continued. Perceived risk then declined modestly from 1991 to 2000, and use rose from 1992 to 2000. Perceived risk has leveled in recent years at far higher levels than existed prior to 1987, and there was a gradual upward drift for about six years in grades 8 and 10 starting around 2008, before leveling. (Starting in 2020 the question was changed from perceived risk of cocaine powder to perceived risk of cocaine, as is noted in Figure 6 and Table 10.) For the 12<sup>th</sup> graders, perceived risk also increased for about six years before leveling after 2009, followed by some leveling in 2014 and then a falloff in 2017, before leveling again. There is as yet little evidence of generational forgetting of cocaine’s risks. For 12<sup>th</sup> graders, survey questions on both risk and disapproval referred to cocaine in general, until 1986. After that they referred to cocaine powder and crack separately, as did the questions asked of 8<sup>th</sup> and 10<sup>th</sup> graders. The question change seemed to matter rather little in the results. In 2018 there was a decline in perceived risk at 12<sup>th</sup> grade but in 8<sup>th</sup> and 10<sup>th</sup> grades little change through 2019.<sup>9</sup>

### Disapproval

Disapproval of cocaine use by 12<sup>th</sup> graders followed a cross-time pattern similar to that for perceived risk, although its seven percentage point jump in 1987 was not quite as pronounced. Since 1991, when the two lower grades were added to the study, the three grades have moved in tandem with little difference between them. Some decline from

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<sup>8</sup> Among 12<sup>th</sup> graders trends in perceived risk in Table 8 show a particularly sharp rise from 34% in 1986 to 48% in 1987 for trying cocaine once or twice.

<sup>9</sup> Starting in 2021 the question was changed from disapproval of cocaine powder to disapproval of cocaine.



1991 to 1997 was followed by a period of relative stability. Subsequent years showed a gradual increase in disapproval in all three grades. This upward drift ended around 2010 with disapproval of even trying cocaine remaining very high at 82% or greater in 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grades through 2019. In 2020 a new question was introduced asking simply about disapproval of trying cocaine (not “cocaine powder”) and in 2021 the rates in the lower grades changed little—they were 83%, and 85% in grades 8 and 10.

### **Availability**

The proportion of 12<sup>th</sup> graders saying that cocaine would be “fairly easy” or “very easy” for them to get if they wanted some was 33% in 1977, rose to 48% by 1980 as use rose, and held fairly level

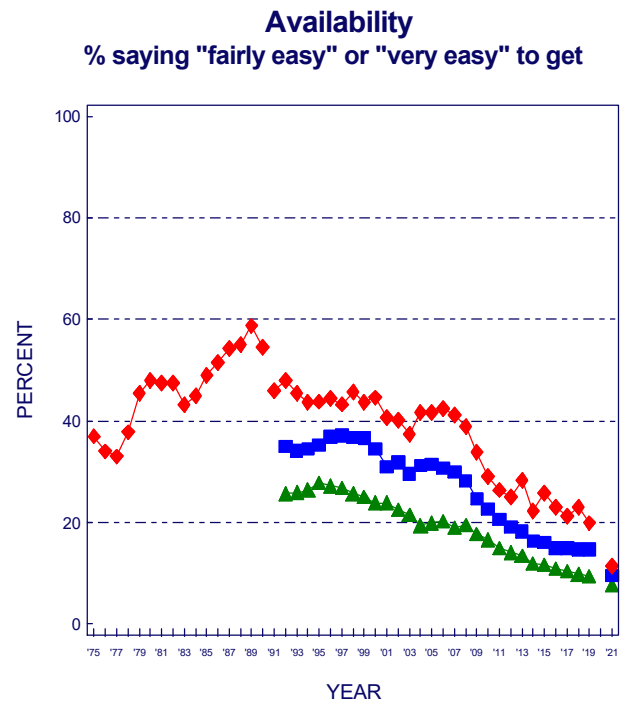
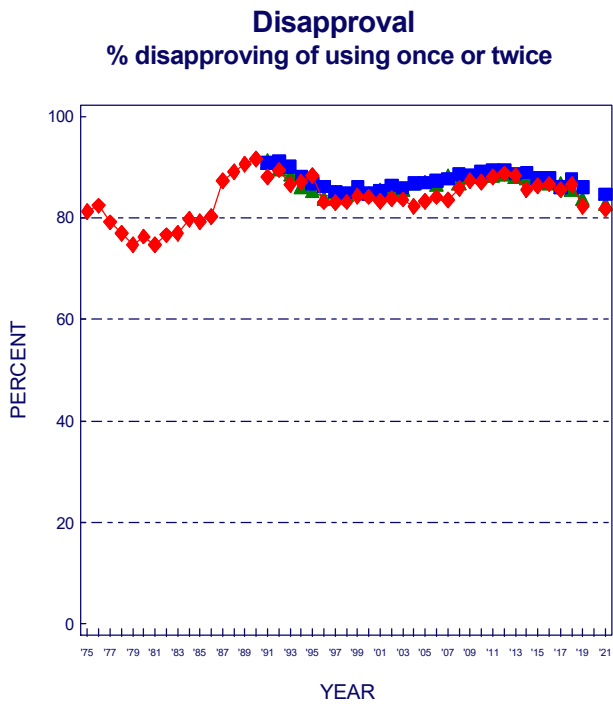
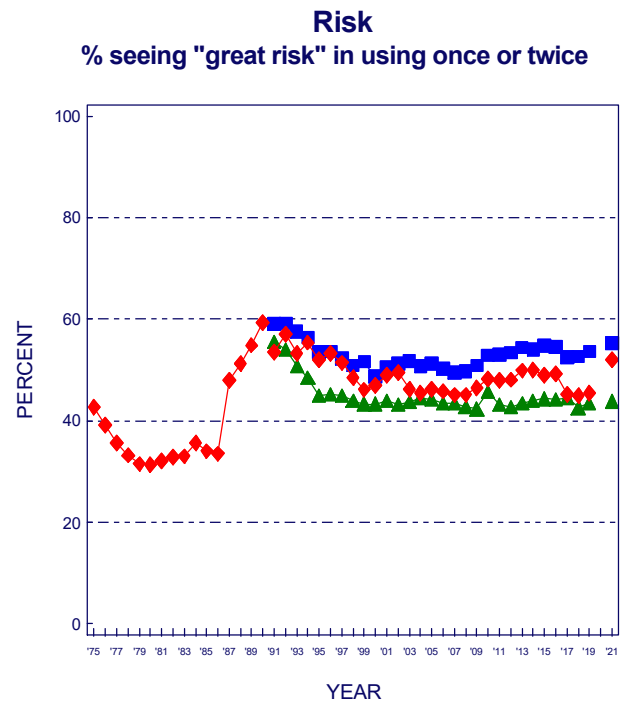
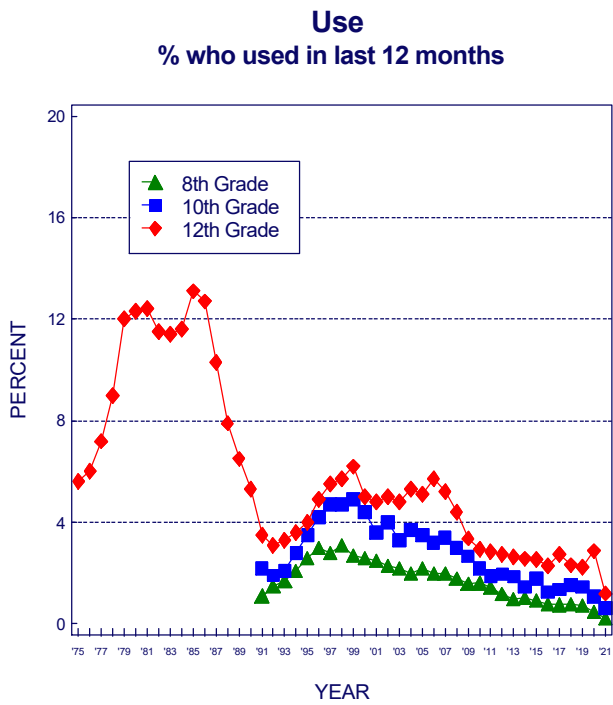
through 1982; it increased steadily again to 59% by 1989 (in a period of rapidly declining use). Perceived availability then fell back to about 47% by 1994. Since around 1997, perceived availability of cocaine has fallen considerably in all three grades. Among 12<sup>th</sup> graders it stood at 17% in 2021—less than a third of its peak level in 1989. By 2021 all three grades were at lower levels.<sup>10</sup> Note that the larger pattern of change does not map well onto the pattern of actual use, suggesting that changes in overall availability have not been a major determinant of use—particularly during the sharp decline in use in the late 1980s—whereas changes in risk and disapproval do map well onto use patterns.<sup>11</sup>

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<sup>10</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

<sup>11</sup> 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.

**Figure 6**  
**Cocaine: Trends in Annual Use, Risk, Disapproval, and Availability**  
 Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'b', 'j', 'k', 'l', and 'o' listed at the end of the figures.

Several indirect indicators suggest that crack use grew rapidly in the period 1983–1986, before we had direct measures of its use. In 1986 a single usage question was included in one of the five 12<sup>th</sup> grade questionnaire forms in use at that time, asking those who indicated any cocaine use in the prior 12 months if they had used crack. The results from that question represent the first data point in the first panel in Figure 7. After that, three questions about crack use covering the usual three prevalence periods were introduced into several questionnaire forms; the data generated by them may be seen in the tables at the end of this volume.

### Trends in Use

Clearly crack use rose rapidly in the early 1980s, judging by the 4% annual prevalence reached in 1986; but after 1986 there was a precipitous drop in crack use among 12<sup>th</sup> graders—the drop continued through 1991. After 1991 for 8<sup>th</sup> and 10<sup>th</sup> graders (when data were first available) and after 1993 for 12<sup>th</sup> graders, all three grades showed a slow, steady increase in use through 1998 during what we have called the relapse phase of the overall drug epidemic. Since 1999, annual prevalence has dropped by about three quarters in 8<sup>th</sup> and 10<sup>th</sup> grades and nearly two thirds in 12<sup>th</sup> grade. By 2016 crack use was at historic lows in all three grades, and there was little change in use through 2019. As with many drugs, the decline at 12<sup>th</sup> grade lagged behind those in the lower grades due to a cohort effect. In 2021 the annual prevalence of crack use was at 0.2%, 0.3%, and 0.7% in the in the three grades, all of which showed declines between 2019 and 2021.

### Perceived Risk

By the time we added questions about the perceived risk of using crack in 1987, crack was already seen by 12<sup>th</sup> graders as one of the most dangerous illicit drugs: 57% saw a great risk in even trying it. This compared to 54% for heroin, for example. Perceived risk for crack rose still higher through 1990, reaching 64% of 12<sup>th</sup> graders who said they thought there was a great risk in taking crack once or twice. (Use was dropping during that interval.)

After 1990 some falloff in perceived risk began—well before crack use began to increase in 1994—making perceived risk again a leading indicator of use. Between 1991 and 1998 there was a considerable falloff in this belief in grades 8 and 10 as use rose steadily. Perceived risk leveled in 2000 in grades 8 and 12 and a year later in grade 10. We think that the declines in perceived risk for crack and cocaine during the 1990s may well reflect an example of generational forgetting wherein the class cohorts that were in adolescence when the adverse consequences of crack were most obvious (i.e., in the mid-1980s) were replaced by cohorts who were less knowledgeable about these dangers. By 2019 perceived risk for trying crack stood at 47% and 62% in 8<sup>th</sup> and 10<sup>th</sup> grades and had been declining for six years among 12<sup>th</sup> graders, reaching 50%. The questions on perceived risk and disapproval for crack were dropped starting in 2020 due to low prevalence and to make room for other questions.

### Disapproval

Disapproval of crack use was not assessed until 1990, when it was at a very high level, with 92% of 12<sup>th</sup> graders saying that they disapproved of even trying it. Disapproval of crack use declined slightly but steadily in all three grades from 1991 through about 1997 as perceived risk decreased and use increased. After 1997, disapproval in all three grades rose back to high levels in 2012 before beginning a very gradual decline. The question was dropped after 2019.

### Availability

Crack availability did not change dramatically in the early years for which data are available. It began a sustained decline after 1995 among 8<sup>th</sup> graders, after 1999 among 10<sup>th</sup> graders, and after 2000 among 12<sup>th</sup> graders. Since 2000, availability has declined considerably, reaching historic lows in 2019 in 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grades. The 2021 estimates are lower still, but that may be partly due to mode effects.<sup>12</sup>

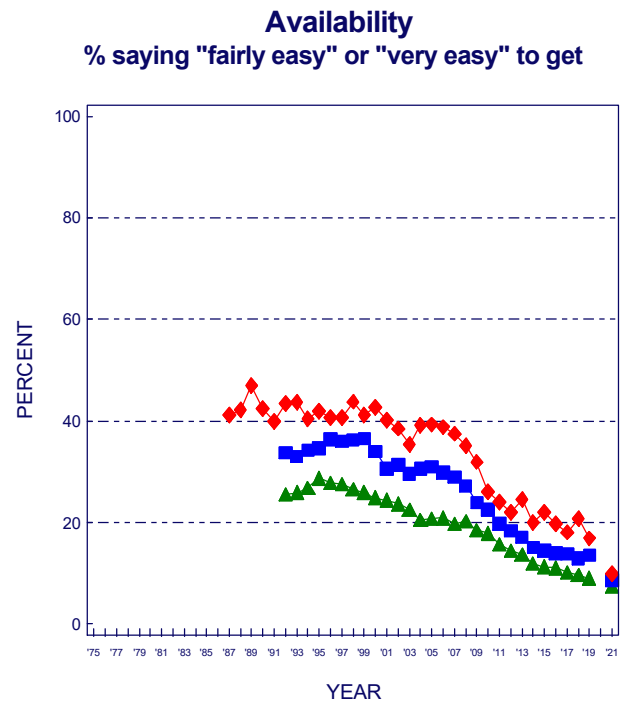
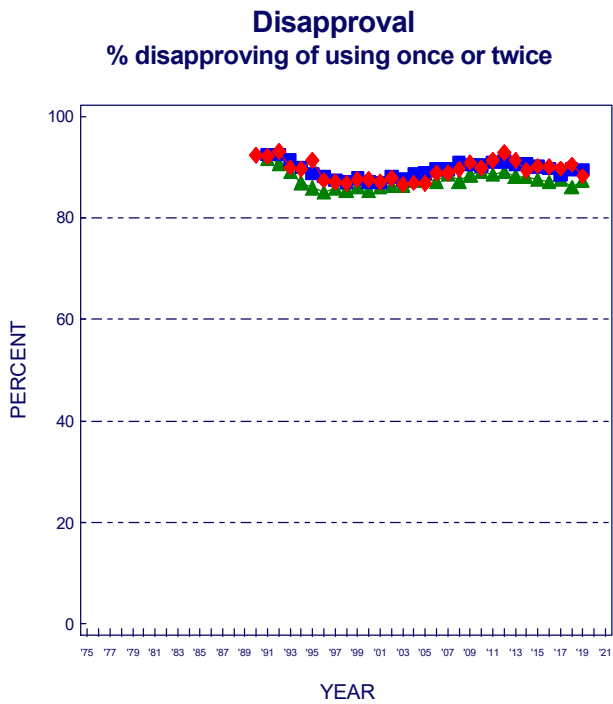
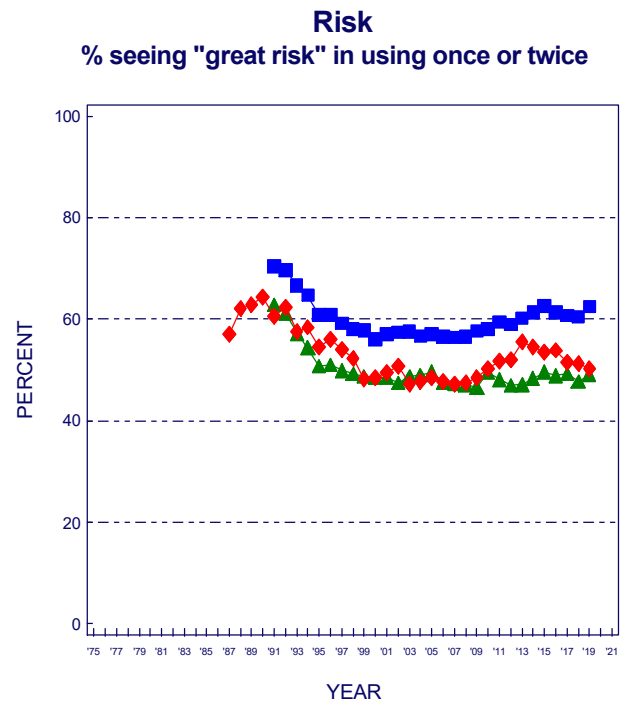
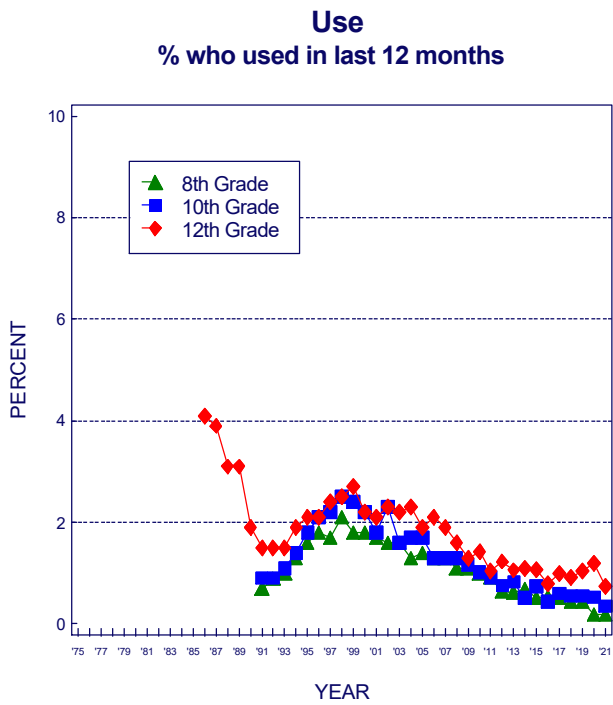
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<sup>12</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

NOTE: The distinction between crack cocaine and other forms of cocaine (mostly powder) was made several years after the study's inception. The trend lines in Figure 7 begin when these distinctions were introduced. Figures are not presented here for the "other forms of cocaine" measures, simply because the trend curves look extremely similar to those for crack. (All statistics are contained in the tables.)

Although the trends are very similar, the absolute levels of use, risk, etc. are somewhat different. Usage levels tend to be higher for cocaine powder compared to crack and the levels of perceived risk a bit lower. Disapproval has been close for the two different forms of cocaine, whereas their relative availability has varied (Tables 9 through 14).

**Figure 7**  
**Crack: Trends in Annual Use, Risk, Disapproval, and Availability**  
 Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'j', 'k', and 'l' listed at the end of the figures.

## Amphetamines and Other Stimulant Drugs

Amphetamines, a class of psychotherapeutic stimulants, had a relatively high prevalence of use in the youth population for many years. Amphetamines are controlled substances—they are not legally bought or sold without a doctor’s prescription—but some are diverted from legitimate channels, and some are manufactured and/or imported illegally. Another controlled stimulant included here is **Ritalin** which is used to treat ADHD, as is **Adderall**, the most prevalent of the amphetamines. Separate estimates for these two drugs are contained in the tables at the end of this volume. Note that we focus here on stimulant use without medical supervision.

### Trends in Use

The use of amphetamines rose in the last half of the 1970s, reaching a peak in annual prevalence of 26% in 1981 (likely exaggerated due to commonly used “look-alikes”)—two years after marijuana use peaked. From 1981 to 1992, 12<sup>th</sup> graders showed a steady and very substantial decline in stimulant use, reaching 7%. More recently there were substantial, significant drops in all three grades in 2021.

As with many other illicit drugs, stimulants made a comeback in the 1990s. Use peaked in the lower two grades by 1996 and for many years declined steadily in 8<sup>th</sup> grade and sporadically in 10<sup>th</sup> grade. Only in 2003 did use begin to decline in 12<sup>th</sup> grade—likely reflecting a cohort effect. The decline paused in 2008 for 10<sup>th</sup> graders and 2008/2009 for 12<sup>th</sup> graders, rose for awhile in both grades through 2013, and then resumed their decline. The 10<sup>th</sup> and 12<sup>th</sup> grade declines reversed from 2009 to 2013. In 2013 the amphetamines/stimulants prevalence question text was changed in half of the questionnaire forms. The 2013 report used data from the changed forms only, to be comparable to the 2014 measure. In 2014 the remaining forms were changed; the 2014 and subsequent data presented here are based on all the forms. The increase in use from 2009 to 2013 in the upper two grades likely was due to a rise in stimulant use intended to assist with academic performance in high school. Since 2013 there has been a downward

drift in annual prevalence in grades 10 and 12. In 2021 large and highly significant declines in annual prevalence were observed in all three grades.<sup>13</sup> See Table 6 for the trends in annual use of two specific amphetamines: **Ritalin** and **Adderall**. Since it was first measured in 2001, nonmedical **Ritalin** use has declined by 75% to 94% in all three grades. Nonmedical **Adderall** use declined in the lower grades since it was first measured in 2009; but annual prevalence increased significantly in 12<sup>th</sup> grade between 2009 (5.4%) and 2013 (to 7.4%) where it remained in 2015 before falling to 1.8% by 2021, reflecting declines of one-tenth to two-thirds—much of it in 2021.<sup>13</sup>

### Perceived Risk

Only 12<sup>th</sup> graders are asked about the amount of risk they associate with amphetamine/stimulant use. For a few years, changes in perceived risk were not correlated with changes in usage levels (at the aggregate level). Specifically, in the interval 1981–1986, risk was quite stable even though use fell considerably, likely as a result of some displacement by increasing cocaine use—another stimulant drug. There was, however, a decrease in risk during the period 1975–1981 (when use was rising), some increase in perceived risk in 1986–1991 (when use was falling), and some decline in perceived risk from 1991 to 1995 (in advance of use rising again). Perceived risk generally rose until 2010, very likely contributing to the decline in use that occurred among 12<sup>th</sup> graders after 2002. In 2011 the examples of specific amphetamines provided in the text of the questions on perceived risk, disapproval, and availability were updated with the inclusion of **Adderall** and **Ritalin**. This led to some discontinuities in the amphetamine trend lines in 2011. (Levels of perceived risk and disapproval lowered as a result.) Based on the revised question, some small decrease was occurring in perceived risk from 2013 to 2018. The 2021 value was substantially above the 2019 reading, likely due to a mode effect, but for disapproval there appeared to be no mode effect.<sup>13</sup>

<sup>13</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

## Disapproval

Disapproval of amphetamine/stimulant use also is asked in 12<sup>th</sup> grade only. Relatively high proportions of 12<sup>th</sup> graders have disapproved of even trying amphetamines/stimulants throughout the life of the study. Disapproval did not change in the late 1970s despite an increase in use. From 1981 to 1992, disapproval rose gradually and substantially from 71% to 87% as perceived risk rose and use declined. In the mid-1990s disapproval declined along with perceived risk, but it then increased fairly steadily from 1996 through 2009 before leveling. There was a gradual falloff from

2013 to 2019, and the 2021 reading looks like it continued.<sup>14</sup>

## Availability

In 1975, amphetamines/stimulants had a high level of reported availability. The level fell by about 10 percentage points among 12<sup>th</sup> graders by 1977, drifted up a bit through 1980, jumped sharply in 1981, and then began a long, gradual decline through 1991. There was a modest increase in availability at all three grade levels in the early 1990s as use rose, followed by a very large, long-term decline reaching 39% through 2019. There followed a substantial drop to 2021 in the upper grades and a smaller drop in 8<sup>th</sup> grade.

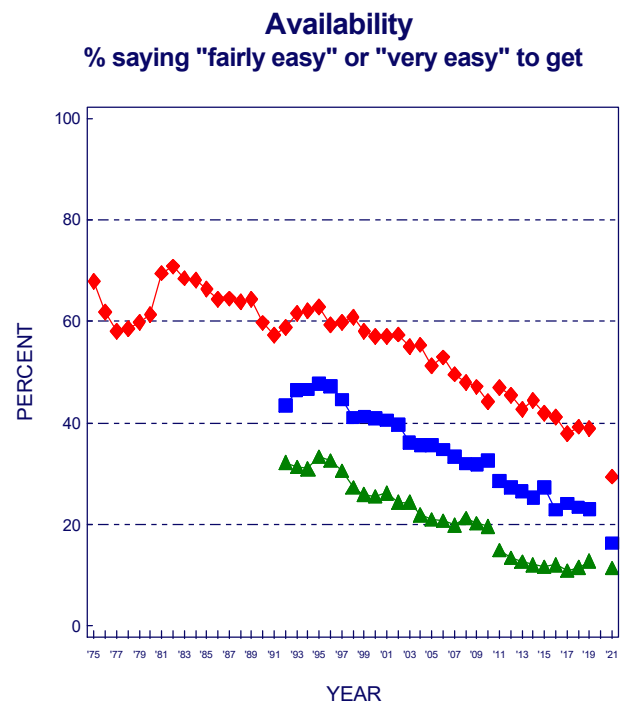
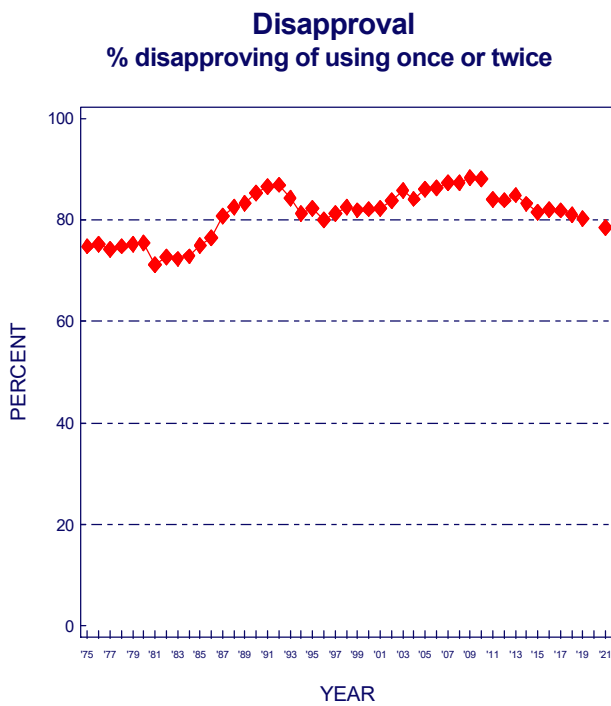
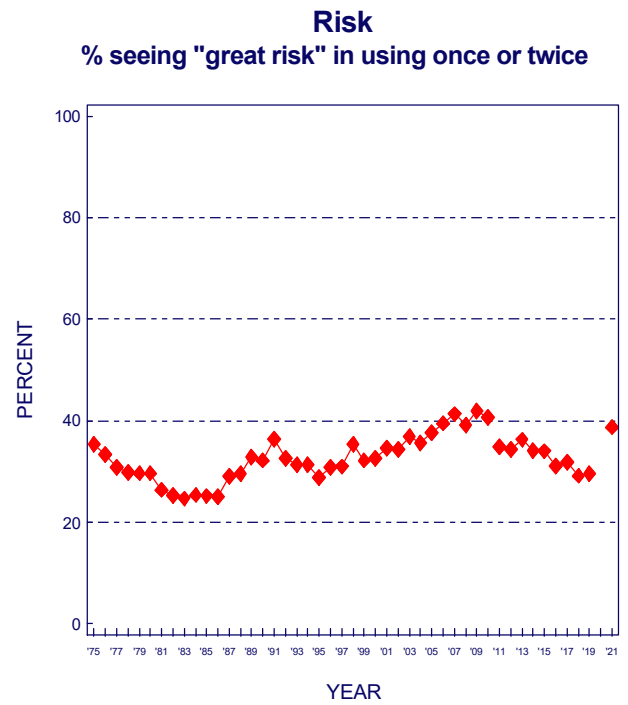
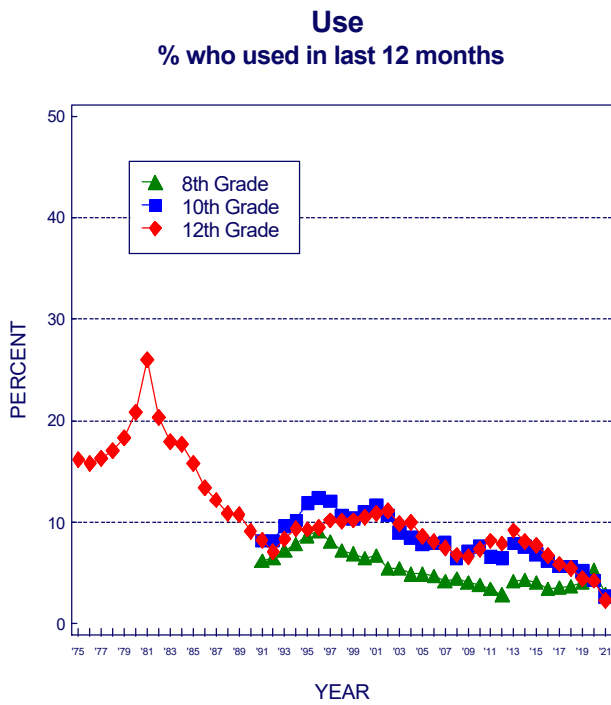
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<sup>14</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

**Figure 8**

**Amphetamines : Trends in Annual Use, Risk, Disapproval, and Availability**

Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
\*Please reference footnotes 'c', 'd', 'j', 'k', and 'l' listed at the end of the figures.



## Methamphetamine and Crystal Methamphetamine (Ice)

One subclass of amphetamines is called methamphetamine (“speed”). This subclass has been around for a long time and gave rise to the phrase “speed kills” in the 1960s. Probably because of the reputation it got at that time as a particularly dangerous drug it was not popular for some years, so we did not include a full set of questions about its use in MTF’s early questionnaires. One form of methamphetamine, crystal methamphetamine, or “ice”, grew in popularity in the 1980s and first half of the 1990s. It comes in crystallized form, as the name implies, and the chunks can be heated and the fumes inhaled, much like crack cocaine.

### Trends in Use

For most of the life of the study, the only question about *methamphetamine* use has been contained in one of the six 12<sup>th</sup> grade questionnaire forms. Respondents who indicated using *any type of amphetamine* in the prior 12 months were asked in a sequel question to indicate on a pre-specified list the types they have used during that period. *Crystal methamphetamine* was included and the trend of annual prevalence in 12<sup>th</sup> grade may be seen in Table 6.

In 1999, responding to the growing concern about methamphetamine use in general—not just crystal methamphetamine use—we added a full set of three questions about the use of any methamphetamine to the questionnaires for all three grade levels. These questions yield a somewhat higher annual prevalence for 12<sup>th</sup> graders: 4.3% in 2000, compared to the sum of the methamphetamine and crystal methamphetamine answers in the branching question format, which totaled 2.8%. It would thus appear that the long term method we had been using for tracking methamphetamine use in any form probably yielded an underestimate of the absolute prevalence level, perhaps because some proportion of methamphetamine users did not correctly categorize themselves initially as amphetamine users (even though methamphetamine was given in the question as one of the examples of amphetamines). We think it

likely that the general shape of the trend curve was not distorted, however.

In 1999 we introduced our usual set of three prevalence questions for methamphetamine (not crystal methamphetamine), measuring lifetime, annual, and 30 day use (see Tables 5–7). Among 12<sup>th</sup> graders in 1999, 4.7% indicated any use in the prior year; their use then declined to 1.4% by 2020, before dropping to 0.2% in 2021 during the pandemic—the lowest rate we have ever recorded (not graphed, but see Table 6). So, despite growing public concern about the methamphetamine problem in the United States, use actually showed a fairly steady and substantial decline since 1999—perhaps earlier, at least among secondary school students.

*Crystal Methamphetamine* is one important type of methamphetamine, and we have data on its use by 12<sup>th</sup> graders since 1991 when annual prevalence was 1.4% (Table 6). It then climbed to 3.0% in 1998, and reached a level of 3.0% again in 2002, but then declined unevenly all the way through 2020 (to a nominal 0%). In 2021 the rate was 0.4%. In sum, use of this drug has nearly disappeared from this population of 12<sup>th</sup> grade students.

### Other Measures

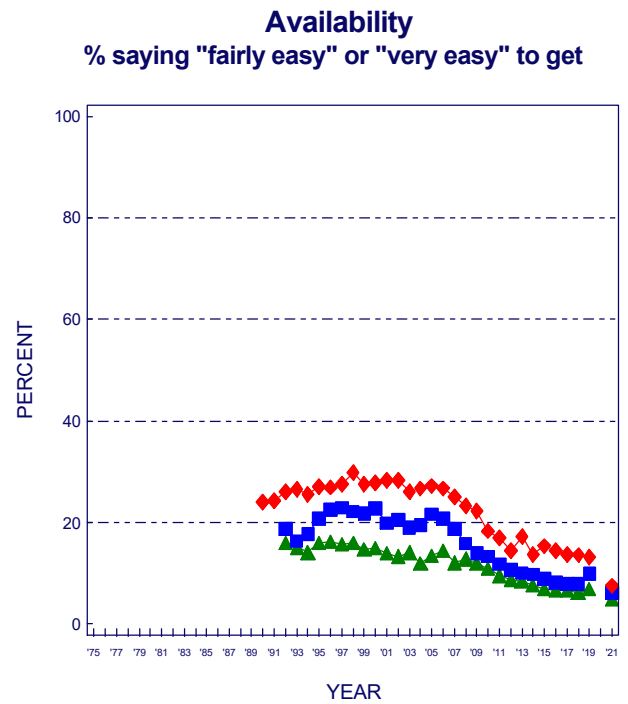
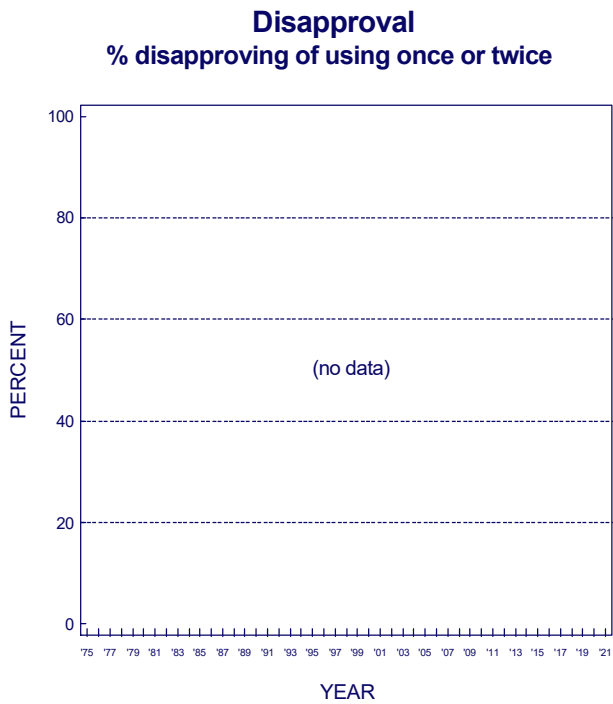
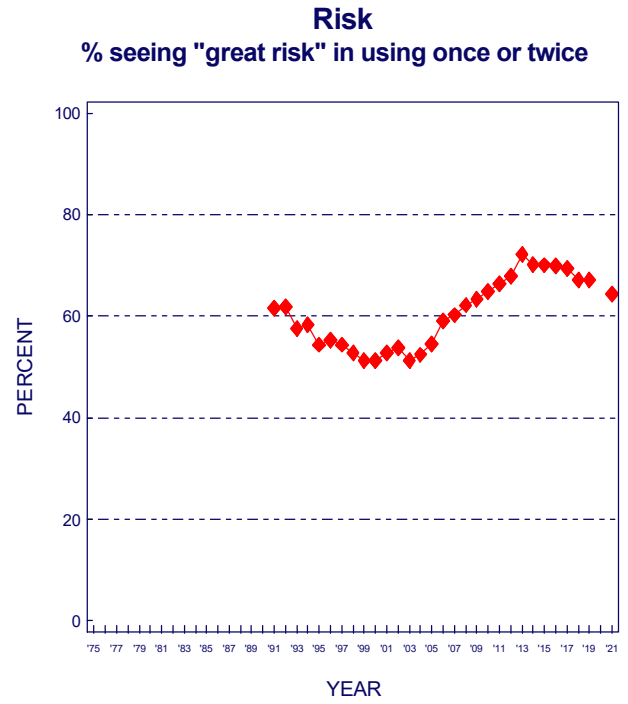
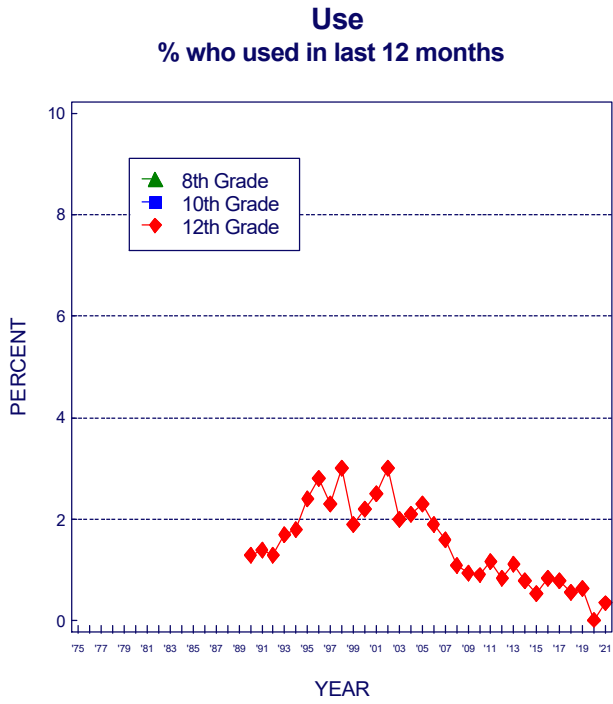
Data on perceived risk and availability for crystal methamphetamine, specifically, may be found in Fig. 9.

Clearly, the *perceived risk* of using crystal methamphetamine rose considerably from 2003 to 2013, very likely explaining much of the substantial decline in use during that period. Perceived risk has declined some since then.

*Perceived availability* generally has been falling in all three grades since 2006, perhaps in part because there are many fewer crystal methamphetamine users from whom to get the drug. This downward trend continued in all three grades in 2021, possibly reflecting the impact of the pandemic.<sup>6</sup>

<sup>6</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

**Figure 9**  
**Crystal Methamphetamine (Ice) : Trends in Annual Use, Risk, and Availability**  
 Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'j', 'k', and 'l' listed at the end of the figures.

For many decades, heroin—a derivative of opium—was administered primarily by injection into a vein. However, in the 1990s the purity of available heroin reached very high levels, making other, less efficient modes of administration (e.g., snorting, smoking) practical alternatives. Thus, in 1995 we introduced questions that asked separately about using heroin with and without a needle to determine whether noninjection use explained the upsurge in heroin use we observed. The usage statistics presented in Figure 10 are based on heroin use by any method, but data on the two specific types of administration are provided in the tables at the end of this report.

### Trends in Use

The *annual prevalence* of heroin use among 12<sup>th</sup> graders fell by half between 1975 and 1979, from 1.0% to 0.5%. The rate then held amazingly steady until 1994. Use rose in the mid- and late-1990s, along with the use of most drugs; it reached peak levels in 1996 among 8<sup>th</sup> graders (1.6%), in 1997 among 10<sup>th</sup> graders (1.4%), and in 2000 among 12<sup>th</sup> graders (1.5%), suggesting a cohort effect. Following those peak levels use declined, with annual prevalence in all three grades fluctuating between 0.7% and 0.9% from 2005 through 2010. Then, annual prevalence for the three grades declined from 2010 to 0.3% in 2016 before leveling at some of the lowest levels seen in all three grades. In 2021 use declined further, but only in 12<sup>th</sup> grade and not significantly (Table 6).

Because the questions about use with and without a needle were not introduced until the 1995 survey, they did not encompass much of the period of increasing heroin use. The new questions showed that in 1995 about equal proportions of 8<sup>th</sup> grade users were taking heroin by each method of ingestion and some—nearly a third of users—were using both means (Table 6). At 10<sup>th</sup> grade, a somewhat higher proportion of all users took heroin *without a needle* than with, and at 12<sup>th</sup> grade, the proportion was higher still. Thus, much of the increase in overall heroin use after 1995 occurred in the proportions using it without injecting, which we strongly suspect was true in the immediately preceding period of increase as well. Likewise, much of the decrease since the recent peak levels

has been due to decreasing use of heroin without a needle. In 2012, there were significant decreases in use of heroin without a needle for 8<sup>th</sup> and 12<sup>th</sup> graders and very slight declines since then in 8<sup>th</sup> and 10<sup>th</sup> grades.

Use *with a needle* also has fallen considerably in all three grades since the mid-1990s; annual prevalence in 2021 stood at 0.1% in all three grades (see Table 6). The proportional declines were greatest in the lower grades. While an opioid epidemic continues among adults, our data—as well as those from the National Survey on Drug Use and Health—suggest that use has grown primarily among adults and not among adolescents.

### Perceived Risk

Students have long seen heroin to be one of the most dangerous drugs, which helps to account for both the consistently high levels of personal disapproval of use (see below) and the quite low prevalence of use. Nevertheless, perceived risk levels have changed some over the years. Early on, between 1975 and 1986, perceived risk gradually declined; use dropped and then stabilized in that interval. Then there was a large upward spike in 1987 (when perceived risk for cocaine also jumped dramatically), where it held for four years. In 1992, perceived risk dropped to a lower level again, presaging an increase in use a year or two later. Perceived risk rose in the latter half of the 1990s, and use leveled off and then declined. Perceived risk of use *without a needle* rose slightly in all grades between 1995 and 1997, foretelling an end to the increase in that form of use. Risk at 12<sup>th</sup> grade was still rising through 2016, but has fallen some since then for them; it has also fallen some since about 2016 among 8<sup>th</sup> graders. During the 2000s, perceived risk has been relatively stable at high levels with 10<sup>th</sup> graders seeing the most risk

### Disapproval

There has been little fluctuation over the years in the very high levels of disapproval of heroin use, though it did rise gradually between 1975 and 1987 and again between 2000 and 2010. The small changes that have occurred have been generally consistent with changes in perceived risk and use

and likely have contributed to the downturns in use, as has perceived risk.<sup>7</sup>

### **Availability**

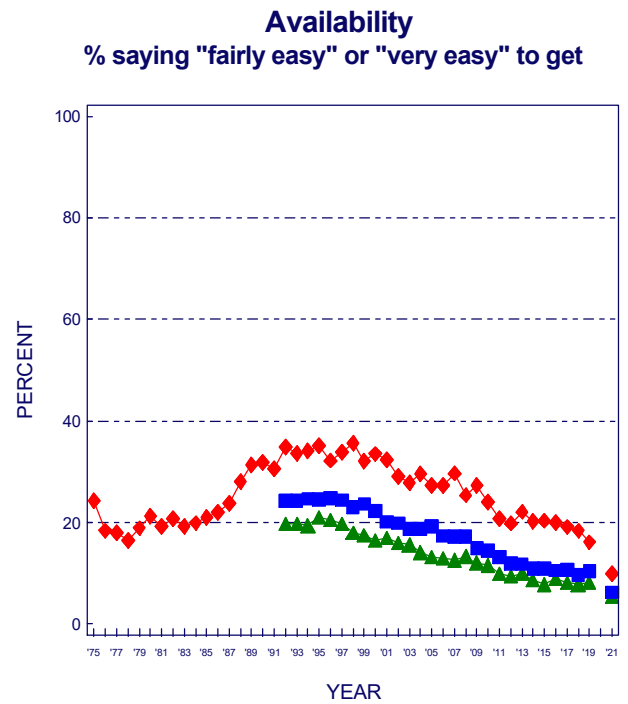
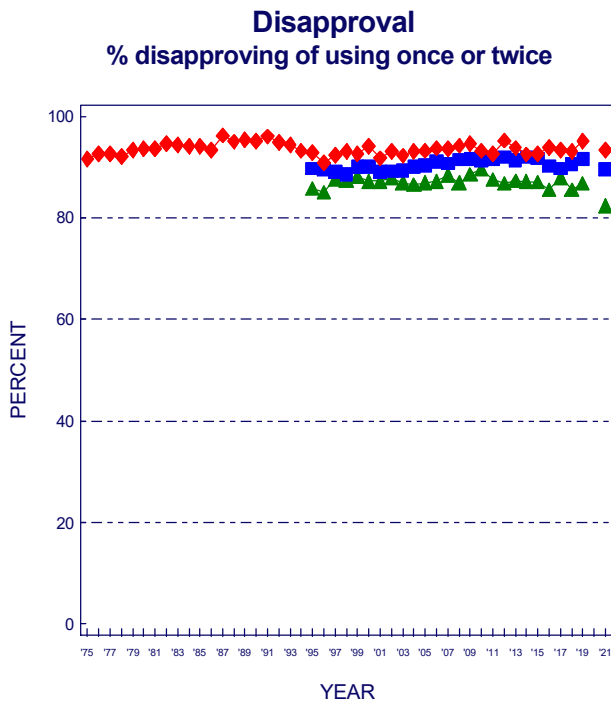
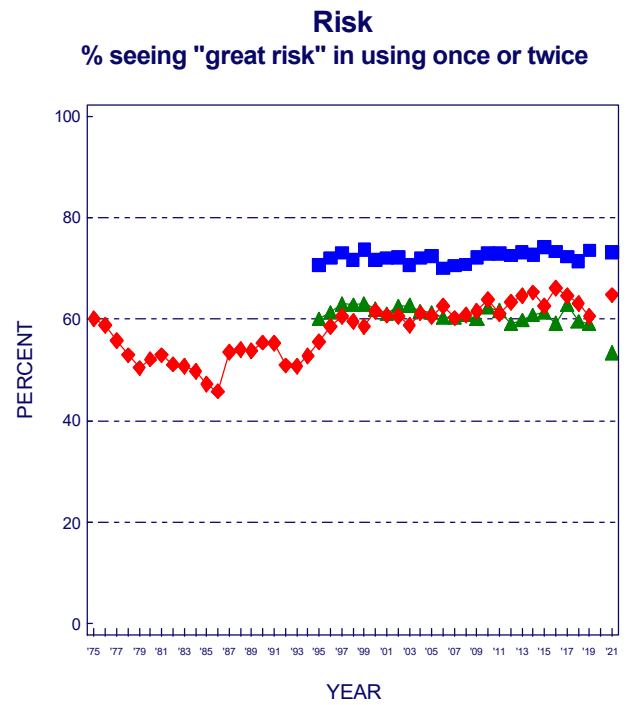
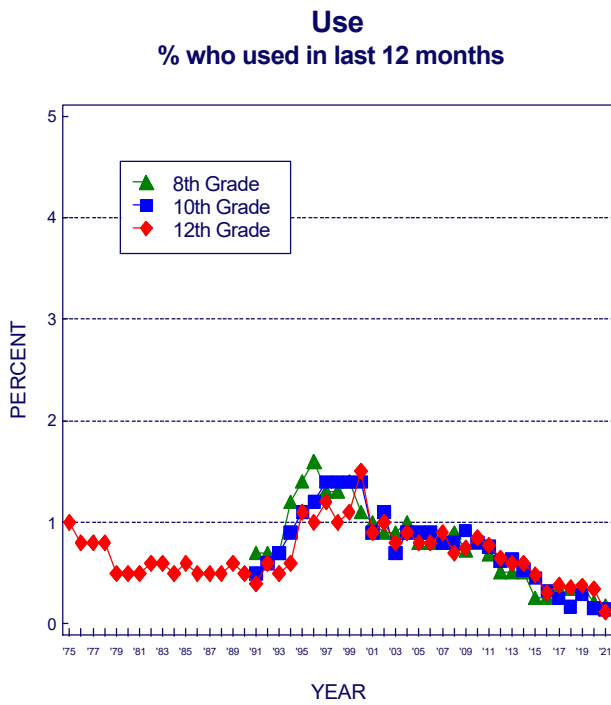
The proportion of 12<sup>th</sup> grade students saying they could get heroin fairly or very easily if they wanted some remained around 20% through the mid-

1980s. It then increased considerably from 1986 to 1992 before stabilizing at about 35% from 1992 through 1998. Since then, perceived availability of heroin has declined gradually but substantially in all three grades, falling to all-time lows in 2021 in all grades, quite possibly due in part to the epidemic.

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<sup>7</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

**Figure 10**  
**Heroin: Trends in Annual Use, Risk, Disapproval, and Availability**  
 Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'e', 'j', 'k', and 'l' listed at the end of the figures.

## Other Narcotic Drugs, Including OxyContin and Vicodin

There are a number of narcotic drugs other than heroin—all of which are controlled substances. Many are analgesics that can be prescribed by physicians and dentists for pain. Like heroin, many are derived from opium, but there are also a number of synthetic analogues in use today, with **OxyContin** and **Vicodin** being two of the major ones. Fentanyl is another very powerful narcotic drug which has been used in combination with other drugs, often without the knowledge of the user, sometimes resulting in overdoses and death.

Throughout the life of the MTF study, we have asked about the use of “any narcotic drug other than heroin” without specifying which ones. Examples of drugs in the class are provided in the question stem. In one of the six 12<sup>th</sup> grade questionnaire forms, however, respondents indicating that they had used *any narcotic* in the past 12 months were then asked to check which of a fairly long list of specific drugs they used. Table C-4 in Appendix C of [Volume I](#) of the MTF annual monograph series provides trends in their annual prevalence. In the late 1970s, opium and codeine were among the narcotics most widely used. In recent years codeine has been the most prevalent.

### Trends in Use

Use is reported for 12<sup>th</sup> graders only, because we considered the data from 8<sup>th</sup> and 10<sup>th</sup> graders to be of questionable validity. As shown in the first panel of Figure 11, 12<sup>th</sup> graders’ use of narcotics other than heroin generally trended down from about 1977 through 1992, dropping considerably. After 1992 use rose rather steeply as all forms of substance use were increasing, with *annual prevalence* nearly tripling from 3.3% in 1992 to 9.5% in 2004 before leveling through about 2009. Much of this increase resulted from a revision of the example drugs, as is noted in a footnote to the figure. Importantly, since 2009, use has declined substantially from 9.2% to 2.1% in 2019. From 2019–2021 it fell an additional 1.7 percentage point, including a significant 1.1 percentage point in 2021 ( $p < .01$ ).

In 2002, the question was revised to add **Vicodin**, **OxyContin**, and **Percocet** to the examples given, which clearly had the effect of increasing reported

prevalence, as may be seen in the first panel of Figure 11. So the extent of the increase over the full time span likely is exaggerated, although probably not by much, because these drugs came onto the scene later, during the rise. They simply were not being fully reported until 2002. Narcotics had become one of the most widely used classes of illicit drugs by 2004, when annual prevalence reached 9.5%.

In a departure from the usual arrangement, usage rates for two narcotics of recent interest—**OxyContin** and **Vicodin**—are presented in the second and third panels of Figure 11 instead of risk and disapproval. There are no data on disapproval for “other narcotics” and only limited 12<sup>th</sup> grade data on perceived risk (since 2010); since 2010 perceived risk of trying the drugs has increased slightly from 40% in 2010 to 44% in 2021 (see Table 12).

**OxyContin** use increased in all grades from 2002 (when it was first measured) through roughly 2009, though the trend lines have been irregular (Table 6). Since 2009 or 2010, the annual prevalence has dropped in all grades. In 2021 it was down to 0.8% to 0.9% in all grades, with a nonsignificant 1.5 percentage point decline among 12<sup>th</sup> graders in 2021.

**Vicodin**, on the other hand, remained fairly steady at somewhat higher levels than **Oxycontin** from 2002—the first year it was measured—until 2009, after which it declined substantially in all grades (Table 6). In 2021, annual prevalence rates continued to decline and were 0.6%, 0.5%, and 0.9% for 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> graders, respectively.

### Availability

Questions were asked about the availability of narcotics other than heroin, taken as a class. (See the lower right panel on Figure 11.) Perceived availability increased gradually among 12<sup>th</sup> graders for more than a decade (from 1978 through 1989), even as reported use was dropping. Perceived availability then rose further for another decade (from 1991 through 2001) as use rose quite sharply before leveling by about 2000 and then declining after 2002 among 12<sup>th</sup> graders. In the lower two

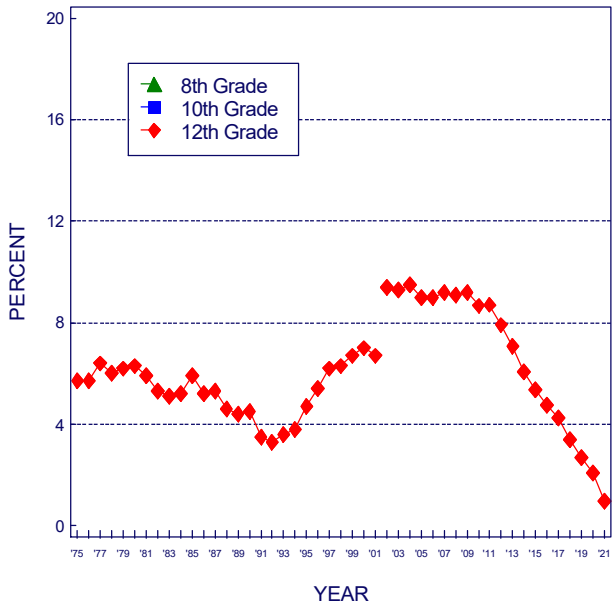
grades availability began declining earlier, after 1995. Since those turnarounds, availability has declined steadily and substantially in all three grades. (In all grades, a change in question wording in 2010 to include *OxyContin* and *Vicodin* as examples presumably accounts for the jump in reported availability that year in the upper grades.)

Availability has declined further in all three grades since 2010, including large declines from 2019–2021 particularly among 12<sup>th</sup> graders. While a change in the mode of data collection may account for some of that drop, it seems likely that there was a real change in availability during the pandemic.

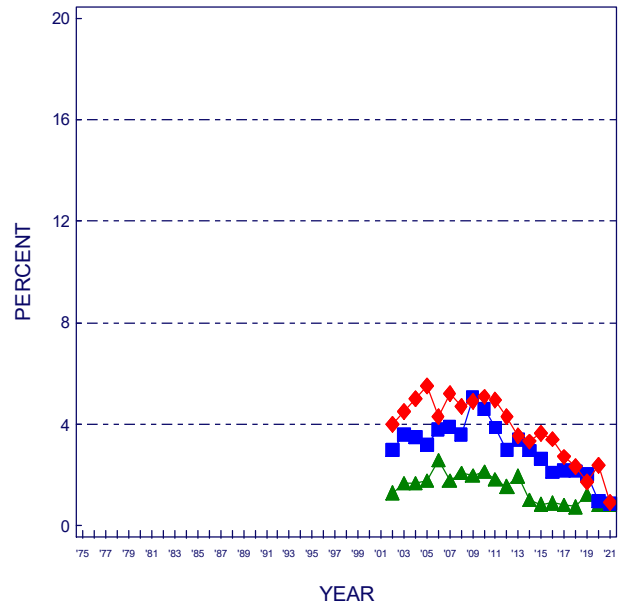
**Figure 11**

**Narcotics other than Heroin, including OxyContin, and Vicodin Specifically: Trends in Annual Use and Availability**  
 Grades 8, 10, 12

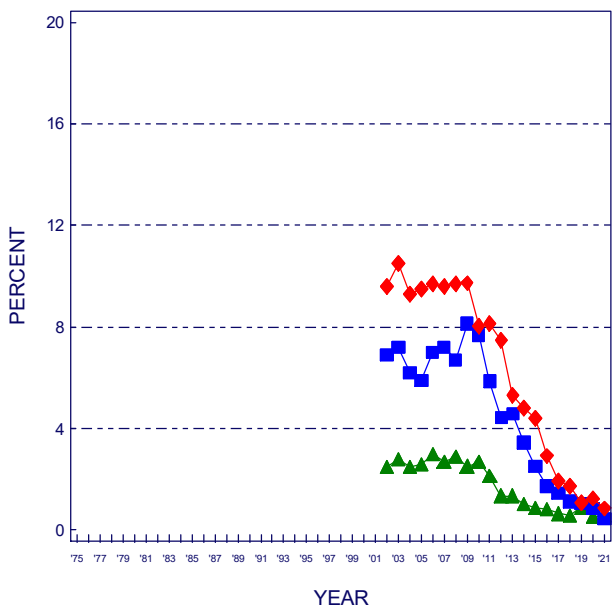
**Use of Narcotics other than Heroin**  
 % who used any narcotics other than heroin  
 in last 12 months



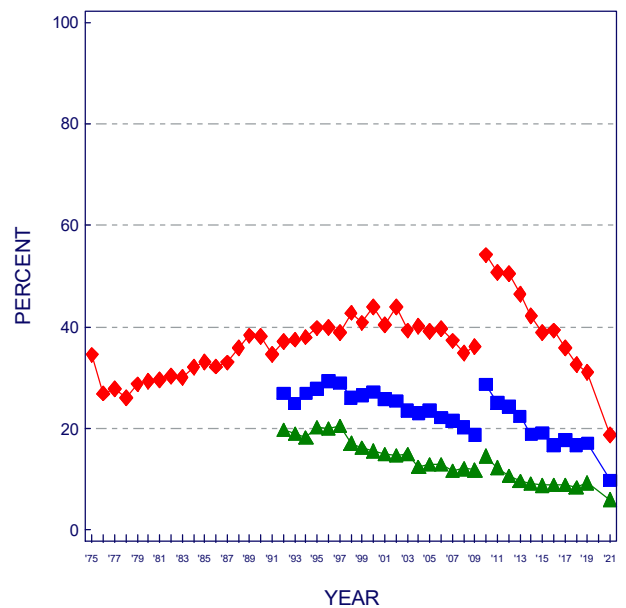
**OxyContin Use**  
 % who used OxyContin in last 12 months



**Vicodin Use**  
 % who used Vicodin in last 12 months



**Availability of Narcotics other than Heroin**  
 % saying "fairly easy" or "very easy" to get



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'j', 'k', and 'l' listed at the end of the figures.



## Tranquilizers

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Tranquilizers are psychotherapeutic drugs that are legally sold only by prescription. They are central nervous depressants and, for the most part, comprise benzodiazepines (minor tranquilizers), although some nonbenzodiazepines have been introduced. Respondents are instructed to exclude any medically prescribed use from their answers. At present, *Xanax* is the tranquilizer most commonly used by 12<sup>th</sup> graders (only 12<sup>th</sup> graders are asked to indicate which specific tranquilizers they used). (See Table C-3 in appendix C of [Volume I](#) in this series for details.) In 2001, the examples given in the tranquilizer question were modified to reflect changes in the drugs in common use—*Miltown* was dropped and *Xanax* was added. As the first panel on Figure 12 shows, this caused a modest increase in the reported level of tranquilizer use in the upper grades, so we have broken the trend line to reflect the point of redefinition.

### Trends in Use

During the late 1970s and all of the 1980s, the *annual prevalence* of tranquilizers fell steadily and substantially, with 12<sup>th</sup> graders' use declining by three fourths over the 15 year interval between 1977 and 1992. Their use then increased, as happened with many other drugs during the 1990s. Annual prevalence more than doubled among 12<sup>th</sup> graders, rising steadily through 2002, before leveling. Use also rose steadily among 10<sup>th</sup> graders, but began to decline some in 2002. Use peaked much earlier among 8<sup>th</sup> graders in 1996 and then declined slightly for two years. Since then, in 8<sup>th</sup> grade there has been relatively little change in prevalence until after 2019, suggesting that there has been little interest in this class of drugs in this younger age group.

By way of contrast, in the upper two grades a long term gradual decline began around 2002. From 2002 to 2005, there was some decline among 10<sup>th</sup>

graders, followed by a leveling and then a resumption of the decline through 2013, followed by another leveling and then a further decline beginning in 2019. The drop from 2019–2021 was sharp in all three grades and highly significant in grades 10 and 12 ( $p < .001$ ), very likely as a result of the epidemic. Among 12<sup>th</sup> graders, there was a very gradual decline from 2002 through 2007 before leveling and then decreasing in 2013 before another leveling. A sharper decline began in 2018–2021. In 2021, past 12 month prevalence of these prescription drugs was down considerably from their recent peaks in the early 1990s, with annual prevalence rates of just 1.1%, 1.3%, and 1.2% in grades 8, 10, and 12, respectively.

### Perceived Risk and Disapproval

Data have not been collected on perceived risk and disapproval for tranquilizers.

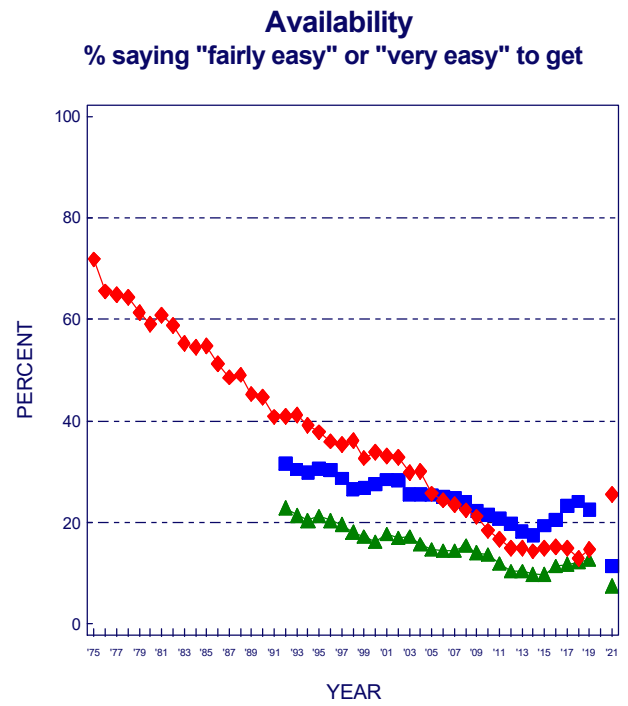
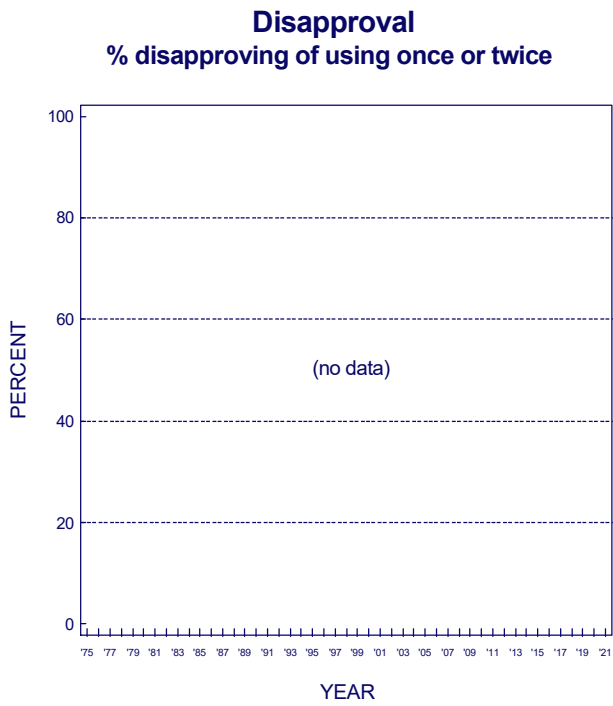
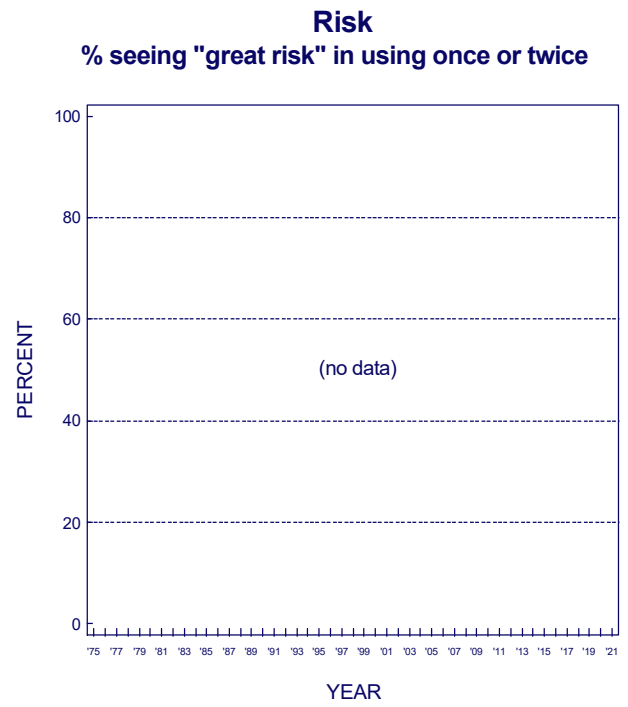
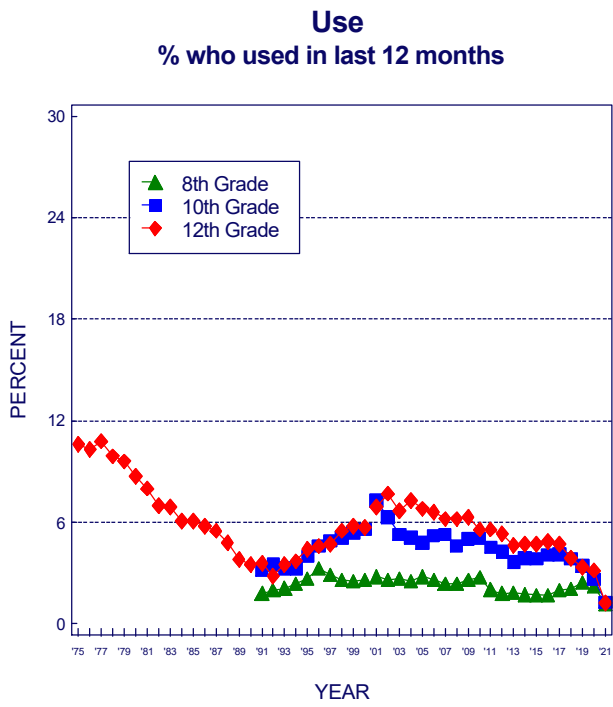
### Availability

As the number of 12<sup>th</sup> graders reporting nonmedically prescribed tranquilizer use fell dramatically during the 1970s and 1980s, so did the proportion saying that tranquilizers would be fairly or very easy to get. Whether declining use caused the decline in availability or vice versa is unclear. However, 12<sup>th</sup> graders' perceived availability has continued to fall since then, even as use rebounded in the 1990s; it was down by eight tenths over most of the life of the study—from 72% in 1975 to 15% by 2019 saying that tranquilizers would be fairly or very easy to get if they wanted some. In 2021 perceived availability in only the 12<sup>th</sup> grade increased substantially—to 26%—which is difficult to interpret substantively and likely reflects a mode effect. In the lower grades availability fell fairly continuously after 1991 (when it was first measured) until 2014, when it increased slightly in the ensuing years but then continued its decline after 2019.<sup>8</sup>

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<sup>8</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

**Figure 12**  
**Tranquilizers : Trends in Annual Use and Availability**  
 Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'f', 'j', 'k', and 'l' listed at the end of the figures.

## Sedatives (Barbiturates)

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Like tranquilizers, sedatives are prescription-controlled psychotherapeutic drugs that act as central nervous system depressants. They are used to assist sleep and relieve anxiety.

Though for many years respondents have been asked specifically about their use of barbiturate sedatives, they could have been including other classes of sedatives in their answers. In 2004, the question on use was revised to say “sedatives/barbiturates”—a change that appeared to have no impact on reported levels of use. Respondents are told for what purposes sedatives are prescribed and are instructed to exclude from their answers any use under medical supervision. Usage data are reported only for 12<sup>th</sup> graders because we believe that 8<sup>th</sup> and 10<sup>th</sup> grade students tend to over report use, perhaps including in their answers their use of nonprescription sleep aids or other over the counter drugs.

### Trends in Use

As with tranquilizers, the use of sedatives/barbiturates fell steadily among 12<sup>th</sup> graders from the mid-1970s through the early 1990s. From 1975 to 1992, *annual prevalence* fell by three fourths, from 10.7% to 2.8%. As with many other drugs, a gradual, long term resurgence in sedative use occurred after 1992, but unlike the case with most illegal drugs, sedative/barbiturate use continued to rise steadily through 2005, well beyond the point at which the use of most illegal drugs began falling. (Recall that tranquilizer use also continued to rise into the early 2000s.) Use has declined considerably since 2005, and by 2021 the annual prevalence rate was down by about eight tenths from its recent peak, falling to 1.8%—a record low for this drug. The sedative methaqualone (known as *Quaalude*) was included in the MTF study from the very beginning, and was never as popular among 12<sup>th</sup> graders as barbiturates; methaqualone use rates have generally been declining since 1975, reaching an annual prevalence of just 0.5% in 2007, about where it remained through 2012, after which the question was dropped.

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<sup>9</sup> Risk of regular use actually shifted up in 2004.

<sup>10</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

### Perceived Risk

Trying sedatives/barbiturates was never seen by most students as very dangerous, and it is clear from the upper right panel of Figure 13 that changes in perceived risk cannot explain the wide swings in use that occurred from 1975 through 1986, when perceived risk was actually declining along with use. Perceived risk has generally been at quite low levels, which may help to explain why the use of this class of psychotherapeutic drugs (and likely others) continued to grow in the first half of the first decade of the 2000s. For the past two decades, perceived risk has hovered within a narrow range. Even when the term “sedatives” was changed to “sedatives/barbiturates” in 2004, the trend line shifted down only slightly.<sup>9</sup> Perceived risk in 12<sup>th</sup> grade has hovered between 25% and 35% over the life the survey, with little indication of upward or downward trending.

There were insufficient data to make a 2020 estimate, but there was a fair increase in perceived risk from 2019–2021.<sup>10</sup>

### Disapproval

Like many illicit drugs other than marijuana, sedative (barbiturate) use has received the disapproval of most high school seniors since 1975, with some variation in disapproval rates that have moved consistently with usage patterns. The primary trending was the increase in disapproval from 1975 to about 1988. The change in question wording in 2004 appeared to lessen disapproval slightly. There was a modest increase in disapproval after 2004, although that ended in 2014 and was followed by a slight decrease through 2017, before leveling. (There is no estimate for 2020 due to insufficient data, and the question was dropped in 2021.)

### Availability

As the lower right panel in Figure 13 shows, the perceived availability of sedatives/barbiturates has been declining through most of the life of the study in all three grades, except for one upward shift that

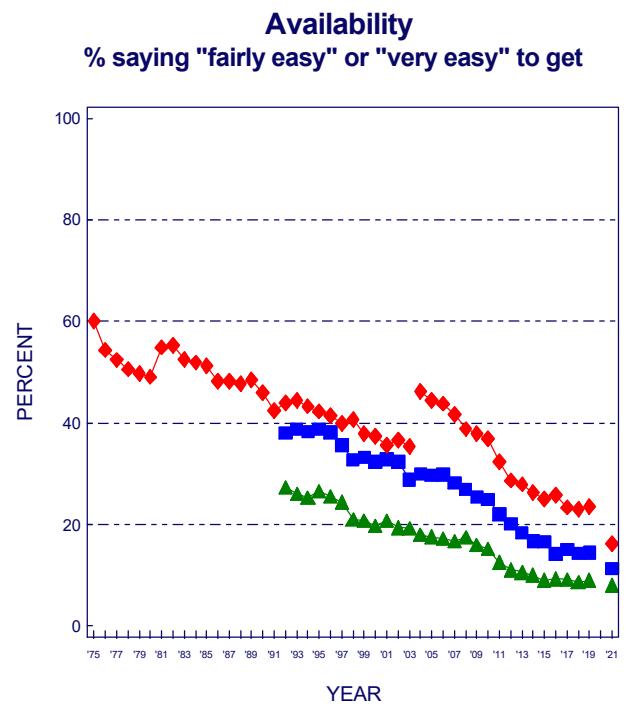
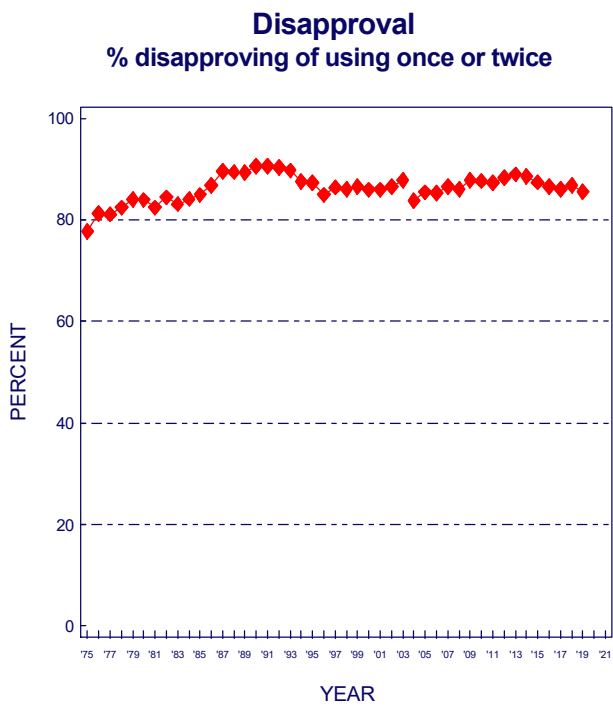
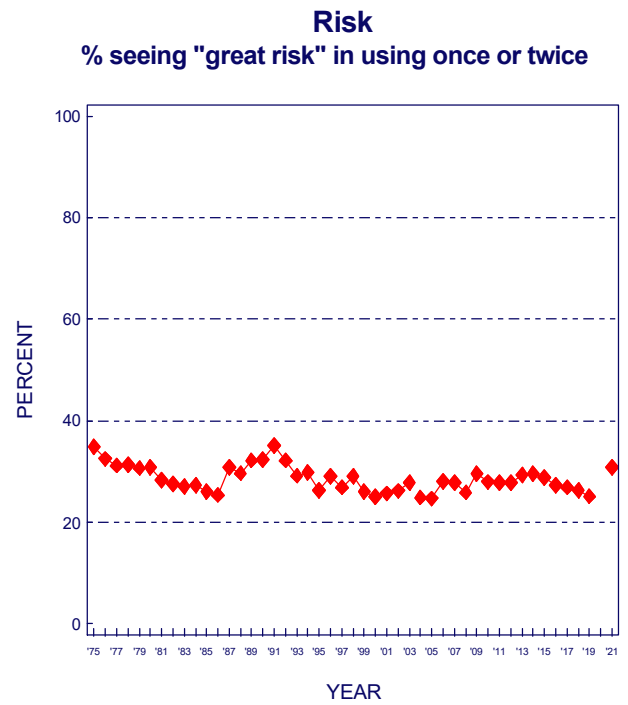
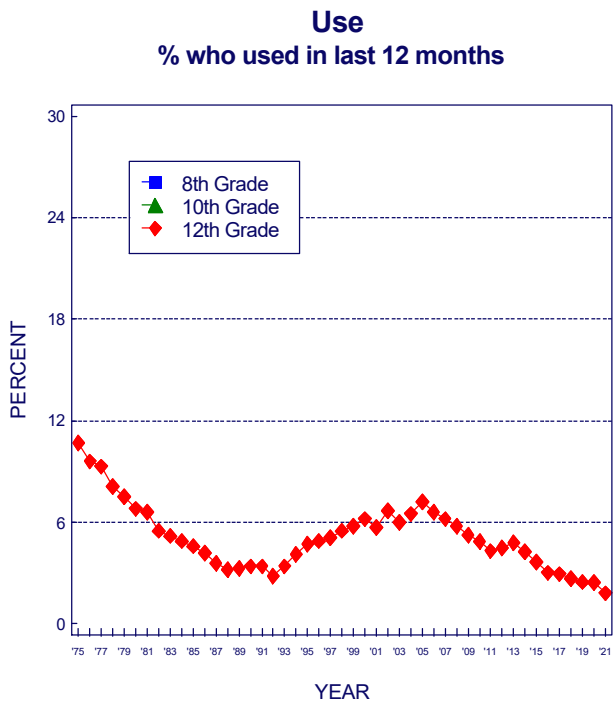
occurred in 1981 in 12<sup>th</sup> grade—a year in which “look alike” drugs became more widespread. (The change in question text in 2004 appears to have had the effect of increasing reported availability among 12<sup>th</sup> graders but not among students in the lower

grades.) Perceived availability for sedatives/barbiturates continued to decline but leveled after about 2016 in all three grades. From 2019–2021 there was a fair sized decline in grades 10 and 12. <sup>11</sup>

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<sup>11</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

**Figure 13**  
**Sedatives (Barbiturates) : Trends in Annual Use, Risk, Disapproval, and Availability**  
 Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'g', 'j', 'k', and 'l' listed at the end of the figures.

In 2004 the question text was changed from barbiturates to sedatives/barbiturates and the list of examples was changed from goofballs, reds, yellows, etc. to just downers. These changes likely explain the discontinuity in the 2004 results.

## MDMA (Ecstasy, Molly) and Other “Club Drugs”

“Club drugs”—so called because they have been popular at nightclubs and raves—include LSD, MDMA (known as ecstasy and, more recently, Molly), methamphetamine, GHB (gamma hydroxybutyrate), ketamine (special K), and *Rohypnol*. (For discussion of LSD and methamphetamine, see prior pages.) We focus here initially on MDMA (ecstasy, Molly) and treat the other drugs at the end of this section.

### Trends in Use of MDMA (Ecstasy, Molly)

Ecstasy (3, 4-methylenedioxymethamphetamine or MDMA) is used more for its mildly hallucinogenic properties than for its stimulant properties. Questions on ecstasy use were added to the surveys in 1996.

In 1996, *annual prevalence* of ecstasy use was 4.6% in 10<sup>th</sup> and 12<sup>th</sup> grades—considerably higher than among college students (2.8%) and young adults (1.7%) at that time—but use declined over the next two years. Use then rose sharply, bringing annual prevalence up to 3.5%, 6.2%, and 9.2% for 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> graders by 2001, the peak year. From 2001 to 2005, use then declined substantially to 1.7%, 2.6%, and 3.0%, respectively. Following some irregular changes, in 2014 use was down slightly in 8<sup>th</sup> grade (to 0.9%) and 10<sup>th</sup> grade (to 2.3%) and up slightly in 12<sup>th</sup> grade (to 3.6%). “Molly”, reputedly a purer form of MDMA, received much attention in 2013. Because that term was not used in the 2013 questionnaires, it is not clear whether students included Molly in their answers about ecstasy use that year. The inclusion of Molly as an example in some of the 2014 questionnaires seemed to result in a modest increase in reported prevalence. (The 2014 data reported in the tables show one point based on the unmodified questionnaires and another based on the modified ones for each grade.) After 2014, the change was downward and significantly so by 2016 in all three grades, despite the inclusion of Molly. Use leveled in 2017, declined a bit more in the upper grades in 2018, and then leveled in all three grades through 2019 before falling by about half in

all three grades by 2021, very likely as a result of the pandemic.<sup>12</sup>

### Perceived Risk

In 2001, 12<sup>th</sup> graders’ perceived risk of ecstasy use jumped by eight percentage points and in 2002 by another seven. Significant increases occurred in 2003 for all grades. This sharp rise in perceived risk likely caused the drop in use, as we had predicted. From 2004 to 2011, we saw a troubling drop in perceived risk (first among 8<sup>th</sup> and 10<sup>th</sup> graders, and then among 12<sup>th</sup> graders), corresponding to the increase in use in the upper two grades and then in all three grades. This suggests a generational forgetting of the dangers of ecstasy use. In 2014, when Molly was added to the question, the reported level of perceived risk jumped dramatically in both lower grades but not in 12<sup>th</sup> grade. Perhaps the older students were more familiar with this drug. Later, in 2019, there was some decline in this measure in grades 8 and 12. Declines appeared to continue into 2021 in grades 8 and 12, but not 10. It is clear that 8<sup>th</sup> graders have seen MDMA as less dangerous than students in the upper grades since they were first asked this question in 2000.<sup>12</sup>

### Disapproval

Disapproval of MDMA use declined some in 12<sup>th</sup> grade after 1998 but increased significantly in all three grades in 2002, perhaps due to the rise in perceived risk. The rise in disapproval continued through 2003 for 8<sup>th</sup>, 2004 for 10<sup>th</sup>, and 2006 for 12<sup>th</sup> graders, suggesting some cohort effect in this attitude. After those peaks, disapproval dropped sharply among 8<sup>th</sup> graders and less among 10<sup>th</sup> graders before leveling, and it did not drop among 12<sup>th</sup> graders until 2010—again suggesting a cohort effect. After 2015 there was a further decline in disapproval in the lower two grades but some increase in grade 12. The erosion in perceived risk and disapproval since around 2004—which was sharpest among 8<sup>th</sup> graders for disapproval—could have left these groups more vulnerable to a possible rebound in use; and while some rebound appears to have occurred in the 2005 to 2011 period, use since has leveled among 8<sup>th</sup> graders and declined some

<sup>12</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

among 10<sup>th</sup> graders. From 2019–2021 disapproval of ecstasy use fell in all three grades.<sup>13</sup>

### Availability

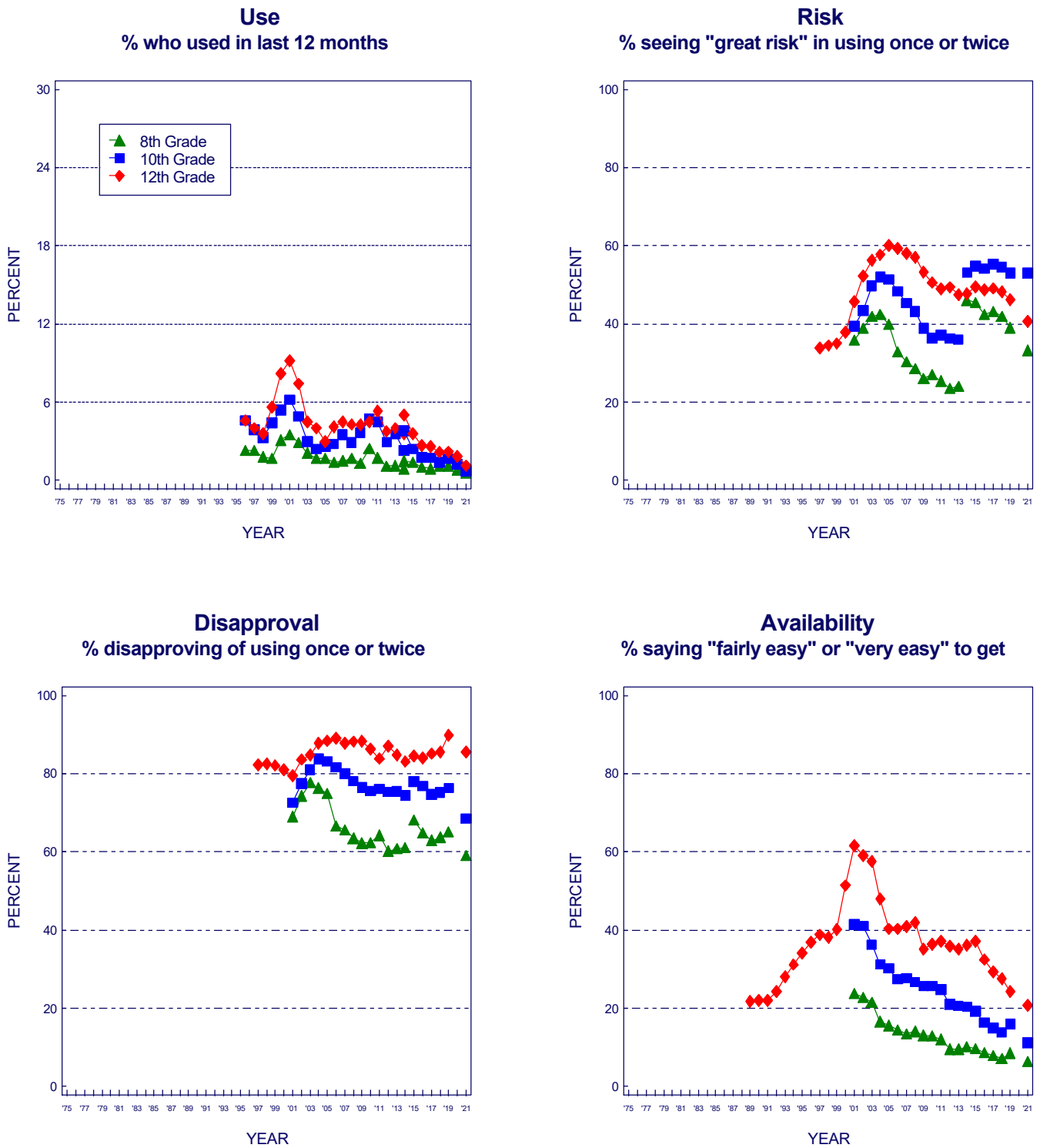
This figure shows a dramatic rise in 12<sup>th</sup> graders' perceived availability of MDMA after 1991, particularly between 1999 and 2001, consistent with informal reports about growing importation of the drug and of its availability, particularly at raves. Perceived availability then declined considerably in all grades, including significant declines in 2016 at 10<sup>th</sup> and 12<sup>th</sup> grades. Decreased availability may help to account for the declines in use after 2001 and again after 2011. Availability continued its long term decline in all grades between 2019 and 2021. Given that it is a drug that is often used at raves and in other group settings, the decline would be quite plausible during the COVID epidemic.<sup>13</sup>

*Rohypnol*, GHB, and ketamine (Tables 2 and 6) are called “date rape drugs” because they can have amnesiac effects, can be added to food or drink without a victim's knowledge, and are sometimes used in the commission of sexual assaults. By 2018 *annual prevalence* of *Rohypnol* for the three grades combined had declined by at least half since 1996 when it was 1.1%, reaching 0.5% in 2019 (Table 2). In 2021, only 0.2% of students in the combined grades had used *Rohypnol* in the prior 12 months—a significant decrease from both 2019 and 2020. Questions on ketamine and GHB were dropped from the lower grades after 2011 due to very low prevalence. At 12<sup>th</sup> grade they were retained and have shown some decline in use since, with GHB reaching 0.4% in both 2019 and 2021 and ketamine reaching 0.7% in 2019 and 0.9% in 2021 (Table 6). There were insufficient data in 2020 to make estimates.

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<sup>13</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

**Figure 14**  
**Ecstasy (MDMA) : Trends in Annual Use, Risk, Disapproval, and Availability**  
 Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'h', 'j', 'k', and 'l' listed at the end of the figures.



Alcohol has been widely used by young people in the U.S. for a very long time. In 2021, the proportions of 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> graders who reported drinking an alcoholic beverage in the *30 day period* prior to the survey were 7%, 13%, and 26%, respectively.

Various measures of alcohol use are presented in the tables at the end of this report. Because heavy alcohol consumption is of substantial concern from a public health perspective, we focus here on *binge drinking*, defined as having five or more drinks in a row one or more times in the prior two weeks, as well as *extreme binge drinking*, also called high intensity drinking, defined as having 10+ drinks in a row in the prior two weeks.<sup>14,15,16</sup>

### Trends in Use

Among 12<sup>th</sup> graders, *binge drinking* peaked in 1981 along with overall illicit drug use. The prevalence of binge drinking then declined substantially from 41% in 1983 to 28% in 1992, a drop of almost one third (also the low point of any illicit drug use). (Figure 15.) Although illicit drug use rose sharply in the 1990s, binge drinking rose by only a small fraction, and that rise was followed by some decline at all three grades. By 2021, proportional declines since the recent peaks reached in the 1990s were 72%, 68%, and 51% for grades 8, 10, and 12. The declines in binge drinking leveled in the lower grades from 2016 to 2020 before declining significantly in all grades in 2021. It would appear that COVID-19 had a substantial effect on binge drinking by teens in 2021.

In 2005 two measures of *extreme binge drinking* (also called high intensity drinking) were introduced at 12<sup>th</sup> grade—one based on having 10 or more drinks in a row in the past two weeks, which was later added to 8<sup>th</sup> and 10<sup>th</sup> grades in 2016. The second measure, a question based on having 15 or more drinks in a row in the past two weeks is asked only in 12<sup>th</sup> grade. The prevalence of these behaviors has declined substantially since these questions were first

introduced. For 10+ drinks the effects of the epidemic in 2021 showed, as all three grades showed significant declines to 0%, 2.1%, and 3.2% for the three grades, respectively, in 2021. For 15+ drinks prevalence declined to 1.3% among 12<sup>th</sup> graders in 2021, which is a relative decline of 77% since 2005.

### Perceived Risk

Across the past four decades, since the MTF study began, the majority of 12<sup>th</sup> graders have not viewed binge drinking on weekends as carrying a great risk. However, an increase from 36% to 49% occurred between 1982 and 1992 as use declined substantially. By 1997 a decline in risk occurred (to 43%) as use rose, before risk stabilized. After 2003, perceived risk rose in all grades, at least through 2011 or 2012, after which it either leveled or declined some in all grades. These changes are consistent with changes in actual binge drinking. We believe that the public service advertising campaigns in the 1980s against drunk driving, as well as those that urged use of designated drivers when drinking, contributed to the increase in perceived risk of binge drinking generally. (Drunk driving by 12<sup>th</sup> graders declined during that period by an even larger proportion than binge drinking.) Also, we showed that increases in the minimum drinking age during the 1980s were followed by reductions in drinking and increases in perceived risk associated with drinking, policy driven effects that may still be deterring alcohol use among adolescents.<sup>17</sup> Between 2019 and 2021 a large drop in perceived risk occurred among 12<sup>th</sup> graders, but not in the lower two grades. Such a large drop specific to a single grade likely indicates a mode effect for the 12<sup>th</sup> grade results in 2021.

### Disapproval

Disapproval of weekend binge drinking moved fairly parallel with perceived risk and rose even more sharply in the upper grades after 2001, suggesting that such drinking (and very likely the drunk driving behavior associated with it) became

<sup>14</sup> Patrick, M. E., & Azar, B. (2018). [High-intensity drinking](#). *Alcohol Research: Current Reviews*, 39(1), 49-55.

<sup>15</sup> Patrick, M. E., Evans-Polce, R., & Terry-McElrath, Y. M. (2019). [Faster escalation from first drink to first intoxication as a risk factor for binge and high-intensity drinking among adolescents](#). *Addictive Behaviors*, 92, 199-202.

<sup>16</sup> Patrick, M. E., Schulenberg, J. E., Martz, M. E., Maggs, J. L., O'Malley, P. M., & Johnston, L. (2013). [Extreme binge drinking among 12th-grade students in the United States: Prevalence and predictors](#). *JAMA Pediatrics*, 167(11), 1019-1025.

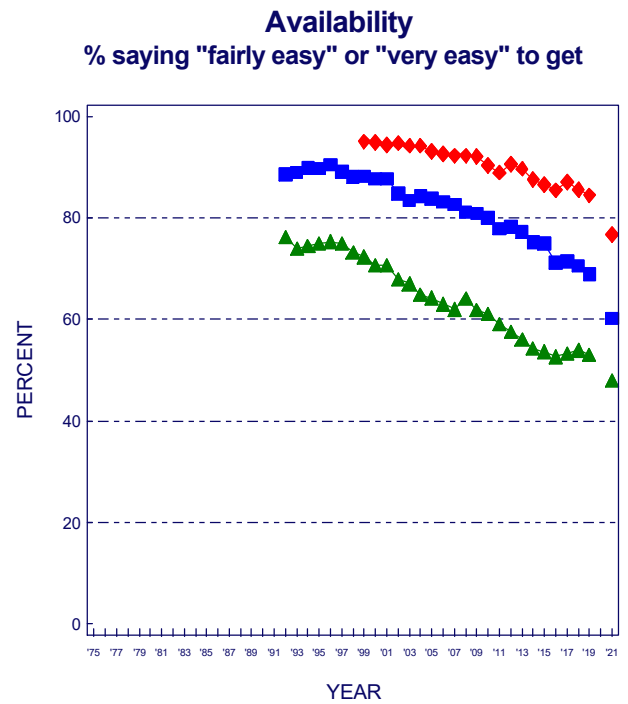
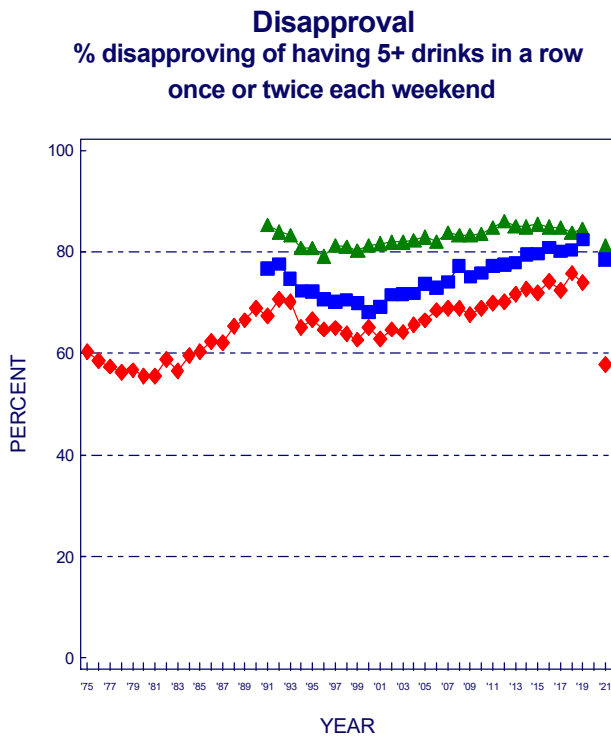
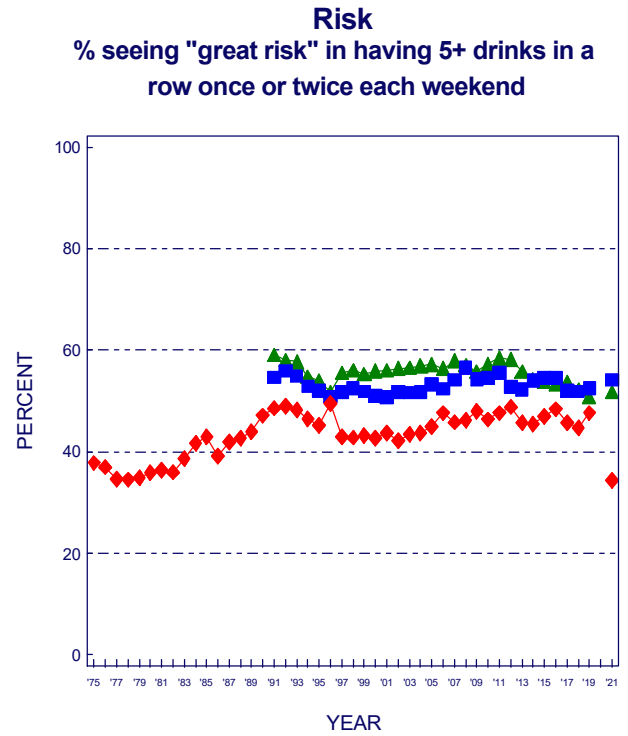
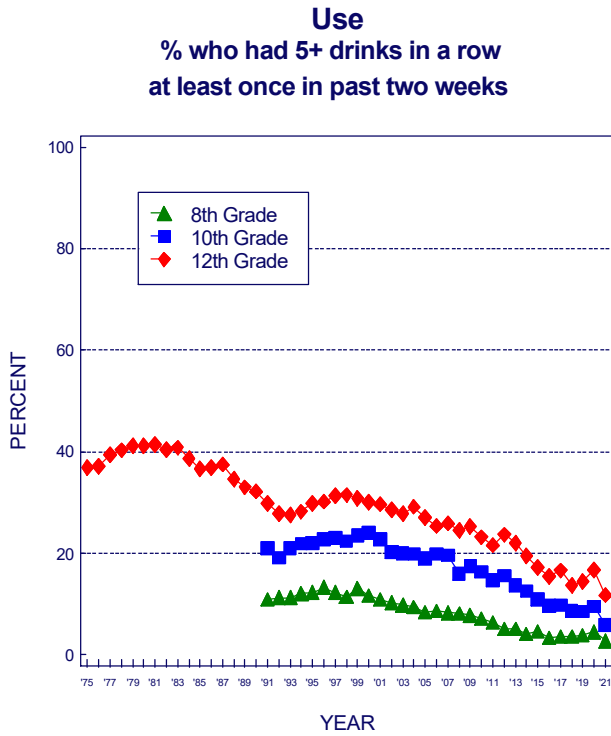
<sup>17</sup> O'Malley, P. M., & Wagenaar, A. C. (1991). [Effects of minimum drinking age laws on alcohol use, related behaviors, and traffic crash involvement among American youth: 1976-1987](#). *Journal of Studies on Alcohol*, 52, 478-491.

increasingly unacceptable in the peer group. Note that the rates of disapproval and perceived risk for weekend binge drinking are higher in the lower grades than in 12<sup>th</sup> grade. As with perceived risk, disapproval increased appreciably in all grades, though it leveled after 2012 among 8<sup>th</sup> graders and after 2016 among 10<sup>th</sup> graders. Slight declines took place between 2019 and 2021 in 8<sup>th</sup> and 10<sup>th</sup> grades. In 12<sup>th</sup> grade the decline is so large that, like disapproval, it likely indicates a mode effect for 12<sup>th</sup> grade in 2021.

## **Availability**

Perceived availability of alcohol, which until 1999 was asked only of 8<sup>th</sup> and 10<sup>th</sup> graders, was very high and mostly steady in the early to mid-1990s. Since 1996, however, there have been very substantial declines in 8<sup>th</sup> and 10<sup>th</sup> grades. For 12<sup>th</sup> grade, availability has declined only modestly with 77% in 2021 still saying that alcohol would be fairly or very easy to get, but all grades showed a decline that year very likely of the effects of the epidemic. Overall, it appears that states, communities, and parents have been successful in reducing adolescents' access to alcohol, particularly among the younger teens. Much room for further declines in availability still remains, however.

**Figure 15**  
**Alcohol: Trends in Binge Drinking, Risk, Disapproval, and Availability**  
 Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'j', 'k', and 'l' listed at the end of the figures.

Cigarette smoking is the leading cause of preventable disease and mortality, and is currently responsible for more than 480,000 deaths per year in the United States.<sup>18</sup> Cigarette use is usually initiated in adolescence, making smoking at this life stage particularly worrisome and important to study.

### Trends in Use

Differences in smoking rates between various birth cohorts (or, in this case, school class cohorts) tend to stay with those cohorts throughout the life cycle. This means that it is critical to prevent smoking very early. It also means that the trends in a given historical period may differ across various grade levels as changes in use occurring earlier in adolescence work their way up the age spectrum as each cohort ages (i.e., as “cohort effects”).

Among 12<sup>th</sup> graders, *30 day prevalence* of smoking reached a peak in 1976 at 39% (likely having peaked earlier at lower grade levels as these same class cohorts passed through them in previous years). After about a one quarter drop in 12<sup>th</sup> grade 30 day prevalence between 1976 and 1981, the rate remained remarkably stable until 1992 (28%). In the 1990s, smoking began to rise sharply—after 1991 among 8<sup>th</sup> and 10<sup>th</sup> graders and after 1992 among 12<sup>th</sup> graders. Over the next four to five years, smoking rates increased by about one half in the lower two grades and by almost one third in grade 12—very substantial increases, to which MTF drew considerable public attention. This dramatic increase in smoking may well have contributed to the increase in nearly all forms of drug use during this relapse period. Smoking peaked in 1996 for 8<sup>th</sup> and 10<sup>th</sup> graders and in 1997 for 12<sup>th</sup> graders before beginning a fairly steady and substantial decline that levelled from 2017–2019 for 8<sup>th</sup> graders but continued through 2021 for 10<sup>th</sup> and 12<sup>th</sup> graders. In 2021 prevalence declined in all three grades (Significant in both lower grades.) By 2021, 30 day prevalence levels had fallen from peak levels by 95%, 94%, and 89% in grades 8, 10, and 12, respectively. The Master Tobacco Settlement Agreement of 1998 undoubtedly had a

significant effect on cigarette prices, as tobacco companies attempted to offset some of what they had to pay the states. Also, an increase in 2009 in federal taxes on cigarettes (from \$0.39 to \$1.01 per pack) may well have contributed to the declines in use. Of particular importance, smoking initiation by 8<sup>th</sup> graders (as measured by lifetime use) declined by more than three fourths from a peak of 49% in 1996 to 7% by 2021. These changes are of tremendous importance to the eventual health and longevity of this generation of adolescents. (The rapid rise in vaping nicotine is addressed in a section below.)

### Perceived Risk

Among 12<sup>th</sup> graders, the proportion seeing great risk in pack-a-day smoking rose before and during the first period of decline in use in the late 1970s. Risk leveled in 1980 (before use leveled), declined a bit in 1982, but then started to rise again gradually for five years. (It is possible that cigarette advertising effectively offset the influence of rising perceptions of risk during that period.) Perceived risk fell some in the early 1990s at all three grade levels as use increased sharply. A long period of increase followed, which plateaued in all three grades by 2019. But perceived risk dropped sharply by 2021 only in 12<sup>th</sup> grade, while the lower grades showed little change on that dimension, suggesting that there may have been a mode effect, but only at 12<sup>th</sup> grade. Note the differences in the extent of perceived risk between the grade levels. There is a clear age effect: by the time most fully appreciate the hazards of smoking, many already have initiated the behavior.

### Disapproval

Disapproval rates for pack-a-day smoking have been fairly high throughout the study and, unlike perceived risk, they have been higher at the lower grade levels, though as disapproval has risen those differences have almost been eliminated. Among 12<sup>th</sup> graders, there was a gradual increase in disapproval of smoking from 1976 to 1986, followed by some erosion over the next decade through 1997 as use rose. After 1997, disapproval

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<sup>18</sup> See: [https://www.cdc.gov/tobacco/data\\_statistics/fact\\_sheets/fast\\_facts/index.htm](https://www.cdc.gov/tobacco/data_statistics/fact_sheets/fast_facts/index.htm)

rose for some years in all three grades but leveled briefly after 2006 or 2007 before rising even more.

We measure a number of other smoking related attitudes, which became increasingly negative but leveled off nine or ten years ago (see Table 3 in the [2016 MTF press release](#) on teen tobacco use). So, disapproval has leveled in the lower grades, perceived risk is declining in the upper grades, and other attitudes and beliefs about cigarette smoking are no longer moving in a direction that would discourage use. This suggests that external changes in the environment may be required to further reduce youth smoking, such as reducing availability.

## Availability

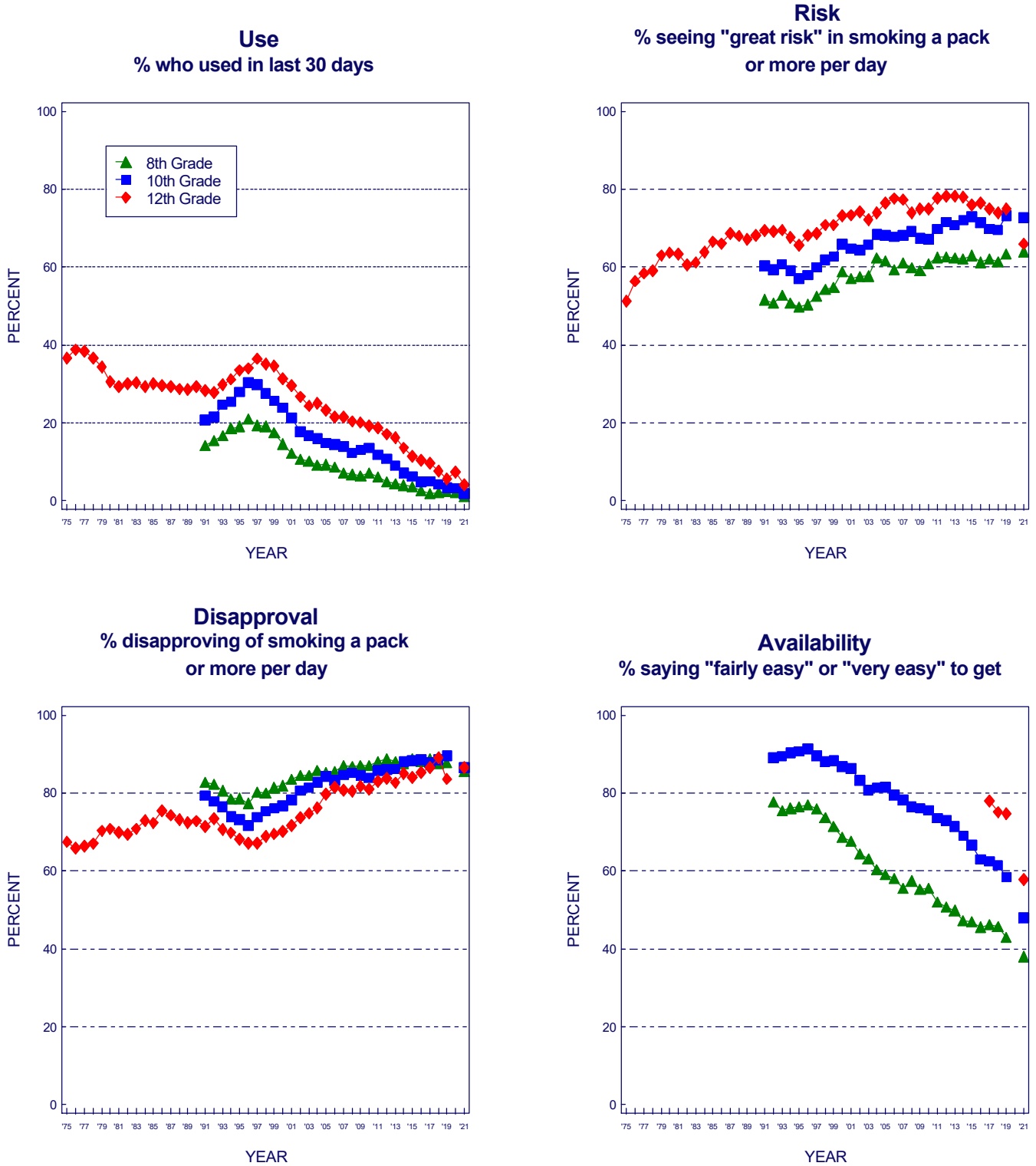
Since 1996, cigarette availability has declined considerably among 8<sup>th</sup> and 10<sup>th</sup> graders. Some 38% of 8<sup>th</sup> graders and 50% of 10<sup>th</sup> graders now say that cigarettes would be very easy or fairly easy to get, down from 78% in 1992 among 8<sup>th</sup> graders and 91% in 1996, the peak year for availability among 10<sup>th</sup> graders. All three grades showed further declines from 2019–2021.<sup>19</sup> An availability measure was added for 12<sup>th</sup> graders in 2017, and it has declined from 78% in 2017 to 75% in 2019 to 58% in 2021 (a significant decline from 2019). This very large decline between 2019 and 2021 may reflect a mode effect in part. It may also reflect the effects of the Tobacco 21 law, which raised the age of legal purchase to 21 and went into force in January 2020.<sup>20</sup> In addition, it seems likely that for many teens availability was reduced as a result of the COVID-19 epidemic.

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<sup>19</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

<sup>20</sup> See: <https://www.congress.gov/bill/116th-congress/senate-bill/1258/text>

**Figure 16**  
**Cigarettes: Trends in 30-Day Use, Risk, Disapproval, and Availability**  
 Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'j', 'k', and 'l' listed at the end of the figures.

## Smokeless Tobacco

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Traditionally, smokeless tobacco has come in two forms: “snuff” and “chew”. Snuff is finely ground tobacco usually sold in tins, either loose or in packets. It is held in the mouth between the lip or cheek and the gums. Chew is a leafy form of tobacco, usually sold in pouches. It too is held in the mouth and may, as the name implies, be chewed. In both cases, nicotine is absorbed by the mucous membranes of the mouth. These forms are sometimes called “spit” tobacco because users expectorate the tobacco juices and saliva (stimulated by the tobacco) that accumulate in the mouth. “Snus” is a variation on smokeless tobacco, as are some other dissolvable tobacco products that literally dissolve in the mouth. Given that snus appeared to be gaining in popularity, separate items regarding *past year use* of snus and dissolvable tobacco were added to the 12<sup>th</sup> grade surveys in 2011 and to the 8<sup>th</sup> and 10<sup>th</sup> grade surveys in 2012. In addition, in 2011 snus and dissolvable tobacco were added as examples in the long standing general question on smokeless tobacco.

### Trends in Use

The use of smokeless tobacco (Figure 17) by teens has been decreasing gradually since 1992 or 1995, and *30 day prevalence* is now considerably less than half of the recent peak levels in the early 1990s, though there was a reversal of the declines from about 2006 through 2010—primarily in the upper grades. Among 8<sup>th</sup> graders, 30 day prevalence has declined from a 1994 peak of 7.7% to 1.6% by 2021—a 79% proportional drop. Among 10<sup>th</sup> graders, use declined from a 1994 peak of 10.5% to 1.7% in 2021—an 84% proportional drop. Among 12<sup>th</sup> graders, 30 day use declined from a 1995 peak of 12.2% to 6.1% by 2006, then rose to 8.5% in 2010 before falling back to 2.2% in 2021. Overall this was an 82% proportional drop.

Smokeless tobacco use among young people in the U.S. is predominantly by males. In 2019 the 30 day prevalence rates for males were 3.3%, 5.3%, and 5.7% in grades 8, 10, and 12, versus 1.6%, 1.4%, and 1.1% for females.

*Annual prevalence* in 2021 for snus was 1.2% and 1.0% among 8<sup>th</sup> and 10<sup>th</sup> graders, respectively, and 2.6% for 12<sup>th</sup> graders, reflecting a decline since 2012 in all three grades.

For dissolvable tobacco, the corresponding figures were 0.8%, 0.3%, and 1.1%, reflecting little change since 2012. (See Table 6 for trends.)

### Perceived Risk

The year 1995 was a low point in the level of perceived risk for smokeless tobacco in all three grades (though for 12<sup>th</sup> graders it was considerably lower in the mid-1980s). For a decade following 1995, there was a gradual but substantial increase in proportions saying that there is a great risk in using smokeless tobacco regularly. It thus appears that one important reason for the appreciable declines in smokeless tobacco use during the latter half of the 1990s was that an increasing proportion of young people were persuaded of the dangers of using it. However, the increases in perceived risk ended by 2002 in 12<sup>th</sup> grade, and it then declined some in all three grades until around 2014 through 2016. The decline could be due to generational forgetting of the dangers of use, the increased marketing of snus and other smokeless products, and/or public statements about smokeless tobacco use being relatively less dangerous than cigarette smoking. Since around 2016, however, we have seen some increases in perceived risk in all three grades. In 2020 we stopped asking about perceived risk in 12<sup>th</sup> grade.<sup>21</sup>

### Disapproval

Only 8<sup>th</sup> and 10<sup>th</sup> graders have been asked about their personal disapproval of using smokeless tobacco regularly. The most recent low points for disapproval in both grades were 1995 and 1996. Disapproval rose among 8<sup>th</sup> graders from 74% in 1996 to 82% in 2005, about where it was in 2021 (79%). For 10<sup>th</sup> graders, disapproval rose from 71% in 1996 to 82% in 2008, also about where it was in 2021 (80%).<sup>27</sup>

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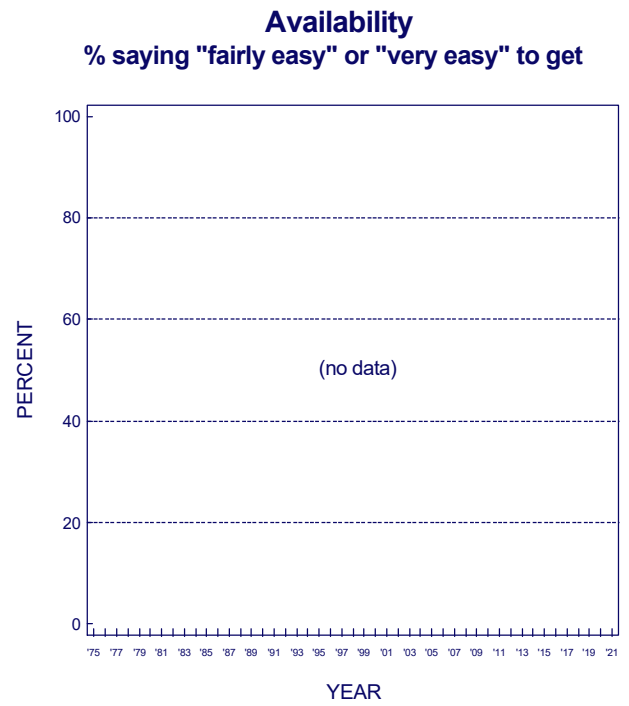
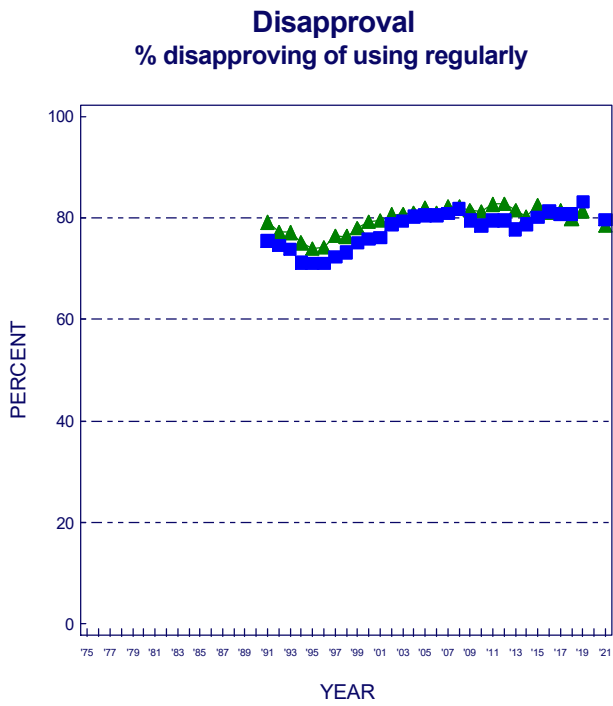
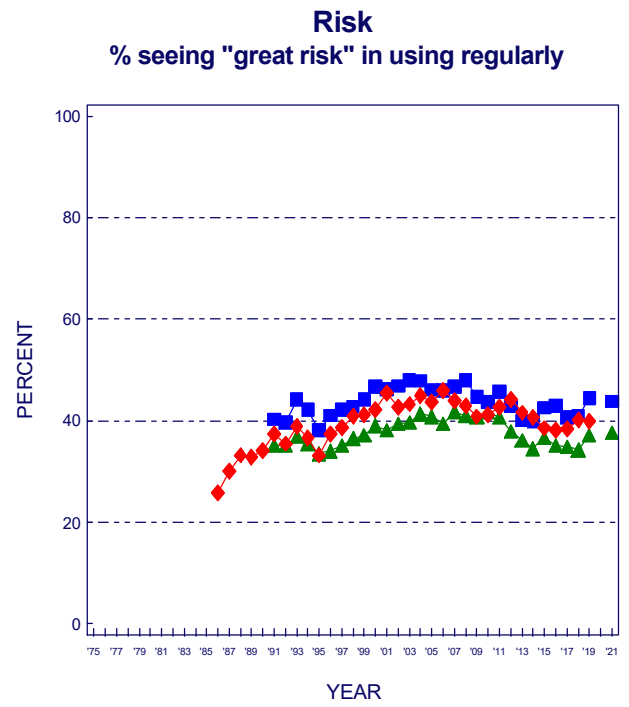
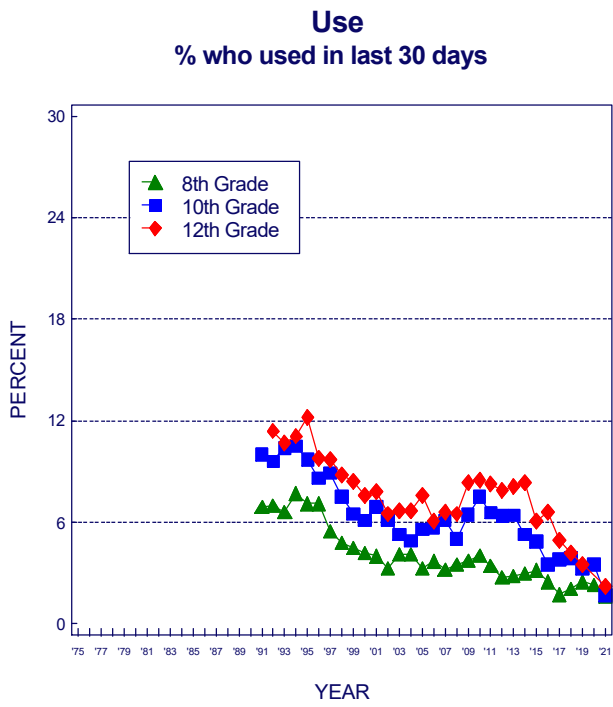
<sup>21</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

## **Availability**

There are no questions on perceived availability of smokeless tobacco.



**Figure 17**  
**Smokeless Tobacco : Trends in 30-Day Use, Risk, and Disapproval**  
 Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'j', 'k', and 'l' listed at the end of the figures.

## Vaping

Vaping involves the use of a battery powered device to heat a liquid or plant material that releases chemicals in an inhalable aerosol. Examples of vaping devices include e-cigarettes such as the popular brand JUUL, Vuse, Puff Bars, and “mods”. Contents of the aerosol may include nicotine, THC (the active ingredient of marijuana), flavored propylene glycol, and/or flavored vegetable glycerin. The liquid that is vaporized comes in hundreds of flavors, many of which are likely to be attractive to teens (e.g., bubble gum and mint).

Starting with the 2017 survey, separate questions were included on vaping of nicotine, marijuana, and “just flavoring”. Questions in previous years asked only about vaping in general, and then asked about the substance vaped at last use. These are differentiated in Figure 18.

### Trends in Use

Levels of nicotine vaping in the *prior year* increased dramatically in 2018 and continued to do so into 2019. From 2017 to 2019 nicotine vaping increased by 9.0, 14.9, and 16.5 percentage points in 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grades, respectively—which are among the largest increases ever recorded for any substance in the 47 years that MTF has tracked adolescent drug use. These increases yielded 2019 annual prevalence rates for nicotine vaping of 16.5%, 30.7%, and 35.5%, respectively.<sup>22</sup> (Additionally, some students may get nicotine in what they vape without being aware of it, so these prevalence levels should be considered conservative.<sup>23</sup>) In 2020 this rapid pace of increase halted and there was a slight decrease in prevalence (though not statistically significant) in the upper grades and a leveling at 8<sup>th</sup> grade (Table 7 and Figure 18). In 2021 there was a significant decline in all three grades, consistent with a decline in the prevalence of most forms of drug use during the pandemic.

Levels of marijuana vaping also increased significantly in 2018 and 2019, though not by as much as nicotine vaping. In 2019 *annual marijuana vaping prevalence* levels reached 7.0% (+2.6 sss from 2018), 19.4% (+7.0 sss), and 20.8% (+7.7 sss) among 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> graders, respectively. These annual levels are quite close to the levels for *lifetime prevalence* of vaping marijuana, indicating that marijuana vaping occurs mainly among established marijuana users. In 2020 this upward surge in use plateaued, with no significant differences in prevalence from 2019 to 2020. In 2021 *annual prevalence* declined in all three grades (significantly so in 8<sup>th</sup> and 10<sup>th</sup> grade) to 18% in 12<sup>th</sup> grade, 12% in 10<sup>th</sup> grade, and 5% in 8<sup>th</sup> grade.

Levels of vaping just flavoring increased significantly in 2018 but turned down in 2019 and again in 2020 and 2021 in all three grades, with *30 day prevalence* reaching 4.6%, 6.3%, and 7.4% in the three grades in 2021.

Evidence is accumulating—including from MTF—that vaping predicts future cigarette experimentation.<sup>24,25</sup> Thus high levels of vaping may potentially threaten to reverse some of the progress made in reducing cigarette smoking among U.S. adolescents over the past two plus decades.

### Perceived Risk

In 2021 perceived risk continued a sharp, upward trend that started in 2019. (Table 10). The percentage of students who considered “great risk” in vaping nicotine regularly was 55% (+9.5 sss) in 8<sup>th</sup> grade, 53% (+9.4 sss) in 10<sup>th</sup> grade, and 44% (+9.3 sss) in 12<sup>th</sup> grade.<sup>26</sup>

### Disapproval

Disapproval of regular use of e-cigarettes also has been relatively low compared to most other

<sup>22</sup>Miech, R., Johnston, L., O'Malley, P. M., Bachman, J. G., & Patrick, M. E. (2018). [Adolescent vaping and nicotine use in 2017-2018 - U.S. national estimates](#). *New England Journal of Medicine*, 380(2), 192-193.

<sup>23</sup>Miech, R. A., Johnston, L. D., O'Malley, P. M., and Terry-McElrath, Y. M. (2019). [The national prevalence of adolescent nicotine use in 2017: Estimates taking into account student reports of substances vaped](#). *Addictive Behaviors Reports*.

<sup>24</sup>Miech, R. A., Patrick, M. E., O'Malley, P. M., & Johnston, L. D. (2017). [E-cigarette use as a predictor of cigarette smoking: Results from a 1-year follow-up of a national sample of 12th grade students](#). *Tobacco Control*, 26(e2), e106-e111.

<sup>25</sup>Soneji, S., Barrington-Trimis, J. L., Wills, T. A., Leventhal, A. M., Unger, J. B., Gibson, L. A., . . . Sargent, J. D. (2017). [Association between initial use of e-cigarettes and subsequent cigarette smoking among adolescents and young adults: A systematic review and meta-analysis](#). *JAMA Pediatrics*, 171(8), 788-797.

<sup>26</sup>Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

substances (not charted). In 2017 these questions were replaced with questions about disapproval of vaping an e-liquid with nicotine on a regular basis. The levels vary between 60% and 71% across all three years for 2017–2021, with little evidence of trending upward or downward so far.<sup>27</sup>

### **Availability**

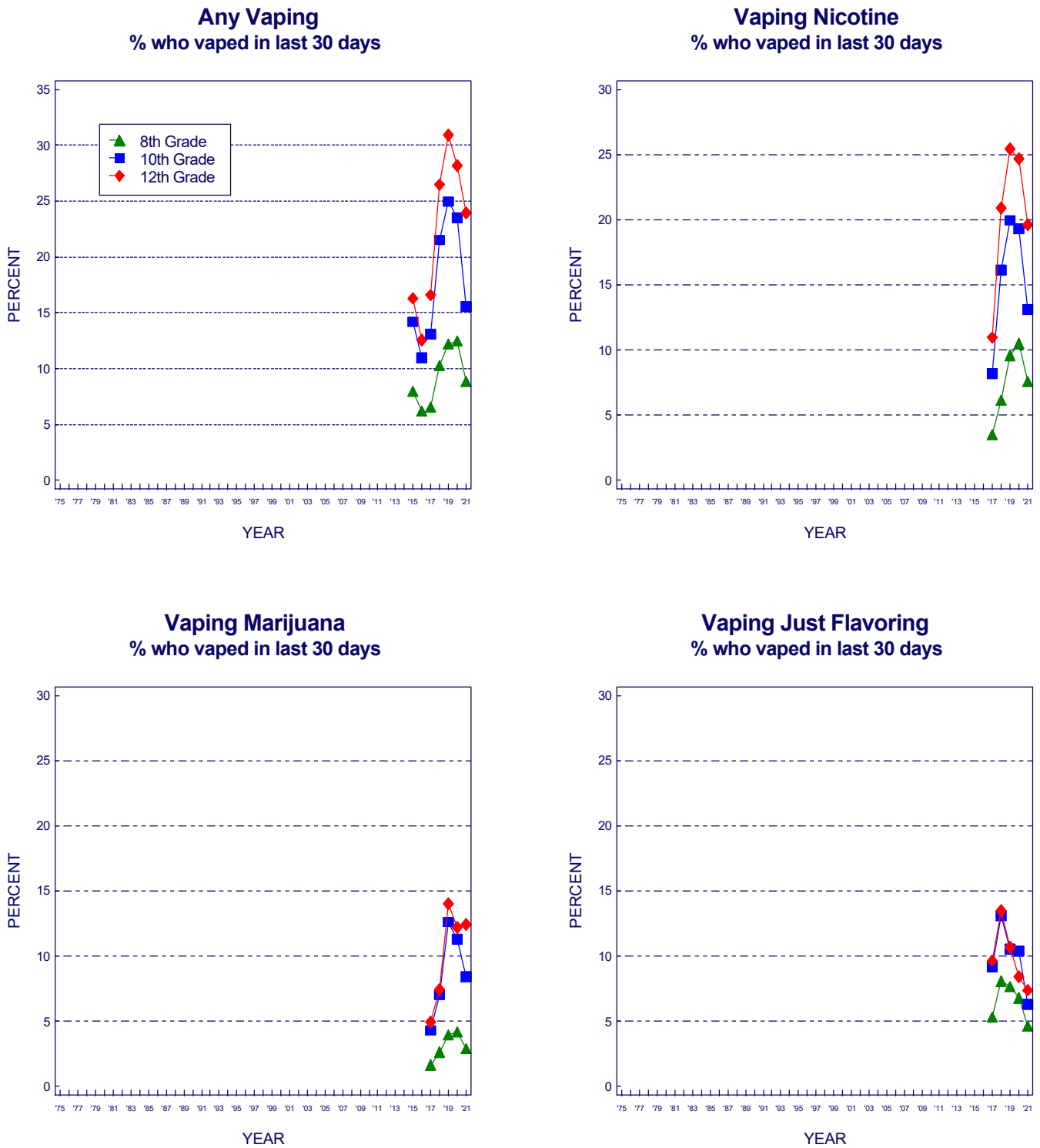
Data on availability of vaping devices were first gathered in 2017 (Tables 16–18). They showed high and rising levels of availability until 2019, but their availability declined in 2021, likely due to the

many changes engendered by the COVID-19 pandemic. In 2021 vaping devices were seen as fairly easy or very easy to get by 44% of 8<sup>th</sup> graders, 55% of 10<sup>th</sup> graders, and 72% of 12<sup>th</sup> graders.<sup>32</sup> Availability of nicotine e-liquid was also lower in 2021 at 35% (-1.2% ns), 49% (-5.9% ns), and 68% (-7.1% s) in 8<sup>th</sup>, 10<sup>th</sup>, and 12<sup>th</sup> grade, respectively. These large declines in the perceived availability of these products may well reflect students having to stay home for large portions of their time, making access to shops selling these products more difficult.

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<sup>27</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

**Figure 18**  
**Vaping: Trends in 30-Day Use**  
 Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'j', 'k', and 'l' listed at the end of the figures.

## Other Tobacco Products

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Twelfth graders were first asked about smoking small cigars and smoking tobacco using a hookah (water pipe) in 2010. These questions were not asked of 8<sup>th</sup> and 10<sup>th</sup> graders initially, but they are now. Only the prevalence and frequency of use in the *past 12 months* were asked; we use this prevalence period to determine whether additional questions on the substance may be warranted in future surveys. Small cigar and hookah use are charted separately in Figure 19. Sample sizes were not large enough in 2020 to provide estimates of prevalence for either outcome in 12<sup>th</sup> grade.

**Smoking Tobacco Using a Hookah.** The past 12 month prevalence of hookah use rose after it was first measured in 2010, from 17.1% in 2010 to 22.9% in 2014; but it then declined sharply to 2.1% by 2021. Only about 1% of the 12<sup>th</sup> grade students in 2021 indicated use on more than three or more occasions during the prior 12 months, suggesting that a considerable amount of hookah use is light or experimental.

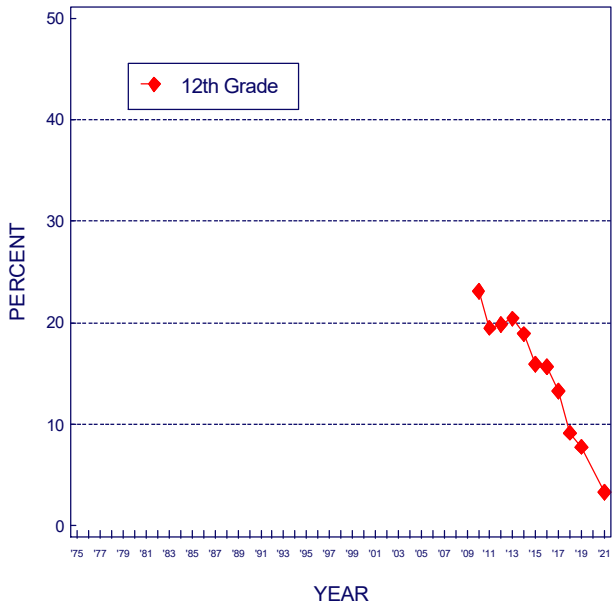
**Small (little) Cigars and Cigarillos.** In a set of questions introduced in 2014 we asked about the use in the *prior 30 days* of little cigars or cigarillos. Small or little cigars are the approximate size and shape of a cigarette, but they are classified as cigars because they are wrapped in brown paper, which contains some tobacco leaf, rather than in white paper. There are flavored and regular small cigars, with the flavored being more popular among youth. Cigarillos lie between little cigars and large cigars in size—length and thickness—and are wrapped in tobacco leaf like large cigars. They also fall into a lower federal taxation bracket than do cigarettes. Since 2014 or 2015, when we first measured both types, we have seen a very substantial decline in 30 day prevalence (Table 7). In 2021 for flavored little cigars 30 day prevalence was 1.0% and 1.5% in grades 8 and 10, respectively, and for regular little

cigars or cigarillos it was 0.8% and 1.2%. Overall, use of both types has been in sharp decline. Using longer term data on 12<sup>th</sup> graders only of smoking small cigars of any type (not distinguishing between flavored and unflavored), we find that *annual prevalence* has been in steep decline since 2010 in all but two years—2012 and 2013 (Table 6). Annual prevalence in 12<sup>th</sup> grade was 23% in 2010 and 3.4% in 2021—a relative decline of 85%. The increases in the federal taxes on tobacco products, instituted in 2009, may well have played a role in decreasing the use of small cigars. The tax increase on a pack of small cigars fell under the same regulations as regular cigarettes (rising from \$0.39 to \$1.01 per pack). Some producers of small cigars subsequently increased the weight of their cigars slightly (taxation is based on weight, with cigars falling into a higher weight class that has a lower tax rate) in order to avoid the higher taxes placed on cigarettes and to remove them from FDA control under current law. Two percent of 12<sup>th</sup> graders indicated having used small cigars on three or more occasions during the past year in 2021 was about 1%, so they tend to be smoked much less frequently than regular cigarettes. A concern in the public health community is that these products will have the effect of reversing the hard won gains in reducing cigarette smoking among youth. Small cigars contain nicotine and combustible tobacco—as do cigarettes—and therefore carry similar dangers. However, it now appears that they are not used frequently enough to carry an equivalent risk.

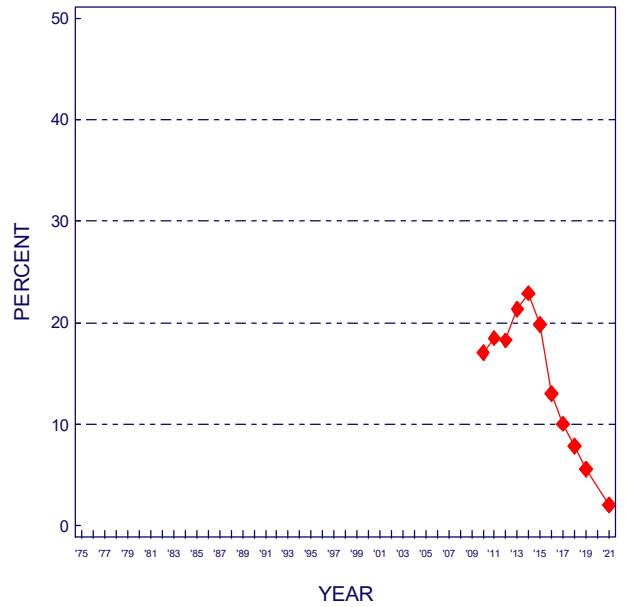
**Large Cigars.** A question on the *30 day prevalence* of smoking large cigars also was added in 2014 (Table 7). The rates observed in 2021 were .1%, 1.3%, and 2.3% in the three grades—well below the rates observed six or seven years earlier.

**Figure 19**  
**Other Tobacco Products : Trends in Annual Use**  
 Grade 12

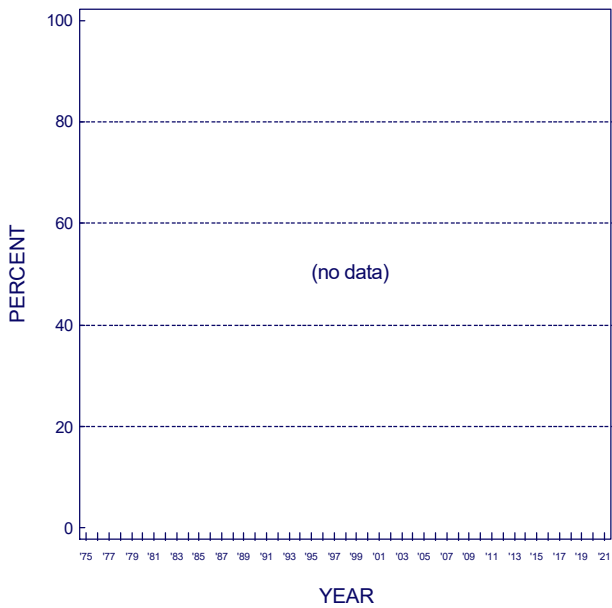
**Small Cigar Use**  
 % who used in last 12 months



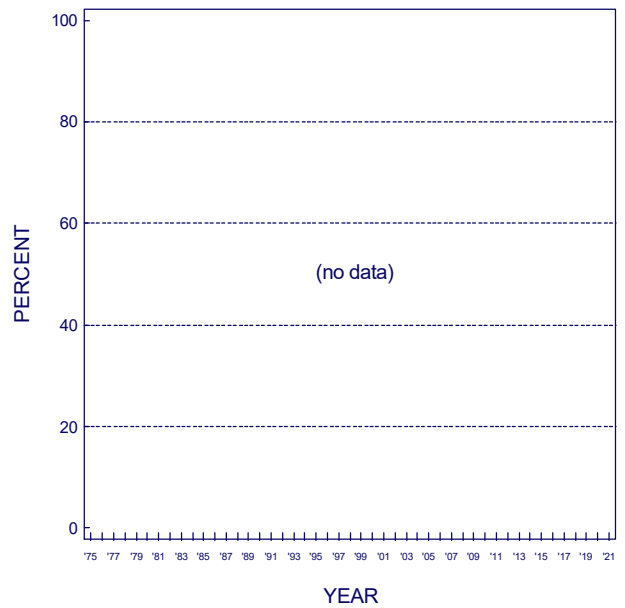
**Use of Tobacco with a Hookah**  
 % who used in last 12 months



**Disapproval**  
 % disapproving of using once or twice



**Availability**  
 % saying "fairly easy" or "very easy" to get



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'j', 'k', and 'l' listed at the end of the figures.

Unlike many other drugs discussed in this Overview, anabolic steroids are not usually taken for their psychoactive effects—though they may have some—but rather for muscle and strength development. However, they are similar to most other drugs studied here in two respects: they are controlled substances for which there is an illicit market, and they can have adverse consequences for the user. Questions about steroid use were added beginning in 1989. Respondents were asked: “Steroids, or anabolic steroids, are sometimes prescribed by doctors to promote healing from certain types of injuries. Some athletes, and others, have used them to try to increase muscle development. On how many occasions (if any) have you taken steroids on your own—that is, without a doctor telling you to take them?” In 2006, the question text was changed slightly in some questionnaire forms—the phrase “to promote healing from certain types of injuries” was replaced by “to treat certain conditions.” The resulting data did not show any effect from this rewording. In 2007, the remaining forms were changed in the same manner.

### Trends in Use

Anabolic steroids have been used predominately by males; therefore, data based on all respondents can mask the higher rates and larger fluctuations that occur among males. (For example, in 2021 *annual prevalence* levels were 0.5%, 0.3%, and 1.0% for boys in grades 8, 10, and 12, compared with 0.4%, 0.2%, and 0.1% for girls.) Between 1991 and 1998, the overall annual prevalence level was fairly stable among 8<sup>th</sup> and 10<sup>th</sup> graders, ranging between 0.9% and 1.2% (as use among 12<sup>th</sup> graders increased). In 1999, however, among both 8<sup>th</sup> and 10<sup>th</sup> graders increased from 1.2% to 1.7%. (Almost all of that increase occurred among boys, increasing from 1.6% in 1998 to 2.5% in 1999 in 8<sup>th</sup> grade and from 1.9% to 2.8% in 10<sup>th</sup> grade.) Thus, levels among boys increased by about half in a single year. The fact that it was the year following Mark McGwire hitting a record number of home runs and admitting using androstenedione (a steroid precursor) is likely not a coincidence. By 2021 among 8<sup>th</sup> graders, annual prevalence of steroid use had declined to 0.5%, which is 80% decline from a high of 2.5% in

2002. Among 10<sup>th</sup> graders, use had continued to increase slightly—perhaps reflecting a cohort effect—reaching 2.2% in 2002, but then declined by about 87% to 0.3% by 2021. In 12<sup>th</sup> grade, there was a different trend story. With data going back to 1989, we can see that steroid use first fell from 1.9% overall in 1989 to 1.1% in 1992—the low point. From 1992 to 2000, there was a fairly sharp increase in use, reaching 1.7% in 2000. In 2001, use rose significantly among 12<sup>th</sup> graders to 2.4% (possibly reflecting a cohort effect). Twelfth graders’ use decreased significantly in 2005 to 1.5%, stayed fairly level through 2015 (1.7%), and then declined significantly in 2016 to 1.1% with little change since then until 2021, when there was a sharp decline in use in all three grades. Annual prevalence in 2019 was down from peak levels at the start of the 2000s by one half to two thirds; and rates were lower in 2001. This makes some sense in light of the reduction in sports events and the closure of many gyms in 2020 and 2021. (The use of androstenedione—a steroid precursor—has also declined sharply since 2001, most sharply through 2007. It was classified as a Schedule II controlled substance in 2005 by the DEA.)

### Perceived Risk

Perceived risk and disapproval of steroid use were asked of 8<sup>th</sup> and 10<sup>th</sup> graders for only a few years. All grades seemed to have a peak in perceived risk around 1993. The longer term data from 12<sup>th</sup> graders show a ten percentage point drop between 1998 and 2000. A change this sharp is quite unusual and highly significant, suggesting that some particular event or events in 1998—quite possibly publicity about use of androstenedione by famous baseball player Mark McGwire—made steroids seem less risky. It seems likely that perceived risk dropped substantially in the lower grades as well, consistent with the sharp upturn in their use that year. By 2006, perceived risk for 12<sup>th</sup> graders was up to 60%, with little change until 2013 when it showed a significant 4.4 percentage point decline. In 2019 it stood at 51% among 12<sup>th</sup>



graders; but dropped significantly between 2019–2021 to 45.8%.<sup>28</sup>

### **Disapproval**

Among 12<sup>th</sup> graders, disapproval of steroid use has been quite high for some years. Between 1998 and 2003, there was a modest decrease, though not as dramatic as the drop in perceived risk. From 2003 to 2008, disapproval rose some—as perceived risk rose and use declined—then leveled and declined from 2012 through 2014 before leveling. In 2019 it

rose some to 90%, but by 2021 it was down to 81%.<sup>33</sup>

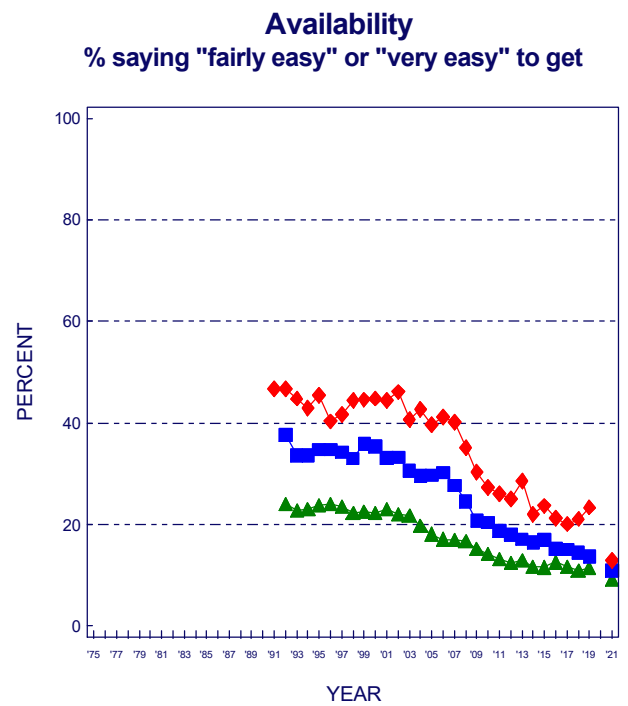
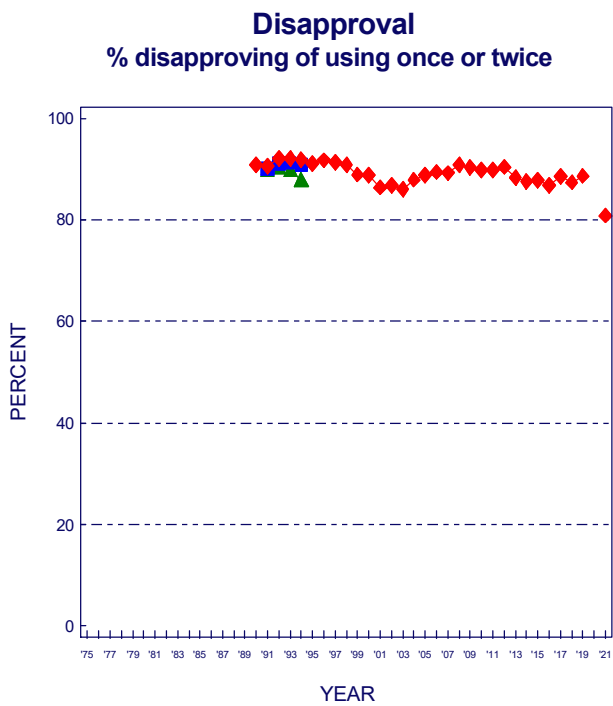
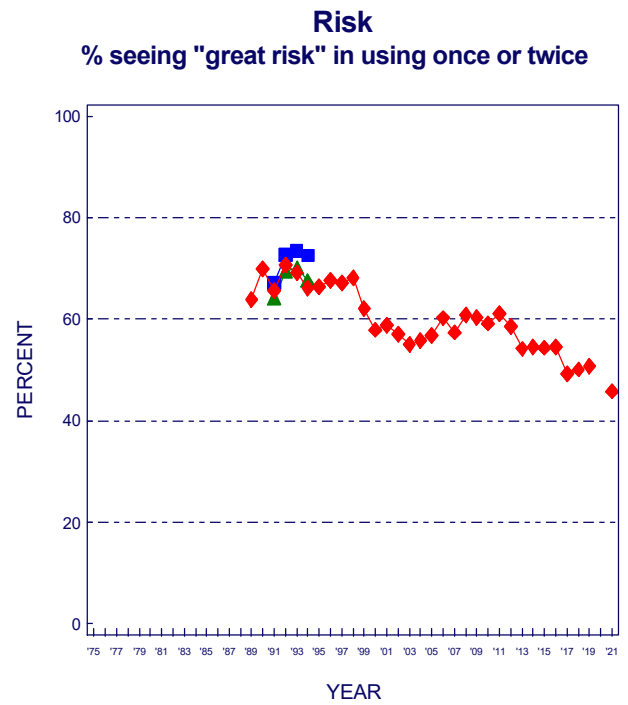
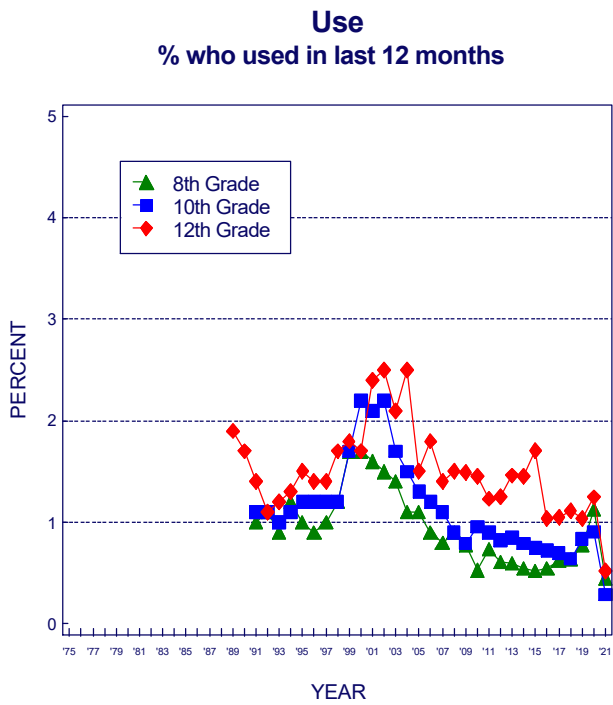
Perceived availability of steroids was first measured in 12<sup>th</sup> grade in 1991 and in 8<sup>th</sup> and 10<sup>th</sup> in 1992. Availability was relatively high prior to 2001 or 2002 but then declined appreciably at all grades, and in 2021 it was at the lowest levels recorded by the study, after a significant drop from 2019–2021 in all three grades.<sup>33</sup> A number of steroids have been scheduled by the DEA, likely contributing to the drop in availability.

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<sup>28</sup> Results from 2021 may not be directly comparable to previous years because the project used a web-based survey for the first time in 2021, which may have introduced a mode effect.

**Figure 20**

**Steroids: Trends in Annual Use, Risk, Disapproval, and Availability**  
 Grades 8, 10, 12



Source. The Monitoring the Future study, the University of Michigan.  
 \*Please reference footnotes 'j', 'k', 'l', and 'm' listed at the end of the figures.

## Figure Footnotes

<sup>a</sup> In 2001, a revised set of questions on other hallucinogen use and tranquilizer use were introduced. In 2013, a revised set of questions on amphetamine use was introduced. Data for any illicit drug other than marijuana were affected by these changes

<sup>b</sup> Prior to 1991, data reported here is based on questions on use of cocaine in general. Starting in 1991, data based on questions on use of cocaine powder specifically.

<sup>c</sup> In 2011, the list of examples was changed to include Adderall, Ritalin, etc. This likely explains the discontinuity in the 2011 results.

<sup>d</sup> In 2013, the use question text was changed on two of the forms for 8th and 10th grade, four of the forms for 12th grade. Beginning in 2013, data presented here include only the changed forms.

<sup>e</sup> Prior to 1995, the questions asked about heroin use in general. Since 1995, the questions have asked about heroin use without a needle.

<sup>f</sup> Beginning in 2001, a revised set of questions on tranquilizer use was introduced in which Xanax replaced Miltown in the list of examples.

<sup>g</sup> 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.

<sup>h</sup> In 2014/2015, revised sets of questions on ecstasy were introduced in which molly was added to the description. This likely explains the discontinuity in the results for those years.

<sup>i</sup> 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.

<sup>j</sup> Drug prevalence results in 2019 combine results from paper-pencil surveys with those completed using electronic tablets. In 2019, students in a randomly-selected half of schools completed MTF surveys on paper-and-pencil and students in the other half completed the surveys using electronic tablets. Analysis of this randomized controlled trial demonstrated that these results did not significantly differ across survey mode (Miech, R.A., Couper, M.P., Heeringa, S.G., and Patrick, M.E. The Impact of Survey Mode on US National Estimates of Adolescent Drug Prevalence: Results from a Randomized Controlled Study, *Addiction*). Results for student attitudes and beliefs in 2019 are based on answers from paper-and-pencil surveys only because these appear more susceptible to survey mode effects.

<sup>k</sup> Estimates not presented in 2020 due to insufficient data this year.

<sup>l</sup> Results in 2021 may not be comparable to previous years. In 2021 MTF conducted survey administrations via the internet for the first time, and responses, especially on attitudes, can be sensitive to mode effects.

<sup>m</sup> Question discontinued in 8th- and 10th-grade questionnaires in 1995.

<sup>n</sup> For 8<sup>th</sup> and 10<sup>th</sup> graders only: In 2021, the question on marijuana use was changed in half of the questionnaire forms to include smoking, vaping, and edibles in the list of examples. Data presented here for 2021 is based on the forms that included the original question wording. N is on half of N indicated. Any illicit drug use and any illicit drug use including inhalants were also impacted by this change.

<sup>o</sup> In 2019 and previous years the survey question asked about 'cocaine powder' and in 2021 forward it asked about 'cocaine'.

## Subgroup Differences

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Understanding the important subgroup variations in substance use among the nation's youth allows for more informed considerations of substance use epidemiology, etiology, and prevention. It also helps to prioritize prevention and treatment efforts.

For long term trends in drug prevalence among sociodemographic groups up to and including the year 2019 see [Volume I](#), which includes these data, as well as [Occasional Paper 94](#). These tables and figures include subgroup analysis by gender,

race/ethnicity, college plans, region of the country, population density (e.g. urban/rural), and socioeconomic level.

We did not update these subgroup trends in 2020 due to the pandemic-curtailed data collection that year, which did not allow sufficient sample size for subgroup analysis. Per the usual timetable of MTF, we will publish the subgroup analyses for 2021 as an Occasional Paper in February or March of 2022.

## Lessons Learned

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### Implications for Prevention

The wide divergence in historical trajectories of the various drugs over time helps to illustrate that, to a considerable degree, the determinants of use are often specific to each drug. These determinants include both perceived benefits and perceived adverse outcomes that young people come to associate with each drug, as well as peer norms about their use and the availability of each drug. The introduction of entirely new delivery devices, like vaporizers, can be another cause of variability over time.

Of course, there can be major historical events, like the COVID-19 epidemic which may have a similar influence on all or nearly all drugs, as we have seen in this monograph—but that doesn't negate the point that different drugs have different trajectories over time due to factors related to the timing of their introduction and drug specific influences like availability or reputation as being dangerous.

### The “Honeymoon Period” for New Drugs

Unfortunately, word of the supposed benefits of using a drug usually spreads much faster than information about the adverse consequences. Supposed benefits take only rumor and a few testimonials, the spread of which have been hastened and expanded greatly by the media in general and the internet and social media in particular. It usually takes much longer for the evidence of adverse consequences (e.g., adverse reactions, death, disease, overdose, addiction) to cumulate, be recognized, and then be disseminated. Thus, when a new drug comes onto the scene, it has a considerable “honeymoon period” during which its benefits are alleged and its consequences are not yet known. We believe that cocaine and ecstasy both illustrated this dynamic. Synthetic marijuana and so-called “bath salts” are two more recent examples. “Vaping” may have been in a honeymoon period, but evidence of adverse consequences is cumulating quickly and may have reversed the sharp upward trends in both nicotine vaping and marijuana vaping.

Although encouraging the avoidance or delay of any type of substance use is likely beneficial—especially at young ages—prevention efforts also need to be

drug specific. That is, to a considerable degree, prevention must occur drug by drug because people will not necessarily generalize the adverse consequences of the use of one drug to the use of others. Many beliefs and attitudes held by young people are drug specific. The figures in this *Overview* on perceived risk and disapproval for the various drugs—attitudes and beliefs that we have shown to be important in explaining many drug trends over the years—amply illustrate this assertion. These attitudes and beliefs are at quite different levels for the various drugs and, more importantly, often trend quite differently over time.

Marijuana is one drug that is likely to be affected by some very specific policies, including medicalization and legalization of recreational use by adults. The effects on youth behaviors and attitudes of recent changes in a number of states will need to be carefully evaluated and monitored to determine their longer term effects. Currently, marijuana does not hold the same appeal for youth as it did in the past, and today's annual prevalence among 12<sup>th</sup> graders of 33% is considerably lower than rates exceeding 50% observed in the 1970s. However, if states that legalize recreational marijuana for adults allow advertising and promotion of marijuana, then prevalence could rebound and approach or even surpass previous levels. Federal legalization could have an even greater impact because it might provide federal protection for unregulated advertising and promotion.

### “Generational Forgetting” Helps Keep the Drug Epidemic Going

Another point worth keeping in mind is that there tends to be a continuous flow of new drugs onto the scene and of older ones being rediscovered by young people. Many drugs have made a comeback years after they first fell from popularity, often because knowledge among youth of their adverse consequences faded as generational replacement took place. We call this process “generational forgetting”. Examples include LSD and methamphetamine, two drugs used widely in the 1960s that made a comeback in the 1990s after their initial popularity faded as a result of extensive media

coverage of potential adverse consequences occurring primarily in periods of high use. Heroin, cocaine, PCP, and crack are some others that have followed a similar pattern. LSD, inhalants, and ecstasy have all shown some effects of generational forgetting in recent years—that is, perceived risk has declined appreciably for those drugs, particularly among the younger students—which puts future cohorts at greater risk of having a resurgence in use. In the case of LSD, perceived risk among 8<sup>th</sup> graders has declined substantially, and more students are saying that they are not familiar with the drug.

Examples of newly emerging drugs include nitrite inhalants and PCP in the 1970s; crack and crystal methamphetamine in the 1980s; *Rohypnol*, GHB, and ecstasy in the 1990s; dextromethorphan and salvia in the early 2000s; “bath salts” and “synthetic marijuana” in the 2010s; and vaping in the past few years. The frequent introduction of new drugs (or new forms or new modes of administration of older drugs, as illustrated by vaping, crack, crystal methamphetamine, and non-injected heroin) helps keep this nation’s drug problem alive. Because of the lag times described previously, the forces of containment are always playing catch up with the forces of encouragement and exploitation. Organized efforts to reduce the grace period for new

drugs would seem to be among the most promising responses for minimizing the damage they will cause. Such efforts regarding ecstasy by the National Institute on Drug Abuse and others appeared to pay off. Perhaps recent efforts aimed at vaping will also be successful.

As for other approaches to prevention, it may be useful to emphasize that many street drugs should be considered dangerous simply because they are made and sold by people who seem to be totally unconcerned with adverse consequences for users. Those who manufacture illicit drugs or liquids for vaping regularly experiment with different chemical formulations to skirt specific regulations, and they make no effort to assess safety. Dealers at the distribution level, in an effort to build a reputation for selling powerful drugs, may mix highly potent drugs (e.g., fentanyl) into other drugs (e.g., heroin or other narcotics, marijuana), not attending to the danger such adulteration carries for the user. Some such drugs are extremely potent. As a result there are many drugs on the market with potential users having little or no information about their adverse effects, and many injuries and deaths resulting from their use. If young people understood this, they might be less likely to use drugs on the illicit market.

**TABLE 1**  
**Trends in Lifetime Prevalence of Use of Various Drugs for Grades 8, 10, and 12 Combined**

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Any Illicit Drug <sup>b</sup>	30.4	29.8	32.1	35.7	38.9	42.2	43.3	42.3	41.9	41.0	40.9	39.5	37.5	36.4	35.7	34.0
Any Illicit Drug other than Marijuana <sup>b</sup>	19.7	19.7	21.2	22.0	23.6	24.2	24.0	23.1	22.7	22.1†	23.2	21.1	19.8	19.3	18.6	18.2
Any Illicit Drug including Inhalants <sup>b</sup>	36.8	36.3	38.8	41.9	44.9	47.4	48.2	47.4	46.9	46.2	45.5	43.7	41.9	41.3	41.0	39.3
Marijuana/Hashish	22.7	21.1	23.4	27.8	31.6	35.6	<b>37.8</b>	36.5	36.4	35.3	35.3	34.0	32.4	31.4	30.8	28.9
Inhalants	17.0	16.9	18.2	18.6	<b>19.4</b>	19.1	18.6	18.1	17.5	16.4	15.3	13.6	13.4	13.7	14.1	13.7
Hallucinogens	6.1	6.3	7.0	7.7	8.9	10.0	10.2	9.5	9.0	8.5†	<b>9.2</b>	7.6	6.9	6.3	5.9	5.7
LSD	5.5	5.7	6.5	6.9	8.1	8.9	<b>9.1</b>	8.3	7.9	7.2	6.5	5.0	3.7	3.0	2.6	2.5
Hallucinogens other than LSD	2.4	2.5	2.7	3.6	3.9	4.8	4.9	4.8	4.4	4.5†	<b>6.7</b>	6.0	5.8	5.6	5.4	5.2
Ecstasy (MDMA) <sup>c</sup>	—	—	—	—	—	4.9	5.2	4.5	5.3	7.2	<b>8.0</b>	6.9	5.4	4.7	4.0	4.3
Cocaine	4.6	4.0	4.1	4.5	5.1	6.0	6.6	7.0	<b>7.2</b>	6.5	5.9	5.7	5.3	5.5	5.5	5.3
Crack	2.0	1.9	2.0	2.5	2.8	3.2	3.4	3.8	<b>3.8</b>	3.5	3.2	3.2	2.9	2.9	2.8	2.6
Other cocaine	4.1	3.5	3.6	3.9	4.2	5.2	5.9	6.1	<b>6.3</b>	5.6	5.1	4.8	4.5	4.7	4.7	4.7
Heroin	1.1	1.3	1.3	1.6	1.9	2.1	2.1	2.2	<b>2.2</b>	2.1	1.7	1.7	1.5	1.5	1.5	1.4
With a needle	—	—	—	—	1.1	1.2	1.1	1.1	<b>1.3</b>	1.0	0.9	0.9	0.9	0.9	0.9	0.9
Without a needle	—	—	—	—	1.3	1.7	1.7	1.6	1.6	<b>1.8</b>	1.3	1.3	1.3	1.2	1.1	1.0
Amphetamines <sup>b</sup>	12.9	12.5	13.8	14.3	15.2	15.5	15.2	14.5	14.0	13.5	13.9	13.1	11.8	11.2	10.3	10.1
Methamphetamine	—	—	—	—	—	—	—	—	<b>6.5</b>	6.2	5.8	5.3	5.0	4.5	3.9	3.4
Tranquilizers	5.5	5.3	5.4	5.5	5.8	6.5	6.6	6.9	7.0	6.9†	<b>7.9</b>	7.9	7.3	7.1	6.8	7.0
Alcohol	80.1	79.2†	68.4	68.4	68.2	68.4	<b>68.8</b>	67.4	66.4	66.6	65.5	62.7	61.7	60.5	58.6	57.0
Been drunk	<b>46.3</b>	44.9	44.6	44.3	44.5	45.1	45.7	44.0	43.7	44.0	43.4	40.5	38.9	39.4	38.4	37.6
Flavored alcoholic beverages	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>54.7</b>	54.7	53.1
Cigarettes	53.5	53.0	54.0	54.6	55.8	<b>57.8</b>	57.4	56.0	54.5	51.8	49.1	44.2	40.8	39.6	37.4	35.0
Smokeless tobacco	—	26.2	25.6	<b>26.3</b>	26.0	25.7	22.7	21.1	19.4	17.9	16.6	15.2	14.1	13.6	13.8	13.3
Any Vaping <sup>d</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping nicotine	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping marijuana	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping just flavoring	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
JUUL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids	1.9	1.8	1.8	2.1	2.1	1.8	2.1	2.3	2.8	3.0	<b>3.3</b>	3.3	3.0	2.5	2.1	2.0

Table continued on next page.



**TABLE 1 (continued)**  
**Trends in Lifetime Prevalence of Use of Various Drugs for Grades 8, 10, and 12 Combined**

(Entries are percentages.)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>e</sup>	2020	2021	2020–2021 change	<u>Peak year–2021 change</u>		<u>Low year–2021 change</u>	
																	Absolute change	Proportional change (%) <sup>a</sup>	Absolute change	Proportional change (%) <sup>a</sup>
Any Illicit Drug <sup>b</sup>	32.7	32.6	33.2	34.4	34.7	34.1	36.0†	<b>34.9</b>	34.3	32.6	33.4	33.9	34.8	34.7	<u>27.0</u>	-7.8 sss	-8.0 sss	-22.8	—	—
Any Illicit Drug other than Marijuana <sup>b</sup>	17.7	16.8	16.5	16.8	16.1	15.5	16.8†	<b>15.8</b>	15.1	14.3	14.0	14.2	14.2	14.3	<u>10.1</u>	-4.2 sss	-5.7 sss	-36.0	—	—
Any Illicit Drug including Inhalants <sup>b</sup>	38.0	37.9	37.9	38.8	38.7	37.9	39.3†	37.9	37.4	34.9	36.5	36.6	37.8	<b>38.3</b>	<u>31.0</u>	-7.3 sss	-7.3 sss	-19.1	—	—
Marijuana/Hashish	27.9	27.9	29.0	30.4	31.0	30.7	32.0	30.5	30.0	28.6	29.3	29.7	30.6	30.2	<u>23.1</u>	-7.1 sss	-14.7 sss	-38.8	—	—
Inhalants	13.5	13.1	12.5	12.1	10.6	10.0	8.9	8.8	7.5	<u>6.5</u>	6.7	6.6	7.3	8.1	7.9	-0.2	-11.5 sss	-59.3	+1.4 s	+21.8
Hallucinogens	5.8	5.6	5.3	5.8	5.7	5.0	5.0	4.3	4.3	4.3	4.2	4.1	4.6	5.0	<u>4.0</u>	-1.0	-5.1 sss	-56.0	—	—
LSD	2.6	2.7	2.5	2.8	2.7	2.5	2.6	<u>2.4</u>	2.8	3.1	3.1	3.0	3.5	3.9	2.8	-1.1 s	-6.3 sss	-69.1	+0.4	+16.1
Hallucinogens other than LSD	5.1	4.8	4.7	5.0	4.9	4.3	4.1	3.5	3.1	3.0	2.9	<u>2.8</u>	3.1	3.3	3.0	-0.4	-3.7 sss	-55.8	+0.1	+4.3
Ecstasy (MDMA) <sup>c</sup>	4.5	4.1	4.6	5.5	5.5	4.6	4.7†	<b>5.0</b>	4.0	3.1	3.0	2.7	2.7	2.6	<u>1.7</u>	-0.9	-3.3 sss	-66.3	—	—
Cocaine	5.2	4.8	4.2	3.8	3.4	3.3	3.1	2.9	2.7	2.3	2.5	2.6	2.4	2.4	<u>1.4</u>	-1.0 ss	-5.8 sss	-80.5	—	—
Crack	2.5	2.2	2.0	1.9	1.6	1.5	1.5	1.3	1.3	1.0	1.1	1.1	1.1	1.0	<u>0.9</u>	-0.2	-3.0 sss	-77.6	—	—
Other cocaine	4.6	4.1	3.7	3.4	3.1	2.9	2.7	2.5	2.3	2.1	2.1	2.3	2.1	2.2	<u>1.2</u>	-1.0 ss	-5.1 sss	-80.9	—	—
Heroin	1.4	1.3	1.4	1.4	1.2	1.0	1.0	0.9	0.7	0.6	0.6	0.6	0.6	<u>0.4</u>	0.4	0.0	-1.8 sss	-81.3	0.0	6.0
With a needle	0.8	0.8	0.8	0.9	0.8	0.6	0.7	0.7	0.5	0.4	0.4	0.4	0.4	<u>0.2</u>	0.3	+0.1	-1.0 sss	-78.3	+0.1	+23.0
Without a needle	1.0	0.9	0.9	1.0	0.9	0.7	0.7	0.6	0.5	0.4	0.4	0.4	0.4	0.3	<u>0.2</u>	-0.1	-1.6 sss	-89.7	—	—
Amphetamines <sup>b</sup>	9.5	8.6	8.6	8.9	8.6	8.3	10.5†	<b>9.7</b>	9.1	8.1	7.7	7.7	7.6	7.8	<u>5.3</u>	-2.5 sss	-4.4 sss	-45.3	—	—
Methamphetamine	2.5	2.5	2.2	2.2	1.8	1.6	1.5	1.4	1.1	0.8	0.9	0.7	0.8	1.2	<u>0.4</u>	-0.8 ss	-6.1 sss	-94.0	—	—
Tranquilizers	6.7	6.3	6.5	6.6	6.0	5.8	5.2	5.3	5.2	5.5	5.6	5.4	5.3	5.2	<u>2.8</u>	-2.4 sss	-5.1 sss	-64.0	—	—
Alcohol	56.3	55.1	54.6	53.6	51.5	50.0	48.4	46.4	45.2	41.9	41.7	41.2	41.5	44.0	<u>36.3</u>	-7.7 sss	-32.5 sss	-47.2	—	—
Been drunk	36.6	35.1	35.9	34.2	32.5	32.8	31.7	29.2	28.2	26.4	26.0	25.6	25.0	26.4	<u>21.1</u>	-5.3 sss	-25.2 sss	-54.4	—	—
Flavored alcoholic beverages	51.3	49.3	47.9	46.7	44.5	42.7	41.1	38.8	37.4	33.8	33.5	34.3	30.6	32.8	<u>26.9</u>	-5.8 sss	-27.7 sss	-50.7	—	—
Cigarettes	33.3	31.3	31.2	30.9	28.7	27.0	25.6	22.9	21.1	18.2	17.0	16.1	15.3	16.2	<u>11.4</u>	-4.8 sss	-46.4 sss	-80.3	—	—
Smokeless tobacco	12.9	12.3	13.5	14.5	13.8	13.5	12.8	12.1	11.3	10.3	8.7	8.8	8.7	12.0	<u>6.0</u>	-6.0 sss	-20.4 sss	-77.4	—	—
Any Vaping <sup>d</sup>	—	—	—	—	—	—	—	—	29.9	26.6†	<u>28.2</u>	33.4	36.7	<b>37.2</b>	28.9	-8.3 sss	-8.3 sss	-22.3	+0.7	+2.4
Vaping nicotine	—	—	—	—	—	—	—	—	—	—	<u>18.9</u>	25.2	32.3	<b>35.0</b>	27.6	-7.4 sss	-7.4 sss	-21.2	+8.7 sss	+46.2
Vaping marijuana	—	—	—	—	—	—	—	—	—	—	<u>8.5</u>	11.7	18.1	<b>20.1</b>	15.9	-4.2 sss	-4.2 sss	-20.7	+7.4 sss	+87.6
Vaping just flavoring	—	—	—	—	—	—	—	—	—	—	<u>24.9</u>	<b>28.3</b>	25.3	25.0	<u>18.8</u>	-6.2 sss	-9.5 sss	-33.6	—	—
JUUL	—	—	—	—	—	—	—	—	—	—	—	—	<b>28.1</b>	27.7	<u>19.3</u>	-8.5 sss	-8.8 sss	-31.5	—	—
Steroids	1.8	1.6	1.5	1.5	1.5	1.4	1.5	1.4	1.5	1.3	1.2	1.3	1.6	1.9	<u>0.9</u>	-1.0 sss	-2.4 sss	-71.4	—	—

(Table continued on next page.)

**TABLE 1 (continued)**  
**Trends in Lifetime Prevalence of Use of Various Drugs for Grades 8, 10, and 12 Combined**

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

*Notes.* '–' indicates data not available. '‡' indicates a change in the question text. When a question change occurs, peak levels after that change are used to calculate the peak year to current year difference.

Values in bold equal peak levels since 1991. Values in italics equal peak level before wording change. Underlined values equal lowest level since recent peak level.

Level of significance of difference between classes: s = .05, ss = .01, sss = .001.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

<sup>a</sup>The proportional change is the percent by which the most recent year deviates from the peak year [or the low year] for the drug in question. So, if a drug was at 20% prevalence in the peak year and declined to 10% prevalence in the most recent year, that would reflect a proportional decline of 50%.

<sup>b</sup>In 2013, for the questions on the use of amphetamines, the text was changed on two of the questionnaire forms for 8th and 10th graders and four of the questionnaire forms for 12th graders. This change also impacted the any illicit drug indices. Data presented here include only the changed forms beginning in 2013.

<sup>c</sup>In 2014, the text was changed on one of the questionnaire forms for 8th, 10th, and 12th graders to include "molly" in the description. The remaining forms were changed in 2015. Data for both versions of the question are presented here.

<sup>d</sup>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.

<sup>e</sup>Drug prevalence results in 2019 combine results from paper-and-pencil surveys with those completed using electronic tablets. In 2019, students in a randomly-selected half of schools completed MTF surveys on paper-and-pencil and students in the other half completed the surveys using electronic tablets. Analysis of this randomized controlled trial demonstrated that these results did not significantly differ across survey mode (Miech, R.A., Couper, M.P., Heeringa, S.G., and Patrick, M.E. The Impact of Survey Mode on US National Estimates of Adolescent Drug Prevalence: Results from a Randomized Controlled Study, *Addiction*). Results for student attitudes and beliefs in 2019 are based on answers from paper-and-pencil surveys only because these appear more susceptible to survey mode effects.

**TABLE 2**  
**Trends in Annual Prevalence of Use of Various Drugs for Grades 8, 10, and 12 Combined**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Any Illicit Drug <sup>c</sup>	20.2	19.7	23.2	27.6	31.0	33.6	34.1	32.2	31.9	31.4	31.8	30.2	28.4	27.6	27.1	25.8
Any Illicit Drug other than Marijuana <sup>c</sup>	12.0	12.0	13.6	14.6	16.4	17.0	16.8	15.8	15.6	15.3‡	16.3	14.6	13.7	13.5	13.1	12.7
Any Illicit Drug including Inhalants <sup>c</sup>	23.5	23.2	26.7	31.1	34.1	36.6	36.7	35.0	34.6	34.1	34.3	32.3	30.8	30.1	30.1	28.7
Marijuana/Hashish	15.0	14.3	17.7	22.5	26.1	29.0	30.1	28.2	27.9	27.2	27.5	26.1	24.6	23.8	23.4	22.0
Synthetic marijuana	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Inhalants	7.6	7.8	8.9	9.6	10.2	9.9	9.1	8.5	7.9	7.7	6.9	6.1	6.2	6.7	7.0	6.9
Hallucinogens	3.8	4.1	4.8	5.2	6.6	7.2	6.9	6.3	6.1	5.4‡	6.0	4.5	4.1	4.0	3.9	3.6
LSD	3.4	3.8	4.3	4.7	5.9	6.3	6.0	5.3	5.3	4.5	4.1	2.4	1.6	1.6	1.5	1.4
Hallucinogens other than LSD	1.3	1.4	1.7	2.2	2.7	3.2	3.2	3.1	2.9	2.8‡	4.0	3.7	3.6	3.6	3.4	3.3
Ecstasy (MDMA) <sup>d</sup>	—	—	—	—	—	3.1	3.4	2.9	3.7	5.3	6.0	4.9	3.1	2.6	2.4	2.7
Salvia	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cocaine	2.2	2.1	2.3	2.8	3.3	4.0	4.3	4.5	4.5	3.9	3.5	3.7	3.3	3.5	3.5	3.5
Crack	1.0	1.1	1.2	1.5	1.8	2.0	2.1	2.4	2.2	2.1	1.8	2.0	1.8	1.7	1.6	1.5
Other cocaine	2.0	1.8	2.0	2.3	2.8	3.4	3.7	3.7	4.0	3.3	3.0	3.1	2.8	3.1	3.0	3.1
Heroin	0.5	0.6	0.6	0.9	1.2	1.3	1.3	1.2	1.3	1.3	0.9	1.0	0.8	0.9	0.8	0.8
With a needle	—	—	—	—	0.7	0.7	0.7	0.7	0.7	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Without a needle	—	—	—	—	0.9	0.9	1.0	0.9	1.0	1.1	0.7	0.7	0.6	0.7	0.7	0.6
OxyContin	—	—	—	—	—	—	—	—	—	—	—	2.7	3.2	3.3	3.4	3.5
Vicodin	—	—	—	—	—	—	—	—	—	—	—	6.0	6.6	5.8	5.7	6.3
Amphetamines <sup>c</sup>	7.5	7.3	8.4	9.1	10.0	10.4	10.1	9.3	9.0	9.2	9.6	8.9	8.0	7.6	7.0	6.8
Ritalin	—	—	—	—	—	—	—	—	—	—	4.2	3.8	3.5	3.6	3.3	3.5
Adderall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Methamphetamine	—	—	—	—	—	—	—	—	4.1	3.5	3.4	3.2	3.0	2.6	2.4	2.0
Bath salts (synthetic stimulants)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tranquilizers	2.8	2.8	2.9	3.1	3.7	4.1	4.1	4.4	4.4	4.5‡	5.5	5.3	4.8	4.8	4.7	4.6
OTC Cough/Cold Medicines	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.4
Rohypnol	—	—	—	—	—	1.1	1.1	1.1	0.8	0.7	0.9‡	0.8	0.8	0.9	0.8	0.7
GHB <sup>b</sup>	—	—	—	—	—	—	—	—	—	1.4	1.2	1.2	1.2	1.1	0.8	0.9
Ketamine <sup>b</sup>	—	—	—	—	—	—	—	—	—	2.0	1.9	2.0	1.7	1.3	1.0	1.1
Alcohol	67.4	66.3‡	59.7	60.5	60.4	60.9	61.4	59.7	59.0	59.3	58.2	55.3	54.4	54.0	51.9	50.7
Been drunk	35.8	34.3	34.3	35.0	35.9	36.7	36.9	35.5	36.0	35.9	35.0	32.1	31.2	32.5	30.8	30.7
Flavored alcoholic beverages	—	—	—	—	—	—	—	—	—	—	—	—	—	44.5	43.9	42.4
Alcoholic beverages containing caffeine	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Any Vaping	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping nicotine	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping marijuana	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping just flavoring	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Dissolvable tobacco products	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Snus	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids	1.2	1.1	1.0	1.2	1.3	1.1	1.2	1.3	1.7	1.9	2.0	2.0	1.7	1.6	1.3	—

Table continued on next page.

**TABLE 2 (continued)**  
**Trends in Annual Prevalence of Use of Various Drugs for Grades 8, 10, and 12 Combined**

(Entries are percentages.)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>e</sup>	2020	2021	2019–2020 change	Peak year–2021 change Absolute	Peak year–2021 change Proportional change (%) <sup>a</sup>	Low year–2021 change Absolute	Low year–2021 change Proportional change (%) <sup>a</sup>
	Any Illicit Drug <sup>f</sup>	24.8	24.9	25.9	27.3	27.6	27.1	28.6†	27.2	26.8	25.3	26.5	27.1	27.7	27.3	19.9	-7.4 sss	-7.8 sss	-28.1	—
Any Illicit Drug other than Marijuana <sup>c</sup>	12.4	11.9	11.6	11.8	11.3	10.8	11.4‡	10.9	10.5	9.7	9.4	9.3	9.0	9.2	5.6	-3.6 sss	-5.3 sss	-48.7	—	—
Any Illicit Drug including Inhalants <sup>c</sup>	27.6	27.6	28.5	29.7	29.8	29.0	30.5‡	28.5	28.4	26.3	28.3	28.8	29.0	29.2	21.5	-7.8 sss	-7.8 sss	-26.6	—	—
Marijuana/Hashish	21.4	21.5	22.9	24.5	25.0	24.7	25.8	24.2	23.7	22.6	23.9	24.3	25.2	24.6	17.9	-6.7 sss	-12.1 sss	-40.3	—	—
Synthetic marijuana	—	—	—	—	—	8.0	6.4	4.8	4.2	3.1	2.8	2.6	2.9	2.2	1.6	-0.6 ss	-6.4 sss	-80.3	—	—
Inhalants	6.4	6.4	6.1	6.0	5.0	4.5	3.8	3.6	3.2	2.6	2.9	2.9	2.9	3.4	2.9	-0.5	-7.3 sss	-71.6	+0.2	+9.3
Hallucinogens	3.8	3.8	3.5	3.8	3.7	3.2	3.1	2.8	2.8	2.8	2.7	2.7	2.9	3.4	2.4	-1.0 s	-3.6 sss	-60.4	—	—
LSD	1.7	1.9	1.6	1.8	1.8	1.6	1.6	1.7	1.9	2.0	2.1	2.0	2.2	2.5	1.5	-0.9 ss	-4.8 sss	-75.6	+0.1	+9.6
Hallucinogens other than LSD	3.3	3.2	3.0	3.3	3.1	2.7	2.5	2.1	1.9	1.8	1.8	1.7	1.9	2.0	1.7	-0.3	-2.4 sss	-58.3	—	—
Ecstasy (MDMA) <sup>d</sup>	3.0	2.9	3.0	3.8	3.7	2.5	2.8‡	3.4	2.4	1.8	1.7	1.5	1.6	1.3	0.8	-0.5 s	-2.6 sss	-76.0	—	—
Salvia	—	—	—	3.5	3.6	2.7	2.3	1.4	1.2	1.2	0.9	0.8	0.8	0.8	0.5	-0.3 s	-3.1 sss	-85.1	—	—
Cocaine	3.4	2.9	2.5	2.2	2.0	1.9	1.8	1.6	1.7	1.4	1.6	1.5	1.4	1.4	0.7	-0.8 ss	-3.8 sss	-85.0	—	—
Crack	1.5	1.3	1.2	1.1	1.0	0.9	0.8	0.7	0.8	0.6	0.7	0.6	0.7	0.6	0.4	-0.2	-2.0 sss	-82.6	—	—
Other cocaine	2.9	2.6	2.1	1.9	1.7	1.7	1.5	1.5	1.5	1.2	1.3	1.3	1.3	1.4	0.5	-0.9 sss	-3.5 sss	-86.6	—	—
Heroin	0.8	0.8	0.8	0.8	0.7	0.6	0.6	0.5	0.4	0.3	0.3	0.3	0.3	0.2	0.2	-0.1	-1.1 sss	-85.5	—	—
With a needle	0.5	0.5	0.5	0.6	0.5	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.0	-0.6 sss	-84.3	—	—
Without a needle	0.7	0.6	0.5	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.0	-1.0 sss	-92.7	—	—
OxyContin	3.5	3.4	3.9	3.8	3.4	2.9	2.9	2.4	2.3	2.1	1.9	1.7	1.7	1.4	0.9	-0.5	-3.0 sss	-77.3	—	—
Vicodin	6.2	6.1	6.5	5.9	5.1	4.3	3.7	3.0	2.5	1.8	1.3	1.1	1.0	0.9	0.6	-0.2	-5.9 sss	-90.6	—	—
Amphetamines <sup>c</sup>	6.5	5.8	5.9	6.2	5.9	5.6	7.0‡	6.6	6.2	5.4	5.0	5.0	4.6	4.6	2.7	-1.9 sss	-3.9 sss	-59.5	—	—
Ritalin	2.8	2.6	2.5	2.2	2.1	1.7	1.7	1.5	1.4	1.1	0.8	0.8	0.9	1.0	0.5	-0.6	-3.7 sss	-88.3	—	—
Adderall	—	—	4.3	4.5	4.1	4.4	4.4	4.1	4.5	3.9	3.5	3.5	3.1	3.3	1.7	-1.6 sss	-2.8 sss	-61.3	—	—
Methamphetamine	1.4	1.3	1.3	1.3	1.2	1.0	1.0	0.8	0.6	0.5	0.5	0.5	0.5	0.7	0.2	-0.5 ss	-3.9 sss	-96.1	—	—
Bath salts (synthetic stimulants)	—	—	—	—	—	0.9	0.9	0.8	0.7	0.8	0.5	0.7	—	—	—	—	—	—	—	—
Tranquilizers	4.5	4.3	4.5	4.4	3.9	3.7	3.3	3.4	3.4	3.5	3.6	3.2	3.1	2.7	1.2	-1.4 sss	-4.3 sss	-77.8	—	—
OTC Cough/Cold Medicines	5.0	4.7	5.2	4.8	4.4	4.4	4.0	3.2	3.1	3.2	3.0	3.2	2.8	3.7	2.7	-1.1 s	-2.7 sss	-50.3	—	—
Rohypnol	0.8	0.7	0.6	0.8	0.9	0.7	0.6	0.5	0.5	0.7	0.5	0.4	0.5	1.0	0.2	-0.7 sss	-0.7 sss	-71.3	—	—
GHB <sup>b</sup>	0.7	0.9	0.9	0.8	0.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Ketamine <sup>b</sup>	1.0	1.2	1.3	1.2	1.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Alcohol	50.2	48.7	48.4	47.4	45.3	44.3	42.8	40.7	39.9	36.7	36.7	36.1	35.9	38.3	30.2	-8.1 sss	-31.1 sss	-50.7	—	—
Been drunk	29.7	28.1	28.7	27.1	25.9	26.4	25.4	23.6	22.5	20.7	20.4	20.0	19.5	22.1	15.5	-6.6 sss	-21.4 sss	-57.9	—	—
Flavored alcoholic beverages	40.8	39.0	37.8	35.9	33.7	32.5	31.3	29.4	28.8	25.3	25.9	26.1	24.6	26.5	20.0	-6.5 sss	-24.5 sss	-55.1	—	—
Alcoholic beverages containing caffeine	—	—	—	—	19.7	18.6	16.6	14.3	13.0	11.2	10.6	10.1	9.2	8.6	7.8	-0.8 sss	-11.9 sss	-60.3	—	—
Any Vaping	—	—	—	—	—	—	—	—	—	—	21.5	28.9	31.9	30.7	22.1	-8.6 sss	-9.9 sss	-30.9	+0.6	+2.6
Vaping nicotine	—	—	—	—	—	—	—	—	—	—	13.9	21.6	27.3	27.1	19.2	-7.9 sss	-8.1 sss	-29.7	+5.3 sss	+37.7
Vaping marijuana	—	—	—	—	—	—	—	—	—	—	6.8	9.9	15.6	16.3	11.6	-4.7 ss	-4.7 ss	-28.9	+4.8 sss	+69.7
Vaping just flavoring	—	—	—	—	—	—	—	—	—	—	17.2	21.8	18.6	15.8	10.0	-5.8 sss	-11.8 sss	-54.3	—	—
JUUL	—	—	—	—	—	—	—	—	—	—	—	—	23.9	18.0	20.6	+2.6	-3.3 s	-13.8	+2.6	+14.3
Dissolvable tobacco products	—	—	—	—	—	1.4	1.4	1.2	1.1	0.9	0.9	1.0	1.0	0.9	0.7	-0.2	-0.7 s	-48.7	—	—
Snus	—	—	—	—	—	5.6	4.8	4.1	3.8	3.6	2.6	3.0	2.2	2.7	1.6	-1.1 ss	-4.0 sss	-72.0	—	—
Steroids	1.1	1.1	1.0	0.9	0.9	0.9	0.9	0.9	1.0	0.8	0.8	0.8	0.9	1.1	0.4	-0.7 sss	-1.6 sss	-79.5	—	—

(Table continued on next page.)

**TABLE 2 (continued)**  
**Trends in Annual Prevalence of Use of Various Drugs for Grades 8, 10, and 12 Combined**

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

*Notes.* '–' indicates data not available. '‡' indicates a change in the question text. When a question change occurs, peak levels after that change are used to calculate the peak year to current year difference.

Values in bold equal peak levels since 1991. Values in italics equal peak level before wording change. Underlined values equal lowest level since recent peak level.

Level of significance of difference between classes: s = .05, ss = .01, sss = .001.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

<sup>a</sup>The proportional change is the percent by which the most recent year deviates from the peak year [or the low year] for the drug in question. So, if a drug was at 20% prevalence in the peak year and declined to 10% prevalence in the most recent year, that would reflect a proportional decline of 50%.

<sup>b</sup>Question was discontinued among 8th and 10th graders in 2012.

<sup>c</sup>In 2013, for the questions on the use of amphetamines, the text was changed on two of the questionnaire forms for 8th and 10th graders and four of the questionnaire forms for 12th graders. This change also impacted the any illicit drug indices. Data presented here include only the changed forms beginning in 2013.

<sup>d</sup>In 2014, the text was changed on one of the questionnaire forms for 8th, 10th, and 12th graders to include "molly" in the description. The remaining forms were changed in 2015. Data for both versions of the question are presented here.

<sup>e</sup>Drug prevalence results in 2019 combine results from paper-and-pencil surveys with those completed using electronic tablets. In 2019, students in a randomly-selected half of schools completed MTF surveys on paper-and-pencil and students in the other half completed the surveys using electronic tablets. Analysis of this randomized controlled trial demonstrated that these results did not significantly differ across survey mode (Miech, R.A., Couper, M.P., Heeringa, S.G., and Patrick, M.E. The Impact of Survey Mode on US National Estimates of Adolescent Drug Prevalence: Results from a Randomized Controlled Study, *Addiction*). Results for student attitudes and beliefs in 2019 are based on answers from paper-and-pencil surveys only because these appear more susceptible to survey mode effects.

**TABLE 3**  
**Trends in 30-Day Prevalence of Use of Various Drugs for Grades 8, 10, and 12 Combined**

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Any Illicit Drug <sup>b</sup>	10.9	10.5	13.3	16.8	18.6	20.6	20.5	19.5	19.5	19.2	19.4	18.2	17.3	16.2	15.8	14.9
Any Illicit Drug other than Marijuana <sup>b</sup>	5.4	5.5	6.5	7.1	8.4	8.4	8.4	8.2	7.9	8.0†	8.2	7.7	7.1	7.0	6.7	6.4
Any Illicit Drug including Inhalants <sup>b</sup>	13.0	12.5	15.4	18.9	20.7	22.4	22.2	21.1	21.1	21.0	20.8	19.5	18.6	17.5	17.5	16.5
Marijuana/Hashish	8.3	7.7	10.2	13.9	15.6	17.7	<b>17.9</b>	16.9	16.9	16.3	16.6	15.3	14.8	13.6	13.4	12.5
Inhalants	3.2	3.3	3.8	4.0	<b>4.3</b>	3.9	3.7	3.4	3.3	3.2	2.8	2.7	2.7	2.9	2.9	2.7
Hallucinogens	1.5	1.6	1.9	2.2	<b>3.1</b>	2.7	3.0	2.8	2.5	2.0‡	<b>2.3</b>	1.7	1.5	1.5	1.5	1.3
LSD	1.3	1.5	1.6	1.9	<b>2.8</b>	2.1	2.4	2.3	2.0	1.4	1.5	0.7	0.6	0.6	0.6	0.6
Hallucinogens other than LSD	0.5	0.5	0.7	1.0	1.0	1.2	1.2	1.2	1.1	1.1‡	<b>1.4</b>	1.4	1.2	1.3	1.2	1.1
Ecstasy (MDMA) <sup>c</sup>	—	—	—	—	—	1.5	1.3	1.2	1.6	<b>2.4</b>	2.4	1.8	1.0	0.9	0.9	1.0
Cocaine	0.8	0.9	0.9	1.2	1.5	1.7	1.8	<b>1.9</b>	1.9	1.7	1.5	1.6	1.4	1.6	1.6	1.6
Crack	0.4	0.5	0.5	0.7	0.8	0.9	0.8	<b>1.0</b>	0.9	0.9	0.9	1.0	0.8	0.8	0.8	0.7
Other cocaine	0.7	0.7	0.8	1.1	1.2	1.3	1.5	1.6	<b>1.7</b>	1.4	1.3	1.3	1.2	1.4	1.3	1.4
Heroin	0.2	0.3	0.3	0.4	0.6	0.6	0.6	<b>0.6</b>	0.6	0.6	0.4	0.5	0.4	0.5	0.5	0.4
With a needle	—	—	—	—	0.3	<b>0.4</b>	0.3	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3
Without a needle	—	—	—	—	0.4	0.4	<b>0.5</b>	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.3	0.3
Amphetamines <sup>b</sup>	3.0	3.3	3.9	4.0	4.5	4.8	4.5	4.3	4.2	4.5	4.7	4.4	3.9	3.6	3.3	3.0
Methamphetamine	—	—	—	—	—	—	—	—	1.5	<b>1.5</b>	1.4	1.5	1.4	1.1	0.9	0.7
Tranquilizers	1.1	1.1	1.1	1.3	1.6	1.7	1.7	1.9	1.9	2.1‡	2.3	<b>2.4</b>	2.2	2.1	2.1	2.1
Alcohol	39.8	38.4‡	36.3	37.6	37.8	<b>38.8</b>	38.6	37.4	37.2	36.6	35.5	33.3	33.2	32.9	31.4	31.0
Been drunk	19.2	17.8	18.2	19.3	20.3	20.4	<b>21.2</b>	20.4	20.6	20.3	19.7	17.4	17.7	18.1	17.0	17.4
Flavored alcoholic beverages	—	—	—	—	—	—	—	—	—	—	—	—	—	<b>23.0</b>	21.6	21.7
Cigarettes	20.7	21.2	23.4	24.7	26.6	28.3	<b>28.3</b>	27.0	25.2	22.6	20.2	17.7	16.6	16.1	15.3	14.4
Smokeless tobacco	—	9.2	9.1	<b>9.7</b>	9.6	8.5	8.0	7.0	6.3	5.8	6.1	5.2	5.3	5.1	5.3	5.1
Any Vaping <sup>d</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping nicotine	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping marijuana	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping just flavoring	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
JUUL	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Large Cigars	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Flavored Little Cigars	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Regular Little Cigars	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Tobacco using a hookah	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids	0.6	0.6	0.6	0.7	0.6	0.5	0.7	0.7	0.9	0.9	0.9	<b>1.0</b>	0.9	0.9	0.7	0.7

Table continued on next page.

**TABLE 3 (continued)**  
**Trends in 30-Day Prevalence of Use of Various Drugs for Grades 8, 10, and 12 Combined**

(Entries are percentages.)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>a</sup>	2020	2021	2020–2021 change	Peak year–2021 change		Low year–2021 change	
																	Absolute change	Proportional change (%) <sup>a</sup>	Absolute change	Proportional change (%) <sup>a</sup>
Any Illicit Drug <sup>b</sup>	14.8	14.6	15.8	16.7	17.0	16.8	17.3†	<b>16.5</b>	15.9	15.5	16.1	16.3	17.2	16.2	<u>12.2</u>	-4.0 sss	-4.3 sss	-25.9	—	—
Any Illicit Drug other than Marijuana <sup>b</sup>	6.4	5.9	5.7	5.7	5.7	5.2	5.4†	<b>5.4</b>	5.1	4.6	4.4	4.4	4.3	4.0	<u>2.6</u>	-1.4 sss	-2.9 sss	-52.8	—	—
Any Illicit Drug including Inhalants <sup>b</sup>	16.5	16.1	17.3	18.0	18.3	17.6	18.4†	<b>17.3</b>	16.8	16.0	17.2	17.1	<b>17.9</b>	17.4	<u>12.8</u>	-4.5 sss	-5.1 sss	-28.3	—	—
Marijuana/Hashish	12.4	12.5	13.8	14.8	15.2	15.1	15.6	14.4	14.0	13.7	14.5	14.6	15.6	14.6	<u>11.0</u>	-3.6 sss	-7.0 sss	-38.9	—	—
Inhalants	2.6	2.6	2.5	2.4	2.1	1.7	1.5	1.4	1.3	1.2	1.3	<b>1.1</b>	1.4	1.6	<u>1.1</u>	-0.5 s	-3.2 sss	-73.6	0.0	+0.7
Hallucinogens	1.4	1.4	1.3	1.4	1.3	1.1	1.1	1.0	1.0	1.0	1.0	0.9	1.2	1.3	<u>0.7</u>	-0.7 ss	-1.6 sss	-69.3	—	—
LSD	0.6	0.7	0.5	0.7	0.7	0.5	0.6	0.6	0.7	0.7	0.8	0.6	0.9	1.0	<u>0.4</u>	-0.6 sss	-2.4 sss	-86.7	—	—
Hallucinogens other than LSD	1.1	1.1	1.0	1.2	1.0	0.9	0.8	0.7	0.6	0.5	0.6	0.6	0.7	0.8	<u>0.5</u>	-0.2	-0.9 sss	-61.6	—	—
Ecstasy (MDMA) <sup>c</sup>	1.1	1.2	1.2	1.5	1.4	0.8	1.0†	<b>1.1</b>	0.8	0.6	0.6	0.5	0.6	0.5	<u>0.2</u>	-0.4 sss	-0.9 s	-84.2	—	—
Cocaine	1.4	1.3	1.0	0.9	0.8	0.8	0.8	0.7	0.8	0.5	0.7	0.7	0.6	0.4	<u>0.3</u>	-0.2	-1.6 sss	-82.8	—	—
Crack	0.7	0.6	0.5	0.5	0.5	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.3	<u>0.2</u>	-0.1	-0.8 sss	-77.0	—	—
Other cocaine	1.1	1.1	0.8	0.8	0.7	0.7	0.6	0.6	0.7	0.4	0.6	0.6	0.5	0.5	<u>0.2</u>	-0.3 s	-1.5 sss	-89.9	—	—
Heroin	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.1	0.2	0.2	<u>0.1</u>	-0.1 s	-0.5 sss	-74.9	—	—
With a needle	0.3	0.3	0.2	0.3	0.3	0.2	0.2	0.3	0.1	0.2	0.1	0.1	0.2	0.2	<u>0.1</u>	-0.1	-0.3 sss	-71.7	—	—
Without a needle	0.3	0.2	0.2	0.3	0.3	0.2	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1	<u>0.1</u>	-0.1	-0.4 sss	-88.2	—	—
Amphetamines <sup>b</sup>	3.2	2.6	2.7	2.7	2.8	2.5	3.2†	<b>3.2</b>	2.7	2.5	2.2	2.2	2.2	2.0	<u>1.4</u>	-0.6 s	-1.8 sss	-57.0	—	—
Methamphetamine	0.5	0.7	0.5	0.6	0.5	0.5	0.4	0.3	0.3	0.3	0.2	0.2	0.2	0.4	<u>0.1</u>	-0.3 s	-1.4 sss	-94.3	—	—
Tranquilizers	2.0	1.9	1.9	1.9	1.7	1.5	1.5	1.5	1.5	1.4	1.4	1.2	1.2	0.9	<u>0.4</u>	-0.5 sss	-1.9 sss	-81.3	—	—
Alcohol	30.1	28.1	28.4	26.8	25.5	25.9	24.3	22.6	21.8	19.8	19.9	18.7	18.2	20.9	<u>15.1</u>	-5.8 sss	-23.7 sss	-61.1	—	—
Been drunk	16.5	14.9	15.2	14.6	13.5	14.7	13.5	11.9	11.0	10.1	9.8	9.1	9.4	10.5	<u>7.4</u>	-3.1 sss	-13.8 sss	-65.3	—	—
Flavored alcoholic beverages	20.4	18.6	17.9	17.0	15.2	14.9	14.0	12.9	12.8	10.9	12.3	11.4	11.2	11.9	<u>9.0</u>	-2.8 ss	-14.0 sss	-60.8	—	—
Cigarettes	13.6	12.6	12.7	12.8	11.7	10.6	9.6	8.0	7.0	5.9	5.4	4.6	3.7	4.2	<u>2.3</u>	-1.9 sss	-26.0 sss	-91.9	—	—
Smokeless tobacco	5.2	4.9	6.0	6.5	5.9	5.6	5.7	5.4	4.7	4.1	3.5	3.4	3.1	4.9	<u>1.8</u>	-3.1 sss	-7.8 sss	-81.1	—	—
Any Vaping <sup>d</sup>	—	—	—	—	—	—	—	—	12.8	9.9†	<u>12.0</u>	19.2	<b>22.5</b>	21.2	15.9	-5.3 sss	-6.6 sss	-29.2	+3.9 sss	+32.9
Vaping nicotine	—	—	—	—	—	—	—	—	—	—	<u>7.5</u>	14.2	<b>18.1</b>	18.0	13.3	-4.7 sss	-4.9 sss	-26.9	+5.8 sss	+77.3
Vaping marijuana	—	—	—	—	—	—	—	—	—	—	<u>3.6</u>	5.7	<b>10.1</b>	9.2	7.8	-1.4 sss	-2.3 sss	-22.9	+4.2 sss	+115.8
Vaping just flavoring	—	—	—	—	—	—	—	—	—	—	8.0	<b>11.5</b>	9.6	8.5	<u>6.1</u>	-2.5 sss	-5.5 sss	-47.4	—	—
JUUL	—	—	—	—	—	—	—	—	—	—	—	—	<b>15.8</b>	10.4	<u>4.8</u>	-5.6 sss	-11.0 sss	-69.3	—	—
Large Cigars	—	—	—	—	—	—	—	3.9	<b>4.2</b>	<b>3.3</b>	3.2	3.2	2.8	1.8	<u>1.5</u>	-0.3	-2.6 sss	-62.9	—	—
Flavored Little Cigars	—	—	—	—	—	—	—	<b>7.4</b>	7.1	5.6	5.4	5.5	4.5	3.1	<u>1.5</u>	-1.6 sss	-6.0 sss	-80.1	—	—
Regular Little Cigars	—	—	—	—	—	—	—	4.5	<b>4.9</b>	3.6	3.6	3.4	3.0	2.4	<u>1.3</u>	-1.1 sss	-3.6 sss	-74.3	—	—
Tobacco using a hookah	—	—	—	—	—	—	—	—	—	<b>4.3</b>	3.4	2.7	2.5	1.1	<u>0.9</u>	-0.2	-3.4 sss	-78.1	—	—
Steroids	0.6	0.6	0.6	0.6	0.5	0.5	0.6	0.5	0.5	0.4	0.4	0.5	0.5	0.6	<u>0.2</u>	-0.4 sss	-0.8 sss	-76.6	—	—

(Table continued on next page.)



**TABLE 3 (continued)**  
**Trends in 30-Day Prevalence of Use of Various Drugs for Grades 8, 10, and 12 Combined**  
(Entries are percentages.)

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

*Notes.* '–' indicates data not available. '‡' indicates a change in the question text. When a question change occurs, peak levels after that change are used to calculate the peak year to current year difference.

Values in bold equal peak levels since 1991. Values in italics equal peak level before wording change. Underlined values equal lowest level since recent peak level.

Level of significance of difference between classes: s = .05, ss = .01, sss = .001.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

<sup>a</sup>The proportional change is the percent by which the most recent year deviates from the peak year [or the low year] for the drug in question. So, if a drug was at 20% prevalence in the peak year and declined to 10% prevalence in the most recent year, that would reflect a proportional decline of 50%.

<sup>b</sup>In 2013, for the questions on the use of amphetamines, the text was changed on two of the questionnaire forms for 8th and 10th graders and four of the questionnaire forms for 12th graders. This change also impacted the any illicit drug indices. Data presented here include only the changed forms beginning in 2013.

<sup>c</sup>In 2014, the text was changed on one of the questionnaire forms for 8th, 10th, and 12th graders to include "molly" in the description. The remaining forms were changed in 2015. Data for both versions of the question are presented here.

<sup>d</sup>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.

<sup>e</sup>Drug prevalence results in 2019 combine results from paper-and-pencil surveys with those completed using electronic tablets. In 2019, students in a randomly-selected half of schools completed MTF surveys on paper-and-pencil and students in the other half completed the surveys using electronic tablets. Analysis of this randomized controlled trial demonstrated that these results did not significantly differ across survey mode (Miech, R.A., Couper, M.P., Heeringa, S.G., and Patrick, M.E. The Impact of Survey Mode on US National Estimates of Adolescent Drug Prevalence: Results from a Randomized Controlled Study, *Addiction*). Results for student attitudes and beliefs in 2019 are based on answers from paper-and-pencil surveys only because these appear more susceptible to survey mode effects.

**TABLE 4**  
**Trends in Daily Prevalence of Use of Selected Drugs and Heavy Use of Alcohol and Tobacco**  
**for Grades 8, 10, and 12 Combined**

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Marijuana	0.9	0.9	1.2	2.1	2.7	3.2	3.4	3.4	3.5	3.5	3.7	3.5	3.4	3.0	2.9	2.8
Alcohol	1.7	1.6†	2.0	1.8	1.9	2.0	2.1	<b>2.2</b>	2.0	1.7	2.0	1.9	1.7	1.5	1.5	1.5
5+ drinks in a row in last 2 weeks	20.0	19.0	19.5	20.3	21.1	21.9	<b>21.9</b>	21.5	21.7	21.2	20.4	18.9	18.6	18.8	17.5	17.4
Been drunk	0.4	0.4	0.5	0.6	0.7	0.7	0.9	0.8	<b>0.9</b>	0.8	0.7	0.6	0.7	0.7	0.6	0.7
Cigarettes	12.4	11.9	13.5	14.0	15.5	16.8	<b>16.9</b>	15.4	15.0	13.4	11.6	10.2	9.3	9.0	8.0	7.6
1/2 pack+/day	6.5	6.1	6.9	7.2	7.9	<b>8.7</b>	8.6	7.9	7.6	6.4	5.7	4.9	4.5	4.1	3.7	3.4
Vaping nicotine	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping marijuana	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping just flavoring	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smokeless tobacco	—	<b>3.0</b>	2.7	2.9	2.5	2.3	2.5	2.1	1.7	1.9	2.0	1.4	1.6	1.7	1.6	1.5

Table continued on next page.

**TABLE 4 (continued)**  
**Trends in Daily Prevalence of Use of Selected Drugs and Heavy Use of Alcohol and Tobacco**  
**for Grades 8, 10, and 12 Combined**

(Entries are percentages.)

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>b</sup>	2020	2021	2020–2021 change	Peak year–2021 change		Low year–2021 change	
																Absolute change	Proportional change (%) <sup>a</sup>	Absolute change	Proportional change (%) <sup>a</sup>	
Marijuana	<u>2.7</u>	2.8	2.8	3.4	3.6	3.6	3.7	3.3	3.3	3.0	3.1	3.2	<b>4.1</b>	4.1	3.1	-0.9	-1.0 sss	-24.0	+0.4	+14.6
Alcohol	1.6	1.4	1.3	1.4	1.0	1.2	1.1	1.0	0.8	0.7	0.6	0.8	0.8	1.3	<u>0.5</u>	-0.8	-1.7 sss	-75.5	—	—
5+ drinks in a row in last 2 weeks	17.2	15.5	16.1	14.9	13.6	14.3	13.2	11.7	10.7	9.4	9.9	8.6	8.7	10.1	<u>6.6</u>	-3.5	-15.3 sss	-69.7	—	—
Been drunk	0.6	0.6	0.5	0.6	0.5	0.6	0.5	0.5	0.3	0.3	0.4	0.3	0.4	0.4	<u>0.2</u>	-0.2	-0.7 sss	-78.2	—	—
Cigarettes	7.1	6.4	6.4	6.4	5.7	5.2	4.7	3.6	3.2	2.5	2.3	2.0	1.5	1.6	<u>1.0</u>	-0.6	-15.9 sss	-94.0	—	—
1/2 pack+/day	3.0	2.7	2.6	2.5	2.1	1.9	1.8	1.4	1.1	0.9	0.8	0.8	0.5	0.6	<u>0.4</u>	-0.2	-8.3 sss	-95.1	—	—
Vaping nicotine	—	—	—	—	—	—	—	—	—	—	—	—	<b>9.2</b>	5.9	<u>2.9</u>	-3.0	-6.3 sss	-68.3	—	—
Vaping marijuana	—	—	—	—	—	—	—	—	—	—	—	—	<b>2.4</b>	1.6	<u>1.1</u>	-0.5	-1.3 sss	-54.6	—	—
Vaping just flavoring	—	—	—	—	—	—	—	—	—	—	—	—	<b>2.0</b>	1.4	<u>0.7</u>	-0.7	-1.3 sss	-64.4	—	—
Smokeless tobacco	1.6	1.6	1.8	2.1	1.8	1.9	1.7	1.8	1.7	1.4	1.0	1.0	0.8	1.6	<u>0.5</u>	-1.1	-2.5 sss	-83.9	—	—

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

Notes. '—' indicates data not available. '‡' indicates a change in the question text. When a question change occurs, peak levels after that change are used to calculate the peak year to current year difference.

Values in bold equal peak levels since 1991. Values in italics equal peak level before wording change. Underlined values equal lowest level since recent peak level.

Level of significance of difference between classes: s = .05, ss = .01, sss = .001.

Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

<sup>a</sup>The proportional change is the percent by which the most recent year deviates from the peak year [or the low year] for the drug in question. So, if a drug was at 20% prevalence in the peak year and declined to 10% prevalence in the most recent year, that would reflect a proportional decline of 50%.

<sup>b</sup>Drug prevalence results in 2019 combine results from paper-and-pencil surveys with those completed using electronic tablets. In 2019, students in a randomly-selected half of schools completed MTF surveys on paper-and-pencil and students in the other half completed the surveys using electronic tablets. Analysis of this randomized controlled trial demonstrated that these results did not significantly differ across survey mode (Miech, R.A., Couper, M.P., Heeringa, S.G., and Patrick, M.E. The Impact of Survey Mode on US National Estimates of Adolescent Drug Prevalence: Results from a Randomized Controlled Study, *Addiction*). Results for student attitudes and beliefs in 2019 are based on answers from paper-and-pencil surveys only because these appear more susceptible to survey mode effects.

**TABLE 5**  
**Trends in Lifetime Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2020– 2021 change	
<b>Any Illicit Drug<sup>a,ii</sup></b>																																	
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	21.3	15.9	-5.4 s	
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	37.3	25.0	-12.3 sss	
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	46.6	41.3	-5.3 s	
<b>Any Illicit Drug other than Marijuana<sup>a,b</sup></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	12.5	8.8	-3.8 s	
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	13.2	9.1	-4.1 sss	
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	17.5	12.8	-4.6 sss	
<b>Any Illicit Drug including Inhalants<sup>a,c,ii</sup></b>																																	
8th Grade	28.5	29.6	32.3	35.1	38.1	39.4	38.1	37.8	37.2	35.1	34.5	31.6	30.3	30.2	30.0	29.2	27.7	28.3	27.9	28.6	26.4	25.1†	25.9	25.2	24.9	20.6	23.3	23.2	25.4	28.4	22.4	-6.0 ss	
10th Grade	36.1	36.2	38.7	42.7	45.9	49.8	50.9	49.3	49.9	49.3	48.8	47.7	44.9	43.1	42.1	40.1	39.8	38.7	40.0	40.6	40.8	40.0†	41.6	40.4	37.2	35.9	37.0	38.7	39.8	39.7	28.5	-11.2 sss	
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	47.6	43.3	-4.3	
<b>Marijuana/Hashish<sup>ii</sup></b>																																	
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	14.8	10.2	-4.6 ss	
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	33.3	22.0	-11.3 sss	
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	43.7	38.6	-5.1 s	
<b>Marijuana Under a Doctor's Orders<sup>n,o</sup></b>																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.1	1.1	1.3	1.0	1.3	+0.3
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.1	1.3	2.0	2.0	1.4	-0.7
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.5	1.2	2.0 §	2.3	—	—
<b>Inhalants<sup>c,d</sup></b>																																	
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	12.6	11.3	-1.4	
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	7.4	7.2	-0.2	
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	3.8	5.0	+1.2	
<b>Hallucinogens<sup>b,f</sup></b>																																	
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	3.0	1.8	-1.3 s	
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	4.8	3.5	-1.3 ss	
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	6.6	6.9	7.5	7.1	-0.4		

(Table continued on next page.)

**TABLE 5 (cont.)**  
**Trends in Lifetime Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>h</sup>	2020	2021	2020– 2021 change
<b>LSD<sup>b</sup></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	2.1	1.2	-0.9
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	3.8	2.5	-1.3 ss
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	5.9	4.9	-0.9
<b>Hallucinogens other than LSD<sup>b</sup></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	2.0	1.3	-0.7
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	3.4	2.5	-0.9 s
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	4.7	5.3	+0.5
<b>MDMA (Ecstasy, Molly)<sup>g</sup></b>																																
8th Grade	—	—	—	—	—	3.4	3.2	2.7	2.7	4.3	5.2	4.3	3.2	2.8	2.8	2.5	2.3	2.4	2.2	3.3	2.6	2.0	1.8†	2.4	2.3	1.7	1.5	1.6	1.7	1.7	1.0	-0.7
10th Grade	—	—	—	—	—	5.6	5.7	5.1	6.0	7.3	8.0	6.6	5.4	4.3	4.0	4.5	5.2	4.3	5.5	6.4	6.6	5.0	5.7†	5.2	3.8	2.8	2.8	2.4	3.2	2.6	1.4	-1.2 sss
12th Grade	—	—	—	—	—	6.1	6.9	5.8	8.0	11.0	11.7	10.5	8.3	7.5	5.4	6.5	6.5	6.2	6.5	7.3	8.0	7.2	7.1†	7.9	5.9	4.9	4.9	4.1	3.3	3.6	2.8	-0.8
<b>Cocaine</b>																																
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	1.6	0.6	-0.9 s
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	1.6	1.2	-0.4
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	4.1	2.5	-1.7 s
<b>Crack</b>																																
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	0.9	0.4	-0.5
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	0.7	0.7	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	1.6	1.5	-0.1
<b>Cocaine other than Crack<sup>h</sup></b>																																
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	1.3	0.5	-0.8 s
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	1.5	1.0	-0.5
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	4.0	2.2	-1.8 s

(Table continued on next page.)

**TABLE 5 (cont.)**  
**Trends in Lifetime Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>h</sup>	2020	2021	2020– 2021 change	
<b>Heroin<sup>i,j</sup></b>																																	
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	0.5	0.5	0.0	
10th Grade	1.2	1.2	1.3	1.5	1.7	2.1	2.1	2.3	2.3	2.2	1.7	1.8	1.5	1.5	1.5	1.4	1.5	1.2	1.5	1.3	1.2	1.1	1.0	0.9	0.7	0.6	0.4	0.4	0.4	0.3	0.3	0.0	
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	0.4	0.4	+0.1	
<b>With a Needle<sup>j</sup></b>																																	
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	0.3	0.4	+0.1	
10th Grade	—	—	—	—	1.0	1.1	1.1	1.2	1.3	1.0	0.8	1.0	0.9	0.8	0.8	0.9	0.9	0.7	0.9	0.8	0.8	0.7	0.7	0.6	0.5	0.5	0.3	0.2	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	0.2	0.2	0.0	
<b>Without a Needle<sup>j</sup></b>																																	
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	0.4	0.2	-0.2	
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	0.2	0.1	-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	0.2	+0.1	
<b>Narcotics other than Heroin<sup>k,l</sup></b>																																	
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	5.3	2.3	-3.0 sss	
<b>Amphetamines<sup>k,m</sup></b>																																	
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	8.9	5.8	-3.1 s	
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	7.0	5.2	-1.8 ss	
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	7.3	4.9	-2.5 sss	
<b>Methamphetamine<sup>n,o</sup></b>																																	
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	1.1	0.3	-0.9	
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	0.8	0.4	-0.4	
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	1.7	0.6	-1.1	

(Table continued on next page.)

**TABLE 5 (cont.)**  
**Trends in Lifetime Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021	2020– 2021 change	
<b>Crystal Methamphetamine (Ice)<sup>o</sup></b>																																	
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	0.2	0.7	+0.6 s	
<b>Sedatives (Barbiturates)<sup>k,p</sup></b>																																	
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	4.4	3.5	-0.9	
<b>Tranquilizers<sup>b,k</sup></b>																																	
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	3.9	2.5	-1.4	
10th Grade	5.8	5.9	5.7	5.4	6.0	7.1	7.3	7.8	7.9	8.0†	9.2	8.8	7.8	7.3	7.1	7.2	7.4	6.8	7.0	7.3	6.8	6.3	5.5	5.8	6.1	6.0	6.0	5.7	4.9	2.6	-2.3 sss		
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	7.0	3.3	-3.8 sss	
<b>Any Prescription Drug<sup>q</sup></b>																																	
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	14.2	8.8	-5.4 sss	
<b>Rohypnol<sup>r</sup></b>																																	
8th Grade	—	—	—	—	—	1.5	1.1	1.4	1.3	1.0	1.1	0.8	1.0	1.0	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	§	0.3	—		
10th Grade	—	—	—	—	—	1.5	1.7	2.0	1.8	1.3	1.5	1.3	1.0	1.2	1.0	0.8	1.3	0.9	0.7	1.4	1.2	0.8	1.1	1.0	0.5	1.0	0.7	0.5	0.9	§	0.6	—	
12th Grade	—	—	—	—	—	1.2	1.8	3.0	2.0	1.5	1.7	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Alcohol<sup>s</sup></b>																																	
<b>Any Use</b>																																	
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	25.6	21.7	-3.9	
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	46.4	34.7	-11.6 sss	
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	61.5	54.1	-7.4 s	

(Table continued on next page.)

**TABLE 5 (cont.)**  
**Trends in Lifetime Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>h</sup>	2020	2021	2020– 2021 change	
<b>Been Drunk<sup>o</sup></b>																																	
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	10.1	8.3	-1.8	
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	28.8	17.8	-10.9 sss	
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	41.7	38.9	-2.8	
<b>Flavored Alcoholic Beverages<sup>e,n</sup></b>																																	
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	18.3	13.8	-4.5	
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	36.4	24.9	-11.5 sss	
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	§	43.7	—	
<b>Cigarettes</b>																																	
<b>Any Use</b>																																	
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	11.5	7.0	-4.5 ss	
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	13.9	10.0	-3.9 sss	
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	24.0	17.8	-6.1	
<b>Smokeless Tobacco<sup>1</sup></b>																																	
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	7.8	4.6	-3.2 s	
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	9.3	4.9	-4.3 sss	
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	§	8.6	—	
<b>Any Vaping<sup>h,b,cc</sup></b>																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.7	17.5‡	18.5	21.5	24.3	24.1	17.5	-6.6 ss
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32.8	29.0‡	30.9	36.9	41.0	41.0	29.7	-11.3 sss
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	35.5	33.8‡	35.8	42.5	45.6	47.2	40.5	-6.7 s
<b>Vaping Nicotine<sup>h,b</sup></b>																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.6	13.5	20.3	22.7	16.6	-6.1 ss	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.4	28.6	36.3	38.7	28.4	-10.3 sss	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0	34.0	40.8	44.3	38.7	-5.6	

(Table continued on next page.)



**TABLE 5 (cont.)**  
**Trends in Lifetime Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021	2020–2021 change																														
<b>Vaping Marijuana<sup>bb</sup></b>																																																														
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.0	5.5	9.0	10.2	6.5	-3.7 ss																													
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.8	14.2	21.8	22.7	16.5	-6.3 sss																													
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.9	15.6	23.7	27.9	25.7	-2.3																													
<b>Vaping Just Flavoring<sup>bb</sup></b>																																																														
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	17.0	19.4	18.9	17.8	12.0	-5.8 sss																												
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.5	31.7	28.3	27.7	19.6	-8.0 sss																												
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	30.7	34.1	29.0	29.8	25.2	-4.6 s																												
<b>Flavoring Vaping with no Nicotine Vaping<sup>bb</sup></b>																																																														
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.8	7.8	3.6	1.3	0.8	-0.6 s																											
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.0	7.6	3.7	1.6	0.9	-0.7 ss																											
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	10.1	7.6	3.7	2.1	1.1	-1.0 ss																											
<b>JUUL<sup>jj</sup></b>																																																														
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.9	16.9	10.3	-6.6 sss																						
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32.8	30.7	19.8	-10.9 sss																			
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.0	36.2	28.5	-7.8 s															
<b>Steroids<sup>ku</sup></b>																																																														
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	2.0	1.2	-0.9 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	1.7	0.7	-0.9 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	2.0	0.8	-1.2																														
<b>Legal Use of Over-the-Counter Stimulants</b>																																																														
<b>Diet Pills<sup>o</sup></b>																																																														
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—																
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—														
12th Grade	17.2	15.0	14.8	14.9	15.6	16.0	16.6	15.7	17.1	16.6	17.1	21.0	17.9	15.6	13.7	13.0	10.4	10.5	9.5	7.2	7.7	7.7	8.1	9.1	7.9	6.4	6.7	6.2	5.1	§	4.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—																	
<b>Stay-Awake Pills<sup>o</sup></b>																																																														
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—													
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—											
12th Grade	37.0	35.6	30.5	31.3	31.2	30.5	31.0	29.6	25.5	23.0	25.6	22.5	19.8	18.4	15.8	14.8	12.3	9.6	7.6	6.4	6.3	5.9	5.2	4.5	3.8	3.6	3.8	3.6	3.4	§	3.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—													

(Table continued on next page.)

**TABLE 5 (cont.)**  
**Trends in Lifetime Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kt</sup>	2020	2021	2020– 2021 change		
<b>Look-Alikes<sup>e</sup></b>																																		
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	8.9	10.1	10.5	10.3	11.6	10.7	10.8	9.4	9.2	10.0	9.8	9.6	8.6	8.1	7.4	5.7	4.6	5.2	4.3	2.6	3.5	2.9	2.7	2.2	3.3	2.3	2.6	—	—	—	—	—		
<b>Legal Use of Prescription ADHD Drugs</b>																																		
<b>Stimulant-Type<sup>n,dd</sup></b>																																		
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.3	9.3	8.3	8.1	7.8	8.2	7.6	7.7	7.1	7.2	7.1	7.5	6.6	7.1	6.5	5.0	9.0	+3.9 sss		
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.7	8.5	8.4	7.8	8.2	8.6	7.2	8.0	8.3	6.8	8.8	7.1	6.5	8.2	6.6	6.0	7.0	+1.0		
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.5	7.8	7.6	8.6	8.2	8.3	8.4	9.0	9.6	9.1	9.9	8.4	8.6	8.6	7.9	7.5	8.0	+0.5		
<b>Non-Stimulant-Type<sup>n,dd</sup></b>																																		
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.3	7.9	6.3	6.3	5.8	5.8	6.1	5.1	5.1	4.8	5.1	5.7	4.9	4.4	4.5	4.2	2.8	-1.4		
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.3	8.3	6.7	6.8	6.8	6.1	6.4	5.2	4.9	5.8	5.8	5.2	4.6	5.1	5.2	5.1	3.0	-2.1 ss		
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.2	6.1	7.0	6.4	5.4	6.7	5.8	5.9	5.4	5.6	5.6	5.8	6.4	6.1	5.7	4.8	4.5	-0.3		
<b>Either Type<sup>n,dd</sup></b>																																		
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.7	15.8	13.4	13.1	12.8	12.8	12.4	11.6	11.5	11.2	11.4	12.1	10.9	11.0	9.8	7.3	11.5	+4.3 ss		
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.3	14.2	12.9	12.8	13.0	12.7	12.0	12.0	11.7	11.3	13.1	11.5	10.1	12.1	9.8	9.3	9.0	-0.3		
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.4	11.7	12.1	13.1	11.0	12.7	12.2	12.7	13.2	12.6	13.7	12.7	13.0	12.7	11.1	9.9	10.9	+1.0		
<b>Previously surveyed drugs that have been dropped.</b>																																		
<b>Nitrites<sup>e</sup></b>																																		
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>PCP<sup>e</sup></b>																																		
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	—	—	—	—	—	—	—	—	—		

(Table continued on next page.)

**TABLE 5 (cont.)**  
**Trends in Lifetime Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>k</sup>	2020	2021	2020– 2021 change	
Methaqualone <sup>e,k</sup>																																	
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	—	—	—	—	—	—	—	—	—		

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

Note. See footnotes following Table 9.

**TABLE 6**  
**Trends in Annual Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021	2020– 2021 change		
Any Illicit Drug <sup>a,II</sup>																																		
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	15.6	10.2	-5.4 sss		
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	30.4	18.7	-11.7 sss		
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	36.8	32.0	-4.8 s		
Any Illicit Drug other than Marijuana <sup>a,b</sup>																																		
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	7.7	4.6	-3.1 s		
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	8.6	5.1	-3.5 sss		
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	11.4	7.2	-4.2 sss		
Any Illicit Drug including Inhalants <sup>a,c,II</sup>																																		
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	18.5	12.6	-5.9 ss		
10th Grade	23.9	23.5	27.4	32.5	35.6	39.6	40.3	37.1	37.7	38.0	38.7	36.1	33.5	32.9	31.7	30.7	30.2	28.8	31.2	31.8	32.5	31.5†	33.2	31.0	28.9	27.7	29.1	31.0	31.7	31.3	19.6	-11.7 sss		
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	38.7	33.2	-5.4 s		
Marijuana/Hashish <sup>II</sup>																																		
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	11.4	7.1	-4.3 ss		
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	28.0	17.3	-10.7 sss		
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	35.2	30.5	-4.7 s		
Synthetic Marijuana <sup>n,o</sup>																																		
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.4	4.0	3.3	3.1	2.7	2.0	1.6	2.7	1.6	1.3	-0.3	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.8	7.4	5.4	4.3	3.3	2.7	2.9	2.6	2.5	1.6	-0.9	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.4	11.3	7.9	5.8	5.2	3.5	3.7	3.5	3.3	2.4	1.8	-0.6
Inhalants <sup>c,d</sup>																																		
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	6.1	4.8	-1.3		
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	2.9	2.0	-0.8 s		
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	1.1	1.8	+0.6		

(Table continued on next page.)

**TABLE 6 (cont.)**  
**Trends in Annual Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021	2020– 2021 change	
Hallucinogens <sup>b,f</sup>																																	
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	1.7	1.0	-0.7	
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	3.4	2.2	-1.2 ss	
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	5.3	4.1	-1.3	
LSD <sup>b</sup>																																	
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	1.1	0.7	-0.4	
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	2.5	1.5	-1.1 ss	
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	3.9	2.5	-1.4	
Hallucinogens other than LSD <sup>b</sup>																																	
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	1.1	0.8	-0.3	
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	2.2	1.5	-0.7 s	
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	2.8	2.9	+0.1	
PCP <sup>e</sup>																																	
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	§	0.7	—	
MDMA (Ecstasy, Molly) <sup>g</sup>																																	
8th Grade	—	—	—	—	2.3	2.3	1.8	1.7	3.1	3.5	2.9	2.1	1.7	1.7	1.4	1.5	1.7	1.3	2.4	1.7	1.1	1.1†	1.5	1.4	1.0	0.9	1.1	1.1	1.1	0.8	0.6	-0.2	
10th Grade	—	—	—	—	4.6	3.9	3.3	4.4	5.4	6.2	4.9	3.0	2.4	2.6	2.8	3.5	2.9	3.7	4.7	4.5	3.0	3.6†	3.8	2.4	1.8	1.7	1.4	1.7	1.2	0.7	-0.5		
12th Grade	—	—	—	—	4.6	4.0	3.6	5.6	8.2	9.2	7.4	4.5	4.0	3.0	4.1	4.5	4.3	4.3	4.5	5.3	3.8	4.0†	5.0	3.6	2.7	2.6	2.2	2.2	1.8	1.1	-0.7		
Salvia <sup>n,o</sup>																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.7	1.6	1.4	1.2	0.6	0.7	0.9	0.4	0.6	0.8	0.5	0.5	+0.1	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.7	3.9	2.5	2.3	1.8	1.2	0.9	0.9	0.7	0.9	1.2	0.4	-0.8 ss	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.7	5.5	5.9	4.4	3.4	1.8	1.9	1.8	1.5	0.9	0.7	0.7	0.6	-0.1	

(Table continued on next page.)

**TABLE 6 (cont.)**  
**Trends in Annual Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021	2020– 2021 change	
<b>Cocaine</b>																																	
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	0.5	0.2	-0.2	
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	1.1	0.6	-0.5	
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	2.9	1.2	-1.7 s	
<b>Crack</b>																																	
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	0.2	0.2	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	0.5	0.3	-0.2	
12th Grade	1.5	1.5	1.5	1.9	2.1	2.1	2.4	2.5	2.7	2.2	2.1	2.3	2.2	2.3	1.9	2.1	1.9	1.6	1.3	1.4	1.0	1.2	1.1	1.1	1.1	0.8	1.0	0.9	1.0	1.2	0.7	-0.5	
<b>Cocaine other than Crack<sup>h</sup></b>																																	
8th Grade	1.0	1.2	1.3	1.7	2.1	2.5	2.2	2.4	2.3	1.9	1.9	1.8	1.6	1.6	1.7	1.6	1.5	1.4	1.3	1.3	1.1	1.0	0.8	0.8	0.8	0.6	0.6	0.7	0.6	0.5	0.2	-0.4 s	
10th Grade	2.1	1.7	1.8	2.4	3.0	3.5	4.1	4.0	4.4	3.8	3.0	3.4	2.8	3.3	3.0	2.9	3.1	2.6	2.3	1.9	1.7	1.8	1.6	1.3	1.5	1.1	1.2	1.4	1.4	1.0	0.5	-0.5	
12th Grade	3.2	2.6	2.9	3.0	3.4	4.2	5.0	4.9	5.8	4.5	4.4	4.4	4.2	4.7	4.5	5.2	4.5	4.0	3.0	2.6	2.6	2.4	2.4	2.4	2.1	2.0	2.3	2.0	1.9	2.9	0.9	-2.0 s	
<b>Heroin<sup>lj</sup></b>																																	
8th Grade	0.7	0.7	0.7	1.2	1.4	1.6	1.3	1.3	1.4	1.1	1.0	0.9	0.9	1.0	0.8	0.8	0.8	0.9	0.7	0.8	0.7	0.5	0.5	0.5	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.0	
10th Grade	0.5	0.6	0.7	0.9	1.1	1.2	1.4	1.4	1.4	1.4	0.9	1.1	0.7	0.9	0.9	0.9	0.8	0.8	0.9	0.8	0.8	0.6	0.6	0.5	0.5	0.3	0.2	0.2	0.3	0.2	0.1	0.0	
12th Grade	0.4	0.6	0.5	0.6	1.1	1.0	1.2	1.0	1.1	1.5	0.9	1.0	0.8	0.9	0.8	0.8	0.9	0.7	0.7	0.9	0.8	0.6	0.6	0.6	0.5	0.3	0.4	0.4	0.4	0.3	0.1	-0.2	
<b>With a Needle<sup>j</sup></b>																																	
8th Grade	—	—	—	—	0.9	1.0	0.8	0.8	0.9	0.6	0.7	0.6	0.6	0.7	0.6	0.5	0.6	0.5	0.5	0.6	0.5	0.4	0.3	0.4	0.2	0.2	0.2	0.2	0.2	0.2	0.1	-0.1	
10th Grade	—	—	—	—	0.6	0.7	0.7	0.8	0.6	0.5	0.4	0.6	0.5	0.5	0.5	0.5	0.5	0.5	0.6	0.5	0.5	0.4	0.5	0.4	0.2	0.3	0.2	0.1	0.2	0.2	0.1	0.0	
12th Grade	—	—	—	—	0.5	0.5	0.5	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.5	0.5	0.4	0.4	0.3	0.7	0.6	0.4	0.4	0.5	0.3	0.3	0.2	0.3	0.3	0.1	0.1	0.0	
<b>Without a Needle<sup>i</sup></b>																																	
8th Grade	—	—	—	—	0.8	1.0	0.8	0.8	0.9	0.7	0.6	0.6	0.6	0.6	0.5	0.5	0.5	0.6	0.4	0.5	0.4	0.3	0.3	0.2	0.2	0.2	0.3	0.2	0.2	0.2	0.1	-0.1	
10th Grade	—	—	—	—	0.8	0.9	1.1	1.0	1.1	1.1	0.7	0.8	0.5	0.7	0.7	0.6	0.6	0.6	0.6	0.6	0.6	0.5	0.4	0.4	0.3	0.3	0.2	0.1	0.1	0.2	0.1	0.1	0.0
12th Grade	—	—	—	—	1.0	1.0	1.2	0.8	1.0	1.6	0.8	0.8	0.8	0.7	0.8	0.6	1.0	0.5	0.6	0.8	0.7	0.4	0.4	0.5	0.4	0.3	0.2	0.2	0.2	0.1	0.1	0.0	

(Table continued on next page.)

**TABLE 6 (cont.)**  
**Trends in Annual Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019**	2020	2021	2020– 2021 change	
Narcotics other than Heroin <sup>k,l</sup>																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.5	3.3	3.6	3.8	4.7	5.4	6.2	6.3	6.7	7.0	6.7†	9.4	9.3	9.5	9.0	9.0	9.2	9.1	9.2	8.7	8.7	7.9	7.1	6.1	5.4	4.8	4.2	3.4	2.7	2.1	1.0	-1.1 ss	
OxyContin <sup>k,n,v</sup>																																	
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	0.9	0.8	0.0	
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	1.0	0.9	-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	2.4	0.9	-1.5	
Vicodin <sup>k,n,v</sup>																																	
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	0.5	0.6	+0.1	
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	0.9	0.5	-0.4	
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	1.2	0.9	-0.4	
Amphetamines <sup>k,m</sup>																																	
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	5.3	3.0	-2.3 ss	
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	4.3	2.7	-1.6 ss	
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	4.3	2.3	-1.9 sss	
Ritalin <sup>k,n,o</sup>																																	
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	0.5	0.6	+0.1	
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	1.0	0.3	-0.6 s	
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	1.7	0.5	-1.2	
Adderall <sup>k,n,o</sup>																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.0	2.3	1.7	1.7	1.8	1.3	1.0	1.5	1.3	1.8	2.5	2.7	1.8	-0.9	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.7	5.3	4.6	4.5	4.4	4.6	5.2	4.2	4.0	4.1	3.1	2.9	1.6	-1.3 ss	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.4	6.5	6.5	7.6	7.4	6.8	7.5	6.2	5.5	4.6	3.9	4.4	1.8	-2.6 s	

(Table continued on next page.)

**TABLE 6 (cont.)**  
**Trends in Annual Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019**	2020	2021	2020– 2021 change
<b>Methamphetamine <sup>n,o</sup></b>																																
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	0.5	0.2	-0.3
10th Grade	—	—	—	—	—	—	—	—	4.6	4.0	3.7	3.9	3.3	3.0	2.9	1.8	1.6	1.5	1.6	1.6	1.4	1.0	1.0	0.8	0.8	0.4	0.4	0.4	0.5	0.3	0.2	-0.1
12th Grade	—	—	—	—	—	—	—	—	4.7	4.3	3.9	3.6	3.2	3.4	2.5	2.5	1.7	1.2	1.2	1.0	1.4	1.1	0.9	1.0	0.6	0.6	0.6	0.5	0.5	1.4	0.2	-1.2
<b>Crystal Methamphetamine (Ice) <sup>o</sup></b>																																
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	0.0	0.4	+0.3 s
<b>Bath salts (synthetic stimulants) <sup>n,o</sup></b>																																
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	—	—	—	—
<b>Sedatives (Barbiturates) <sup>k,p</sup></b>																																
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	2.4	1.8	-0.6
<b>Tranquilizers <sup>b,k</sup></b>																																
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	2.2	1.1	-1.1
10th Grade	3.2	3.5	3.3	3.3	4.0	4.6	4.9	5.1	5.4	5.6‡	7.3	6.3	5.3	5.1	4.8	5.2	5.3	4.6	5.0	5.1	4.5	4.3	3.7	3.9	3.9	4.1	4.1	3.9	3.4	2.6	1.3	-1.4 sss
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	3.2	1.2	-1.9 sss
<b>Any Prescription Drug <sup>q</sup></b>																																
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	7.6	4.4	-3.1 sss

(Table continued on next page.)



**TABLE 6 (cont.)**  
**Trends in Annual Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021	2020– 2021 change
OTC Cough/Cold Medicines <sup>no</sup>																																
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	4.6	3.5	-1.1
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	3.3	2.7	-0.6
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	5.8	5.5	5.9	6.6	5.3	5.6	5.0	4.1	4.6	4.0	3.2	3.4	2.5	3.2	1.7	-1.5
Rohypnol <sup>r</sup>																																
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	§	0.2	—
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	§	0.2	—
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	§	0.4	—
GHB <sup>nw</sup>																																
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	§	0.4	—
Ketamine <sup>nx</sup>																																
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	1.3	0.9	-0.4
Alcohol <sup>s</sup>																																
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	20.5	17.2	-3.2
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	40.7	28.5	-12.2 sss
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	55.3	46.5	-8.8 ss
Been Drunk <sup>o</sup>																																
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	7.5	5.7	-1.8
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	23.1	13.4	-9.7 sss
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	36.9	28.8	-8.2 s

(Table continued on next page.)

**TABLE 6 (cont.)**  
**Trends in Annual Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021	2020– 2021 change	
Flavored Alcoholic Beverages <sup>e,n,y</sup>																																	
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	14.7	10.2	-4.5 s	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	49.7	48.5	48.8	45.9	43.4	41.5	41.0	38.3	37.8	35.6	33.2	31.4	26.1	28.3	28.8	26.8	29.6	18.8	-10.9 ss	
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	§	32.1	—	
Alcoholic Beverages containing Caffeine <sup>n,o,z</sup>																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.8	10.9	10.2	9.5	8.4	6.5	5.6	6.0	7.3	5.7	6.2	+0.5		
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	22.5	19.7	16.9	14.3	12.8	10.6	9.9	9.8	8.4	8.3	7.5	-0.7		
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	26.4	26.4	23.5	20.0	18.3	17.0	16.9	14.7	12.3	12.3	9.9	-2.4		
Tobacco using a Hookah <sup>e</sup>																																	
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	§	2.1	—	
Small cigars <sup>e</sup>																																	
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	§	3.4	—	
Dissolvable Tobacco Products <sup>a,n</sup>																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.0	1.1	1.1	0.9	0.7	0.6	0.6	1.1	0.6	0.8	+0.2		
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	1.2	1.3	1.1	0.9	0.6	1.1	0.8	1.3	0.3	-0.9 s		
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.5	1.6	1.9	1.1	1.4	1.1	1.4	1.3	1.1	§	1.1	—		
Snus <sup>a,n</sup>																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.4	2.0	2.2	1.9	2.2	1.1	1.3	1.5	1.6	1.2	-0.3		
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	5.2	4.5	4.0	3.0	2.6	3.1	2.3	2.2	1.0	-1.2 s		
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.9	7.9	7.7	5.8	5.8	5.8	4.2	4.7	2.7	§	2.6	—	

(Table continued on next page.)

**TABLE 6 (cont.)**  
**Trends in Annual Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021	2020– 2021 change
Any Vaping <sup>bb</sup>																																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.3	17.6	20.1	19.2	13.4	-5.7 ss
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	23.9	32.3	35.7	34.6	22.2	-12.4 sss
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	27.8	37.3	40.6	39.0	31.5	-7.5 s
Vaping Nicotine <sup>bb</sup>																																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.5	10.9	16.5	16.6	12.1	-4.5 s
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	15.8	24.7	30.7	30.7	19.5	-11.2 sss
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.8	29.7	35.3	34.5	26.6	-7.9 s
Vaping Marijuana <sup>bb</sup>																																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.0	4.4	7.0	8.1	4.7	-3.4 ss
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.1	12.4	19.4	19.1	12.4	-6.7 sss
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.5	13.1	20.8	22.1	18.3	-3.8
Vaping Just Flavoring <sup>bb</sup>																																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.8	15.1	14.7	12.3	7.7	-4.6 sss
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.3	24.7	20.8	18.4	10.6	-7.8 sss
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.6	25.7	20.3	16.6	11.7	-4.9 ss
Flavoring Vaping with no Nicotine Vaping <sup>bb</sup>																																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.5	6.2	3.0	2.0	1.0	-1.1 ss
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.0	6.4	2.9	2.0	1.0	-1.0 sss
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.5	6.0	3.1	1.9	1.2	-0.7
JUUL <sup>jj</sup>																																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.7	12.8	6.2	-6.6 sss
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.7	23.3	9.2	-14.1 sss
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	28.4	26.1	12.2	-13.8 sss
Steroids <sup>k,u</sup>																																
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	1.1	0.5	-0.7 s
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	0.9	0.3	-0.6 sss
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	1.2	0.5	-0.7

(Table continued on next page.)

**TABLE 6 (cont.)**  
**Trends in Annual Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021	2020– 2021 change				
<b>Androstenedione<sup>bb</sup></b>																																				
8th Grade	—	—	—	—	—	—	—	—	—	—	1.1	1.2	1.0	0.9	0.6	1.0	0.9	0.9	0.8	0.9	0.6	0.6	0.7	0.4	0.4	—	—	—	—	—	—	—	—			
10th Grade	—	—	—	—	—	—	—	—	—	—	2.2	1.9	1.7	1.1	0.9	0.9	0.6	0.9	1.1	1.0	0.8	0.9	0.9	0.9	0.7	—	—	—	—	—	—	—	—			
12th Grade	—	—	—	—	—	—	—	—	—	—	3.0	2.5	2.5	2.1	1.7	1.1	0.9	1.3	1.1	1.5	0.7	1.0	0.7	1.1	0.9	0.9	0.6	0.5	0.5	§	0.6	—				
<b>Creatine<sup>bb</sup></b>																																				
8th Grade	—	—	—	—	—	—	—	—	—	—	2.7	2.3	2.3	1.9	1.3	2.2	2.0	2.0	1.9	1.9	1.9	1.9	2.0	1.6	1.2	1.8	1.7	1.7	2.0	2.5	3.2	+0.7				
10th Grade	—	—	—	—	—	—	—	—	—	—	7.9	7.6	5.8	5.3	5.1	6.5	6.1	5.8	6.0	6.0	7.1	6.8	5.7	6.0	6.0	7.8	6.8	6.2	5.4	4.5	6.0	+1.4				
12th Grade	—	—	—	—	—	—	—	—	—	—	11.7	8.5	8.3	8.1	8.1	7.8	8.0	8.3	9.1	9.2	8.6	9.5	9.3	10.0	8.8	9.0	8.1	9.3	7.6	7.2	7.4	+0.2				
<b>Legal Use of Over-the-Counter Stimulants</b>																																				
<b>Diet Pills<sup>e</sup></b>																																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
12th Grade	8.8	8.4	8.0	9.3	9.8	9.3	9.8	9.6	10.2	11.1	11.8	15.1	13.0	10.7	10.0	9.4	6.7	7.2	6.1	4.3	4.9	5.5	5.3	6.4	5.1	4.5	4.0	3.5	3.1	§	2.5	—				
<b>Stay-Awake Pills<sup>e</sup></b>																																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	22.2	20.4	19.1	20.7	20.3	19.0	19.7	19.0	15.7	15.0	17.3	14.9	12.5	11.8	10.4	10.0	7.6	6.3	4.8	3.2	3.9	3.8	3.2	3.5	2.7	2.5	2.5	2.4	1.8	§	1.5	—				
<b>Look-Alikes<sup>e</sup></b>																																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	5.2	5.4	6.2	6.0	6.8	6.5	6.4	5.7	5.0	5.8	7.1	6.6	5.4	5.0	4.2	3.7	2.8	3.1	2.6	1.7	2.2	2.1	1.7	1.4	2.3	1.6	1.5	—	—	—	—	—	—			
<b>Previously surveyed drugs that have been dropped.</b>																																				
<b>Nitrites<sup>e</sup></b>																																				
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
<b>Provigil<sup>k,o</sup></b>																																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(Table continued on next page.)

**TABLE 6 (cont.)**  
**Trends in Annual Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021	2020– 2021 change				
<b>Powdered Alcohol <sup>n,o</sup></b>																																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.0	0.8	0.8	1.2	—	—	—			
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.3	0.8	1.2	1.0	—	—	—			
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.7	1.0	1.3	1.4	—	—	—			
<b>Methaqualone <sup>e,k</sup></b>																																				
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	—	—	—	—	—	—	—	—	—	—	—	—		
<b>Bidis <sup>n,o</sup></b>																																				
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Kreteks <sup>n,o</sup></b>																																				
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	—	—	—	—	—	—	—	—	—	—	—	—	—

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

Note. See footnotes following Table 9.

**TABLE 7**  
**Trends in 30-Day Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**

	Percentage who used in last 30 days																												2020– 2021 change				
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021		
<b>Any Illicit Drug <sup>a,ii</sup></b>																																	
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	8.7	5.9	-2.8 s	
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	18.2	10.9	-7.2 sss	
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	22.2	20.6	-1.6	
<b>Any Illicit Drug other than Marijuana <sup>a,b</sup></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	3.5	2.4	-1.1	
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	3.7	2.5	-1.2 ss	
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	4.8	2.9	-1.9 sss	
<b>Any Illicit Drug including Inhalants <sup>a,c,ii</sup></b>																																	
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	10.2	6.9	-3.4 ss	
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	18.7	11.4	-7.2 sss	
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	23.8	21.0	-2.8	
<b>Marijuana/Hashish <sup>i</sup></b>																																	
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	6.5	4.1	-2.4 s	
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	16.6	10.1	-6.6 sss	
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	21.1	19.5	-1.7	
<b>Inhalants <sup>c,d</sup></b>																																	
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	2.9	1.8	-1.1	
10th Grade	2.7	2.7	3.3	3.6	3.5	3.3	3.0	2.9	2.6	2.6	2.4	2.4	2.2	2.4	2.2	2.3	2.5	2.1	2.2	2.0	1.7	1.4	1.3	1.1	1.2	1.0	1.1	1.0	1.1	1.2	0.9	-0.3	
12th Grade	2.4	2.3	2.5	2.7	3.2	2.5	2.5	2.3	2.0	2.2	1.7	1.5	1.5	1.5	2.0	1.5	1.2	1.4	1.2	1.4	1.0	0.9	1.0	0.7	0.7	0.8	0.8	0.7	0.9	0.7	0.7	0.0	
<b>Hallucinogens <sup>b,f</sup></b>																																	
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	0.9	0.4	-0.5 s	
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	1.4	0.8	-0.6 sss	
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	1.8	1.0	-0.8 s	

(Table continued on next page.)

**TABLE 7 (cont.)**  
**Trends in 30-Day Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**

	Percentage who used in last 30 days																													2020– 2021 change				
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>		2020	2021		
<b>LSD<sup>b</sup></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	0.6	0.2	-0.4		
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	1.0	0.4	-0.7 ss		
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	1.4	0.5	-0.9 ss		
<b>Hallucinogens other than LSD<sup>b</sup></b>																																		
8th Grade	0.3	0.4	0.5	0.7	0.8	0.9	0.7	0.7	0.6	0.6 <sup>‡</sup>	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	0.6	0.2	-0.4		
10th Grade	0.4	0.5	0.7	1.0	1.0	1.0	1.2	1.4	1.2	1.2 <sup>‡</sup>	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	0.9	0.6	-0.3		
12th Grade	0.7	0.5	0.8	1.2	1.3	1.6	1.7	1.6	1.6	1.7 <sup>‡</sup>	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	0.7	0.8	+0.1		
<b>MDMA (Ecstasy, Molly)<sup>g</sup></b>																																		
8th Grade	—	—	—	—	1.0	1.0	0.9	0.8	1.4	1.8	1.4	0.7	0.8	0.6	0.7	0.6	0.8	0.6	1.1	0.6	0.5	0.5 <sup>‡</sup>	0.7	0.5	0.3	0.4	0.4	0.5	0.3	0.2	-0.0			
10th Grade	—	—	—	—	1.8	1.3	1.3	1.8	2.6	2.6	1.8	1.1	0.8	1.0	1.2	1.2	1.1	1.3	1.9	1.6	1.0	1.2 <sup>‡</sup>	1.1	0.9	0.5	0.5	0.4	0.7	0.5	0.1	-0.4 ss			
12th Grade	—	—	—	—	2.0	1.6	1.5	2.5	3.6	2.8	2.4	1.3	1.2	1.0	1.3	1.6	1.8	1.8	1.4	2.3	0.9	1.5 <sup>‡</sup>	1.5	1.1	0.9	0.9	0.5	0.7	0.8	0.2	-0.6 s			
<b>Cocaine</b>																																		
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	0.1	0.1	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	0.4	0.3	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	0.8	0.3	-0.5		
<b>Crack</b>																																		
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	0.1	0.1	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	0.3	0.2	-0.1		
12th Grade	0.7	0.6	0.7	0.8	1.0	1.0	0.9	1.0	1.1	1.0	1.1	1.2	0.9	1.0	1.0	0.9	0.9	0.8	0.6	0.7	0.5	0.6	0.6	0.7	0.6	0.5	0.6	0.5	0.7	0.4	0.3	-0.1		
<b>Cocaine other than Crack<sup>h</sup></b>																																		
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	0.6	0.6	0.7	0.5	0.6	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.2	0.1	0.1	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	0.3	0.3	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	1.0	0.1	-0.9 s		

(Table continued on next page.)

**TABLE 7 (cont.)**  
**Trends in 30-Day Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**

	Percentage who used in last 30 days																													2020– 2021 change		
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021	
<b>Heroin <sup>lj</sup></b>																																
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	0.2	0.1	-0.2
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	0.1	0.1	0.0
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	0.3	0.1	-0.2
<b>With a Needle <sup>j</sup></b>																																
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	0.2	0.0	-0.2
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	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.3	0.1	0.2	0.1	0.1	0.2	0.1	0.1	0.0
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	0.1	-0.1
<b>Without a Needle <sup>j</sup></b>																																
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	0.2	0.0	-0.1
10th Grade	—	—	—	—	0.3	0.3	0.4	0.5	0.5	0.4	0.2	0.4	0.2	0.3	0.3	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.2	0.1	0.1	0.0	0.2	0.1	0.0	0.0
12th Grade	—	—	—	—	0.6	0.4	0.6	0.4	0.4	0.7	0.3	0.5	0.4	0.3	0.5	0.3	0.4	0.2	0.3	0.4	0.4	0.2	0.2	0.4	0.3	0.1	0.2	0.1	0.2	0.1	0.1	-0.1
<b>Narcotics other than Heroin <sup>kl</sup></b>																																
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	0.7	0.3	-0.4 s
<b>Amphetamines <sup>km</sup></b>																																
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	2.2	1.7	-0.6
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	1.9	1.4	-0.5
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	1.7	1.0	-0.7 s
<b>Methamphetamine <sup>no</sup></b>																																
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	0.1	0.0	-0.1
10th Grade	—	—	—	—	—	—	—	—	1.8	2.0	1.5	1.8	1.4	1.3	1.1	0.7	0.4	0.7	0.6	0.7	0.5	0.6	0.4	0.3	0.3	0.2	0.1	0.1	0.3	0.2	0.1	-0.1
12th Grade	—	—	—	—	—	—	—	—	1.7	1.9	1.5	1.7	1.7	1.4	0.9	0.9	0.6	0.6	0.5	0.5	0.6	0.5	0.4	0.5	0.4	0.3	0.3	0.3	0.3	0.8	0.1	-0.7 s

(Table continued on next page.)



**TABLE 7 (cont.)**  
**Trends in 30-Day Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**

	Percentage who used in last 30 days																												2020– 2021 change					
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021			
<b>Crystal Methamphetamine (Ice) <sup>o</sup></b>																																		
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	0.0	0.2	+0.1		
<b>Sedatives (Barbiturates) <sup>k,p</sup></b>																																		
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	1.2	0.9	-0.4		
<b>Tranquilizers <sup>b,k</sup></b>																																		
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	1.0	0.8	0.9	0.8	0.8	0.8	0.7	0.9	1.2	1.1	0.4	-0.7			
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	0.7	0.5	-0.2		
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	1.0	0.4	-0.6 ss		
<b>Any Prescription Drug <sup>q</sup></b>																																		
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	3.3	2.1	-1.2 ss		
<b>Rohypnol <sup>r</sup></b>																																		
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>Alcohol <sup>s</sup></b>																																		
<b>Any Use</b>																																		
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	9.9	7.3	-2.6 s		
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	20.3	13.1	-7.2 sss		
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	33.6	25.8	-7.7 s		

(Table continued on next page.)

**TABLE 7 (cont.)**  
**Trends in 30-Day Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**

	Percentage who used in last 30 days																												2020– 2021 change				
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021		
<b>Been Drunk<sup>o</sup></b>																																	
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	3.4	2.0	-1.4 s	
10th Grade	20.5	18.1	19.8	20.3	20.8	21.3	22.4	21.1	22.5	23.5	21.9	18.3	18.2	18.5	17.6	18.8	18.1	14.4	15.5	14.7	13.7	14.5	12.8	11.2	10.3	9.0	8.9	8.4	8.8	9.3	5.4	-3.9 sss	
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	19.8	15.5	-4.3	
<b>Flavored Alcoholic Beverages<sup>e,n</sup></b>																																	
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	6.6	4.6	-2.0	
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	12.5	7.8	-4.7 s	
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	§	15.3	—	
<b>Cigarettes</b>																																	
<b>Any Use</b>																																	
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	2.2	1.1	-1.0 s	
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	3.2	1.8	-1.4 ss	
12th Grade	28.3	27.8	29.9	31.2	33.5	34.0	36.5	35.1	34.6	31.4	29.5	26.7	24.4	25.0	23.2	21.6	21.6	20.4	20.1	19.2	18.7	17.1	16.3	13.6	11.4	10.5	9.7	7.6	5.7	7.5	4.1	-3.4	
<b>Smokeless Tobacco<sup>l</sup></b>																																	
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	2.3	1.6	-0.6	
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	3.5	1.7	-1.8 ss	
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	§	2.2	—	
<b>Large Cigars<sup>ii</sup></b>																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.9	2.4	1.5	1.5	1.7	1.3	1.5	1.1	-0.4
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.9	3.4	2.3	2.6	2.8	2.1	1.2	1.3	+0.1
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.4	7.0	6.5	5.6	5.2	5.3	§	2.3	—
<b>Flavored Little Cigars<sup>ii</sup></b>																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.1	4.1	2.8	2.6	2.6	2.2	2.3	1.0	-1.3
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.9	6.1	4.9	4.0	5.3	3.7	3.0	1.5	-1.4
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.9	11.4	9.5	10.1	8.9	7.7	§	1.9	—

(Table continued on next page.)

**TABLE 7 (cont.)**  
**Trends in 30-Day Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**

	Percentage who used in last 30 days																												2020– 2021 change							
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021					
Regular Little Cigars <sup>ii</sup>																																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.5	3.3	1.9	1.6	1.6	1.6	1.4	0.8	-0.5			
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.4	3.8	3.0	3.0	3.1	2.6	2.4	1.2	-1.2 s			
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.0	7.8	6.1	6.6	5.8	4.9	§	1.8	—			
Any Vaping <sup>bb,cc</sup>																																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.0	6.2‡	6.6	10.4	12.2	12.5	8.9	-3.6 s			
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.2	11.0‡	13.1	21.7	25.0	23.5	15.6	-7.9 sss			
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	16.3	12.5‡	16.6	26.7	30.9	28.2	24.0	-4.2			
Vaping Nicotine <sup>bb</sup>																																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.5	6.1	9.6	10.5	7.6	-2.9			
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.2	16.1	19.9	19.3	13.1	-6.2 ss			
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.0	20.9	25.5	24.7	19.6	-5.1			
Vaping Marijuana <sup>bb</sup>																																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	2.6	3.9	4.2	2.9	-1.3			
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.3	7.0	12.6	11.3	8.4	-2.9 s			
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.9	7.5	14.0	12.2	12.4	+0.2			
Vaping Just Flavoring <sup>bb</sup>																																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—			
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
Flavoring Vaping with no Nicotine Vaping <sup>bb</sup>																																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
JUUL <sup>jj</sup>																																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
Tobacco Using a Hookah <sup>ii</sup>																																				
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

(Table continued on next page.)

**TABLE 7 (cont.)**  
**Trends in 30-Day Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**

	Percentage who used in last 30 days																												2020– 2021 change			
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018		2019 <sup>kk</sup>	2020	2021
<b>Any Nicotine Use <sup>e,gg</sup></b>																																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.3	11.2	9.4	-1.8
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.0	18.8	15.7	-3.2
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.6	32.5	33.6	§	24.6	—
<b>Any Nicotine Use other than Vaping <sup>e,hh</sup></b>																																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.9	4.7	3.2	-1.5
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.3	6.6	4.2	-2.4 ss
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.6	18.5	15.7	§	7.7	—
<b>Steroids <sup>k,u</sup></b>																																
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	0.3	0.2	-0.2
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	0.5	0.1	-0.3 ss
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	1.2	0.5	-0.7
<b>Legal Use of Over-the-Counter Stimulants</b>																																
<b>Diet Pills <sup>e</sup></b>																																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	3.7	4.0	3.8	4.2	3.8	4.3	4.6	4.8	5.4	5.8	6.3	9.2	6.5	5.6	4.4	5.3	3.8	3.7	2.6	2.1	2.4	3.4	2.4	3.6	2.1	2.1	2.4	1.9	1.9	§	1.1	—
<b>Stay-Awake Pills <sup>e</sup></b>																																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	6.8	7.2	7.0	6.3	7.3	7.5	7.8	7.4	6.8	7.3	7.2	5.8	5.0	4.5	4.2	4.2	3.3	2.6	2.3	1.6	2.2	1.9	1.5	1.7	1.2	1.7	1.6	1.2	1.1	§	0.5	—
<b>Look-Alikes <sup>e</sup></b>																																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	2.1	2.4	2.7	2.4	3.0	3.1	2.7	2.7	2.4	2.6	3.3	2.8	2.4	2.5	1.9	2.3	1.1	1.6	1.0	0.8	1.2	0.8	0.7	0.7	0.9	0.9	0.8	—	—	—	—	—

(Table continued on next page.)

**TABLE 7 (cont.)**  
**Trends in 30-Day Prevalence of Use of Various Drugs**  
**in Grades 8, 10, and 12**

	Percentage who used in last 30 days																											2020– 2021 change						
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021			
<b>Legal Use of Prescription ADHD Drugs</b>																																		
<b>Stimulant-Type <sup>n,dd,ee</sup></b>																																		
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.9	3.5	3.1	3.5	3.7	3.4	3.3	3.5	3.4	3.2	3.6	3.7	3.4	3.7	2.8	2.0	4.2	+2.2 ss		
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.4	2.8	2.8	2.9	3.3	3.1	2.8	3.8	3.7	3.4	4.2	3.0	3.0	3.9	2.9	2.5	3.6	+1.0		
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.9	2.3	2.6	2.9	2.9	3.0	3.3	3.8	4.4	3.8	4.0	3.9	3.4	3.5	3.2	3.1	3.4	+0.4		
<b>Non-Stimulant-Type <sup>n,dd,ee</sup></b>																																		
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.2	1.9	1.4	1.6	1.2	1.4	1.5	1.2	1.4	1.2	1.2	2.0	1.1	1.2	1.4	1.4	0.9	-0.5		
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.3	2.3	1.6	1.7	1.9	1.6	1.3	1.3	1.3	1.4	1.7	1.2	1.0	1.4	1.8	1.8	1.5	-0.3		
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	1.6	1.7	1.9	1.5	2.3	1.9	1.8	1.8	2.2	1.5	2.1	2.5	2.6	2.3	1.7	2.3	+0.6		
<b>Either Type <sup>n,dd,ee</sup></b>																																		
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.1	5.2	4.5	5.1	4.9	4.7	4.9	4.7	5.0	4.6	4.9	5.6	4.7	5.2	3.8	2.7	5.5	+2.8 ss		
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.6	4.8	4.2	4.5	5.0	4.6	4.2	5.1	5.0	4.8	5.8	4.3	4.0	5.1	4.4	4.0	4.8	+0.8		
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.5	3.7	4.1	4.4	4.3	5.2	5.1	5.5	6.0	5.5	5.3	5.6	5.7	5.9	5.0	4.2	5.2	+1.0		
<b>Previously surveyed drugs that have been dropped.</b>																																		
<b>Nitrites <sup>e</sup></b>																																		
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	—	—	—	—	—	—	—	—	—	—	—	—	—	—	
<b>PCP <sup>e</sup></b>																																		
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	—	—	—	—	—	—	—	—	—	—	
<b>Methaqualone <sup>e,k</sup></b>																																		
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	—	—	—	—	—	—	—	—	—	—	—	

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

Note: See footnotes following Table 9.

**TABLE 8**  
**Trends in 30-Day Prevalence of Daily Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021	2020– 2021 change
Marijuana/Hashish																																
Used Daily in Past 30 Days <sup>aa,l</sup>																																
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	1.1	0.6	-0.4
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	4.4	3.2	-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	6.9	5.8	-1.1
Ever Used Daily for Month or More in Lifetime <sup>e</sup>																																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	9.0	8.4	9.6	11.3	12.1	15.7	18.8	18.0	17.9	17.0	18.0	15.5	16.4	17.8	14.5	16.6	15.7	15.1	14.9	15.5	17.4	18.2	15.8	13.7	12.4	14.3	13.9	12.3	14.9	§	12.4	—
Alcohol <sup>s,aa</sup>																																
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	0.4	0.3	-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	1.0	0.4	-0.5
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	2.7	0.9	-1.8
Been Drunk																																
Daily <sup>o,aa</sup>																																
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	0.2	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	0.3	0.1	-0.2
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	0.8	0.4	-0.4
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	4.5	2.8	-1.8 s
10th Grade	21.0	19.1	21.0	21.9	22.0	22.8	23.1	22.4	23.5	24.1	22.8	20.3	20.0	19.9	19.0	19.9	19.6	16.0	17.5	16.3	14.7	15.6	13.7	12.6	10.9	9.7	9.8	8.7	8.5	9.6	5.9	-3.7 sss
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	16.8	11.8	-5.0 s

(Table continued on next page.)

**TABLE 8 (cont.)**  
**Trends in 30-Day Prevalence of Daily Use of Various Drugs**  
**in Grades 8, 10, and 12**  
(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021	2020– 2021 change	
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	0.8	0.4	-0.4	
10th Grade	12.6	12.3	14.2	14.6	16.3	18.3	18.0	15.8	15.9	14.0	12.2	10.1	8.9	8.3	7.5	7.6	7.2	5.9	6.3	6.6	5.5	5.0	4.4	3.2	3.0	1.9	2.2	1.8	1.3	1.2	0.8	-0.4	
12th Grade	18.5	17.2	19.0	19.4	21.6	22.2	24.6	22.4	23.1	20.6	19.0	16.9	15.8	15.6	13.6	12.2	12.3	11.4	11.2	10.7	10.3	9.3	8.5	6.7	5.5	4.8	4.2	3.6	2.4	3.1	2.0	-1.1	
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	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	0.6	0.3	-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	1.4	0.8	-0.6	
Vaping Nicotine <sup>bb</sup>																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.0‡	0.8	1.1	+0.3	
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.8‡	3.0	2.5	-0.5	
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.6‡	5.2	5.4	+0.2	
Vaping Marijuana <sup>bb</sup>																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.8‡	0.2	0.4	+0.2
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.0‡	0.9	1.2	+0.3
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	3.5‡	1.6	1.7	+0.1
Vaping Just Flavoring <sup>bb</sup>																																	
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.2‡	0.4	0.5	+0.1
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.0‡	1.2	0.9	-0.3
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.8‡	1.4	0.8	-0.6

(Table continued on next page.)

**TABLE 8 (cont.)**  
**Trends in 30-Day Prevalence of Daily Use of Various Drugs**  
**in Grades 8, 10, and 12**

(Entries are percentages.)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>kk</sup>	2020	2021	2020– 2021 change
<b>Smokeless Tobacco</b>																																
Daily <sup>l</sup>																																
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	0.5	0.4	-0.1
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	0.7	0.4	-0.3
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	§	0.7	—
<b>Legal Use of Stimulants</b>																																
Energy Drinks																																
1 or More Daily <sup>e,z</sup>																																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	18.6	17.7	16.3	14.2	12.8	12.1	11.3	10.1	10.3	10.5	§	13.8	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.6	11.4	10.8	10.3	9.6	7.8	9.2	8.8	9.1	10.5	§	12.6	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	12.3	9.5	9.2	8.2	8.3	7.8	9.8	9.4	10.1	11.6	§	13.1	—
Energy Shots																																
1 or More Daily <sup>e,z</sup>																																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.4	6.8	5.7	5.6	4.2	5.3	4.4	4.0	3.7	4.6	§	3.7	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.3	4.6	4.0	4.0	3.4	2.6	3.3	3.3	3.8	4.1	§	2.6	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.3	4.0	2.7	2.5	2.1	3.1	4.1	3.8	4.2	4.1	§	2.9	—
Either Energy Drinks or Energy Shots																																
1 or More Daily <sup>e,z</sup>																																
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	19.5	18.9	17.2	15.4	13.5	13.0	12.3	11.1	11.4	11.7	§	14.5	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	14.4	12.4	11.8	11.3	10.1	8.4	10.0	9.5	9.9	11.6	§	13.2	—
12th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.5	11.0	9.9	9.1	9.3	9.0	10.9	10.9	11.2	12.8	§	14.3	—

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

Note. See footnotes following Table 9.



**TABLE 9**  
**Trends in Two Week Prevalence of Binge and Extreme Binge Drinking**  
**in Grades 8, 10, and 12**

	Percentage who used in last two weeks																		2020- 2021 change
	<u>1975- 2004</u>	<u>2005</u>	<u>2006</u>	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019<sup>kk</sup></u>	<u>2020</u>	<u>2021</u>	
5+ drinks in a row in last 2 weeks																			
8th Grade	—	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	4.5	2.8	-1.8 s
10th Grade	—	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	9.6	5.9	-3.7 sss
12th Grade	—	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	16.8	11.8	-5.0 s
10+ drinks in a row in last 2 weeks <sup>e,ff</sup>																			
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	1.2	1.1	1.1	1.7	0.9	1.0	+0.1
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	3.0	3.6	3.3	3.3	2.5	2.1	-0.4
12th Grade	—	10.6	12.9	11.1	10.4	10.6	9.9	9.8	10.4	8.1	7.1	6.1	4.4	6.0	4.6	5.3	§	3.2	—
15+ drinks in a row in last 2 weeks <sup>o</sup>																			
8th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
10th Grade	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
12th Grade	—	5.7	7.2	5.6	5.6	6.0	6.3	4.6	5.5	4.4	4.1	3.5	2.3	3.1	2.5	3.2	§	1.3	—

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

Note. See footnotes following Table 9.

## Footnotes for Tables 1 through 9

Approximate Weighted <i>N</i> s	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
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	16,500
10th Graders	14,800	14,800	15,300	15,800	17,000	15,600	15,500	15,000	13,600	14,300	14,000	14,300	15,800	16,400	16,200	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	14,200

Approximate Weighted <i>N</i> s	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2017	2018	2019	2020	2021
8th Graders	16,100	15,700	15,000	15,300	16,000	15,100	14,600	14,600	14,400	16,900	15,300	15,300	14,000	13,600	3,100	10,700
10th Graders	16,100	15,100	15,900	15,200	14,900	15,000	12,900	13,000	15,600	14,700	13,500	13,500	14,300	14,000	4,800	11,000
12th Graders	14,500	14,000	13,700	14,400	14,100	13,700	12,600	12,400	12,900	11,800	12,600	12,600	13,300	12,900	3,500	8,300

**Notes.** Level of significance of difference between the two most recent classes: *s* = .05, *ss* = .01, *sss* = .001. '—' indicates data not available. '‡' indicates that the question changed in the following year. See relevant footnote for that drug. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

§ Insufficient data for 2020 estimate.

<sup>a</sup>For 12th graders 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 all grades for any illicit drug use, any illicit drug use other than marijuana and 8th and 10th grade any illicit drug use including inhalants are based on one half of the *N* indicated. 12th grade any illicit drug use including inhalants data are based on one form; *N* is one sixth of *N* indicated. 2014 data are based on all forms. See the amphetamine note for details.

<sup>b</sup>In 2001 the question text was changed on half of the questionnaire forms for each age group. Other psychedelics was changed to other hallucinogens and shrooms was added to the list of examples. For the tranquilizer list of examples, Miltown was replaced with Xanax. For 8th, 10th, and 12th graders: The 2001 data presented here are based on the changed forms only; *N* is one half of *N* indicated. In 2002 the remaining forms were changed to the new wording. The data are based on all forms beginning in 2002. Data for any illicit drug other than marijuana and data for hallucinogens are also affected by these changes and have been handled in a parallel manner. Hallucinogens, LSD, and hallucinogens other than LSD are based on five of six forms beginning in 2014; *N* is five sixths of *N* indicated.

<sup>c</sup>For 12th graders only: Data based on five of six forms in 1991–1998; *N* is five sixths of *N* indicated. Data based on three of six forms beginning in 1999; *N* is three sixths of *N* indicated. For 8th and 10th graders only, beginning in 2014 data based on two thirds of *N* indicated.

<sup>d</sup>Inhalants are unadjusted for underreporting of amyl and butyl nitrites.

<sup>e</sup>For 12th graders only: Data based on one of six forms; *N* is one sixth of *N* indicated. In 2011 for flavored alcoholic beverages Sky Blue and Zima were dropped from the list of examples. An examination of the data did not show any effect from the wording change. In 2014 the PCP use questions were dropped; annual PCP use was moved to another form. In 2016 a question on use of tobacco using a hookah was added to two additional forms; *N* is three sixths of *N* indicated.

<sup>f</sup>Hallucinogens are unadjusted for underreporting of PCP.

<sup>g</sup>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. In 2014 a revised question on use of ecstasy (MDMA) including "Molly" was added to one form. The 2013 and 2014 "Original wording" data reported here are for only the questionnaires using the original question wording; *N* is one half of *N* indicated. Beginning in 2014 data

(Footnote continued on next page.)

### Footnotes for Tables 1 through 9 (cont.)

reported here for the "Revised wording" are for only the questionnaires which include "Molly;"  $N$  is two sixths of  $N$  indicated in 2014 and five sixths of the  $N$  indicated in 2015. 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. In 2014 a revised question on use of ecstasy (MDMA) including "Molly" was added to one form. The 2013 and 2014 "Original wording" data reported here are for only the questionnaires using the original question wording;  $N$  is two sixths of  $N$  indicated. Beginning in 2014 data reported for the "Revised wording" are for only the questionnaires which include "Molly.;"  $N$  is one sixth of the  $N$  indicated in 2014 and three sixths of the  $N$  indicated in 2015.

<sup>h</sup>For 12th graders only: Data based on four of six forms;  $N$  is four sixths of  $N$  indicated.

<sup>i</sup>In 1995 the heroin question was changed in one of two forms for 8th and 10th graders and in three of six forms for 12th graders. Separate questions were asked for use with and without injection. In 1996, the heroin question was changed in the remaining 8th- and 10th-grade forms. Data presented here represent the combined data from all forms.

<sup>j</sup>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 in 1996 through 2014. In 2015 the question was dropped from 1 form;  $N$  is four sixths of  $N$  indicated. For 12th graders only: Data based on three of six forms;  $N$  is three sixths of  $N$  indicated.

<sup>k</sup>Only drug use not under a doctor's orders is included here.

<sup>l</sup>In 2002 the question text was changed in half of the questionnaire forms. The list of examples of narcotics other than heroin was updated: Talwin, laudanum, and paregoric—all of which had negligible rates of use by 2001—were replaced with Vicodin, OxyContin, and Percocet. The 2002 data presented here are based on the changed forms only;  $N$  is one half of  $N$  indicated. In 2003, the remaining forms were changed to the new wording. The data are based on all forms beginning in 2003. In 2013 the list of examples was changed on one form: MS Contin, Roxycodone, Hydrocodone (Lortab, Lorcet, Norco), Suboxone, Tylox, and Tramadol were added to the list. An examination of the data did not show any effect from the wording change.

<sup>m</sup>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. Beginning in 2014 all questionnaires included the new, updated wording.

<sup>n</sup>For 8th and 10th graders only: Data based on one of four forms;  $N$  is one third of  $N$  indicated. See text for detailed explanation. In 2011 for flavored alcoholic beverages: Skyy Blue and Zima were dropped from the list of examples. An examination of the data did not show any effect from the wording change. Annual synthetic marijuana use questions asked of one third of  $N$  indicated.

<sup>o</sup>For 12th graders only: Data based on two of six forms;  $N$  is two sixths of  $N$  indicated. Bidis and kreteks based on one of six forms beginning in 2009;  $N$  is one sixth  $N$  indicated.

<sup>p</sup>For 12th graders only: In 2004 the barbiturate question text was changed on half of the questionnaire forms. Barbiturates was changed to sedatives including barbiturates, and "have you taken barbiturates . . ." was changed to "have you taken sedatives . . ." In the list of examples downs, downers, goofballs, yellow, reds, blues, rainbows were changed to downs, or downers, and include Phenobarbital, Tuinal, Nembutal, and Seconal. An examination of the data did not show any effect from the wording change. In 2005 the remaining forms were changed in a like manner. In 2013 the question text was changed in all forms: Tuinal, Nembutal, and Seconal were replaced with Ambien, Lunesta, and Sonata. In one form the list of examples was also changed: Tuinal was dropped from the list and Dalmane, Restoril, Halcion, Intermezzo, and Zolpimist were added. An examination of the data did not show any effect from the wording change.

### Footnotes for Tables 1 through 9 (cont.)

<sup>q</sup>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."

<sup>r</sup>For 8th and 10th graders only: Data based on one of two forms in 1996; *N* is one half of *N* indicated. Data based on three of four forms in 1997–1998; *N* is two thirds of *N* indicated. Data based on two of four forms in 1999–2001; *N* is one third of *N* indicated. Data based on one of four forms beginning in 2002; *N* is one sixth of *N* indicated. See text for detailed explanation. For 12th graders only: Data based on one of six forms in 1996–2001; *N* is one sixth of *N* indicated. Data based on two of six forms in 2002–2009; *N* is two sixths of *N* indicated. Data for 2001 and 2002 are not comparable due to changes in the questionnaire forms. Data based on one of six forms beginning in 2010; *N* is one sixth of *N* indicated.

<sup>s</sup>For 8th, 10th, and 12th graders: In 1993, the question text was changed slightly in half of the forms to indicate that a drink meant more than just a few sips. The 1993 data are based on the changed forms only; *N* is one half of *N* indicated for these groups. In 1994 the remaining forms were changed to the new wording. The data are based on all forms beginning in 1994. In 2004, the question text was changed slightly in half of the forms. An examination of the data did not show any effect from the wording change. The remaining forms were changed in 2005.

<sup>t</sup>For 8th and 10th graders only: Data based on one of two forms for 1991–1996 and on two of four forms beginning in 1997; *N* is one half of *N* indicated. For 12th graders only: Data based on one of six forms; *N* is one sixth of *N* indicated. For all grades in 2011: snus and dissolvable tobacco were added to the list of examples. An examination of the data did not show any effect from the wording change.

<sup>u</sup>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 and ; again beginning in 2019; *N* is two sixths of *N* indicated. Data based on three of six forms in 2006–2018; *N* is three sixths of *N* indicated. In 2006 a slightly altered version of the question was added to a third form. An examination of the data did not show any effect from the wording change. In 2007 the remaining forms were changed in a like manner. In 2008 the question text was changed slightly in two of the questionnaire forms. An examination of the data did not show any effect from the wording change. In 2009 the remaining form was changed in a like manner.

<sup>v</sup>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.

<sup>w</sup>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.

<sup>x</sup>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.

<sup>y</sup>The 2003 flavored alcoholic beverage data were created by adjusting the 2004 data to reflect the change in the 2003 and 2004 alcopops data.

<sup>z</sup>For 8th and 10th graders only: Data based on one of four forms; *N* is one third of *N* indicated. See text for detailed explanation.

For 12th graders only: Data based on two of six forms; *N* is two sixths of *N* indicated. For all grades: In 2011 the question text was "...had an alcoholic beverage containing caffeine (like Four Loko or Joose)." In 2012 the question text was changed to "...had an alcoholic beverage mixed with an energy drink (like Red Bull)." An examination of the data did not show any effect from the wording changes.

<sup>aa</sup>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.

<sup>bb</sup>8th and 10th grade data based on one third of *N* indicated until 2019. In 2019, data based on two thirds of *N* indicated. 12th grade data based on two of six forms until 2019; *N* is two sixths of *N* indicated. In 2019, data based on four of six forms; *N* is four sixths of *N* indicated. Beginning in 2020, data based on all available forms for 8th, 10th, and 12th graders except for daily use. Daily use based on two thirds of *N* indicated in 2020 and all forms beginning in 2021.

For androstenedione, beginning in 2016, data based on one form. *N* is one sixth of *N* indicated.

<sup>cc</sup>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.

<sup>dd</sup>In 2005, data omitted for one of the questionnaire forms due to an error in the skip pattern in the questionnaire. In 2005, data based on one of six forms and *N* is one sixth of *N* indicated. Beginning in 2006, data based on two of six forms and *N* is two sixths of *N* indicated.

### Footnotes for Tables 1 through 9 (cont.)

<sup>ee</sup>For the use of prescription ADHD drugs, the question is asked differently than that for other drugs presented here. Therefore, the estimates indicate youth who reported "Yes, I take them now."

<sup>ff</sup>For 8th and 10th graders only: Data based on two of four forms; *N* is one third of *N* indicated.

<sup>gg</sup>Includes use of any of the following: cigarettes, large cigars, flavored small cigars, regular small cigars, tobacco using a hookah, smokeless tobacco, or vaping nicotine.

<sup>hh</sup>Includes use of any of the following: cigarettes, large cigars, flavored small cigars, regular small cigars, tobacco using a hookah, or smokeless tobacco.

<sup>ii</sup>For 8th and 10th graders only: Data based on one third of *N* indicated. For 12th graders only: Data based on one of six forms; *N* is one sixth of *N* indicated.

<sup>jj</sup>For 8th and 10th graders only: In 2019, data based on one sixth of *N* indicated. In 2020, data based on two thirds of *N* indicated. Beginning in 2021, data based on one half of *N* indicated. For 12th graders only: In 2019, data based on one sixth of *N* indicated. In 2020, data based on all forms. Beginning in 2021, data based on two thirds of *N* indicated.

<sup>kk</sup>Drug prevalence results in 2019 combine results from paper-and-pencil surveys with those completed using electronic tablets. In 2019, students in a randomly-selected half of schools completed MTF surveys on paper-and-pencil and students in the other half completed the surveys using electronic tablets. Analysis of this randomized controlled trial demonstrated that these results did not significantly differ across survey mode (Miech, R.A., Couper, M.P., Heeringa, S.G., and Patrick, M.E. The Impact of Survey Mode on US National Estimates of Adolescent Drug Prevalence: Results from a Randomized Controlled Study, *Addiction*). Results for student attitudes and beliefs in 2019 are based on answers from paper-and-pencil surveys only because these appear more susceptible to survey mode effects.

<sup>ll</sup>For 8th and 10th graders only: In 2021, the question on marijuana use was changed in half of the questionnaire forms to include smoking, vaping, and edibles in the list of examples. Data presented here for 2021 based on the forms that included the original question wording. *N* is one half of *N* indicated. Any illicit drug use and any illicit drug use including inhalants were also impacted by this change.

**TABLE 10**  
**Trends in Harmfulness of Drugs as Perceived by 8th Graders**

<i>How much do you think people risk harming themselves (physically or in other ways), if they . . .</i>	Percentage saying great risk <sup>a</sup>															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Use marijuana once or twice <sup>b</sup>	40.4	39.1	36.2	31.6	28.9	27.9	25.3	28.1	28.0	29.0	27.7	28.2	30.2	31.9	31.4	32.2
Use marijuana occasionally <sup>b</sup>	57.9	56.3	53.8	48.6	45.9	44.3	43.1	45.0	45.7	47.4	46.3	46.0	48.6	50.5	48.9	48.9
Use marijuana regularly <sup>b</sup>	83.8	82.0	79.6	74.3	73.0	70.9	72.7	73.0	73.3	74.8	72.2	71.7	74.2	76.2	73.9	73.2
Try synthetic marijuana once or twice <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take synthetic marijuana occasionally <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try inhalants once or twice <sup>d</sup>	35.9	37.0	36.5	37.9	36.4	40.8	40.1	38.9	40.8	41.2	45.6	42.8	40.3	38.7	37.5	35.8
Take inhalants regularly <sup>d</sup>	65.6	64.4	64.6	65.5	64.8	68.2	68.7	67.2	68.8	69.9	71.6	69.9	67.4	66.4	64.1	62.1
Take LSD once or twice <sup>e</sup>	—	—	42.1	38.3	36.7	36.5	37.0	34.9	34.1	34.0	31.6	29.6	27.9	26.8	25.8	23.8
Take LSD regularly <sup>e</sup>	—	—	68.3	65.8	64.4	63.6	64.1	59.6	58.8	57.5	52.9	49.3	48.2	45.2	44.0	40.0
Try ecstasy (MDMA, Molly) once or twice <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	35.8	38.9	41.9	42.5	40.0	32.8
Take ecstasy (MDMA, Molly) occasionally <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	55.5	61.8	65.8	65.1	60.8	52.0
Try salvia once or twice <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take salvia occasionally <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try crack once or twice <sup>d</sup>	62.8	61.2	57.2	54.4	50.8	51.0	49.9	49.3	48.7	48.5	48.6	47.4	48.7	49.0	49.6	47.6
Take crack occasionally <sup>d</sup>	82.2	79.6	76.8	74.4	72.1	71.6	71.2	70.6	70.6	70.1	70.0	69.7	70.3	70.4	69.4	68.7
Try cocaine once or twice <sup>d,o</sup>	55.5	54.1	50.7	48.4	44.9	45.2	45.0	44.0	43.3	43.3	43.9	43.2	43.7	44.4	44.2	43.5
Take cocaine occasionally <sup>d,o</sup>	77.0	74.3	71.8	69.1	66.4	65.7	65.8	65.2	65.4	65.5	65.8	64.9	65.8	66.0	65.3	64.0
Try heroin once or twice without using a needle <sup>e</sup>	—	—	—	—	60.1	61.3	63.0	62.8	63.0	62.0	61.1	62.6	62.7	61.6	61.4	60.4
Take heroin occasionally without using a needle <sup>e</sup>	—	—	—	—	76.8	76.6	79.2	79.0	78.9	78.6	78.5	78.5	77.8	77.5	76.8	75.3
Try OxyContin once or twice <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take OxyContin occasionally <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try Vicodin once or twice <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take Vicodin occasionally <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try Adderall once or twice <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take Adderall occasionally <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table continued on next page.

**TABLE 10 (cont.)**  
**Trends in Harmfulness of Drugs as Perceived by 8th Graders**

<i>How much do you think people risk harming themselves (physically or in other ways), if they . . .</i>	Percentage saying great risk <sup>a</sup>															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Try bath salts (synthetic stimulants) once or twice <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take bath salts (synthetic stimulants) occasionally <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try cough/cold medicine once or twice <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take cough/cold medicine occasionally <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) <sup>b</sup>	11.0	12.1	12.4	11.6	11.6	11.8	10.4	12.1	11.6	11.9	12.2	12.5	12.6	13.7	13.9	14.2
Take one or two drinks nearly every day <sup>b</sup>	31.8	32.4	32.6	29.9	30.5	28.6	29.1	30.3	29.7	30.4	30.0	29.6	29.9	31.0	31.4	31.3
Have five or more drinks once or twice each weekend <sup>b</sup>	59.1	58.0	57.7	54.7	54.1	51.8	55.6	56.0	55.3	55.9	56.1	56.4	56.5	56.9	57.2	56.4
Smoke one to five cigarettes per day <sup>c</sup>	—	—	—	—	—	—	—	—	26.9	28.9	30.5	32.8	33.4	37.0	37.5	37.0
Smoke one or more packs of cigarettes per day <sup>g</sup>	51.6	50.8	52.7	50.8	49.8	50.4	52.6	54.3	54.8	58.8	57.1	57.5	57.7	62.4	61.5	59.4
Use electronic cigarettes (e-cigarettes) regularly <sup>h</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana occasionally <sup>m</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana regularly <sup>m</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine occasionally <sup>c,j</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine regularly <sup>c,j</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL occasionally <sup>k</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL regularly <sup>k</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smoke little cigars or cigarillos regularly <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use smokeless tobacco regularly	35.1	35.1	36.9	35.5	33.5	34.0	35.2	36.5	37.1	39.0	38.2	39.4	39.7	41.3	40.8	39.5
Take dissolvable tobacco regularly <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take snus regularly <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take steroids <sup>i</sup>	64.2	69.5	70.2	67.6	—	—	—	—	—	—	—	—	—	—	—	—
<i>Approximate weighted N =</i>																
	17,400	18,700	18,400	17,400	17,500	17,900	18,800	18,100	16,700	16,700	16,200	15,100	16,500	17,000	16,800	16,500

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**TABLE 10 (cont.)**  
**Trends in Harmfulness of Drugs as Perceived by 8th Graders**

How much do you think people risk harming themselves (physically or in other ways), if they . . .	Percentage saying great risk <sup>a</sup>														
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>l</sup>	2020	2021 <sup>n</sup>
Use marijuana once or twice <sup>b</sup>	32.8	31.1	29.5	29.5	28.2	26.0	24.1	23.0	23.0	22.8	22.0	20.3	19.6	§	18.8*
Use marijuana occasionally <sup>b</sup>	50.2	48.1	44.8	44.1	43.4	41.7	37.2	36.7	36.8	36.8	34.0	32.1	28.8	§	28.2*
Use marijuana regularly <sup>b</sup>	74.3	72.0	69.8	68.0	68.3	66.9	61.0	58.9	58.0	57.5	54.8	52.9	51.4	§	51.6*
Try synthetic marijuana once or twice <sup>c</sup>	—	—	—	—	—	24.4	24.2	23.9	26.0	27.5	23.0	22.2	20.4	§	24.2*
Take synthetic marijuana occasionally <sup>c</sup>	—	—	—	—	—	36.8	36.2	32.4	33.5	35.4	30.4	28.8	28.5	§	31.4*
Try inhalants once or twice <sup>d</sup>	35.9	33.9	34.1	35.5	34.7	34.2	33.7	34.5	33.7	32.0	31.5	29.6	27.9	§	18.2*
Take inhalants regularly <sup>d</sup>	61.9	59.2	58.1	60.6	59.0	59.0	56.7	55.3	54.1	52.1	50.0	46.8	45.5	§	37.1*
Take LSD once or twice <sup>e</sup>	22.8	21.9	21.4	23.6	21.7	19.9	19.6	20.0	22.2	22.6	23.1	20.8	21.8	§	16.1*
Take LSD regularly <sup>e</sup>	38.5	36.9	37.0	38.6	37.8	35.0	34.5	33.7	37.0	36.8	37.9	36.4	38.1	§	36.7*
Try ecstasy (MDMA, Molly) once or twice <sup>f</sup>	30.4	28.6	26.0	27.0	25.4	23.6	24.1‡	46.1	45.5	42.5	43.3	41.9	39.0	§	33.2*
Take ecstasy (MDMA, Molly) occasionally <sup>f</sup>	48.6	46.8	43.9	45.0	43.7	41.0	42.1‡	59.7	58.5	54.0	54.6	53.6	50.2	§	48.0*
Try salvia once or twice <sup>c</sup>	—	—	—	—	—	9.5	8.5	—	—	—	—	—	—	—	—
Take salvia occasionally <sup>c</sup>	—	—	—	—	—	16.1	14.6	—	—	—	—	—	—	—	—
Try crack once or twice <sup>d</sup>	47.3	47.1	46.6	49.6	48.1	47.0	47.1	48.3	49.6	48.9	49.3	47.7	49.1	—	—
Take crack occasionally <sup>d</sup>	68.3	67.9	66.6	68.4	67.7	67.8	66.5	65.5	65.7	65.7	66.9	65.3	64.7	—	—
Try cocaine once or twice <sup>d,o</sup>	43.5	42.7	42.3	45.7	43.3	42.8	43.5	43.9	44.3	44.3	44.5	42.6	43.4‡	§	43.8*
Take cocaine occasionally <sup>d,o</sup>	64.2	62.7	62.3	64.2	63.5	63.3	62.7	61.8	61.6	62.4	62.7	61.0	60.8‡	§	63.9*
Try heroin once or twice without using a needle <sup>e</sup>	60.3	60.8	60.0	62.3	61.7	59.1	59.8	60.9	61.4	59.2	62.9	59.5	59.0	§	53.4*
Take heroin occasionally without using a needle <sup>e</sup>	76.4	75.5	74.0	76.7	75.9	75.1	73.4	73.2	72.7	70.3	74.7	72.1	69.1	§	67.8*
Try OxyContin once or twice <sup>c</sup>	—	—	—	—	—	21.9	19.9	22.1	20.2	21.3	21.0	20.8	19.2	§	17.7*
Take OxyContin occasionally <sup>c</sup>	—	—	—	—	—	35.3	32.6	34.4	32.5	33.5	32.6	32.5	31.0	§	29.6*
Try Vicodin once or twice <sup>c</sup>	—	—	—	—	—	17.5	15.0	18.4	16.9	18.3	17.1	16.1	16.0	§	18.0*
Take Vicodin occasionally <sup>c</sup>	—	—	—	—	—	29.4	26.2	28.2	26.7	28.8	26.7	25.9	25.3	§	23.9*
Try Adderall once or twice <sup>c</sup>	—	—	—	—	—	17.6	16.5	20.7	19.2	21.4	20.4	20.1	20.6	§	20.9*
Take Adderall occasionally <sup>c</sup>	—	—	—	—	—	29.9	28.3	32.5	32.0	35.9	33.8	34.0	35.2	§	30.0*

Table continued on next page.



**TABLE 10 (cont.)**  
**Trends in Harmfulness of Drugs as Perceived by 8th Graders**

<i>How much do you think people risk harming themselves (physically or in other ways), if they . . .</i>	Percentage saying great risk <sup>a</sup>														
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>l</sup>	2020	2021 <sup>n</sup>
Try bath salts (synthetic stimulants) once or twice <sup>c</sup>	—	—	—	—	—	24.9	39.3	36.8	33.9	31.8	32.0	30.1	—	—	—
Take bath salts (synthetic stimulants) occasionally <sup>c</sup>	—	—	—	—	—	38.8	51.9	49.1	45.5	42.5	43.1	41.2	—	—	—
Try cough/cold medicine once or twice <sup>c</sup>	—	—	—	—	—	21.2	20.1	22.9	20.9	23.5	21.2	19.5	20.7	§	22.8*
Take cough/cold medicine occasionally <sup>c</sup>	—	—	—	—	—	38.8	37.3	37.9	37.3	38.6	35.2	34.5	37.8	§	34.1*
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) <sup>b</sup>	14.9	13.5	14.4	14.9	14.5	13.9	13.7	14.8	15.3	14.7	14.2	13.6	13.4	§	10.1*
Take one or two drinks nearly every day <sup>b</sup>	32.6	31.5	31.5	32.3	31.8	31.4	30.6	31.0	30.9	30.7	30.0	28.7	26.9	§	27.2*
Have five or more drinks once or twice each weekend <sup>b</sup>	57.9	57.0	55.8	57.2	58.4	58.2	55.7	54.3	53.9	53.4	53.7	52.3	50.7	§	51.8*
Smoke one to five cigarettes per day <sup>c</sup>	38.6	38.6	38.6	38.2	37.4	40.4	42.8	41.9	41.7	43.2	41.9	40.8	39.8	§	39.5*
Smoke one or more packs of cigarettes per day <sup>g</sup>	61.1	59.8	59.1	60.9	62.5	62.6	62.4	62.1	63.0	61.2	62.1	61.3	63.3	§	64.0*
Use electronic cigarettes (e-cigarettes) regularly <sup>h</sup>	—	—	—	—	—	—	—	14.5	18.5	21.3	20.3	22.1	—	—	—
Vape marijuana occasionally <sup>m</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	§	33.8*
Vape marijuana regularly <sup>m</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	§	52.7*
Vape an e-liquid with nicotine occasionally <sup>c, j</sup>	—	—	—	—	—	—	—	—	—	—	18.3	16.9	21.7	§	23.2*
Vape an e-liquid with nicotine regularly <sup>c, j</sup>	—	—	—	—	—	—	—	—	—	—	32.7	32.4	40.2	§	55.1*
Use JUUL occasionally <sup>k</sup>	—	—	—	—	—	—	—	—	—	—	—	—	22.6	§	27.1*
Use JUUL regularly <sup>k</sup>	—	—	—	—	—	—	—	—	—	—	—	—	36.2	§	48.8*
Smoke little cigars or cigarillos regularly <sup>c</sup>	—	—	—	—	—	—	—	28.8	31.0	32.5	30.8	30.5	35.9	§	42.8*
Use smokeless tobacco regularly	41.8	41.0	40.8	41.8	40.8	37.8	36.2	34.5	36.6	35.1	34.8	34.3	37.1	§	37.6*
Take dissolvable tobacco regularly <sup>c</sup>	—	—	—	—	—	34.8	32.2	33.5	33.0	34.3	31.9	31.3	32.0	§	36.7*
Take snus regularly <sup>c</sup>	—	—	—	—	—	42.2	38.9	38.3	37.7	37.9	36.4	34.2	36.0	§	36.4*
Take steroids <sup>i</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Approximate weighted N =</i>															
	16,100	15,700	15,000	15,300	16,000	15,100	14,600	14,600	14,400	16,900	15,300	14,000	6,800	§	10,700

Table continued on next page.

**TABLE 10 (cont.)**  
**Trends in Harmfulness of Drugs as Perceived by 8th Graders**

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

*Notes.* Level of significance of difference between the two most recent classes:  $s = .05$ ,  $ss = .01$ ,  $sss = .001$ . '—' indicates data not available. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. "‡" indicates that the question changed the following year.

§Estimates not presented due to insufficient data this year.

\*Results may not be comparable to previous years. In 2021 MTF conducted survey administrations via the internet for the first time, and responses, especially on attitudes, can be sensitive to mode effects.

<sup>a</sup>Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, drug unfamiliar.

<sup>b</sup>Beginning in 2012 data based on two thirds of  $N$  indicated.

<sup>c</sup>Data based on one third of  $N$  indicated.

<sup>d</sup>Beginning in 1997, data based on two thirds of  $N$  indicated.

<sup>e</sup>Data based on one of two forms in 1993–1996;  $N$  is one half of  $N$  indicated. Beginning in 1997, data based on one third of  $N$  indicated due to changes in questionnaire forms.

<sup>f</sup>Beginning in 2014 data are based on the revised question which included "Molly,"  $N$  is one third of  $N$  indicated in 2014 and two thirds of  $N$  indicated in 2015. 2014 and 2015 data are not comparable to earlier years due to the revision of the question text.

<sup>g</sup>Beginning in 1999, data based on two thirds of  $N$  indicated due to changes in questionnaire forms.

<sup>h</sup>E-cigarette data based on two thirds of  $N$  indicated. Little cigars or cigarillos data based on one third  $N$  indicated.

<sup>i</sup>Data based on two forms in 1991 and 1992. Data based on one of two forms in 1993 and 1994;  $N$  is one half of  $N$  indicated.

<sup>j</sup>Percentages for all years reported here include respondents who replied "can't say, drug unfamiliar" in the denominator. The percentage for 2017 published in late 2017 and early 2018 did not include these respondents in the denominator.

<sup>k</sup>Data based on two thirds of  $N$  indicated.

<sup>l</sup>The  $N$  for 2019 is approximately one-half of that for the full sample, because it is based on the half-sample who received the traditional paper and pencil questionnaire form.

<sup>m</sup>Data based on one half of  $N$  indicated.

<sup>n</sup>Sample is decreased by as much as 50% for the following drugs due to survey question experiments: alcohol, inhalants, heroin, LSD, OxyContin, Vicodin, and cough/cold medicine.

<sup>o</sup>In 2019 and previous years the survey question asked about 'cocaine powder' and in 2020 forward it asked about 'cocaine'.

**TABLE 11**  
**Trends in Harmfulness of Drugs as Perceived by 10th Graders**

How much do you think people risk harming themselves (physically or in other ways), if they . . .	Percentage saying great risk <sup>a</sup>															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Use marijuana once or twice <sup>b</sup>	30.0	31.9	29.7	24.4	21.5	20.0	18.8	19.6	19.2	18.5	17.9	19.9	21.1	22.0	22.3	22.2
Use marijuana occasionally <sup>b</sup>	48.6	48.9	46.1	38.9	35.4	32.8	31.9	32.5	33.5	32.4	31.2	32.0	34.9	36.2	36.6	35.6
Use marijuana regularly <sup>b</sup>	82.1	81.1	78.5	71.3	67.9	65.9	65.9	65.8	65.9	64.7	62.8	60.8	63.9	65.6	65.5	64.9
Try synthetic marijuana once or twice <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take synthetic marijuana occasionally <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try inhalants once or twice <sup>d</sup>	37.8	38.7	40.9	42.7	41.6	47.2	47.5	45.8	48.2	46.6	49.9	48.7	47.7	46.7	45.7	43.9
Take inhalants regularly <sup>d</sup>	69.8	67.9	69.6	71.5	71.8	75.8	74.5	73.3	76.3	75.0	76.4	73.4	72.2	73.0	71.2	70.2
Take LSD once or twice <sup>e</sup>	—	—	48.7	46.5	44.7	45.1	44.5	43.5	45.0	43.0	41.3	40.1	40.8	40.6	40.3	38.8
Take LSD regularly <sup>e</sup>	—	—	78.9	75.9	75.5	75.3	73.8	72.3	73.9	72.0	68.8	64.9	63.0	63.1	60.8	60.7
Try ecstasy (MDMA, Molly) once or twice <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	39.4	43.5	49.7	52.0	51.4	48.4
Take ecstasy (MDMA, Molly) occasionally <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	64.8	67.3	71.7	74.6	72.8	71.3
Try salvia once or twice <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take salvia occasionally <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try crack once or twice <sup>d</sup>	70.4	69.6	66.6	64.7	60.9	60.9	59.2	58.0	57.8	56.1	57.1	57.4	57.6	56.7	57.0	56.6
Take crack occasionally <sup>d</sup>	87.4	86.4	84.4	83.1	81.2	80.3	78.7	77.5	79.1	76.9	77.3	75.7	76.4	76.7	76.9	76.2
Try cocaine once or twice <sup>d,o</sup>	59.1	59.2	57.5	56.4	53.5	53.6	52.2	50.9	51.6	48.8	50.6	51.3	51.8	50.7	51.3	50.2
Take cocaine occasionally <sup>d,o</sup>	82.2	80.1	79.1	77.8	75.6	75.0	73.9	71.8	73.6	70.9	72.3	71.0	71.4	72.2	72.4	71.3
Try heroin once or twice without using a needle <sup>e</sup>	—	—	—	—	70.7	72.1	73.1	71.7	73.7	71.7	72.0	72.2	70.6	72.0	72.4	70.0
Take heroin occasionally without using a needle <sup>e</sup>	—	—	—	—	85.1	85.8	86.5	84.9	86.5	85.2	85.4	83.4	83.5	85.4	85.2	83.6
Try OxyContin once or twice <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take OxyContin occasionally <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try Vicodin once or twice <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take Vicodin occasionally <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try Adderall once or twice <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take Adderall occasionally <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table continued on next page.

**TABLE 11 (cont.)**  
**Trends in Harmfulness of Drugs as Perceived by 10th Graders**

How much do you think people risk harming themselves (physically or in other ways), if they . . .	Percentage saying great risk <sup>a</sup>															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Try bath salts (synthetic stimulants) once or twice <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take bath salts (synthetic stimulants) occasionally <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try cough/cold medicine once or twice <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take cough/cold medicine occasionally <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) <sup>b</sup>	9.0	10.1	10.9	9.4	9.3	8.9	9.0	10.1	10.5	9.6	9.8	11.5	11.5	10.8	11.5	11.1
Take one or two drinks nearly every day <sup>b</sup>	36.1	36.8	35.9	32.5	31.7	31.2	31.8	31.9	32.9	32.3	31.5	31.0	30.9	31.3	32.6	31.7
Have five or more drinks once or twice each weekend <sup>u</sup>	54.7	55.9	54.9	52.9	52.0	50.9	51.8	52.5	51.9	51.0	50.7	51.7	51.6	51.7	53.3	52.4
Smoke one to five cigarettes per day <sup>c</sup>	—	—	—	—	—	—	—	—	28.4	30.2	32.4	35.1	38.1	39.7	41.0	41.3
Smoke one or more packs of cigarettes per day <sup>g</sup>	60.3	59.3	60.7	59.0	57.0	57.9	59.9	61.9	62.7	65.9	64.7	64.3	65.7	68.4	68.1	67.7
Use electronic cigarettes (e-cigarettes) regularly <sup>h</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana occasionally <sup>m</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana regularly <sup>m</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine occasionally <sup>c,j</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine regularly <sup>c,j</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL occasionally <sup>k</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL regularly <sup>k</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smoke little cigars or cigarillos regularly <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use smokeless tobacco regularly	40.3	39.6	44.2	42.2	38.2	41.0	42.2	42.8	44.2	46.7	46.2	46.9	48.0	47.8	46.1	45.9
Take dissolvable tobacco regularly <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take snus regularly <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take steroids <sup>i</sup>	67.1	72.7	73.4	72.5	—	—	—	—	—	—	—	—	—	—	—	—
<i>Approximate weighted N =</i>	14,700	14,800	15,300	15,900	17,000	15,700	15,600	15,000	13,600	14,300	14,000	14,300	15,800	16,400	16,200	16,200

Table continued on next page.

**TABLE 11 (cont.)**  
**Trends in Harmfulness of Drugs as Perceived by 10th Graders**

<i>How much do you think people risk harming themselves (physically or in other ways), if they . . .</i>	Percentage saying great risk <sup>a</sup>														
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>l</sup>	2020	2021 <sup>n</sup>
Use marijuana once or twice <sup>b</sup>	22.2	23.1	20.5	19.9	19.3	17.2	15.7	15.2	15.8	16.4	14.8	13.9	14.1	§	16.9*
Use marijuana occasionally <sup>b</sup>	36.0	37.0	32.9	30.9	30.1	26.8	25.1	23.9	24.7	24.4	21.9	21.4	20.6	§	22.6*
Use marijuana regularly <sup>b</sup>	64.5	64.8	59.5	57.2	55.2	50.9	46.5	45.4	43.2	44.0	40.6	38.1	39.5	§	41.0*
Try synthetic marijuana once or twice <sup>c</sup>	—	—	—	—	—	24.6	24.1	25.0	26.3	26.8	25.1	24.3	22.4	§	24.7*
Take synthetic marijuana occasionally <sup>c</sup>	—	—	—	—	—	34.9	32.8	30.7	31.7	31.8	29.2	28.8	27.2	§	28.3*
Try inhalants once or twice <sup>d</sup>	43.0	41.2	42.0	42.5	42.4	42.4	43.0	43.1	43.1	40.7	37.9	38.6	39.7	§	30.4*
Take inhalants regularly <sup>d</sup>	68.6	66.8	66.8	67.1	66.2	66.1	65.9	64.7	63.1	59.7	57.7	57.6	57.5	§	52.3*
Take LSD once or twice <sup>e</sup>	35.4	34.6	34.9	33.9	34.2	34.7	34.7	34.5	36.4	34.4	31.6	33.8	32.9	§	27.6*
Take LSD regularly <sup>e</sup>	56.8	55.7	56.7	56.1	54.9	56.4	55.9	54.8	58.3	55.2	53.0	54.1	52.4	§	55.2*
Try ecstasy (MDMA, Molly) once or twice <sup>f</sup>	45.3	43.2	38.9	36.3	37.2	36.2	36.0‡	53.2	54.8	54.2	55.4	54.5	53.0	§	53.0*
Take ecstasy (MDMA, Molly) occasionally <sup>f</sup>	68.2	66.4	62.1	59.2	60.8	59.8	58.6‡	69.0	70.1	69.3	68.6	67.6	66.1	§	66.5*
Try salvia once or twice <sup>c</sup>	—	—	—	—	—	12.2	10.7	—	—	—	—	—	—	—	—
Take salvia occasionally <sup>c</sup>	—	—	—	—	—	20.3	17.1	—	—	—	—	—	—	—	—
Try crack once or twice <sup>d</sup>	56.4	56.5	57.7	58.1	59.5	59.0	60.2	61.4	62.5	61.3	60.7	60.4	62.5	—	—
Take crack occasionally <sup>d</sup>	76.0	76.5	75.9	76.2	76.5	76.7	77.8	76.4	77.5	75.2	75.1	75.0	76.0	—	—
Try cocaine once or twice <sup>d,o</sup>	49.5	49.8	50.8	52.9	53.0	53.4	54.5	54.1	54.8	54.6	52.5	52.6	53.7‡	§	55.3*
Take cocaine occasionally <sup>d,o</sup>	70.9	71.1	71.0	72.2	72.0	72.6	72.8	71.7	72.6	70.9	70.4	70.2	71.0‡	§	74.0*
Try heroin once or twice without using a needle <sup>e</sup>	70.5	70.8	72.2	73.0	72.9	72.6	73.2	72.6	74.1	73.3	72.2	71.4	73.6	§	73.2*
Take heroin occasionally without using a needle <sup>e</sup>	84.2	83.1	83.3	84.8	83.4	84.4	84.0	82.5	83.3	82.2	81.4	81.0	82.6	§	81.8*
Try OxyContin once or twice <sup>c</sup>	—	—	—	—	—	30.9	29.4	29.7	29.9	28.7	27.8	29.6	25.0	§	27.6*
Take OxyContin occasionally <sup>c</sup>	—	—	—	—	—	48.3	44.7	44.4	43.7	41.4	41.3	43.9	41.5	§	41.3*
Try Vicodin once or twice <sup>c</sup>	—	—	—	—	—	23.2	21.0	22.5	24.1	21.8	22.1	23.2	19.7	§	26.1*
Take Vicodin occasionally <sup>c</sup>	—	—	—	—	—	40.3	36.0	36.4	35.4	32.6	32.0	34.8	30.5	§	32.6*
Try Adderall once or twice <sup>c</sup>	—	—	—	—	—	19.7	17.6	22.2	22.9	22.5	21.6	23.2	22.3	§	25.9*
Take Adderall occasionally <sup>c</sup>	—	—	—	—	—	34.3	30.5	37.0	37.0	35.8	36.4	39.8	39.1	§	38.1*

Table continued on next page.

**TABLE 11 (cont.)**  
**Trends in Harmfulness of Drugs as Perceived by 10th Graders**

<i>How much do you think people risk harming themselves (physically or in other ways), if they . . .</i>	Percentage saying great risk <sup>a</sup>														
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>l</sup>	2020	2021 <sup>n</sup>
Try bath salts (synthetic stimulants) once or twice <sup>c</sup>	—	—	—	—	—	32.3	50.1	49.6	49.1	42.7	42.5	41.1	—	—	—
Take bath salts (synthetic stimulants) occasionally <sup>c</sup>	—	—	—	—	—	44.9	61.8	61.1	60.4	53.0	51.5	51.4	—	—	—
Try cough/cold medicine once or twice <sup>c</sup>	—	—	—	—	—	23.6	21.6	22.9	24.0	24.0	21.8	22.1	22.3	§	27.9*
Take cough/cold medicine occasionally <sup>c</sup>	—	—	—	—	—	40.4	37.3	38.3	38.2	37.6	36.4	37.2	37.9	§	37.0*
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) <sup>b</sup>	11.6	12.6	11.9	11.9	12.3	11.3	11.3	11.6	12.4	13.3	12.5	13.0	13.6	§	13.2*
Take one or two drinks nearly every day <sup>b</sup>	33.3	35.0	33.8	33.1	32.9	31.8	30.6	31.3	31.2	32.2	30.9	30.3	31.0	§	34.7*
Have five or more drinks once or twice each weekend <sup>b</sup>	54.1	56.6	54.2	54.6	55.5	52.8	52.3	54.0	54.5	54.5	52.0	51.8	52.6	§	54.2*
Smoke one to five cigarettes per day <sup>c</sup>	41.7	43.5	42.8	41.4	44.8	49.1	47.7	52.0	52.9	53.0	50.0	49.9	50.0	§	45.8*
Smoke one or more packs of cigarettes per day <sup>g</sup>	68.2	69.1	67.3	67.2	69.8	71.6	70.8	72.0	72.9	71.5	69.8	69.6	73.2	§	72.7*
Use electronic cigarettes (e-cigarettes) regularly <sup>h</sup>	—	—	—	—	—	—	—	14.1	17.0	19.1	19.4	22.8	—	—	—
Vape marijuana occasionally <sup>m</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	§	28.7*
Vape marijuana regularly <sup>m</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	§	42.9*
Vape an e-liquid with nicotine occasionally <sup>c,j</sup>	—	—	—	—	—	—	—	—	—	—	17.0	17.9	22.7	§	22.8*
Vape an e-liquid with nicotine regularly <sup>c,j</sup>	—	—	—	—	—	—	—	—	—	—	30.0	31.3	40.7	§	52.6*
Use JUUL occasionally <sup>k</sup>	—	—	—	—	—	—	—	—	—	—	—	—	22.8	§	27.4*
Use JUUL regularly <sup>k</sup>	—	—	—	—	—	—	—	—	—	—	—	—	35.6	§	49.2*
Smoke little cigars or cigarillos regularly <sup>c</sup>	—	—	—	—	—	—	—	31.0	34.9	35.3	34.0	34.9	39.1	§	45.6*
Use smokeless tobacco regularly	46.7	48.0	44.7	43.7	45.7	42.9	40.0	39.9	42.5	43.0	40.7	41.0	44.5	§	43.8*
Take dissolvable tobacco regularly <sup>c</sup>	—	—	—	—	—	33.3	31.3	32.0	35.6	34.2	32.7	33.2	32.9	§	38.6*
Take snus regularly <sup>c</sup>	—	—	—	—	—	41.0	38.9	38.8	41.8	39.9	38.1	39.8	39.0	§	38.8*
Take steroids <sup>i</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Approximate weighted N =</i>	16,100	15,100	15,900	15,200	14,900	15,000	12,900	13,000	15,600	14,700	13,500	14,300	7,000	§	11,000

Table continued on next page.

**TABLE 11 (cont.)**  
**Trends in Harmfulness of Drugs as Perceived by 10th Graders**

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

Notes. Level of significance of difference between the two most recent classes:  $s = .05$ ,  $ss = .01$ ,  $sss = .001$ . '—' indicates data not available. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. ‡ indicates that the question changed the following year.

§Estimates not presented due to insufficient data this year.

\*Results may not be comparable to previous years. In 2021 MTF conducted survey administrations via the internet for the first time, and responses, especially on attitudes, can be sensitive to mode effects.

<sup>a</sup>Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, drug unfamiliar.

<sup>b</sup>Beginning in 2012 data based on two thirds of  $N$  indicated.

<sup>c</sup>Data based on one third of  $N$  indicated.

<sup>d</sup>Beginning in 1997, data based on two thirds of  $N$  indicated.

<sup>e</sup>Data based on one of two forms in 1993–1996;  $N$  is one half of  $N$  indicated. Beginning in 1997, data based on one third of  $N$  indicated due to changes in questionnaire forms.

<sup>f</sup>Beginning in 2014 data are based on the revised question which included "Molly,"  $N$  is one third of  $N$  indicated in 2014 and two thirds of  $N$  indicated in 2015. 2014 and 2015 data are not comparable to earlier years due to the revision of the question text.

<sup>g</sup>Beginning in 1999, data based on two thirds of  $N$  indicated due to changes in questionnaire forms.

<sup>h</sup>E-cigarette data based on two thirds of  $N$  indicated. Little cigars or cigarillos data based on one third  $N$  indicated.

<sup>i</sup>Data based on two forms in 1991 and 1992. Data based on one of two forms in 1993 and 1994;  $N$  is one half of  $N$  indicated.

<sup>j</sup>Percentages for all years reported here include respondents who replied "can't say, drug unfamiliar" in the denominator. The percentage for 2017 published in late 2017 and early 2018 did not include these respondents in the denominator.

<sup>k</sup>Data based on two thirds of  $N$  indicated.

<sup>l</sup>The  $N$  for 2019 is approximately one-half of that for the full sample, because it is based on the half-sample who received the traditional paper and pencil questionnaire form.

<sup>m</sup>Data based on one half of  $N$  indicated.

<sup>n</sup>Sample is decreased by as much as 50% for the following drugs due to survey question experiments: alcohol, inhalants, heroin, LSD, OxyContin, Vicodin, and cough/cold medicine.

<sup>o</sup>In 2019 and previous years the survey question asked about 'cocaine powder' and in 2020 forward it asked about 'cocaine'.

**TABLE 12**  
**Trends in Harmfulness of Drugs as Perceived by 12th Graders**

Percentage saying great risk <sup>a</sup>

<i>How much do you think people risk harming themselves (physically or in other ways), if they . . .</i>	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Use marijuana once or twice	15.1	11.4	9.5	8.1	9.4	10.0	13.0	11.5	12.7	14.7	14.8	15.1	18.4	19.0	23.6	23.1
Use marijuana occasionally	18.1	15.0	13.4	12.4	13.5	14.7	19.1	18.3	20.6	22.6	24.5	25.0	30.4	31.7	36.5	36.9
Use marijuana regularly	43.3	38.6	36.4	34.9	42.0	50.4	57.6	60.4	62.8	66.9	70.4	71.3	73.5	77.0	77.5	77.8
Try synthetic marijuana once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take synthetic marijuana occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try LSD once or twice	49.4	45.7	43.2	42.7	41.6	43.9	45.5	44.9	44.7	45.4	43.5	42.0	44.9	45.7	46.0	44.7
Take LSD regularly	81.4	80.8	79.1	81.1	82.4	83.0	83.5	83.5	83.2	83.8	82.9	82.6	83.8	84.2	84.3	84.5
Try PCP once or twice	—	—	—	—	—	—	—	—	—	—	—	—	55.6	58.8	56.6	55.2
Try ecstasy (MDMA, Molly) once or twice <sup>b</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try salvia once or twice <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take salvia occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try cocaine once or twice	42.6	39.1	35.6	33.2	31.5	31.3	32.1	32.8	33.0	35.7	34.0	33.5	47.9	51.2	54.9	59.4
Take cocaine occasionally	—	—	—	—	—	—	—	—	—	—	—	54.2	66.8	69.2	71.8	73.9
Take cocaine regularly	73.1	72.3	68.2	68.2	69.5	69.2	71.2	73.0	74.3	78.8	79.0	82.2	88.5	89.2	90.2	91.1
Try crack once or twice	—	—	—	—	—	—	—	—	—	—	—	—	57.0	62.1	62.9	64.3
Take crack occasionally	—	—	—	—	—	—	—	—	—	—	—	—	70.4	73.2	75.3	80.4
Take crack regularly	—	—	—	—	—	—	—	—	—	—	—	—	84.6	84.8	85.6	91.6
Try cocaine powder once or twice	—	—	—	—	—	—	—	—	—	—	—	—	45.3	51.7	53.8	53.9
Take cocaine powder occasionally	—	—	—	—	—	—	—	—	—	—	—	—	56.8	61.9	65.8	71.1
Take cocaine powder regularly	—	—	—	—	—	—	—	—	—	—	—	—	81.4	82.9	83.9	90.2
Try heroin once or twice	60.1	58.9	55.8	52.9	50.4	52.1	52.9	51.1	50.8	49.8	47.3	45.8	53.6	54.0	53.8	55.4
Take heroin occasionally	75.6	75.6	71.9	71.4	70.9	70.9	72.2	69.8	71.8	70.7	69.8	68.2	74.6	73.8	75.5	76.6
Take heroin regularly	87.2	88.6	86.1	86.6	87.5	86.2	87.5	86.0	86.1	87.2	86.0	87.1	88.7	88.8	89.5	90.2
Try heroin once or twice without using a needle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take heroin occasionally without using a needle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try any narcotic other than heroin (codeine, Vicodin, OxyContin, Percocet, etc.) once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take any narcotic other than heroin occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take any narcotic other than heroin regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table continued on next page.



**TABLE 12 (cont.)**  
**Trends in Harmfulness of Drugs as Perceived by 12th Graders**

	Percentage saying great risk <sup>a</sup>															
<i>How much do you think people risk harming themselves (physically or in other ways), if they . . .</i>	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Try amphetamines once or twice <sup>d</sup>	35.4	33.4	30.8	29.9	29.7	29.7	26.4	25.3	24.7	25.4	25.2	25.1	29.1	29.6	32.8	32.2
Take amphetamines regularly <sup>d</sup>	69.0	67.3	66.6	67.1	69.9	69.1	66.1	64.7	64.8	67.1	67.2	67.3	69.4	69.8	71.2	71.2
Try Adderall once or twice <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try Adderall occasionally <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try crystal methamphetamine (ice) once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try bath salts (synthetic stimulants) once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take bath salts (synthetic stimulants) occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try sedatives (barbiturates) once or twice <sup>f</sup>	34.8	32.5	31.2	31.3	30.7	30.9	28.4	27.5	27.0	27.4	26.1	25.4	30.9	29.7	32.2	32.4
Take sedatives (barbiturates) regularly <sup>f</sup>	69.1	67.7	68.6	68.4	71.6	72.2	69.9	67.6	67.7	68.5	68.3	67.2	69.4	69.6	70.5	70.2
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	5.3	4.8	4.1	3.4	4.1	3.8	4.6	3.5	4.2	4.6	5.0	4.6	6.2	6.0	6.0	8.3
Take one or two drinks nearly every day	21.5	21.2	18.5	19.6	22.6	20.3	21.6	21.6	21.6	23.0	24.4	25.1	26.2	27.3	28.5	31.3
Take four or five drinks nearly every day	63.5	61.0	62.9	63.1	66.2	65.7	64.5	65.5	66.8	68.4	69.8	66.5	69.7	68.5	69.8	70.9
Have five or more drinks once or twice each weekend	37.8	37.0	34.7	34.5	34.9	35.9	36.3	36.0	38.6	41.7	43.0	39.1	41.9	42.6	44.0	47.1
Smoke one or more packs of cigarettes per day	51.3	56.4	58.4	59.0	63.0	63.7	63.3	60.5	61.2	63.8	66.5	66.0	68.6	68.0	67.2	68.2
Use electronic cigarettes (e-cigarettes) regularly <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana occasionally <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana regularly <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine occasionally <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine regularly <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smoke little cigars or cigarillos regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use smokeless tobacco regularly	—	—	—	—	—	—	—	—	—	—	—	25.8	30.0	33.2	32.9	34.2
Take steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	63.8	69.9
<i>Approximate weighted N =</i>	2,804	2,918	3,052	3,770	3,250	3,234	3,604	3,557	3,305	3,262	3,250	3,020	3,315	3,276	2,796	2,553

Table continued on next page.

**TABLE 12 (cont.)**  
**Trends in Harmfulness of Drugs as Perceived by 12th Graders**

	Percentage saying great risk <sup>a</sup>															
<i>How much do you think people risk harming themselves (physically or in other ways), if they . . .</i>	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Use marijuana once or twice	27.1	24.5	21.9	19.5	16.3	15.6	14.9	16.7	15.7	13.7	15.3	16.1	16.1	15.9	16.1	17.8
Use marijuana occasionally	40.6	39.6	35.6	30.1	25.6	25.9	24.7	24.4	23.9	23.4	23.5	23.2	26.6	25.4	25.8	25.9
Use marijuana regularly	78.6	76.5	72.5	65.0	60.8	59.9	58.1	58.5	57.4	58.3	57.4	53.0	54.9	54.6	58.0	57.9
Try synthetic marijuana once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take synthetic marijuana occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try LSD once or twice	46.6	42.3	39.5	38.8	36.4	36.2	34.7	37.4	34.9	34.3	33.2	36.7	36.2	36.2	36.5	36.1
Take LSD regularly	84.3	81.8	79.4	79.1	78.1	77.8	76.6	76.5	76.1	75.9	74.1	73.9	72.3	70.2	69.9	69.3
Try PCP once or twice	51.7	54.8	50.8	51.5	49.1	51.0	48.8	46.8	44.8	45.0	46.2	48.3	45.2	47.1	46.6	47.0
Try ecstasy (MDMA, Molly) once or twice <sup>b</sup>	—	—	—	—	—	—	33.8	34.5	35.0	37.9	45.7	52.2	56.3	57.7	60.1	59.3
Try salvia once or twice <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take salvia occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try cocaine once or twice	59.4	56.8	57.6	57.2	53.7	54.2	53.6	54.6	52.1	51.1	50.7	51.2	51.0	50.7	50.5	52.5
Take cocaine occasionally	75.5	75.1	73.3	73.7	70.8	72.1	72.4	70.1	70.1	69.5	69.9	68.3	69.1	67.2	66.7	69.8
Take cocaine regularly	90.4	90.2	90.1	89.3	87.9	88.3	87.1	86.3	85.8	86.2	84.1	84.5	83.0	82.2	82.8	84.6
Try crack once or twice	60.6	62.4	57.6	58.4	54.6	56.0	54.0	52.2	48.2	48.4	49.4	50.8	47.3	47.8	48.4	47.8
Take crack occasionally	76.5	76.3	73.9	73.8	72.8	71.4	70.3	68.7	67.3	65.8	65.4	65.6	64.0	64.5	63.8	64.8
Take crack regularly	90.1	89.3	87.5	89.6	88.6	88.0	86.2	85.3	85.4	85.3	85.8	84.1	83.2	83.5	83.3	82.8
Try cocaine powder once or twice	53.6	57.1	53.2	55.4	52.0	53.2	51.4	48.5	46.1	47.0	49.0	49.5	46.2	45.4	46.2	45.8
Take cocaine powder occasionally	69.8	70.8	68.6	70.6	69.1	68.8	67.7	65.4	64.2	64.7	63.2	64.4	61.4	61.6	60.8	61.9
Take cocaine powder regularly	88.9	88.4	87.0	88.6	87.8	86.8	86.0	84.1	84.6	85.5	84.4	84.2	82.3	81.7	82.7	82.1
Try heroin once or twice	55.2	50.9	50.7	52.8	50.9	52.5	56.7	57.8	56.0	54.2	55.6	56.0	58.0	56.6	55.2	59.1
Take heroin occasionally	74.9	74.2	72.0	72.1	71.0	74.8	76.3	76.9	77.3	74.6	75.9	76.6	78.5	75.7	76.0	79.1
Take heroin regularly	89.6	89.2	88.3	88.0	87.2	89.5	88.9	89.1	89.9	89.2	88.3	88.5	89.3	86.8	87.5	89.7
Try heroin once or twice without using a needle	—	—	—	—	55.6	58.6	60.5	59.6	58.5	61.6	60.7	60.6	58.9	61.2	60.5	62.6
Take heroin occasionally without using a needle	—	—	—	—	71.2	71.0	74.3	73.4	73.6	74.7	74.4	74.7	73.0	76.1	73.3	76.2
Try any narcotic other than heroin (codeine, Vicodin, OxyContin, Percocet, etc.) once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take any narcotic other than heroin occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take any narcotic other than heroin regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Table continued on next page.

**TABLE 12 (cont.)**  
**Trends in Harmfulness of Drugs as Perceived by 12th Graders**

	Percentage saying great risk <sup>a</sup>															
<i>How much do you think people risk harming themselves (physically or in other ways), if they . . .</i>	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Try amphetamines once or twice <sup>d</sup>	36.3	32.6	31.3	31.4	28.8	30.8	31.0	35.3	32.2	32.6	34.7	34.4	36.8	35.7	37.7	39.5
Take amphetamines regularly <sup>d</sup>	74.1	72.4	69.9	67.0	65.9	66.8	66.0	67.7	66.4	66.3	67.1	64.8	65.6	63.9	67.1	68.1
Try Adderall once or twice <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try Adderall occasionally <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try crystal methamphetamine (ice) once or twice	61.6	61.9	57.5	58.3	54.4	55.3	54.4	52.7	51.2	51.3	52.7	53.8	51.2	52.4	54.6	59.1
Try bath salts (synthetic stimulants) once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Take bath salts (synthetic stimulants) occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Try sedatives (barbiturates) once or twice <sup>f</sup>	35.1	32.2	29.2	29.9	26.3	29.1	26.9	29.0	26.1	25.0	25.7	26.2	27.9†	24.9	24.7	28.0
Take sedatives (barbiturates) regularly <sup>f</sup>	70.5	70.2	66.1	63.3	61.6	60.4	56.8	56.3	54.1	52.3	50.3	49.3	49.6†	54.0	54.1	56.8
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	9.1	8.6	8.2	7.6	5.9	7.3	6.7	8.0	8.3	6.4	8.7	7.6	8.4	8.6	8.5	9.3
Take one or two drinks nearly every day	32.7	30.6	28.2	27.0	24.8	25.1	24.8	24.3	21.8	21.7	23.4	21.0	20.1	23.0	23.7	25.3
Take four or five drinks nearly every day	69.5	70.5	67.8	66.2	62.8	65.6	63.0	62.1	61.1	59.9	60.7	58.8	57.8	59.2	61.8	63.4
Have five or more drinks once or twice each weekend	48.6	49.0	48.3	46.5	45.2	49.5	43.0	42.8	43.1	42.7	43.6	42.2	43.5	43.6	45.0	47.6
Smoke one or more packs of cigarettes per day	69.4	69.2	69.5	67.6	65.6	68.2	68.7	70.8	70.8	73.1	73.3	74.2	72.1	74.0	76.5	77.6
Use electronic cigarettes (e-cigarettes) regularly <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana occasionally <sup>i</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana regularly <sup>i</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine occasionally <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine regularly <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Smoke little cigars or cigarillos regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use smokeless tobacco regularly	37.4	35.5	38.9	36.6	33.2	37.4	38.6	40.9	41.1	42.2	45.4	42.6	43.3	45.0	43.6	45.9
Take steroids	65.6	70.7	69.1	66.1	66.4	67.6	67.2	68.1	62.1	57.9	58.9	57.1	55.0	55.7	56.8	60.2
<i>Approximate weighted N =</i>	<i>2,549</i>	<i>2,684</i>	<i>2,759</i>	<i>2,591</i>	<i>2,603</i>	<i>2,449</i>	<i>2,579</i>	<i>2,564</i>	<i>2,306</i>	<i>2,130</i>	<i>2,173</i>	<i>2,198</i>	<i>2,466</i>	<i>2,491</i>	<i>2,512</i>	<i>2,407</i>

Table continued on next page.

**TABLE 12 (cont.)**  
**Trends in Harmfulness of Drugs as Perceived by 12th Graders**

Percentage saying great risk <sup>a</sup>

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>h</sup>	2020	2021
Use marijuana once or twice	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	§	10.0*
Use marijuana occasionally	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	§	12.7*
Use marijuana regularly	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	§	21.6*
Try synthetic marijuana once or twice	—	—	—	—	—	23.5	25.9	32.5	33.0	35.6	33.0	30.4	28.4	§	23.0*
Take synthetic marijuana occasionally	—	—	—	—	—	32.7	36.2	39.4	40.9	43.9	40.0	37.1	35.4	§	28.7*
Try LSD once or twice	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	§	28.2*
Take LSD regularly	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	§	54.7*
Try PCP once or twice	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	§	42.9*
Try ecstasy (MDMA, Molly) once or twice <sup>b</sup>	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	§	40.6*
Try salvia once or twice <sup>c</sup>	—	—	—	39.8	36.7‡	13.8	12.9	14.1	13.1	13.0	10.2	9.8	10.0	§	10.3*
Take salvia occasionally	—	—	—	—	—	23.1	21.3	20.0	17.6	16.3	13.8	12.0	12.7	§	14.3*
Try cocaine once or twice	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	§	52.0*
Take cocaine occasionally	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	§	60.2*
Take cocaine regularly	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	§	72.2*
Try crack once or twice	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	—	—
Take crack occasionally	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	—	—
Take crack regularly	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	—	—
Try cocaine powder once or twice	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	—	—
Take cocaine powder occasionally	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	—	—
Take cocaine powder regularly	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	—	—
Try heroin once or twice	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	§	60.9*
Take heroin occasionally	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	§	74.4*
Take heroin regularly	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	§	82.4*
Try heroin once or twice without using a needle	60.2	60.8	61.5	63.8	61.1	63.3	64.5	65.3	62.5	66.1	64.6	63.1	60.5	§	64.7*
Take heroin occasionally without using a needle	73.9	73.2	74.8	76.2	74.7	76.1	76.4	73.6	71.1	74.6	72.7	69.6	69.4	§	73.8*
Try any narcotic other than heroin (codeine, Vicodin, OxyContin, Percocet, etc.) once or twice	—	—	—	40.4	39.9	38.4	43.1	42.7	44.1	43.6	42.0	43.2	45.0	§	44.0*
Take any narcotic other than heroin occasionally	—	—	—	54.3	54.8	53.8	57.3	59.0	58.5	55.7	55.5	56.7	56.7	§	53.8*
Take any narcotic other than heroin regularly	—	—	—	74.9	75.5	73.9	75.8	72.7	73.9	72.4	70.8	71.6	73.1	§	62.8*

Table continued on next page.

**TABLE 12 (cont.)**  
**Trends in Harmfulness of Drugs as Perceived by 12th Graders**

	Percentage saying great risk <sup>a</sup>														
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>h</sup>	2020	2021
Try amphetamines once or twice <sup>d</sup>	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	§	38.7*
Take amphetamines regularly <sup>d</sup>	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	§	45.9*
Try Adderall once or twice <sup>e</sup>	—	—	—	33.3	31.2	27.2	31.8	33.6	34.3	32.5	32.0	34.0	34.3	§	30.2*
Try Adderall occasionally <sup>e</sup>	—	—	—	41.6	40.8	35.3	38.8	41.5	41.6	40.9	40.6	40.1	41.8	§	41.7*
Try crystal methamphetamine (ice) once or twice	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	§	64.3*
Try bath salts (synthetic stimulants) once or twice	—	—	—	—	—	33.2	59.5	59.2	57.5	54.9	51.3	50.7	—	—	—
Take bath salts (synthetic stimulants) occasionally	—	—	—	—	—	45.0	69.9	68.8	67.4	64.2	61.5	60.7	—	—	—
Try sedatives (barbiturates) once or twice <sup>f</sup>	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	§	30.9*
Take sedatives (barbiturates) regularly <sup>f</sup>	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	§	49.6*
Try one or two drinks of an alcoholic beverage (beer, wine, liquor)	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	§	9.7*
Take one or two drinks nearly every day	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	§	21.9*
Take four or five drinks nearly every day	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	§	64.3*
Have five or more drinks once or twice each weekend	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	§	34.4*
Smoke one or more packs of cigarettes per day	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	§	66.0*
Use electronic cigarettes (e-cigarettes) regularly <sup>g</sup>	—	—	—	—	—	—	—	14.2	16.2	18.2	16.1	18.0	—	—	—
Vape marijuana occasionally <sup>i</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	§	16.0*
Vape marijuana regularly <sup>i</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	§	30.9*
Vape an e-liquid with nicotine occasionally <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	16.4	15.8	17.7	§	22.7*
Vape an e-liquid with nicotine regularly <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	27.0	27.7	35.2	§	43.7*
Use JUUL occasionally	—	—	—	—	—	—	—	—	—	—	—	—	16.8	§	18.4*
Use JUUL regularly	—	—	—	—	—	—	—	—	—	—	—	—	32.9	§	37.1*
Smoke little cigars or cigarillos regularly	—	—	—	—	—	—	—	38.3	39.7	39.5	38.2	42.5	41.3	—	—
Use smokeless tobacco regularly	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	—	—
Take steroids	57.4	60.8	60.2	59.2	61.1	58.6	54.2	54.6	54.4	54.5	49.1	50.1	50.8	§	45.8*
<i>Approximate weighted N =</i>	2,450	2,389	2,290	2,440	2,408	2,331	2,098	2,067	2,174	1,988	1,919	1,976	891	§	580

Table continued on next page.

**TABLE 12 (cont.)**  
**Trends in Harmfulness of Drugs as Perceived by 12th Graders**

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

*Notes.* Level of significance of difference between the two most recent classes:  $s = .05$ ,  $ss = .01$ ,  $sss = .001$ . '—' indicates data not available. '±' indicates that the question changed the following year. See relevant footnote for that drug. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

§Estimates not presented due to insufficient data this year.

\*Results may not be comparable to previous years. In 2021 MTF conducted survey administrations via the internet for the first time, and responses, especially on attitudes, can be sensitive to mode effects.

<sup>a</sup>Answer alternatives were: (1) No risk, (2) Slight risk, (3) Moderate risk, (4) Great risk, and (5) Can't say, drug unfamiliar.

<sup>b</sup>Beginning in 2014 data are based on the revised question which included "Molly." 2014 and 2015 data are not comparable to earlier years due to the revision of the question text.

<sup>c</sup>In 2011 the question on perceived risk of using salvia once or twice appeared at the end of a form. In 2012 the question was moved to an earlier section of the same form. A question on perceived risk of using salvia occasionally was also added following the question on perceived risk of trying salvia once or twice. These changes likely explain the discontinuity in the 2012 results.

<sup>d</sup>In 2011 the list of examples was changed from uppers, pep pills, bennies, speed to uppers, speed, Adderall, Ritalin, etc. These changes likely explain the discontinuity in the 2011 results.

<sup>e</sup>In 2014 "(without a doctor's orders)" added to the questions on perceived risk of using Adderall.

<sup>f</sup>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.

<sup>g</sup>Based on two of six forms in 2017 and 2018;  $N$  is two times the  $N$  indicated. Beginning in 2019, data based on three of six forms;  $N$  is three times the  $N$  indicated.

<sup>h</sup>The  $N$  for 2019 is approximately one-half of that for the full sample, because it is based on the half-sample who received the traditional paper and pencil questionnaire form.

<sup>i</sup>Based on two of six forms;  $N$  is two times the  $N$  indicated.

**TABLE 13**  
**Trends in Disapproval of Drug Use in Grade 8**

Do you disapprove of people who . . .	Percentage who disapprove or strongly disapprove <sup>a</sup>															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Use marijuana once or twice <sup>b</sup>	84.6	82.1	79.2	72.9	70.7	67.5	67.6	69.0	70.7	72.5	72.4	73.3	73.8	75.9	75.3	76.0
Use marijuana occasionally <sup>b</sup>	89.5	88.1	85.7	80.9	79.7	76.5	78.1	78.4	79.3	80.6	80.6	80.9	81.5	83.1	82.4	82.2
Use marijuana regularly <sup>b</sup>	92.1	90.8	88.9	85.3	85.1	82.8	84.6	84.5	84.5	85.3	84.5	85.3	85.7	86.8	86.3	86.1
Try inhalants once or twice <sup>c</sup>	84.9	84.0	82.5	81.6	81.8	82.9	84.1	83.0	85.2	85.4	86.6	86.1	85.1	85.1	84.6	83.4
Take inhalants regularly <sup>c</sup>	90.6	90.0	88.9	88.1	88.8	89.3	90.3	89.5	90.3	90.2	90.5	90.4	89.8	90.1	89.8	89.0
Take LSD once or twice <sup>d</sup>	—	—	77.1	75.2	71.6	70.9	72.1	69.1	69.4	66.7	64.6	62.6	61.0	58.1	58.5	53.9
Take LSD regularly <sup>d</sup>	—	—	79.8	78.4	75.8	75.3	76.3	72.5	72.5	69.3	67.0	65.5	63.5	60.5	60.7	55.8
Try ecstasy (MDMA, Molly) once or twice <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	69.0	74.3	77.7	76.3	75.0	66.7
Take ecstasy (MDMA, Molly) occasionally <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	73.6	78.6	81.3	79.4	77.9	69.8
Try crack once or twice <sup>c</sup>	91.7	90.7	89.1	86.9	85.9	85.0	85.7	85.4	86.0	85.4	86.0	86.2	86.4	87.4	87.6	87.2
Take crack occasionally <sup>c</sup>	93.3	92.5	91.7	89.9	89.8	89.3	90.3	89.5	89.9	88.8	89.8	89.6	89.8	90.3	90.5	90.0
Try cocaine once or twice <sup>c,n</sup>	91.2	89.6	88.5	86.1	85.3	83.9	85.1	84.5	85.2	84.8	85.6	85.8	85.6	86.8	87.0	86.5
Take cocaine occasionally <sup>c,n</sup>	93.1	92.4	91.6	89.7	89.7	88.7	90.1	89.3	89.9	88.8	89.6	89.9	89.8	90.3	90.7	90.2
Try heroin once or twice without using a needle <sup>d</sup>	—	—	—	—	85.8	85.0	87.7	87.3	88.0	87.2	87.2	87.8	86.9	86.6	86.9	87.2
Take heroin occasionally without using a needle <sup>d</sup>	—	—	—	—	88.5	87.7	90.1	89.7	90.2	88.9	88.9	89.6	89.0	88.6	88.5	88.5
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) <sup>b</sup>	51.7	52.2	50.9	47.8	48.0	45.5	45.7	47.5	48.3	48.7	49.8	51.1	49.7	51.1	51.2	51.3
Take one or two drinks nearly every day <sup>b</sup>	82.2	81.0	79.6	76.7	75.9	74.1	76.6	76.9	77.0	77.8	77.4	78.3	77.1	78.6	78.7	78.7
Have five or more drinks once or twice each weekend <sup>b</sup>	85.2	83.9	83.3	80.7	80.7	79.1	81.3	81.0	80.3	81.2	81.6	81.9	81.9	82.3	82.9	82.0
Smoke one to five cigarettes per day <sup>e</sup>	—	—	—	—	—	—	—	—	75.1	79.1	80.4	81.1	81.4	83.1	82.9	83.5
Smoke one or more packs of cigarettes per day <sup>f</sup>	82.8	82.3	80.6	78.4	78.6	77.3	80.3	80.0	81.4	81.9	83.5	84.6	84.6	85.7	85.3	85.6
Use electronic cigarettes (e-cigarettes) regularly <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana occasionally <sup>b</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana regularly <sup>b</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine occasionally <sup>e,h</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine regularly <sup>e,h</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL occasionally <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL regularly <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use smokeless tobacco regularly <sup>b</sup>	79.1	77.2	77.1	75.1	74.0	74.1	76.5	76.3	78.0	79.2	79.4	80.6	80.7	81.0	82.0	81.0
Take steroids <sup>g</sup>	89.8	90.3	89.9	87.9	—	—	—	—	—	—	—	—	—	—	—	—
Approximate weighted N = 17,400 18,500 18,400 17,400 17,600 18,000 18,800 18,100 16,700 16,700 16,200 15,100 16,500 17,000 16,800 16,500																

Table continued on next page.

**TABLE 13 (cont.)**  
**Trends in Disapproval of Drug Use in Grade 8**

Percentage who disapprove or strongly disapprove <sup>a</sup>

<i>Do you disapprove of people who . . .</i>	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>i</sup>	2020	2021 <sup>m</sup>
Use marijuana once or twice <sup>b</sup>	78.7	76.6	75.3	73.5	74.4	75.1	72.0	70.5	70.3	70.1	67.3	64.5	62.3	§	60.3*
Use marijuana occasionally <sup>b</sup>	84.5	82.6	81.9	79.9	81.1	81.6	78.8	77.7	77.5	77.5	75.5	73.1	70.3	§	69.0*
Use marijuana regularly <sup>b</sup>	87.7	86.8	85.9	84.3	85.7	85.6	83.8	82.2	82.2	82.3	81.2	79.3	76.0	§	75.8*
Try inhalants once or twice <sup>c</sup>	84.1	82.3	83.1	83.1	82.9	83.1	81.6	80.7	80.6	78.3	77.4	75.0	72.9	§	63.8*
Take inhalants regularly <sup>c</sup>	89.5	88.5	88.4	88.9	88.5	88.6	86.8	85.5	85.4	83.3	82.8	81.3	78.8	§	74.9*
Take LSD once or twice <sup>d</sup>	53.5	52.6	53.2	53.7	55.4	51.8	52.0	52.8	56.0	55.2	56.1	55.9	59.4	§	52.6*
Take LSD regularly <sup>d</sup>	55.6	54.7	55.7	55.8	57.6	54.1	53.6	54.8	58.1	57.6	58.2	59.4	62.1	§	58.9*
Try ecstasy (MDMA, Molly) once or twice <sup>e</sup>	65.7	63.5	62.3	62.4	64.2	60.2	60.9	61.0‡	68.2	64.8	63.0	63.7	64.7	§	59.1*
Take ecstasy (MDMA, Molly) occasionally <sup>e</sup>	68.3	66.5	65.7	65.9	67.5	63.2	63.4	64.1‡	71.7	67.5	65.8	67.1	67.6	§	64.9*
Try crack once or twice <sup>c</sup>	88.6	87.2	88.4	89.1	88.5	89.0	88.1	88.0	87.5	87.0	87.5	86.1	84.4	—	—
Take crack occasionally <sup>c</sup>	91.2	90.3	91.0	91.5	91.0	91.2	90.3	89.8	89.8	88.8	89.6	88.4	86.1	—	—
Try cocaine once or twice <sup>c,n</sup>	88.2	86.8	88.1	88.4	88.3	88.6	88.0	87.7	87.5	86.8	86.8	85.6	83.8‡	§	82.8*
Take cocaine occasionally <sup>c,n</sup>	91.0	90.1	90.7	91.4	91.3	91.5	90.6	90.1	90.1	89.3	90.0	88.9	86.5‡	§	87.2*
Try heroin once or twice without using a needle <sup>d</sup>	88.4	86.9	88.6	89.5	87.5	86.8	87.2	87.1	87.1	85.6	87.9	85.5	84.6	§	82.4*
Take heroin occasionally without using a needle <sup>d</sup>	89.7	88.2	90.1	90.6	89.0	87.7	88.2	88.1	88.0	86.7	88.7	86.8	85.5	§	84.0*
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) <sup>b</sup>	54.0	52.5	52.7	54.2	54.0	54.1	53.3	53.3	53.7	52.6	51.0	47.4	51.0	§	40.9*
Take one or two drinks nearly every day <sup>b</sup>	80.4	79.2	78.5	79.5	80.7	81.3	80.2	79.6	79.7	79.1	79.5	77.9	77.8	§	76.0*
Have five or more drinks once or twice each weekend <sup>b</sup>	83.8	83.2	83.2	83.6	84.8	86.0	85.0	84.9	85.4	84.9	84.7	83.7	81.3	§	81.1*
Smoke one to five cigarettes per day <sup>e</sup>	85.3	85.0	83.6	84.7	86.8	—	—	—	—	—	—	—	—	—	—
Smoke one or more packs of cigarettes per day <sup>f</sup>	87.0	86.7	87.1	87.0	88.0	88.8	88.0	87.5	88.8	88.1	88.8	87.6	85.5	§	85.6*
Use electronic cigarettes (e-cigarettes) regularly <sup>e</sup>	—	—	—	—	—	—	—	58.4	65.0	66.6	—	—	—	—	—
Vape marijuana occasionally <sup>b</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	§	71.7*
Vape marijuana regularly <sup>b</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	§	78.1*
Vape an e-liquid with nicotine occasionally <sup>e,h</sup>	—	—	—	—	—	—	—	—	—	—	63.2	60.8	65.0	§	70.7*
Vape an e-liquid with nicotine regularly <sup>e,h</sup>	—	—	—	—	—	—	—	—	—	—	69.9	68.9	73.4	§	79.0*
Use JUUL occasionally <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	—	—	63.0	§	68.2*
Use JUUL regularly <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	—	—	70.4	§	75.2*
Use smokeless tobacco regularly <sup>b</sup>	82.3	82.1	81.5	81.2	82.6	82.7	81.5	80.2	82.5	81.1	81.3	79.9	79.1	§	78.5*
Take steroids <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Approximate weighted N =</i> 16,100 15,700 15,000 15,300 16,000 15,100 14,600 14,600 14,400 16,900 15,300 14,000 6,800 § 10,700															

Table continued on next page.



**TABLE 13 (cont.)**  
**Trends in Disapproval of Drug Use in Grade 8**

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

*Notes.* Level of significance of difference between the two most recent classes:  $s = .05$ ,  $ss = .01$ ,  $sss = .001$ . '—' indicates data not available. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. '‡' indicates that the question changed the following year.

§Estimates not presented due to insufficient data this year.

\*Results may not be comparable to previous years. In 2021 MTF conducted survey administrations via the internet for the first time, and responses, especially on attitudes, can be sensitive to mode effects.

<sup>a</sup>Answer alternatives were: (1) Don't disapprove, (2) Disapprove, (3) Strongly disapprove, and (4) Can't say, drug unfamiliar. Percentages are shown for categories (2) and (3) combined.

<sup>b</sup>Beginning in 2012, data based on two thirds of  $N$  indicated.

<sup>c</sup>Beginning in 1997, data based on two thirds of  $N$  indicated.

<sup>d</sup>Data based on one of two forms in 1993–1996;  $N$  is one half of  $N$  indicated. Beginning in 1997, data based on one third of  $N$  indicated due to changes in questionnaire forms.

<sup>e</sup>Data based on one third of  $N$  indicated. For MDMA "Molly" was added to the question text in 2015; 2014 and 2015 data are not comparable due to this change.

<sup>f</sup>Beginning in 1999, data based on two thirds of  $N$  indicated due to changes in questionnaire forms.

<sup>g</sup>Data based on two forms in 1991 and 1992. Data based on one of two forms in 1993 and 1994;  $N$  is one half of  $N$  indicated.

<sup>h</sup>Percentages for all years reported here include respondents who replied "can't say, drug unfamiliar" in the denominator. The percentage for 2017 published in late 2017 and early 2018 did not include these respondents in the denominator.

<sup>i</sup>The  $N$  for 2019 is approximately one-half of that for the full sample, because it is based on the half-sample who received the traditional paper and pencil questionnaire form.

<sup>m</sup>Sample is decreased by as much as 50% for the following drugs due to survey question experiments: alcohol, inhalants, heroin, JUUL, LSD, and ecstasy (MDMA, molly).

<sup>n</sup>In 2019 and previous years the survey question asked about 'cocaine powder' and in 2020 forward it asked about 'cocaine'.

**TABLE 14**  
**Trends in Disapproval of Drug Use in Grade 10**

Do you disapprove of people who . . .	Percentage who disapprove or strongly disapprove <sup>a</sup>															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Use marijuana once or twice <sup>b</sup>	74.6	74.8	70.3	62.4	59.8	55.5	54.1	56.0	56.2	54.9	54.8	57.8	58.1	60.4	61.3	62.5
Use marijuana occasionally <sup>b</sup>	83.7	83.6	79.4	72.3	70.0	66.9	66.2	67.3	68.2	67.2	66.2	68.3	68.4	70.8	71.9	72.6
Use marijuana regularly <sup>b</sup>	90.4	90.0	87.4	82.2	81.1	79.7	79.7	80.1	79.8	79.1	78.0	78.6	78.8	81.3	82.0	82.5
Try inhalants once or twice <sup>c</sup>	85.2	85.6	84.8	84.9	84.5	86.0	86.9	85.6	88.4	87.5	87.8	88.6	87.7	88.5	88.1	88.1
Take inhalants regularly <sup>c</sup>	91.0	91.5	90.9	91.0	90.9	91.7	91.7	91.1	92.4	91.8	91.3	91.8	91.0	92.3	91.9	92.2
Take LSD once or twice <sup>d</sup>	—	—	82.1	79.3	77.9	76.8	76.6	76.7	77.8	77.0	75.4	74.6	74.4	72.4	71.8	71.2
Take LSD regularly <sup>d</sup>	—	—	86.8	85.6	84.8	84.5	83.4	82.9	84.3	82.1	80.8	79.4	77.6	75.9	75.0	74.9
Try ecstasy (MDMA, Molly) once or twice <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	72.6	77.4	81.0	83.7	83.1	81.6
Take ecstasy (MDMA, Molly) occasionally <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	81.0	84.6	86.3	88.0	87.4	86.0
Try crack once or twice <sup>c</sup>	92.5	92.5	91.4	89.9	88.7	88.2	87.4	87.1	87.8	87.1	86.9	88.0	87.6	88.6	88.8	89.5
Take crack occasionally <sup>c</sup>	94.3	94.4	93.6	92.5	91.7	91.9	91.0	90.6	91.5	90.9	90.6	91.0	91.0	91.8	91.8	92.0
Try cocaine once or twice <sup>c,n</sup>	90.8	91.1	90.0	88.1	86.8	86.1	85.1	84.9	86.0	84.8	85.3	86.4	85.9	86.8	86.9	87.3
Take cocaine occasionally <sup>c,n</sup>	94.0	94.0	93.2	92.1	91.4	91.1	90.4	89.7	90.7	89.9	90.2	89.9	90.4	91.2	91.2	91.4
Try heroin once or twice without using a needle <sup>d</sup>	—	—	—	—	89.7	89.5	89.1	88.6	90.1	90.1	89.1	89.2	89.3	90.1	90.3	91.1
Take heroin occasionally without using a needle <sup>d</sup>	—	—	—	—	91.6	91.7	91.4	90.5	91.8	92.3	90.8	90.7	90.6	91.8	92.0	92.5
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) <sup>b</sup>	37.6	39.9	38.5	36.5	36.1	34.2	33.7	34.7	35.1	33.4	34.7	37.7	36.8	37.6	38.5	37.8
Take one or two drinks nearly every day <sup>b</sup>	81.7	81.7	78.6	75.2	75.4	73.8	75.4	74.6	75.4	73.8	73.8	74.9	74.2	75.1	76.9	76.4
Have five or more drinks once or twice each weekend <sup>b</sup>	76.7	77.6	74.7	72.3	72.2	70.7	70.2	70.5	69.9	68.2	69.2	71.5	71.6	71.8	73.7	72.9
Smoke one to five cigarettes per day <sup>e</sup>	—	—	—	—	—	—	—	—	67.8	69.1	71.2	74.3	76.2	77.5	79.3	80.2
Smoke one or more packs of cigarettes per day <sup>f</sup>	79.4	77.8	76.5	73.9	73.2	71.6	73.8	75.3	76.1	76.7	78.2	80.6	81.4	82.7	84.3	83.2
Use electronic cigarettes (e-cigarettes) regularly <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana occasionally <sup>b</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana regularly <sup>b</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine occasionally <sup>e,h</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine regularly <sup>e,h</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL occasionally <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL regularly <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use smokeless tobacco regularly <sup>b</sup>	75.4	74.6	73.8	71.2	71.0	71.0	72.3	73.2	75.1	75.8	76.1	78.7	79.4	80.2	80.5	80.5
Take steroids <sup>g</sup>	90.0	91.0	91.2	90.8	—	—	—	—	—	—	—	—	—	—	—	—
<i>Approximate weighted N =</i> 14,800 14,800 15,300 15,900 17,000 15,700 15,600 15,000 13,600 14,300 14,000 14,300 15,800 16,400 16,200 16,200																

Table continued on next page.

**TABLE 14 (cont.)**  
**Trends in Disapproval of Drug Use in Grade 10**

Do you disapprove of people who . . .	Percentage who disapprove or strongly disapprove <sup>a</sup>														
	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>i</sup>	2020	2021 <sup>m</sup>
Use marijuana once or twice <sup>b</sup>	63.9	64.5	60.1	59.2	58.5	56.2	53.2	53.8	52.7	52.6	48.1	47.9	46.9	§	47.8*
Use marijuana occasionally <sup>b</sup>	73.3	73.6	69.2	68.0	67.9	65.7	62.1	62.9	62.6	61.9	58.1	57.4	56.0	§	56.6*
Use marijuana regularly <sup>b</sup>	82.4	83.0	79.9	78.7	78.8	77.3	73.8	74.6	74.3	73.5	70.2	69.7	67.7	§	70.2*
Try inhalants once or twice <sup>c</sup>	87.6	87.1	87.0	86.5	86.9	85.7	86.1	85.9	84.1	83.3	80.7	81.8	79.5	§	74.5*
Take inhalants regularly <sup>c</sup>	91.8	91.6	91.1	90.8	90.9	90.0	89.7	89.7	88.3	87.1	85.4	86.9	83.9	§	83.4*
Take LSD once or twice <sup>d</sup>	67.7	66.3	67.8	68.2	68.5	68.3	69.1	67.8	70.3	69.5	66.9	70.5	71.3	§	63.3*
Take LSD regularly <sup>d</sup>	71.5	69.8	72.2	72.9	72.5	73.0	74.2	73.3	76.5	74.9	74.5	76.5	79.9	§	75.3*
Try ecstasy (MDMA, Molly) once or twice <sup>e</sup>	80.0	78.1	76.5	75.5	76.1	75.3	75.4	74.4‡	78.0	76.8	74.7	75.3	76.6	§	68.6*
Take ecstasy (MDMA, Molly) occasionally <sup>e</sup>	84.3	83.0	81.3	81.3	82.2	81.2	81.3	80.4‡	84.0	81.7	80.0	79.5	82.4	§	75.8*
Try crack once or twice <sup>c</sup>	89.5	90.8	90.4	90.3	90.9	91.0	90.6	90.6	90.1	89.7	88.4	89.5	88.0	—	—
Take crack occasionally <sup>c</sup>	92.7	92.9	92.8	92.4	93.0	93.0	92.4	92.4	92.1	91.1	90.0	91.2	90.0	—	—
Try cocaine once or twice <sup>c,n</sup>	87.7	88.6	88.4	89.0	89.4	89.3	88.7	88.9	87.9	87.9	86.1	87.6	86.0‡	§	84.7*
Take cocaine occasionally <sup>c,n</sup>	92.0	92.1	92.1	92.2	92.5	92.4	91.8	91.9	91.8	90.8	89.9	90.9	89.1‡	§	89.0*
Try heroin once or twice without using a needle <sup>d</sup>	90.7	91.4	91.6	91.4	91.6	91.9	91.3	91.9	91.7	90.2	89.7	90.6	89.0	§	89.5*
Take heroin occasionally without using a needle <sup>d</sup>	92.5	92.5	93.0	92.4	92.4	92.9	92.3	92.7	92.7	90.9	90.5	91.2	89.3	§	90.3*
Try one or two drinks of an alcoholic beverage (beer, wine, liquor) <sup>b</sup>	39.5	41.8	39.7	40.3	41.5	39.6	38.5	40.7	40.0	41.8	39.3	39.6	41.0	§	36.7*
Take one or two drinks nearly every day <sup>b</sup>	77.1	79.1	77.6	77.6	80.0	78.0	77.1	77.9	78.2	78.6	77.7	77.9	77.6	§	77.1*
Have five or more drinks once or twice each weekend <sup>b</sup>	74.1	77.2	75.1	75.9	77.3	77.5	77.8	79.5	79.6	80.8	80.1	80.4	78.8	§	78.4*
Smoke one to five cigarettes per day <sup>e</sup>	79.7	82.5	80.0	80.6	82.1	—	—	—	—	—	—	—	—	—	—
Smoke one or more packs of cigarettes per day <sup>f</sup>	84.7	85.2	84.5	83.9	85.8	86.0	86.1	88.0	88.3	88.5	87.8	88.5	87.2	§	86.5*
Use electronic cigarettes (e-cigarettes) regularly <sup>e</sup>	—	—	—	—	—	—	—	54.6	59.9	65.0	—	—	—	—	—
Vape marijuana occasionally <sup>b</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	§	65.3*
Vape marijuana regularly <sup>b</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	§	74.8*
Vape an e-liquid with nicotine occasionally <sup>e,h</sup>	—	—	—	—	—	—	—	—	—	—	59.3	58.0	58.5	§	65.8*
Vape an e-liquid with nicotine regularly <sup>e,h</sup>	—	—	—	—	—	—	—	—	—	—	68.3	67.8	71.2	§	76.7*
Use JUUL occasionally <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	—	—	59.0	§	71.4*
Use JUUL regularly <sup>e</sup>	—	—	—	—	—	—	—	—	—	—	—	—	69.8	§	79.2*
Use smokeless tobacco regularly <sup>b</sup>	80.9	81.8	79.5	78.5	79.5	79.5	77.7	78.7	80.1	81.2	80.7	80.7	80.2	§	79.6*
Take steroids <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Approximate weighted N =</i> 16,100 15,100 15,900 15,200 14,900 15,000 12,900 13,000 15,600 14,700 13,500 14,300 7,000 § 11,000															

Table continued on next page.

**TABLE 14 (cont.)**  
**Trends in Disapproval of Drug Use in Grade 10**

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

*Notes.* Level of significance of difference between the two most recent classes:  $s = .05$ ,  $ss = .01$ ,  $sss = .001$ . ' — ' indicates data not available. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding. ' ‡ ' indicates that the question changed the following year.

§Estimates not presented due to insufficient data this year.

\*Results may not be comparable to previous years. In 2021 MTF conducted survey administrations via the internet for the first time, and responses, especially on attitudes, can be sensitive to mode effects.

<sup>a</sup>Answer alternatives were: (1) Don't disapprove, (2) Disapprove, (3) Strongly disapprove, and (4) Can't say, drug unfamiliar. Percentages are shown for categories (2) and (3) combined.

<sup>b</sup>Beginning in 2012, data based on two thirds of  $N$  indicated.

<sup>c</sup>Beginning in 1997, data based on two thirds of  $N$  indicated due to changes in questionnaire forms.

<sup>d</sup>Data based on one of two forms in 1993–1996;  $N$  is one half of  $N$  indicated. Beginning in 1997, data based on one third of  $N$  indicated due to changes in questionnaire forms.

<sup>e</sup>Data based on one third of  $N$  indicated. For MDMA "Molly" was added to the question text in 2015; 2014 and 2015 data are not comparable due to this change.

<sup>f</sup>Beginning in 1999, data based on two thirds of  $N$  indicated due to changes in questionnaire forms.

<sup>g</sup>Data based on two forms in 1991 and 1992. Data based on one of two forms in 1993 and 1994;  $N$  is one half of  $N$  indicated.

<sup>h</sup>Percentages for all years reported here include respondents who replied "can't say, drug unfamiliar" in the denominator. The percentage for 2017 published in late 2017 and early 2018 did not include these respondents in the denominator.

<sup>i</sup>The  $N$  for 2019 is approximately one-half of that for the full sample, because it is based on the half-sample who received the traditional paper and pencil questionnaire form.

<sup>m</sup>Sample is decreased by as much as 50% for the following drugs due to survey question experiments: alcohol, inhalants, heroin, JUUL, LSD, and ecstasy (MDMA, molly).

<sup>n</sup>In 2019 and previous years the survey question asked about 'cocaine powder' and in 2020 forward it asked about 'cocaine'.

**TABLE 15**  
**Trends in Disapproval of Drug Use in Grade 12**

Percentage who disapprove or strongly disapprove <sup>b</sup>

<i>Do you disapprove of people (who are 18 or older) doing each of the following?<sup>a</sup></i>	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Use marijuana once or twice	47.0	38.4	33.4	33.4	34.2	39.0	40.0	45.5	46.3	49.3	51.4	54.6	56.6	60.8	64.6	67.8
Use marijuana occasionally	54.8	47.8	44.3	43.5	45.3	49.7	52.6	59.1	60.7	63.5	65.8	69.0	71.6	74.0	77.2	80.5
Use marijuana regularly	71.9	69.5	65.5	67.5	69.2	74.6	77.4	80.6	82.5	84.7	85.5	86.6	89.2	89.3	89.8	91.0
Trying LSD once or twice	82.8	84.6	83.9	85.4	86.6	87.3	86.4	88.8	89.1	88.9	89.5	89.2	91.6	89.8	89.7	89.8
Taking LSD regularly	94.1	95.3	95.8	96.4	96.9	96.7	96.8	96.7	97.0	96.8	97.0	96.6	97.8	96.4	96.4	96.3
Trying ecstasy (MDMA, Molly) once or twice <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trying cocaine once or twice	81.3	82.4	79.1	77.0	74.7	76.3	74.6	76.6	77.0	79.7	79.3	80.2	87.3	89.1	90.5	91.5
Taking cocaine regularly	93.3	93.9	92.1	91.9	90.8	91.1	90.7	91.5	93.2	94.5	93.8	94.3	96.7	96.2	96.4	96.7
Trying crack once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	92.3
Taking crack occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.3
Taking crack regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	94.9
Trying cocaine powder once or twice	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	87.9
Taking cocaine powder occasionally	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	92.1
Taking cocaine powder regularly	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	93.7
Trying heroin once or twice	91.5	92.6	92.5	92.0	93.4	93.5	93.5	94.6	94.3	94.0	94.0	93.3	96.2	95.0	95.4	95.1
Taking heroin occasionally	94.8	96.0	96.0	96.4	96.8	96.7	97.2	96.9	96.9	97.1	96.8	96.6	97.9	96.9	97.2	96.7
Taking heroin regularly	96.7	97.5	97.2	97.8	97.9	97.6	97.8	97.5	97.7	98.0	97.6	97.6	98.1	97.2	97.4	97.5
Trying heroin once or twice without using a needle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Taking heroin occasionally without using a needle	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Trying amphetamines once or twice <sup>d</sup>	74.8	75.1	74.2	74.8	75.1	75.4	71.1	72.6	72.3	72.8	74.9	76.5	80.7	82.5	83.3	85.3
Taking amphetamines regularly <sup>d</sup>	92.1	92.8	92.5	93.5	94.4	93.0	91.7	92.0	92.6	93.6	93.3	93.5	95.4	94.2	94.2	95.5
Trying sedatives (barbiturates) once or twice <sup>e</sup>	77.7	81.3	81.1	82.4	84.0	83.9	82.4	84.4	83.1	84.1	84.9	86.8	89.6	89.4	89.3	90.5
Taking sedatives (barbiturates) regularly <sup>e</sup>	93.3	93.6	93.0	94.3	95.2	95.4	94.2	94.4	95.1	95.1	95.5	94.9	96.4	95.3	95.3	96.4
Trying one or two drinks of an alcoholic beverage (beer, wine, liquor)	21.6	18.2	15.6	15.6	15.8	16.0	17.2	18.2	18.4	17.4	20.3	20.9	21.4	22.6	27.3	29.4
Taking one or two drinks nearly every day	67.6	68.9	66.8	67.7	68.3	69.0	69.1	69.9	68.9	72.9	70.9	72.8	74.2	75.0	76.5	77.9
Taking four or five drinks nearly every day	88.7	90.7	88.4	90.2	91.7	90.8	91.8	90.9	90.0	91.0	92.0	91.4	92.2	92.8	91.6	91.9
Having five or more drinks once or twice each weekend	60.3	58.6	57.4	56.2	56.7	55.6	55.5	58.8	56.6	59.6	60.4	62.4	62.0	65.3	66.5	68.9
Smoking one or more packs of cigarettes per day	67.5	65.9	66.4	67.0	70.3	70.8	69.9	69.4	70.8	73.0	72.3	75.4	74.3	73.1	72.4	72.8
Vape marijuana occasionally <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana regularly <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine occasionally <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine regularly <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL occasionally <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL regularly <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Taking steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	90.8
<i>Approximate weighted N =</i>	2,677	2,957	3,085	3,686	3,221	3,261	3,610	3,651	3,341	3,254	3,265	3,113	3,302	3,311	2,799	2,566

Table continued on next page.

**TABLE 15 (cont.)**  
**Trends in Disapproval of Drug Use in Grade 12**

Percentage who disapprove or strongly disapprove <sup>b</sup>

<i>Do you disapprove of people (who are 18 or older) doing each of the following?<sup>a</sup></i>	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Use marijuana once or twice	68.7	69.9	63.3	57.6	56.7	52.5	51.0	51.6	48.8	52.5	49.1	51.6	53.4	52.7	55.0	55.6
Use marijuana occasionally	79.4	79.7	75.5	68.9	66.7	62.9	63.2	64.4	62.5	65.8	63.2	63.4	64.2	65.4	67.8	69.3
Use marijuana regularly	89.3	90.1	87.6	82.3	81.9	80.0	78.8	81.2	78.6	79.7	79.3	78.3	78.7	80.7	82.0	82.2
Trying LSD once or twice	90.1	88.1	85.9	82.5	81.1	79.6	80.5	82.1	83.0	82.4	81.8	84.6	85.5	87.9	87.9	88.0
Taking LSD regularly	96.4	95.5	95.8	94.3	92.5	93.2	92.9	93.5	94.3	94.2	94.0	94.0	94.4	94.6	95.6	95.9
Trying ecstasy (MDMA, Molly) once or twice <sup>c</sup>	—	—	—	—	—	—	82.2	82.5	82.1	81.0	79.5	83.6	84.7	87.7	88.4	89.0
Trying cocaine once or twice	93.6	93.0	92.7	91.6	90.3	90.0	88.0	89.5	89.1	88.2	88.1	89.0	89.3	88.6	88.9	89.1
Taking cocaine regularly	97.3	96.9	97.5	96.6	96.1	95.6	96.0	95.6	94.9	95.5	94.9	95.0	95.8	95.4	96.0	96.1
Trying crack once or twice	92.1	93.1	89.9	89.5	91.4	87.4	87.0	86.7	87.6	87.5	87.0	87.8	86.6	86.9	86.7	88.8
Taking crack occasionally	94.2	95.0	92.8	92.8	94.0	91.2	91.3	90.9	92.3	91.9	91.6	91.5	90.8	92.1	91.9	92.9
Taking crack regularly	95.0	95.5	93.4	93.1	94.1	93.0	92.3	91.9	93.2	92.8	92.2	92.4	91.2	93.1	92.1	93.8
Trying cocaine powder once or twice	88.0	89.4	86.6	87.1	88.3	83.1	83.0	83.1	84.3	84.1	83.3	83.8	83.6	82.2	83.2	84.1
Taking cocaine powder occasionally	93.0	93.4	91.2	91.0	92.7	89.7	89.3	88.7	90.0	90.3	89.8	90.2	88.9	90.0	89.4	90.4
Taking cocaine powder regularly	94.4	94.3	93.0	92.5	93.8	92.9	91.5	91.1	92.3	92.6	92.5	92.2	90.7	92.6	92.0	93.2
Trying heroin once or twice	96.0	94.9	94.4	93.2	92.8	92.1	92.3	93.7	93.5	93.0	93.1	94.1	94.1	94.2	94.3	93.8
Taking heroin occasionally	97.3	96.8	97.0	96.2	95.7	95.0	95.4	96.1	95.7	96.0	95.4	95.6	95.9	96.4	96.3	96.2
Taking heroin regularly	97.8	97.2	97.5	97.1	96.4	96.3	96.4	96.6	96.4	96.6	96.2	96.2	97.1	97.1	96.7	96.9
Trying heroin once or twice without using a needle	—	—	—	—	92.9	90.8	92.3	93.0	92.6	94.0	91.7	93.1	92.2	93.1	93.2	93.7
Taking heroin occasionally without using a needle	—	—	—	—	94.7	93.2	94.4	94.3	93.8	95.2	93.5	94.4	93.5	94.4	95.0	94.5
Trying amphetamines once or twice <sup>d</sup>	86.5	86.9	84.2	81.3	82.2	79.9	81.3	82.5	81.9	82.1	82.3	83.8	85.8	84.1	86.1	86.3
Taking amphetamines regularly <sup>d</sup>	96.0	95.6	96.0	94.1	94.3	93.5	94.3	94.0	93.7	94.1	93.4	93.5	94.0	93.9	94.8	95.3
Trying sedatives (barbiturates) once or twice <sup>e</sup>	90.6	90.3	89.7	87.5	87.3	84.9	86.4	86.0	86.6	85.9	85.9	86.6	87.8†	83.7	85.4	85.3
Taking sedatives (barbiturates) regularly <sup>e</sup>	97.1	96.5	97.0	96.1	95.2	94.8	95.3	94.6	94.7	95.2	94.5	94.7	94.4†	94.2	95.2	95.1
Trying one or two drinks of an alcoholic beverage (beer, wine, liquor)	29.8	33.0	30.1	28.4	27.3	26.5	26.1	24.5	24.6	25.2	26.6	26.3	27.2	26.0	26.4	29.0
Taking one or two drinks nearly every day	76.5	75.9	77.8	73.1	73.3	70.8	70.0	69.4	67.2	70.0	69.2	69.1	68.9	69.5	70.8	72.8
Taking four or five drinks nearly every day	90.6	90.8	90.6	89.8	88.8	89.4	88.6	86.7	86.9	88.4	86.4	87.5	86.3	87.8	89.4	90.6
Having five or more drinks once or twice each weekend	67.4	70.7	70.1	65.1	66.7	64.7	65.0	63.8	62.7	65.2	62.9	64.7	64.2	65.7	66.5	68.5
Smoking one or more packs of cigarettes per day	71.4	73.5	70.6	69.8	68.2	67.2	67.1	68.8	69.5	70.1	71.6	73.6	74.8	76.2	79.8	81.5
Vape marijuana occasionally <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape marijuana regularly <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine occasionally <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vape an e-liquid with nicotine regularly <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL occasionally <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Use JUUL regularly <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Taking steroids	90.5	92.1	92.1	91.9	91.0	91.7	91.4	90.8	88.9	88.8	86.4	86.8	86.0	87.9	88.8	89.4
<i>Approximate weighted N =</i>	2,547	2,645	2,723	2,588	2,603	2,399	2,601	2,545	2,310	2,150	2,144	2,160	2,442	2,455	2,460	2,377

Table continued on next page.

**TABLE 15 (cont.)**  
**Trends in Disapproval of Drug Use in Grade 12**

Percentage who disapprove or strongly disapprove <sup>b</sup>

<i>Do you disapprove of people (who are 18 or older) doing each of the following?<sup>a</sup></i>	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>g</sup>	2020	2021 <sup>k</sup>
Use marijuana once or twice	58.6	55.5	54.8	51.6	51.3	48.8	49.1	48.0	45.5	43.1	39.0	41.1	39.6	§	31.2*
Use marijuana occasionally	70.2	67.3	65.6	62.0	60.9	59.1	58.9	56.7	52.9	50.5	46.7	49.2	46.6	§	38.6*
Use marijuana regularly	83.3	79.6	80.3	77.7	77.5	77.8	74.5	73.4	70.7	68.5	64.7	66.7	66.7	§	58.0*
Trying LSD once or twice	87.8	85.5	88.2	86.5	86.3	87.2	86.6	85.0	81.7	82.4	78.0	80.5	77.7	§	68.7*
Taking LSD regularly	94.9	93.5	95.3	94.3	94.9	95.2	95.3	94.7	92.5	92.4	92.7	93.4	92.8	§	90.3*
Trying ecstasy (MDMA, Molly) once or twice <sup>c</sup>	87.8	88.2	88.2	86.3	83.9	87.1	84.9‡	83.1	84.5	84.0	85.1	85.6	87.6	§	85.5*
Trying cocaine once or twice	89.6	89.2	90.8	90.5	91.1	91.0	92.3	90.0	89.0	88.4	88.0	88.9	88.8	§	81.7*
Taking cocaine regularly	96.2	94.8	96.5	96.0	96.0	96.8	96.7	96.3	95.2	94.8	94.8	95.8	95.8	§	92.6*
Trying crack once or twice	88.8	89.6	90.9	89.8	91.4	92.8	91.4	89.3	90.2	90.1	89.7	90.4	85.8	—	—
Taking crack occasionally	92.4	93.3	94.0	92.6	93.9	95.0	93.6	91.9	92.5	92.0	91.8	92.2	87.4	—	—
Taking crack regularly	93.6	93.5	94.3	93.1	94.4	95.4	94.1	92.4	92.8	92.6	92.5	92.5	87.7	—	—
Trying cocaine powder once or twice	83.5	85.7	87.3	87.0	88.1	88.7	88.2	85.5	86.4	86.6	85.5	86.5	82.3	—	—
Taking cocaine powder occasionally	90.6	91.7	92.3	91.0	92.2	93.0	91.7	90.4	91.3	90.6	90.3	91.3	86.6	—	—
Taking cocaine powder regularly	92.6	92.8	93.9	92.6	93.8	95.0	94.1	91.7	92.4	92.0	92.2	92.0	88.0	—	—
Trying heroin once or twice	94.8	93.3	94.7	93.9	94.3	95.8	95.6	94.7	94.2	94.1	93.7	95.0	93.9	§	92.8*
Taking heroin occasionally	96.8	95.3	96.9	96.2	96.3	97.0	96.9	96.6	95.3	95.5	95.5	96.4	95.9	§	94.9*
Taking heroin regularly	97.1	95.9	97.4	96.4	96.7	97.4	97.4	97.1	96.4	95.7	95.9	96.8	96.3	§	96.3*
Trying heroin once or twice without using a needle	93.6	94.2	94.7	93.2	92.6	95.2	93.7	92.5	92.6	93.8	93.3	93.0	95.0	§	93.4*
Taking heroin occasionally without using a needle	94.9	95.3	95.5	94.5	94.1	95.9	94.6	93.5	92.8	94.0	93.8	93.4	95.1	§	93.9*
Trying amphetamines once or twice <sup>d</sup>	87.3	87.2	88.2	88.1‡	84.1	83.9	84.9	83.1	81.4	82.1	81.9	81.0	83.5	§	78.5*
Taking amphetamines regularly <sup>d</sup>	95.4	94.2	95.6	94.9‡	92.9	93.9	93.2	93.0	92.2	92.2	92.0	92.8	93.3	§	88.3*
Trying sedatives (barbiturates) once or twice <sup>e</sup>	86.5	86.1	87.7	87.6	87.3	88.2	88.9	88.5	87.4	86.5	85.9	86.9	86.1	—	—
Taking sedatives (barbiturates) regularly <sup>e</sup>	94.6	94.3	95.8	94.7	95.1	96.1	95.8	95.0	94.7	94.8	94.4	95.3	94.6	—	—
Trying one or two drinks of an alcoholic beverage (beer, wine, liquor)	31.0	29.8	30.6	30.7	28.7	25.4	27.3	29.2	28.9	28.8	27.2	31.3	30.1	§	22.3*
Taking one or two drinks nearly every day	73.3	74.5	70.5	71.5	72.8	70.8	71.9	71.7	71.1	71.8	70.8	74.7	74.1	§	67.4*
Taking four or five drinks nearly every day	90.5	89.8	89.7	88.8	90.8	90.1	90.6	91.9	89.7	91.1	90.7	91.7	91.9	§	91.8*
Having five or more drinks once or twice each weekend	68.8	68.9	67.6	68.8	70.0	70.1	71.6	72.6	71.9	74.2	72.5	75.8	70.2	§	57.8*
Smoking one or more packs of cigarettes per day	80.7	80.5	81.8	81.0	83.0	83.7	82.6	85.0	84.1	85.3	86.6	89.0	87.7	§	86.5*
Vape marijuana occasionally <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	§	48.0*
Vape marijuana regularly <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	§	64.5*
Vape an e-liquid with nicotine occasionally <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	62.0	59.2	60.7	§	60.3*
Vape an e-liquid with nicotine regularly <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	71.8	70.9	70.7	§	73.2*
Use JUUL occasionally <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	57.9	§	59.6*
Use JUUL regularly <sup>f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	69.2	§	71.7*
Taking steroids	89.2	90.9	90.3	89.8	89.7	90.4	88.2	87.5	87.8	86.7	88.5	87.4	90.3	§	80.9*
<i>Approximate weighted N =</i>	2,450	2,314	2,233	2,449	2,384	2,301	2,147	2,078	2,193	2,000	1,870	1,918	876	§	1,441

Table continued on next page.

**TABLE 15 (cont.)**  
**Trends in Disapproval of Drug Use in Grade 12**

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

*Notes.* Level of significance of difference between the two most recent classes:  $s = .05$ ,  $ss = .01$ ,  $sss = .001$ . '—' indicates data not available. '‡' indicates that the question changed the following year. See relevant footnote for that drug. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

§Estimates not presented due to insufficient data this year.

\*Results may not be comparable to previous years. In 2021 MTF conducted survey administrations via the internet for the first time, and responses, especially on attitudes, can be sensitive to mode effects.

<sup>a</sup>The 1975 question asked about people who are 20 or older.

<sup>b</sup>Answer alternatives were: (1) Don't disapprove, (2) Disapprove, and (3) Strongly disapprove. Percentages are shown for categories (2) and (3) combined.

<sup>c</sup>Beginning in 2014 "molly" was added to the question on disapproval of using MDMA once or twice. 2014 and 2015 data are not comparable to earlier years due to this change.

<sup>d</sup>In 2011 the list of examples was changed from upper, pep pill, bennie, speed to upper, speed, Adderall, Ritalin, etc. These changes likely explain the discontinuity in the 2011 results.

<sup>e</sup>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.

<sup>f</sup>Based on two of six forms; N is two times the N indicated.

<sup>l</sup>The N for 2019 is approximately one-half of that for the full sample, because it is based on the half-sample who received the traditional paper and pencil questionnaire form.

<sup>k</sup>Sample is decreased by approximately 50% for the following drugs due to survey question experiments: amphetamines, cocaine, alcohol, vaping nicotine, vaping marijuana, heroin without using a needle, Ecstasy (MDMA, molly), and JUUL.



**TABLE 16**  
**Trends in Availability of Drugs as Perceived by 8th Graders**

<i>How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?</i>	Percentage saying fairly easy or very easy to get <sup>a</sup>															
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Marijuana	—	42.3	43.8	49.9	52.4	54.8	54.2	50.6	48.4	47.0	48.1	46.6	44.8	41.0	41.1	39.6
LSD	—	21.5	21.8	21.8	23.5	23.6	22.7	19.3	18.3	17.0	17.6	15.2	14.0	12.3	11.5	10.8
PCP <sup>b</sup>	—	18.0	18.5	17.7	19.0	19.6	19.2	17.5	17.1	16.0	15.4	14.1	13.7	11.4	11.0	10.5
MDMA (e.g. ecstasy, "Molly") <sup>b</sup>	—	—	—	—	—	—	—	—	—	—	23.8	22.8	21.6	16.6	15.6	14.5
Crack	—	25.6	25.9	26.9	28.7	27.9	27.5	26.5	25.9	24.9	24.4	23.7	22.5	20.6	20.8	20.9
Cocaine powder	—	25.7	25.9	26.4	27.8	27.2	26.9	25.7	25.0	23.9	23.9	22.5	21.6	19.4	19.9	20.2
Heroin	—	19.7	19.8	19.4	21.1	20.6	19.8	18.0	17.5	16.5	16.9	16.0	15.6	14.1	13.2	13.0
Narcotics other than Heroin <sup>b,c</sup>	—	19.8	19.0	18.3	20.3	20.0	20.6	17.1	16.2	15.6	15.0	14.7	15.0	12.4	12.9	13.0
Amphetamines <sup>d</sup>	—	32.2	31.4	31.0	33.4	32.6	30.6	27.3	25.9	25.5	26.2	24.4	24.4	21.9	21.0	20.7
Crystal methamphetamine (ice) <sup>b</sup>	—	16.0	15.1	14.1	16.0	16.3	15.7	16.0	14.7	14.9	13.9	13.3	14.1	11.9	13.5	14.5
Sedatives (barbiturates)	—	27.4	26.1	25.3	26.5	25.6	24.4	21.1	20.8	19.7	20.7	19.4	19.3	18.0	17.6	17.3
Tranquilizers	—	22.9	21.4	20.4	21.3	20.4	19.6	18.1	17.3	16.2	17.8	16.9	17.3	15.8	14.8	14.4
Alcohol	—	76.2	73.9	74.5	74.9	75.3	74.9	73.1	72.3	70.6	70.6	67.9	67.0	64.9	64.2	63.0
Cigarettes	—	77.8	75.5	76.1	76.4	76.9	76.0	73.6	71.5	68.7	67.7	64.3	63.1	60.3	59.1	58.0
Vaping device <sup>e,f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
E-liquid with nicotine (for vaping) <sup>e,f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
JUUL vaping device <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids	—	24.0	22.7	23.1	23.8	24.1	23.6	22.3	22.6	22.3	23.1	22.0	21.7	19.7	18.1	17.1
<i>Approximate weighted N =</i>		8,355	16,775	16,119	15,496	16,318	16,482	16,208	15,397	15,180	14,804	13,972	15,583	15,944	15,730	15,502

Table continued on  
next page.

**TABLE 16 (cont.)**  
**Trends in Availability of Drugs as Perceived by 8th Graders**

<i>How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?</i>	Percentage saying fairly easy or very easy to get <sup>a</sup>														
	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>	<u>2011</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>2016</u>	<u>2017</u>	<u>2018</u>	<u>2019</u> <sup>h</sup>	<u>2020</u>	<u>2021</u> <sup>i</sup>
Marijuana	37.4	39.3	39.8	41.4	37.9	36.9	39.1	36.9	37.0	34.6	35.2	35.0	34.9	§	26.7*
LSD	10.5	10.9	10.0	10.0	9.3	7.5	7.4	6.9	6.6	6.9	6.3	6.5	6.9	§	6.3*
PCP <sup>b</sup>	9.5	10.1	9.1	8.0	7.9	6.7	5.8	5.5	5.1	4.8	4.6	4.7	5.6	§	4.4*
MDMA (e.g. ecstasy, "Molly") <sup>b</sup>	13.4	14.1	13.1	12.9	12.0	9.6	9.5	10.1	9.6	8.7	8.0	7.2	8.5	§	6.4*
Crack	19.7	20.2	18.6	17.9	15.7	14.4	13.7	12.0	11.3	11.1	10.2	9.6	9.0	§	7.5*
Cocaine powder	19.0	19.5	17.8	16.6	14.9	14.1	13.5	11.9	11.6	11.0	10.4	9.8	9.5	§	7.7*
Heroin	12.6	13.3	12.0	11.6	9.9	9.4	10.0	8.6	7.8	8.9	8.1	7.8	8.1	§	5.4*
Narcotics other than Heroin <sup>b,c</sup>	11.7	12.1	11.8‡	14.6	12.3	10.6	9.7	9.2	8.8	8.9	8.9	8.3	9.3	§	6.0*
Amphetamines <sup>d</sup>	19.9	21.3	20.2	19.6‡	15.0	13.4	12.8	12.1	11.8	12.1	11.0	11.6	12.8	§	11.4*
Crystal methamphetamine (ice) <sup>b</sup>	12.1	12.8	11.9	10.9	9.6	8.8	8.5	7.7	6.9	6.6	6.6	6.2	6.9	§	4.9*
Sedatives (barbiturates) <sup>e</sup>	16.8	17.5	15.9	15.3	12.6	11.1	10.6	10.0	9.0	9.3	9.2	8.6	9.0	§	8.1*
Tranquilizers	14.4	15.4	14.1	13.7	12.0	10.5	10.4	9.8	9.8	11.4	11.8	12.2	12.7	§	7.5*
Alcohol	62.0	64.1	61.8	61.1	59.0	57.5	56.1	54.4	53.6	52.7	53.2	53.9	53.1	§	47.9*
Cigarettes	55.6	57.4	55.3	55.5	51.9	50.7	49.9	47.2	47.0	45.6	46.2	45.7	42.9	§	38.0*
Vaping device <sup>e,f</sup>	—	—	—	—	—	—	—	—	—	—	38.6	45.7	49.1	§	37.8*
E-liquid with nicotine (for vaping) <sup>e,f</sup>	—	—	—	—	—	—	—	—	—	—	31.0	37.9	46.1	§	35.1*
JUUL vaping device <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	—	—	51.5	§	43.6*
Steroids	17.0	16.8	15.2	14.2	13.3	12.5	12.9	11.8	11.6	12.6	11.6	10.9	11.4	§	9.1*
<i>Approximate weighted N =</i>	<i>15,043</i>	<i>14,482</i>	<i>13,989</i>	<i>14,485</i>	<i>15,233</i>	<i>14,235</i>	<i>13,605</i>	<i>13,208</i>	<i>13,494</i>	<i>15,628</i>	<i>14,042</i>	<i>12,315</i>	<i>5,712</i>	§	<i>9,790</i>

Table continued on next page.

**TABLE 16 (cont.)**  
**Trends in Availability of Drugs as Perceived by 8th Graders**

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

*Notes.* Level of significance of difference between the two most recent classes:  $s = .05$ ,  $ss = .01$ ,  $sss = .001$ . '—' indicates data not available. '‡' indicates that the question changed the following year. See relevant footnote for that drug. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

§Estimates not presented due to insufficient data this year.

\*Results may not be comparable to previous years. In 2021 MTF conducted survey administrations via the internet for the first time, and responses, especially on attitudes, can be sensitive to mode effects.

<sup>a</sup>Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, (5) Very easy, and (6) Can't say, drug unfamiliar.

<sup>b</sup>Beginning in 1993, data based on one of two of forms;  $N$  is one half of  $N$  indicated. Beginning in 2014 data based on one sixth of  $N$  indicated. For MDMA only: In 2014 the question text was changed in one form to include "Molly." In 2015 a second form was changed to including "Molly;" data based on one sixth of  $N$  indicated in 2014 and on one half of  $N$  indicated in 2015. An examination of the data did not show any effect from this wording change.

<sup>c</sup>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.

<sup>d</sup>In 2011 the list of examples for amphetamines was changed from uppers, pep pills, bennies, speed to uppers, speed, Adderall, Ritalin, etc. These changes likely explain the discontinuity in the 2012 results.

<sup>e</sup>Beginning in 2017, data based on one half of  $N$  indicated.

<sup>f</sup>Percentages for all years reported here include respondents who replied "can't say, drug unfamiliar" in the denominator. The percentage for 2017 published in late 2017 and early 2018 did not include these respondents in the denominator.

<sup>g</sup>Data based on three of four forms.  $N$  is two thirds of  $N$  indicated.

<sup>h</sup>The  $N$  for 2019 is approximately one-half of that for the full sample, because it is based on the half-sample who received the traditional paper and pencil questionnaire form.

<sup>i</sup>Sample is decreased by as much as 50% for the following drugs due to survey question experiments: crack, cocaine powder, heroin, narcotics other than heroin, tranquilizers, crystal methamphetamine (ice), alcohol, cigarettes, steroids, and vaping.

**TABLE 17**  
**Trends in Availability of Drugs as Perceived by 10th Graders**

*How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?*

Percentage saying fairly easy or very easy to get <sup>a</sup>

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Marijuana	—	65.2	68.4	75.0	78.1	81.1	80.5	77.9	78.2	77.7	77.4	75.9	73.9	73.3	72.6	70.7
LSD	—	33.6	35.8	36.1	39.8	41.0	38.3	34.0	34.3	32.9	31.2	26.8	23.1	21.6	20.7	19.2
PCP <sup>b</sup>	—	23.7	23.4	23.8	24.7	26.8	24.8	23.9	24.5	25.0	21.6	20.8	19.4	18.0	18.1	15.8
MDMA (e.g. ecstasy, "Molly") <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	41.4	41.0	36.3	31.2	30.2	27.4
Crack	—	33.7	33.0	34.2	34.6	36.4	36.0	36.3	36.5	34.0	30.6	31.3	29.6	30.6	31.0	29.9
Cocaine powder	—	35.0	34.1	34.5	35.3	36.9	37.1	36.8	36.7	34.5	31.0	31.8	29.6	31.2	31.5	30.7
Heroin	—	24.3	24.3	24.7	24.6	24.8	24.4	23.0	23.7	22.3	20.1	19.9	18.8	18.7	19.3	17.4
Narcotics other than Heroin <sup>b</sup>	—	26.9	24.9	26.9	27.8	29.4	29.0	26.1	26.6	27.2	25.8	25.4	23.5	23.1	23.6	22.2
Amphetamines <sup>d</sup>	—	43.4	46.4	46.6	47.7	47.2	44.6	41.0	41.3	40.9	40.6	39.6	36.1	35.7	35.6	34.7
Crystal methamphetamine (ice) <sup>b</sup>	—	18.8	16.4	17.8	20.7	22.6	22.9	22.1	21.8	22.8	19.9	20.5	19.0	19.5	21.6	20.8
Sedatives (barbiturates)	—	38.0	38.8	38.3	38.8	38.1	35.6	32.7	33.2	32.4	32.8	32.4	28.8	30.0	29.7	29.9
Tranquilizers	—	31.6	30.5	29.8	30.6	30.3	28.7	26.5	26.8	27.6	28.5	28.3	25.6	25.6	25.4	25.1
Alcohol	—	88.6	88.9	89.8	89.7	90.4	89.0	88.0	88.2	87.7	87.7	84.8	83.4	84.3	83.7	83.1
Cigarettes	—	89.1	89.4	90.3	90.7	91.3	89.6	88.1	88.3	86.8	86.3	83.3	80.7	81.4	81.5	79.5
Vaping device <sup>e,f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
E-liquid with nicotine (for vaping) <sup>e,f</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
JUUL vaping device <sup>h</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids	—	37.6	33.6	33.6	34.8	34.8	34.2	33.0	35.9	35.4	33.1	33.2	30.6	29.6	29.7	30.2
<i>Approximate weighted N =</i>		7,014	14,652	15,192	16,209	14,887	14,856	14,423	13,112	13,690	13,518	13,694	15,255	15,806	15,636	15,804

Table continued on next page.

**TABLE 17 (cont.)**  
**Trends in Availability of Drugs as Perceived by 10th Graders**

*How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?*

Percentage saying fairly easy or very easy to get <sup>a</sup>

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>i</sup>	2020	2021 <sup>j</sup>
Marijuana	69.0	67.4	69.3	69.4	68.4	68.8	69.7	66.9	65.6	64.0	64.6	64.5	65.8	§	47.5*
LSD	19.0	19.3	17.8	18.3	16.6	14.9	16.3	14.8	15.5	15.2	15.9	14.9	16.2	§	13.4*
PCP <sup>b</sup>	15.4	14.4	13.4	12.6	12.0	10.2	9.4	8.3	9.0	7.6	7.1	7.3	9.5	§	6.8*
MDMA (e.g. ecstasy, "Molly") <sup>c</sup>	27.7	26.7	25.6	25.7	24.8	21.0	20.7	20.4	19.3	16.3	15.0	13.9	16.0	§	11.3*
Crack	29.0	27.2	23.9	22.5	19.7	18.4	17.1	15.1	14.4	13.9	13.8	13.0	13.6	§	8.6*
Cocaine powder	30.0	28.2	24.7	22.6	20.6	19.2	18.3	16.4	16.1	14.9	15.0	14.7	14.8	§	9.5*
Heroin	17.3	17.2	15.0	14.5	13.2	11.9	11.9	10.9	11.0	10.6	10.6	9.7	10.5	§	6.3*
Narcotics other than Heroin <sup>b,g</sup>	21.5	20.3	18.8‡	28.7	25.0	24.3	22.5	18.8	19.2	16.8	17.7	16.8	17.1	§	9.8*
Amphetamines <sup>d</sup>	33.3	32.0	31.8	32.6‡	28.5	27.3	26.5	25.2	27.3	22.9	24.2	23.4	23.0	§	16.4*
Crystal methamphetamine (ice) <sup>b</sup>	18.8	15.8	14.0	13.3	11.8	10.7	10.0	9.8	8.9	8.2	8.0	8.0	9.9	§	6.1*
Sedatives (barbiturates) <sup>e</sup>	28.2	26.9	25.5	24.9	22.0	20.2	18.3	16.7	16.6	14.2	15.1	14.4	14.5	§	11.3*
Tranquilizers	24.9	24.1	22.3	21.6	20.8	19.7	18.3	17.5	19.4	20.5	23.3	24.2	22.6	§	11.4*
Alcohol	82.6	81.1	80.9	80.0	77.9	78.2	77.2	75.3	74.9	71.1	71.5	70.6	68.9	§	60.2*
Cigarettes	78.2	76.5	76.1	75.6	73.6	72.9	71.4	69.0	66.6	62.9	62.5	61.5	58.4	§	48.0*
Vaping device <sup>e,f</sup>	—	—	—	—	—	—	—	—	—	—	59.5	66.6	68.3	§	54.6*
E-liquid with nicotine (for vaping) <sup>e,f</sup>	—	—	—	—	—	—	—	—	—	—	52.8	60.4	64.5	§	48.5*
JUUL vaping device <sup>h</sup>	—	—	—	—	—	—	—	—	—	—	—	—	68.8	§	55.6*
Steroids	27.7	24.5	20.8	20.3	18.8	18.0	17.2	16.5	17.0	15.3	15.0	14.5	13.7	§	10.9*
<i>Approximate weighted N =</i>	15,511	14,634	15,451	14,827	14,509	14,628	12,601	12,574	15,186	14,126	12,901	13,365	6,042	§	10,258

Table continued on next page.

**TABLE 17 (cont.)**  
**Trends in Availability of Drugs as Perceived by 10th Graders**

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

*Notes.* Level of significance of difference between the two most recent classes:  $s = .05$ ,  $ss = .01$ ,  $sss = .001$ . '—' indicates data not available. '‡' indicates that the question changed the following year. See relevant footnote for that drug. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

§Estimates not presented due to insufficient data this year.

\*Results may not be comparable to previous years. In 2021 MTF conducted survey administrations via the internet for the first time, and responses, especially on attitudes, can be sensitive to mode effects.

<sup>a</sup>Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, (5) Very easy, and (6) Can't say, drug unfamiliar.

<sup>b</sup>Beginning in 1993, data based on one of two forms;  $N$  is one half of  $N$  indicated. Beginning in 2014 data based on one sixth of  $N$  indicated.

<sup>c</sup>Beginning in 1993, data based on one of two of forms;  $N$  is one half of  $N$  indicated. Beginning in 2014 data based on one sixth of  $N$  indicated for MDMA only:

In 2014 the question text was changed in one form to include "Molly." In 2015 a second form was changed to including "Molly;" data based on one sixth of  $N$  indicated in 2014 and on one half of  $N$  indicated in 2015. An examination of the data did not show any effect from this wording change.

<sup>d</sup>In 2011 the list of examples for amphetamines was changed from uppers, pep pills, bennies, speed to uppers, speed, Adderall, Ritalin, etc. These changes likely explain the discontinuity in the 2011 results.

<sup>e</sup>Beginning in 2017, data based on one half of  $N$  indicated.

<sup>f</sup>Percentages for all years reported here include respondents who replied "can't say, drug unfamiliar" in the denominator. The percentage for 2017 published in late 2017 and early 2018 did not include these respondents in the denominator.

<sup>g</sup>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.

<sup>h</sup>Data based on three of four forms.  $N$  is two thirds of  $N$  indicated.

<sup>i</sup>The  $N$  for 2019 is approximately one-half of that for the full sample, because it is based on the half-sample who received the traditional paper and pencil questionnaire form.

<sup>j</sup>Sample is decreased by as much as 50% for the following drugs due to survey question experiments: crack, cocaine powder, heroin, narcotics other than heroin, tranquilizers, crystal methamphetamine (ice), alcohol, cigarettes, steroids, and vaping.

**TABLE 18**  
**Trends in Availability of Drugs as Perceived by 12th Graders**

Percentage saying fairly easy or very easy to get <sup>a</sup>

<i>How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?</i>	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990
Marijuana	87.8	87.4	87.9	87.8	90.1	89.0	89.2	88.5	86.2	84.6	85.5	85.2	84.8	85.0	84.3	84.4
Amyl/butyl nitrites	—	—	—	—	—	—	—	—	—	—	—	—	23.9	25.9	26.8	24.4
LSD	46.2	37.4	34.5	32.2	34.2	35.3	35.0	34.2	30.9	30.6	30.5	28.5	31.4	33.3	38.3	40.7
Some other hallucinogen <sup>b</sup>	47.8	35.7	33.8	33.8	34.6	35.0	32.7	30.6	26.6	26.6	26.1	24.9	25.0	26.2	28.2	28.3
PCP	—	—	—	—	—	—	—	—	—	—	—	—	22.8	24.9	28.9	27.7
MDMA (e.g. ecstasy, "molly") <sup>c</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	21.7	22.0
Cocaine	37.0	34.0	33.0	37.8	45.5	47.9	47.5	47.4	43.1	45.0	48.9	51.5	54.2	55.0	58.7	54.5
Crack	—	—	—	—	—	—	—	—	—	—	—	—	41.1	42.1	47.0	42.4
Cocaine powder	—	—	—	—	—	—	—	—	—	—	—	—	52.9	50.3	53.7	49.0
Heroin	24.2	18.4	17.9	16.4	18.9	21.2	19.2	20.8	19.3	19.9	21.0	22.0	23.7	28.0	31.4	31.9
Some other narcotic (including methadone) <sup>d</sup>	34.5	26.9	27.8	26.1	28.7	29.4	29.6	30.4	30.0	32.1	33.1	32.2	33.0	35.8	38.3	38.1
Amphetamines <sup>e</sup>	67.8	61.8	58.1	58.5	59.9	61.3	69.5	70.8	68.5	68.2	66.4	64.3	64.5	63.9	64.3	59.7
Crystal methamphetamine (ice)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	24.1
Sedatives (barbiturates) <sup>f</sup>	60.0	54.4	52.4	50.6	49.8	49.1	54.9	55.2	52.5	51.9	51.3	48.3	48.2	47.8	48.4	45.9
Tranquilizers	71.8	65.5	64.9	64.3	61.4	59.1	60.8	58.9	55.3	54.5	54.7	51.2	48.6	49.1	45.3	44.7
Alcohol	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Cigarettes <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping device <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
E-liquid with nicotine (for vaping) <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
<i>Approximate weighted N =</i>	2,627	2,865	3,065	3,598	3,172	3,240	3,578	3,602	3,385	3,269	3,274	3,077	3,271	3,231	2,806	2,549

Table continued on next page.

**TABLE 18 (cont.)**  
**Trends in Availability of Drugs as Perceived by 12th Graders**

Percentage saying fairly easy or very easy to get <sup>a</sup>

<i>How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?</i>	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006
Marijuana	83.3	82.7	83.0	85.5	88.5	88.7	89.6	90.4	88.9	88.5	88.5	87.2	87.1	85.8	85.6	84.9
Amyl/butyl nitrites	22.7	25.9	25.9	26.7	26.0	23.9	23.8	25.1	21.4	23.3	22.5	22.3	19.7	20.0	19.7	18.4
LSD	39.5	44.5	49.2	50.8	53.8	51.3	50.7	48.8	44.7	46.9	44.7	39.6	33.6	33.1	28.6	29.0
Some other hallucinogen <sup>b</sup>	28.0	29.9	33.5	33.8	35.8	33.9	33.9	35.1	29.5	34.5‡	48.5	47.7	47.2	49.4	45.0	43.9
PCP	27.6	31.7	31.7	31.4	31.0	30.5	30.0	30.7	26.7	28.8	27.2	25.8	21.9	24.2	23.2	23.1
MDMA (e.g. ecstasy, "Molly") <sup>c</sup>	22.1	24.2	28.1	31.2	34.2	36.9	38.8	38.2	40.1	51.4	61.5	59.1	57.5	47.9	40.3	40.3
Cocaine	51.0	52.7	48.5	46.6	47.7	48.1	48.5	51.3	47.6	47.8	46.2	44.6	43.3	47.8	44.7	46.5
Crack	39.9	43.5	43.6	40.5	41.9	40.7	40.6	43.8	41.1	42.6	40.2	38.5	35.3	39.2	39.3	38.8
Cocaine powder	46.0	48.0	45.4	43.7	43.8	44.4	43.3	45.7	43.7	44.6	40.7	40.2	37.4	41.7	41.6	42.5
Heroin	30.6	34.9	33.7	34.1	35.1	32.2	33.8	35.6	32.1	33.5	32.3	29.0	27.9	29.6	27.3	27.4
Some other narcotic (including methadone) <sup>d</sup>	34.6	37.1	37.5	38.0	39.8	40.0	38.9	42.8	40.8	43.9	40.5	44.0	39.3	40.2	39.2	39.6
Amphetamines <sup>e</sup>	57.3	58.8	61.5	62.0	62.8	59.4	59.8	60.8	58.1	57.1	57.1	57.4	55.0	55.4	51.2	52.9
Crystal methamphetamine (ice)	24.3	26.0	26.6	25.6	27.0	26.9	27.6	29.8	27.6	27.8	28.3	28.3	26.1	26.7	27.2	26.7
Sedatives (barbiturates) <sup>f</sup>	42.4	44.0	44.5	43.3	42.3	41.4	40.0	40.7	37.9	37.4	35.7	36.6	35.3‡	46.3	44.4	43.8
Tranquilizers	40.8	40.9	41.1	39.2	37.8	36.0	35.4	36.2	32.7	33.8	33.1	32.9	29.8	30.1	25.7	24.4
Alcohol	—	—	—	—	—	—	—	—	95.0	94.8	94.3	94.7	94.2	94.2	93.0	92.5
Cigarettes <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Vaping device <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
E-liquid with nicotine (for vaping) <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Steroids	46.7	46.8	44.8	42.9	45.5	40.3	41.7	44.5	44.6	44.8	44.4	45.5	40.7	42.6	39.7	41.1
<i>Approximate weighted N =</i>	2,476	2,586	2,670	2,526	2,552	2,340	2,517	2,520	2,215	2,095	2,120	2,138	2,391	2,169	2,161	2,131

Table continued on next page.



**TABLE 18 (cont.)**  
**Trends in Availability of Drugs as Perceived by 12th Graders**

	Percentage saying "fairly easy" or "very easy" to get <sup>a</sup>														
How difficult do you think it would be for you to get each of the following types of drugs, if you wanted some?	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019 <sup>h</sup>	2020	2021 <sup>i</sup>
Marijuana	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	§	69.6*
Amyl/butyl nitrites	18.1	16.9	15.7	—	—	—	—	—	—	—	—	—	—	—	—
LSD	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	§	23.6*
Some other hallucinogen <sup>b</sup>	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	§	31.3*
PCP	21.0	20.6	19.2	18.5	17.2	14.2	15.3	11.1	13.8	12.6	10.6	10.8	11.0	§	—
MDMA (e.g. ecstasy, "Molly") <sup>c</sup>	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	§	20.8*
Cocaine	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	§	17.2*
Crack	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	§	10.0*
Cocaine powder	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	§	11.4*
Heroin	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	§	9.9*
Some other narcotic (including methadone) <sup>d</sup>	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	§	18.7*
Amphetamines <sup>e</sup>	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	§	29.4*
Crystal methamphetamine (ice)	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	§	7.6*
Sedatives (barbiturates) <sup>f</sup>	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	§	16.3*
Tranquilizers	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	§	25.5*
Alcohol	92.2	92.2	92.1	90.4	88.9	90.6	89.7	87.6	86.6	85.4	87.1	85.5	84.4	§	76.8*
Cigarettes <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	77.9	75.1	74.7	§	57.9*
Vaping device <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	78.2	80.5	82.9	§	71.5*
E-liquid with nicotine (for vaping) <sup>g</sup>	—	—	—	—	—	—	—	—	—	—	75.0	77.2	81.6	§	68.4*
Steroids	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	§	12.9*
<i>Approximate weighted N =</i>	<i>2,420</i>	<i>2,276</i>	<i>2,243</i>	<i>2,395</i>	<i>2,337</i>	<i>2,280</i>	<i>2,092</i>	<i>2,066</i>	<i>2,181</i>	<i>1,958</i>	<i>1,882</i>	<i>1,931</i>	<i>868</i>	<i>§</i>	<i>1,219</i>

Table continued on next page.

**TABLE 18 (cont.)**  
**Trends in Availability of Drugs as Perceived by 12th Graders**

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

*Notes.* Level of significance of difference between the two most recent classes:  $s = .05$ ,  $ss = .01$ ,  $sss = .001$ . '—' indicates data not available. '‡' indicates that the question changed the following year. See relevant footnote for that drug. Any apparent inconsistency between the change estimate and the prevalence estimates for the two most recent years is due to rounding.

§Estimates not presented due to insufficient data this year.

\*Results may not be comparable to previous years. In 2021 MTF conducted survey administrations via the internet for the first time, and responses, especially on attitudes, can be sensitive to mode effects.

<sup>a</sup>Answer alternatives were: (1) Probably impossible, (2) Very difficult, (3) Fairly difficult, (4) Fairly easy, and (5) Very easy.

<sup>b</sup>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.

<sup>c</sup>Beginning in 2014 "molly" was added to the question on availability of Ecstasy (MDMA). An examination of the data did not show any effect from this wording change.

<sup>d</sup>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.

<sup>e</sup>In 2011 the list of examples was changed from uppers, pep pills, bennies, speed to uppers, speed, Adderall, Ritalin, etc. These changes likely explain the discontinuity in the 2011 results.

<sup>f</sup>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.

<sup>g</sup>Data based on 2 of 6 forms. N is twice the N indicated.

<sup>h</sup>The N for 2019 is approximately one-half of that for the full sample, because it is based on the half-sample who received the traditional paper and pencil questionnaire form.

<sup>i</sup>Sample is decreased by approximately 50% for the following drugs due to survey question experiments: marijuana, LSD, hallucinogens other than LSD, amphetamines, sedatives (barbiturates), tranquilizers, cocaine, heroin, and narcotics other than heroin.



**Monitoring the Future website:  
<http://www.monitoringthefuture.org>**

